NOTEBOOK
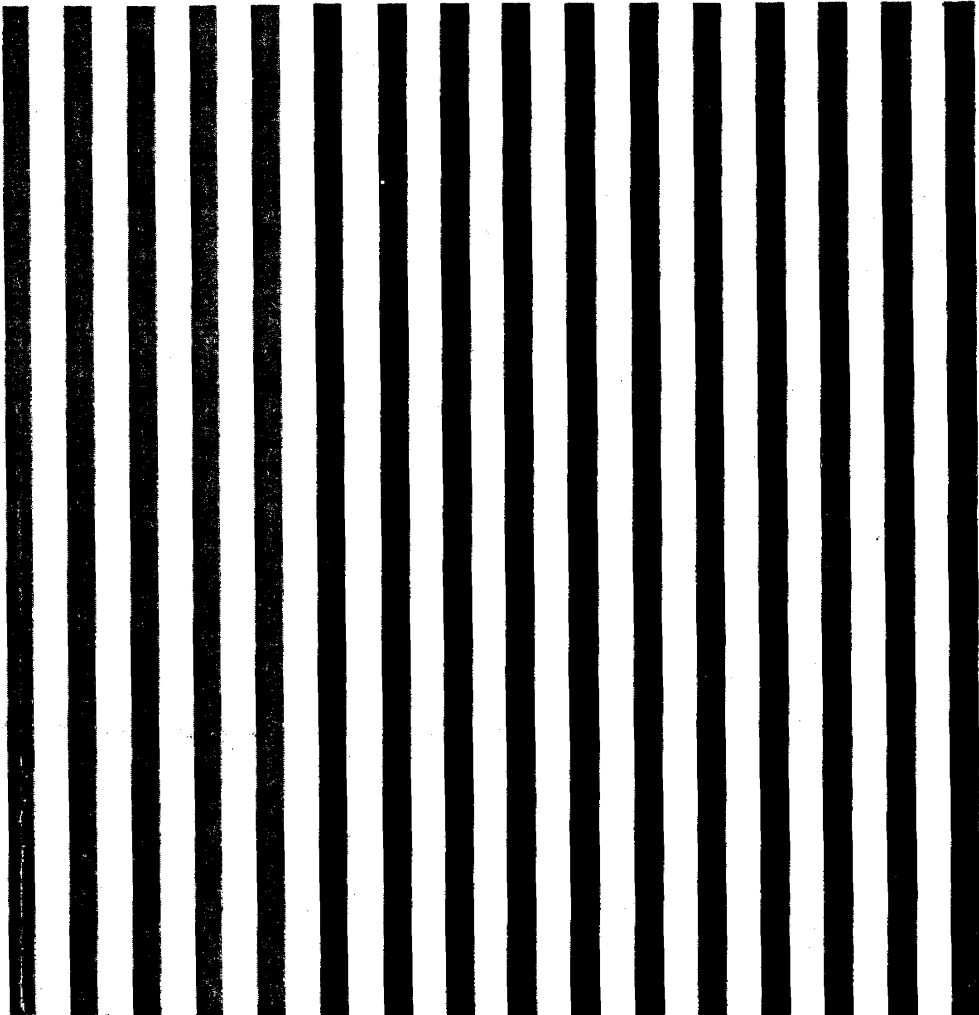# WORK ORGANIZER
PN-4400

USER'S
GUIDE

AMERICAN

Congratulations!

Thank you for choosing Brother's Notebook Work Organizer! This machine is designed to deliver years of reliable operation. Please read this manual carefully and keep it in a safe place for future reference. We recommend that you write the unit's model number and serial number in the blank space below. These numbers can be found on the rear panel of the work organizer.

MODEL No.: PN-4400	SERIAL No.:

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Spreadsheet 75

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Disk Application

Optional Accessories for Your Notebook Work Organizer
You may want to consider some of the accessories described below for your
Notebook Work Organizer. See "Accessory Order Form" at the end of this guide
for ordering information.

Floppy Disks (MFD-60)
    A box of ten 3.5" single sided/double density (1DD) Floppy Disks.

Touchbase Pocket Fax Modem (FX-4000)
    This modem allows you to communicate with another PN-4400 or a personal
    computer via telephone lines. You are also able to send a text file to a fax
    machine by using the FX-4000.

Business Letter Template Disk (BL-2)
    The Business Letter Template Disk can help you write business letters quickly
    and easily. This disk includes 198 sample business letters, reflecting many
    business situations. You can display the most appropriate letter and then edit
    it to suit your purpose.

Rechargeable Ni-Cd Battery (BA-4000)
    This battery is used to provide power to the unit when no AC power is avail-
    able. (For use outdoors, on a train, etc.) This battery pack fits easily into a
    compartment on the top of your unit.

Carrying Case (CA-4000)
    This carrying case, with handle, is used to transport your PN-4400 safely.

Getting Started

Precautions

- *Never power the machine with an AC adapter other than the AC adapter which comes with your machine.*
- *In case of malfunction, overheating, or other problems, immediately turn the power off, disconnect the AC adapter and consult your dealer. Turn the power off and disconnect the AC adapter during thunderstorms.*
- *Do not attempt to disassemble the machine. It has no user-serviceable parts inside.*
- *Do not tug on the power cord or connection cables. To disconnect, be sure to always grasp the plug itself.*
- *Avoid direct exposure to sunlight and other sources of heat. Be especially careful not to leave the machine in an automobile exposed to direct sunlight. The display is vulnerable to high temperature.*
- *Avoid spills. If any liquid enters the machine, immediately turn the power off, disconnect the AC adapter and consult your dealer. Do not allow foreign matter to enter the interior of the unit or get between the keys. Be especially careful of metal objects.*
- *Use the unit on a horizontal, hard surface. Avoid locations subject to excessive vibration, moisture or dust. The display is especially vulnerable to humidity and can be easily damaged if it is hit or scratched with hard objects. Never apply undue pressure on the display. Clean with a soft, dry cloth. Avoid using chemicals, solvents and detergents. Do not use sprays in the vicinity of the machine. Aerosols are extremely harmful to the disk drive.*
- *Avoid dropping the machine and do not place objects on the keyboard.*
- *To avoid interference, do not place the machine too close to a radio receiver or television. If the machine is too close to a television set, the disk drive may not work properly.*
- *If you switch the machine off, wait at least 10 seconds before switching it on again. Failure to respect this delay may disrupt the start-up sequence, resulting in faulty operation and possible hardware damage.*
- ***Rechargeable Battery:*** *Do not try to disassemble and do not dispose of the battery in a fire. The battery may burst. Avoid short circuits between the battery terminal and recharge at least once a year even if the battery is not used. For more details, see "Precautions Regarding the Rechargeable Battery" on page 7.*
- ***Display:*** *The backlit panel will gradually decrease its brightness as it is used. To maximize the life of the display, turn the back light off when working in a well-lit location. Never increase the brightness more than necessary. After much use the panel may expire. When this occurs, contact your local Brother service location to have the panel replaced.*

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Description of the Machine
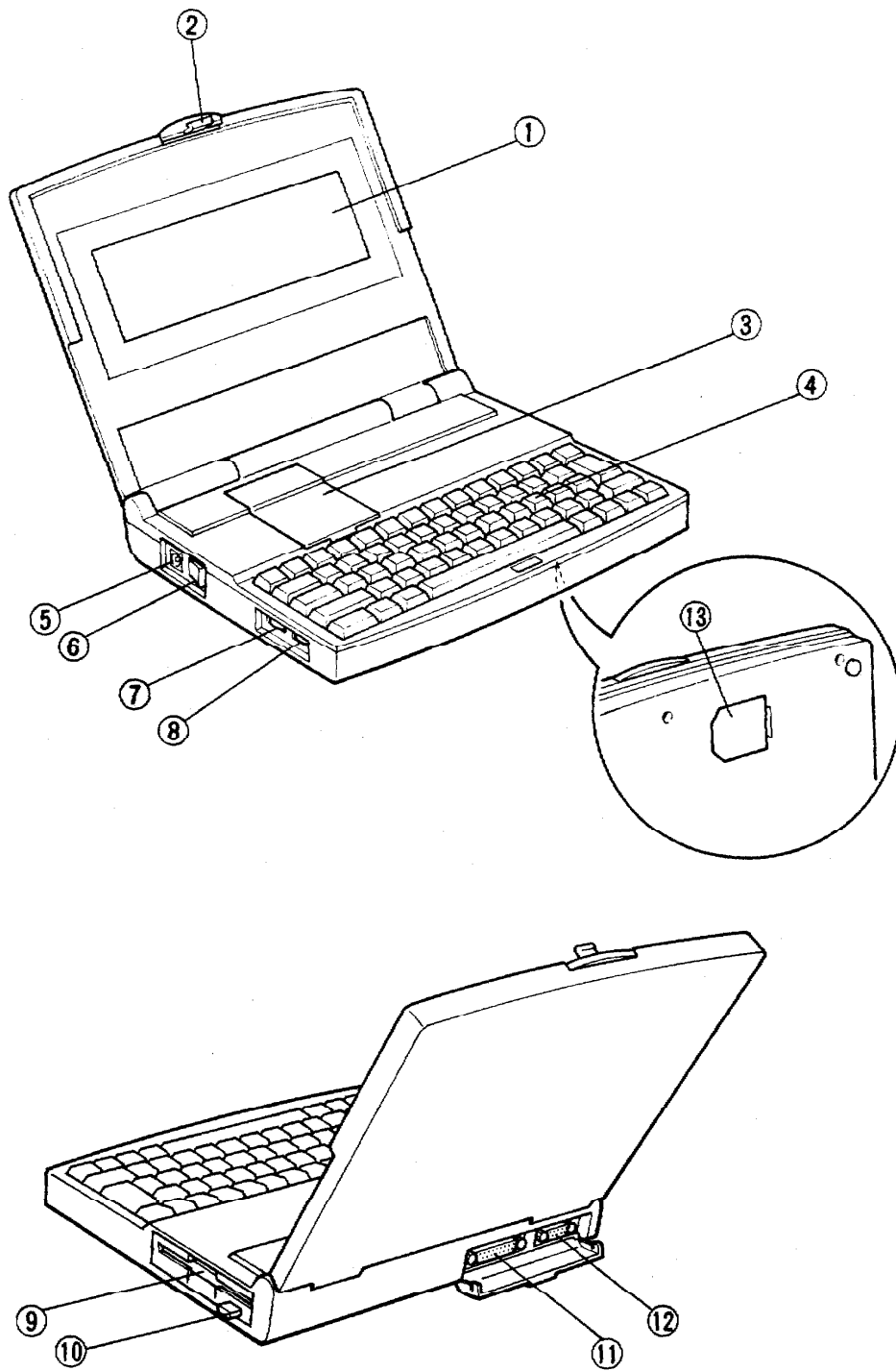
(1)	**LCD Display**	This two-way backlit LCD screen displays 14 lines of 80 characters. Contrast and back light intensity can be adjusted separately. The back light can be turned off for lower power consumption when working with the battery.
(2)	**Cover Clamp**	Press the clamp inward to open.
(3)	**Rechargeable Battery Compartment**	Insert the optional rechargeable battery here. This battery allows you to use the machine where AC power is not available.
(4)	**Keyboard**	Character and function keys.
(5)	**Power Input**	Connect the AC adapter supplied with your machine here. Never connect another adapter.
(6)	**Power Switch**	Turns the machine on/off.
(7)	**Contrast Controller**	Controls the display contrast.
(8)	**Back light Controller**	Controls the intensity of the back light; cannot be used to turn the back light completely off.
(9)	**Disk Drive**	Insert your disks here.
(10)	**Disk Eject Button**	Press this button to eject the disk.
(11)	**Printer Connector**	Connect a parallel printer cable here.
(12)	**Communication Connector**	This input/output connector is used to connect a serial printer cable, a modem, or the optional fax interface.
(13)	**Backup Battery Compartment**	The small lithium battery protects the memory even when the power is switched off.

Setting Up

Connecting the AC Adapter

- *Before connecting or disconnecting the AC adapter, make sure that the power is off. Connecting or disconnecting the AC adapter while the power is on may damage the memory.*
- *Never use an AC adapter other than the one which comes with the machine.*
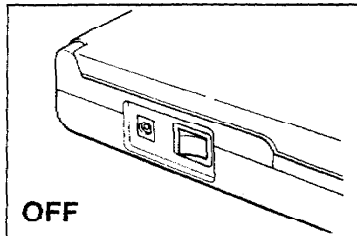
Make sure that the power switch is set to OFF.
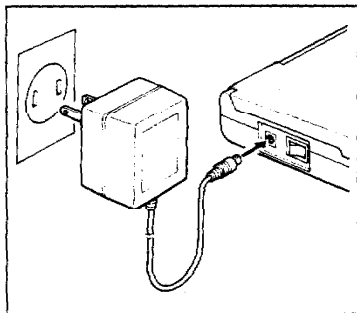
Plug the supplied AC adapter into an AC outlet and plug its cable into the DC9V power input of the machine.
You may now turn the power ON.

It is a good idea to disconnect the AC plug when the machine is not to be used for a long period.
Always disconnect the adapter from the AC outlet during thunderstorms.

Inserting the Lithium Battery

The small lithium battery that comes with the machine should be inserted in the compartment on the bottom of the machine. This battery retains memory and powers the clock functions when the power switch is turned off.

- *This battery is not for using your unit without the AC power adaptor. If you want to use your unit where AC power is not available, see "Installing a Rechargeable Battery" on page 6.*

- *When installing a new lithium battery, make sure that the power is on. Installing a new lithium battery while the power is off may cause malfunction when you turn the power on. Making sure that the power is on when you replace the lithium battery also prevents memory data that cannot be stored on disk (e.g. settings of the Communication mode, etc.) from being erased.*
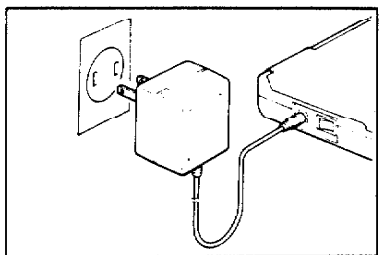
Connect the AC adapter and make sure that the power is on.
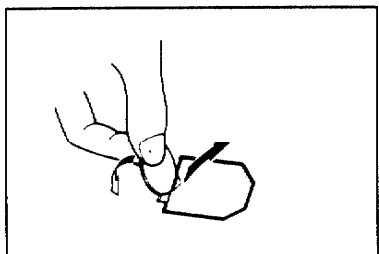
Use a coin to open the battery compartment cover at the bottom of the machine.
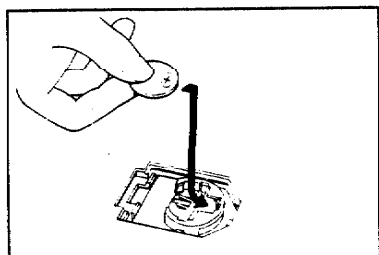
Make sure that the positive terminal (+) is facing outside.
Slide the battery into the holder and push it in.
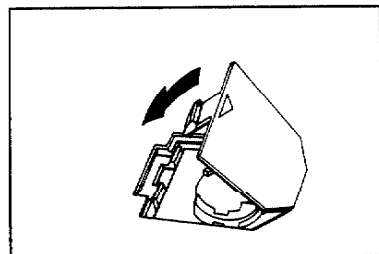
Close the cover.

The battery will last for about one year. When it becomes low, a MemLoss indicator will appear at the upper-right corner of the screen each time you press a key, and the Auto Power Off function will be disabled.

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When this indicator appears, you should immediately save all your files on a disk. If you do not do so, there is a risk that the files will be deleted.

Bring the old lithium battery to your supplier and be sure to purchase a new battery of the same type (CR2032). Insert the new battery as explained above.

Installing a Rechargeable Battery

An optional rechargeable nickel-cadmium battery is available (Brother Battery Pack BA4000). It allows you to use your machine in places such as a train, where AC power is not available.
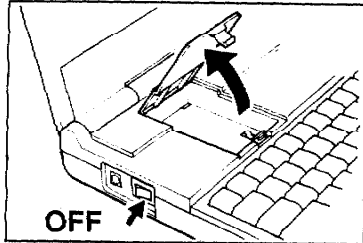
Make sure that the power is turned off.
Open the battery compartment cover on the top of the machine.
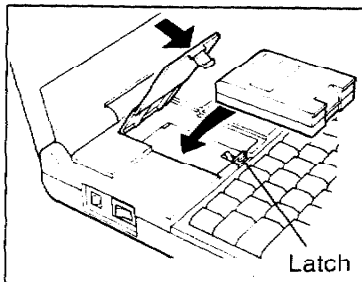
Insert the battery as shown and press down to lock. Close the cover.
You may now turn the power on.

To remove the battery, pull the latch toward the keyboard to unlock. The battery can then be removed.

Charging the Rechargeable Battery

A new battery must be charged before you can use the machine without the AC adapter.

To charge the battery, turn the power off, insert the battery pack, and connect the AC adapter. When the AC adapter is connected, the battery recharges automatically in about 15 hours regardless of the position of the power switch. However, if the power switch is kept on and you do not use the machine, the battery will recharge in about six hours. The charging times indicated here may vary depending on the temperature and AC voltage.

- *If the BATTERY indicator stays on for more than ten minutes without interruption, the battery is worn out and must be replaced with a new one.*

A charged battery will automatically power the machine each time you turn the power on while the AC adapter is not connected.

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A new, fully charged battery will be able to supply power for about 2.5 hours with the display back light on, and for about eight hours with the back light off (these times are at room temperature and when the disk drive is not used). As the battery becomes old, the time it can supply power after being fully charged will decrease. Replace the battery with a new one when its performance become poor.

When the battery becomes low, the BATTERY indicator appears each time you press a key. At that time, the battery has not enough energy to power the disk drive and disk access becomes impossible. You should recharge the battery immediately. If an AC outlet is not available, or if you do not have the AC adapter handy, switch the power off and stop using the machine until you can recharge the battery. Failure to observe this precaution can cause the memory to be cleared.

- *WARNING: When using the adapter with a rechargeable battery installed, never disconnect the adapter from the AC outlet or from the machine while the power is on. This would cut the power supply to the unit even if the battery is charged. Moreover, doing so could damage the memory.*
  If you want to disconnect the AC adapter and run the machine with the rechargeable battery, switch the power off first, disconnect the AC adapter, and switch the power on.

Precautions Regarding the Rechargeable Battery

- If you are going to use the machine for an extended period with the AC adapter only, remove the nickel-cadmium battery and store it in a cool, dry place. This also applies when you are not going to use the machine for an extended period. Be careful to prevent the battery terminals from contacting metallic pieces (do not wrap the battery in aluminum foil which would cause a short circuit). Recharge at least once a year even if the battery has not been used.

- Never recharge the battery using a recharger other than the built-in recharger of your machine.

- Do not try to disassemble the battery, or dispose of it in a fire. The battery may burst.

- Switch the power off when you do not use the machine in order to save battery energy.

Transporting the Machine

This laptop machine is ideal to work on a train or in a park, to take notes in a meeting, etc. Simply make sure that the rechargeable battery is fully charged and the disks that you might need have been initialized for use. When the machine runs on the battery, switching off or reducing the intensity of the back light, as well as avoiding too much disk operation will extend the battery life.

- *Avoid transporting the machine with a disk inserted in the drive. Vibrations and shocks may damage the disk and the drive, and the disk may fall out if the eject button is accidentally pressed.*

Connecting other Equipment

Printer

Before you try to connect a printer, you must know which kind of input connector the printer is equipped with: parallel or serial (RS-232C). You will find this information in the printer documentation. Connect the printer cable accordingly to the connector on your machine.

*   *Before connecting the printer to your machine, make sure that the power switch on your machine and on the printer in turned to OFF.*

Parallel Cable

Printer

Serial Cable
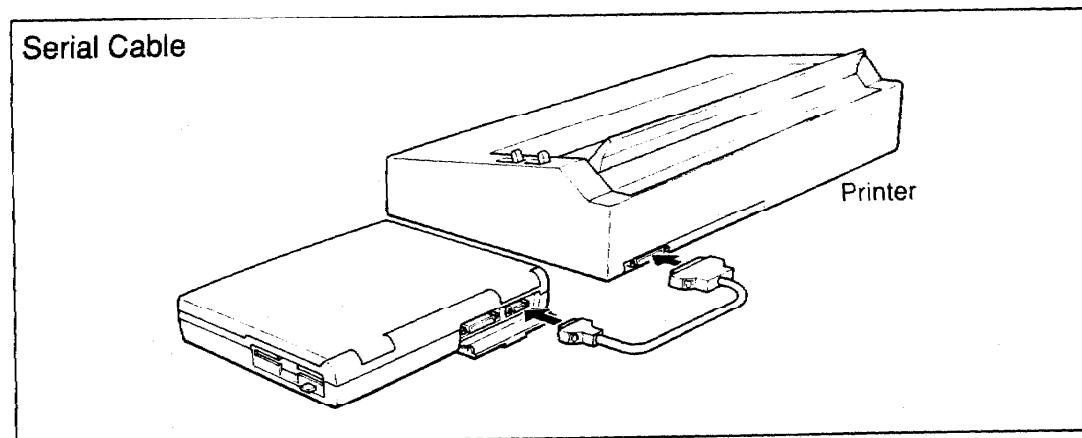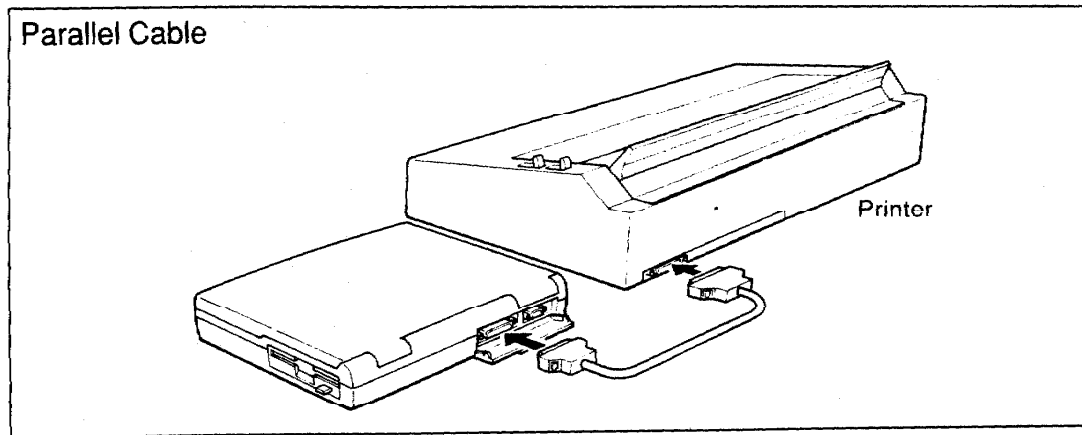
Printer

This machine is compatible with most printers currently available on the market. In order to work correctly, however, the machine must be told which kind of printer is connected (refer to "Printer Set Up" on page 22).

Modem and Fax Adapter

Not all external modems and fax adapters available on the market are compatible with your machine. When you purchase a modem or a fax adapter and a modem cable (serial), make sure to consult your dealer. The recommended model is Robotics FX-4000 (Pocket Fax Modem) which can be used both as a modem and fax adapter. You may also use a HAYES AT compatible modem.

Refer to the modem and fax adapter documentation for setting the jumper connectors and/or DIP switches, if any. Usually, the manufacturer's settings do not need to be changed.

When you purchase a modem or a fax adapter, it is a good idea to bring the machine to your supplier's shop and actually try the unit before buying.

* *Before connecting a modem or a fax adapter to your machine, make sure that the power is off.*
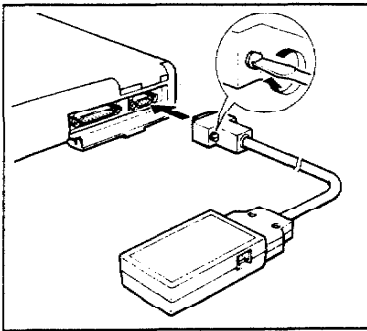
Connect the serial cable of the modem or fax adapter to the communication connector of your machine. Secure the connector screws.
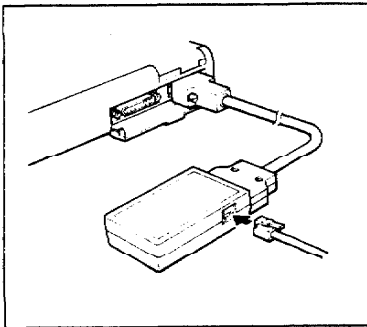
Connect the telephone cable of the modem or fax adapter to the auxiliary socket of a telephone set or to a telephone line socket.

Connection with another Computer

If you are using a desk top computer for your work at home or in your office, you will be able to transfer data from your Power Note Work Organizer to your computer or vice versa. Since disk formats are incompatible, the transfer of text files must be done through a cable. Your computer must be equipped with an RS-232C serial port and the appropriate communication software. All you need is a NUL MODEM cable, available in most computer shops. For details about data transfer, see "Communication" on page 233.

- *Before connecting a computer to your Power Note Work Organizer, make sure that both machines are switched off.*
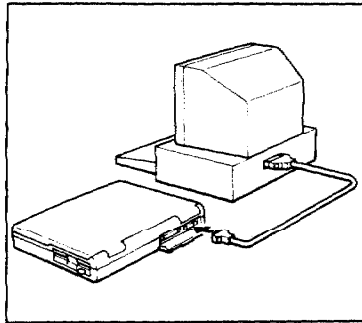
Connect the NUL MODEM cable to the communication connectors on both your Brother Power Note Work Organizer and the computer. Secure the connector screws.

Floppy Disks

This machine accepts only the following types of 3.5-inch floppy disks:

    MF-2DD (Double Sided/Double Density/Double Track)

    MF-1DD (Single Sided/Double Density/Double Track)

- *Your machine cannot use high density ("HD") floppy disks, so be sure to purchase only double density double track ("DD") disks. It is recommended that you use Brother brand disks.*

Inserting and Removing a Floppy Disk
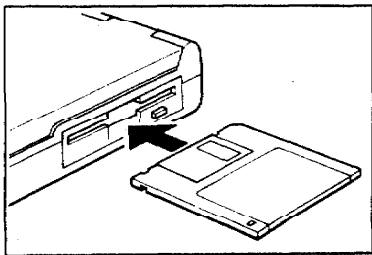
Insert the floppy disk as shown in the illustration. You will feel some resistance if you try to insert the disk the other way around.

To remove the disk, simply press the disk eject button.

Eject Button
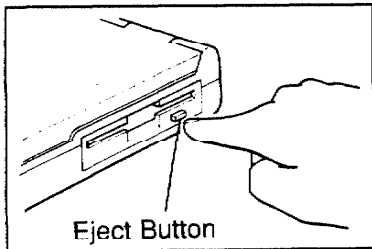
CAUTION -- *The floppy disk may be inserted and removed when the power is either on or off.* **However, you should never insert or remove it while a message indicates that a disk operation is in progress.**

Write-Protecting Your Disks
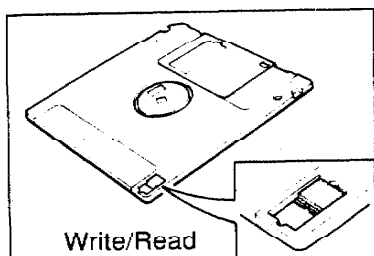
All 3.5-inch floppy disks have a switch that protects their contents from accidental erasure. When the switch is in its READ ONLY position, you cannot erase old information or store new information on the disk.

Write/Read
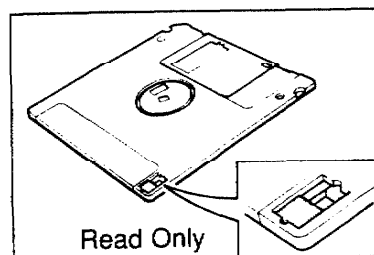
Put the switch in the READ ONLY position to protect a disk containing valuable information.

Read Only

Caring for Your Disks
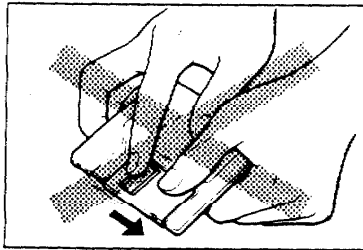
Never open the shutter of the disk and never touch the surface directly.
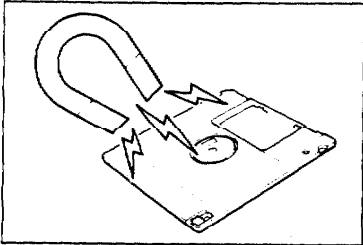
Do not use magnetic materials near the disk.
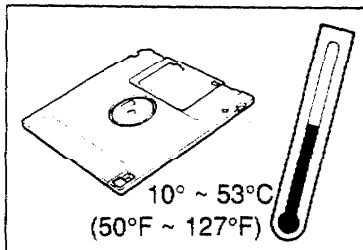
Never expose the disk to extremely high or low temperatures.

10° ~ 53°C
(50°F ~ 127°F)

Initializing New Disks

A floppy disk can be used by a system only after being "formatted" -- or initialized by the system for specific use by that system. The initializing program creates a format on the disk.

Different systems use different formats. Standards exist, but, in general, systems cannot share disks without special conversion of hardware or software. *This machine uses a proprietary disk format that is not recognized by any personal computer or other electronic equipment.* It is, however, intelligent enough to recognize a new disk or one from another system. When you turn on the machine, for example, one thing that is checked is the disk format. If the disk is unformatted or has a different format, the following prompt appears:

```
Initialize? Press RETURN(yes) or CANCEL(no).
```

Press ⌈RETURN⌋ to initialize and erase any data on the disk. Press ⌈CANCEL⌋ if you decide not to initialize.

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- **WARNING** -- Initializing a disk erases any data that might be on it. If you initialize a disk from a personal computer, for example, the files will be completely destroyed. Once the disk has been initialized, however, it will be in the proper format for use with this Brother unit.
- This machine can recognize and read data from disks that have been used with some Brother word processors. For more details, please contact your dealer.

Backing up a Disk

The best insurance against losing important data is to make backups (duplicate copies). You can do this at two levels: at the individual document level with the COPY function, and at the disk level with the DISK COPY function. (For details, see "Copying a Disk (Back-Up Copy)" on page 206.)

General Features

The Modes of Operation

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Thu September 12 1991                                              9:18AM

                      ┌──────────────────────────────┐
                      │        << MAIN MENU >>        │
                      └──────────────────────────────┘
             1. SCHEDULER/CALENDAR        6. CALCULATOR
             2. ADDRESSBOOK               7. CLOCK
             3. SPREADSHEET               8. COMMUNICATION
             4. CREATE DOCUMENT           9. FAX
             5. LINE BY LINE              0. DISK APPLICATION

   Type number or move cursor and press RETURN.  Press MENU for more selections.
```
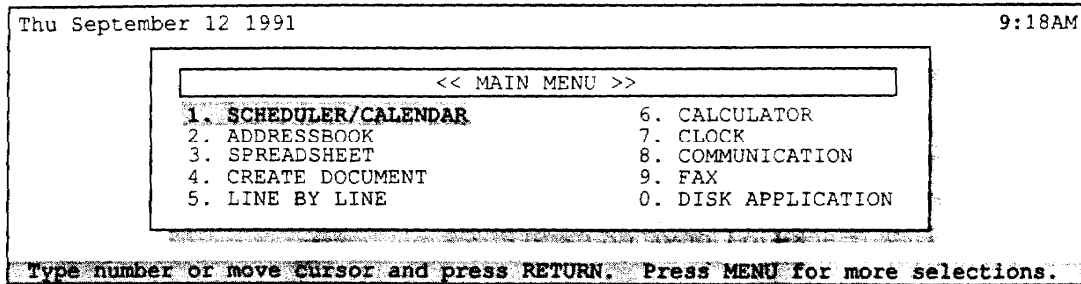
When you switch the machine on, a list of "modes" appear on the screen. That list is called the MAIN MENU and the different modes correspond to the different kinds of work that can be performed. To start working with a mode, simply press the corresponding number key (⬛ for Scheduler/Calendar, etc.), or select with the cursor keys and press ⬛RETURN⬛. Here is a brief description of the modes:

Scheduler/Calendar	In this mode you can prepare your schedule and have an alarm automatically remind you of an important appointment, even while you are working with another mode of the machine. It also provides you with an on-screen calendar.
Address Book	The Address Book mode provides you with an easy way to input and organize lists of data such as names, addresses, and telephone numbers. This file can be used for easy selection of a telephone or fax number in the Communication and Fax modes. Data can be merged with document files.
Spreadsheet	The Spreadsheet mode is used to create tabulated documents like financial statements, in which calculations are automatically performed. Such files can be converted in order to include the calculated data into a document.
Create Document	This mode is used to create, edit, and format texts. It is equipped with automatic search, spell checker, paste and cut, and powerful layout functions.

Line by line	In the Line by line, the text that you type, is sent line by line to the printer. This mode is convenient to print an envelope or short text that you do not need to keep in the memory or on disk.
Calculator	When you enter this mode, a part of the screen looks like a pocket calculator and allows for simple arithmetics. You can call this mode either from the MAIN MENU or from the Create Document mode. The result can be automatically inserted into the document you are working on.
Clock	The Clock mode allows you to set the date and time. The machine will display the date and time on most screens. A morning alarm can be set.
Communication	The Communication mode allows data transfer between your machine and another computer or communication service.
Fax	With this mode, you can send a document file through the telephone line to a fax machine.
Disk Application	This mode is reserved for application programs that are available on disks. The famous Russian game TETRIS is included with your unit.

The Auto Power-off Function

In order to save battery energy and to maximize the life time of the display, this machine is equipped with a function that will automatically turn the power off if no key is pressed for more than ten minutes. To switch the power back on, flip the power switch to OFF, wait ten seconds, and flip the power switch to ON. If you were editing a Create Document file or a Spreadsheet file, the machine will display the same file. If you were doing anything else, the MAIN MENU will appear.

* *The auto power-off function is temporarily disabled during the following operations: file transmission in the Fax mode, Communication mode, printing, disk access, Spell Checker (option ALL) and Search & Replace operations in the Create Document mode, Disk Application mode, and Self Demo program.*

The Time Clock

This machine is equipped with a clock that is powered with the lithium battery when the power is turned off. Some screens, like the MAIN MENU display both date and time. Other screens display only the time, but the current date can be seen by pressing CODE. The time reappears when that key is released.

The Memory

The 42 Kbytes memory of this machine is protected with the lithium battery. As long as the battery is able to supply sufficient power, all the data stored in memory is safe, even if you switch the power off. In order for you to make the best use of the memory, and avoid accidental erasure, it is important that you understand what is stored in the memory.

Two kinds of data are stored in the memory: system parameters, and files that you create.

- The **system parameters** (date and time, printer settings, etc.) are always in memory. When your machine is new, these parameters are set to default values. The system parameters occupy a fixed amount of memory. There is no way to clear that space or to transfer the data it contains to a disk.

  If the lithium battery becomes low or is removed while the power is off, the system parameters will return to their default values.

- **Files that you create** are stored in the memory while you create them. If you switch the power off while working on a Create Document or Spreadsheet file, the next time you switch the machine on, the file will usually reappear on the screen. After files are created, they can be saved on disk.

  The file you are working on may be lost if the power is cut while an operation that takes time is in progress. Before you turn the power off, make sure that the machine is not busy with such a function.

  If the lithium battery becomes low or is removed while the power is off, the files will be erased.

The machine distinguishes three kinds of files:

- **Spreadsheet files**: A Spreadsheet file is stored in the memory only while you are working on it. When the file is complete, you can save it only on disk.

- **Create Document files**: You can have more than one Create Document file in the memory. When you create a new file, its file name is always *NEWFILE. When you save the file into the memory, the machine asks you to enter a more specific file name.

- **All other files**: All the other files that you can create with this machine are automatically stored into the memory. These files include:

  User Dictionary file (for the Spell Checker)
  Abbreviated phrases file (for speeding up typing)
  Address Book file
  Scheduler/Calendar file

  Only one of each of the above four kinds of files can be stored in the memory at one time.

The Display

The LCD screen of this machine can display 14 lines of 80 characters. Each mode of operation (Create Document, Communication, etc.) uses a different screen layout, adapted to the work that is done in that mode, but most screens are consistently divided into three principal regions:

*   **Status Line**: The top line of the screen helps you to remember where you are and which functions are activated. The pieces of information that appear on the status line are called indicators. For example, in the Create Document mode, the status line indicates the page, line, and column number, the name of the file you are working on, etc. Some indicators appear only when the corresponding function is activated.

*   **Work Area**: On most screens, the central part of the display is the place where you can actually input or modify your data.

*   **Message Area**: The bottom of the screen is reserved for messages or prompts that the machine displays automatically to tell you what to do next. You will be able to perform most operations by simply following the instructions at the bottom of the screen.

As an example, the following illustration shows the main screen of the Create Document mode.
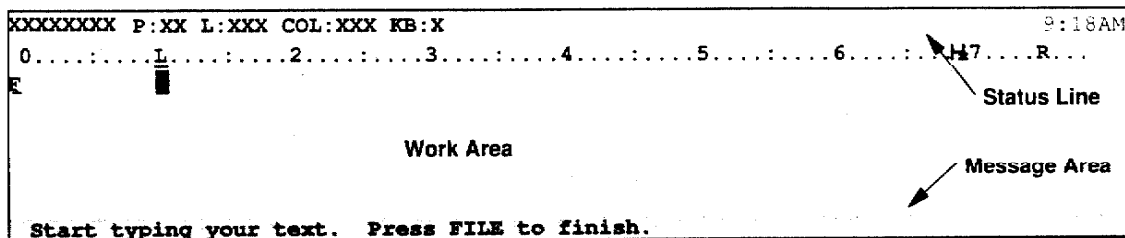
The Keyboard

This machine has more keys than a common typewriter keyboard. In order to get a clear understanding of the keyboard, we will distinguish three classes of keys: character, keyboard control, and function keys. Most keys are auto-repeat; if you hold down the key, its effect continues to repeat until you release the key.

The Character Keys

The character keys are used to type text. They are very similar to the character keys of a common typewriter, except that two different "keyboards" are available:

standard ASCII keyboard and American keyboard. To switch from one keyboard to the other, press (CODE) + (KEYBOARD) ((K)). An indicator on the top line of the screen tells you which keyboard is currently selected (KB:I=ASCII, KB:II=American).
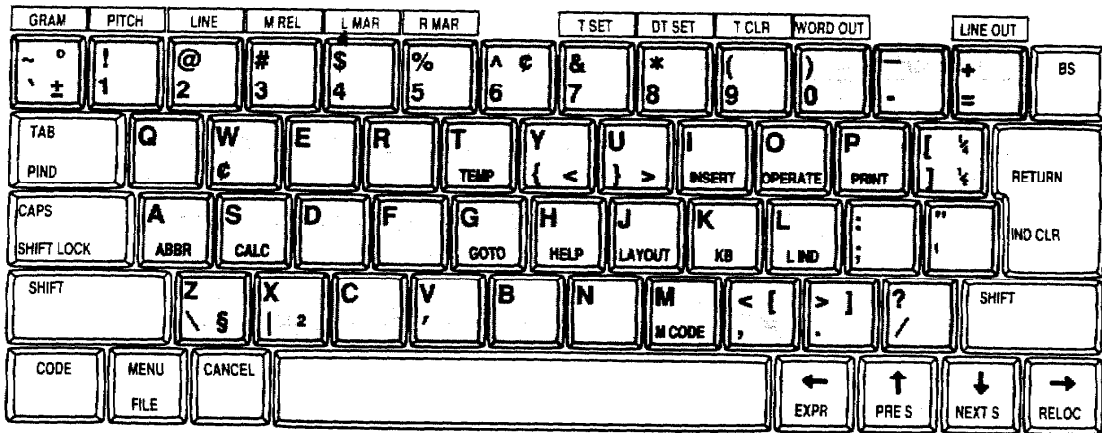
- *The characters available when the keyboard is set to KB:I appear on the left of the key tops.*

- *The characters available when the keyboard is set to KB:II appear on the right of the key tops.*

The Keyboard Control Keys

The keyboard control keys are used to modify the effect of the other keys. To modify the effect of another key, you must hold down (SHIFT) or (CODE) while pressing the key to be modified.

In this guide, such a double keystroke will be symbolized by the "+" sign.

SHIFT + a character key	Hold this key down to type uppercase characters. The SHIFT indicator appears on the top line of the screen as long as the SHIFT key is pressed.
CAPS	Pressing this key once displays the CAPS indicator. All letter keys are capitalized, while number keys remain lower case. Press the same key to unlock the keyboard. While the CAPS indicator is displayed, you may temporarily press SHIFT and a number key to type characters like "!", "@", etc.
CODE + SHIFT LOCK (CAPS)	Pressing these keys once locks the keyboard in uppercase mode and displays the SHIFT indicator permanently. Press SHIFT to release.
CODE + a character key	Used to type the character indicated in green on the key top, or to activate a function.

The Function Keys

The function keys are used to activate the many functions of the machine. Many functions can be activated with CODE + a character key. Some of these functions are not indicated in green on the key top but will be explained in the respective sections of this Guide.
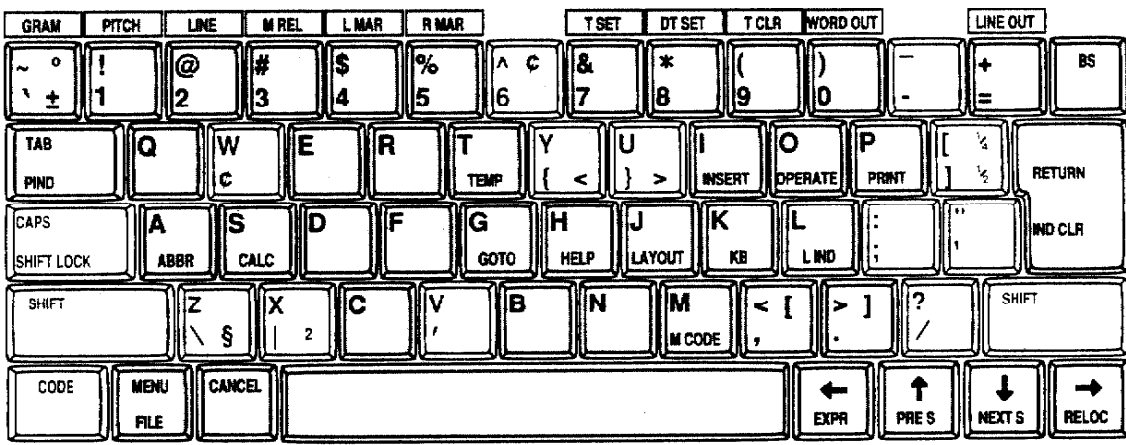
Some Important Function Keys

An important advantage of your machine is that all the software it contains has been designed to ensure optimal consistency in the use of the keyboard. After learning to use one mode, you will be able to learn each one very quickly.

⬅, ➡, ⬆, and ⬇	These are the cursor keys, used to move the cursor to any desired place on the screen.
RETURN and CANCEL	While an operation is in progress. you will often be requested to confirm or quit. RETURN allows you to go on and CANCEL allows you to go back to the previous step or escape completely. Pressing CANCEL repeatedly when you are lost will eventually return you to a known situation.
MENU	Pressing MENU displays a menu of functions. A function can then be selected using the cursor keys, and activated by pressing RETURN. Most of the functions that are selectable from a menu can also be activated with "short-cut" keys.
CODE + HELP (H)	Pressing CODE + HELP displays help information about the mode you are working with.
CODE + FILE (MENU)	Pressing CODE + FILE allows you to finish your work and save the data.

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The MAIN MENU

The MAIN MENU will appear when you turn the machine on.

```
Thu September 12 1991                                              9:18AM

                    ┌─────────────────────────────────────┐
                    │          << MAIN MENU >>             │
                    │ 1. SCHEDULER/CALENDAR    6. CALCULATOR│
                    │ 2. ADDRESSBOOK           7. CLOCK    │
                    │ 3. SPREADSHEET           8. COMMUNICATION│
                    │ 4. CREATE DOCUMENT       9. FAX      │
                    │ 5. LINE BY LINE          0. DISK APPLICATION│
                    └─────────────────────────────────────┘

 Type number or move cursor and press RETURN.  Press MENU for more selections.
```
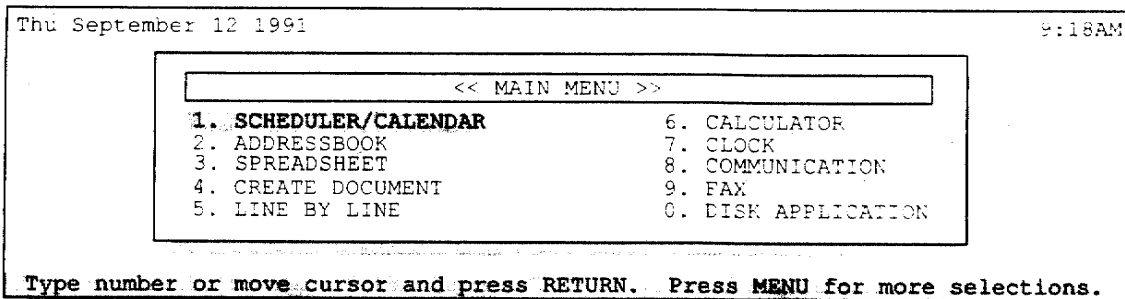
To start working, move the cursor to the desired mode using the cursor keys and press ⌈RETURN⌋. You may also type the number corresponding to the mode ("1" for SCHEDULER/CALENDAR, etc.).

* *Before you start working with any mode, we suggest that you have a look at the following sections for additional options.*

Switching the Display Back Light ON/OFF

⌈CODE⌋ + ⌈B⌋

```
 BACKLIT ON/OFF    PRINTER SET UP    PASSWORD    SELF DEMO
                                                          ┌──────────────┐
                                                          │  BACKLIT ON  │
                                                          └──────────────┘
```
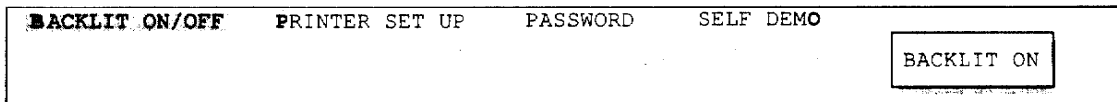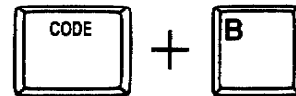
When you run your machine on the battery, it is a good idea to switch the back light of the screen off in order to reduce power consumption.

1. Press ⌈MENU⌋ to display the function menu. The cursor is located on BACKLIT ON/OFF and an indicator displays the status of the back light on the upper-right corner of the screen. Any keystroke deletes that indicator.

2. Use ⌈←⌋ and ⌈→⌋ to move the cursor to BACKLIT ON/OFF and press ⌈RETURN⌋. If the back light was on, it is now off, and vice versa.

* ***Accelerator:*** *Instead of (2) you may type "B".*

* ***Short cut:*** *Instead of (1) and (2) you may press* ⌈CODE⌋ + ⌈B⌋.

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Printer Set Up

```
BACKLIT ON/OFF    PRINTER SET UP    PASSWORD    SELF DEMO
```
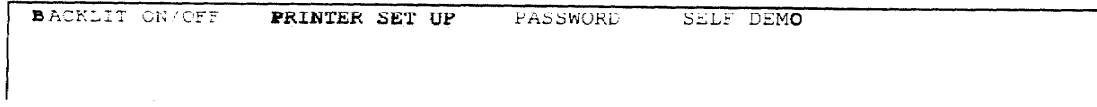
You should confirm the printer settings before you try to print anything. Your machine is compatible with many printers, but requires to be told what kind of printer is connected, and on which connector.

Selecting the Printer

1. Press (MENU) to display the function menu.

2. Use ⊕ and ⊕ to move the cursor to PRINTER SET UP and press (RETURN). The first page of PRINTER SET UP screen appears:
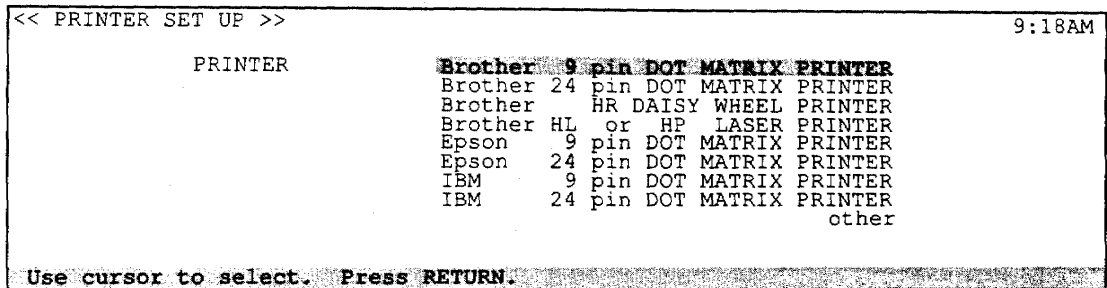
```
<< PRINTER SET UP >>                                        9:18AM

              PRINTER     Brother  9 pin DOT MATRIX PRINTER
                          Brother 24 pin DOT MATRIX PRINTER
                          Brother    HR DAISY WHEEL PRINTER
                          Brother HL  or  HP  LASER PRINTER
                          Epson    9 pin DOT MATRIX PRINTER
                          Epson   24 pin DOT MATRIX PRINTER
                          IBM      9 pin DOT MATRIX PRINTER
                          IBM     24 pin DOT MATRIX PRINTER
                                                        other

  Use cursor to select.  Press RETURN.
```

*   ***Accelerator:*** *Instead of (2) you may type "P".*

*   ***Short cut:*** *There is no short-cut key for this function.*

3. Use ⊕ and ⊕ to select the appropriate printer, and press (RETURN) to display the second page of the PRINTER SET UP screen.

The PRINTER setting allows you to choose what is called a printer "driver". A printer driver is a software interface that processes the data from your files into a "standard" printer format before sending it through the printer cable. Most printers are equipped with one or several "emulations" that will accept and respond to the incoming data at print time.

With its nine different drivers, your machine is compatible with a wide range of existing and future printers -- even printers that are not listed by name on the next table. In order to find the correct match between your machine and your printer, proceed as follows:

*   If your printer is listed on the PRINTER column of the next table, simply set PRINTER to the corresponding mode on the MODE column.
    For example, if you own a Brother HR40, set PRINTER to Brother HR DAISY WHEEL PRINTER.

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• If your printer is not listed on the PRINTER column, consult the printer's documentation to find out which emulation it is equipped with. Find that emulation on the EMULATION column and set PRINTER to the corresponding mode on the MODE column. If your printer has more than one emulation, it must be switched to one of the emulations listed in the EMULATION column. For example, the Brother HL-8 PS Laser Printer includes two emulations (HP LASERJET PLUS and BR SCRIPT). HP LASERJET PLUS is listed in the EMULATION column. Set PRINTER to Brother HL or HP LASER PRINTER and select the HP LASERJET PLUS emulation on the printer.

Selecting the correct PRINTER mode

MODE	EMULATION	PRINTER
Brother 9 pin DOT PRINTER	IBM PROPRINTER XL (9 pin)	M1209 XL500 M1309 XL1000 M1709L
Brother 24 pin DOT PRINTER	IBM PROPRINTER XL24E (24 pin)	XL1500 M1324 XL2000 M1724L M1824
Brother HR DAISY WHEEL PRINTER	DIABLO630	HR40 DIABLO PRINTER
Brother HL or HP LASER PRINTER	HP LASERJET PLUS	HL4 HL8 HP LASERJET II HP LASERJET II PLUS HP LASERJET III
Epson 9 pin DOT PRINTER	Epson FX Series	FX850 LX810 KX-P1180 (Panasonic)
Epson 24 pin DOT PRINTER	Epson LQ Series	LQ510 LQ850 KX-P1124 (Panasonic)
IBM 9 pin DOT PRINTER	IBM PROPRINTER XL	IBM PROPRINTER XL
IBM 24 pin DOT PRINTER	IBM PROPRINTER XL24E	IBM PROPRINTER XL24E BJ-10c (Canon)
other	TTY (without backspace)	(IF-20 + EM-1050 etc.)

- *Depending on your printer, a few characters may not print correctly. The paper may also not feed the expected amount.*

- *Since it is not possible to check the operation of every printer on the market, some problem may arise with your printer if it does not emulate the named printer exactly.*

- *When a Brother dot-matrix printer is used, make sure that the emulation is set to the IBM mode. For example, the XL500 has two emulation modes (IBM and EPSON), although only the default setting is shown on the above table. If the printer happens to be in EPSON mode, be sure to reset it to the IBM mode before printing.*

- *Brother 9 pin mode is the default setting for M1724L/XL2000. Select the EPSON emulation mode if you want to use these printers in 24 pin mode.*

- *With some printers, the amount of paper advance when a sheet is inserted may be slightly wrong. This problem can be corrected by changing the paper size in the Create Document mode. For details, see "Paper Size" on page 183.*

- *Some characters may not print correctly if you select the micron pitch (PITCH:15).*

- *If the printer that you own does not appear on the list, select Other. You will be able to print only basic text (no bold, underline, super/sub scripts, etc.).*

Setting the Printer Parameters

When you press [RETURN] on the first page of the PRINTER SET UP screen, a second page appears.

```
<< PRINTER SET UP >>                                           9:18AM


        PRINTER SIZE                          NARROW
        QUALITY                                  LQ
        CONNECTOR                             PARALLEL




    Press SPACE to change setting.  Press RETURN to finish.
```

1. Use [↑] and [↓] to select a parameter, and press [SPACE BAR] to set the value.

2. Press [RETURN] to register your settings, or [CANCEL] to restore the old setting. In both cases, you will be back on the MAIN MENU.

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Printer parameters

Parameter	Options
PRINTER SIZE	NARROW WIDE
QUALITY	NLQ(LQ) (Near Letter Quality) DRAFT
CONNECTOR	Parallel (printer connector) Serial (communication connector)
When RS232C is selected	
BAUD RATE	300, 600, 1200, 2400, 4800, 9600
PARITY	NONE Odd Even
DATA BITS	8bits 7bits
STOP BITS	1 bit 2 bits

Password

```
BACKLIT ON/OFF    PRINTER SET UP    PASSWORD   SELF DEMO
                                    SET PASSWORD
                                    CHANGE PASSWORD
                                    CANCEL PASSWORD
```
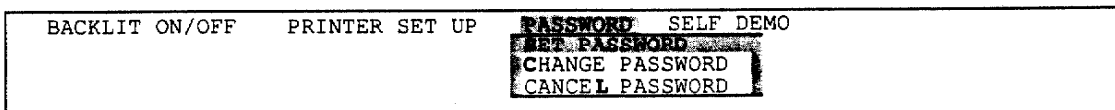
If you set a password, nobody will be able to read or modify your data. Any time a mode other than Clock, Type, or Calculator is selected from the MAIN MENU, the machine will ask the password and deny access if the password is not correct.

- *While entering a password, you may use* ⟦BS⟧, ⟦CODE⟧ + ⟦WORD OUT⟧ (⟦⟧), ⟦CODE⟧ + ⟦LINE OUT⟧ (⟦⟧), ⟦CODE⟧ + ⟦EXPR⟧ (⟦⟧), *or* ⟦CODE⟧ + ⟦RELOC⟧ (⟦⟧) *to edit.*

1. Press ⟦MENU⟧ to display the function menu.

2. Press ⟦CODE⟧ + ⟦SHIFT⟧ + ⟦K⟧ to display the PASSWORD submenu.

The three options of the submenu are used as follows:

- SET PASSWORD: For setting your first password. This option cannot be used to replace an old password with a new one.

- CHANGE PASSWORD: For replacing an old password with a new one. This option cannot be used if no password has been previously entered.

- CANCEL PASSWORD: For cancelling the password.

To Set a Password

1. Use ⬆ and ⬇ to select SET PASSWORD and press (RETURN). The machine asks you to enter the password.

*   *Accelerator: Instead of (1) you may type "S".*

2. Type the password using only standard English alphabet characters and press (RETURN) to enter the password, or (CANCEL) to quit.

To Change a Password

1. Use ⬆ and ⬇ to select CHANGE PASSWORD and press (RETURN). The machine asks you to enter the old password.

*   *Accelerator: Instead of (1) you may type "C".*

2. Type the old password and press (RETURN). The machine asks you to enter a new password.

3. Type the new password and press (RETURN).

To Cancel a Password

1. Use ⬆ and ⬇ to select CANCEL PASSWORD and press (RETURN). The machine asks you to enter the old password.

*   *Accelerator: Instead of (1) you may type "L".*

2. Type the old password and press (RETURN). The old password is cancelled.

*   *Each time you are requested to enter the password, you may press (CODE) + (SHIFT) + (P) to display the password. This feature ensures that you can use your machine even if you forget your password.* **It also means that any owner of the same model Brother machine knows how to determine your password.**

Self-Demonstration

[CODE] + [O JUST]

BACKLIT ON/OFF   PRINTER SET UP   PASSWORD   **SELF DEMO**
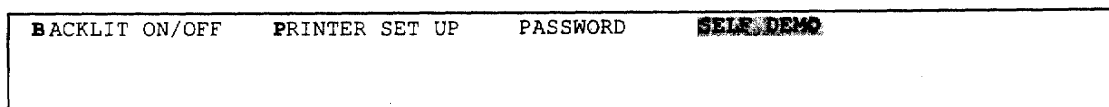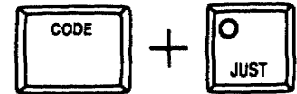
This program shows you examples of what you will be able to do with your Power Note.

1. Press (MENU) to display the function menu.

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2. Use ◄ and ► to move the cursor to SELF DEMO and press (RETURN). The program starts.

•   *Accelerator:* *Instead of (2) you may type "O".*

•   *Short cut:* *Instead of (1) and (2), you may press (CODE) + (O) (letter "O").*

3. First comes a short description of the features. After reading a page, press (RETURN) to see the next page, or (CANCEL) to return to the first page. You may also press (CODE) + (FILE) ((MENU)) to return to the MAIN MENU.

4. On the last page of the presentation, the machine asks you to set the printer in order to print a copy of the presentation. Set the printer and press (RETURN), or press (CANCEL) to restart the demonstration. You may also press (CODE) + (FILE) ((MENU)) to return to the MAIN MENU.

5. When printing is complete (or cancelled), a graphic demonstration starts on the screen. Press (CANCEL) or (CODE) + (FILE) ((MENU)) to return to the MAIN MENU.

Scheduler / Calendar

The Scheduler / Calendar Mode

The Scheduler/Calendar is used to prepare and revise your daily schedule. You input the items of your schedule on a DAILY screen. You can give that day a title to remind you of an important event for the day. You can also set alarms in order to be automatically reminded of important events. A MONTHLY screen allows you to visualize all the titles entered in the DAILY screen for one month. A CALENDAR screen displays a six-month calendar for any year between 1940 and 2099.

Before you start...

The Scheduler/Calendar mode assumes that the clock is correctly set. If this is not the case, go to the Clock mode and set the time and date correctly.

How to Start?

1. Switch the machine on to display the MAIN MENU.

```
Thu September 12 1991                                        9:18AM
         ┌─────────────────────────────────────────────────┐
         │              << MAIN MENU >>                      │
         │  1. SCHEDULER/CALENDAR          6. CALCULATOR     │
         │  2. ADDRESSBOOK                 7. CLOCK          │
         │  3. SPREADSHEET                 8. COMMUNICATION  │
         │  4. CREATE DOCUMENT             9. FAX            │
         │  5. LINE BY LINE                0. DISK APPLICATION│
         └─────────────────────────────────────────────────┘
  Type number or move cursor and press RETURN.  Press MENU for more selections.
```
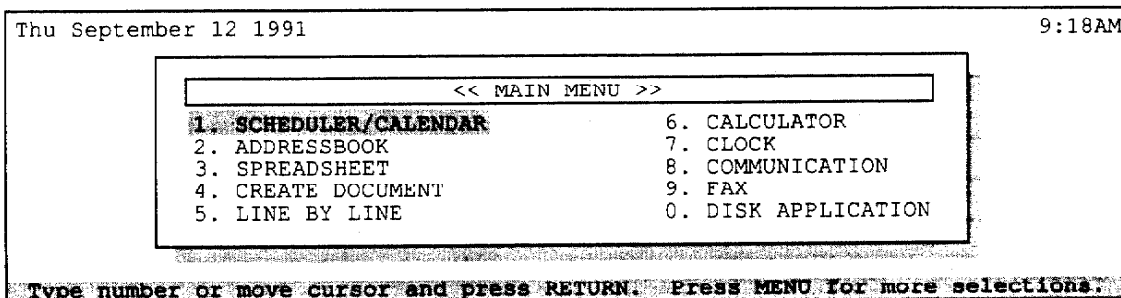
2. Move the cursor to 1. SCHEDULER/CALENDAR using the cursor keys and press **RETURN**. The MONTHLY screen corresponding to today's date appears. The month displayed will be correct only if you have set the date correctly in the Clock mode.

*   **Accelerator: Instead of (2), you may type "1".**

The MONTHLY Screen

```
SCHEDULE                         KB:X    MEMORY:XX.XK                    9:22AM
    September 1991
    Sun   :   Mon   :   Tue   :   Wed   :   Thu   :   Fr:   :   Sat
     1/    :  2/    :  3/    :   4/    :   5/    :   6/    :   7/
           :        :        :        :        :        :
     8/    :  9/    : 10/    :  11/    :  12/    :  13/    :  14/
           :        :        :        :        :        :
    15/    : 16/    : 17/    :  18/    :  19/    :  20/    :  21/
           :        :        :        :        :        :
    22/    : 23/    : 24/    :  25/    :  26/    :  27/    :  28/
           :        :        :        :        :        :
    29/    : 30/    :   /    :    /    :    /    :    /    :    /
           :        :        :        :        :        :
  Press RETURN to display the daily screen, or press FILE to finish.
```

The MONTHLY screen displays a one-month schedule and can be used for setting holidays, deleting a daily schedule, or switching to the CALENDAR screen. For details about operations on the MONTHLY screen, see:

- "The MONTHLY Screen" on page 40

How to Enter a Daily Schedule?

Data input is not possible on the MONTHLY screen. To input a daily schedule, move the cursor to that day on the MONTHLY screen, and press [RETURN]. The DAILY screen appears.

The DAILY Screen

```
TITLE:                           KB:X      Wed Sep  4 1991              9:22AM
    6:00AM                                 12:00PM
     :30                                     :30
    7:00                                    1:00
     :30                                     :30
    8:00                                    2:00
     :30                                     :30
    9:00                                    3:00
     :30                                     :30
   10:00                                    4:00
     :30                                     :30
   11:00                                    5:00
     :30                                     :30
  Type data.  Press CODE+RETURN to display monthly screen, or FILE to finish.
```

The DAILY screen is divided into entry fields for each half hour of the day. You can move the cursor to an entry field and enter data such as appointments, meetings, etc. On the top of the screen, you have a special TITLE entry field where you can input the indication that will appear on the MONTHLY screen for that day. You can also set alarms at selected times of the day. For details about operations on the DAILY screen, see:

- "The DAILY Screen" on page 32

How to Go from one Screen to Another?

As mentioned above, the Scheduler/Calendar mode has three different screens: DAILY, MONTHLY, and CALENDAR. To switch from one screen to another, use the following keys:

From MONTHLY to DAILY	[RETURN] (on a selected day)
From MONTHLY to CALENDAR	[CODE] + [C]
From DAILY to MONTHLY	[CODE] + [M] or [CODE] + [RETURN]
From DAILY to CALENDAR	[CODE] + [C]
From CALENDAR to DAILY	[RETURN] (on a selected day)
From CALENDAR to MONTHLY	Not possible

How to Finish?

[CODE] + [MENU/FILE]
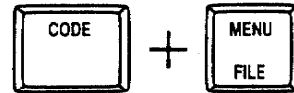
To exit the Scheduler/Calendar mode and return to the MAIN MENU, simply press [CODE] + [FILE] ([MENU]) from the DAILY, MONTHLY, or CALENDAR screens.

The DAILY Screen

```
TITLE:                          KB:X    Wed Sep 4 1991              9:22AM
    6:00AM                              12:00PM
       :30                                   :30
    7:00                                 1:00
       :30                                   :30
    8:00                                 2:00
       :30                                   :30
    9:00                                 3:00
       :30                                   :30
   10:00                                 4:00
       :30                                   :30
   11:00                                 5:00
       :30                                   :30
Type data.  Press CODE+RETURN to display monthly screen, or FILE to finish.
```

This screen is used to enter or edit the schedule of a single day, and to set alarms.

Moving the Cursor

You can move the cursor from one entry field to the next, from one range of hours to the next, or even to the next or previous day.

⬆, ⬇	Moves the cursor vertically one position in the direction of the arrow. If you move the cursor to an empty field, it goes to the beginning of the field.
⬅, ➡	Moves the cursor horizontally one position in the direction of the arrow. The cursor does not move horizontally on an empty field, and it does not move from the left column to the right or vice versa.
CODE + EXPR (⬅)	Moves the cursor to the beginning of the entry field.
CODE + RELOC (➡)	Moves the cursor to the end of the entry field.
RETURN	Moves the cursor to the beginning of the next entry field.
CODE + Q	Selects the next range of hours in a cyclic way.
CODE + NEXT S (⬇)	Displays the next day.
CODE + PRE S (⬆)	Displays the previous day.

Entering or Editing Data

The DAILY screen allows for scheduling a whole day. However, since only half a day can be displayed at a time, the machine divides the day into three displayable ranges of hours, from 12:00AM to 11:30AM, from 6:00AM to 5:30PM, and from 12:00PM to 11:30PM. When you enter this screen, the central range is always displayed. To display another range, see "Moving the Cursor" on page 32.

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SCHEDULER/CALENDAR

A total of 31 days can be scheduled. If you want to schedule more days, this message appears:

```
Date full.  Delete the past?  Press RETURN(yes) or CANCEL(no).
```

Press (RETURN) to delete all the scheduled days before the present day, or press (CANCEL) to exit. The present day corresponds to today's date, not to the currently selected day. If you press (CANCEL), you will have to delete manually some scheduled days. For details about deletion, see "Deleting Scheduled Days" on page 35.

- *The memory can become full during data input, even when you have less than 31 scheduled days. In that case, you should save some Create Document files on disk and delete them from the memory. This will create more room for your Scheduler/Calendar file.*

You can enter two kinds of data:

- **Title**: The data that you enter on the entry field TITLE will appear on the MONTHLY screen. This field is limited to ten characters.

- **Events**: You can enter an appointment in any entry field, for example, in front of 6:30, "Airport".

To enter data:

1. Move the cursor to the desired entry field using (↑) and (↓).

2. Type the data.

Here is a list of the keys that you can use to enter or edit data:

Character keys	To type the data.
(BS)	Deletes one character to the left.
(CODE) + (WORD OUT) ((0))	Deletes one word.
(CODE) + (LINE OUT) ((=))	Deletes an entry field.
(CODE) + (INSERT) ((I))	Switches the insert mode on/off.
(CODE) + (BS)	To enter superimposed characters.
(CODE) + (KEYBOARD) ((K))	To switch the keyboard.
Dead keys	To enter accented letters.

Setting an Alarm

$\boxed{\text{CODE}} + \boxed{\begin{array}{c}\text{A}\\\text{ABBR}\end{array}}$
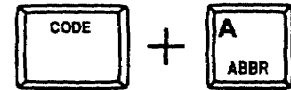
A total of five alarms can be set. If you try to set an additional alarm, this message will appear:

```
Alarm full.  Delete unnecessary settings.
```

To set or cancel an alarm:

1. Move the cursor to the time that you want to set and press $\boxed{\text{CODE}}$ + $\boxed{\text{A}}$. An exclamation mark will appear at the left side of the time.

2. Proceed the same way to cancel an alarm.

*   *An alarm is **not** automatically cancelled after it has sounded or after you delete the data of the corresponding day. Since only five alarms can be set, you may need to manually cancel an alarm after it is no longer needed.*
    If you delete all data, all alarms are cancelled.

When an alarm time arrives, a beep will sound for 20 seconds and a message like this will appear:

```
Thu September 12 1991                                          12:00PM

                                        Alarm time.  < SCHEDULER >
                        << MAIN           12:00PM
                                        Press CANCEL to exit.
        1. SCHEDULER/CALENDAR
        2. ADDRESSBOOK
        3. SPREADSHEET              8. COMMUNICATION
        4. CREATE DOCUMENT          9. FAX
        5. LINE BY LINE             0. DISK APPLICATION


  Type number or move cursor and press RETURN.  Press MENU for more selections.
```
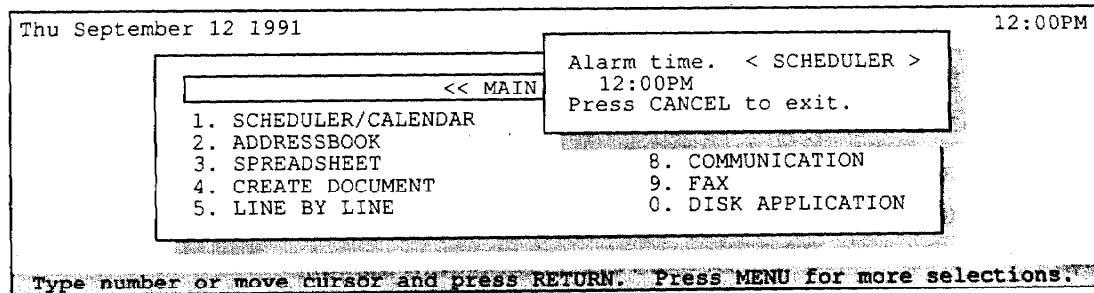
If the machine is busy with some processing, like sorting, or disk access, when the alarm time arrives, the alarm will sound after processing is complete. If the power has been turned off, it will be automatically turned on, and the message will appear on top of the main menu.

Using the Function Menu

Printing the DAILY Screen
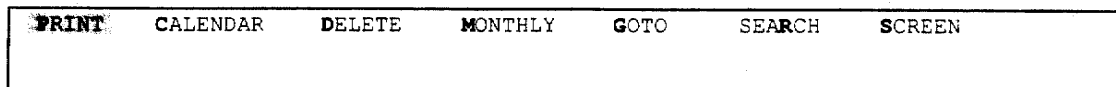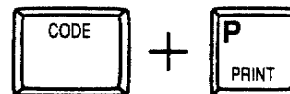
CODE + P (PRINT)

| **PRINT** | CALENDAR | DELETE | MONTHLY | GOTO | SEARCH | SCREEN |

1. While viewing the DAILY screen, press [MENU] to display the function menu.
2. Use ← and → to select PRINT and press [RETURN] to start printing.
- *Accelerator*: Instead of (2) you may type "P".
- *Short cut*: Instead of (1), and (2), you may press [CODE] + [PRINT] ([P]).
3. During printing, you may press [CANCEL] to stop printing.

Switching to the CALENDAR Screen

CODE + C

| PRINT | **CALENDAR** | DELETE | MONTHLY | GOTO | SEARCH | SCREEN |
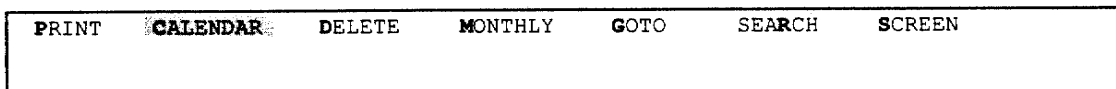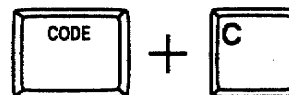
1. While viewing the DAILY screen, press [MENU] to display the function menu.
2. Use ← and → to select CALENDAR and press [RETURN]. A six-month calendar containing the day of the DAILY screen appears.
- *Accelerator*: Instead of (2) you may type "C".
- *Short cut*: Instead of (1), and (2), you may press [CODE] + [C].

Deleting Scheduled Days

| PRINT | CALENDAR | **DELETE** | MONTHLY | GOTO | SEARCH | SCREEN |

DELETE CURSOR DATE
DELETE RECORDS UP TO TODAY'S DATE
DELETE ALL RECORDS
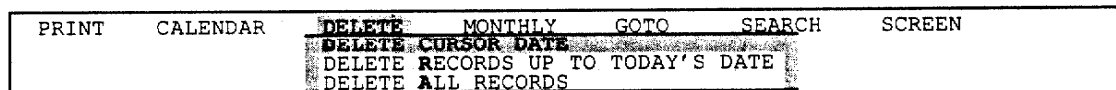
You may delete the current day, all previous days, or all days.

1. While viewing the DAILY screen, press [MENU] to display the function menu.

2. Use ⊕ and ⊖ to select DELETE and press 〔RETURN〕 or ⊕ to display the submenu.

• **Accelerator:** *Instead of (2) you may type "D".*

3. To delete the schedule of the current day (the day the cursor is on), select DELETE CURSOR DATE and press 〔RETURN〕.

• **Accelerator:** *Instead of (3) you may type "D".*

• **Short cut:** *Instead of (1), (2), and (3), you may press 〔CODE〕 + 〔D〕 to delete the current day.*

4. To delete the schedule of all days before the current one (today's date), select DELETE RECORDS UP TO TODAY'S DATE and press 〔RETURN〕.

• **Accelerator:** *Instead of (4) you may type "R".*

5. To delete all scheduled days, select DELETE ALL RECORDS and press 〔RETURN〕.

• **Accelerator:** *Instead of (5) you may type "A".*

6. Whatever your selection on the submenu, this message will appear:

```
Delete?  Press RETURN(yes) or CANCEL(no).
```

7. Press 〔RETURN〕 to delete or 〔CANCEL〕 to return to the DAILY screen without deleting.

Switching to the MONTHLY Screen
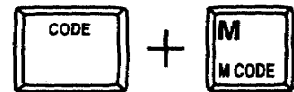
〔CODE〕 + 〔M / M CODE〕

```
PRINT    CALENDAR    DELETE    MONTHLY    GOTO    SEARCH    SCREEN
```

1. While viewing the DAILY screen, press 〔MENU〕 to display the function menu.

2. Use ⊕ and ⊕ to select MONTHLY and press 〔RETURN〕 to display the MONTHLY screen. The cursor will be on the date of the DAILY screen.

• **Accelerator:** *Instead of (2) you may type "M".*

• **Short cut:** *Instead of (1) and (2), you may press 〔CODE〕 + 〔M〕 or 〔CODE〕 + 〔RETURN〕.*

Jumping to Another Month

```
  PRINT     CALENDAR    DELETE     MONTHLY    GOTO      SEARCH      SCREEN
```

1. While viewing the DAILY screen, press (MENU) to display the function menu.
2. Use ⊕ and ⊕ to select GOTO and press (RETURN) to display this message:

```
Type number.  Press RETURN to display the designated month.
     MONTH:█          YEAR:
```
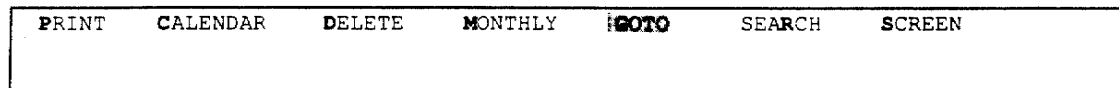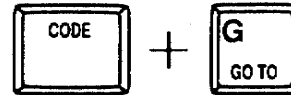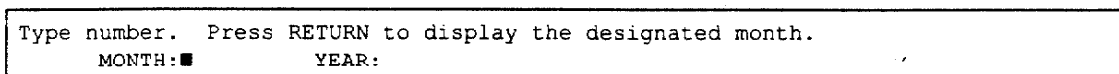
- **Accelerator:** *Instead of (2) you may type "G".*
- **Short cut:** *Instead of (1) and (2), you may press* (CODE) + (GOTO) *(* (G) *).*
3. Type the month and year. Use ⊕ and ⊕ to move the cursor from one entry field to another. Use (BS) to delete a field.
4. Press (RETURN). The first day of the designated month and year will be displayed.
- *To display the next or previous day, you may also use* (CODE) + (PRE S) *(* ⊕ *) and* (CODE) + (NEXT S) *(* ⊕ *).*
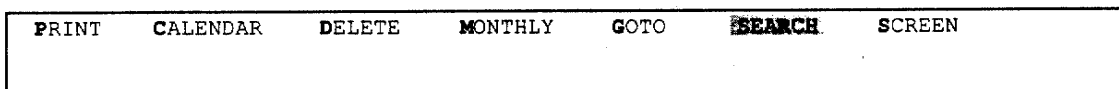
Searching

```
  PRINT     CALENDAR    DELETE     MONTHLY    GOTO      SEARCH      SCREEN
```

You may either search for the date which contains a specified title or event, or for the closest date which has been scheduled.

- **Searching for specified data**
1. While viewing the DAILY screen, press (MENU) to display the function menu.
2. Use ⊕ and ⊕ to select SEARCH and press (RETURN) to display this message:

```
Type search word(s).  Press RETURN to start search.
     SEARCH:█_____
```
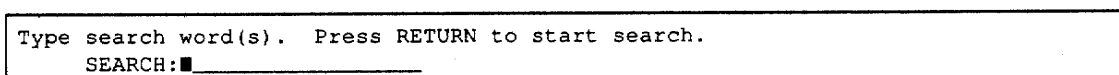
- **Accelerator:** *Instead of (2) you may type "R".*
- **Short cut:** *There is no short-cut key for this function.*

3. Type the word(s) you want to search for. Use **BS**, **CODE** + **WORD OUT** (**D**) or **CODE** + **LINE OUT** (**-**) to delete.

4. Press **RETURN** to start searching. The machine starts searching from the current cursor position. When the specified word(s) are found, this message appears:

```
Press RETURN to search again, or press CANCEL to stop search.
```

5. Press **RETURN** to search again or **CANCEL** to stop searching.

6. If the word cannot be found, this message appears:

```
Word(s) not found.
```

- **Searching for scheduled days**

```
PRINT    CALENDAR    DELETE    MONTHLY    GOTO    SEARCH    SCREEN
```

1. While viewing the DAILY screen, press **MENU** to display the function menu.

2. Use **◀** and **▶** to select SEARCH and press **RETURN** to display this message:

```
Type search word(s).  Press RETURN to start search.
     SEARCH:█_____
```

- **Accelerator:** *Instead of (2) you may type "R".*
- **Short cut:** *There is no short-cut key for this function.*

3. Instead of typing, press **CODE** + **PREV** (**⬆**) to search backwards, or **CODE** + **NEXT** (**⬇**) to search forwards. The DAILY SCHEDULE screen for the closest day that contains any scheduled data will be displayed. If there is no data, this message will appear:

```
Schedule not found.
```

Selecting the Range of Hours
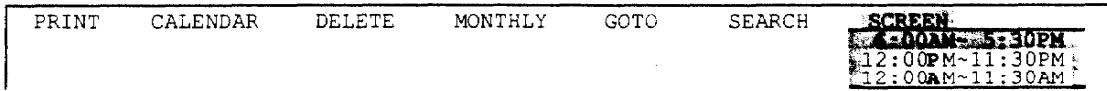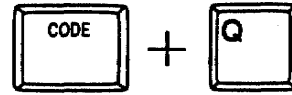
CODE + Q

```
PRINT    CALENDAR    DELETE    MONTHLY    GOTO    SEARCH    SCREEN
                                                            1:00AM~5:30PM
                                                            12:00PM~11:30PM
                                                            12:00AM~11:30AM
```

1. While viewing the DAILY screen, press (MENU) to display the function menu.

2. Use ◄ and ► to select SCREEN and press (RETURN) or ▼ to display the submenu.

• **Accelerator:** Instead of (2) you may type "S".

3. Use ▼ and ▲ to select the range of hours and press (RETURN) to display it.

• **Accelerator:** Instead of (3) you may type "6", "P", or "A".

• **Short cut:** Instead of (1), (2), and (3), you may press (CODE) + (Q) to display the ranges in a cyclic way.

The MONTHLY Screen

```
┌────────────────────────────────────────────────────────────────────────────────┐
│SCHEDULE                    KB:X    MEMORY:XX.XK                          9:22AM  │
│   September 1991                                                                 │
│    Sun    :    Mon    :    Tue    :    Wed    :    Thu    :    Fri    :    Sat    │
│    1/     :    2/     :    3/     :    4/     :    5/     :    6/     :    7/      │
│           :           :           :           :           :           :          │
│    8/     :    9/     :   10/     :   11/     :   12/     :   13/     :   14/     │
│           :           :           :           :           :           :          │
│   15/     :   16/     :   17/     :   18/     :   19/     :   20/     :   21/     │
│           :           :           :           :           :           :          │
│   22/     :   23/     :   24/     :   25/     :   26/     :   27/     :   28/     │
│           :           :           :           :           :           :          │
│   29/     :   30/     :     /     :     /     :     /     :     /     :     /     │
│ Press RETURN to display the daily screen, or press FILE to finish.               │
└────────────────────────────────────────────────────────────────────────────────┘
```

This screen is used to have a look at a whole scheduled month. You cannot enter data on this screen. Only the titles entered on the DAILY screens are displayed here.

Moving the Cursor

You can move the cursor from one day to the next, or from one month to the next or previous one.

⬆, ⬇, ⬅, ➡	Moves the cursor one day in the direction of the arrow.
CODE + NEXT S (⬇)	Displays the next month.
CODE + PRE S (⬆)	Displays the previous month.

Switching to the DAILY Screen
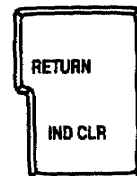
[RETURN]
[IND CLR]

To display a daily schedule, move the cursor to the desired day and press RETURN. The DAILY screen of the selected day will appear.

Using the Function Menu

Printing the MONTHLY Screen
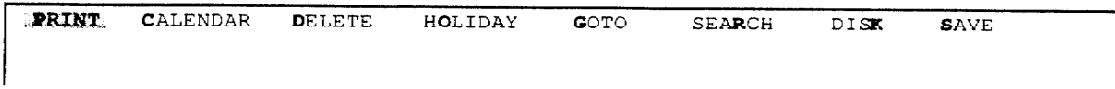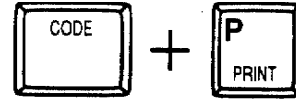
 CODE + P PRINT

PRINT	CALENDAR	DELETE	HOLIDAY	GOTO	SEARCH	DISK	SAVE

1. While viewing the MONTHLY screen, press (MENU) to display the function menu.
2. Use ← and → to select PRINT and press (RETURN) to start printing.
- *Accelerator:* Instead of (2) you may type "P".
- *Short cut:* Instead of (1), and (2), you may press (CODE) + (PRINT) ((P)).
3. During printing, you may press (CANCEL) to stop printing.

Switching to the CALENDAR Screen

CODE + C

PRINT	**CALENDAR**	DELETE	HOLIDAY	GOTO	SEARCH	DISK	SAVE
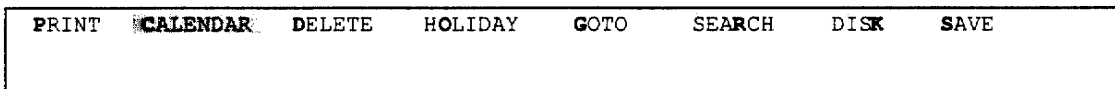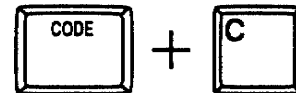
1. While viewing the MONTHLY screen, press (MENU) to display the function menu.
2. Use ← and → to select CALENDAR and press (RETURN). A six-month calendar screen appears.
- *Accelerator:* Instead of (2) you may type "C".
- *Short cut:* Instead of (1), and (2), you may press (CODE) + (C).

Deleting Scheduled Days

PRINT	CALENDAR	**DELETE**	HOLIDAY	GOTO	SEARCH	DISK	SAVE
		DELETE CURSOR DATE					
		DELETE RECORDS UP TO TODAY'S DATE					
		DELETE ALL RECORDS					
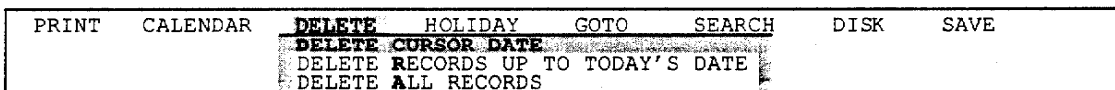
You may delete the current day, all the previous day, or all days.

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1. If you want to delete a designated day, first position the cursor on that day. If you want to delete all scheduled days or all the days up to the current day, skip this step.

2. While viewing the MONTHLY screen, press `MENU` to display the function menu.

3. Use ● and ● to select DELETE and press `RETURN` or ● to display the sub-menu.

*   *Accelerator: Instead of (3) you may type "D".*

4. To delete the schedule of the designated day (the day the cursor is on), select DELETE CURSOR DATE and press `RETURN`.

*   *Accelerator: Instead of (4) you may type "D".*

*   *Short cut: Instead of (2), (3), and (4), you may press `CODE` + `D` to delete the designated day.*

5. To delete the schedule of all days before the current one (today's date), select DELETE RECORDS UP TO TODAY'S DATE and press `RETURN`.

*   *Accelerator: Instead of (5) you may type "R".*

6. To delete all scheduled days, select DELETE ALL RECORDS and press `RETURN`.

*   *Accelerator: Instead of (6) you may type "A".*

7. Whatever your selection on the submenu, this message will appear:

```
Delete?  Press RETURN(yes) or CANCEL(no).
```

8. Press `RETURN` to delete or `CANCEL` to return to the MONTHLY screen without deleting.

Setting Holidays
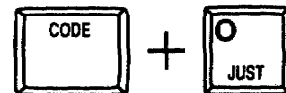
```
PRINT   CALENDAR   DELETE   HOLIDAY   GOTO   SEARCH   DISK   SAVE
```

1. While viewing the MONTHLY screen, press `MENU` to display the function menu.

2. Use ● and ● to select HOLIDAY and press `RETURN`. This message will appear:

```
Press SPACE to set holiday(s) and press RETURN to exit.
```

- *Accelerator:* Instead of (2) you may type "O".
- *Short cut:* Instead of (1) and (2), you may press `CODE` + `O`.

3. To set a single day, position the cursor on that day. To set all of a particular day, all Saturdays, for example, position the cursor to that day on the top line of the monthly calendar. When a day is set as a holiday, HOLIDAY appears on the screen.

4. Use `(SPACE BAR)` to switch the holiday on/off.

5. Repeat steps (4) and (5) if necessary, then press `RETURN` to return to the MONTHLY screen.

Jumping to Another Month
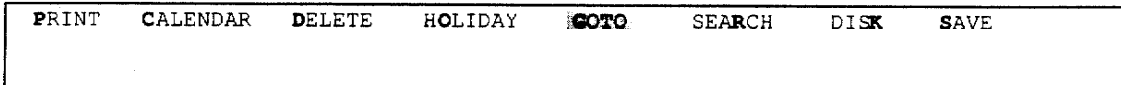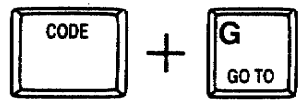
`CODE` + `G GO TO`

```
PRINT   CALENDAR   DELETE   HOLIDAY   GOTO   SEARCH   DISK   SAVE
```

1. While viewing the MONTHLY screen, press `MENU` to display the function menu.

2. Use `←` and `→` to select GOTO and press `RETURN` to display this message:

```
Type number.  Press RETURN to display the designated month.
    MONTH:█          YEAR:
```

- *Accelerator:* Instead of (2) you may type "G".
- *Short cut:* Instead of (1) and (2), you may press `CODE` + `GO TO` (`G`).

3. Type the month and year. Use `→` and `←` to move the cursor from one entry field to another. Use `BS` to delete a field.

4. Press `RETURN` to display the month of the designated year.

- To display the next or previous month, you may also use `CODE` + `PRE S` (`↑`) and `CODE` + `NEXT S` (`↓`).

Searching

```
PRINT   CALENDAR   DELETE   HOLIDAY   GOTO   SEARCH   DISK   SAVE
```

You may either search for the date which contains a specified title or event, or for the closest date which has been scheduled.

- **Searching for specified data**
1. Since the machine searches forward, move the cursor to a position before the dates that you want to explore.
2. While viewing the MONTHLY screen, press [MENU] to display the function menu.
3. Use ⊕ and ⊕ to select SEARCH and press [RETURN] to display this message:

```
Type search word(s).  Press RETURN to start search.
    SEARCH:█_____
```

- **Accelerator:** Instead of (3) you may type "R".
- **Short cut:** There is no short-cut key for this function.
4. Type the word(s) you want to search for. Use [BS], [CODE] + [WORD OUT] ([0]) or [CODE] + [LINE OUT] ([-]) to delete.
5. Press [RETURN] to start searching. The machine starts searching from the cursor current position. When the data is found, the DAILY screen with the specified data appears, with this message.

```
Press RETURN to search again, or press CANCEL to stop search.
```

6. Press [RETURN] to search for another occurrence of the word or [CANCEL] to stop searching.
7. If the word cannot be found, this message appears:

```
Word(s) not found.
```

• **Searching for scheduled days**

PRINT	CALENDAR	DELETE	HOLIDAY	GOTO	**SEARCH**	DISK	SAVE

1. While viewing the MONTHLY screen, press (MENU) to display the function menu.

2. Use ⊕ and ⊕ to select SEARCH and press (RETURN) to display this message:

```
Type search word(s).  Press RETURN to start search.
     SEARCH:█_____
```
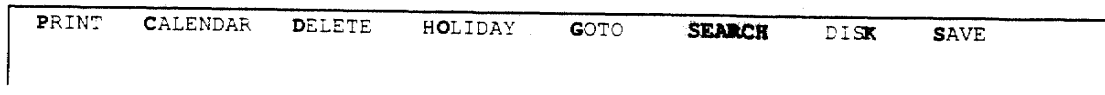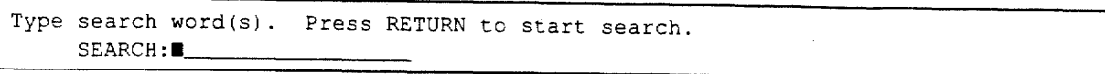
• **Accelerator:** Instead of (2) you may type "R".

• **Short cut:** There is no short-cut key for this function.

3. Instead of typing, press (CODE) + (PRE S) (⬆) to search backwards, or (CODE) + (NEXT S) (⬇) to search forwards. The DAILY SCHEDULE screen for the closest day that contains any scheduled data will be displayed. If there is no data, this message will appear:

```
Schedule not found.
```
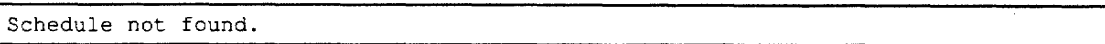
Loading a Scheduler/Calendar File from the Disk

CODE	+	L L IND

PRINT	CALENDAR	DELETE	HOLIDAY	GOTO	SEARCH	**DISK**	SAVE
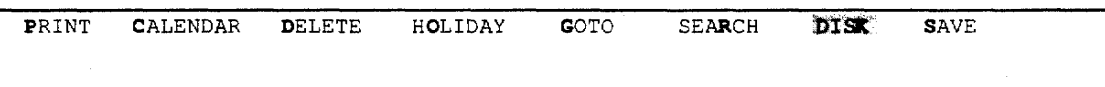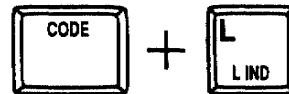
1. Insert the disk containing the file you wish to use.

2. While viewing the MONTHLY screen, press (MENU) to display the function menu.

3. Use ⊕ and ⊕ to select DISK and press (RETURN) to display the DISK INDEX screen.

```
<< DISK INDEX >>              REMAIN:XXX.XK      SHIFT              9:22AM

    TEXT1            (XX.X)    TEXT2    (XX.X)    TEXT3        (XX.X)
    ADDRESS1.MRG  (XX.X)    ADDRESS2.MRG  (XX.X)    SCHEDULE.DTB  (XX.X)

 Select a file and press MENU.  Press CANCEL for SCHEDULER/CALENDAR
```

- *Accelerator*: Instead of (3) you may type "K".
- *Short cut*: There is no short cut for this function.
4. Use the cursor keys to select a Scheduler/Calendar file (extension .DTB).
5. Press `MENU` to display the function menu.

```
 COPY      DELETE      RENAME      DISK COPY      DISK DELETE      LOAD
```

6. Use ⊕ and ⊕ to select LOAD and press `RETURN`. This message will appear:

```
Erase current file and load file from disk?  Press RETURN(yes) or CANCEL(no).
```

- *Accelerator*: Instead of (6) you may type "L".
- *Short cut*: Instead of (5) and (6), you may press `CODE` + `L`.
- Since you can have only one Scheduler/Calendar file in the memory, loading a file from disk will delete the current file in memory.
7. Press `RETURN` to load, or `CANCEL` if you do not want the current file to be deleted from the memory.

After the file is loaded, press `CANCEL` to view the loaded file.

Saving the Current File on Disk   `CODE` + `S CALC`
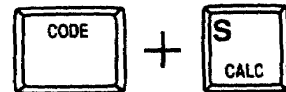
```
 PRINT    CALENDAR    DELETE    HOLIDAY    GOTO    SEARCH    DISK    SAVE
```

1. Insert the disk you wish to save your Scheduler/Calendar file on.
2. While viewing the MONTHLY screen, press `MENU` to display the function menu.
3. Use ⊕ and ⊕ to select SAVE and press `RETURN` to display this message:

```
Type filename and press RETURN.
FILENAME: █
```

- **Accelerator:** *Instead of (3) you may type "S".*

- **Short cut:** *Instead of (2) and (3), you may press* (CODE) + (S).

4. Type the file name and press (RETURN). The extension .DTB is automatically added to the file name.

The CALENDAR Screen

```
                                    1991                                    9:22AM
     January                   February                  March
            1   2   3   4   5                     1   2   31              1   2
  6   7   8   9  10  11  12      3   4   5   6   7   8   9    3   4   5   6   7   8   9
 13  14  15  16  17  18  19     10  11  12  13  14  15  16   10  11  12  13  14  15  16
 20  21  22  23  24  25  26     17  18  19  20  21  22  23   17  18  19  20  21  22  23
 27  28  29  30  31             24  25  26  27  28           24  25  26  27  28  29  30
     April                      May                         June
         1   2   3   4   5   6                   1   2   3   4   30                    1
  7   8   9  10  11  12  13      5   6   7   8   9  10  11    2   3   4   5   6   7   8
 14  15  16  17  18  19  20     12  13  14  15  16  17  18    9  10  11  12  13  14  15
 21  22  23  24  25  26  27     19  20  21  22  23  24  25   16  17  18  19  20  21  22
 28  29  30                     26  27  28  29  30  31       23  24  25  26  27  28  29
Press RETURN to display the daily screen.  To start printing, press PRINT.
```

The CALENDAR screen displays a six-month calendar. You may view the CALENDAR screen by selecting CALENDAR from the menu available on the DAILY or MONTHLY screen.

- To return to the DAILY screen, move the cursor to the desired day and press **RETURN**.

- To display the previous or next six-month calendar, use **CODE** + **PRE S** (⬆) and **CODE** + **NEXT S** (⬇).

- To print the displayed calendar, press **CODE** + **PRINT** (**P**). You can then press **CANCEL** to stop printing.

Address Book

The Address Book Mode

The Address Book mode is used to input and organize data such as a list of names, addresses, telephone and fax numbers. Each entry is called a record and will be displayed as a single row divided into several items. On the top of the list, labels identify each item. The list can be edited, sorted, and printed. Parts of the list can be selected according to specific conditions, and saved as a different file.

How to Start?

1. Switch the machine on to display the MAIN MENU.

```
Thu September 12 1991                                              9:18AM

          ┌──────────────────────────────────────────────────┐
          │                  << MAIN MENU >>                  │
          │  1. SCHEDULER/CALENDAR        6. CALCULATOR       │
          │  2. ADDRESSBOOK               7. CLOCK            │
          │  3. SPREADSHEET               8. COMMUNICATION    │
          │  4. CREATE DOCUMENT           9. FAX              │
          │  5. LINE BY LINE              0. DISK APPLICATION │
          └──────────────────────────────────────────────────┘

 Type number or move cursor and press RETURN.  Press MENU for more selections.
```

2. Move the cursor to 2. ADDRESSBOOK using the cursor keys and press ⌈RETURN⌋. If the Address Book file is empty, the DATA INPUT screen appears. If the file contains some data, the ADDRESS BOOK screen appears.

• **Accelerator:** *Instead of (2), you may type "2".*

The DATA INPUT Screen

```
ADDRESS              RECORD:XXX  KB:XX  MEMORY:X.XK              9:22AM
      LAST NAME      _____
      FIRST NAME     _____
      TELEPHONE      _____
      FAX NO.        _____
      TITLE          _____
      COMPANY        _____
      ADDRESS        _____
      CITY           _____
      STATE          _____
      ZIP            _____

 Type data.  Press CODE+RETURN to display view screen, or FILE to finish.
```

```
ADDRESS                            KB:X    MEMORY:X.XK                    9:22AM
 :1.              :2.              :3.            :4.              :5.
 :LAST NAME       :FIRST NAME      :TELEPHONE     :FAX NO.         :TITLE
*:Anderson        :John            :231-638-7520   :                :
*:Bennet          :William         :123-432-7530   :                :
*:Higgins         :Joyce           :429-342-6754   :                :




Retype label name, move cursor.  Press RETURN to enter data, or FILE to finish.
```

- *The file name displayed in the upper-left corner of the screen will always be* ADDRESS *when you are working with a new file. If you save the file on disk or load a file from disk, the file name that you gave to the file will be displayed instead of* ADDRESS.

In order to work with a file that is stored on a disk, save the current file on a disk and load another Address Book file from the disk. Since you can have only one Address Book file in the memory, loading a file from a disk will automatically delete the current file. For details, see:

- "Saving the Address Book File on Disk" on page 74
- "Loading a File from a Disk" on page 73

Creating and Editing an Address Book File

The DATA INPUT screen allows you to add a new record, or to edit the contents of an old one. This screen appears first when you start with an empty file. After typing or editing the items of a record, press `CODE` + `IND CLR` (`RETURN`) to switch to the ADDRESS BOOK screen.

The ADDRESS BOOK screen does not allow for direct input of new data. You may however edit the data in several ways. You can edit the labels, change the width of the columns, perform block operations, insert blank records, sort the file and select records. For more details about these operations, see:

- "The Address Book Screen" on page 54
- "Block Operations" on page 60
- "Reorganizing Your File" on page 64
- "Editing Tools" on page 70

At any moment, you can print the file, save it, or load another file from a disk. For details about file operations, see:

- "Printing the Address Book File" on page 56
- "Loading a File from Disk" on page 73
- "Saving the Address Book File on Disk" on page 74

How to Finish?
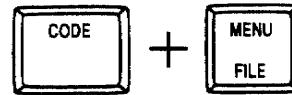
From the ADDRESS BOOK screen, simply press CODE + FILE (MENU) to return to the MAIN MENU. Since you can have only one Address Book file in the memory, the machine will save the file immediately, without asking for a file name.

The DATA INPUT Screen

```
ADDRESS                    RECORD:XXX  KB:XX  MEMORY:X.XK                    9:22AM
     LAST NAME       _____
     FIRST NAME      _____
     TELEPHONE       _____
     FAX NO.         _____
     TITLE           _____
     COMPANY         _____
     ADDRESS         _____
     CITY            _____
     STATE           _____
     ZIP             ____
 Type data.  Press CODE+RETURN to display view screen, or FILE to finish.
```

Switching from ADDRESS BOOK to DATA INPUT Screen

The DATA INPUT screen is used to input or edit the contents of a single record. This screen appears first when you start the Address Book mode and the Data Address file is empty. You can enter the data of the first record immediately.

To Edit a Record

When the ADDRESS BOOK screen is displayed, you can select a record in order to edit its contents:

1.   Use ⬆ and ⬇ to move the cursor to the record that you want to edit.

2.   Press [RETURN]. The contents of the selected record is displayed on the DATA INPUT screen and you can start editing.

To Input a New Record

[CODE] + [N]
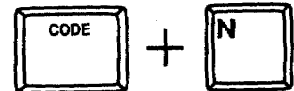
To input a new record, press [CODE] + [N] on the ADDRESS BOOK screen (you may also use the menu -- see "Adding a New Record" on page 70). An empty DATA INPUT screen appears and you can start entering the data.

Entering and Editing a Record

1. Type or edit the data in each entry field. You may leave some items empty.

    *   *To correct, you may use* ⟨BS⟩, ⟨CODE⟩ *+* ⟨WORD OUT⟩ *(⟨0⟩), and* ⟨CODE⟩ *+* ⟨LINE OUT⟩ *(⟨.⟩).*

    *   *To move the cursor within a field, use* ⟨←⟩, ⟨→⟩, ⟨CODE⟩ *+* ⟨EXPR⟩ *(⟨←⟩), and* ⟨CODE⟩ *+* ⟨RELOC⟩ *(⟨→⟩).*

    *   *Use* ⟨CODE⟩ *+* ⟨INSERT⟩ *(⟨I⟩) to switch the insert mode on/off.*

    *   *Use* ⟨CODE⟩ *+* ⟨BS⟩ *or the dead keys to superimpose characters (see "Superimposed Characters (Permanent Backspace)" on page 138) or to enter accented letter (see "Accents (Dead Keys)" on page 139). If necessary, use* ⟨CODE⟩ *+* ⟨KB⟩ *(⟨K⟩) to switch the keyboard (see "Switching the Keyboard" on page 137).*

2. To move the cursor vertically from one item to another, use ⟨↑⟩, ⟨↓⟩. You may also use ⟨RETURN⟩ to move to the beginning of the next item.

3. If an entry field is too narrow or too wide, you may press ⟨CODE⟩ + ⟨TCLR⟩ (⟨9⟩) (to increase) or ⟨CODE⟩ + ⟨TSET⟩ (⟨7⟩) (to decrease) to modify the width of the field by steps of eight characters.

4. To go back to view the ADDRESS BOOK screen, press ⟨CANCEL⟩ or ⟨CODE⟩ + ⟨IND CLR⟩ (⟨RETURN⟩). The new or edited record is included in the list.

    *   *If you want to edit other records, you do not need to return to the ADDRESS BOOK screen. Simply press* ⟨CODE⟩ *+* ⟨NEXT S⟩ *(⟨↓⟩) to display the next record, or* ⟨CODE⟩ *+* ⟨PRE S⟩ *(⟨↑⟩) to display the previous one.*

    *   *You may also press* ⟨CODE⟩ *+* ⟨FILE⟩ *(⟨MENU⟩) to return to the MAIN MENU.*

The ADDRESS BOOK Screen

```
ADDRESS                          KB:X    MEMORY:X.XK                    9:22AM
 :1.            :2.             :3.          :4.            :5.
 :LAST NAME     :FIRST NAME     :TELEPHONE   :FAX NO.       :TITLE
*:Anderson      :John           :231-638-7520  :              :
*:Bennet        :William        :123-432-7530  :              :
*:Higgins       :Joyce          :429-342-6754  :              :



 Retype label name, move cursor.  Press RETURN to enter data, or FILE to finish.
```

The ADDRESS BOOK screen displays the list of records. The contents of the records cannot be edited here, but you can perform editing at a larger scale, like copying or moving records.

Moving the Cursor

Use ⬅ and ➡ to move the cursor horizontally across the labels. Use ⬆ and ⬇ to move the cursor vertically across the records. To move faster and scroll the screen, use [CODE] + [NEXT S] (⬇), [CODE] + [PRE S] (⬆), [CODE] + [RELOC] (➡), and [CODE] + [EXPR] (⬅).

Editing the Labels

The labels are the column headings. You may make changes to the label names if you wish.

1. Use the cursor keys to move the cursor to the desired label. You may now change the label name by simply retyping.

   • *To correct, you may use* [BS], [CODE] + [WORD OUT] *(* 🔟 *), and* [CODE] + [LINE OUT] *(* ⊟ *).*

   • *Use* [CODE] + [BS] *or the dead keys to superimpose characters (see "Super-imposed Characters (Permanent Backspace)" on page 138) or to enter accented letter (see "Accents (Dead Keys)" on page 139). If necessary, use* [CODE] + [KB] *(* [K] *) to switch the keyboard (see "Switching the Keyboard" on page 137).*

2. To move the cursor to the next label, press [TAB] or use ➡. To move to the label to the left, use ⬅.

3. To return to the data area, press ⬇ or [RETURN].

- *A label can be any string of characters. However, if you want to use this file for easy selection of a telephone number in the Communication mode, the column which contains the telephone numbers must have a label starting with "TELEPHONE". For example, "TELEPHONE No" is valid, but "Telephone" or "telephone" are not. Similarly, if you want to use this file in the Fax mode, one column must contain fax numbers, and its label must start with "FAX". For example, "FAX No" is valid, but "Fax" or "fax" are invalid.*

Preparing the Records for Merge Printing

The Create Document mode allows you to prepare master documents that contain merge symbols associated with a label number (see "Creating the Master Document" on page 210). When printing such a document, you will get as many copies as you have records in the Address Book file. For the first copy, the machine will use the first record. For the second copy, the second record will be used, and so on. Each merge symbol in the master document will be automatically replaced with the data under the label specified by the merge symbol. For example, if you entered a merge symbol, and then typed "1" when creating the master document, that merge symbol will be replaced with the contents of the first column of the Address Book file. When creating the master document, you should remember what kind of data you have in the different columns -- or refer to a printout of the Address Book file.

An asterisk (*) to the left of the first column indicates that a record is enabled for merge printing. You may select only particular records for printing, if you wish. A new record will always be automatically enabled. To disable a record, press (SPACE BAR). The asterisk disappears. Pressing the same key will re-enable the record.

- *The asterisk can also be used to select records that you want to print in list printing mode (see "Printing the Address Book File" on page 56).*

Using the Function Menu

Printing the Address Book File (PRINT)

[CODE] + [P PRINT]

```
PRINT    BLOCK    FUNCTION    EDIT    DISK    SAVE
```
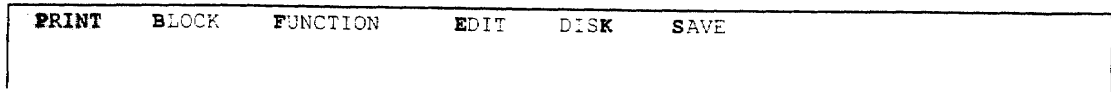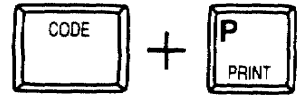
This machine offers two methods for printing the data of the Address Book file: label or list.

- **Label** printing allows you to print formatted data (for example, first and last name on the first line, company on the second line, and address on the third line, then, city, state, zip code on the fourth line). The default format is set to match the size of the window on an envelope, but can be modified to fit other purposes.

- **List** printing is used to print a continuous list of data under selected labels.

1. Press [MENU] to display the function menu.

2. Use ⊕ and ⊕ to select PRINT and press [RETURN]. The ADDRESS PRINT MENU screen appears:
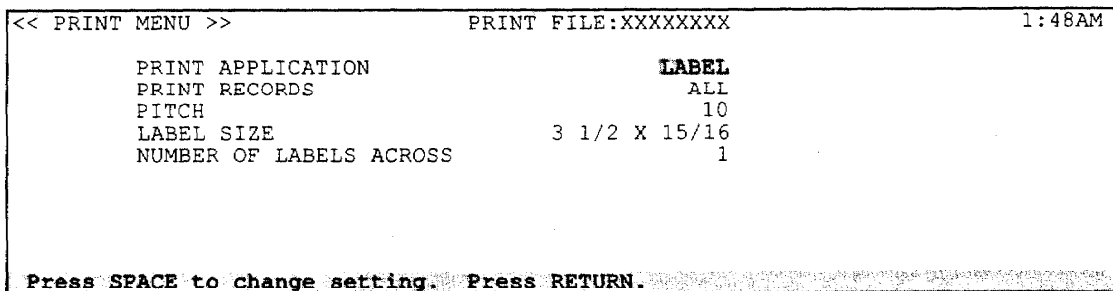
```
<< PRINT MENU >>              PRINT FILE:XXXXXXXX                      1:48AM

        PRINT APPLICATION                     LABEL
        PRINT RECORDS                           ALL
        PITCH                                    10
        LABEL SIZE                 3 1/2 X 15/16
        NUMBER OF LABELS ACROSS                   1



 Press SPACE to change setting.  Press RETURN.
```

- **Accelerator:** *Instead of (2) you may type "P".*

- **Short cut:** *Instead of (1) and (2), you may press* [CODE] + [PRINT] ([P]).

3. Use ⊕ and ⊕ to select a parameter, and [SPACE BAR] to set the selected parameter. Press [RETURN] to finish or [CANCEL] to return to the ADDRESS BOOK screen. The meaning of each setting is explained in the following table:

Parameter	Options
PRINT APPLICATION	LABEL: To print formatted labels. LIST: To print the file.
PRINT RECORDS	ALL: To print all records. SELECTABLE: To print only enabled records.
PITCH	10, 12, or 15: Selects the pitch.
LABEL SIZE	3 1/2 X 15/16 or 4 X 1 7/16 Width x Height of the printout window. *This setting is ignored when you are printing the list.*
NUMBER OF LABELS ACROSS	1 or 2 This option allows you to print one or two columns of formatted data. *This setting is ignored when you are printing the list.* *If the label size is 4 x 1 7/16, the machine prints only one label across the page.*

The next operation depends on your choice for the first parameter (LABEL or LIST).

If you selected LABEL...

The POSITION SET PRINT MENU screen appears:

```
<< POSITION SET PRINT MENU >>                                    9:22AM
:LAST NAME      :FIRST NAME     :TELEPHONE      :FAX NO.     :TITLE
*:Anderson      :John           :231-638-7520   :           :
*:Bennet        :William        :123-432-7530   :           :
*:Higgins       :Joyce          :429-342-6754   :           :


 ( 5)            ( 4)
 (1.0)           (1.0)
Use cursor to select label name and press SPACE to set, BACKSPACE to clear.
Press RETURN to start printing.
```

As you can see, some labels are displayed in reverse colors, and under those labels appear two numbers enclosed in parentheses just above the message area. The labels displayed in reverse color are those selected for printing. The numbers determine their print position as follows:

- **Upper number**: Horizontal positioning.
- **Lower number**: Vertical positioning (line number).

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If only one piece of data has to be printed on a line, the upper number indicates the indent. For example, (4) indicates that the data will be printed four spaces in from the left margin.

If more than one piece of data has to be printed on the same line (more than one label has the same lower number, the smallest top number correspond to an indent, as explained above, and the next merely indicate the order in which the data will be printed on the line. For example, if two labels have the same lower number (2.0), and upper numbers (4) and (5), both will be printed on line two. The label with upper number (4) will be printed first, from the fourth printing position, and the label with upper number (5) will come second, separated from the first one with a single blank.

If you did not edit the text of the labels or modify the label row by inserting blank columns, the selected labels and their settings will be as shown below.

Default setting for LABEL printing

Label	Lower number (line)	Upper number (horizontal position)
FIRST NAME	(1.0)	(4)
LAST NAME	(1.0)	(5)
COMPANY	(2.0)	(4)
ADDRESS	(3.0)	(4)
CITY	(4.0)	(4)
STATE	(4.0)	(5)
ZIP	(4.0)	(6)

The printout of a single record will look like this:

Indent (4)   One space

```
FIRST NAME LAST NAME
COMPANY
ADDRESS
CITY STATE ZIP
```

One space
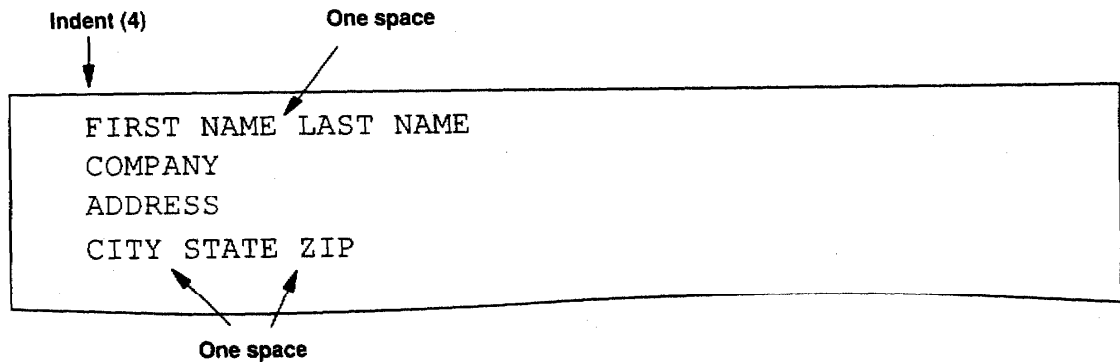
If you do not want to change any of these settings, press `RETURN` to start printing.

If you want to change the setting by selecting other labels or modify the positioning, proceed as follows:

1. To select a label for printing, position the cursor over the label using ⊜ and
   ⊕ and press ⌊SPACE BAR⌋. This message will appear:

```
Use cursor to set starting position.  Press RETURN to set.
```

2. Use ⊜ and ⊕ to set the upper number, and ⊞ and ⊟ to set the lower number.
   Initially, the numbers are (1) and (1.0).

3. Press ⌊RETURN⌋ to store the settings. This message will reappear:

```
Use cursor to select label name and press SPACE to set, BACKSPACE to clear.
Press RETURN to start printing.
```

4. You can repeat (1), (2), and (3) to select another label.

5. To clear a selection, move the cursor over the label and press ⌊BS⌋.

6. To start printing, press ⌊RETURN⌋ when the above message is displayed.

• *The total number of lines and maximum number of characters that you can*
  print on a single line of a label is limited as follows:

Limit on number and length of lines on a label

Printing Window Size	Number of lines	Pitch	Maximum length
3 1/2 X 15/16	5	10	34
		12	41
		15	51
4 X 1 7/16	8	10	39
		12	47
		15	59

If you selected LIST...

The PRINT LABEL SET MENU screen appears:

```
<< LABEL SET PRINT MENU >>                                      9:22AM

:LAST NAME      :FIRST NAME    :TELEPHONE      :FAX NO.      :TITLE
*:Anderson      :John          :231-638-7520   :             :
*:Bennet        :William       :123-432-7530   :             :
*:Higgins       :Joyce         :429-342-6754   :             :



Use cursor to select label name and press SPACE to set.  Press RETURN to start
printing.
```

This screen allows you to select which data will be printed.

1. To select a column for printing, position the cursor over the label name using ⊕ and ⊕ and press ⟨SPACE BAR⟩. The same key is used to deselect. To switch all labels on, press ⟨CODE⟩ + ⟨SPACE BAR⟩.

* *If the total length of the selected data exceeds the maximum length of a printable line, this message will appear:*

```
Too wide to print.
```

2. Press ⟨RETURN⟩ to start printing or ⟨CANCEL⟩ to return to the PRINT MENU screen.

During Printing

To cancel printing, press ⟨CANCEL⟩. This will work only while the printer is printing, not while it is feeding paper.

Block Operations (BLOCK)

The BLOCK function of the function menu allows you to copy, move or delete a block of contiguous records or a single column.

Copying Records

CODE + C

```
PRINT   BLOCK     FUNCTION   EDIT   DISK   SAVE
        COPY
        DELETE
        MOVE
```
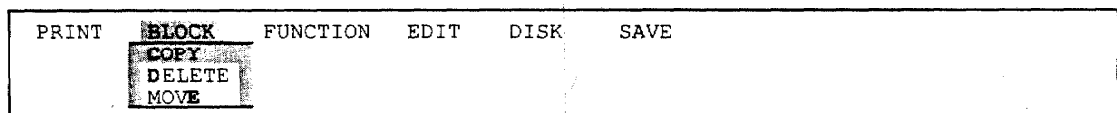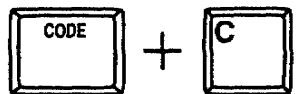
1. To copy records, position the cursor on the first record to be copied.

2. Press ⟨MENU⟩ to display the function menu.

3. Use ⊕ and ⊕ to select BLOCK and press ⟨RETURN⟩ or ⊕ to display the submenu.

* **Accelerator:** *Instead of (3) you may type "B".*

4. Use ⊕ and ⊕ to select COPY and press ⟨RETURN⟩. The following message appears:

```
Highlight line(s) to be copied and press RETURN.
```

- **Accelerator:** *Instead of (4), you may type "C".*
- **Short cut:** *Instead of (2), (3), and (4), you may press* CODE + C.

5. Use ↑ or ↓ to mark the records that you want to copy and press RETURN. This message will appear:

```
Move cursor to destination for blocked text and press RETURN.
```

6. Move the cursor to the destination position and press RETURN. The marked records are inserted at the destination position.

- *You may press* CANCEL *at any time to cancel the operation and return to the ADDRESS BOOK screen.*

Deleting Records

CODE + D
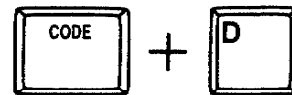
```
PRINT   BLOCK    FUNCTION   EDIT   DISK   SAVE
        COPY
        DELETE
        MOVE
```

1. To delete records, position the cursor on the first record to be deleted.
2. Press MENU to display the function menu.
3. Use ← and → to select BLOCK and press RETURN or ↓ to display the submenu.
- **Accelerator:** *Instead of (3) you may type "B".*
4. Use ↑ and ↓ to select DELETE and press RETURN. The following message appears:

```
Highlight line(s) to be deleted and press RETURN.
```

- **Accelerator:** *Instead of (4), you may type "D".*
- **Short cut:** *Instead of (2), (3), and (4), you may press* CODE + D.

5. Use ↑ or ↓ to mark the records that you want to delete and press RETURN. This message will appear:

```
Delete?  Press RETURN(yes) or CANCEL(no).
```

6. Press RETURN to delete the marked records, or CANCEL to quit.

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- *You may press* (CANCEL) *at any time to cancel the operation and return to the ADDRESS BOOK screen.*

Moving Records

CODE + E

```
PRINT    BLOCK    FUNCTION   EDIT   DISK    SAVE
         COPY
         DELETE
         MOVE
```

1. Position the cursor on the first record to be moved.

2. Press (MENU) to display the function menu.

3. Use ← and → to select BLOCK and press (RETURN) or ↓ to display the submenu.

- *Accelerator: Instead of (3) you may type "B".*

4. Use ↑ and ↓ to select MOVE and press (RETURN). The following message appears:

```
Highlight line(s) to be moved and press RETURN.
```

- *Accelerator: Instead of (4), you may type "E".*

- *Short cut: Instead of (2), (3), and (4), you may press* (CODE) + (E).

5. Use ↑ or ↓ to mark the records that you want to move and press (RETURN). This message will appear:

```
Move cursor to destination for blocked text and press RETURN.
```

6. Move the cursor to the destination position and press (RETURN). The marked records are inserted at the destination position.

- *You may press* (CANCEL) *at any time to cancel the operation and return to the ADDRESS BOOK screen.*

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Deleting one Column

CODE + D

```
PRINT   BLOCK      FUNCTION   EDIT    DISK     SAVE
        COPY
        DELETE
        MOVE
```
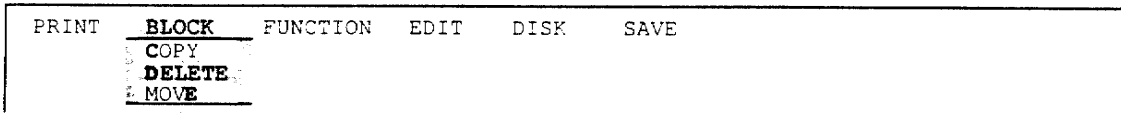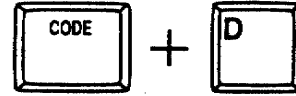
1. To delete one column, position the cursor on the label of the column to be deleted.

2. Press (MENU) to display the function menu.

3. Use ← and → to select BLOCK and press (RETURN) or ↓ to display the submenu.

• **Accelerator:** *Instead of (3) you may type "B".*

4. Use ↑ and ↓ to select DELETE and press (RETURN). The following message appears:

```
Delete?   Press RETURN(yes) or CANCEL(no).
```

• **Accelerator:** *Instead of (4), you may type "D".*

• **Short cut:** *Instead of (2), (3), and (4), you may press* (CODE) + (D).

5. Press (RETURN) to delete the column, or (CANCEL) to quit.

• *You may press* (CANCEL) *at any time to cancel the operation and return to the ADDRESS BOOK screen.*

Reorganizing Your File (FUNCTION)

The FUNCTION option of the menu allows you to sort your data using two different sort keys, or to select records which satisfy specified conditions. The selected records can then be saved on disk as a separate Address Book file. This option also allows for inserting blank columns or records. This option is finally used to clear the Address Book file in order to restart with a blank file or free space in the memory.

Sorting the Data
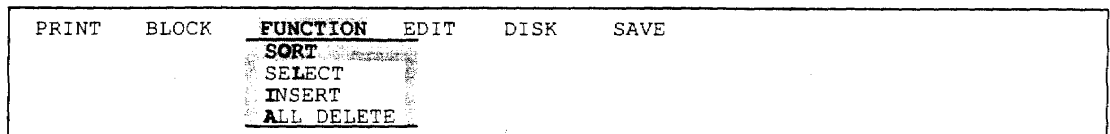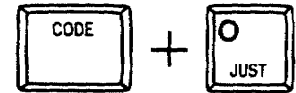
```
PRINT    BLOCK    FUNCTION   EDIT    DISK     SAVE
                  SORT
                  SELECT
                  INSERT
                  ALL DELETE
```

1. Press [MENU] to display the function menu.

2. Use ← and → to select FUNCTION and press [RETURN] or ↓ to display the submenu.

- *Accelerator:* Instead of (2) you may type "F".

3. Use ↑ and ↓ to select SORT and press [RETURN]. The following message appears:

```
Move cursor to primary sort label and press RETURN.
```

- *Accelerator:* Instead of (3), you may type "O".

- *Short cut:* Instead of (1), (2), and (3), you may press [CODE] + [O].

4. Use ← or → to select the label used as the primary sort key and press [RETURN]. For example, if you want the data to be sorted in alphabetic order of the last names, position the cursor on the label "LAST NAME" and press [RETURN]. This message will appear:

```
Move cursor to secondary sort label and press RETURN.
```

5. Use ← or → to select the label used as the secondary sort key and press [RETURN]. For example, if you want the data for people having the same last name to be sorted internally in alphabetic order of the first names, position

the cursor on the label "FIRST NAME" and press ⌐RETURN⌐. If you do not want
this internal sort to take place, simply leave the cursor on "LAST NAME" and
press ⌐RETURN⌐. This message will appear:

```
Use cursor to select.  Press RETURN.
      ASCENDING    DESCENDING
```

6. Use ← and → to select ASCENDING (natural alphabetic order) or DESCENDING
    (reverse alphabetic order) and press ⌐RETURN⌐. The data is sorted and the
    result of the operation appears on the screen.

•   *You may press* ⌐CANCEL⌐ *at any time to cancel the operation and return to the
    ADDRESS BOOK screen.*

•   *Accented letters and superimposed characters are sorted according to the
    base character.*

•   *The sort operation is irreversible. For example, if you have entered records
    one after the other (not using the copy function described on page 60), your
    records will be in chronological order, the last entered being at the bottom of
    the list. If you sort the file, you will never be able to restore that initial order
    automatically. In case you want to be able to restore the initial order, you must
    add a new label and number the records in the order they are entered. When
    you sort the data using that numbering column as primary and secondary key,
    the initial order will be restored.*

Selecting Records
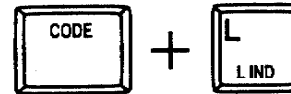
```
PRINT    BLOCK    FUNCTION   EDIT    DISK    SAVE
                  SORT
                  SELECT
                  INSERT
                  ALL DELETE
```

1. Press ⌐MENU⌐ to display the function menu.

2. Use ← and → to select FUNCTION and press ⌐RETURN⌐ or ↓ to display the
    submenu.

•   *Accelerator: Instead of (2) you may type "F".*

3. Use ↑ and ↓ to choose SELECT and press ⌐RETURN⌐. The SELECT screen,
    similar to the DATA INPUT screen appears:

```
<< SELECT MENU >>                    KB:XX                            9:22AM
    LAST NAME      ...
    FIRST NAME     _____
    TELEPHONE      _____
    FAX NO.        _____
    TITLE          _____
    COMPANY        _____
    ADDRESS        _____
    CITY           _____
    STATE          _____
    ZIP            _____

Type select condition.  Pree TAB to start select.
```

- **Accelerator**: *Instead of (3), you may type "L".*

- **Short cut**: *Instead of (1), (2), and (3), you may press* `CODE` *+* `L`.

The SELECT screen allows you to input the selection conditions. You may enter more than one condition. For example, if you want to select the records of people living in Atlanta and working for a company called "XYZ INC.", type "Atlanta" in the entry field CITY, and "XYZ INC." in the entry field COMPANY. People working for XYZ INC, but living in Portland will not be selected. People living in Atlanta, but working for a different company will not be selected.

- *For this function to work correctly, you should be careful to use consistent formats when you enter your records and the selection conditions. Be careful about the capitalization. For this machine, "Atlanta", "ATLANTA", and "atlanta" are different strings.*

5. Enter your conditions. Proceed as when entering data on the DATA INPUT screen. For details, see "Entering and Editing a Record" on page 53.

6. Press `TAB` to start the operation. After a while, the ADDRESS BOOK screen displays the selected data.

- *If the machine could not find records satisfying your conditions, this message will appear:*

```
Record(s) not found.
```

Once the selected data is displayed, you have several options:

- You may press `CANCEL` to display the original data again.

- You may print the selected data. For details, see "Printing the Selected Data" on page 67.

- You may save the selected data on disk. For details, see "Saving the Selected Data on Disk" on page 67.

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Printing the Selected Data

```
┌──────┐      ┌──────┐
│ CODE │  +   │ P    │
│      │      │ PRINT│
└──────┘      └──────┘
```

```
┌─────────────────────────────────────────────────────────┐
│ PRINT     SAVE                                           │
│                                                          │
│                                                          │
└─────────────────────────────────────────────────────────┘
```
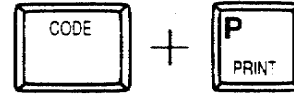
1. With the selected data displayed, press (MENU) to display the function menu. Only two functions are available: PRINT and SAVE.

2. Use ◄ and ► to select PRINT and press (RETURN).

*   ***Accelerator:*** *Instead of (2), you may type "P".*

*   ***Short cut:*** *Instead of (1) and (2), you may press* (CODE) *+* (PRINT) *(* (P) *).*

Saving the Selected Data on Disk

```
┌──────┐      ┌──────┐
│ CODE │  +   │ S    │
│      │      │ CALC │
└──────┘      └──────┘
```

```
┌─────────────────────────────────────────────────────────┐
│ PRINT     SAVE                                           │
│                                                          │
│                                                          │
└─────────────────────────────────────────────────────────┘
```
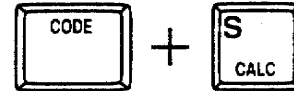
1. Insert a disk in the drive.

2. With the selected data displayed, press (MENU) to display the function menu. Only two functions are available: PRINT and SAVE.

3. Use ◄ and ► to select SAVE and press (RETURN). The machine will not ask you to enter a file name. The selected data will automatically be saved on the disk under the file name "SELECT.MRG"

*   ***Accelerator:*** *Instead of (3), you may type "S".*

*   ***Short cut:*** *Instead of (2) and (3), you may press* (CODE) *+* (S)*.*

*   *You can have only one "SELECT.MRG" file on the same disk. If you have already saved selected data on the disk, this message will appear:*

```
┌─────────────────────────────────────────────────────────┐
│ Overwrite.  Press RETURN to overwrite                    │
└─────────────────────────────────────────────────────────┘
```
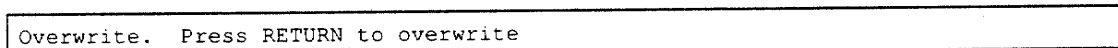
Press (RETURN) *to overwrite, or* (CANCEL) *if you do not want the old selected data to be replaced on the disk. You can change the disk and repeat steps (1) to (3) to save on another disk.*

Inserting a Blank Column or Record
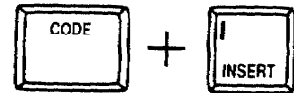
```
PRINT    BLOCK    FUNCTION   EDIT    DISK    SAVE
                  SORT
                  SELECT
                  INSERT
                  ALL DELETE
```

1. To insert a **blank column**, position the cursor on the **label** where you want to insert a blank column.

    To insert a **blank record**, position the cursor on the **record** where you want to insert a blank record.

2. Press (MENU) to display the function menu.

3. Use (←) and (→) to select FUNCTION and press (RETURN) or (↓) to display the submenu.

*   *Accelerator: Instead of (3) you may type "F".*

4. Use (↑) and (↓) to select INSERT and press (RETURN). The insertion takes place immediately.

*   *Accelerator: Instead of (4), you may type "I".*

*   *Short cut: Instead of (2), (3), and (4), you may press (CODE) + (INSERT) (I).*

When you insert a blank **column**, the column which was initially selected and all columns to the right are pushed to the right. A blank column of 15 characters and an empty label appear. The cursor rests on the blank label so that you can immediately input a new label.

When you insert a blank **record**, the record which was initially selected and all records below are pushed down. The cursor rests on the blank record so that you can immediately press (RETURN) and enter the data on the DATA INPUT screen.

Deleting the File

```
PRINT    BLOCK    FUNCTION   EDIT    DISK    SAVE
                  SORT
                  SELECT
                  INSERT
                  ALL DELETE
```

1. Press (MENU) to display the function menu.

2. Use (←) and (→) to select FUNCTION and press (RETURN) or (↓) to display the submenu.

*   *Accelerator: Instead of (2) you may type "F".*

3. Use ⊕ and ⊖ to select ALL DELETE and press [RETURN]. This message will appear:

```
Delete all?  Press RETURN(yes) or CANCEL(no).
```

*   **Accelerator**: *Instead of (3), you may type "A".*
*   **Short cut**: *There is no short-cut key for this function.*

4. Press [RETURN] to clear the file, or [CANCEL] to quit.

Editing Tools (EDIT)

The following functions will help you when editing your file.

Adding a New Record
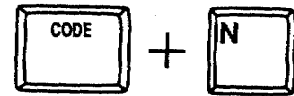
 CODE + N

```
PRINT    BLOCK    FUNCTION    EDIT    DISK    SAVE
                             NEW RECORD
                             NEW LABEL
                             TOP RECORD
                             BOTTOM RECORD
                             LABEL LONGER
                             LABEL SHORTER
```

1. Press (MENU) to display the function menu.
2. Use ← and → to select EDIT and press (RETURN) or ↓ to display the submenu.
*   **Accelerator:** Instead of (2) you may type "E".
3. Use ↑ and ↓ to select NEW RECORD and press (RETURN). The machine displays the DATA INPUT screen and you can start entering data for the new record. The new record will be at the bottom of the list when you return to view the ADDRESS BOOK screen.
*   **Accelerator:** Instead of (3) you may type "N".
*   **Short cut:** Instead of (1) and (2) you may type press (CODE) + (N).

Adding a New Label

```
PRINT    BLOCK    FUNCTION    EDIT    DISK    SAVE
                             NEW RECORD
                             NEW LABEL
                             TOP RECORD
                             BOTTOM RECORD
                             LABEL LONGER
                             LABEL SHORTER
```

1. Move the cursor to the label row.
2. Press (MENU) to display the function menu.
3. Use ← and → to select EDIT and press (RETURN) or ↓ to display the submenu.
*   **Accelerator:** Instead of (2) you may type "E".
4. Use ↑ and ↓ to select NEW LABEL and press (RETURN). The machine adds a blank column to the right of the last one. The cursor rests on the blank label so that you can start entering the new label.

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- **Accelerator:** *Instead of (3) you may type "W".*
- **Short cut:** *There is no short-cut key for this function.*

Jumping to the Top or Bottom Record

```
 PRINT   BLOCK   FUNCTION   EDIT    DISK    SAVE
                            NEW RECORD
                            NEW LABEL
                            TOP RECORD
                            BOTTOM RECORD
                            LABEL LONGER
                            LABEL SHORTER
```

```
 PRINT   BLOCK   FUNCTION   EDIT    DISK    SAVE
                            NEW RECORD
                            NEW LABEL
                            TOP RECORD
                            BOTTOM RECORD
                            LABEL LONGER
                            LABEL SHORTER
```

1.   If the cursor is on the label area, move it to the record area.

2.   Press (MENU) to display the function menu.

3.   Use ◄ and ► to select EDIT and press (RETURN) or ▼ to display the submenu.

- **Accelerator:** *Instead of (2) you may type "E".*

4.   Use ▲ and ▼ to select TOP RECORD or BOTTOM RECORD and press (RETURN). The cursor jumps to the top or the bottom of the list.

- **Accelerator:** *Instead of (3) you may type "T" for top, or "B" for bottom.*

- **Short cut:** *There is no short-cut key for this function.*

Changing the Width of a Column

CODE + (/ 9 [T CLR]

CODE + & / 7 [T SET]

```
PRINT    BLOCK    FUNCTION    EDIT    DISK    SAVE
                              NEW RECORD
                              NEW LABEL
                              TOP RECORD
                              BOTTOM RECORD
                              LABEL LONGER
                              LABEL SHORTER
```

```
PRINT    BLOCK    FUNCTION    EDIT    DISK    SAVE
                              NEW RECORD
                              NEW LABEL
                              TOP RECORD
                              BOTTOM RECORD
                              LABEL LONGER
                              LABEL SHORTER
```

As we have seen on page 53, column widths can also be changed on the DATA INPUT screen. To make a column larger or shorter, on the ADDRESS BOOK screen, proceed as follows:

1. Move the cursor to the label of the column that you want to modify.

2. Press [MENU] to display the function menu.

3. Use ◄ and ► to select EDIT and press [RETURN] or ▼ to display the submenu.

•   **Accelerator:** Instead of (3) you may type "E".

4. Use ▲ and ▼ to select LABEL LONGER to increase the width, LABEL SHORTER to decrease the width and press [RETURN]. The width of the selected column is increased or decreased by eight characters.

•   **Accelerator:** Instead of (4) you may type "L" to increase, or "S" to decrease.

•   **Short cut:** Instead of (2), (3), and (4), you may press [CODE] + [T CLR] (9) to increase, or [CODE] + [T SET] (7) to decrease.

•   The width of a single column must by in the range of between seven and 71 characters. The machine does not allow you to make a column narrower that the largest data already entered in that column.

•   The maximum width of a record is 165 characters.

ADDRESS BOOK

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Loading a File from a Disk

```
┌─────────┐      ┌─────┐
│  CODE   │  +   │ L   │
└─────────┘      │L IND│
                 └─────┘
```
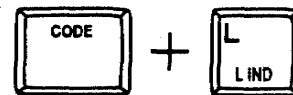
```
┌─────────────────────────────────────────────────────────────────┐
│  PRINT    BLOCK    FUNCTION    EDIT   DISK    SAVE                │
│                                                                   │
│                                                                   │
└─────────────────────────────────────────────────────────────────┘
```

Before loading a file, remember that the memory can store only one Address Book
file. If you load a file from a disk before saving the current file on a disk, the current
file will be erased. See "Saving the Address Book File on Disk" on page 74.

1. Press (MENU) to display the function menu.

2. Use ⊕ and ⊕ to select DISK and press (RETURN) to display the DISK INDEX
    screen.

```
┌─────────────────────────────────────────────────────────────────┐
│ << DISK INDEX >>              REMAIN:XXX.XK     SHIFT     9:22AM  │
│                                                                   │
│    TEXT1          (XX.X)    TEXT2      (XX.X)    TEXT3    (XX.X)   │
│    ADDRESS1.MRG   (XX.X)    ADDRESS2.MRG (XX.X)  SCHEDULE.DTB (XX.X)│
│                                                                   │
│  Select a file and press MENU.  Press CANCEL for ADDRESSBOOK.     │
└─────────────────────────────────────────────────────────────────┘
```

- ***Accelerator:*** *Instead of (2) you may type "K".*

- ***Short cut:*** *There is no short-cut key for this function.*

3. Use the cursor key to select an Address Book file (extension ".MRG") and
    press (MENU) to display the function menu of the DISK INDEX screen.

```
┌─────────────────────────────────────────────────────────────────┐
│  COPY     DELETE    RENAME    DISK COPY    DISK DELETE    LOAD    │
│                                                                   │
└─────────────────────────────────────────────────────────────────┘
```

4. Use ⊕ and ⊕ to select LOAD and press (RETURN). This message will appear:

```
┌─────────────────────────────────────────────────────────────────┐
│ Erase current file and load file from disk?  Press RETURN(yes) or CANCEL(no). │
└─────────────────────────────────────────────────────────────────┘
```

- ***Accelerator:*** *Instead of (4) you may type "L".*

- ***Short cut:*** *Instead of (3) and (4), you may press (CODE) + (L).*

5. If you have not saved the current file, this is your last chance. Press (CANCEL)
    to return to the DISK INDEX screen.
    If you have already saved the current file, press (RETURN) to load the file
    selected on the DISK INDEX screen.

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6. When the file is loaded, press [CANCEL] to switch from the DISK INDEX screen to the ADDRESS BOOK screen and display the content of the file.

Saving the Address Book File on Disk   [CODE] + [S CALC]
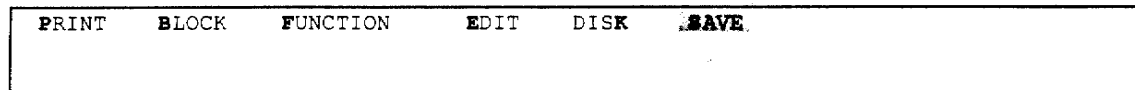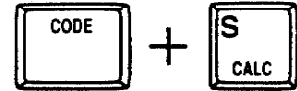
```
PRINT    BLOCK    FUNCTION    EDIT    DISK    SAVE
```

1. Press [MENU] to display the function menu.

2. Use ⊕ and ⊕ to select SAVE and press [RETURN]. This message will appear:

```
Type filename and press RETURN.
FILENAME:█
```

- **Accelerator:** Instead of (2) you may type "S".

- **Short cut:** Instead of (1) and (2), you may press [CODE] + [S].

3. Type a file name and press [RETURN]. The extension ".MRG" will be automatically to the file name. Press [CANCEL] to cancel the save operation and return to the ADDRESS BOOK screen.

4. Press [CODE] + [FILE] ([MENU]) to return to the MAIN MENU screen.

Spreadsheet

What is a Spreadsheet?

In the past, financial records for any type of business or other organization were always kept by hand in bound form, hence the term "keeping the books". A sales ledger, for instance, might be laid out as a graph, with the months of the year across the top, and the names of sales personnel or merchandise down the left column. This type of accounting tool had another name; it was called a "Spreadsheet".

	JAN.	FEB.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	**TOTAL**

This is an efficient system, though, even with an electronic calculator, bookkeeping is still a difficult task, especially when revisions or corrections are to be made. This is the major advantage of the electronic spreadsheet; the ability to make changes and corrections at any time, and have all the calculations made for you, quickly and easily.

How to Start?

1. To start working in spreadsheet mode, switch the machine on to display the MAIN MENU.

```
Thu September 12 1991                                              9:18AM

                    ┌─────────── << MAIN MENU >> ───────────┐
                    │ 1. SCHEDULER/CALENDAR      6. CALCULATOR      │
                    │ 2. ADDRESSBOOK             7. CLOCK           │
                    │ 3. SPREADSHEET             8. COMMUNICATION   │
                    │ 4. CREATE DOCUMENT         9. FAX             │
                    │ 5. LINE BY LINE            0. DISK APPLICATION│
                    └───────────────────────────────────────────────┘

 Type number or move cursor and press RETURN.  Press MENU for more selections.
```

2. Insert a data disk in the drive.

3. Move the cursor to 3. SPREADSHEET using ⬅, ➡, ⬆, and ⬇, then press ⸢RETURN⸥. This message will appear:

```
All memory files must be saved on disk or deleted before using SPREADSHEET.
Press CODE+S to save files, CODE+D to delete files.
```

- *Accelerator: Instead of (3) you may type "3".*
4. Since the Spreadsheet program makes use of all the memory, you must transfer all your files to the disk or delete them before the program is loaded. Press ⸢CODE⸥ + ⸢S⸥ to save the files, or ⸢CODE⸥ + ⸢D⸥ to delete them. You may also press ⸢CANCEL⸥ to return to the MAIN MENU.

To delete the files...

- If you do not want to save your files (because you have already saved them, for example), simply press ⸢CODE⸥ + ⸢D⸥. This message will appear:

```
Delete?  Press RETURN(yes) or CANCEL(no).
```

- **If you press ⸢RETURN⸥, all the files are deleted. This includes the Create Document, Address Book, and Scheduler/Calendar files, as well as the User Dictionary and Abbreviated Phrase files.**
- If you press ⸢CANCEL⸥, the machine returns to the normal MAIN MENU, and you can select another mode.

To save the files...

- Press ⸢CODE⸥ + ⸢S⸥. The MEMORY INDEX displays Create Document, Address Book, and Scheduler/Calendar files currently in the memory. The first file that is going to be saved is displayed in reverse color and a message asks you to wait:

```
Saving the file....please wait.
```

- After a file has been saved, the machine automatically starts saving the next file. When all files displayed on the MEMORY INDEX have been saved, the machine starts saving files that are not displayed on the MEMORY INDEX, such as the USER DICTIONARY, etc. A message like this asks you to wait:

```
Saving user dictionary....please wait.
```

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- If a file with the same file name already exists on the disk, this message appears:

```
Overwrite.  Press RETURN to overwrite.
```

- If you press [RETURN] the file is saved, overwriting the old file on the disk. If you press [CANCEL], you are requested to enter a new file name:

```
Type filename and press RETURN.
FILENAME:
```

- If you type a file name and press [RETURN], the file is saved under that file name. If you press [CANCEL], this message will appear:

```
Press RETURN to delete current file, CANCEL to exit.
```

- If you press [RETURN], the file will **not** be saved. If you press [CANCEL], the machine returns to the MAIN MENU.

After the files are saved or deleted...

After your files have been saved or deleted, the SPREADSHEET INPUT/EDIT screen appears:
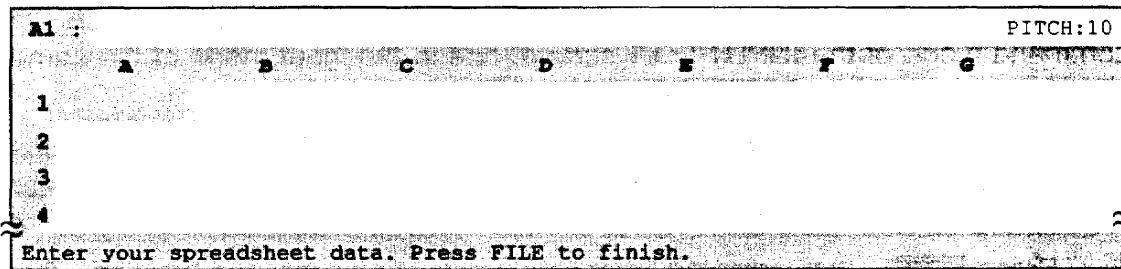
If You Want to Retrieve an Old Spreadsheet
for further Editing

If, instead of creating a new spreadsheet, you wish to work on a spreadsheet that you have already created, you must first call the SPREADSHEET INDEX screen and retrieve the file from that screen. For details, see:

- "Retrieving a Spreadsheet File" on page 119.

The Spreadsheet Templates

The Spreadsheet Templates are pre-formatted files to be used with the Spreadsheet Software. They are stored on the disk which comes with your machine. A list of these files will be displayed on the INDEX screen of the Spreadsheet Software. These files allow for easy creation of most standard spreadsheets. Since the format is already decided, all you have to do is input your data in that format without going to the trouble of first thinking about the most convenient layout. You may retrieve one of these files, input your data in the pre-programmed format, and store the file under a new file name. The Spreadsheet Templates are write-protected, which means that they cannot be erased and that they will always be on the disk in their original form.

How to Finish?

When you have finished, or when you need a break, insert a disk in the drive and save your file. For details about saving files, see:

- "Saving Your Spreadsheet Work" on page 118.

Help Menus
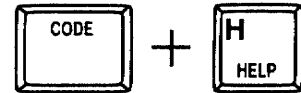
Several functions of the spreadsheet can be activated by pressing (CODE) + a letter key. The key tops do not indicate the function of those keys. Before you remember all these special keys, the help menus will provide you with an easy way to activate the functions. A help menu displays the list of functions that are available at the moment you call it. Three different help menus can be displayed: one in the command mode of the INPUT/EDIT screen, one in the input mode of the same screen, and one on the SPREADSHEET INDEX screen.

1. To display a help menu, press (CODE) + (HELP) ((H)). The list of functions available at that moment -- and the list of the corresponding keys -- will appear on the screen.

2. Press (CODE) + the indicated letter key to activate the desired function. The help menu will disappear and the function will be activated.

- *Press (CANCEL) or press (CODE) + (HELP) ((H)) again to cancel the help menu without activating a function.*

Command Mode of the INPUT/EDIT Screen

```
CTR      : CODE+F     COPY    : CODE+C     PITCH   : CODE+1
RMF      : CODE+R     DELETE  : CODE+D     PRINT   : CODE+P
BOLD     : CODE+B     MOVE    : CODE+E     INSERT  : CODE+I
UNDER    : CODE+N     LOCK    : CODE+L     GOTO    : CODE+G
EDIT     : TAB        PAGE BREAK:CODE+A
```

Input/Edit Mode of the INPUT/EDIT Screen

```
CTR      : CODE+F
RMF      : CODE+R
LOCK     : CODE+L

PAGE BREAK
         : CODE+A
```

SPREADSHEET INDEX Screen

```
COPY    : CODE+C     CONV    : CODE+O
DELETE  : CODE+D     PRINT   : CODE+P
RENAME  : CODE+R
```

The Input/Edit Mode

The SPREADSHEET INPUT/EDIT Screen

```
A1 :                                                          PITCH:10
          A         B         C         D         E         F         G
   1
   2
   3
   4
~
Enter your spreadsheet data. Press FILE to finish.                   ~
```
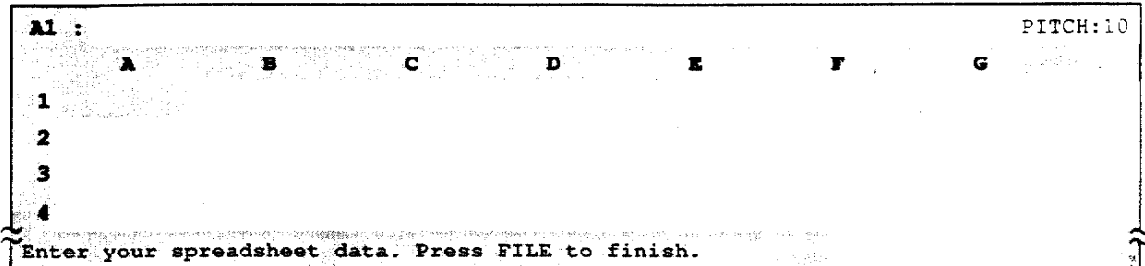
The INPUT/EDIT screen is your electronic spreadsheet. This screen is used to input and edit the data of your spreadsheet. It is divided into cells, designated by their positions on the grid, so that the cell at the top left of the sheet becomes A1, the cell diagonally to the right and below it B2, etc.

Moving Around the Screen

←	↑	↓	→
EXPR	PRE S	NEXT S	RELOC

When you call up the INPUT/EDIT screen, the cursor will be in cell A1, ready for input. The cursor can be moved with ⬅, ➡,⬆, and ⬇ to highlight any cell and to tell the machine where you wish to input. You will notice that only a portion of the spreadsheet is shown on the screen. The spreadsheet extends far beyond what the screen is able to display at one time -- you may input data into as much as 20 columns (A through T), and 65 rows (1 through 65).

It is also possible to move the cursor faster: CODE + a cursor key moves the cursor to a border of the screen.

To move the cursor to a border of the spreadsheet, press CODE + GO TO (G). This message will appear:

```
Use arrow keys to move to top, bottom, left or right.
```

Press a cursor key to move in the desired direction.

Keys	Function
⬅ ➡ ⬆ ⬇	Moves the cursor to the next cell in the direction of the keytop arrow.
CODE + ⬅ CODE + ➡ CODE + ⬆ CODE + ⬇	Moves the cursor to the screen edge in the direction of the keytop arrow.
CODE + GOTO (G), then...	
⬅, ➡, ⬆, or ⬇	Moves the cursor to the spreadsheet edge in the direction of the keytop arrow.

The Input Area

With this electronic spreadsheet, you always type or edit the data of each cell on the top line of the screen, which is called the "input area".

There are basically two ways to input data: direct input, and formula input. Direct input means that you directly type what will appear in the highlighted cell. Formula input means that you type a formula in the input area. In that case, the result of the formula is displayed in the cell.

When you move the cursor across the grid to highlight (select) a particular cell, the contents of that cell are always displayed in the input area on the top line of the screen, the way you typed them. What you see in the input area, may often differ from what is displayed in the cell:

• If you typed a formula, the formula -- not the result -- will appear in the input area. This feature allows for easy editing when a formula is wrong.

• Even in the case of direct input, the data may look slightly different in the input area and in the cell. This is because this machine allows you to control the layout of the data in the cells. For example, you may decide that a cell will be displayed in bold. The data will appear in bold in the cell, and in normal face in the input area.

```
A1 :  (1+1)                                                    PITCH:10
        A         B         C         D         E       F        G
  1            2
  2
  3
  4
```

Entering and Editing Data

- *IMPORTANT WARNING: There is a possibility that you may run out of memory before filling the entire spreadsheet with data, depending on the types of data you enter. The system will warn you of this with the message "Memory full." At this point, you may no longer enter data, but only delete it. We recommend that you save your file and continue with a new spreadsheet file. Each spreadsheet file may contain about 15K of memory.*

To enter data in an empty cell, select that cell and type the data. A small cursor -- the input cursor -- will appear in the input area. Press [RETURN] when you have finished. The data will appear in the cell.

Proceed exactly in the same way to replace old data with new data. The old data will disappear from the input area as soon as you start typing. The new data will appear in the cell when you press [RETURN] after retyping.

- *If you mistakenly hit a character key while moving through the grid, the machine will switch to the input/edit mode. If you press [RETURN] at this step, the old data will be replaced with the character. To avoid this, press [CANCEL] instead of [RETURN]. This will restore the original data and return the machine to the command mode.*

To edit old data without deleting it first, press [TAB]. The cursor appears in the input area and you may now edit the data. Press [RETURN] when the data is edited.

- *After typing or editing in the input area, you may press ⊕, ⊕, or ⊕ instead of [RETURN]. These keys enter the data, return to the command mode, and move the cursor one position in the direction of the arrow mark on the grid.*

- *In input/edit mode, you may use ⊕ and ⊕ to move the cursor across the data in the input area. However, ⊕ will enter the data, as explained above, if you try to move past the last character. You may also use [CODE] + [EXPR] (⊕) to move to the first character, or [CODE] + [RELOC] (⊕) to move to the right of the last one.*

To type and correct data	Function
Character keys	To type the data.
(BS)	To delete the character to the left of the cursor.
(CODE) + (WORD OUT) ((0))	To delete the word to the left of the cursor.
(CODE) + (LINE OUT) ((·))	To delete all characters from the input area.
(CODE) + (INSERT) ((I))	To toggle the insert/overwrite modes.
(←)	To move one position to the left.
(→)	To move one character to the right. If the cursor is to the right of the last character, this key enters the data and selects the next cell to the right.
(CODE) + (EXPR) ((◀))	Moves the cursor to the first character.
(CODE) + (RELOC) ((▶))	Moves the cursor to the right of the last character.

Keys used to enter data

To enter data and return to command mode	Function
(RETURN)	To enter the data.
(→)	To enter the data and select the next cell to the right (only when the cursor is past the last character of the input area.)
(↑) and (↓)	Enters the data and selects the next cell above or below.
(CANCEL)	Restores the old data.

Alphanumeric Data

Alphanumeric data is any combination of characters (letters, digits, and other characters) used as a label to identify the entries of the spreadsheet. It is usually as a column heading, such as "JAN." or "12th Region". This data is not to be calculated.

Format Marks

If the label data begins with an alphabetic letter, it is assumed that this data is not to be calculated. In this case, the data is placed flush left in the cell unless a flush right or centering format mark is used.

If the label begins with any of the following:

+-(@1234567890.

it is assumed that this data is to be calculated. In this case, a format mark must be used in order to identify this data as a label and not as a number to be used in a calculation.

Format marks

Format Mark	Position of the Data
'	Flush left
"	Flush right ([CODE] + [R] -- see Help Menu)
^	Centering ([CODE] + [F] -- see Help Menu)

Format marks are displayed in the input area only. They never appear in the cell. The above characters are considered as format marks only when they are entered in the first position of the input area. If they are entered in the middle of the data, they are considered as common characters and will appear in the cell.

To enter a format mark for right justification, type a double quotation mark (") or press [CODE] + [R].

To enter a format mark for centering, press [CODE] + [F].

- *IMPORTANT: To make sure that alphanumeric data such as a date (e.g. 10-12-1989) or a phone number (e.g. 231-638-7520) is not calculated, always use a format mark. If you enter 231-638-7520 without a format mark, you will get the result of the calculation (231-638-7520 = -7927).*

Maximum Length of Alphanumeric Data

The maximum length of alphanumeric data is 55 characters (the total length of the input area). If the data cannot fit in the cell, it will use the next cells of the grid unless these cells are already occupied. This convenient feature is used for long titles, when you do not want to disturb the layout of the spreadsheet by increasing the width of a column. It should be noted that entering many long alphanumeric data may cause the memory to become full before all cells are occupied. Also, adjusting the width of many columns to display long alphanumeric data may cause truncation of the rows in the printout.

Numeric Data

Numeric data are direct numbers or formulas and are to be calculated. When data is not recognized as alphanumeric, the machine will interpret it as numeric data. In that case, the machine will check whether or not the data is valid.

- If the data is valid, the result (a number) is calculated. If the number can fit in the cell, it is automatically right-justified. If the number cannot fit in the cell, a string of asterisks (*) will fill the cell. The correct number is however kept in the memory, and will be displayed if you adjust the width of the column.
- If the data is not valid, ERROR will be displayed in the cell, and a message such as one of the following messages will inform you as to what is going wrong.

Example 1: If a denominator is zero.

```
Division by zero.
```

Example 2: If a result is positive and contains more than 13 digits.

```
Numeric overflow.
```

Example 3: If a result is negative and contains more than 13 digits.

```
Numeric underflow.
```

Example 4: If a number contains characters other than numerics and decimal point (e.g. 1,000, 100$, 1A2).

```
Invalid entry.
```

Direct Numbers

A direct number is digits, and possibly a decimal point. Other characters will make the data invalid. The maximum number of digits is 13 (zeroes preceding other digits are not counted). Here are some examples of valid and invalid direct numbers:

Valid	Invalid
1234	1,000 (comma is invalid)
0.94956	125$ ($ is invalid)
00001	12a12 (a is invalid)
000000000000001 (zeroes are discarded)	99999999999999 (more than 13 digits)

Formulas

A formula is made of operators, operands, and possibly pairs of parentheses to change the order of calculation.

Operators

The operators that are recognized by the machine are, in order of precedence:

Operators

+ -	Positive and negative sign
#	Exponentiation
* /	Multiplication, division
+ -	Addition, subtraction

- *The + and - operators are considered as the sign of the following operand when they come first in a formula, immediately after a left parenthesis or another operator.*

- *The # operator performs only integer exponentiation. If the exponent (the next operand after #) has a decimal value, it will be rounded to the closest integer before exponentiation is performed. Therefore, this operator cannot be used to calculate roots (although roots can always be written as a decimal exponent in math). Zero with any positive exponent gives zero. Zero with a negative exponent gives "Invalid entry."*

- *Division by zero is invalid.*

- *A sequence of three or more operators makes a formula invalid (2+*-1 is invalid).*

- *A sequence of two operators is valid only if the second operator is a sign + or - (5*-2 is valid and gives -10 while 1-*2 is invalid).*

Operands

An operand can be a valid number, the address of a cell containing numeric data, a function, or a valid formula included in a pair of parentheses.

Examples of valid operands:

123 (direct number)
A1 or a1 (cell address; A1 must contain numeric data)
@SUM(A1..B6) (valid function)
(A1+5*@SUM(B1..B12)) (valid formula included in a pair of parentheses)
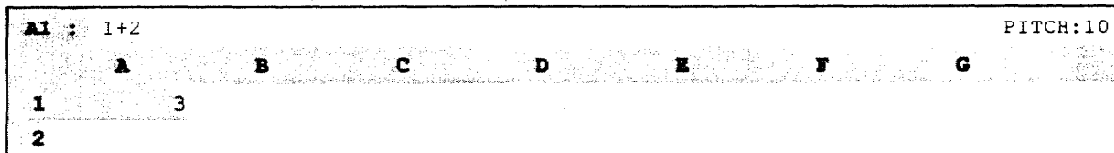
- *A cell address can be written using either small or capital letters.*
- **When a cell address has to come first in a formula, it must be preceded with a + or - sign, or by a left parenthesis. Otherwise, the formula will be considered alphanumeric data and will not be calculated. Therefore, instead of A1+A2, enter +A1+A2, (A1+A2), or (A1)+A2.**
- *If a cell referred to contains alphanumeric data, the formula is invalid, and ERROR will be displayed. An empty cell, however, is valid and assumed to contain zero.*

Using Simple Formulas

In order to familiarize yourself with the formulas, we suggest that you try the following examples.

1. Enter 1+2 in cell A1. (Position the cursor on A1, type 1+2, and press 〔RETURN〕.)

A1 : 1+2							PITCH:10
	A	**B**	**C**	**D**	**E**	**F**	**G**
1	3						
2							

The calculation is made automatically, and the result displayed in A1. The formula as you typed it, however, will remain, and appear in the input area whenever the cursor is placed on cell A1.

As you already know, inputs such as this do not always have to be numbers. They may also be formulas that direct the system to calculate the result of an operation on numbers already input into the spreadsheet, using cell addresses rather than direct numbers. This function allows you to create a mathematical relationship between desired cells that remains unchanged, regardless of the content of those cells.

2. Enter 10 in cell A2, then enter 2 in cell B2.

```
B2 :  2                                                              PITCH:10
           A           B           C           D           E           F           G
  1        3
  2        10          2
```

3. Enter +A2+B2 in cell C2 (the + sign is used here because a formula cannot begin with a letter).

```
C2 :  +A2+B2                                                         PITCH:10
           A           B           C           D           E           F           G
  1        3
  2        10          2           12
```

4. Enter +A2-B2 in cell D2.

```
D2 :  +A2-B2                                                         PITCH:10
           A           B           C           D           E           F           G
  1        3
  2        10          2           12          8
```

5. Enter +A2*B2 in cell E2.

```
E2 :  +A2*B2                                                         PITCH:10
           A           B           C           D           E           F           G
  1        3
  2        10          2           12          8           20
```

6. Enter +A2/B2 in cell F2.

```
F2 :  +A2/B2                                                         PITCH:10
           A           B           C           D           E           F           G
  1        3
  2        10          2           12          8           20          5
```

7. Enter +A2#B2 in cell G2.

```
G2 :  +A2#B2                                                         PITCH:10
           A           B           C           D           E           F           G
  1        3
  2        10          2           12          8           20          5           100
```

SPREADSHEET

8. Now try changing the value in A2 to 20.

```
A2 :  20                                                              PITCH:10
          A         B         C         D         E         F         G
  1          3
  2         20        2        12        8        20        5       100
```

Nothing changes because you have not yet asked the machine to carry out recalculation.

9. To recalculate the results, refer to "Recalculation" on page 110. All the results which depend on the value of A2 are now updated.

```
A2 :  20                                                              PITCH:10
          A         B         C         D         E         F         G
  1          3
  2         20        2        22        18        40        10       400
```

Order of calculation of a formula

Calculation of a formula is performed in the order of precedence of the operators: the + or - sign is first attributed to the operand directly to the sign's right, next exponentiations are carried out, then multiplication and divisions, and finally, additions and subtractions.

Example:

2#3*4-2
8*4-2
32-2
30

When two or more operators have the same order of precedence (multiplication and divisions, or addition and subtraction), calculation is carried out from left to right.

Examples:

1+3+4-2	2#3#2
4+4-2	8#2
8-2	64
6	

To modify the order of calculation, you may use pairs of parentheses. The formula in parentheses is calculated first.

Examples:

1+3*4	(1+3)*4
1+12	4*4
13	16

Parentheses can be nested. Calculation proceeds from the innermost pair of parentheses.

Example:

((3*4+1)*4+3)*4-12
(13*4+3)*4-12
55*4-12
220-12
208

- *Up to 6 pairs of parentheses can be nested. Using more than 6 pairs of nested parentheses makes the formula invalid. The formula will also be invalid if parentheses do not come by pairs.*

Maximum Length of a Formula

The maximum length of a formula is 55 characters (the total length of the input area). If a formula is longer, try to simplify it by using functions (see below). It should be noted that entering many long formulas may cause the memory to become full before all the cells are occupied.)

Math Functions

Functions are made by the @ character, followed with a valid function name in capital or small letters (see list below), and a pair of parentheses containing the argument(s) of the function.

Arguments are the numeric data that the function will process to return a result. Valid arguments are numbers and/or cell addresses separated with commas, or a range defined by the addresses of two opposite corners, separated with two periods (..).

Example:

@SUM(1,A1,4,B6) returns the sum 1+A1+4+B6
@SUM(A1..B4) returns the sum A1+B1+A2+B2+A3+B3+A4+B4

- *Some functions like @INT accept only one argument. In that case, using more than one argument or using a range makes the formula invalid.*
- *A range cannot be used simultaneously with numbers or addresses.*

Example:
@SUM(1,A1..B4) and @SUM(A23,A1..B6) are invalid.

- *Although a function is a valid operand of a formula, a formula is not a valid argument of a function.*

Example:
1+A1+@SUM(B2..C5) is a valid formula
@SUM(1+2), @SUM(+A1), and @SUM(1+A1) are all invalid

What is a Range of Cells?

A range is no more than a group of cells enclosed in a rectangle, and therefore, can be specified by the addresses of two opposite corners. When using math functions, you specify a range using the notation A1..C3, for example. You could also specify the same range with A3..C1, C1..A3, or C3..A1.

```
A1 :                                                    PITCH:10
        A          B          C        D      E       F        G
  1           Range A1..C3,                   This is not
  2           A3..C1, C1..A3,                 a range
  3             or C3..A1
```

Easy Input of a Range

Rather than typing in the cell address at each corner of the range, you are able to mark and highlight the range to be used. The spreadsheet will automatically define the top left and bottom right corners of the range.

Suppose you want to calculate the sum of the range A1..E2 and display the result in G1.

```
                                                                    PITCH:10
        A          B          C          D          E          F          G
    1   1          2          3          4          5
    2   6          7          8          9          10
```

1. Move the cursor to G1 and type @SUM(. As soon as you type the left parenthesis of the function, the following message appears:

```
Enter cell specification.
```

2. Instead of typing A1, move the cursor to A1 and press (CODE) + (L) (see Help Menu). @SUM(A1.. is now displayed in the input area.

```
A1    @SUM(A1..■                                                    PITCH:10
        A          B          C          D          E          F          G
    1   1          2          3          4          5
    2   6          7          8          9          10
```

3. Move the cursor to the opposite corner of the range E2.

```
E2    @SUM(A1..■                                                    PITCH:10
        A          B          C          D          E          F          G
    1   1          2          3          4          5
    2   6          7          8          9          10
```

4. Press (RETURN). The cursor is back on G1 and the result is calculated.

```
G1    @SUM(A1..E2)■                                                 PITCH:10
        A          B          C          D          E          F          G
    1   1          2          3          4          5
    2   6          7          8          9          10
```

5. Press (RETURN) again. The result, 55, appears cell G1.

```
      @SUM(A1..E2)                                                  PITCH:10
        A          B          C          D          E          F          G
    1   1          2          3          4          5                    55
    2   6          7          8          9          10
```

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List of Functions

Some functions can process only one argument, and are very similar to the math functions which are learned at school. Arguments may include not only direct number inputs, but cell addresses as well.

The most sophisticated function of the spreadsheet can process multiple arguments. Arguments may be written individually, separating each with a comma, or, if all the arguments belong to a range, the range can be specified by the addresses of two opposite corners, using two periods as a separator. Arguments may be defined as a range or may consists of any combination of direct numbers and cell addresses.

• Functions Using a Single Argument

Functions using a single argument

Name	Definition
@ABS	Gives the absolute value of the argument. If the argument is positive, or zero, the same value is returned; if the argument is negative, the opposite of the argument is returned. @ABS(5) gives 5 @ABS(-5) gives 5
@INT	Gives the integer part of the argument. The decimal point and subsequent decimal digits are removed without being rounded off; an integer will remain untouched. @INT(5) gives 5 @INT(0.9) gives 0 @INT(1.1) gives 1
@SQUARE	Gives the square of the argument. The argument multiplied by itself is returned; the result is always a positive number. @SQUARE(5) gives 25 @SQUARE(-5) gives 25 @SQUARE(0) gives 0
@SQRT	Gives the square root of the argument. The result multiplied by itself is equal to the argument. The argument may not be negative. @SQRT(25) gives 5 @SQRT(2) gives 1.41421 @SQRT(-25) is invalid

@ROUND   Rounds off the argument to the number of specified decimal places. Two
data entries are required between the parentheses: the argument itself, and
a direct number that specifies the number of decimal places. If that number
is not an integer, it is first rounded off to the closest integer.

@ROUND(1.66666,2) gives 1.67
@ROUND(1.66666,3) gives 1.667
@ROUND(1.66666,2.1) gives 1.67
@ROUND(1.66666,2.5) gives 1.667

• Functions Using Multiple Arguments

Functions using multiple arguments

Name	Definition
@AVG	Gives the average value of the arguments. The sum of the arguments is calculated, then that sum is divided by the total number of arguments. @AVG(1,2,3,4) gives (1+2+3+4)/4 = 2.5 @AVG(175) gives 175/1 = 175
@COUNT	Gives the number of non-blank cells. This function is an exception to the general rules in that: 1) the arguments MUST be cell addresses, and 2) the cell referred to may contain alphanumeric or numeric data. @COUNT(A1,A2,A3,A4) gives 3 if A1 contains 5 (numeric), A2 contains your name (alphanumeric), A3 contains ERROR (this is not a blank cell), and A4 is empty.
@IF	This special function checks whether or not a specified condition is verified, and displays a value that depends on the result of that check. The general form of this function is @IF(condition, argument1,argument2), and can be read in plain English as: if the "condition" is satisfied, then display "argument1". If the condition is not satisfied, then display "argument2". The "condition" is usually an arithmetic comparison, using two values (number or cell address) and one of the following comparison operators:

= equal to   <= less than or equal to
< less than   >= greater than or equal to
> greater than   <> not equal to

@IF(A1>100,100,50) gives 100 if A1 is greater than 100, and 50 if A1 is equal
to 100 or smaller than 100
@IF(A1>100,100,A1) gives 100 if A1=200 and 60 if A1=60

"Argument2" can be omitted. In that case, the function returns "argument1"
when the condition is satisfied, and zero when the condition is not satisfied.

@IF(A1=50,100) is equivalent to @IF(A1=50,100,0)

If "argument1" and "argument2" are both omitted, the function returns 1 when
the condition is satisfied, and zero when the condition is not satisfied.

@IF(A1=50) is equivalent to @IF(A1=50,1,0)
100*@IF(A1=50) is equivalent to @IF(A1=50,100)

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The "condition" can be a cell address. In that case, "argument1" and "argument2" must be omitted. The function returns 1 if the cell contains a numeric data, and zero if the cell contains alphanumeric data.

@IF(A1) gives 1 if A1=50 and gives 0 if A1 contains a label.

@MAX Gives the greatest argument (maximum). Remember that a positive argument is always greater than a negative one.

@MAX(1,234) gives 234
@MAX(1,-99999) gives 1

@MIN Gives the smallest argument (minimum). Remember that a negative argument is always smaller than a positive one.

@MIN(1,234) gives 1
@MIN(-1,99999) gives -1

@SUM Gives the sum of the arguments. This function is very useful in shortening long sums when the arguments belong to a range.

@SUM(1,2,3,4,5) gives 15
@SUM(A1,A2,A3,B1,B2,B3) is equivalent to @SUM(A1..B3)

@TSUM Gives the total sum of a range of cells, and also the sum of each row and column of the range if they contain data. This function is an exception to the general rules in that: 1) the argument MUST be a range, and 2) results are displayed not only in the selected cell (total sum), but also in the column to the right and in the row below the range. You must therefore be sure that the column to the right and the row below the range is empty. See below for an example.

1. Enter the numbers shown below in the range A1..C3, then enter @TSUM(A1..C3) in D4.

D4 : @TSUM(A1..C3)■						PITCH:10
A	**B**	**C**	**D**	**E**	**F**	**G**
1	1	2	3			
2	4	5	6			
3	7	8	9			
4						

2. Press ⌈RETURN⌉. The results appear as follows:

D4 : @TSUM(A1..C3)						PITCH:10
A	**B**	**C**	**D**	**E**	**F**	**G**
1	1	2	3	6		
2	4	5	6	15		
3	7	8	9	24		
4	12	15	18	45		

The Command Mode

The command mode permits formatting and modification of an entire range of cells and is used to improve the layout of your spreadsheet.

Bold
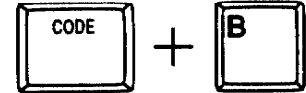
`CODE` + `B`

1. Move the cursor to a corner of the range that you want to bold.
2. Press `CODE` + `B` (see Help Menu). The following menu appears:

```
MENU:      BOLD ON      BOLD OFF
```

3. Use ⊖ and ⊕ to select BOLD ON and press `RETURN`. The following message appears:

```
Mark range to be bolded. Press RETURN when done.
```

4. Move the cursor to the opposite corner of the range and press `RETURN`. The cells of the range which already contain data appear in bold-face characters. Empty cells are unchanged, but if you input data in one of them, the data will be bolded.

• *To unbold a range of cells, proceed in the same way as above, but select* BOLD OFF *in step (3).*

Underline
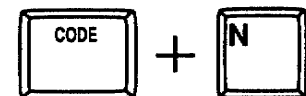
`CODE` + `N`

1. Move the cursor to a corner of the range that you want to underline.
2. Press `CODE` + `N` (see Help Menu). The following menu appears:

```
MENU:      UNDERLINE ON      UNDERLINE OFF
```

3. Use ⊖ and ⊕ to select UNDERLINE ON and press `RETURN`. The following message appears:

```
Mark range to be underlined. Press RETURN when done.
```

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4. Move the cursor to the opposite corner of the range and press [RETURN]. The cells of the range (even empty cells) are underlined.

*   *To remove underlining from a range of cells, proceed in the same way as above, but select* UNDERLINE OFF *in step (3).*

Absolute and Relative Addresses

Whenever the layout of your spreadsheet is altered, and the data within a cell has been copied, the cell reference in the formulas are updated accordingly.

However, there may be times that you do not wish the cell address in the formula updated.

If a cell has a relative address, it is always updated to reflect any layout change.

If a cell has an absolute address, it is never updated to reflect any layout change.

All cell addresses are considered relative, unless a $ (dollar sign) is placed at the beginning of the cell address in the formula. The dollar sign designates the cell address as being absolute.

Copying a Range of Cells   [CODE] + [C]
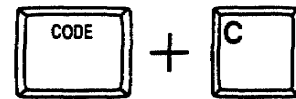
1. Position the cursor on a corner of the range that you want to copy.

2. Press [CODE] + [C] (see Help Menu). This message will appear:

```
Mark range to be copied. Press RETURN when done.
```

3. Move the cursor to the opposite corner of the range and press [RETURN]. This message will appear:

```
Move block cursor to destination and press RETURN.
```

4. Move the cursor to the upper-left corner of the destination range and press [RETURN]. The range is copied to the destination.

*   *The copy operation replaces the old data with the new data.*

*   *Relative addresses are automatically updated.*

Example:

1. Enter 3 in A1, 1 in A2, 2 in A3, then enter the formulas 2*A2+$A1 in B2 and 2*A3+$A1 in B3. The addresses A2 and A3 are relative while the address $A1 is absolute. Relative addresses are updated when copied. Absolute addresses are never updated.

B3	: 2*A3+$A1						PITCH:10
	A	B	C	D	E	F	G
1	3						
2	1	5					
3	2	7					

2. Now copy the range B2..B3 to C2. Note that the formulas of C2 and C3 are 2*B2+$A1 and 2*B3+$A1. Because $A1 is an absolute address, it was not changed when copied. (See "Absolute and Relative Addresses" on page 97.)

- *To recalculate the results, refer to "Recalculation" on page 110.*

C2	: 2*B2+$A1						PITCH:10
	A	B	C	D	E	F	G
1	3						
2	1	5	13				
3	2	7	17				

Copying one Cell to Many Other Cells

CODE + C

CODE + L LIND
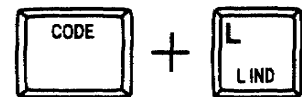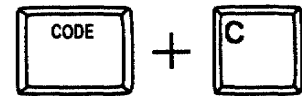
1. Position the cursor on the cell that you want to copy.
2. Press CODE + C (see Help Menu). This message will appear:

```
Mark range to be copied. Press RETURN when done.
```

3. Press RETURN without moving the cursor. This message will appear:

```
Move block cursor to destination and press RETURN.
```

4. Move the cursor to the upper-left corner of the destination range and press CODE + L (not RETURN).
5. Move the cursor to the lower-right corner of the range and press RETURN. The cell is copied to the destination range.

- *Relative addresses are automatically updated. (See "Copying a Range of Cells" on page 97 and "Absolute and Relative Addresses" on page 97.)*

- *This variation of the copy function is very useful for automatic input of formulas.*

Example:

1. Enter the data shown below in A1..E1, then enter @SQUARE(A1) in A2.

```
A2 :  @SQUARE(A1)                                                    PITCH:10
         A          B          C          D          E          F          G
1        1          2          3          4          5
2        1
```

2. Now copy the A2 to the range B2..E2.

- *To recalculate the results, refer to "Recalculation" on page 110.*

```
B2 :  @SQUARE(B1)                                                    PITCH:10
         A          B          C          D          E          F          G
1        1          2          3          4          5
2        1          4          9         16         25
```

Deleting Rows and Columns
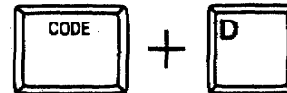
CODE + D

1. Press CODE + D (see Help Menu). This menu will appear:

```
MENU:     ROWS      COLUMNS
```

2. Select ROWS to delete rows (or COLUMNS to delete columns), then press RETURN. This message will appear:

```
Position block cursor.  Press RETURN when done.
```

3. Position the cursor anywhere in the first row (or column) to be deleted. The machine asks you to specify the number of rows (or columns) to delete, for example:

```
Number of rows to delete :
```

4. Type the number and press RETURN. The specified number of rows (or columns) are deleted. Existing data past the deleted rows (columns) are pulled up (to the left) and any moved formula is updated.

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Example 1:

1. Enter the data shown below in the range A1..B3, then enter the formula @SUM(A1..B3) in cell C5.

```
C5 : @SUM(A1..B3)                                          PITCH:10
        A          B          C          D          E          F          G
 1      1          4
 2      2          5
 3      3          6
 4
 5                            21
```

2. Now delete row 2. To recalculate the results, refer to "Recalculation" on page 110.

```
C4 : @SUM(A1..B2)                                          PITCH:10
        A          B          C          D          E          F          G
 1      1          4
 2      3          6
 3
 4                            14
 5
```

- *When a function is defined on a range, like in the above example, you are not allowed to delete a row or a column that contains a corner of the range.*

Example 2:

1. Using the same initial data as in the above example, delete row 1.

```
C4 : @SUM(?..B2)                                           PITCH:10
        A          B          C          D          E          F          G
 1      2          5
 2      3          6
 3
 4                            ERROR
 5
```

Inserting Blank Rows and Columns   `CODE` + `INSERT`
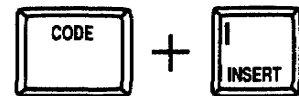
1. Press CODE + INSERT (I). This menu will appear:

2. Select ROWS to insert blank rows (or COLUMNS to insert blank columns), then press [RETURN]. This message will appear:

```
Position block cursor.  Press RETURN when done.
```

3. Position the cursor anywhere in the first row (or column) where you want the new rows (columns) inserted. The machine asks you to specify the number of rows (or columns) to insert, for example:

```
Number of rows to insert :
```

4. Type the number and press [RETURN]. The specified number of blank rows (or columns) are inserted. Existing data beyond the inserted rows (columns) are pushed down (to the right).

Example 1:

1. Enter the data shown below in the range A1..B2, then enter the formula @SUM(A1..B2) in cell C3.

```
C3 :  @SUM(A1..B2)                                        PITCH:10
        A          B          C       D        E       F      G
1       1          3
2       2          4
3                         10
4
```

2. Now insert a blank row between row 1 and row 2.

```
C4 :  @SUM(A1..B3)                                        PITCH:10
        A          B          C       D        E       F      G
1       1          3
2
3       2          4
4                         10
```

Example 2:

With the same initial data as in Example 1, insert a blank row between row 2 and row 3.

```
C4 :  @SUM(A1..B2)                                                    PITCH:10
              A           B           C         D         E        F        G
    1         1           3
    2         2           4
    3
    4                               10
```

Example 3:

1. Enter the data shown below in the range A2..B2, then enter the formula (A2*B2) in C2.

```
C2 :  (A2*B2)                                                         PITCH:10
              A           B           C         D         E        F        G
    1
    2        300         0.8        240
    3
```

2. Now insert a blank column between column A and column B.

```
D2:  (A2*C2)
              A           B           C         D         E        F        G
    1
    2        300                              0.8        240
    3
```

Example 4:

With the same initial data as in Example 3, insert a blank column between column B and column C.

```
D2 :  (A2*B2)                                                        PITCH:10
              A           B           C         D         E        F        G
    1
    2        300         0.8                  240
    3
```

- *If the insertion you wish to make will exceed the limitations of the spreadsheet, the data in the rows or columns on the far edge will be lost. The system will warn you of this, and allow you to choose whether to quit the insertion or allow the data to be lost with this message:*

```
Insert will result in data loss.  RETURN to insert or CANCEL to quit.
```

Moving a Range of Cells
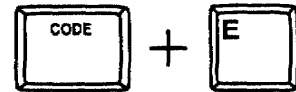
1. Position the cursor on a corner of the range that you want to move.
2. Press (CODE) + (E) (see Help Menu). This message will appear:

```
Mark range to be moved. Press RETURN when done.
```

3. Move the cursor to the opposite corner of the range and press (RETURN). This message will appear:

```
Move block cursor to destination and press RETURN.
```

4. Move the cursor to the upper-left corner of the destination range and press (RETURN). The range is moved to the destination, and the range that you marked in steps (1), (2), and (3) is cleared.

• *The move operation replaces the old data with the new data.*

Example:

1. Enter the data shown below, then enter the formula @SUM(A1..B2) in A4.

```
A4  :  @SUM(A1..B2)                                              PITCH:10
        A           B           C           D           E           F           G
1       1           3
2       2           4
3
4      10
```

2. Now move the cell A4 to D1.

```
D1  :  @SUM(A1..B2)                                              PITCH:10
        A           B           C           D           E           F           G
1       1           3                      10
2       2           4
3
4
```

Printing a Range
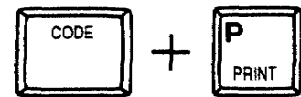
Printing a range of cells is often a useful step when you are editing a spreadsheet. It allows you to see how your work will actually look on paper. Remember that the program also allows you to print an entire spreadsheet file from the SPREADSHEET INDEX screen.

Before you print, you may use (CODE) + (PITCH) (①) to adjust the pitch to 10, 12, or 15 characters per inch.

You may also split your spreadsheet manually by inserting page break symbols (↓) with the (CODE) + (A) key.

1. Move the cursor to a corner of the range that you want to print and press (CODE) + (PRINT) ((P)). This message will appear:

```
Mark range to print. Press RETURN when done.
```

2. Move the cursor to the cell in the opposite corner of the range and press (RETURN). This message will appear:

```
Set printer and press RETURN.
```

3. Set the printer and press (RETURN). If the spreadsheet is too wide, you may need to insert the sheet of paper horizontally. If you have an HR Series Brother daisy wheel printer, the machine now asks you to match the daisy wheel to the selected pitch, for example:

```
Change to ASCII 10 wheel and press RETURN.
```

4. Make sure that the daisy wheel installed matches the message specifications, and press (RETURN). Printing starts.

• *To pause during printing, press* (SPACE BAR). *Press the same key to restart printing. To cancel printing, press* (CANCEL).

Functions Available in the Function Menu

1. To display the function menu, press (MENU).

MENU:	COLUMN	FORMAT	RECALC	SORT	CLEAR	CONV

2. To select a function, use ⬛ and ⬛ and press ⬛⬛⬛⬛.

Adjusting the Width of the Columns

The default width of the columns is 10 characters. However, you may adjust the width of your column to accommodate the data that you will input (or the data that is already in the cell). While a maximum to 55 characters (the maximum length of the input area) may be put into a cell, if there is interfering data in the cells to the right, only a portion of that data may be viewed. It will still remain resident in that cell and may be viewed on the input area when the cursor is in that cell. It is not possible to change the width of an individual cell without changing the width of the entire column that cell belongs to.

1. Position the cursor anywhere within the column you wish to change and press ⬛⬛⬛. The function menu appears:

```
MENU:        COLUMN     FORMAT    RECALC     SORT     CLEAR     CONV
```

2. Select COLUMN, and press ⬛⬛⬛⬛. This menu will appear:

```
MENU:        WIDTH     FILL     FREEZE     RELEASE
```

3. Select WIDTH and press ⬛⬛⬛⬛. The letter of the column will appear in the input area, followed with a number indicating its current width.

```
Column :   A     Width :   10
```

and this message will appear:

```
Mark columns to change width of.   Press RETURN when done.
```

4. Use ⬛ or ⬛ to mark the columns that you want to change, and press ⬛⬛⬛⬛. The marked columns are indicated in the input area (for example, A-C if you marked columns A, B, and C),

```
New Width A-C :
```

and this message will appear:

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5. Type the new width in the input area (maximum 55) and press [RETURN]. The
    width of the marked columns is adjusted.

Filling a Range with Numbers

This function is useful when you want to number rows or columns quickly, or when
you need numbers in a range in order to check how math functions are working.
As an example, we are going to show how to create a calendar (let's limit it to June
1990).

1. Enter the data shown below and adjust the width of the columns as desired.

```
A9 :  SAT                                                      PITCH:10
        A        B        C        D        E        F        G
1  June
2
3  SUN
4  MON
5  TUE
6  WED
7  THU
8  FRI
9  SAT
```

2. Move the cursor to B3 and press [MENU] to display the function menu.

```
MENU:     COLUMN     FORMAT     RECALC     SORT     CLEAR    · CONV
```

3. Select COLUMN and press [RETURN]. This menu will appear:

```
MENU:     WIDTH     FILL     FREEZE     RELEASE
```

4. Select FILL and press [RETURN]. This message will appear:

```
Mark range to be filled. Press RETURN when done.
```

5. Move the cursor to F9 to mark the range B3..F9 and press [RETURN]. The
    machine asks you to enter a starting value.

- *The fill function will fill the marked range from the upper-left corner down, then starting from the top of the second column, and so on. Three values are necessary: starting, jumping, and ending values. The starting value is written in the upper-left corner. Next numbers are calculated by adding the jumping value to the previously written value. Filling stops when the calculated value exceeds the ending value or when the marked range is filled, whichever comes first.*

6. Since June First is Friday, enter -4 for the starting value. The machine will ask you to enter the jumping value and the ending value. Enter 1 for the jumping value and 30 for the ending value. The range will be automatically filled when you press (RETURN) to enter the ending value.

```
B3 :  -4.00000                                               PITCH:10
        A         B         C         D         E         F         G
 1 June
 2
 3 SUN            -4         3        10        17        24
 4 MON            -3         4        11        18        25
 5 TUE            -2         5        12        19        26
 6 WED            -1         6        13        20        27
 7 THU             0         7        14        21        28
 8 FRI             1         8        15        22        29
 9 SAT             2         9        16        23        30
```

7. Delete the contents of cells B3, B4, B5, B6, and B7.

Freezing Columns on the Screen

Because this spreadsheet is wider than the display screen, you might find at some point that you wish to keep the first column(s) where you can see them while editing the rightmost columns.

1. Press (MENU) to display the function menu.

```
MENU:    COLUMN    FORMAT    RECALC    SORT    CLEAR    CONV
```

2. Select COLUMN, and press (RETURN). This menu will appear:

```
MENU:    WIDTH    FILL    FREEZE    RELEASE
```

3. Select FREEZE and press (RETURN). The system asks you to indicate the columns to be frozen. This message will appear:

4. Freezing will always affect the first columns, from column A to the column just before the column that you choose at this step. Position the cursor and press **RETURN**. An indicator will tell you which columns are frozen, for example, if you positioned the cursor on column C:

C1			C	D	E	F	G
	A	B					
1	June						
2							
3	SUN		3	10	17	24	
4	MON		4	11	18	25	
5	TUE		5	12	19	26	

5. Now, if you move the cursor to the rightmost columns, you will still see the frozen columns on screen.

•   *Only one group of columns can be frozen at a time. Rows cannot be frozen.*

•   *When you want to release the frozen columns (you must do that to be able to move the cursor into the frozen columns for editing), proceed as for freezing, but select* RELEASE *in step (3). A message will tell you that the frozen columns have been released:*

Frozen columns have been released.

Changing the Format of Numeric Data

This system is quite capable of handling fractional numbers, though it displays the result in decimal notation. Fractional numbers may even be typed in the input area as fractions, but they will still be displayed on the grid as decimals. The system correctly stores their values.

The machine is set to display no decimal digits, though you may modify this using the format function, up to five digits. This function also allows you to display dollar figures with a dollar symbol and two decimal places. It also can display percentage data with the percentage symbol to a specified number of decimal places, again, up to five.

To use the format function, proceed as follows:

1. Position the cursor on a corner of the range to be formatted and press **MENU**. The function menu appears:

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```
MENU:        COLUMN     FORMAT     RECALC     SORT     CLEAR     CONV
```

2. Select FORMAT and press [RETURN]. Specify the range and press [RETURN] again. A menu of options appears:

```
MENU:        FIXED     CURRENCY     PERCENT     NO DISPLAY
```

3. Select an option and press [RETURN]. The following operations depend on the option that you selected.

- **Changing the Number of Decimal Places**

1. Select FIXED from the FORMAT menu to set the number of decimal places that you wish to display and press [RETURN].

```
MENU:        0    1    2    3    4    5    Select number of decimal places.
```

2. Select the number of decimal places and press [RETURN]. This menu will appear:

```
MENU:        NO COMMAS     COMMAS
```

3. Select COMMAS if you want commas to separate the thousands or NO COMMAS if you do not. Press [RETURN].

- **Displaying Dollar Symbols**

```
MENU:        FIXED     CURRENCY     PERCENT     NO DISPLAY
```

1. Select CURRENCY from the FORMAT menu to display numbers with two decimal places and a dollar symbol, then press [RETURN]. This menu will appear:

```
MENU:        ZERO DISPLAY     NO ZERO DISPLAY
```

2. Select ZERO DISPLAY if you want zeroes to be displayed, or NO ZERO DISPLAY if you do not. Press [RETURN]. This menu will appear:

```
MENU:        NO COMMAS     COMMAS
```

SPREADSHEET

3. Select COMMAS if you want commas to separate the thousands or NO COMMAS if you do not. Press `RETURN`.

- **Displaying Percentages**

MENU:	FIXED	CURRENCY	**PERCENT**	NO DISPLAY

1. Select PERCENT from the FORMAT menu to display percentages (the result will be multiplied by 100 will be followed with a percentage symbol).

MENU:	0	1	2	3	4	5	Select number of decimal places.

2. Select the number of decimal places and press `RETURN`.

- **Hiding Numeric Data**

MENU:	FIXED	CURRENCY	PERCENT	**NO DISPLAY**

1. Select NO DISPLAY from the FORMAT menu and press `RETURN`. This menu will appear:

MENU:	DISPLAY	**NO DISPLAY**

2. Select NO DISPLAY to hide data (or select DISPLAY to display data that have been hidden) and press `RETURN`.

Hidden data will still be in memory but will not be displayed on the grid. For example, you might have to split complex calculations in more simple steps. In that case, you do not need to display or print intermediate results.

Recalculation

When you input or edit numeric data, the result is automatically displayed in the selected cell. However, if other cells use this data in a formula, these are not automatically updated. In order to have all results match the new data you must recalculate.

1. Press `MENU` to display the function menu.

MENU:	COLUMN	FORMAT	**RECALC**	SORT	CLEAR	CONV

2. Select RECALC, and press `RETURN`.

IMPORTANT: If you are using formulas referencing to cells that are themselves referencing to other cells, it might sometimes happen that the system cannot give the correct results with a single call of the recalculation function. In such cases, call the recalculation function again until a further call does not change any result.

Organizing Your Data

It is important to realize that you can create files of textual information as well as numbers and formulas. The next example will illustrate this.

• Sorting a Range

When you update a file of names, addresses and phone numbers, you usually add data at the end of the file. To facilitate later reference, however, you need some logical organization. Alphabetical order is commonly used. The sorting feature shown here will save you time and effort in the organization of your data. To prepare:

1. Enter the data shown in the illustration.

	A	B	C	D	E
1	Marsh	Henry	Miamiburg	OH	45342
2	Anderson	John	Denver	CO	82222
3	Jackson	Howard	Stanford	CA	56904
4	Bennet	William	Westfield	NJ	28854
5	Higgins	Ruth	Cambridge	MA	11000
6	Carter	David	Dallas	TX	76021
7	Bender	William	Freeport	VT	66622
8	Higgins	Joyce	Atlanta	GA	30341
9	Fox	Terry	Fremont	CA	94537
10	Lee	Kevin	Bedford	TX	76021

2. If you wish, make several copies of the data (using the copy function -- (CODE) + (C)) so that you will be able to try several different types of sorts.

You are now ready to go on with the first example:

1. Position the cursor on A1 and press (MENU) to display the function menu.

| MENU: | COLUMN | FORMAT | RECALC | **SORT** | CLEAR | CONV |

2. Select SORT and press (RETURN). This menu will appear:

3.   Select SORT and press ⟨RETURN⟩. This message will appear:

```
Mark range to be sorted.   Press RETURN when done.
```

We are going to rearrange the data in alphabetical order according to the last names (column A). It is important that you mark all the columns so that all data will move together with the names.

4.   Move the cursor to E10 to mark the range A1..E10, and press ⟨RETURN⟩. The system will ask you to enter the name of the column that the column will be sorted by (primary key)

```
Primary key :
```

and this message will appear:

```
Enter column of primary sort key and press RETURN.
```

This system allows for double sorting -- primary and secondary. You wish the data to be sorted according to the last names (column A). This is the "primary key". The primary key must always be in the marked range.

5.   Type A and press ⟨RETURN⟩. The system will ask you to enter the name of the column that will be used for secondary or internal sorting

```
Secondary key :
```

and this message will appear:

```
Enter column of secondary sort key and press RETURN.
```

If two or more persons have the same last name, you will require secondary sorting to maintain proper organization. Use the first name (column B) for secondary sorting.

•   *When you do not wish a secondary sort to take place, simply press* ⟨RETURN⟩ *without entering anything.*

6.   Type B and press ⟨RETURN⟩. This menu will appear:

```
MENU:        ASCENDING     DESCENDING
```

If you select ASCENDING, the data will be arranged in natural alphabetical order. DESCENDING will place it in the reverse order.

7.   Select ASCENDING and press (RETURN). The last menu will appear.

```
MENU:        ALPHABETIC     NUMERIC
```

8.   Since the data is alphanumeric, select ALPHABETIC and press (RETURN). Your data will be alphabetically arranged, automatically.

	A	B	C	D	E
1	Anderson	John	Denver	CO	82222
2	Bender	William	Freeport	VT	66622
3	Bennet	William	Westfield	NJ	28854
4	Carter	David	Dallas	TX	76021
5	Fox	Terry	Fremont	CA	94537
6	Higgins	Joyce	Atlanta	GA	30341
7	Higgins	Ruth	Cambridge	MA	11000
8	Jackson	Howard	Stanford	CA	56904
9	Lee	Kevin	Bedford	TX	76021
10	Marsh	Henry	Miamiburg	OH	45342

You may, of course, use both alphabetic and numeric, ascending and descending sorts to organize the data. You may also use different primary and secondary keys (such as by city and first name) to put your data in the order most convenient to your purpose.

• **Selecting Data From a Range**

The SELECT option in the SORT menu allows you to print rows of data that match a specified condition. However, you may only select numeric data. In the example used previously, the only numeric data was the zip code, so we will use this data here.

1.   Position the cursor on a corner of the range you want to select from, then press (MENU). The function menu appears:

```
MENU:        COLUMN    FORMAT    RECALC    SORT    CLEAR    CONV
```

2. Select SORT and press (RETURN). This menu will appear:

```
MENU:        SORT     SELECT     SORT & SELECT
```

3. Choose SELECT and press (RETURN). This message will appear:

```
Mark range to select from. Press RETURN when done.
```

4. Move the cursor to the opposite corner of the range and press (RETURN). The system will ask you to enter the name of the column to be used

```
Select Column A-E :
```

and this message will appear:

```
Enter the select column and press RETURN.
```

5. Type a letter (E in our example) and press (RETURN). A menu of matching conditions will appear:

```
MENU:     EQUAL     NOT EQUAL     LESS     GREATER     BETWEEN     NOT BETWEEN
```

If you select EQUAL, NOT EQUAL, LESS, or GREATER, the system will ask you to enter a numeric value (equal or not equal to what, etc.). If you select BETWEEN or NOT BETWEEN, you are requested to enter the limit values of the bracket.

6. Select EQUAL and press (RETURN). The system will ask you to enter the value.

```
Equal to :
```

We want the list of people whose zip code is 76021.

7. Type 76021 and press (RETURN). You are now requested to set the printer.

```
Set printer and press RETURN.
```

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8. Set the printer and press ⌈RETURN⌉. If you are using a Brother HR Series Daisy Wheel printer, install the proper wheel and press ⌈RETURN⌉. The printout will look as follows:

| Carter | David | Dallas | TX | 76021 |
| Lee | Kevin | Bedford | TX | 76021 |

• **Sorting & Selecting Data from a Range**

| MENU: | COLUMN | FORMAT | RECALC | **SORT** | CLEAR | CONV |

| MENU: | SORT | SELECT | **SORT & SELECT** |

This third option (SORT & SELECT) allows you to sort and select in one operation. This is useful when you want the printout to be sorted. To try out this option, you may use a copy of the data in the previous example.

After you select SORT & SELECT, the machine first sorts the data and then selects according to the specified criteria. Simply follow the instructions for the option SORT, then the instructions for the option SELECT.

Clearing a Range

The CLEAR option of the function menu allows you to quickly clear a range.

1. Position the cursor on a corner of the range to be cleared and press ⌈MENU⌉.

| MENU: | COLUMN | FORMAT | RECALC | SORT | **CLEAR** | CONV |

2. Select CLEAR and press ⌈RETURN⌉. This message will appear:

| Mark range to be cleared. Press RETURN when done. |

3. Move the cursor to the opposite corner of the range and press ⌈RETURN⌉. The range is cleared.

• *Attributes (bold, underline) and format (currency, percentage, etc.) are all cleared.*

Converting a Range

You may sometimes wish to include data from the spreadsheet into a document. To do this, first type the spreadsheet data and convert it into a Create Document file as explained below. You will then be able to retrieve that file in Create Document mode and add text.

1. Position the cursor on a corner of the range that you wish to convert and press (MENU). The function menu appears:

```
MENU:      COLUMN    FORMAT    RECALC    SORT    CLEAR    CONV
```

2. Select CONV and press (RETURN). This message will appear:

```
Mark range to convert. Press RETURN when done.
```

3. Move the cursor to the opposite corner of the range and press (RETURN). This message will appear:

```
Insert destination disk and press RETURN.
```

4. Insert a disk, then press (RETURN). A list of the Create Document files stored on the disk will appear. The machine asks you to input a file name for the converted file.

```
Type new filename and press RETURN.
FILENAME:  XXXXXXXX█
```

5. Type a file name and press (RETURN). This message will appear while the file is converted:

```
Converting the file....please wait.
```

and will be replaced with this message when the process is completed:

```
Converting completed.
```

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You are now in command mode of the INPUT/EDIT screen, and the message will disappear as soon as you hit a key.

• *If all columns cannot fit between the margins, this message will appear:*

```
Line(s) truncated.
```

File Operations

The current spreadsheet is automatically stored in the memory if you switch the power off while editing. However, you are not allowed to save a file in the memory under a specific file name. All file operations described in this section will refer to the disk. The disk used to save spreadsheet files can be a disk that you also use to save Create Document files. Remember to initialize a new disk before attempting to save data on it (see "Initializing New Disks" on page 12).

Saving Your Spreadsheet Work

[CODE] + [MENU / FILE]
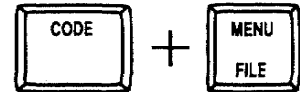
1. When your spreadsheet is completed, press [CODE] + [FILE] ([MENU]). The following message appears:

```
Insert data disk. Press RETURN to save, press CODE+D to abandon.
```

2. If you have nothing worth saving, simply press [CODE] + [D]. The SPREAD-SHEET INDEX appears.

   If you want to save your file, press [RETURN]. You are prompted to enter a file name:

```
Type filename and press RETURN.
FILENAME: ■
```

3. Type a file name and press [RETURN]. The file is saved on the disk and the SPREADSHEET INDEX screen list is updated.

- *A file name may be composed of capital and small letters, numbers and hyphens. No other characters are allowed. The machine distinguishes between upper and lower case letters: you may have two different files called "FILE1" and "file1".*

- *To correct an error while typing a file name, use [BS], [CODE] + [WORD OUT] ([D]), [CODE] + [LINE OUT] ([□]) or move the cursor with [←] and [→] and retype the file name. Pressing [CANCEL] allows you to escape.*

- *If you type a file name that exists already, the machine asks you if you want to overwrite the old file:*

```
Overwrite.  Press RETURN to overwrite.
```

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Press ⌈RETURN⌉ to replace the old file with the new one, or press ⌈CANCEL⌉ to quit.

- If there is not sufficient space remaining on the disk to contain the file you wish to save, the system will inform you and prompt you to insert a new disk with this message:

```
Disk is full, please try again with new disk.   Press RETURN.
```

Insert another data disk and press ⌈RETURN⌉.

Retrieving a Spreadsheet File

1. At the blank spreadsheet INPUT/EDIT screen, insert the disk containing the file you want to retrieve and press ⌈CODE⌉ + ⌈FILE⌉ (⌈MENU⌉) to access the SPREADSHEET INDEX.
2. Select the file using ⊕, ⊕, ⊕, and ⊕. (Select ∗NEWFILE to start creating a new file from scratch.)
3. Press ⌈RETURN⌉ to switch to the INPUT/EDIT screen where the file can be edited.

Making a Copy of a File

⌈CODE⌉ + ⌈C⌉
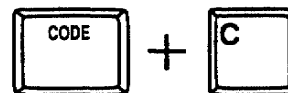
1. Insert the disk containing the file you want to copy. Press ⌈CODE⌉ + ⌈FILE⌉ (⌈MENU⌉) to view the SPREADSHEET INDEX, then select the file using ⊕, ⊕, ⊕, and ⊕.
2. Press ⌈MENU⌉ to display the function menu.

```
MENU:      COPY      DELETE     RENAME     CONV      PRINT
```

3. Select COPY and press ⌈RETURN⌉. This message will appear:

```
Insert destination disk and press RETURN.
```

- **Short cut:** Instead of (2) and (3), you may press ⌈CODE⌉ + ⌈C⌉ (see help menu).
4. Insert a disk and press ⌈RETURN⌉. After a few seconds, the SPREADSHEET INDEX screen of the disk appears and you are prompted to enter a new file name:

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- *You may copy a file on the same disk. Simply leave the current disk in the drive when prompted to insert the destination disk.*

```
Type new filename and press RETURN.
FILENAME: XXXXXXXX█
```

5. Type a new file name (one that does not already exist on the disk), and press `RETURN`. If you enter a file name that is already used on the disk, this message will appear:

```
Overwrite.  Press RETURN to overwrite.
```

6. Press `CANCEL` to quit and type a new file name. After the file has been copied, the system will tell you when the operation is completed:

```
Copying completed.
```

Deleting a File

```
CODE  +  D
```
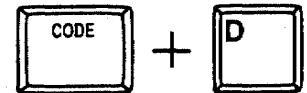
1. Insert the disk containing the file you want to delete. Press `CODE` + `FILE` (`MENU`) to view the SPREADSHEET INDEX, then select the file using ◀, ▶, ▲, and ▼.

2. Press `MENU` to display the function menu.

```
MENU:       COPY      DELETE     RENAME     CONV      PRINT
```

3. Select DELETE and press `RETURN`. This message will appear:

```
Delete? Press RETURN(yes) or CANCEL(no).
```

- ***Short cut:*** *Instead of (2) and (3), you may press* `CODE` + `D` *(see help menu).*

4. Press `RETURN` to confirm. The file is deleted and the index is updated.

Renaming a File

`[CODE]` + `[R]`
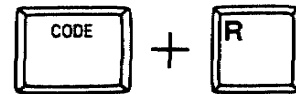
1. Insert the disk containing the file you want to rename. Press `[CODE]` + `[FILE]` (`[MENU]`) to view the SPREADSHEET INDEX, then select the file using `[←]`, `[→]`, `[↑]`, and `[↓]`.

2. Press `[MENU]` to display the function menu.

```
MENU:      COPY     DELETE    RENAME    CONV     PRINT
```

3. Select RENAME and press `[RETURN]`. This message will appear:

```
Type new filename and press RETURN.
FILENAME: ▮
```
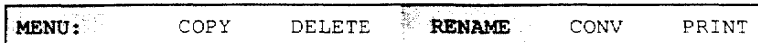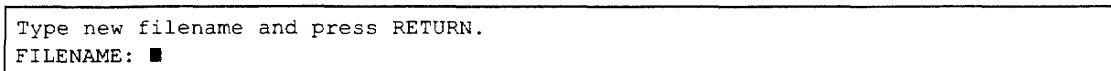
*   **Short cut**: *Instead of (2) and (3), you may press* `[CODE]` + `[R]` *(see help menu).*

4. Type a new file name (one that does not already exist on the disk), and press `[RETURN]`.

Converting a Spreadsheet File

`[CODE]` + `[O JUST]`
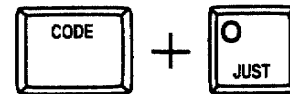
The system allows you to change a spreadsheet file into a text file. You should create the spreadsheet file first. After the spreadsheet file is saved, convert it into a text file as explained below. Then switch to the Create Document mode and retrieve the converted file. You are now free to add any text to the file.

To convert a spreadsheet file:

1. Insert the disk containing the file you want to convert. Press `[CODE]` + `[FILE]` to view the SPREADSHEET INDEX, then select the file using `[←]`, `[→]`, `[↑]`, and `[↓]`.

2. Press `[MENU]` to display the function menu.

```
MENU:      COPY     DELETE    RENAME    CONV     PRINT
```

3. Select CONV and press `[RETURN]`. This message will appear:

```
Insert destination disk and press RETURN.
```
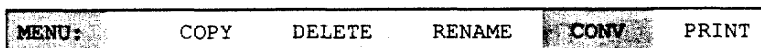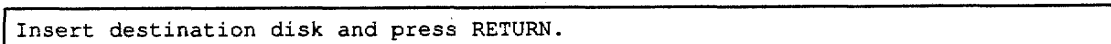
- **Short cut**: *Instead of (2) and (3), you may press* CODE *+* O *(see help menu).*

4. To store the converted file on the current disk, simply press RETURN. To store the converted file to a different disk, insert the new disk and press RETURN. The machine asks you to input a file name:

```
Type new filename and press RETURN.
FILENAME: XXXXXXXX■
```

5. Type a file name and press RETURN. While the file is being converted, the following message is displayed

```
Converting the file....please wait.
```

and will be replaced with this message when the operation is completed:

```
Converting completed.
```

- *If all columns cannot fit between the margins, this message will appear:*

```
Line(s) truncated.
```

Printing a File

```
CODE   +   P
              PRINT
```
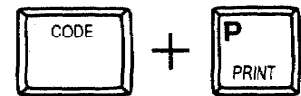
1. Insert the disk containing the file you want to print. Press CODE + FILE (MENU) to view the SPREADSHEET INDEX, then select the file using ←, →, ↑, and ↓.

2. Press MENU to display the function menu.

```
MENU:      COPY     DELETE     RENAME     CONV     PRINT
```

3. Select PRINT and press RETURN. This message will appear:

```
Set printer and press RETURN.
```

- **Short cut**: *Instead of (2) and (3), you may press* CODE *+* PRINT *(* P *) (see help menu).*

4. Insert a sheet of paper and press ⌐RETURN⌐. If you are using a Brother HR Series daisy wheel printer, the system now prompts you to insert an ASCII daisy wheel (KB I) of the appropriate pitch. Install the wheel and press ⌐RETURN⌐, or simply press ⌐RETURN⌐ if the correct daisy wheel is already installed.

5. During printing, you may press ⌐(SPACE BAR)⌐ to pause and resume printing. You may also press ⌐CANCEL⌐ to quit.

•   *If the data exceeds the printing capabilities, the data will be truncated (cut off). It is not possible to change the pitch on the SPREADSHEET INDEX screen. If the spreadsheet is too wide, try inserting paper horizontally. If it is still too wide, go back to the INPUT/EDIT screen and select a higher pitch or print only a range of the spreadsheet.*

•   *Remember that the system allows you to input page break symbols (↓) to signal the printer to stop printing for a paper change.*

The Templates

The Spreadsheet Templates are pre-formatted files to be used with the Spreadsheet mode. These files allow for easy creation of most standard spreadsheets. They are stored on the Template disk that comes with your machine. The Templates are write-protected, which means that they cannot be erased and that they will always be available on the Template disk in their original form.

For all templates, just remember, you enter the data in the blank cells only. Never enter data into the cells that contain a formula.

Listed below are the templates that we have already designed for your use. These files come with an easy-to-use format. All you need to do is enter your data. The cells which are supposed to display a result already contain the appropriate formulas and format. Never enter data in the cells that already contain a formula.

After you have completed your work on the template spreadsheet, you may give your template a file name and save it to a data disk. Each time you recall a template from the Template disk, a new blank file appears. In order to recall a template that you previously worked with, simply recall it from the data disk by the file name you assigned.

Description of the Templates

INTRO - This template is actually an overview file that contains a reading introduction to the Spreadsheet. This template discusses some of the features and capabilities of the Spreadsheet Program.

TELEPHONE AND ADDRESS DIRECTORY - This template allows you to keep an organized listing of names and addresses. With the sort capability, you are able to rearrange this file alphabetically after each addition or edit.

CHECKBOOK - This Checkbook template resembles the ledgers that you receive from your bank. It calculates the balance after you input your deposits and withdrawals. After entering your deposits and withdrawals, select RECALC from the function menu to process the balance column. If you later make changes or additions to the data you entered in the checkbook, simply use the RECALC function to determine the new balance.

MONTHLY BUDGETING - This template helps you keep your personal finances in order. It outlines your monthly expenses for you.
Once your expenses are itemized, use the RECALC function to determine your budget results. Later, if you make changes or additions to the budget, simply use the RECALC function to determine the new totals.

SALES ANALYSIS - This template helps monitor actual versus projected sales results by sales persons. Enter the data for all the cells with the exception of the cells containing formulas (zeros). After you have entered the information for each sales person, use the RECALC function to determine the results. Later, if you make changes or additions to the template, simply use the RECALC function to see the new results.

ANNUAL YIELD (COMPOUND) - This template figures annual yield according to the annual interest rate. Simply type in the annual interest rate. Use the RECALC function to see the results.

SAVING PLANNER - This template calculates your savings over a specified period of time. Simply enter the requested data. Use the RECALC function to determine the results.

MONTHLY PAYMENT OF LOAN - This template calculates your monthly payments and lists the amount of interest and principal paid per month, for one year. Enter the requested data. Use the RECALC function to see the results for one year.

Retrieving a Template

1. Select 3. SPREADSHEET from the main menu.
2. Insert the Template disk and press (CODE) + (FILE) ((MENU)) to display the SPREADSHEET INDEX. The list of the Templates appears.
3. Select the desired template with the cursor and press (RETURN). The spreadsheet appears on the screen. As you can see, the format has been set up for you already. Move your cursor around the screen. You can see that some columns have formulas already set up for calculations.

A Practice Exercise

For practice, recall the template SALES and follow these steps to enter data.

1. Move your cursor to the right of **COMPANY** and type DONNLIN SALES COMPANY. Press (RETURN).
2. Move the cursor down to the right of **DIVISION** and type WESTERN. Press (RETURN).
3. Move the cursor down to the right of **DATE** and type '5/31/90 (do not forget the format mark). Press (RETURN).
- *Each time an alphanumeric data looks like a number or a formula, type a single quote mark at the beginning to tell the machine that this data is not to be calculated. The single quote is called a "format mark". Other format marks are available. For details, see "Format Marks" on page 83.*

4. Move the cursor down under **SALESPERSON NAME** and type James Elliott. Press [RETURN].

5. Move the cursor under **PROJECTED UNITS** and type 17000. Press [RETURN].

6. Move the cursor under **PROJECTED SALES** and type 75000. Press [RETURN].

7. Enter amounts for **ACTUAL UNITS** and **ACTUAL SALES**.

•   *The remaining cells to the right display "0" or "0.00%", this indicates that a formula has been entered in these cells. Do not enter data in these cells. If data is entered, the formulas will be deleted.*

8. Continue to enter data for each row, remembering not to enter data in the cells with formulas already set up.

Practice Recalculation

Formulas are used to automatically display a result that depends of the contents of other cells.

1. Press [MENU] to display the function menu.

2. Use [◄] and [►] to select RECALC and press [RETURN]. This automatically updates all formulas.

Practice Printing

This systems provides two methods for printing spreadsheets: from the INPUT/EDIT screen or from the SPREADSHEET INDEX screen.

From the INPUT/EDIT Screen

While you are editing your spreadsheet in the INPUT/EDIT screen, press [CODE] + [PRINT] ([P]). The machine will ask you to mark the range that you want to print. This feature is very convenient when you have a very wide spreadsheet, and need to print only a part of it. Another advantage of this method is that, on the INPUT/EDIT screen, you are free to select the pitch. For details about this method, see "Printing a Range" on page 104.

From the SPREADSHEET INDEX Screen

After saving your spreadsheet file, you can print the entire file from the SPREAD-SHEET INDEX screen by pressing the same [CODE] + [PRINT] ([P]) keys. For details about this method, see "Printing a File" on page 122.

SPREADSHEET

Practice Saving the File

For complete instructions regarding file saving, please refer to "Saving Your Spreadsheet Work" on page 118.

1. Press (CODE) + (FILE) ((MENU)). This message will appear:

```
Insert data disk. Press RETURN to save.  Press CODE+D to abandon.
```

2. Insert a Data Disk and press (RETURN). This message will appear:

```
Type filename and press RETURN.
```

3. Give your file a name, then press (RETURN) to save it to the disk and display the Spreadsheet Index.

•   *If this is the first time you are using the data disk, you will need to initialize (format) the disk before saving.*

Create Document

How to Start?

1. To start working in the Create Document mode, switch the machine on to display the MAIN MENU.

```
Thu September 12 1991                                              9:18AM

                 ┌──────────────────────────────────────────┐
                 │           << MAIN MENU >>                 │
                 │  1. SCHEDULER/CALENDAR    6. CALCULATOR    │
                 │  2. ADDRESSBOOK           7. CLOCK         │
                 │  3. SPREADSHEET           8. COMMUNICATION │
                 │  4. CREATE DOCUMENT       9. FAX           │
                 │  5. LINE BY LINE          0. DISK APPLICATION │
                 └──────────────────────────────────────────┘

 Type number or move cursor and press RETURN.  Press MENU for more selections.
```
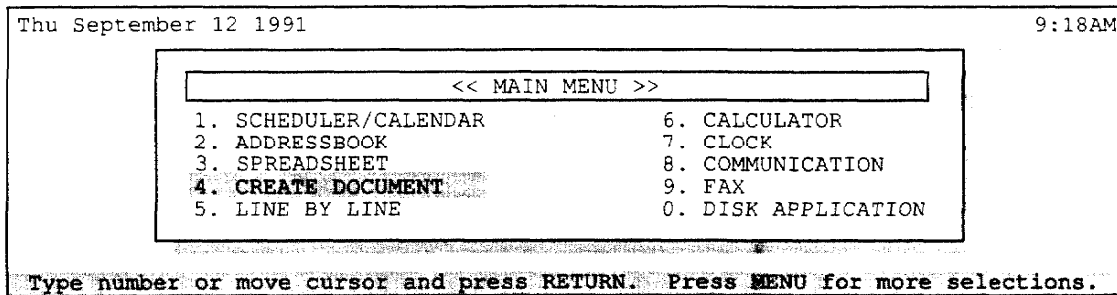
2. Move the cursor to 4. CREATE DOCUMENT, and press ⟨RETURN⟩. The INPUT/EDIT screen described on page 131 appears. The file name displayed on the upper-left corner of the INPUT/EDIT screen is *NEWFILE, and you can start creating a new document.

* ***Accelerator:*** *Instead of (2) you may type "4".*

If You Want to Retrieve an Old Document for further Editing

If, instead of creating a new document, you wish to work on a document that you have already created, you must first call the MEMORY INDEX screen and retrieve the file. For details, see:

* "Retrieving Previous Work" on page 195.

On-Screen Help Information

[CODE] + [H / HELP]
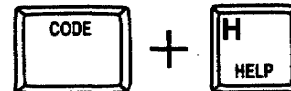
Since this machine is designed to last for many years, you may need to review the meaning of a function you have not used in a while. Simply press ⟨CODE⟩ + ⟨HELP⟩ (⟨H⟩). Short definitions of the functions will appear on the screen. To return to the normal screen, press ⟨CANCEL⟩ or ⟨CODE⟩ + ⟨HELP⟩ (⟨H⟩).

* *Since the details of each operation are not provided, the help information is not a replacement for careful reading of this Guide.*

How to Finish?
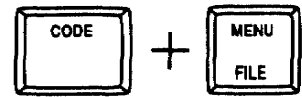
When your work is finished, press [CODE] + [FILE] ([MENU]) to save your work.

If you are working on a *NEWFILE, and turn your unit off without saving it, the next time you switch the machine on, the INPUT/EDIT screen will re-appear in the same condition that you left it.

Once your file is saved, you may select it on the MEMORY INDEX screen and press [CODE] + [PRINT] ([P]) to print it.

For more details, see:

*   "Saving Your Work" on page 192.
*   "Printing a File in Memory" on page 195.

CREATE DOCUMENT

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INPUT/EDIT Screen

The INPUT/EDIT screen shown below appears after you select 4. CREATE DOCUMENT from the MAIN MENU. All text input and editing is done on that screen.
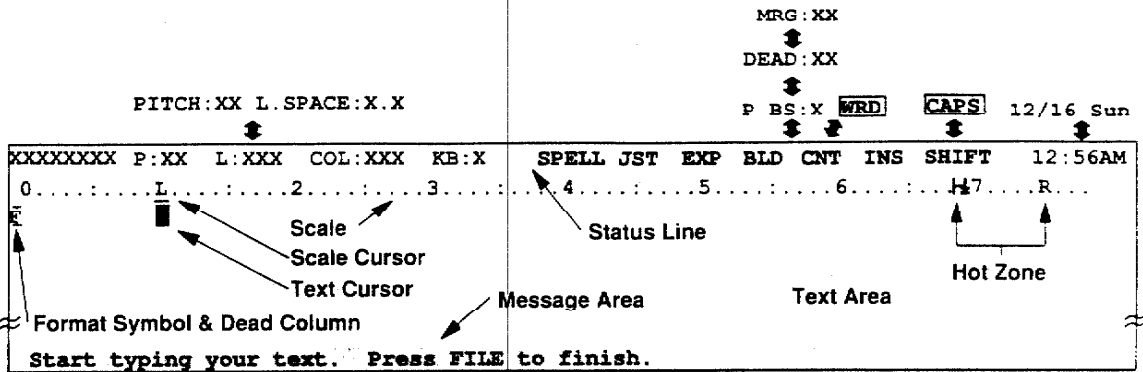
Scale

The scale assists you in determining your position on a page. The numbers indicate the position from the left edge of the paper. The scale cursor (underline) indicates the current column. Other symbols remind you of some format settings (see table below).

- *The scale can be disabled in order to get one additional line of text on the screen. For details, see "Disabling the Scale" on page 186.*

Symbols displayed on the scale

Symbol	Meaning
L	Position of the left margin
R	Position of the right margin
T	Position of a tab stop
D	Position of a decimal tab stop
H	Beginning of the hot zone
0, 1, 2,...	Absolute position from the left edge of the paper

Message Area

This line is reserved for guide messages (prompts) that ask you a question, give direction or display error messages. When no prompt and no error message are displayed, this line is used for your text.

- *For a list of error messages, see "Error Messages" on page 267.*

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Status Line

The status line shows you the current settings. Some indicators are followed with a value and are always displayed. They indicate the cursor's page, line and column position. Pressing (CODE) will display the selected pitch and line spacing. The indicators on the right appear (in reversed color) only when the corresponding function has been activated. For a complete list of indicators, refer to the table below.

Indicators of the INPUT/EDIT screen

Indicator	Meaning
XXXXXXXX	Name of the current file
P:XX	Number of the current page
L:XXX	Number of the current line
COL:XXX	Number of the current column
PITCH:XX	Current pitch (10, 12, or 15); appears when (CODE) is pressed
L.SPACE:X.X	Current line spacing (1.0, 1.5, or 2.0); appears when (CODE) is pressed
KB:X	Current keyboard selection (I or II)
SHIFT	On if the keyboard is in uppercase mode
CAPS	On if the keyboard is in caps lock mode
INS	On when the insert mode is activated
EXP	On when the expand function is activated
P BS:X	Displays the superimposed character when the cursor is on the base character
DEAD:XX	Displays the dead character when the cursor is on the base character
MRG:XX	Displays the label number of the data to be automatically inserted while printing with the merge function.
BLD	On when the bold function is activated
CNT	On when the continuous underline function is activated
WRD	On when the word underline function is activated
JST	On when the justify function is activated
SPELL	On when the Spell Checker is activated

Text Area

This is where the text that you type will appear. The only part you cannot use is the dead column (to the left of column 0), which is reserved for the "format change" symbol " Σ ". The text cursor (solid box) indicates where you are. Other symbols appear in the text to remind you of the format functions that you used, but will not be printed (see table below).

- *The text area can be split in order to display two documents simultaneously. (For details, see "Displaying two Documents" on page 187.)*

Symbols displayed in the text area

Symbol	Meaning
⍵	CENTERING BETWEEN MARGINS: displayed at the left of the centered string when the centering function is activated
⍨	CENTERING BETWEEN TABS: displayed at the left of the centered string when the centering function is activated
E	FORMAT CHANGE: displayed in the dead column, in front of the first line of a reformatted paragraph
⍳	INDENT CLEAR: displayed at the end of an indented paragraph when [CODE] + [IND CLR] ([RETURN]) is pressed
↵	LINE FEED: displayed at the end of a paragraph when [RETURN] is pressed
⍙	MERGE CODE: displayed at the cursor position when [CODE] + [MCODE] ([M]) is pressed
↓	PAGE BREAK: displayed at the end of a paragraph to indicate that the next part of the document starts on a new page
⇥	PARAGRAPH INDENT: displayed at the left of a tab stop when the cursor has been moved with [CODE] + [P IND] ([TAB])
⁞⁞	PERMANENT SPACE: displayed at the cursor position when [CODE] + [(SPACE BAR)] is pressed
⊢	RIGHT MARGIN FLUSH: displayed at the left of the aligned string when the right margin flush function has been activated
⇥	TAB: displayed at the left of a tab stop when the cursor has been moved with [TAB]

CREATE DOCUMENT

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Function Menu

When you press (MENU), a menu of functions appears on top of the screen. The use of the menu is very simple and will be briefly described here.

1. To display the menu, press (MENU). The leftmost function (STYLE) is automatically selected.

S TYLE	**B** LOCK	**C** TR/RMF	**S** PELL	**A** BBR/THR	**S** EA RCH	**F** ORM	**P** AGE
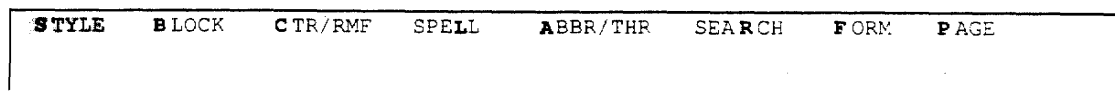
2. Use ⊕ and ⊕ to select a function.

3. Press (RETURN) or ⊕. A sub-menu appears below the selected function.

4. Use ⊕ and ⊕ to select a function and press (RETURN) to activate the function.

- *Press* (CANCEL) *to return to the normal screen when the menu is displayed, and to the menu when a sub-menu is displayed. Use* ⊕ *and* ⊕ *to switch from a sub-menu to another.*

Accelerators

Once you get acquainted with the menu, you will use "accelerators". The accelerator for each function is displayed in bold on the menu and sub-menus. For example, the accelerator for CTR/RMF is "C". Typing "C" (either lower or upper case) while the main menu is displayed immediately shows the CTR/RMF sub-menu. On this sub-menu, the accelerator for the RIGHT MARGIN FLUSH function is "R". Typing "R" when the CTR/RMF sub-menu is displayed immediately activates the RIGHT MARGIN FLUSH function and returns to the normal INPUT/EDIT screen.

Short-cut Keys

Some functions can be activated without displaying the menu. For example, pressing (CODE) + (R) from the normal INPUT/EDIT screen immediately activates the RIGHT MARGIN FLUSH function. Keys like (CODE) + (R) are called "short-cut" keys.

The next table gives a list of the functions available on the menu of the INPUT/EDIT screen. Accelerators are indicated in bold. Available short-cut keys are indicated in the third column. Note that some functions cannot be activated with short-cut keys.

Function Menu of the INPUT/EDIT screen

Function Menu	Sub-menu	Short-cut Key	Page
STYLE	BOLD	$\boxed{\text{CODE}}$ + $\boxed{\text{B}}$	150
	UNDERLINE	$\boxed{\text{CODE}}$ + $\boxed{\text{N}}$	151
	EXPAND	No short cut	152
	SUPER/SUB ON/OFF	$\boxed{\text{CODE}}$ + $\boxed{\ }$ / $\boxed{\text{CODE}}$ + $\boxed{\ }$	152
BLOCK	COPY	$\boxed{\text{CODE}}$ + $\boxed{\text{C}}$	157
	DELETE	$\boxed{\text{CODE}}$ + $\boxed{\text{D}}$	159
	MOVE	$\boxed{\text{CODE}}$ + $\boxed{\text{E}}$	160
CTR/RMF	CENTERING	$\boxed{\text{CODE}}$ + $\boxed{\text{F}}$	154
	RIGHT MARGIN FLUSH	$\boxed{\text{CODE}}$ + $\boxed{\text{R}}$	155
SPELL	SPELL CHECK	$\boxed{\text{CODE}}$ + $\boxed{\text{SPELL}}$	168
	USER DICTIONARY MAINTENANCE	No short cut	172
	USER DICTIONARY LOAD	No short cut	174
	USER DICTIONARY SAVE	No short cut	175
ABBR/THR	ABBREVIATED PHRASE MAINTENANCE	No short cut	179
	ABBREVIATED PHRASE LOAD	No short cut	181
	ABBREVIATED PHRASE SAVE	No short cut	182
	EDIT THESAURUS	No short cut	176
	TYPE THESAURUS	No short cut	178
SEARCH	SEARCH	No short cut	162
	REPLACE	No short cut	164
	HYPHEN SCAN	No short cut	165
FORM	PAPER SIZE	No short cut	183
	HEADER	No short cut	185
	FOOTER	No short cut	185
	SCALE LINE ON/OFF	No short cut	186
	DUAL SCREEN	No short cut	187
	CHANGE SCREEN	$\boxed{\text{CODE}}$ + $\boxed{\text{Q}}$	188
PAGE	PAGE BREAK	No short cut	190
	PAGE PRINT	$\boxed{\text{CODE}}$ + $\boxed{\text{PRINT}}$ ($\boxed{\text{P}}$)	191

CREATE DOCUMENT

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Typing on the Display

Type your text just as you would on a typewriter. The text appears on the screen instead of being printed on paper.

If you make a mistake, use BS to delete. For more details about corrections, see "Revising Text -- Basic Functions" on page 140.

Hot Zone

The last six columns before the right margin are defined as the "hot zone". The " H " symbol on the scale corresponds to the hot zone point. Your machine knows how to break text so that it automatically "wraps" words to the next line once typing reaches the hot zone area.

Word Wrap

The "word wrap" function allows you to type a paragraph continuously without being concerned about carrier returns. In the hot zone, when a word is going to extend beyond the right margin, the word and the cursor will be moved to the next line automatically. You need only to press (RETURN) to end a line and start a new paragraph.

The word wrap function is always active when using the screen. This feature permits continuous typing and helps build typing speed. The text cursor automatically moves to the next line whenever a space or hyphen is typed in the hot zone.

Permanent Space
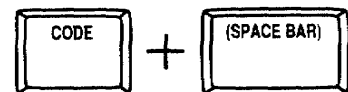
Permanent spaces entered by pressing (CODE) + ((SPACE BAR)) are special spaces that link words together, protecting them from being separated on different lines. A permanent space is displayed with the symbol " :: " and is considered part of the two words it links. Such a space is never adjusted by the automatic justification function -- and does not cause the cursor to jump to the next line when entered in the hot zone.

Permanent Hyphen
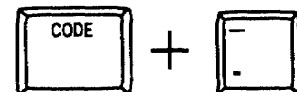
A permanent hyphen, entered with (CODE) + (-), is for words that always require a hyphen (mother-in-law, for example). In the hot zone, a permanent hyphen does not send the cursor to the next line. Outside the hot zone, all hyphens are permanent, so it is not necessary to use (CODE).

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Getting Many Different Characters

The keyboard can be switched to KB:I or KB:II.

In both modes, the character keys can be used in combination with (SHIFT), to obtain uppercase characters, or with (CODE), to obtain extra characters. A permanent backspace can also be used to superimpose a character to another in order to obtain a composed character, like ¥, that is not directly available on the keyboard.

When the keyboard is switched to KB:I, "dead keys" can be used to obtain letters with diacritic.

Switching the Keyboard
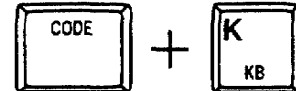
The display on this multilingual organizer supports European languages written with the Roman alphabet.

While typing your text, you must tell the machine which keyboard you are using in order to have the characters properly displayed on the screen. This is done by pressing (CODE) + (KB) ((K)). These keys toggles between KB:I (ASCII keyboard) and KB:II (American keyboard).

The characters available with KB:II are indicated on the right half of the key tops. When the right half of a key top is empty (letter and number keys, for example), you may assume that you will get the same characters in KB:I and KB:II.

- *It is possible to read a text file created with this machine on a Brother Word Processor or vice versa. KB:II on this machine correspond to KB:I (Standard) on the word processors, and the characters are read without any change. KB:I on this machine corresponds to KB:II on the word processors. However some characters will be altered as shown below.*

PN-4400	Word Processors	PN-4400	Word Processors
]	Ñ	>	¡
~	ß	¢	¨
@	ñ	{	¿
#	ç	}	#
[	=	\	£
<	|	|	¥

Symbol characters (KB:III) will be displayed in half tone.

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Lowercase and Uppercase Characters
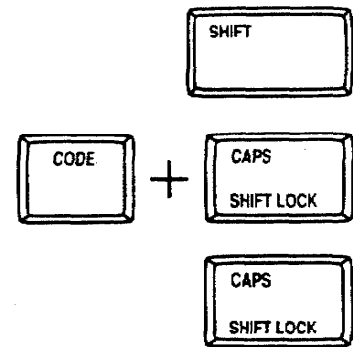
To obtain a capital letter, hold down (SHIFT) and press the corresponding letter key. Letter keys are the same in KB:I and KB:II.

While (SHIFT) is pressed down, the SHIFT indicator appears on the screen. That indicator disappears as soon as you release (SHIFT).

With character keys other than letter keys, you obtain the characters on the upper half of the key tops when the keyboard is shifted.

When you need to type long strings of both capital letters and numbers, like "ACCT. NO. BC104", press (CAPS). This shifts the letter keys but leaves the other character keys unshifted. The CAPS indicator will appear on the screen to tell you that the caps function is activated. To release the caps function, press (CAPS) again.

- *If you press (SHIFT) while the CAPS indicator is displayed, this indicator is temporarily replaced with the SHIFT indicator.*

To shift all character keys, press (CODE) + (SHIFT LOCK) ((CAPS)). The SHIFT indicator is displayed permanently, and all the characters you type are upper case. To release the shift lock function, simply press (SHIFT).

Extra Characters
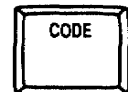
The extra characters are those marked in green on your keyboard. To enter such a character, hold (CODE) down and press the character key.

Superimposed Characters
(Permanent Backspace)
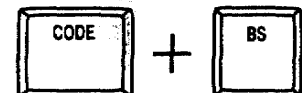
It is possible to create characters that are not available on the keyboard ("¥", for example) by superimposing two available characters.

1. Type the first character ("Y" in our example).

- *Although you may enter the characters in either order, start with the one you want to appear in the text area.*

2. Press (CODE) + (BS). The first character appears now in reversed color, and the cursor moves next to the P BS indicator on the status line.

3. Type the second character ("=" in our example) on the status line. As soon as the second character is typed, the cursor moves back to the text area and you may resume normal typing.

• *When you subsequently move the cursor to the first character (press* ◄ *at this point, for example), the second character re-appears next to the P BS indicator.*

• *To delete superimposed characters, simply delete the first character (use* BS *).*

Accents ("Dead" Keys)

This organizer's multilingual keyboard supports the accented vowels of such languages as French, German, and Spanish. This feature is available with KB:I only.

If you have ever used a typewriter, you already know the basic procedure: Type the accent and then the base character. Unlike regular keys, the accent keys are "dead" -- that is, the cursor does not move afterward so the base character appears under the accent. Make sure that the keyboard is set to KB:I, and try the following example.

1. Type the accent "^". The accent appears next to the indicator DEAD. The cursor is reversed and waits for a base character to be input. You are allowed to input a maximum of two dead characters. If you make a mistake, press CANCEL to delete the dead character(s) and retype.

2. Type the letter "o". The letter with its accent "ô" now appears in the text area.

• *With some combinations of accents and base characters (such as Y and ^), the base character appears alone and in reverse color in the text area. When you subsequently move the cursor to the base character, the accent re-appears next to the DEAD indicator.*

• *To delete an accented character, proceed as you would for a normal character (use* BS *).*

In the next illustration, dead characters are indicated with a small grey box.
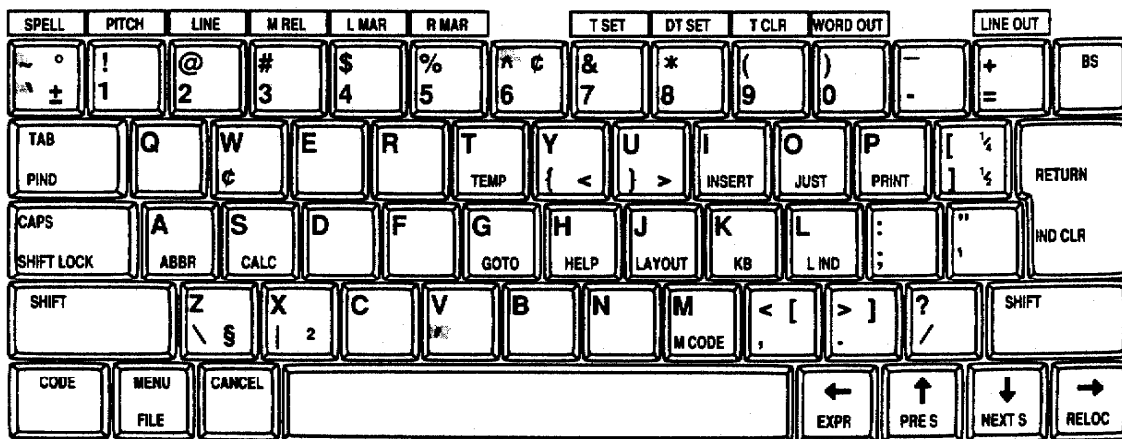
Revising Text -- Basic Functions

Moving the Text Cursor

To make a revision, you must first go to that part of the document. The text cursor indicates your current position in the document. The cursor is moved across your document using the cursor keys (◄, ►, ▲, ▼) alone or in combination with CODE. You may also use the goto page function to jump to a specified page.

Cursor Keys

Keys	Function
◄	Moves the cursor one character to the left, up to the left margin.
►	Moves the cursor one character to the right, up to the right margin.
▲	Moves the cursor one line up, to the first line of the document. The text is scrolled if the cursor is on the first line of the screen.
▼	Moves the cursor one line down, to the end of the document. The text is scrolled if the cursor is on the last editable line of the screen (the second line from the bottom when no message is displayed).
CODE + EXPR (◄)	Moves the cursor to the left margin.
CODE + RELOC (►)	Moves the cursor to the end of the current line but does not jump past a symbol that signals the end of a paragraph (" ⏎ ", " ⏎ ", and " ↓ ").
CODE + PRES (▲)	Moves the cursor one full screen up (minus an overlap of one line), to the beginning of the document.
CODE + NEXTS (▼)	Moves the cursor one full screen down (minus an overlap of one line), to the end of the document.

Moving the cursor
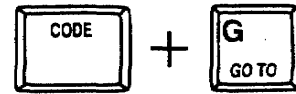
GOTO Page

The goto page function allows you to move the cursor immediately to the beginning of any page of the document with a single operation.

1. Press [CODE] + [GO TO] ([G]). The machine asks you to type in the number of the page you wish to move the cursor to.

```
PAGE:■
```

2. Type the desired page number, then press [RETURN] to move the cursor to that page.

• *If you have mistakenly entered an incorrect page number, you may change it using [BS], and you may cancel the operation with [CANCEL].*

• *If you enter a page number that is higher than the number of the last page, the cursor will jump to the last page.*

• *Instead of typing a page number, you may press one of the cursor keys just after pressing [CODE] + [GO TO] ([G]):*

Goto page

Keys	Function
[CODE] + [GO TO] + [←]	Moves the cursor to the beginning of the document.
[CODE] + [GO TO] + [→]	Moves the cursor to the end of the document.
[CODE] + [GO TO] + [↑]	Moves the cursor to the beginning of the current page; moves to the beginning of the previous page when the cursor is at the beginning of the current page.
[CODE] + [GO TO] + [↓]	Moves the cursor to the beginning of the next page.

Inserting Text
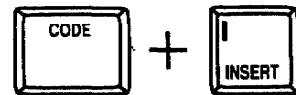
Pressing [CODE] + [INSERT] ([I]) switches between insert and overwrite modes, and turns the INS indicator on and off accordingly.

In overwrite mode (indicator INS off), each character you type replaces the current character. You type over the existing data and your new data replaces the old data.

In insert mode (indicator INS on), the characters you type appear in front of the cursor, the rest of the line automatically moves to the right and, if necessary, the last word moves to the next line.

- *Since deleting unnecessary characters is usually easier than retyping characters that have been deleted, it's a good idea to be in the insert mode before you start revising.*

Deleting a Character

Press ⌫ to delete one character to the left of the cursor.

- *This key also deletes paragraph end symbols "↲ ", "↵ ", and "↧ " except when these symbols are located just before a format symbol " Ɛ " or a centering symbol " ⋈ ".*

Deleting a Word
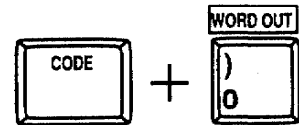
To delete a word, position the cursor on the space immediately following the word and press CODE + WORD OUT (⓪). This removes any portion of a word to the left of the cursor, up to the previous blank space.

- *You will want to use this feature when you mistype a word in such a way that deleting it and typing it over is faster than otherwise correcting it.*

Deleting a Line
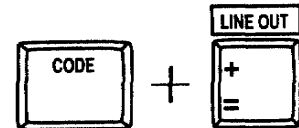
To delete a line, position the cursor anywhere after the last character of the line and press CODE + LINE OUT (⊟). Pressing CODE + LINE OUT removes any portion of a line to the left of the cursor, up to the beginning of the line.

Formatting Text -- Basic Functions

Format Change Symbol

The dead column of the text area (column 0) is reserved for the format change symbol " Ɛ ". Each time you change the format, -- that is, the left or right margin, tab stops, justification, etc. -- this symbol appears in the dead column at the beginning of the paragraph, and the text automatically adjusts to fit the new setting. These new settings affect not only the current paragraph, but also all subsequent text up to the next format change symbol. The text above the symbol remains unchanged.

To return to a previous format setting, you may delete the format symbol in the dead column.

1. Move to the first character of the line where the format takes effect.

2. Press ⎣MENU⎦ to recall the function menu.

3. Move the cursor to BLOCK and press ⎣RETURN⎦.

4. Select DELETE and press ⎣RETURN⎦.

5. Press ⬅ to highlight the format change symbol Ɛ and press ⎣RETURN⎦.

6. Press ⎣RETURN⎦ again to confirm the deletion. The text will confirm to the previous format.

Left and Right Margins

CODE	+	L MAR $ 4
CODE	+	R MAR % 5
CODE	+	M REL # 3
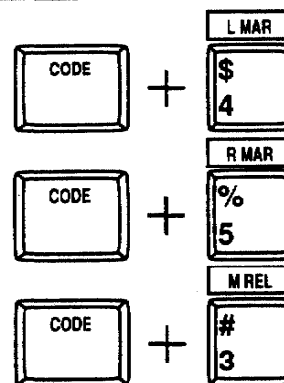
The left and right margins are set to columns 10 and 75 respectively for a *NEWFILE. Margins can be relocated at any time, before, during, or after typing the text.

1. Move the cursor to the new position for the left or right margin while observing the scale. (See "Moving the Text Cursor" on page 140.) If the new position is beyond the current margins, press ⎣CODE⎦ + ⎣M REL⎦ (③) when the cursor is on the margin to allow the cursor to move freely.

2. Press ⎣CODE⎦ + ⎣L MAR⎦ (④) to set the new left margin, or ⎣CODE⎦ + ⎣R MAR⎦ (⑤) to set the new right margin. The L or R symbol on the scale will move accordingly.

- *If you mistakenly press* CODE + M REL *(3) when there is no need to modify the margins, press* CANCEL *to resume normal editing.*

The minimum distance between margins is set to two inches. The maximum distance is nine inches. Remember, however, that the length of a printed line must be smaller than the paper width, and that this length also depends on the selected pitch.

Setting the Pitch

PITCH

CODE + ! 1
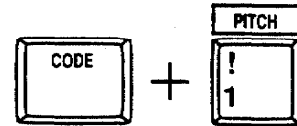
The pitch can be set to 10 (Pica, 10 characters per inch), 12 (Elite, 12 characters per inch), or 15 (Micron, 15 characters per inch).

1. Move the cursor to the position where you want to change the pitch.

2. Press CODE + PITCH (1) to change the pitch through the cycle 10, 12, 15. As soon as you press CODE, the PITCH indicator appears. A format symbol " E " appears in the dead column.

Changing the Line Spacing

LINE

CODE + @ 2
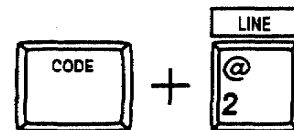
The line spacing can be set to 1.0 (6 lines per inch), 1.5 (4 lines per inch), or 2.0 (3 lines per inch).

1. Move the cursor to the position where you want to change the line spacing.

2. Press CODE + LINE (2) to change the line spacing through the cycle 1.0, 1.5, 2.0. As soon as you press CODE, the L.SPACE indicator appears. A format symbol " E " appears in the dead column.

Tabs and Decimal Tabs

If you have been using a typewriter, you already know how convenient tabs are for aligning text. Decimal tabs provide additional convenience when typing numbers. Decimal tabs automatically align a column of numbers at the decimal point instead of the first character. The scale indicates these two types of tabs with T for normal tabs, and D for decimal tabs.

Setting Tabs

```
┌────────┐     ┌─T SET─┐
│  CODE  │  +  │ &     │
│        │     │ 7     │
└────────┘     └───────┘

┌────────┐     ┌─DT SET─┐
│  CODE  │  +  │ *      │
│        │     │ 8      │
└────────┘     └────────┘
```
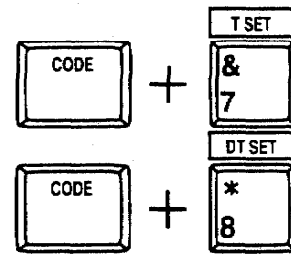
You may change tab stops at any time -- before, while, or after typing the text.

1. Move the cursor to the position where you want a tab. (See "Moving the Text Cursor" on page 140.)

2. Press (CODE) + (T SET) (7) to set a normal tab stop, or (CODE) + (DT SET) (8) to set a decimal tab stop at the current cursor position. The corresponding symbol T or D appears on the scale. Up to 30 tab and decimal tab stops can be set. Setting a tab stop where you already had a decimal tab stop replaces the D with a T and vice-versa.

• *When you start with a *NEWFILE, there are no tab stops set.*

• *Since the pitch determines the actual position on the printed page, the columns may appear at undesired positions if you change the pitch of a table formatted with tabs and decimal tabs.*

Clearing Tabs

```
┌────────┐     ┌─T CLR─┐
│  CODE  │  +  │ (     │
│        │     │ 9     │
└────────┘     └───────┘
```
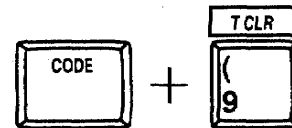
1. To clear a single tab or decimal tab, move the cursor to that position and press (CODE) + (T CLR) (9).

2. To clear all tabs and decimal tabs, hold down (CODE) + (T CLR) (9) until the following message appears:

```
All tabs cleared.
```

Using Tabs while Typing

```
┌─────────┐
│ TAB     │
│         │
│ P IND   │
└─────────┘
```

1. Press (TAB) to move the cursor to the next tab stop to the right. A symbol " → " appears on the screen just before the new text cursor position to remind you that there is now a tab in the text.

• *If there is no tab stop to the right, the cursor moves to the right margin.*

2. Type your text.

3. Repeat the above procedure for each column in your table.

Using Decimal Tabs while Typing
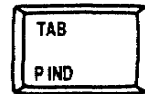
Decimal tab stops are a very convenient feature. When you move the cursor there with `TAB`, the cursor remains fixed in that column, and each character that you type appears to the left of the tab stop. Once you type the decimal point, however, the point appears at the tab stop, and the cursor returns to normal operation. The primary use, of course, is to align columns of numbers with decimal points.

1. Press `TAB` to move the cursor to the next decimal tab stop to the right. A symbol " ⊣ " appears on the screen just before the new text cursor position to remind you that there is now a tab in the text.

*   *If there is no tab stop to the right, the cursor moves to the right margin.*

2. Type the number.
3. Repeat the above procedure for each column in your table.

*   *The cursor also returns to normal operation if you press* `RETURN` *or* `TAB`.

Inserting Tabs
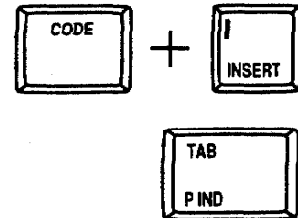
As always, you may type your number or text first and align the columns with tabs and decimal tabs later.

1. If the INS indicator is off, press `CODE` + `INSERT` (⬚) to switch to the insert mode.

*   *If the insert mode is not on,* `TAB` *will just move to the next tab stop without aligning the text.*

2. Position the cursor on the beginning of the word that you want to align.
3. Press `TAB`. The text adjusts to fit the margins and page length.

Removing Tabs

If you change your mind, you may also remove a tab or decimal tab in order to undo a table.

1. Position the cursor just after the tab symbol " ⊣ " on the screen.
2. Press `BS`. The text adjusts to fit the margins and page length.

Line Indent
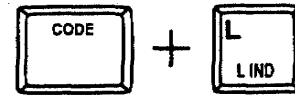
Pressing ⌈CODE⌉ + ⌈LIND⌉ (⌈L⌉) is the same as typing five spaces. The primary application is indenting the first line of a paragraph.

- *If the insert mode is not on, these five spaces overwrite the five characters at the cursor location.*

Paragraph Indent

The paragraph indent function may be considered as a temporary left margin.

Setting the Temporary Left Margin
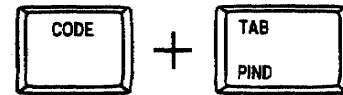
There may be a time that you will need to indent text from the left margin. The paragraph indent feature indents text to a tab stop. When the indent is released, the cursor returns to the original left margin.

1. Set the tabs you will need for any of the indented paragraphs. (See "Setting Tabs" on page 145.)

- *If your document has multiple levels of paragraph indentation, it is a good idea to set all the tabs together at one point near the beginning.*

2. If you have text, such as a section number, that you wish outside the indented block, type that data.

3. Press ⌈CODE⌉ + ⌈PIND⌉ (⌈TAB⌉) as many times as necessary to move the cursor to the tab setting you want to be the new temporary margin. A " ⊣ " symbol is displayed just before the new cursor position to remind you that the following text is indented.

- *If you change your mind, use ⌈BS⌉ to remove the paragraph indent symbol " ⊣ ".*

Using a Temporary Left Margin

As mentioned, the procedure is simple. Type the text of the paragraph. If you press ⌈RETURN⌉ or type a space or hyphen in the hot zone, the cursor returns to the paragraph indent position on the next line, and not to the left margin.

Returning to the True Left Margin
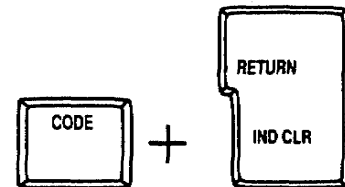
At the end of the indented paragraph, simply press (CODE) + (IND CLR) ((RETURN)) to return to the original left margin. The end of the indented paragraph is marked with a " ⤶ " symbol to indicate that the paragraph indent mode has been exited.

- *You are able to indent a paragraph after it has been typed. Position the cursor on the first character of the paragraph to be indented and press (CODE) + (P IND) ((TAB)) to reposition it at the tab position. At the end of the indented block, press (CODE) + (IND CLEAR) ((RETURN)) to return to the original left margin.*

Automatic Justification

The justify function adjusts the spacing between words so that every complete line of text is aligned with both left and right margins.

Entering Justified Text
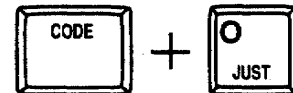
1. Press (CODE) + (JUST) ((O)) to turn the JST indicator on and start typing.
2. When you type a space or a hyphen in the hot zone, the cursor moves to the next line and the current line is justified.
3. To resume normal typing, press (CODE) + (JUST) ((O)) again to turn the JST indicator off.

Justifying Existing Text
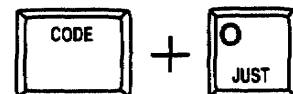
1. Position the cursor at the first paragraph that you want to justify.
2. Press (CODE) + (JUST) ((O)) to turn the JST indicator on. An " Ē " symbol appears in the dead column of the first line of the paragraph and the text is automatically justified from this line down to the next " Ē " symbol (if any exists) or down to the end of the document. If your document contains many " Ē " symbols you will need to repeat these steps in order to justify the whole text.

Page Layout View Function
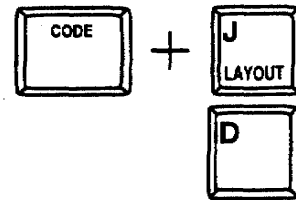
The page layout view function displays six pages at a time on the screen. To do this, the text is scaled down so that a character is reduced to a dot on the screen. You will, of course, not be able to read the text displayed that way, but you will have a general view of the layout.

1. Position the cursor on the page that you want to preview.

2. Press (CODE) + (LAYOUT) ((J)).

   Six pages of your document are displayed simultaneously on the screen in reduced scale. The number of each page appears in normal scale at the upper-left corner of each page (the number of the page that was displayed on the INPUT/EDIT screen appears in reverse color). For example, if page 8 was displayed on the INPUT/EDIT screen, pages 7 to 12 will now be displayed, and the cursor will be on page 8.

```
 << LAYOUT >>   7          8          9          REMAIN
                                                 XX.XK

TOP MARGIN      6
HEADER          0
TOP SPACE       0
TEXT AREA      54
BOTTOM SPACE    0 10       11         12
FOOTER          0
BOTTOM MARGIN   6
                                                 Press D
                                                 to show
                                                 -COLUMN
                                                 -NORMAL
```

3. Use the cursor keys 🡐, 🡒, 🡑, and 🡓 to move the cursor. The cursor keys will scroll the screen window by steps of six pages when you try to move the cursor past the current window.

4. To return to the INPUT/EDIT screen, press (RETURN), (CANCEL), or (CODE) + (LAYOUT) ((J)). The page which was selected in the preview screen appears now in the normal display. This feature is very convenient when you spot some layout defect in the preview screen. You may select that page number and immediately switch to the normal display to correct the defective format.

* *The text is first displayed according to the setting of the* DOUBLE COLUMNS PRINTING *option on the PRINT MENU screen (see "Printing a File in Memory" on page 195). A single column is displayed if the option is set to* NO, *or two columns per page if the option is set to* YES. *You may press* (D) *to switch from one display mode to the other.*

Adding Effects (STYLE)

The effects provided by the STYLE option on the function menu allow you to enhance the appearance of your document. They include bold characters, underlining, automatic insertion of blanks (expand), as well as subscripts and superscripts.

Bold Face Characters

$\boxed{\text{CODE}} + \boxed{\text{B}}$

STYLE	BLOCK	CTR/RMF	SPELL	ABBR/THR	SEARCH	FORM	PAGE
BOLD		OFF	(ON)				
UNDERLINE		OFF	(CNT) (WRD)				
EXPAND		OFF	(ON)				
SUPER SUB ON/OFF		OFF	(SUPER) (SUB)				

1. If you want to turn the bold function on before typing, skip this step. If you want to change the type face of a portion of text already typed, position the cursor at the beginning of that portion.

2. Press ⟨MENU⟩ to display the menu.

3. Use ⟨←⟩ and ⟨→⟩ to select STYLE, and press ⟨RETURN⟩ or ⟨↓⟩.

• *Accelerator: Instead of (3), you may type "S".*

4. Use ⟨↑⟩ and ⟨↓⟩ to select BOLD.

5. Use ⟨SPACE BAR⟩ to turn the bold function ON.

• *Accelerator: Instead of (4) and (5), you may type "B".*

6. Press ⟨RETURN⟩. The BLD indicator is now on.

• *Short cut: Instead of (2), (3), (4), (5), and (6), you may press ⟨CODE⟩ + ⟨B⟩ to switch the bold function ON/OFF.*

7. The text you now type or the text you scan by moving the cursor right/down is displayed in bold. If you move the cursor past the desired position, simply move back to unmark. To move the cursor one line at a time, use ⟨↓⟩ and ⟨↑⟩.

8. To return to normal typing, repeat steps (2), (3), (4), (5) and (6) to turn the bold function OFF, or press ⟨CODE⟩ + ⟨B⟩.

• *To undo bold characters, position the cursor just after the last bold character, turn the bold function ON, and move the cursor left/up. Turn the bold function OFF to stop undoing bold.*

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Underlining

STYLE	BLOCK	CTR/RMF	SPELL	ABBR/THR	SEARCH	FORM	PAGE
BOLD		OFF	(ON)				
UNDERLINE		OFF	(CNT) (WRD)				
EXPAND		OFF	(ON)				
SUPER SUB ON/OFF		OFF	(SUPER) (SUB)				

1. If you want to turn the underline function on before typing, skip this step. If you want to underline a portion of text already typed, position the cursor at the beginning of that portion.

2. Press MENU to display the menu.

3. Use ← and → to select STYLE, and press RETURN or ↓.

• **Accelerator:** *Instead of (3), you may type "S".*

4. Use ↑ and ↓ to select UNDERLINE.

5. Use (SPACE BAR) to select CNT (continuous underlining) or WRD (word underlining).

• **Accelerator:** *Instead of (4) and (5), you may type "N".*

6. Press RETURN. The corresponding indicator is now on.

• **Short cut:** *Instead of (2), (3), (4), (5), and (6), you may press CODE + N to switch the underline function* CNT/WRD/OFF.

• *If you select continuous underlining, all will be underlined, including blank spaces. With word underlining, blank spaces are not underlined.*

7. The text you now type or the text you scan by moving the cursor right/down is underlined. If you move the cursor past the desired position, simply move back to remove the underline. To move the cursor one line at a time, use ↓ and ↑.

8. To return to normal typing, repeat steps (2), (3), (4), (5) and (6) to turn the underline function off, or press CODE + N.

• *To undo underlining, position the cursor just after the last underlined character, select* CNT *or* WRD, *and move the cursor left/up. Turn the underline function* OFF *to stop removing underlining.*

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Typing Expanded Text

```
STYLE     BLOCK     CTR/RMF     SPELL     ABBR/THR    SEARCH    FORM     PAGE
BOLD                OFF      (ON)
UNDERLINE           OFF      (CNT)  (WRD)
EXPAND              OFF      (ON)
SUPER SUB ON/OFF    OFF      (SUPER)  (SUB)
```

The expand function is used only while typing. You cannot use it to reformat text that has been typed.

1. Press (MENU) to display the menu.

2. Use (◄) and (►) to select STYLE, and press (RETURN) or (▼).

• *Accelerator: Instead of (2), you may type "S".*

3. Use (▲) and (▼) to select EXPAND.

4. Use ((SPACE BAR)) to turn the function ON.

• *Accelerator: Instead of (3) and (4), you may type "E".*

5. Press (RETURN). The EXP indicator is now on.

• *Short cut: There is no short-cut key for this function.*

6. The text you now type is expanded -- that is, a permanent space is automatically inserted after each text character.

7. To return to normal typing, repeat steps (1), (2), (3), (4) and (5) to turn the expand function off.

• *The permanent spaces inserted with the expand function cannot be removed automatically. To undo the expand format, delete the permanent spaces one by one using (BS).*

Subscripts and Superscripts
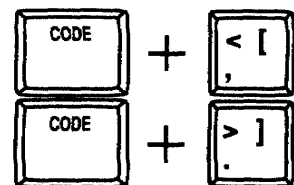
```
[CODE]  +  [< [ ,]

[CODE]  +  [> ] .]
```

```
STYLE     BLOCK     CTR/RMF     SPELL     ABBR/THR    SEARCH    FORM     PAGE
BOLD                OFF      (ON)
UNDERLINE           OFF      (CNT)  (WRD)
EXPAND              OFF      (ON)
SUPER SUB ON/OFF    OFF      (SUPER)  (SUB)
```

You are able to enter and print subscripts and superscripts.

- *Characters in subscript and superscript are displayed on the same line as normal characters. When you input a subscript or superscript or move the cursor to a subscript or superscript, however, only a half of the cursor appears (lower-half for subscripts, and upper-half for superscripts).*

- *With a Brother daisy wheel printer, the subscripts and superscripts print the same distance (1/12 inch) below or above the line, regardless of the current line spacing.*

1. Move the cursor to the position where you want to type a superscript (or subscript).

2. Press [MENU] to display the menu.

3. Use ⊕ and ⊕ to select STYLE, and press [RETURN] or ⊕.

- ***Accelerator:*** *Instead of (3), you may type "S".*

4. Use ⊕ and ⊕ to select SUPER SUB ON/OFF.

- ***Accelerator:*** *Instead of (4), you may type "S".*

5. Use [(SPACE BAR)] to select SUPER or SUB.

6. Press [RETURN]. If the superscript mode is activated, only the upper half of the cursor will be displayed. The lower half will be displayed if the subscript mode is activated.

7. To return to normal typing, repeat steps (2), (3), (4), and (5) to switch the function OFF.

- *To undo superscripts or subscripts, turn the function OFF and retype the characters.*

- ***Short cut:*** *Instead of the above procedure, you may use* [CODE] + ■ *and* [CODE] + ■.

Example: Try to enter "e=mc²".

1. Type "e=mc".
2. Press [CODE] + ▣.
3. Type "2".
4. Press [CODE] + ▣.

- *To enter subscripts, proceed in the same way as above, but reverse the* [CODE] + ■ *and* [CODE] + ■ *keys.*

- *Each pair of keys (* [CODE] + ■ *and* [CODE] + ■ *) cancels the other, and the two pairs must always be used in combination. If you try to press one of the pairs more than once, the machine beeps.*

Centering and Right Margin Flush (CTR/RMF)

The centering function is used to center a line as characters are typed or to center a line that was previously typed. You may center text either between margins or tab stops.

The right margin flush mode is used to have a line automatically adjusted to end exactly on the right margin. Many people like to date their letters this way.

Centering Between Margins

[CODE] + [F]

STYLE	BLOCK	CTR/RMF	SPELL	ABBR/THR	SEARCH	FORM	PAGE
		CENTERING					
		RIGHT MARGIN FLUSH					
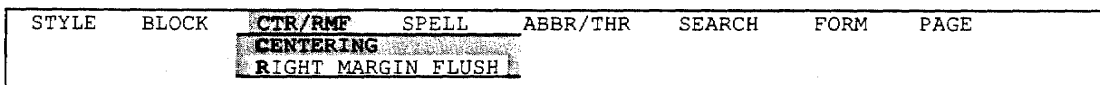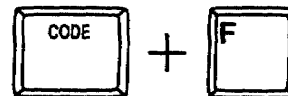
When you center between margins, the position of the cursor in the line does not matter.

1. Press **MENU** to display the menu.

2. Use **◄** and **►** to select CTR/RMF, and press **RETURN** or **▼**.

• **Accelerator:** *Instead of (2), you may type "C".*

3. Use **▲** and **▼** to select CENTERING and press **RETURN**. The cursor moves to the center point between your margins. The symbol of centering between margins " H " appears on the line. If the text has already been typed, it is automatically centered and you may skip step (4).

• **Accelerator:** *Instead of (3), you may type "C".*

• **Short cut:** *Instead of (1), (2), and (3), you may press* **CODE** *+* **F**.

4. Type the text.

5. Press **RETURN** to finish the centering operation.

Centering Between Tabs

[CODE] + [F]

STYLE	BLOCK	CTR/RMF	SPELL	ABBR/THR	SEARCH	FORM	PAGE
		CENTERING					
		RIGHT MARGIN FLUSH					

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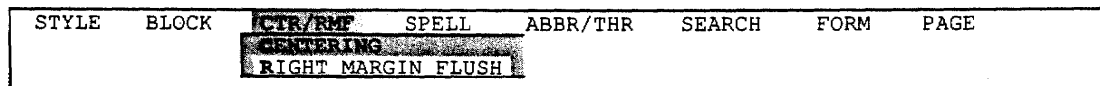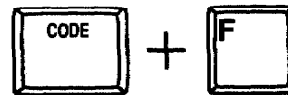
1. Press (TAB) as many times as necessary to reach the desired tab position (the position that will become the left end of the centering range).

2. Press (MENU) to display the menu.

3. Use (←) and (→) to select CTR/RMF, and press (RETURN) or (↓).

• **Accelerator:** Instead of (3), you may type "C".

4. Use (↑) and (↓) to select CENTERING and press (RETURN). The cursor moves to the center point between the tab position where the cursor was in (1) and the next tab to the right -- or the right margin if there are no more tabs set. A centering symbol " ⊞ " appears on the line. If the text has already been typed, it is automatically centered and you may skip step (5).

• **Accelerator:** Instead of (4), you may type "C".

• **Short cut:** Instead of (2), (3), and (4), you may press (CODE) + (F).

5. Type the text.

6. Press (RETURN) to finish the centering operation, or (TAB) to move to the next tab.

• Centering between a tab and the right margin is possible, but not between the left margin and a tab.

• Centering between a tab and a decimal tab is not possible.

Undoing Centering

While you are still in centering mode, press (CANCEL) to exit the mode (you may also select CENTERING from the menu, or press (CODE) + (F)). To bring a centered text back flush with the left limit of the centering range, position the cursor just after the centering symbol " ⊞ " or " ⊞ " and press (BS) to delete the symbol.

Right Margin Flush

```
CODE  +  R
```

```
STYLE   BLOCK   CTR/RMF   SPELL   ABBR/THR   SEARCH   FORM   PAGE
                CENTERING
                RIGHT MARGIN FLUSH
```
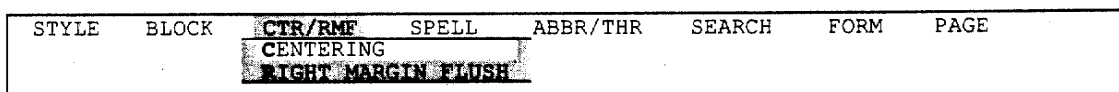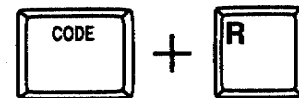
1. If the text to be aligned flush with the right margin has not been typed yet, skip this step. If you want to align text that has been already typed, position the cursor on the first character of that text. If you want to align the whole line, for example, position the cursor on the first characters of the line.

2. Press (MENU) to display the menu.

3. Use (←) and (→) to select CTR/RMF, and press (RETURN) or (↓).

• **Accelerator:** Instead of (3), you may type "C".

4.   Use ⬆ and ⬇ to select RIGHT MARGIN FLUSH and press (RETURN). The cursor moves to the right margin. A right margin flush symbol " ↵ " appears on the line. If the text has already been typed, it is automatically aligned flush with the right margin (any blank space at the end of the shifted line will be cut off) and you may skip step (5).

•   *Accelerator:* Instead of (4), you may type "R".

•   *Short cut:* Instead of (2), (3), and (4), you may press (CODE) + (R).

5.   Type the text. The cursor will not move, but the text that you type is scrolled to the left.

6.   Press (RETURN) to finish the right margin flush operation and bring the cursor to the beginning of the next line.

Undoing a Right Margin Flush Format

While you are still in right margin flush mode, press (CANCEL) to exit the mode (you may also select RIGHT MARGIN FLUSH from the menu, or press (CODE) + (R)). To undo an existing right margin flush format, simply delete the right margin flush symbol " ↵ " using (BS).

Block Operations (BLOCK)

A block can be copied, deleted, or moved to another part of the same document.
A block can also be copied into an entirely different document.

Copying a Block within the Document

$\boxed{\text{CODE}} + \boxed{\text{C}}$

STYLE	BLOCK	CTR/RMF	SPELL	ABBR/THR	SEARCH	FORM	PAGE
	COPY						
	DELETE						
	MOVE						

1. Position the cursor on the first character of the block you want to copy.
2. Press ⌈MENU⌋ to display the menu.
3. Use ⊖ and ⊕ to select BLOCK, and press ⌈RETURN⌋ or ⊕.
- *Accelerator: Instead of (3), you may type "B".*
4. Use ⊕ and ⊕ to select COPY and press ⌈RETURN⌋.
- *Accelerator: Instead of (4), you may type "C".*
- *Short cut: Instead of (2), (3) and (4), you may press ⌈CODE⌋ + ⌈C⌋.*

> Move cursor to block end. Press RETURN or to store temporary file press TEMP.

5. Move the cursor to the end of the block to be copied. As you move the cursor, the block is marked (reverse image). You may move the cursor back toward the beginning of the block to unmark. All key combinations used to move the text cursor can be used when marking a block (See "Moving the Text Cursor" on page 140.)
6. When the block to be copied is marked, press ⌈RETURN⌋.

> Move cursor to destination for blocked text and press RETURN.

7. Move the cursor to the location where you want to insert the marked block and press ⌈RETURN⌋. The marked block is automatically copied to that position and the document is reformatted to conform to the modified sections of the document. (See "Formatting Text -- Basic Functions" on page 143.)
- *The block is inserted regardless of the current mode (insert or overwrite). This means that the block will never overwrite text at the destination position.*

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- *Press* `CANCEL` *at any step to cancel the function.*
- *Since the block copy operation increases the size of your document, it might happen that you run out of memory. When this happens, the copy operation is cancelled and the following message appears:*

```
Not enough memory remaining.
```

You must either first delete a portion of the document to free some space, or try to copy only a smaller block.

Copying a Block into a Different File

```
┌────────┐     ┌────────┐
│  CODE  │  +  │ C      │
└────────┘     └────────┘

┌────────┐     ┌────────┐
│  CODE  │  +  │ T      │
└────────┘     │   TEMP │
               └────────┘
```

STYLE	**BLOCK**	CTR/RMF	SPELL	ABBR/THR	SEARCH	FORM	PAGE
	COPY						
	DELETE						
	MOVE						
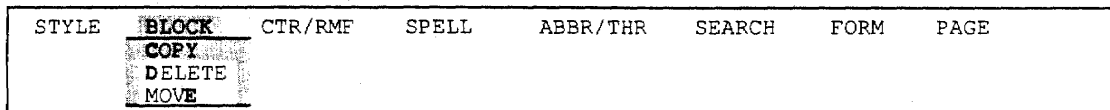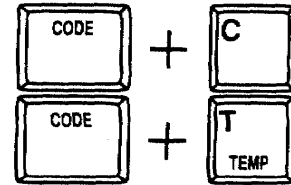
A portion of the memory is reserved for a temporary file in which you may copy a block of the current document. Later, the contents of the temporary file can be recalled for insertion in the same document or in any other document you are working on. This means that the temporary file can be used to copy a block of text from one file into another file.

You may copy a block stored in the temporary file as many times as you want. Each time you store a new block in the temporary file, you will erase the previous contents of the temporary file.

On the other hand, you can recall the contents of the temporary file as many times as you want without altering it.

- *The temporary file is erased after the power is turned off.*
- *The temporary file may contain up to 3.5K bytes (about 3,500 characters).*
1. Position the cursor on the first character of the block you want to copy.
2. Press `MENU` to display the menu.
3. Use ⊕ and ⊛ to select BLOCK, and press `RETURN` or ⊛.
- *Accelerator: Instead of (3), you may type "B".*
4. Use ⊕ and ⊛ to select COPY and press `RETURN`.
- *Accelerator: Instead of (4), you may type "C".*
- *Short cut: Instead of (2), (3) and (4), you may press* `CODE` *+* `C`.

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5. Move the cursor to the end of the block to be copied. As you move the cursor, the block is marked (reverse image).

6. When the block is marked, press `CODE` + `TEMP` (`T`) to store the file in temporary memory (DO NOT press `RETURN`). The marked block is now stored as a temporary file.

• *Press `CANCEL` at any step to cancel the function.*

Recalling the Temporary File

```
CODE  +  T
              TEMP
```
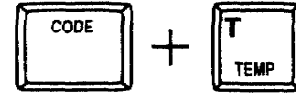
The contents of the temporary file can be recalled and inserted into any file you are working on.

1. Position the cursor on the location where you want to insert the contents of the temporary file.

2. Press `CODE` + `TEMP` (`T`). The following message appears:

```
You can recall temporary file.  To recall temporary file press RETURN.
```

3. Press `RETURN`. The text stored into the temporary file will now be inserted into the document at the cursor position.

Deleting a Block
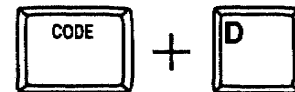
```
CODE  +  D
```

```
STYLE    BLOCK    CTR/RMF    SPELL    ABBR/THR    SEARCH    FORM    PAGE
         COPY
         DELETE
         MOVE
```

1. Position the cursor on the first character of the block you want to delete.

2. Press `MENU` to display the menu.

3. Use ◄ and ► to select BLOCK, and press `RETURN` or ▼.

• *Accelerator: Instead of (3), you may type "B".*

4. Use ▲ and ▼ to select DELETE and press `RETURN`.

• *Accelerator: Instead of (4), you may type "D".*

• *Short cut: Instead of (2), (3) and (4), you may press `CODE` + `D`.*

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5. Move the cursor to the end of the block to be deleted. As you move the cursor, the block is marked (reverse image). You may move the cursor back toward the beginning of the block to unmark. All key combinations used to move the text cursor can be used when marking a block (See "Moving the Text Cursor" on page 140.)

6. When the block to be deleted is marked, press [RETURN]. The machine asks for confirmation:

```
Delete? Press RETURN(yes) or CANCEL(no).
```

7. If you press [RETURN], the block (displayed in reverse image) is deleted, and any text following the block is reformatted to conform to commands in force for that section of the document. (See "Formatting Text -- Basic Functions" on page 143.)

Moving a Block

[CODE] + [E]

```
STYLE    BLOCK    CTR/RMF    SPELL    ABBR/THR    SEARCH    FORM    PAGE
         COPY
         DELETE
         MOVE
```
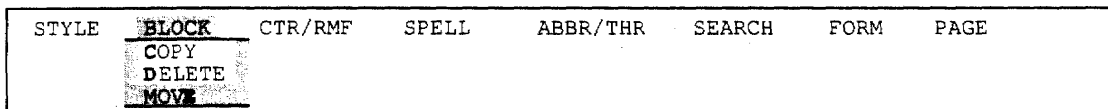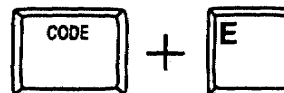
1. Position the cursor on the first character of the block you want to move.

2. Press [MENU] to display the menu.

3. Use ⊕ and ⊕ to select BLOCK, and press [RETURN] or ⊕.

• *Accelerator: Instead of (3), you may type "B".*

4. Use ⊕ and ⊕ to select MOVE and press [RETURN].

• *Accelerator: Instead of (4), you may type "E".*

• *Short cut: Instead of (2), (3) and (4), you may press [CODE] + [E].*

```
Move cursor to end of block to move and press RETURN.
```

5. Move the cursor to the end of the block to be moved. As you move the cursor, the block is marked (reverse image). You may move the cursor back toward

the beginning of the block to unmark. All key combinations used to move the text cursor can be used when marking a block (See "Moving the Text Cursor" on page 140.)

6.   When the block to be moved is marked, press ⌈RETURN⌉.

```
Move cursor to destination for blocked text and press RETURN.
```

7.   Move the cursor to the location where you want to insert the marked block and press ⌈RETURN⌉. The marked block is automatically transferred to that position and the document is reformatted to conform to the modified sections of the document. (See "Formatting Text -- Basic Functions" on page 143.)

•   *The block is inserted regardless of the current mode (insert or overwrite). This means that the block will never overwrite text at the destination position.*

•   *Press ⌈CANCEL⌉ at any step to cancel the function.*

CREATE DOCUMENT

Searching for Text (SEARCH)

In addition to using the cursor keys to move throughout your text, you may find any position in your file quickly by using the search function.

You may automatically scan the document for all occurrences of a specific piece of text (called a "string") and, at your option, replace all or some of those occurrences with another string. (See "Search and Replace" on page 164.)

A string may be up to 63 characters long, and may include "dead" and superimposed characters. (See "Defining a String" on page 163.)

Search

STYLE	BLOCK	CTR/RMF	SPELL	ABBR/THR	SEARCH	FORM	PAGE
					SEARCH		
					REPLACE		
					HYPHEN SCAN		

This function scans the text from the current text cursor position and pauses when the string is found, waiting for you to tell it whether to stop there or proceed to the next occurrence.

1. Position the cursor at the beginning of the section that you wish to scan. If you want to scan the entire document, for example, move the cursor to the beginning of the text.

2. Press `MENU` to display the menu.

3. Use ⟵ and ⟶ to select SEARCH, and press `RETURN` or ⟱.

- **Accelerator:** Instead of (3), you may type "R".

4. Use ⟰ and ⟱ to select SEARCH and press `RETURN`.

- **Accelerator:** Instead of (4), you may type "S".

- **Short cut:** There is no short-cut key for this function.

```
Type search word(s). Press RETURN to start search.
SEARCH :█
```

5. Enter the text you are looking for and press `RETURN`.

6. When the first occurrence is found, the following prompt will appear:

```
Press RETURN to search again, or press CANCEL to stop search.
```

7. If this is the place you are looking for, press [CANCEL] and do the necessary editing. If you wish to proceed to the next occurrence, press [RETURN] to continue the search.

• *When there are no more occurrences, the following message appears, and will automatically disappear when you press a key.*

```
Word(s) not found.
```

8. Resume normal operation or go back to step (1) to search for another string -- or for the same string again. Since the search string remains in memory until you define another or turn the power off, you will not have to re-enter it in step (5) when you search repeatedly for the same string, and exit to make changes.

Defining a String

• *The 63-character limit refers to the number of characters you see on the screen. An accented character (made with a dead key) or superimposed characters (made with a permanent backspace) count as a single character even if it takes two or more keystrokes to type.*

• *The search function distinguishes between upper and lower case letters. For example, if you specify "ALPHA", it will not stop at "alpha" or "Alpha".*

• *Each space that you type (with [SPACE BAR]) in the string counts as one character.*

• *The string input area initially appears as a continuous underline. Everything before the trailing underline is considered part of the string. The string shown below, for example, is five characters long because it ends with two spaces.*

```
Type search word(s). Press RETURN to start search.
SEARCH :AAA  ■
```

• *The search function stops at every string that matches the specified string -- even if the match is inside a word. If the specified string is "at", it stops at "at" of "hat", "attention", etc. If you wish to search only for the word "at", specify "_at_", leaving a space on each side of the word.*

• *The search function ignores "soft spaces" that are added by the justify function and hyphens other than permanent ones.*

• *The search string cannot contain attributes such as bold, underline, subscript, or superscripts because the search function ignores them. If you specify "A2", it stops at "A2", "A$_2$", "A^2" -- and all combinations with bold and underline as well.*

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- *Pressing* `CANCEL` *during string input deactivates the search function, but the string remains in memory until you define another, or turn the power off.*

Search and Replace

```
STYLE    BLOCK    CTR/RMF    SPELL    ABBR/THR    SEARCH    FORM    PAGE
                                                  SEARCH
                                                  REPLACE
                                                  HYPHEN SCAN
```

The search and replace function is just the search function with the option of replacing some or all occurrences with another text string.

The system automatically reformats your document if the replacement is not the same length as the original.

1. Position the cursor at the beginning of the section that you wish to scan. If you want to scan the entire document, for example, move the cursor to the beginning of the text.

2. Press `MENU` to display the menu.

3. Use ← and → to select SEARCH, and press `RETURN` or ↓.

- **Accelerator:** *Instead of (3), you may type "R".*

4. Use ↑ and ↓ to select REPLACE and press `RETURN`.

- **Accelerator:** *Instead of (4), you may type "R".*

- **Short cut:** *There is no short-cut key for this function.*

```
Type search and replace word(s). Press ↑, ↓ to select, RETURN to start search.
SEARCH :█
REPLACE:
```

5. Enter both the text that you wish to look for and the replacement. Use ↑ and ↓ to shift between the two input areas and press `RETURN` when input is completed.

```
Global? Press RETURN(yes) or TAB(no).
```

6. If you press `RETURN`, all occurrences from the cursor position to the end of the document will be automatically replaced. When the function has been completed, the cursor will move to the end of the file and return to the normal edit mode. To stop the function in progress, press `CANCEL`.

If you press `TAB`, it will stop at the first occurrence and this message will appear:

```
Press RETURN to replace word(s), TAB not to replace word(s), CANCEL to exit.
```

7. To replace this occurrence, press [RETURN]. The system carries out the change, then stops at the next occurrence and displays the above message again.

To search for the next occurrence without replacing, press [TAB]. The system stops at the next occurrence and displays the above message again.

To stop searching and return to the normal edit mode, press [CANCEL]. If you mistakenly press this key, you may re-start from step (1). Since the search and replace strings remain in memory until you define others, you will not have to re-enter them in step (5).

- *When there are no more occurrences, the following message appears, and will automatically disappear when you press a key.*

```
Word(s) not found.
```

- *If you repeatedly replace strings with longer ones in a very long document, you may run out of memory. In such a case, the function is cancelled and the following message appears:*

```
Memory full.
```

The message will remain until you delete some portion of the document to free some memory space.

Hyphen Scan

```
STYLE    BLOCK    CTR/RMF    SPELL    ABBR/THR    SEARCH    FORM    PAGE
                                                  SEARCH
                                                  REPLACE
                                                  HYPHEN SCAN
```

A problem arises with the word wrap function when the distance between margins is small, or when typing a text in languages like German using very long words. Since the word wrap function automatically transfers a word that cannot fit in the current line to the next line, excessively long blank spaces may appear, resulting in a poor layout.

The hyphen scan function automatically detects such long blank spaces and gives you a chance to hyphenate the long words. It allows you to type your text without making any manual hyphenations (except, of course, a permanent hyphen).

1. After your text is typed, position the cursor at the beginning of the section that you wish to scan. If you want to scan the entire document, for example, move the cursor to the beginning of the text.

2. Press (MENU) to display the menu.

3. Use (◆) and (➡) to select SEARCH, and press (RETURN) or (⬇).

- *Accelerator:* *Instead of (3), you may type "R".*

4. Use (⬆) and (⬇) to select HYPHEN SCAN and press (RETURN).

- *Accelerator:* *Instead of (4), you may type "H".*

- *Short cut:* *There is no short-cut key for this function.*

5. The hyphen scan function will scan your text down from the cursor position and search for lines containing blank spaces longer than the six columns of the hot zone. The long word that has been transferred to the next line by the word wrap function is displayed in reverse color. The following message appears:

```
Move cursor, press RETURN to hyphenate, TAB to continue, CANCEL to exit.
```

6. If you want to hyphenate this word, position the cursor at the most suitable position and press (RETURN). The word will be hyphenated and the portion of the word to the left of the hyphen will be transferred to the previous line. The hyphen scan function will search for the next occurrence of a long blank space.

If you want to skip this occurrence and keep the word without a hyphen, press (TAB). The whole word will be transferred to the next line, where it was originally, and the hyphen scan function will search for the next occurrence of a long blank space.

Press (CANCEL) if you want to terminate the hyphen scan function.

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Spell Check System (SPELL)

SPELL is used for automatic detection of errors (Spell Checker) and includes the tools you need to work with personal "user dictionaries". The Spell Checker can be used in the "ALL" mode to check the entire document, or in the "ONE WORD" mode to check the words while you are typing them.

Understanding the Spell Checker

The Spell Checker is a powerful tool for increasing your proofreading efficiency. The Spell Checker comes with a built-in dictionary of about 70,000 English words. When checking your text, the Spell Checker automatically compares each word with the contents of the dictionary. If a word is not found in the dictionary, the machine assumes that the word in question is misspelled and warns you.

The built-in dictionary contains only standard English words and will consider words like brand names, people's names, or foreign language words as misspelled words, even if those words are perfectly correct. If you are frequently using such words in your document, you should create a "User Dictionary" and store those words in that dictionary. The user dictionary is kept in the memory and you may save it on disk. When a word cannot be found in the built-in dictionary, the Spell Checker will scan the user dictionary and warn you only if the word cannot be found there.

When a word cannot be found in either dictionary, the Spell Checker gives you a menu of options:

- You may IGNORE the warning and keep the suspect word unchanged.

- You may ask for SUGGESTIONS. In this case, the Spell Checker will supply possible replacement word(s) for the suspect word.

- You may also directly RETYPE the word correctly. This option is used when the error is evident and easy to correct, or when the system cannot provide the correct suggestion.

- You may ADD the suspect word to the user dictionary. This is useful when the suspect word, although correct, is not a standard English word. Once the word is stored in the user dictionary, the Spell Checker will not warn you the next time the same word is found.

The Spell Checker also detects redundant words (you typed the same word twice). When this happens, a menu of options appears:

- You may IGNORE the warning and keep the repeated word in the text.

- You may automatically ERASE the SECOND WORD.

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Important Notice

This system is not a replacement for careful proofreading of your documents. It has no way of knowing, for example, whether words are missing or whether a given word is appropriate for the current syntactic or semantic context. If you type "teh" instead of "the", the spell checker alerts you because "teh" is not a valid English word; but if you type "one" instead of "on", it does not consider it a mistake.

Checking Existing Text -- ALL

You may automatically scan the entire document for problems. The scan is uni-directional -- that is, it starts at the word where the cursor is currently located and works toward the end of the document.

Activating the System

```
STYLE   BLOCK   CTR/RMF   SPELL      ABBR/THR   SEARCH   FORM      PAGE
                          SPELL CHECK
                          USER DICTIONARY MAINTENANCE
                          USER DICTIONARY LOAD
                          USER DICTIONARY SAVE
```
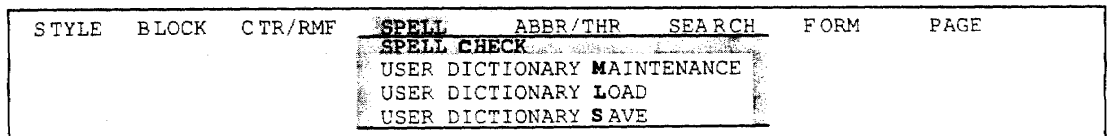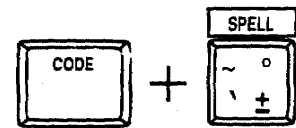
1. Position the cursor at the location of the document where you want to start checking. For example, if you want to check the entire document, position the cursor over the first word of the document.

2. Press [MENU] to display the function menu.

3. Use ◄ and ► to select SPELL, then press ▼ or [RETURN] to display the sub-menu.

•   *Accelerator: Instead of (3), you may type "L".*

4. Use ▲ and ▼ to select SPELL CHECK and press [RETURN]. The following menu appears:

```
Use cursor to select.  Press RETURN.
ALL   ONE WORD
```
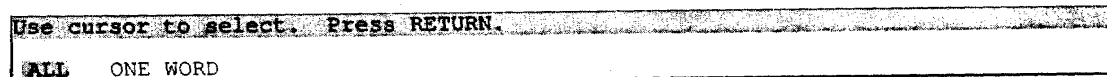
•   *Accelerator: Instead of (4), you may type "C".*

•   *Short cut: Instead of (2), (3), and (4), you may simply press [CODE] + [SPELL].*

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5. Use ⬅ and ➡ to select ALL and press ⟮RETURN⟯. The Spell Checker starts scanning your text for misspelled word and displays the message:

```
Checking....
```

While Checking (Suspect & Redundant Words)

When a suspect or redundant word is found, the above message disappears and is replaced with a menu of options. The suspect word or redundant word appears in reverse color in the text.

Example 1: Let's suppose that you have typed "The quick broen fox..." ("broen" is suspect)

```
The quick broen fox...


Use cursor to select.  Press RETURN.
SUSPECT WORD: broen
▶MENU◀      IGNORE    SUGGESTION    RETYPE    ADD
```

Use ⬅ and ➡ to select an option and press ⟮RETURN⟯.

1. If you select IGNORE: the system start searching for the next suspect word. The word "broen" will not be corrected.

2. If you selected SUGGESTIONS: a menu of possible replacement words appears.

```
The quick broen fox...


Use cursor to select.  Press RETURN.
SUSPECT WORD: broen
SUGGESTIONS : brown   broken   brawn   bruin   brain   brine   borne   boron
```

Use ⬅ and ➡ to select the correct word and press ⟮RETURN⟯. The correct word will automatically replace the wrong one in the text and the system starts searching for the next suspect word. If the correct word does not appear in the suggestion menu, simply press ⟮CANCEL⟯ to return to the first menu and select RETYPE as explained below.

3. If you select RETYPE: an input area appears so that you can type the correct word:

```
The quick broen fox...

Type word and press RETURN.
SUSPECT WORD: broen
         WORD: █
```

You may immediately type the correct word and press (RETURN). The retyped word replaces the wrong one in the text and the system starts searching for the next suspect word.

You may also press ⊕ first. This will display the suspect word in the input area so that you can correct it in a few keystrokes. Press (RETURN) when the word is corrected.

4.   If you select ADD: the suspect word is added to the user dictionary. From now on, it will not be considered suspect any more. The following message appears:

```
Word added to user dictionary.
```

Example 2: Let's now suppose that you have typed "The quick brown fox fox..." (the second "fox" is redundant)

```
The quick brown fox fox...

Use cursor to select.  Press RETURN.
REDUNDANT WORD: fox
▶MENU◀      IGNORE    ERASE SECOND WORD
```

Use ⊖ and ⊕ to select an option and press (RETURN).

1.   If you select IGNORE: the word is kept in the text and the system starts searching for the next suspect or redundant word.

2.   If you select ERASE SECOND WORD: the second word is deleted and the system starts searching for the next suspect or redundant word.

The process repeats until the end of the document (a message will tell you that you reached the end of the document) or until you press (CODE) + (SPELL) or (CANCEL) to turn the Spell Check off.

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Checking While Typing -- ONE WORD

The Spell Checker can be used to check each word as you type.

Activating the System
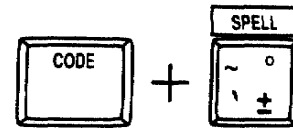
Refer to "Activating the System" on page 168. The only differences between the "One Word" procedure and the "All" procedure are: 1) you must first position the cursor at the location where you are going to type, and 2) when the option menu "ALL ONE WORD" appears, you must select ONE WORD. The Spell Checker will be automatically activated.

Once the Spell Checker is activated, the SPELL indicator appears on the screen. The words you type are checked for spelling error or redundancy. If an error is found, the system interrupts your typing and displays a menu of options. See "While Checking (Suspect & Redundant Words)" on page 169 for details.

* *To disable the Spell Checker, press* [CODE] + [SPELL].

Understanding the User Dictionary

A user dictionary is created automatically when you select the ADD function to add a word to the dictionary and will be kept in the memory as a separate file. The memory can hold only one user dictionary file, but this file can be saved on a disk. You can then delete the current user dictionary and start creating a new one. A user dictionary file that is saved on a disk can be loaded back into the memory.

* *You need to save the user dictionary on a disk before you run the Spreadsheet program, the Disk Application program, or the Disk Copy function because these operations make use of the whole memory and always clear its content. Remember that the user dictionary will be deleted from the memory if you remove the lithium battery while the power is off, or if the lithium battery becomes flat.*

* *The memory of the machine can hold only one dictionary. If you create a dictionary in the memory, and then load a dictionary from a disk, the dictionary currently in the memory will be overwritten by the loaded dictionary.*

* *A disk can hold only one dictionary. If you save a dictionary on a disk that already contains one, the new dictionary will automatically overwrite the old one. Use different disks to save different user dictionaries.*

* *The capacity of the user dictionaty is limited to about 204 words of seven characters.*

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User Dictionary Maintenance

Beside the ADD option that allows you to add a suspect word to the user dictionary, the Spell Check system provides you with special tools for direct editing of the user dictionary.

1.   Press (MENU) to display the function menu.

2.   Use ⊕ and ⊕ to select SPELL, then press ⊕ or (RETURN) to display the sub-menu.

•   **Accelerator:** *Instead of (2), you may type "L".*

3.   Use ⊕ and ⊕ to select USER DICTIONARY MAINTENANCE and press (RETURN). The following display appears.

```
<< USER DICTIONARY >>        TOTAL WORDS:XXX    INS SHIFT           10:24AM

   Alfred                              Benoit
   Cathy                               Packard
   WP                                  XTY123

To add, type word.  Press MENU for other options.  Press FILE to finish.
ADD: ▉
```

•   **Accelerator:** *Instead of (3), you may type "M".*

•   **Short cut:** *There is no short-cut key for this operation.*

4.   To add a new word, type it and press (RETURN). The new word will be inserted in the list in alphabetical order. The system will tell you if you try to input a word that already exists in the user dictionary.

•   *On the User Dictionary screen, the keyboard is automatically set to* KB:1.

5.   To return to normal typing, press (CODE) + (FILE) ((MENU)).

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Using the Function Menu for other Options

```
EXIT    DELETE    ALL DELETE    LOAD    SAVE
    Alfred                              Benoit
    Cathy                               Packard
    WP                                  XTY123


Select from menu and press RETURN.
```

- *To select a word, use* ⬆, ⬇, CODE + PRE S *(* ⬆ *), or* CODE + NEXT S *(* ⬇ *).*
  You may also press CODE + GO TO *(* G *) to go closer to the word that you*
  want to select. A message will ask you to enter the first letter of the word:

```
Type letter to move cursor.
```

Type the letter.

1. From the USER DICTIONARY screen, press MENU to display a menu of functions:

- *To select a function from the menu, use* ⬅ *and* ➡ *or type the letter displayed in bold.*

2. To exit the user dictionary maintenance screen, select EXIT and press RETURN.

- **Accelerator:** *To select EXIT from the menu, you may type "E".*

- **Short Cut:** *To exit without displaying the menu, you may press* CODE + FILE *(* MENU *).*

3. To delete a word, first select the word from the user dictionary screen. Press MENU, select DELETE and press RETURN. The following message appears:

```
Delete the word from user dictionary? Press RETURN (yes) or CANCEL (no).
```

- **Accelerator:** *To select DELETE from the menu, you may type "D".*

- **Short Cut:** *To enable the delete function without displaying the menu, you may press* CODE + D.

  Press RETURN to delete, or CANCEL to keep the word in the user dictionary.

4. To delete all words, select ALL DELETE and press RETURN. The following message appears:

```
Delete all words in user dictionary? Press RETURN (yes) or CANCEL (no).
```

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- **Accelerator:** *To select* ALL DELETE *from the menu, you may type "A".*
- **Short Cut:** *There are no short-cut keys for this function.*

  Press (RETURN) to delete, or (CANCEL) to keep the user dictionary unchanged.

5. To load a different user dictionary file from a different disk, insert the disk in the drive, select LOAD and press (RETURN). Remember that loading a user dictionary file will overwrite the user dictionary currently in memory.

- **Accelerator:** *To select* LOAD *from the menu, you may type "L".*
- **Short Cut:** *To enable the* LOAD *function without displaying the menu, you may press* (CODE) + (L).

6. To save the user dictionary, insert a disk in the drive, select SAVE and press (RETURN). This message will appear:

```
Press RETURN to save.
```

Press (RETURN). Remember that saving the user dictionary onto a disk which already contains a user dictionary file will overwrite that file on the disk.

- **Accelerator:** *To select* SAVE *from the menu, you may type "S".*
- **Short Cut:** *To enable the* SAVE *function without displaying the menu, you may press* (CODE) + (S).

Loading a User Dictionary

The Spell Check system allows you to have several user dictionaries, but you cannot store more than one on the same disk. This feature is very useful when you are dealing with different kinds of documents. For example, if the documents you have to create most frequently are letters (containing people's names) and sales reports (containing company names) you may store these two kinds of documents on different disks, and create the corresponding user dictionary on each disk.

- *If you are using the Spell Checker for the first time, your disk does not contain any user dictionary file and you will not be able to load anything.*

If you want to reuse an existing user dictionary, first insert the corresponding disk in the disk drive.

```
STYLE   BLOCK   CTR/RMF   SPELL    ABBR/THR   SEARCH   FORM      PAGE
                          SPELL CHECK
                          USER DICTIONARY MAINTENANCE
                          USER DICTIONARY LOAD
                          USER DICTIONARY SAVE
```

1. Press (MENU) to display the function menu.

2. Use ⬅ and ➡ to select SPELL, then press ⬇ or (RETURN) to display the sub-menu.

- *Accelerator: Instead of (2), you may type "L".*

3. Use ⬆ and ⬇ to select USER DICTIONARY LOAD and press (RETURN). The user dictionary is now in the machine memory.

- *Accelerator: Instead of (3), you may type "L".*

- *Short cut: There is no short-cut key for this function.*

Saving the User Dictionary

When you save a user dictionary file on a disk that already contains a user dictionary, the current contents of the user dictionary in memory will replace the user dictionary file on the disk.

```
STYLE   BLOCK   CTR/RMF   SPELL      ABBR/THR     SEARCH   FORM      PAGE
                          SPELL CHECK
                          USER DICTIONARY MAINTENANCE
                          USER DICTIONARY LOAD
                          USER DICTIONARY SAVE
```

1. Press (MENU) to display the function menu.

2. Use ⬅ and ➡ to select SPELL, then press ⬇ or (RETURN) to display the sub-menu.

- *Accelerator: Instead of (2), you may type "L".*

3. Use ⬆ and ⬇ to select USER DICTIONARY SAVE and press (RETURN). This message will appear:

```
Press RETURN to save.
```

- *Accelerator: Instead of (3), you may type "S".*

- *Short cut: There is no short-cut key for this function.*

4. Press (RETURN) to save the user dictionary on the disk.

Abbreviated Phrases and Thesaurus (ABBR/THR)

ABBR/THR is used to improve the style of your documents and your typing speed. It includes two thesaurus functions, the EDIT THESAURUS which provides synonyms for a word already typed, and the TYPE THESAURUS which will provide synonyms for a word that you specify. ABBR/THR also includes functions that allow you to create and retrieve "phrases" -- that is, combinations of words often used in your documents. Once created, these phrases can be quickly inserted in your documents by simply typing a short abbreviation.

Thesaurus

The Thesaurus is a useful feature that allows you to search for synonyms for the word you specify, and replace the selected word with a synonym if you desire. The Thesaurus contains 45,000 words.

There are two ways to enter the Thesaurus mode: EDIT THESAURUS gives synonyms for the word the cursor is on, while TYPE THESAURUS waits until you type a word and then gives a list of synonyms for that word.

Edit Thesaurus

STYLE	BLOCK	CTR/RMF	SPELL	ABBR/THR	SEARCH	FORM	PAGE
				ABBREVIATED PHRASE MAINTENANCE			
				ABBREVIATED PHRASE LOAD			
				ABBREVIATED PHRASE SAVE			
				EDIT THESAURUS			
				TYPE THESAURUS			

1. Position the cursor on the word that you want to replace with a synonym. (Let's assume that the word the cursor is on is "still".)

2. Press **MENU** to display the function menu.

3. Use ◀ and ▶ to select ABBR/THR and press ▼ or **RETURN** to display the sub-menu.

 • *Accelerator: Instead of (3), you may type "A".*

4. Use ▼ and ▲ to select EDIT THESAURUS and press **RETURN**.

 • *Accelerator: Instead of (4), you may type "E".*

 • *Short cut: There is no short-cut key for this function.*

5. After a while, the following menu appears:

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```
 ┌──────────────────────────────────────────────────────────────┐
 │ still                                                         │
≠│                                                              │≠
 │ Use cursor to select.  Press RETURN.                         │
 │ SPECIFIED WORD: still                                        │
 │ ►THESAURUS ◄      NOUN (1)    VERB (2)   ADJ. (4)   ADV. (4)  │
 └──────────────────────────────────────────────────────────────┘
```

- *This menu means that the system found synonyms for the word "still" in four syntactic categories (nouns, verbs, adjectives, and adverbs).   The same categories will, of course, not necessarily be displayed with any specified word. The number at the right of each category indicates the number of semantic classes into which that category is subdivided. For instance, VERB(2) means that you will find two lists of verbs that are synonyms of the word "still". By definition, synonyms are words with (almost) the same meaning. You will find, however, that words belonging to the same semantic class are closer to each other than words from different semantic classes in the same syntactic category.*

- *If there is no synonym for the specified word, the following message appears:*

```
┌──────────────────────────────────────────────────────────────┐
│ Synonym not found.                                           │
└──────────────────────────────────────────────────────────────┘
```

6.   Use ⊕ and ⊕ to select the category and press ⌈RETURN⌉. You may also press ⌈CANCEL⌉ to exit the function. Let's assume that you selected VERB(2). The following menu appears:

```
 ┌──────────────────────────────────────────────────────────────┐
 │ still                                                         │
≠│                                                              │≠
 │ Use cursor to select.  Press RETURN.                         │
 │ SPECIFIED WORD: still                                        │
 │ VERB1        : silence    quiet   shut up   hush   shush      │
 └──────────────────────────────────────────────────────────────┘
```

7.   Use ⊕ and ⊕ to select a word. If the complete list cannot fit in the display, the same keys will scroll the list. If there are more than one semantic class, use ⊕ and ⊕ to display the other classes.

```
 ┌──────────────────────────────────────────────────────────────┐
 │ still                                                         │
≠│                                                              │≠
 │ Use cursor to select.  Press RETURN.                         │
 │ SPECIFIED WORD: still                                        │
 │ VERB2        : settle   compose   calm   soothe   quiet   lull   allay │
 └──────────────────────────────────────────────────────────────┘
```

8. Press `RETURN` to replace the specified word with the selected synonym, or press `CANCEL` to return to the first menu and select another syntactic category -- or exit the function without replacing the specified word by pressing `CANCEL` again.

If you select a synonym and press `RETURN`, the synonym replaces the current word.

Type Thesaurus

```
STYLE   BLOCK   CTR/RMF   SPELL    ABBR/THR   SEARCH   FORM   PAGE
                                   ABBREVIATED PHRASE MAINTENANCE
                                   ABBREVIATED PHRASE LOAD
                                   ABBREVIATED PHRASE SAVE
                                   EDIT THESAURUS
                                   TYPE THESAURUS
```

1. Press `MENU` to display the function menu.

2. Use ⊕ and ⊕ to select ABBR/THR and press ⊕ or `RETURN` to display the sub-menu.

- *Accelerator:* *Instead of (2), you may type "A".*

3. Use ⊕ and ⊕ to select TYPE THESAURUS and press `RETURN`. The system asks you to type the word for which a synonym is needed:

```
Type word and press RETURN.
SPECIFIED WORD: █
```

- *Accelerator:* *Instead of (3), you may type "T".*

- *Short cut:* *There is no short-cut key for this function.*

4. Type the word and press `RETURN`.

5. From this point, proceed as you would do with the EDIT THESAURUS option (See "Edit Thesaurus" on page 176, steps 6 to 9)

Increasing Your Typing Speed with Abbreviated Phrases

`CODE` + `A ABBR`
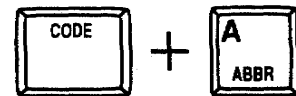
The abbreviated phrase function is provided to help you increase your typing speed when you have to frequently type long strings of words ("phrases"). You may store the phrases in the abbreviated phrase memory, along with a short abbreviation (the "name" of the phrase). For instance, you may store the phrase "United States of America" together with the name "USA". Once this has been done, all you have

to do to enter "United States of America" in your document is to type "USA" and press CODE + ABBR (A). "USA" will automatically be replaced with "United States of America". If you type a name that does not exist in the abbreviated phrase memory, and press CODE + ABBR (A), you will hear a beep.

The abbreviated phrase memory can store a maximum of 30 phrases and names. Each phrase can consist of up to 67 characters, while a name is limited to 8 characters. The total amount of data in the abbreviated phrase memory may not exceed 1,000 characters.

The abbreviated phrase memory can be saved on disk and, of course, retrieved from the disk. You may create as many abbreviated phrase files as you want, but, as was the case for user dictionary files, you may have only one abbreviated phrase file on a disk.

Abbreviated Phrase Maintenance

```
 STYLE    B LOCK   C TR/RMF    SPELL     ABBR/THR    SEA RCH    F ORM    PAGE
                                         ABBREVIATED PHRASE MAINTENANCE
                                         ABBREVIATED PHRASE LOAD
                                         ABBREVIATED PHRASE S AVE
                                         EDIT THESAURUS
                                         TYPE THESAURUS
```
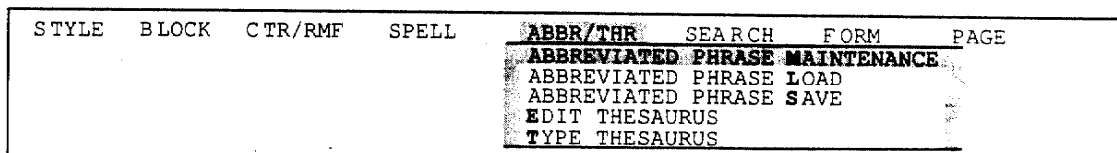
This section explains how to input and edit data in the abbreviated phrase memory.

1. Press MENU to display the function menu.

2. Use ⬅ and ➡ to select ABBR/THR, then press ⬇ or RETURN to display the sub-menu.

• ***Accelerator:*** *Instead of (2), you may type "A".*

3. Use ⬆ and ⬇ to select ABBREVIATED PHRASE MAINTENANCE and press RETURN. The following display appears:
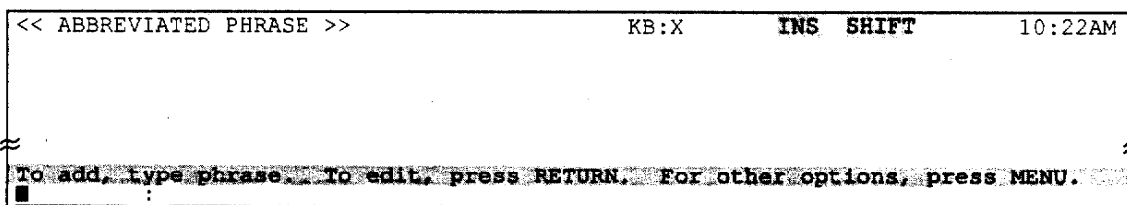
```
<< ABBREVIATED PHRASE >>                  KB:X      INS  SHIFT        10:22AM


To add, type phrase    To edit, press RETURN.   For other options, press MENU.
■      :
```

• ***Accelerator:*** *Instead of (3), you may type "M".*

• ***Short cut:*** *There is no short-cut key for this operation.*

4. To enter new data, type the name, press TAB or ➡ to switch to the phrase area, then type the phrase and press RETURN.

• *Use only letters, numbers and periods for the name.*

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5. To edit an existing line of data, select the line with ⊕ and ⊕, then press
    ⌈RETURN⌉. The data will appear in the input area. Edit the data, then press
    ⌈RETURN⌉ again.

6. To return to the INPUT/EDIT screen and resume typing, press ⌈CODE⌉ + ⌈FILE⌉
    (⌈MENU⌉) or select EXIT from the menu.

Using the Function Menu for other Options

```
 EXIT    PRINT    DELETE    LOAD    SAVE
ts        : Tom Smith
tw        : typewriter
USA       : United States of America


 Select from menu and press RETURN.
```

1. From the ABBREVIATED PHRASE screen, press ⌈MENU⌉ to display a menu
    of functions:

•   *To return to the input screen shown in step (3) above, press* ⌈CANCEL⌉.

•   *To select a function from the menu, use* ⊕ *and* ⊕ *or type the letter displayed
    in bold.*

•   *When the menu is displayed, it is not possible to select a line of data.*

2. To exit the abbreviated phrase maintenance screen and return to the
    INPUT/EDIT screen, select EXIT and press ⌈RETURN⌉.

•   ***Accelerator:*** *To select* EXIT, *you may type "E".*

•   ***Short cut:*** *To exit without displaying the menu, you may press* ⌈CODE⌉ + ⌈FILE⌉
    (⌈MENU⌉ *) or* ⌈CANCEL⌉.

3. To print the list of phrases and names, select PRINT and press ⌈RETURN⌉.

•   ***Accelerator:*** *To select* PRINT, *you may type "P".*

•   ***Short cut:*** *To print without displaying the menu, you may press* ⌈CODE⌉ + ⌈PRINT⌉
    (⌈P⌉ *).*

4. To delete a line of data, you must select the data before you display the function
    menu. When the data to be deleted is selected, press ⌈MENU⌉, then select
    DELETE and press ⌈RETURN⌉. A message will ask for confirmation:

```
Delete? Press RETURN(yes) or CANCEL(no).
```

•   ***Accelerator:*** *To select* DELETE *from the menu, you may type "D".*

- **Short cut:** *To delete without displaying the menu, you may press* CODE + D.

Press RETURN to delete the line or CANCEL to keep it in memory.

5. To load an abbreviated phrase file, insert the disk, select LOAD and press RETURN. Remember that loading an abbreviated phrase file will overwrite the abbreviated phrases in memory.

- **Accelerator:** *To select* LOAD, *you may type "L".*

- **Short cut:** *To load without displaying the menu, you may press* CODE + L.

6. To save the abbreviated phrase memory, insert a disk, select SAVE and press RETURN. This message will appear:

```
Press RETURN to save.
```

Press RETURN. Remember that saving the abbreviated phrase memory onto a disk that already contains an abbreviated phrase file will overwrite the file on that disk.

- **Accelerator:** *To select* SAVE, *you may type "S".*

- **Short cut:** *To save without displaying the menu, you may press* CODE + S.

Loading an Abbreviated Phrase File

```
 STYLE   BLOCK   CTR/RMF   SPELL   ABBR/THR   SEARCH   FORM    PAGE
                                   ABBREVIATED PHRASE MAINTENANCE
                                   ABBREVIATED PHRASE LOAD
                                   ABBREVIATED PHRASE SAVE
                                   EDIT THESAURUS
                                   TYPE THESAURUS
```

1. Insert the disk which contains the abbreviated phrase file that you want to use.

2. Press MENU to display the function menu.

3. Use ⬅ and ➡ to select ABBR/THR, then press ⬇ or RETURN to display the sub-menu.

- **Accelerator:** *Instead of (3), you may type "A".*

4. Use ⬆ and ⬇ to select ABBREVIATED PHRASE LOAD and press RETURN. The abbreviated phrase file is loaded into the abbreviated phrase memory and you can now use the abbreviated phrases as explained above.

- **Accelerator:** *Instead of (4), you may type "L".*

- **Short cut:** *There is no short-cut key for this operation.*

CREATE DOCUMENT

- *If you had already input data in the abbreviated phrase memory (see "Abbreviated Phrase Maintenance" on page 179), that data will be overwritten when you load a file. To avoid this, first save the current abbreviated phrase data onto another disk.*

Saving the Abbreviated Phrase Memory

```
STYLE   BLOCK   CTR/RMF   SPELL    ABBR/THR    SEARCH    FORM      PAGE
                                   ABBREVIATED PHRASE MAINTENANCE
                                   ABBREVIATED PHRASE LOAD
                                   ABBREVIATED PHRASE SAVE
                                   EDIT THESAURUS
                                   TYPE THESAURUS
```

1. Insert the disk on which you want to save the abbreviated phrase memory.

2. Press (MENU) to display the function menu.

3. Use ◄ and ► to select ABBR/THR, then press ↓ or (RETURN) to display the sub-menu.

- *Accelerator: Instead of (3), you may type "A".*

4. Use ↑ and ↓ to select ABBREVIATED PHRASE SAVE and press (RETURN). This message will appear:

```
Press RETURN to save.
```

- *Accelerator: Instead of (4), you may type "S".*
- *Short cut: There is no short-cut key for this operation.*

5. Press (RETURN) to save the abbreviated phrase memory on the disk.

- *Since the system accepts only one abbreviated phrase file per disk, saving the file will overwrite any old abbreviated phrase file on the disk.*

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Paper and Screen Settings (FORM)

The FORM option of the menu allows you to specify several layout parameters related to the vertical distribution of text on the paper. It also allows you to display simultaneously two documents on screen.

Paper Size

STYLE	BLOCK	CTR/RMF	SPELL	ABBR/THR	SEARCH	**FORM** PAGE
						PAPER SIZE
						HEADER
						FOOTER
						SCALE LINE ON/OFF
						DUAL SCREEN
						CHANGE SCREEN

When typing, your text will be automatically divided into pages according to the layout of your page. The paper size function will allow you to set the size of your top and bottom margins and other layout parameters. Once typing has reached the bottom of a page, a page break symbol appears on the screen to indicate the end of the page. If you wish to end a page prior to the automatic page ending, you may do so by inserting a page break (see "Page Breaks" on page 190).

1. Press ⬛MENU⬛ to display the menu.

2. Use ⬛ and ⬛ to select FORM, and press ⬛RETURN⬛ or ⬛.

*   ***Accelerator:*** *Instead of (2), you may type "F".*

3. Use ⬛ and ⬛ to select PAPER SIZE and press ⬛RETURN⬛.

*   ***Accelerator:*** *Instead of (3), you may type "P".*

*   ***Short cut:*** *There is no short-cut key for this function.*

4. The "paper size screen" shown below appears.

```
XXXXXXXX P:XX L:XXX COL:XXX KB:X                    INS.  CAPS        9:15AM



                              TOP MARGIN      X
                              TOP SPACE       X      ¶HEADER      X
         PAPER SIZE  XXX  (LINES)  TEXT AREA      XXX
                              BOTTOM SPACE    X
                              BOTTOM MARGIN   X      ¶FOOTER      X


Set each item and press ↑, ↓. Press RETURN to finish.
```

*   *The text cursor cycles through only five of the eight fields on the screen. HEADER, FOOTER and TEXT AREA are automatically updated by the machine. The numbers for HEADER and FOOTER are automatically set to 1 line if you store*

a header or footer , or 0 lines if there is no header or footer. The length of the TEXT AREA *is defined as the* PAPER SIZE *less the lines reserved for* TOP MARGIN, HEADER, TOP SPACE, BOTTOM SPACE, FOOTER, *and* BOTTOM MARGIN.

Paper size settings

Indication	Meaning
PAPER SIZE	The total length of the paper. The default, 66 lines, is suitable for letter-size paper.
TOP MARGIN	The distance between the top edge of the paper and the header (if present) or the top of the text (when there is no header). The default is 6 lines.
HEADER	An optional running header. (See "Header and Footer" on page 185.)
TOP SPACE	The distance between the header (if present) and the first line of the text. If you stored a header, you will want to enter a number for this selection.
TEXT AREA	The number of lines reserved for the body of the text.
BOTTOM SPACE	The distance between the last line of the text and the footer (if present). If you stored a footer, you will want to enter a number for this selection.
FOOTER	An optional running footer. (See "Header and Footer" on page 185.)
BOTTOM MARGIN	The distance between the footer (if present) or the last line of the text and the bottom edge of the paper. The default is 6 lines.

5. Press ⬆ or ⬇ until you reach the parameter that you wish to change.

6. Type the new value and press ⬆ or ⬇ to move to the next parameter that you want to change. Notice how the text area value will change to accommodate your selections.

7. When all the desired changes have been entered, press (RETURN). Alternatively, press (CANCEL) to return without storing the new settings.

•   *Your text will be divided into pages automatically according to the settings for the paper size. If you wish to begin a new page prior to reaching the line set by the paper size setting, simply insert a page break. (See "Page Breaks" on page 190.)*

Header and Footer

```
STYLE    BLOCK    CTR/RMF    SPELL    ABBR/THR    SEARCH    FORM    PAGE
                                                          PAPER SIZE
                                                          ▓▓▓▓▓▓▓▓▓▓▓▓
                                                          FOOTER
                                                          SCALE LINE ON/OFF
                                                          DUAL SCREEN
                                                          CHANGE SCREEN
```

```
STYLE    BLOCK    CTR/RMF    SPELL    ABBR/THR    SEARCH    FORM    PAGE
                                                          PAPER SIZE
                                                          HEADER
                                                          ▓FOOTER▓▓▓▓▓
                                                          SCALE LINE ON/OFF
                                                          DUAL SCREEN
                                                          CHANGE SCREEN
```

A header is a title line and/or page number that will be automatically printed at the top of every page. A footer is a similar line at the bottom of the page.

1. Press **MENU** to display the menu.

2. Use ◄ and ► to select FORM, and press **RETURN** or ▼.

- *Accelerator: Instead of (2), you may type "F".*

3. Use ▲ and ▼ to select HEADER or FOOTER, and press **RETURN**.

- *Accelerator: Instead of (3), you may type "H" or "F".*

- **Short cut:** *There is no short-cut key for this function.*

4. Type the header or footer and press **RETURN**. The text of the header or footer cannot exceed one line. It will disappear from the screen when **RETURN** is pressed, but will print on the line determined by the paper size setting when the text is printed. Pressing **CANCEL** at this step returns the system to the normal mode without entering the header or footer in memory.

- *As mentioned before, entering a header or footer automatically updates the setting of the PAPER SIZE screen. You may wish to insert a few lines for a top space or bottom space on the PAPER SIZE screen in order to separate the body of the text from the header or footer.*

- *You may have page numbering automatically included in the header or footer. If you type a number enclosed in double quotes, this number will be incremented for each page when printed. (The double quotes are not printed.) You may begin with number 1 or with a different number if needed. This is useful if, for instance your document is the third chapter of a book. If chapter 3 starts at page 23, enter "23". Any number up to four digits in length (9999) is accepted.*

- *Example of footer with page numbering:*

  MONTHLY REPORT MAY 1990 - page "10"

- *Printing effects (BOLD and UNDERLINE) can also be used with a header and footer. You may also center the header or footer or make it flush to the right margin.*

Left Margin   Right Margin

```
Using the Boldface is a  way of making a  Word,
Phrase or entire Paragraph stand out and  catch
the  reader's eye.  The Boldface feature has  a
```

                                                     Bottom Space

```
MONTHLY REPORT MAY 1990 - page 10 ◄──── Footer
                    Automatic Page Numbering ╱    Bottom Margin
```

Disabling the scale

STYLE	BLOCK	CTR/RMF	SPELL	ABBR/THR	SEARCH	**FORM**	PAGE

```
PAPER SIZE
HEADER
FOOTER
SCALE LINE ON/OFF
DUAL SCREEN
CHANGE SCREEN
```
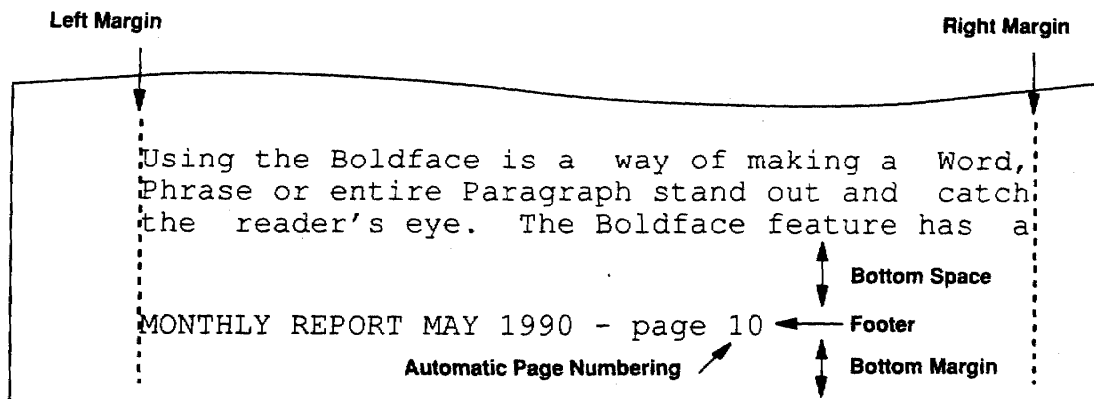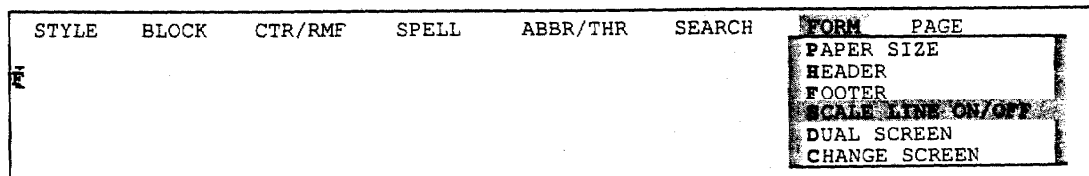
Disabling the scale makes an additional line of the screen available for your text.

1.   Use 🔲 and 🔲 to select FORM and press **RETURN**.

- ***Accelerator:** Instead of (1) you may also type "F".*

2.   Use 🔲 and 🔲 to select SCALE LINE ON/OFF and press **RETURN**. You are back to the INPUT/EDIT screen. If the scale was displayed, it is now disabled, and vice-versa.

- ***Accelerator:** Instead of (2) you may also type "S".*

- ***Short cut:** There is no short-cut key for this function.*

The INPUT/EDIT Screen with the Scale ON

```
XXXXXXX  P:XX  L:XXX  COL:XXX              KB:X                                          8:32AM
0....:....L....:....2....:....3....:....4....:....5....:....6....:...H7....R...
F
  ▮
```

The INPUT/EDIT Screen with the Scale OFF

```
NEWFILE  P:XX  L:XXX  COL:XXX              KB:X                                          8:32AM
F
  ▮
```

Displaying two Documents

```
  STYLE    BLOCK    CTR/RMF    SPELL    ABBR/THR    SEARCH    FORM     PAGE
F                                                            PAPER SIZE
                                                            HEADER
                                                            FOOTER
                                                            SCALE LINE ON/OFF
                                                            DUAL SCREEN
                                                            CHANGE SCREEN
```

The dual screen function allows you to work on two documents at the same time. This function can be used to compare two documents. You may copy a section of the top file to the bottom file, or vice-versa. (See "Copying a Block into a Different File on page 158.)

1. Press [MENU] to display the menu.

2. Use ◄ and ► to select FORM, and press [RETURN] or ↓.

• **Accelerator:** *Instead of (2), you may type "F".*

3. Use ↑ and ↓ to select DUAL SCREEN, and press [RETURN]. The INPUT/EDIT screen is reduced to its upper half, and a MEMORY INDEX appears on the lower half of the display (for details about the MEMORY INDEX screen, see "MEMORY INDEX Screen" on page 194).

• **Accelerator:** *Instead of (3), you may type "D".*

• **Short cut:** *There is no short-cut key for this function.*

4. Use ◄, ►, ↑, and ↓ to select a text file and press [RETURN]. The text of this file is now displayed in the lower half of the screen.

CREATE DOCUMENT

```
XXXXXXXX  P:XX  L:XXX  COL:XXX
 0....:....L....:....2....:....3....:....4....:....5....:....6....:...H7....R...
 E

              Text of the first file

XXXXXXXX  P:XX  L:XXX  COL:XXX              KB:X                        8:22AM
 0....:....L....:....2....:....3....:....4....:....5....:....6....:...H7....R...
 E        ■

              Text of the second file
```

5.   You may now edit the document in the lower half of the screen exactly in the
      same way as in the usual full-size INPUT/EDIT screen. The only difference
      is that the text area is smaller.

Switching to the Other Document (When displaying two documents)

```
┌──────┐       ┌──────┐
│ CODE │   +   │  Q   │
└──────┘       └──────┘
```

```
 STYLE    BLOCK    CTR/RMF    SPELL    ABBR/THR    SEARCH   │FORM      PAGE
                                                            │ PAPER SIZE
                                                            │ HEADER
                                                            │ FOOTER
                                                            │ SCALE LINE ON/OFF
                                                            │ DUAL SCREEN
                                                            │ CHANGE SCREEN
```
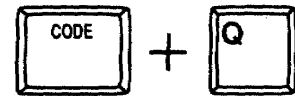
1. Press **MENU** to display the menu.

2.   Use ◄ and ► to select FORM, and press **RETURN** or ▼.

•   **Accelerator:** Instead of (2), you may type "F".

3.   Use ▲ and ▼ to select CHANGE SCREEN, and press **RETURN**. The cursor
      immediately moves to the text displayed on the upper half if it was in the lower
      half, and vice-versa.

•   **Accelerator:** Instead of (3), you may type "C".

•   **Short cut:** Instead of (1), (2), and (3), you may press **CODE** + **Q**.

Returning to Normal INPUT/EDIT Screen (When displaying two documents)

To return to the normal INPUT/EDIT screen, you must store one of the two files
that are displayed on the dual screen.

1.   Use the CHANGE SCREEN function described above to position the cursor on
      the document that you want to store in memory.

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2. Press (CODE) + (FILE) and proceed to store or abandon the document (see "Saving Your Work" on page 192). The document that was not selected for storing is now displayed on a full-size INPUT/EDIT screen.

Printing a Page (PAGE)

The last option of the function menu (PAGE) allows you to print a single page of your document. This function can be used to check the layout. It also allows you to insert page breaks that will inform the printer to eject the sheet of paper and print the next part of the document on another sheet.
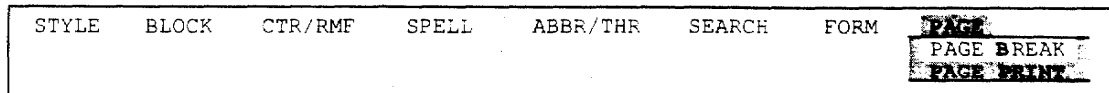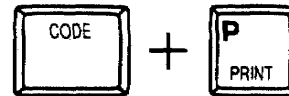
Page Breaks

STYLE	BLOCK	CTR/RMF	SPELL	ABBR/THR	SEARCH	FORM	PAGE
							PAGE BREAK
							PAGE PRINT

The text is always automatically formatted so that a maximum number of lines can fit on one page. If you do not insert a page break by following the steps below, an automatic page break will be inserted once the maximum number of lines per page is reached. This is determined by the setting on the PAPER SIZE screen (see "Paper Size" on page 183). Each time you want to start a new page prior to the automatic page ending, proceed as follows to insert a page break symbol " ↓ " in your text:

1. Position the cursor where the page break symbol has to be inserted.

2. Press [MENU] to display the menu.

3. Use ◄ and ► to select PAGE, and press [RETURN].

- ***Accelerator:*** *Instead of (3), you may type "P".*

5. Use ▼ and ▲ to select PAGE BREAK on the sub-menu, and press [RETURN]. A page break symbol " ↓ " will indicate that point, and the cursor will move to the next line. The page count (P indicator) is incremented and the line count (L indicator) restarts from 1. If you change your mind, you can always erase this symbol (and eliminate the page break) with [BS].

- ***Accelerator:*** *Instead of (5), you may type "B".*

- ***Short cut:*** *There is no short cut for this function.*

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Page Printing

STYLE	BLOCK	CTR/RMF	SPELL	ABBR/THR	SEARCH	FORM	PAGE

PAGE BREAK
PAGE PRINT

When you print a single page from the INPUT/EDIT screen, all settings like header, footer, and keyboard changes are effective. The merge symbols (see "Creating the Master Document" on page 210), however, do not cause data to be inserted, but instead are printed as blank spaces.

1. Make sure that your printer is ready.

2. Position the cursor on the page that you want to print.

3. Press (MENU) to display the menu.

4. Use ◄ and ► to select PAGE, and press (RETURN).

• **Accelerator:** Instead of (4), you may type "P".

• **Short cut:** There is no short cut for this function.

5. Use ▼ and ▲ to select PAGE PRINT on the sub-menu, and press (RETURN). Printing starts.

• **Accelerator:** Instead of (5), you may type "P".

• **Short cut:** Instead of (3), (4), and (5), you may press (CODE) + (PRINT) (P).

CREATE DOCUMENT

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File Operations -- Memory

Saving Your Work

The current file is kept in the memory even if the power is turned off accidentally during editing. If you were working on a retrieved file, the file will be automatically saved under the same file name. If you were working on a *NEWFILE, the next time you switch the machine on and enter your password, your document will automatically re-appear on the screen as you left it at the end of the previous session.

However, if the power is turned off during an operation like Search and Replace, data error may occur and you may not be able to retrieve the file. For that reason, it is not a good idea to switch the power off while editing. When your document is completed, or when you need a break, proceed as explained below.

Saving a New File

CODE + MENU / FILE
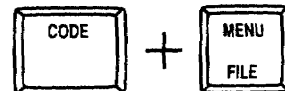
After creating a new file (the file name that appears on the upper-left corner of the screen is *NEWFILE), you have the options of saving or abandoning the file.

1. Press (CODE) + (FILE) ((MENU)) to display the following prompt on the message line:

```
Save file to internal memory?  Press RETURN to save, CODE + D to abandon.
```

2. Press (RETURN) if you want to save the file, or (CODE) + (D) if the file is not worth saving.

  *   **WARNING: If you press (CODE) + (D), the MEMORY INDEX screen appears without saving, and your work is lost.**

  *   *Press (CANCEL) instead of (RETURN) or (CODE) + (D) to return to the INPUT/EDIT screen without doing anything.*

3. If you have pressed (RETURN), the machine asks you to input a file name:

```
Type filename and press RETURN.
FILENAME: █
```

4. Type the file name (See "Entering a File Name" on page 193) and press (RETURN). The machine returns to the MEMORY INDEX screen and you can confirm that the new file appears in the list.

CREATE DOCUMENT

Saving an Edited file

CODE + MENU / FILE
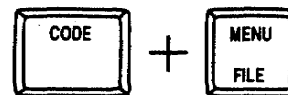
After editing an old file (the file name that appears on the upper-left corner of the screen is **not** ˙NEWFILE), press (CODE) + (FILE) ((MENU)). The new version immediately replaces the old one in the memory and the MEMORY INDEX screen appears.

Entering a File Name

When you are requested to enter a file name, the MEMORY INDEX screen shows a list of the text files already saved in the memory. The list of text files is displayed so that you can easily avoid entering a file name that is already used for another file. When typing a file name, please keep the following rules in mind:

1. *A file name is made of up to eight characters. A beep sounds if you try to input more.*

2. *Only the following characters can be accepted in file names: upper and lower case letters of the alphabet (A-Z and a-z), the digits (0 to 9), and the hyphen (-). All others are refused and trigger a beep.*

3. *Upper and lower case letters are distinguished. You may, for example, have files named "AAA" and "aaa" in the memory.*

4. *To correct an error, use (BS), (CODE) + (WORD OUT) ((0)), or (CODE) + (LINE OUT) ((-)) to erase the preceding letter(s), or use (←) and (→) to move the text cursor back over the name and retype.*

5. *If you have more files than can be displayed on the screen, use (↑), (↓), (CODE) + (PRE S) ((↑)), and (CODE) + (NEXT S) ((↓)) to scroll the file names on the INDEX when typing a new file name.*

6. ***If you enter a name that is already used by another document -- check the list on the screen to avoid this situation -- pressing (RETURN) displays the following prompt on the message line.***

```
Overwrite. Press RETURN to overwrite.
```

*   ***Press (CANCEL) to enter another file name. Press (RETURN) to overwrite the file and return to the MEMORY INDEX screen. Overwriting replaces the old text with the new text.***

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MEMORY INDEX Screen
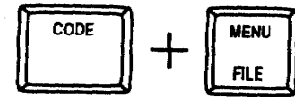
To view the list of the files stored in memory, press (CODE) + (FILE) ((MENU)).

If you do this while the INPUT/EDIT screen message shown below is still displayed, the MEMORY INDEX screen appears immediately.

```
Start typing your text. Press FILE to finish.
```

If you have typed text (the above message is no longer displayed), when you press (CODE) + (FILE) ((MENU)), you are able to store the data. (For details, see "Saving Your Work" on page 192.)

Example of MEMORY INDEX display:

```
<< MEMORY INDEX >>          MEMORY:XX.XK                SHIFT        9:22AM
      *NEWFILE              TEXT1        (XX.X)    TEXT2        (XXX)



Select a file and press RETURN.  Press CANCEL for MAIN MENU.
```

File Length and Remaining Memory Space

The numbers displayed in parentheses at the right of the file names indicate the size of the files in kilobytes.

The number following the indicator MEMORY indicates the memory free space in kilobytes.
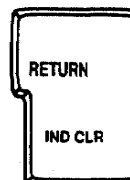
Selecting a File

A file name can be selected by moving the cursor with the cursor keys. If you have more files in memory than the amount that can be displayed on the screen, (↑) and (↓) will scroll the display. You may also use (CODE) + (PRE S) ((↑)) and (CODE) + (NEXT S) ((↓)) to scroll faster.

Functions Available on the MEMORY INDEX Screen

(RETURN) is used to retrieve a file. Other functions are available on the function menu that you can display by pressing (MENU).
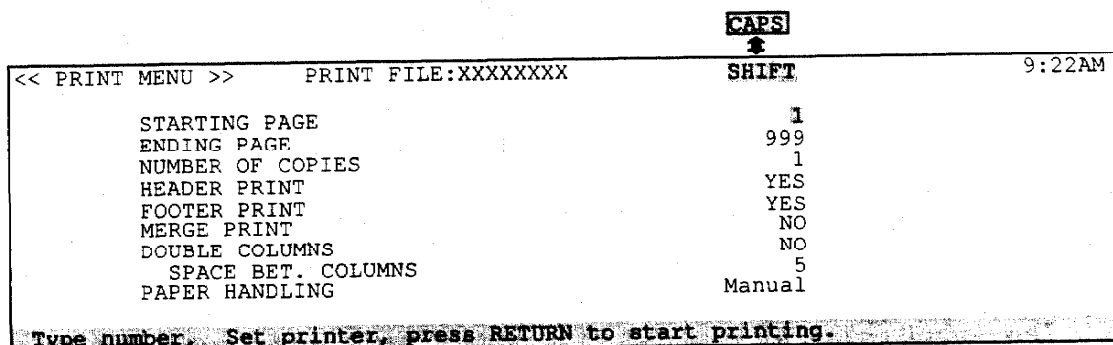
Retrieving Previous Work

Once the MEMORY INDEX screen is displayed, select the name of the file that you want to retrieve as explained above and press [RETURN]. The beginning of the document will be displayed on the INPUT/EDIT screen.

Printing a File in Memory

| PRINT | COPY | DELETE | RENAME | ALL DELETE | DISK | SAVE |
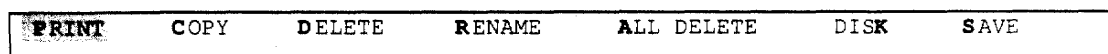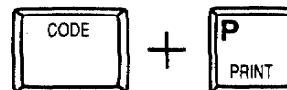
1. Move the cursor to the file on the MEMORY INDEX that you want to print.

2. Press [MENU] to display the menu.

3. Use ⊕ and ⊕ to select PRINT, and press [RETURN]. The print menu screen shown below appears.

• **Accelerator:** *Instead of (3), you may type "P".*

• **Short cut:** *Instead of steps (2) and (3), you may simply press* [CODE] + [PRINT] *(* [P] *).*

```
                                          CAPS
                                           ↑
<< PRINT MENU >>      PRINT FILE:XXXXXXXX     SHIFT                9:22AM

        STARTING PAGE                          1
        ENDING PAGE                          999
        NUMBER OF COPIES                       1
        HEADER PRINT                         YES
        FOOTER PRINT                         YES
        MERGE PRINT                           NO
        DOUBLE COLUMNS                        NO
          SPACE BET. COLUMNS                   5
        PAPER HANDLING                    Manual

Type number. Set printer, press RETURN to start printing.
```

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Option	Meaning
STARTING PAGE	The page number of the file on which printing is to start. The setting must be greater than zero and less than 1000. The default is 1 (starting from the first page).
ENDING PAGE	The page number of the file on which printing is to end. Must not be lower than the STARTING PAGE number. If the number is higher than the total number of pages, printing stops after the last page. The default is 999.
NUMBER OF COPIES	The number of copies you want to print. Must be greater than zero and less than 100. The default is 1 (the pages are printed once).
HEADER PRINT	Use [SPACE BAR] to toggle between YES and NO. If YES, any existing header will be printed on each page. If NO, no header will be printed, even if you have entered one.
FOOTER PRINT	Use [SPACE BAR] to toggle between YES and NO. If YES, any existing footer will be printed on each page. If NO, no footer will be printed, even if you have entered one.
MERGE PRINT	This should be left as NO when printing ordinary document files. (See "Merge Printing" on page 210.)
DOUBLE COLUMNS	This should be left as NO when printing ordinary document files. (See "Double Columns Printing" on page 198.)
SPACE BET. COLUMNS	This is used together with the above double columns printing and should be ignored when printing ordinary document files. (See "Double Columns Printing" on page 198.)
PAPER HANDLING	Use [SPACE BAR] to set to Manual or Continuous, depending of the paper feed system of your printer. Select Continuous if your printer is equipped with an automatic cut sheet feeder or if you are using continuous paper. Select Manual if you have to insert paper manually, one sheet at a time.

- *The default values for* STARTING PAGE, ENDING PAGE, *and* NUMBER OF COPIES *are displayed each time the print menu screen is called up.*

4. Move the cursor with [↑] and [↓] to any values you would like to change, and change using [SPACE BAR] for YES/NO setting, or by typing the desired value for the other options.

5. Set the printer and press [RETURN] after inserting paper.

- *You may press* [CANCEL] *at any time to terminate selection and return to the MEMORY INDEX screen.*

- *If there is a wrong setting on the PRINT MENU (for example,* STARTING PAGE *is greater than the ending page number), the following message appears and you have to correct it to the right setting.*

```
Incorrect setting.
```

6. With a Brother HR Series Daisy Wheel Printer, if this is the first time you are printing the file, or if you have previously printed a file using a different pitch, you will be prompted to install the proper daisy wheel to match the pitch setting selected. Insert the correct wheel, if necessary, and press [RETURN].

7. As soon as printing starts, the following message is displayed:

```
Printing. Press SPACE to pause.
```

Pausing/Resuming Printing

[(SPACE BAR)]

Sometimes you may wish to temporarily interrupt printing -- to adjust the paper position, for example.

1. Press [(SPACE BAR)] to stop the printer. A message indicating that the printer is paused will be displayed.

```
Printing paused. Press SPACE to continue.
```

2. Press [(SPACE BAR)] to restart the printer. The above message reappears:

```
Printing. Press SPACE to pause.
```

- *Printing in progress can be terminated by pressing [CANCEL].*
- *When printing is completed (or cancelled with the [CANCEL] key), the system returns to the MEMORY INDEX screen.*

Daisy Wheel Changes (only with Brother HR Series Printers)

Each time the system finds a pitch change or a keyboard change in the file, printing is interrupted and a message similar to the following will appear:

```
Change to ASCII 12 wheel and press RETURN.
```

CREATE DOCUMENT

This means that an ASCII wheel of pitch 12 is required at this point. Change the wheel and press (RETURN) to resume printing.
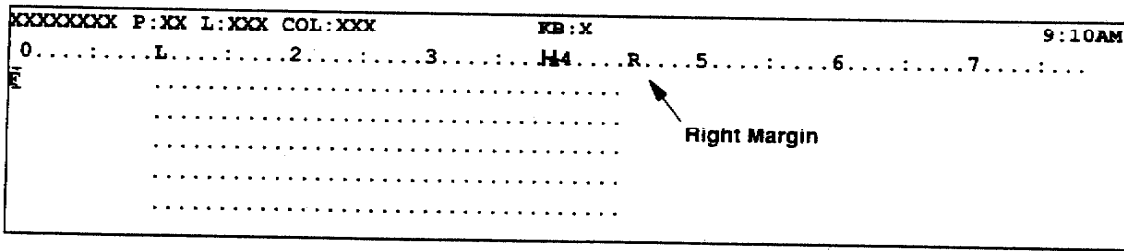
Double Columns Printing

This function allows you to print your text in newspaper fashion, with two columns across the page. A page on the screen will be printed as a column on paper. In other words, two pages will be printed on a single sheet of paper, the first page as the left column and the second page as the right column.

When formatting your document for double columns printing, you should reduce the distance between margins so that both columns and the space between columns can fit on the paper. The margins for the document should be set for one column. It is also recommended to use pitch 12 or 15 in order to fit enough text on a line.
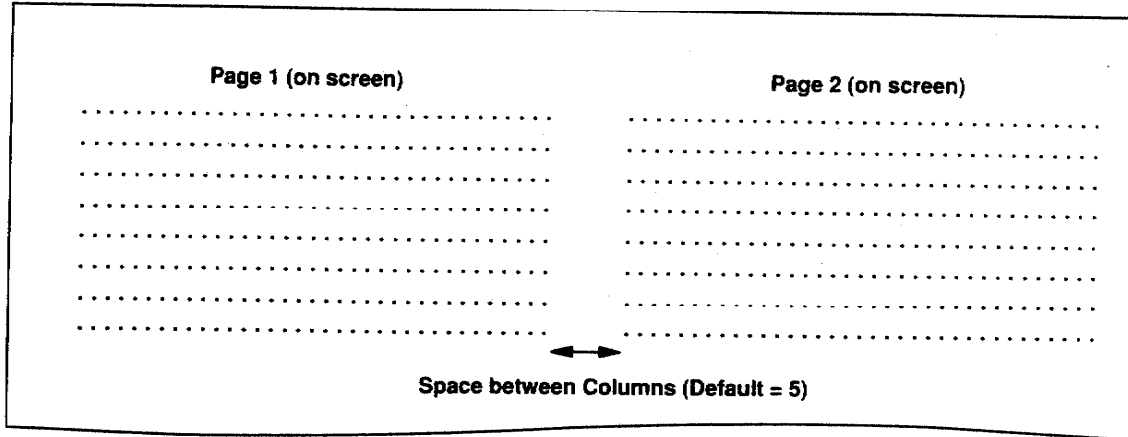
- *Double columns printing does not work with merge printing. Merge symbols are ignored during double columns printing, and replaced with blank spaces.*

- *To ensure proper column alignment, the document must not contain any margin or pitch or line spacing changes. It may, however, contain any number of keyboard and tab stop changes.*

1. Proceed as you would do to print a text file in standard format. (See "Printing a File in Memory" on page 195.)

2. When the print menu screen appears, set DOUBLE COLUMNS to YES. If necessary, set the SPACE BET(ween) COLUMNS (the default is five blank spaces and the available range is from 1 to 50). At this point, you may also change other settings on the menu as well, but you must not set the MERGE PRINT option to YES.
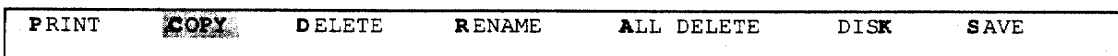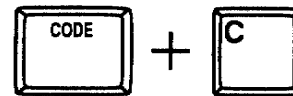
3. Press (RETURN) to start printing.

Right Margin Setting for Double Columns Printing

```
XXXXXXX P:XX L:XXX COL:XXX          KB:X                                    9:10AM
0....:....L....:....2....:....3....:..H4....R....5....:....6....:....7....:...
E
        ...........................................
        ...........................................
        ...........................................        ↖ Right Margin
        ...........................................
        ...........................................
        ...........................................
```

Double Columns Printout

Page 1 (on screen)	**Page 2 (on screen)**

Space between Columns (Default = 5)

Copying a File in Memory

[CODE] + [C]

```
PRINT    COPY    DELETE    RENAME    ALL DELETE    DISK    SAVE
```

You may wish to edit a file and keep both the old and new version in memory. Simply make a copy of the file before editing it.

1. Move the cursor on the MEMORY INDEX screen to the file that you want to copy.

2. Press [MENU] to display the menu.

3. Use ◀ and ▶ to select COPY, and press [RETURN]. The following message appears:

```
Type filename and press RETURN.
FILENAME: ▮
```

- *Accelerator:* Instead of (3), you may type "C".

- **Short cut:** *Instead of (2) and (3), you may simply press* (CODE) + (C).

4. Input the new file name and press (RETURN). The following message is displayed during the copy operation

```
Copying the file ... please wait.
```

and disappears after completion. The system then returns to the MEMORY INDEX screen.

- *If the specified new file name already exists in the memory when you press (RETURN) in step (4), the following message appears:*

```
Overwrite. Press RETURN to overwrite.
```

- *Press (RETURN) to overwrite or (CANCEL) to change the file name and proceed as in step (4). Overwriting replaces the old data with the new data.*

Deleting a File from the Memory   (CODE) + (D)
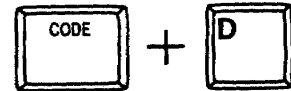
```
PRINT      COPY      DELETE      RENAME      ALL DELETE      DISK      SAVE
```

Deletion of unwanted files is useful to make room in the memory for new files.

1. Move the cursor on the MEMORY INDEX to the file that you want to delete.
2. Press (MENU) to display the menu.
3. Use (◄) and (►) to select DELETE, and press (RETURN). The following message appears:

```
Delete?  Press RETURN(yes) or CANCEL(no).
```

- *Accelerator: Instead of (3), you may type "D".*
- *Short cut: Instead of (2) and (3), you may simply press* (CODE) + (D).

4. Press (RETURN) to delete the file. If you press (CANCEL), the message disappears and the system goes back to the MEMORY INDEX screen without deleting the file.

Renaming a File in Memory

[CODE] + [R]
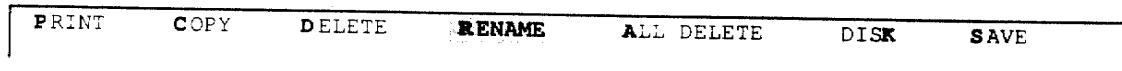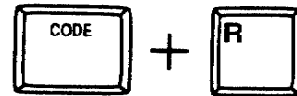
Renaming files is often useful when you want to improve the organization of your data.

1. Move the cursor on the MEMORY INDEX screen to the file that you want to rename.

2. Press (MENU) to display the menu.

3. Use ⊕ and ⊕ to select RENAME, and press (RETURN). The following message appears:
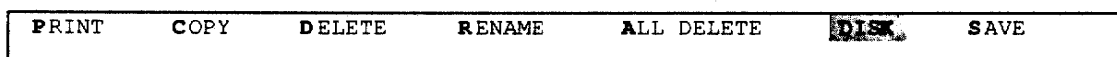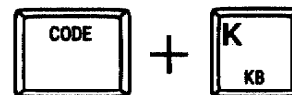
```
Type filename and press RETURN.
FILENAME: ■
```

*   **Accelerator:** *Instead of (3), you may type "R".*
*   **Short cut:** *Instead of (2) and (3), you may press* (CODE) + (R).

4. Input the new file name and press (RETURN) to rename.

*   **If the specified new file name already exists when you press (RETURN) in step (4), the following message appears:**

```
Filename already exists. Type new filename and press RETURN.
FILENAME: ■
```

Proceed as in step (4), using a different file name.

*   *Pressing* (CANCEL) *while a message is displayed cancels the operation and returns the system to the MEMORY INDEX screen.*

Switching to the DISK INDEX Screen

[CODE] + [K KB]

This function is used to display the list of files saved on a disk.

CREATE DOCUMENT

1. Insert the disk into the drive.

2. Press (MENU) to display the menu.

3. Use ◄ and ► to select DISK, and press (RETURN). The DISK INDEX screen shown on page 204 appears.

- **Accelerator:** *Instead of (3), you may type "K".*

- **Short cut:** *Instead of (2), and (3) you may press* (CODE) + (K).

Transferring a File from Memory to Disk

PRINT	COPY	DELETE	RENAME	ALL DELETE	DISK	SAVE
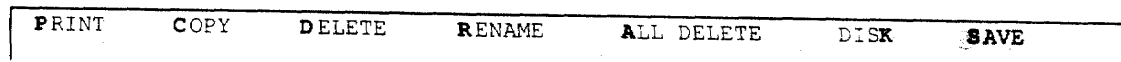
The SAVE function is used to copy a file from the memory to a disk. Once the file is saved on a disk, you may delete it from the memory in order to make room for new documents. A disk can contain about 240,000 characters of text (or about 240 pages).

1. Insert a disk in the drive.

2. Move the cursor on the MEMORY INDEX to the file that you want to transfer to the disk.

3. Press (MENU) to display the menu.

4. Use ◄ and ► to select SAVE, and press (RETURN). If the file name selected does not exist on the disk, the file is saved immediately and the system returns to the MEMORY INDEX screen.

- **Accelerator:** *Instead of (4), you may type "S".*

- **Short cut:** *Instead of (3) and (4), you may press* (CODE) + (S).

5. If the file name already exists on the disk, the following message appears:

Overwrite.   Press RETURN to overwrite.

6. Press (RETURN) to overwrite or (CANCEL) to change file name. If you press (CANCEL), the following message appears:

Type filename and press RETURN.
FILENAME: ■

7. Input a new file name and press (RETURN) to save the file on the disk. You may also press (CANCEL) at this step to escape.

- **Overwriting replaces the old data with the new data.**

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Deleting All Files in Memory

PRINT	COPY	DELETE	RENAME	**ALL DELETE**	DISK	SAVE

If the memory contains only unwanted files, you could clear it by deleting the files one by one. The ALL DELETE function does this faster.

1. Press **MENU** to display the menu.

2. Use ◀ and ▶ to select ALL DELETE, and press (RETURN). The following message appears:

```
Delete all text files and Scheduler file?  Press RETURN(yes) or CANCEL(no).
```

- *Accelerator: Instead of (2), you may type "A".*

- *Short cut: There is no short-cut key for this function.*

3. If you press **RETURN**, all the files are deleted. Press **CANCEL** if you want to escape.

File Operations -- DISK

In the explanations below, we assume that the DISK INDEX screen is displayed. To display that screen, refer to "Switching to the DISK INDEX Screen" on page 201.

The DISK INDEX screen is very similar to the MEMORY INDEX screen. The only differences are:

- *NEWFILE is not displayed.

- In addition to your text files created in the Create Document mode, the files created in the Address Book and Scheduler/Calendar are also displayed. These file names are followed with an extension MRG (Address Book) or DTB (Scheduler) for easy identification. Text files have no extension.

```
<< DISK INDEX >>                REMAIN:XXX.XK      SHIFT              9:22AM

TEXT1           (XX.X)     TEXT2        (XX.X)     TEXT3        (XX.X)
ADDRESS1.MRG    (XX.X)     ADDRESS2.MRG (XX.X)     SCHEDULE.DTB (XX.X)


Select a file and press MENU.  Press CANCEL for MEMORY INDEX.
```

Copying a File on the Disk

CODE + C
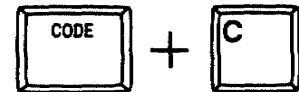
```
COPY      DELETE      RENAME      DISK COPY      MEMORY      DISK DELETE      LOAD
```

1. With the DISK INDEX displayed, move the cursor to the file that you want to copy.

2. Press MENU to display the menu.

3. Use ◀ and ▶ to select COPY, and press RETURN. The following message appears:

```
Insert destination disk and press RETURN.
```

- **Accelerator:** Instead of (3), you may type "C".

- **Short cut:** Instead of (2) and (3), you may simply press CODE + C.

4. Insert the destination disk and press RETURN or press CANCEL to return to the DISK INDEX screen. This message will appear:

5. Input the new file name and press (RETURN). The following message is displayed during the copy operation

```
Copying the file ... please wait.
```

and disappears after completion. The system then returns to the DISK INDEX screen.

*   *If the specified new file name already exists on the inserted disk when you press (RETURN) in step (4), the following message appears:*

```
Overwrite. Press RETURN to overwrite.
```

*   *Press (RETURN) to overwrite or (CANCEL) to change the file name and proceed as in step (4).*

Deleting a File from a Disk

[CODE] + [D]
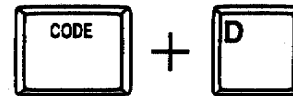
```
COPY    DELETE    RENAME    DISK COPY    MEMORY    DISK DELETE    LOAD
```

File deletion is useful when the disk is full and you want to make room for new documents.

1. With the DISK INDEX displayed, move the cursor to the file that you want to delete.

2. Press (MENU) to display the menu.

3. Use ◄ and ► to select DELETE, and press (RETURN). The following message appears:

```
Delete? Press RETURN(yes) or CANCEL(no).
```

*   *Accelerator: Instead of (3), you may type "D".*

*   *Short cut: Instead of (2) and (3), you may simply press [CODE] + [D].*

4. Press (RETURN) to delete the file. Press (CANCEL) if you want to escape.

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Renaming a File on Disk

[CODE] + [R]
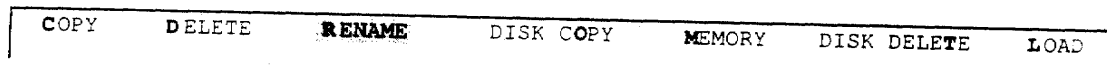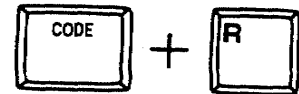
To change the name of a file, follow these steps.

1. With the DISK INDEX displayed, move the cursor to the file that you want to rename.

2. Press (MENU) to display the menu.

3. Use ⊕ and ⊕ to select RENAME, and press (RETURN). The following message appears:

```
Type filename and press RETURN.
FILENAME: ▊
```

*   ***Accelerator:*** *Instead of (3), you may type "R".*

*   ***Short cut:*** *Instead of (2) and (3), you may press* (CODE) *+* (R).

4. Input the new file name and press (RETURN). The above message disappears, and the DISK INDEX screen is updated.

*   *If the specified new file name already exists when you press* (RETURN) *in step (4), the following message appears:*

```
Filename already exists. Type new filename and press RETURN.
FILENAME: ▊
```

*   *Proceed as in step (4), using a different file name.*

*   *Pressing* (CANCEL) *while a message is displayed cancels the operation and returns the system to the DISK INDEX screen.*

Copying a Disk (Back-Up Copy)

[CODE] + [O JUST]
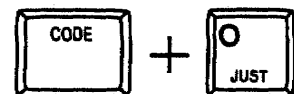
This function allows you to make back-up copies of important disks. It is a good idea to make back-up copies of important disks, to avoid accidental erasures.

1. Press (MENU) to display the menu.

2. Use ← and → to select **DISK COPY**, and press (RETURN). The following message appears:

```
All memory files must be saved on disk or deleted before using DISK COPY.
Press CODE+S to save files, CODE+D to delete files.
```

- *Accelerator: Instead of (2), you may type "O".*

- *Short cut: Instead of (1) and (2), you may press (CODE) + (O).*

3. The DISK COPY function makes use of the entire memory and all your files must be saved on disk or deleted before you start. To save the files, insert a disk and press (CODE) + (S). To delete the files, press (CODE) + (D). You may also press (CANCEL) to return to the DISK INDEX screen. When the operation is completed, this message will appear:

```
Insert source disk and press RETURN.
```

4. Insert the source (original) disk and press (RETURN). Wait while the machine copies the disk data into memory. The following message will then appear:

```
Insert destination disk and press RETURN.
```

- **WARNING: Copying an entire disk to another destroys any data that may be on the destination disk. Check the destination disk before starting. Be sure your destination disk has been initialized.**

5. Insert the destination disk and press (RETURN), then wait for the following prompt to appear:

```
Insert source disk and press RETURN.
```

- *Repeat steps (3) and (4) until all the data have been copied (since the memory can only hold a certain amount of data at one time, you will need to alternatively insert the source (original) and destination disks several times, regardless of the amount of data to be copied).*

- *You may press (CANCEL) at any time (except during disk access) to cancel the operation.*

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Switching to the MEMORY INDEX Screen

CODE	+	M M CODE

COPY	DELETE	RENAME	DISK COPY	**MEMORY**	DISK DELETE	LOAD
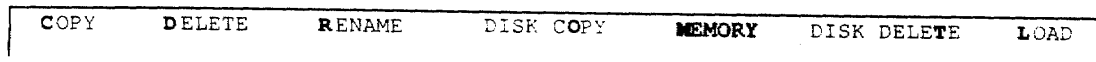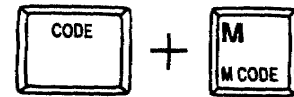
To return to the MEMORY INDEX screen from the DISK INDEX screen, proceed as follows.

1. Press (MENU) to display the menu.

2. Use ◀ and ▶ to select MEMORY, and press (RETURN). The MEMORY INDEX screen appears immediately. You may also press (CANCEL) to escape from the menu.

- **Accelerator:** *Instead of (2), you may type "M".*

- **Short cut:** *Instead of (1) and (2), you may press* (CODE) + (M).

Disk Delete (Deleting All Files)

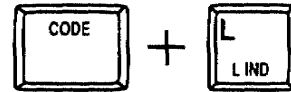| COPY	DELETE	RENAME	DISK COPY	MEMORY	DISK DELETE	LOAD
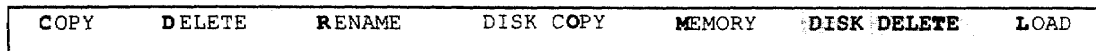
DISK DELETE erases all of the files from the disk.

- **Initializing a disk also deletes all data that it might contain (see "Initializing New Disks" on page 12).**

1. With the DISK INDEX displayed, press (MENU) to display the menu.

2. Use ◀ and ▶ to select DISK DELETE, and press (RETURN). The following message appears:

```
Delete all files?  Press RETURN(yes) or CANCEL(no).
```

- **Accelerator:** *Instead of (2), you may type "T".*
- **Short cut:** *There is no short cut for this function.*

3. If you press (RETURN), the files are deleted from the disk. Press (CANCEL) to avoid deleting.

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Transferring a File from Disk to Memory

COPY	DELETE	RENAME	DISK COPY	MEMORY	DISK DELETE	LOAD

The LOAD function is used to transfer a file from a disk to the memory. This function is very useful because you cannot select a file for editing or printing directly from the DISK INDEX screen.

- *The files that you are allowed to load depend on the mode you are coming from, Create Document, Address Book, or Scheduler/Calendar. For instance, the machine will refuse to load an Address Book file if you are coming from the Create Document mode.*

1. With the DISK INDEX displayed, move the cursor to the file that you want to load in the memory.

2. Press (MENU) to display the menu.

3. Use ← and → to select LOAD, and press (RETURN). If the file name selected does not exist in the memory, the file is loaded immediately.

- ***Accelerator:*** *Instead of (3), you may type "L".*

- ***Short cut:*** *Instead of (2) and (3), you may press* (CODE) *+* (L).

4. If the file name already exists in the memory, the following message appears:

```
Overwrite.  Press RETURN to overwrite.
```

5. Press (RETURN) to overwrite or (CANCEL) to change file name. If you press (CANCEL), this message will appear:

```
Type filename and press RETURN.
FILENAME: █
```

6. Input the new file name and press (RETURN) to load the file. You may also press (CANCEL) at this step to escape.

- ***Overwriting replaces the old data with the new data.***

CREATE DOCUMENT

Data Merge

The data merge function is extremely useful when a similar letter is to be sent to numerous addresses, and each letter is to be typed with a different name and address and slightly different contents. To save you from having to recall, edit and print the same letter over and over, the merge file function was created to do the job automatically. The following steps summarize the use of this powerful function:

Creating the Merge File

To use the data merge function, you must first create a file containing the data to be inserted in the letters (the merge file). This is done using the ADDRESS BOOK mode of the MAIN MENU (see "Address Book" on page 49). The data to be inserted into a single letter is called a record. A record is made of different labels (label 1, label 2, label 3, etc.) that correspond to the different pieces of information you need to insert in a single letter (name, address, etc.).

1. If the ADDRESS BOOK file that you want to use has been saved on disk, load it into the memory (see "Loading a File from a Disk" on page 73).

2. Mark (enable) the records that you want to be merged with your master document (see "Preparing a Record for Merge Printing" on page 55).

3. Exit the ADDRESS BOOK mode.

Creating the Master Document   `CODE` + `M` `M CODE`
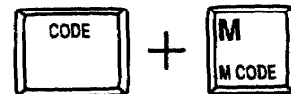
1. Use the Create Document mode to create a file containing the text that will be common to all letters (the master document). Wherever a piece of variable information has to be inserted in that text, press `CODE` + `M CODE` (`M`). The MRG: indicator appears on the status line. Type the label number that corresponds to the appropriate column in the ADDRESS BOOK that should be inserted. Press `RETURN`. A merge symbol "▯" appears in the text.

2. When the master document is complete, save it into the memory (see "Saving Your Work" on page 192).

Merge Printing

1. Print the master document from the MEMORY INDEX screen (see "Printing a File in Memory" on page 195). When the print menu screen appears, set the MERGE PRINT option to YES. At this point, you may also change other settings on the menu as well. Press `RETURN` to exit the print menu.

•   *If you try to print the master document from the INPUT/EDIT screen, the merge symbols will be printed as blank spaces.*

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2. Press ⬚RETURN⬚ to exit the PRINT MENU and start printing.

- *If there is no data in the Address Book file corresponding to a merge symbol in the text file, a single space will be printed.*

- *Printing of merge data is done according to the mode (NORMAL, BOLD, UNDERLINE, etc.) in effect when the merge symbol was entered.*

Optional Business Letter Template Disk

An optional Business Letter Template disk is available. This disk is provided to help you writing business letters. The sample letters stored on this disk are divided into different categories. Each file contains several letters of the same category. After a file is loaded into the machine's memory, you are able to select the letter which fits your purpose. You can then edit that letter by changing names, addresses, date, etc. You can also add new text. When your letter is ready, you can delete the other letters from the file and save your letter.

Operation

1. Insert the Brother Business Letters disk in the disk drive.

2. Select 4. CREATE DOCUMENT from the MAIN MENU.

3. When the INPUT/EDIT screen appears, press (CODE) + (FILE) ((MENU)) to switch to the MEMORY INDEX screen.

4. Press (MENU) to display the function menu and select DISK to switch to the DISK INDEX screen. A list of the files stored on the disk appears on the screen.

5. Highlight the desired file and press (CODE) + (L) to load it into memory.

6. Remove the Brother Business Letters disk from the disk drive.

7. Press (CANCEL) to return to the MEMORY INDEX screen.

8. Highlight the file again and press (RETURN) to display it on the INPUT/EDIT screen. The titles of the letters in the file are displayed on the INPUT/EDIT screen as the first page of the file.

9. Use (CODE) + (GO TO) ((G)) to jump to the desired letter.

10. Press (CODE) + (C) and highlight all the text in the letter by using the cursor keys.

11. Press (CODE) + (TEMP) ((T)) to store the text into a temporary file.

12. Press (CODE) + (FILE) ((MENU)) to return to the MEMORY INDEX.

13. Select NEWFILE to display a blank INPUT/EDIT screen.

14. Press (CODE) + (TEMP) ((T)) and then (RETURN) to recall the temporary file.

15. Edit the letter.

16. Press (CODE) + (FILE) ((MENU)), then (RETURN). Enter a new file name and press (REURN) again to save your letter.
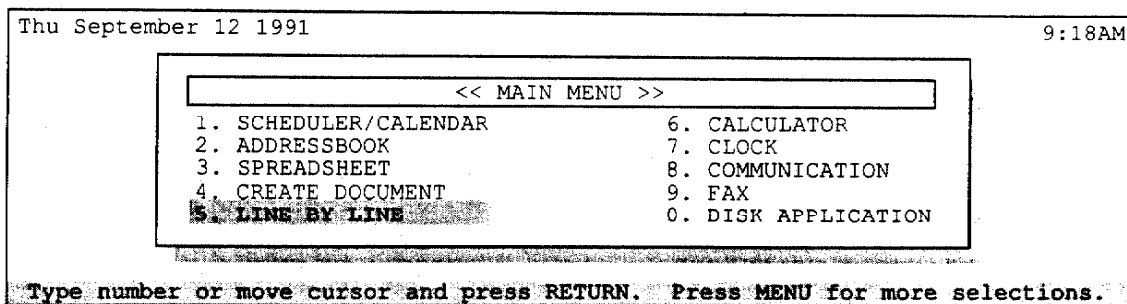
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Line by Line

Printing a Line at a Time as You Type

In the Line by Line mode, your machine allows you to type on paper without storing. You type your text line by line. The line is automatically transferred to the printer after completion. Since your text is not kept in memory, this mode will be used to type short texts like addresses on envelopes or short memos.

How to Start?

1. Make sure that your printer is connected and that the printer parameters are correctly set. See "Printer Set Up" on page 22 for details.
2. Switch the machine on to display the MAIN MENU.

```
Thu September 12 1991                                           9:18AM
          ┌─────────────────────────────────────────────┐
          │              << MAIN MENU >>                  │
          │  1. SCHEDULER/CALENDAR      6. CALCULATOR     │
          │  2. ADDRESSBOOK             7. CLOCK          │
          │  3. SPREADSHEET             8. COMMUNICATION  │
          │  4. CREATE DOCUMENT         9. FAX            │
          │  5. LINE BY LINE            0. DISK APPLICATION│
          └─────────────────────────────────────────────┘
  Type number or move cursor and press RETURN.  Press MENU for more selections.
```

3. Move the cursor to 5. LINE BY LINE using the cursor keys and press `RETURN`. The LINE BY LINE screen shown on the next page appears.

- **Accelerator:** *Instead of (3), you may type "5".*

Using the Line by Line Mode

Simply type your text. If the last word cannot fit on the line, delete it. Press `RETURN` to send the line to the printer and start typing the next line. You are allowed to set the margins and to use some layout functions. For details see:

- "Setting Up" on page 216
- "Layout Functions" on page 219
- "Printer Set Up" on page 22

How to Finish

After typing your text, simply turn the machine off or press `CODE` + `FILE` (`MENU`) to return to the MAIN MENU.

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The LINE BY LINE Screen

```
                                          [RMF]           [WRD]    [CAPS]
                                            ↑               ↑        ↑
  REMAIN:XXX PITCH:XX L.SPACE:X.X  KB:X    CTR  EXP  BLD  CNT  INS  SHIFT      9:57PM

                      << LINE BY LINE >>   DEAD:XX
                                              ↑
                                           F BS:X

                                          MARGIN    LM: XXX
                                                    RM: XXX
  Start typing your text.  Press FILE to finish.
```

Text Line

This is where the text that you type will appear. The text cursor (solid box) indicates where you are. The text is sent to the printer and disappears from the text line when you press [RETURN].

Message Area

This line is reserved for guide messages (prompts) that ask you a question, give direction or display error messages that warn you when something is wrong.

• *For a list of error messages, see "Error Messages" on page 267.*

Function Menu

When you press [MENU], a menu of functions appears on top of the screen. These functions are identical to the STYLE and CTR/RMF functions of the Create Document mode.

```
  STYLE          CTR/RMF
```

Status Line

The status line indicators remind you where you are and what settings you have selected.

Indicators of the LINE BY LINE screen

| Indicator	Meaning
REMAIN:XXX	Remaining free length of the line.
PITCH:XX	Current pitch (10, 12, or 15).
L.SPACE:X.X	Current line spacing (1.0, 1.5, or 2.0).
KB:X	Current keyboard selection (I or II).
SHIFT	On if the keyboard is in uppercase mode.
CAPS	On if the keyboard is in caps lock mode.
INS	On when the insert mode is activated.
EXP	On when the expand function is activated.
P BS:X	Displays the superimposed character when the cursor is on the base character. (Displayed two lines below the Status line).
DEAD:XX	Displays the dead character when the cursor is on the base character. (Displayed two lines below the Status line).
BLD	On when the bold function is activated.
CNT	On when the continuous underline function is activated.
WRD	On when the word underline function is activated.
RMF	On when the right margin flush function is activated.
CTR	On when the centering function is activated.
LM:XXX	Indicates the left margin setting (under the text line).
RM:XXX	Indicates the right margin setting (under the text line).

LINE BY LINE

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Setting Up

Setting Margins
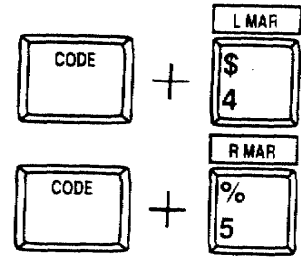
1. Press CODE + (L MAR) (4) or CODE + (R MAR) (5). The cursor moves to the MARGIN indicator.

2. Use ⬆ and ⬇ to move the cursor to the left or right margin setting. Type the desired setting and press (RETURN). You may also press (CANCEL) to return to the input line without changing the settings.

• *The margins are reset to their default values (10 and 75) each time you start with the Line by Line mode.*

Selecting the Pitch
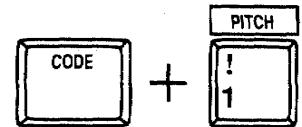
1. Press (CODE) + (PITCH) (1) repeatedly to select PITCH:10, PITCH:12, or PITCH:15.

2. If you are using a daisy wheel printer, install the corresponding daisy wheel.

• *The pitch can be changed only before entering text on the screen.*

• *The pitch is reset to its default value (10) each time you start with the Line by Line mode.*

Selecting the Line Space
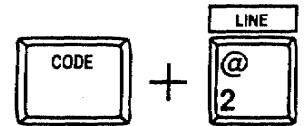
Press (CODE) + (LINE) (2) repeatedly to select L. SPACE:1.0, L. SPACE:1.5, or L. SPACE:2.0.

• *The line space is reset to its default value (10) each time you start with the Line by Line mode.*

Corrections

To delete a character on the line, move the cursor to the right of the character and press BS .

To delete an entire word, position the cursor next to the last character of the word and press (CODE) + (WORD OUT) (0).

To delete an entire line, position the cursor next to the last character of the line and press (CODE) + (LINE OUT) ( ).

To insert text, position the cursor at the insertion position, press (CODE) + (INSERT) (I) to display the INS indicator, and start typing. When the INS indicator is off, the characters that you type overwrite the old ones.

Caps Lock vs. Shift Lock
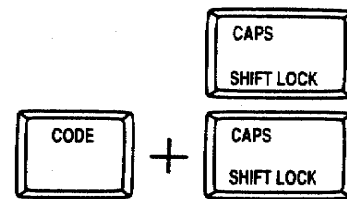
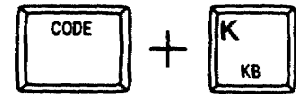Uppercase characters will be printed if you hold (SHIFT) down while pressing any other key.

To type an entire string of uppercase characters, press (CODE) + (SHIFT LOCK) (CAPS) once. The SHIFT indicator shows up and all characters you type will be uppercase characters. To cancel this, press (SHIFT).

If you want to enter strings of capital letters in combination with numbers, press (CAPS). The CAPS indicator will show up and all alphabetic keys will give capitals while other keys are kept in lower case mode. To cancel, press (CAPS) again. When the CAPS indicator is on, holding down (SHIFT) temporarily changes the CAPS indicator to the SHIFT indicator. Pressing (CODE) + (SHIFT LOCK) (CAPS) in the same circumstance switches to SHIFT. Pressing (SHIFT) switches back to CAPS.

SHIFT LOCK   CAPS

NEW WORK ORGANIZER!   (MODEL PN-123XZ)
Congratulations on your purchase of this new Word

Shift

LINE BY LINE
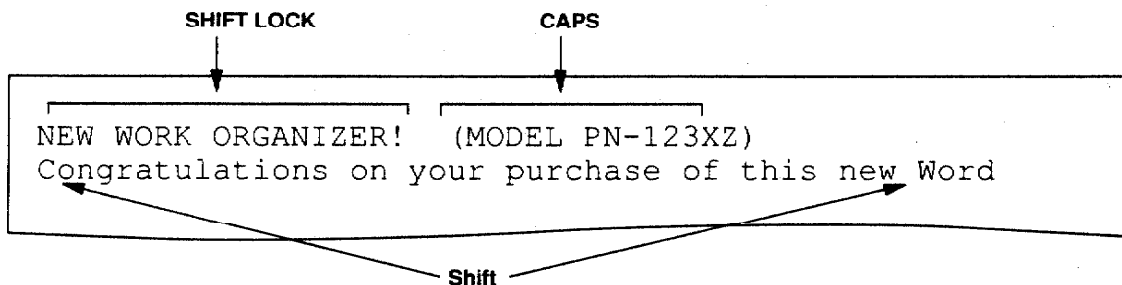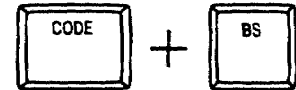
Selecting the Keyboard

1. When you need to print characters that are not available on the current keyboard, press `CODE` + `KB` (`K`) to select KB:I or KB:II.
2. If you are using a daisy wheel printer, install the corresponding daisy wheel.
• *The keyboard setting can be changed only before entering text on the screen.*

Permanent Backspace

The permanent backspace function is used to print superimposed characters such as "0" and "/" to produce a struck out zero, or "Y" and "=" to produce a Japanese Yen currency symbol.

1. Type the base character "Y".
2. Press `CODE` + `BS`. The P BS:X indicator appears.
3. Type the character which is to be imposed "=". The superimposed character will reappear on the status line if you move the cursor to the base character.
4. To delete superimposed characters, simply delete the base character.

Accents and Special Symbols ("Dead" Keys)

The ASCII keyboard (KB:I) supports the characters with diacritical marks of such languages as French, German, and Spanish.
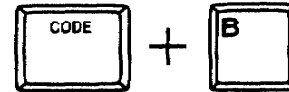
1. Switch to KB:I using `CODE` + `KB` (`K`).
2. Type the dead character (example: ^).
3. Type the base character (example: o).

Layout Functions

Adding Effects (STYLE)

The effects provided by the STYLE option on the function menu allow you to enhance the appearance of your document. They include bold characters, underlining, automatic insertion of blanks (expand), as well as superscripts and subscripts.
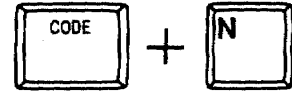
Bold Face Characters

```
CODE  +  B
```

```
 STYLE          CTR/RMF
 BOLD           OFF      (ON)
 UNDERLINE      OFF      (CNT)  (WRD)
 EXPAND         OFF      (ON)
 SUPER SUB ON/OFF  OFF   (SUPER)  (SUB)
```

1. If you want to turn the bold function on before typing, skip this step. If you want to change the type face of a portion of text already typed, position the cursor at the beginning of that portion.

2. Press (MENU) to display the menu.

3. Use (←) and (→) to select STYLE, and press (RETURN) or (↓).

- *Accelerator: Instead of (3), you may type "S".*

4. Use (↑) and (↓) to select BOLD.

5. Use (SPACE BAR) to turn the bold function ON.

- *Accelerator: Instead of (4) and (5), you may type "B".*

6. Press (RETURN). The BLD indicator is now on.

- *Short cut: Instead of (2), (3), (4), (5), and (6), you may press (CODE) + (B) to switch the bold function ON/OFF.*

7. The text you now type or the text you scan by moving the cursor right is displayed in bold. If you move the cursor past the desired position, simply move back to unmark. To move the cursor to the beginning or the end of the line, (CODE) + (EXPR) (←) and (CODE) + (RELOC) (→).

8. To return to normal typing, repeat steps (2), (3), (4), (5), and (6) to turn the bold function OFF, or press (CODE) + (B).

- *To undo bold characters, position the cursor just after the last bold character, turn the bold function ON, and move the cursor to the left. Turn the bold function OFF to stop undoing bold.*

> Using the **Boldface** is a way of making a Word, Phrase or entire Paragraph stand out and catch the reader's eye. The **Boldface** feature has a

Underlining

```
┌──────────┐     ┌──┐
│   CODE   │  +  │ N │
└──────────┘     └──┘
```

```
STYLE          CTR/RMF
BOLD           OFF    (ON)
UNDERLINE      OFF    (CNT)  (WRD)
EXPAND         OFF    (ON)
SUPER SUB ON/OFF   OFF    (SUPER)  (SUB)
```

1.   If you want to turn the underline function on before typing, skip this step. If you want to underline a portion of text already typed, position the cursor at the beginning of that portion.

2.   Press **(MENU)** to display the menu.

3.   Use **(◄)** and **(►)** to select STYLE, and press **(RETURN)** or **(▼)**.

•   *Accelerator: Instead of (3), you may type "S".*

4.   Use **(▲)** and **(▼)** to select UNDERLINE.

5.   Use **((SPACE BAR))** to select CNT (continuous underlining) or WRD (word underlining).

•   *Accelerator: Instead of (4) and (5), you may type "N".*

6.   Press **(RETURN)**. The corresponding indicator is now on.

•   *Short cut: Instead of (2), (3), (4), (5), and (6), you may press (CODE) + (N) to switch the underline function CNT/WRD/OFF.*

•   *If you select continuous underlining, all will be underlined, including blank spaces. With word underlining, blank spaces are not underlined.*

7.   The text you now type or the text you scan by moving the cursor right is underlined. If you move the cursor past the desired position, simply move back to remove the underline. To move the cursor to the beginning or the end of the line, (CODE) + (EXPR) (◄) and (CODE) + (RELOC) (►).

8.   To return to normal typing, repeat steps (2), (3), (4), (5), and (6) to turn the underline function OFF, or press (CODE) + (N).

•   *To undo underlining, position the cursor just after the last underlined character, select the same option (CNT or WRD), and move the cursor to the left. Turn the underline function OFF to stop removing underlining.*

> <u>Using the Underline</u> is a way of making a Word,
> Phrase or entire Paragraph stand out and catch
> the reader's eye. The Underline feature has a

Word Underline

> Using <u>the</u> <u>Underline</u> is a way of making a Word,
> Phrase or entire Paragraph stand out and catch
> the reader's eye. The Underline feature has a

Typing Expanded Text

```
STYLE           CTR/RMF
BOLD             OFF    (ON)
UNDERLINE        OFF    (CNT)  (WRD)
EXPAND           OFF    (ON)
SUPER SUB ON/OFF OFF    (SUPER) (SUB)
```

The expand function is used only while typing. You cannot use it to reformat text that has been typed.

1. Press [MENU] to display the menu.

2. Use [←] and [→] to select STYLE, and press [RETURN] or [↓].

• **Accelerator:** *Instead of (2), you may type "S".*

3. Use [↑] and [↓] to select EXPAND.

4. Use [(SPACE BAR)] to turn the function ON.

• **Accelerator:** *Instead of (3) and (4), you may type "E".*

5. Press [RETURN]. The EXP indicator is now on.

• **Short cut:** *There is no short-cut key for this function.*

6. The text you now type is expanded -- that is, a permanent space is automatically inserted after each text character (See also "Permanent Space" on page 136.)

7. To return to normal typing, repeat steps (1), (2), (3), (4), and (5) to turn the expand function OFF.

• *The permanent spaces inserted with the expand function cannot be removed automatically. To undo the expand format, delete the permanent spaces one by one using* [BS].

```
┌──────────────────────────────────────────────────────┐
│  C O P Y                                             │
│            ╲── Expand                                │
│                                                      │
│      This letter was typed on this new Work Organizer │
│  to show you some of the many outstanding feats it can│
│  perform.                                            │
└──────────────────────────────────────────────────────┘
```

Superscripts and Subscripts
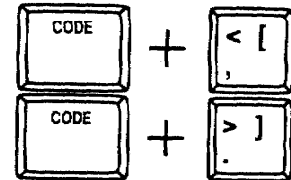
`CODE` + `< [`

`CODE` + `> ]`

```
 STYLE          CTR/RMF
 BOLD              OFF     (ON)
 UNDERLINE         OFF     (CNT)  (WRD)
 EXPAND            OFF     (ON)
 SUPER SUB ON/OFF  OFF     (SUPER)  (SUB)
```

You may enter and print superscripts and subscripts.

* *Characters in superscript and subscript are displayed on the same line as normal characters, but only a half of the cursor appears (upper-half for superscripts, and lower-half for subscripts).*

* *With daisy wheel and laser printers, superscripts and subscripts are printed the same distance (1/12 inch) above or below the line, regardless of the current line spacing. They are printed the same size as the normal text characters. With dot matrix and inkjet printers, superscripts and subscripts are smaller than normal text characters.*

1. Move the cursor to the position where you want to type a superscript (or subscript).

2. Press (MENU) to display the menu.

3. Use ⊙ and ⊙ to select STYLE, and press (RETURN) or ⊙.

* ***Accelerator:** Instead of (3), you may type "S".*

4. Use ⊙ and ⊙ to select SUPER/SUB/OFF.

* ***Accelerator:** Instead of (4), you may type "S".*

5. Use ((SPACE BAR)) to until you get select SUPER or SUB.

6. To return to normal typing, repeat steps (2) to (5) to switch the function OFF.

* *To undo superscripts or subscripts, turn the function OFF and retype the characters.*

* ***Short cut:** Instead of the above procedure, you may use (CODE) + ⊙ and (CODE) + ⊙.*

LINE BY LINE

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- *Each pair of keys (* CODE *+* 🔲 *and* CODE *+* 🔲 *) cancels the other, and the two pairs must always be used in combination.*
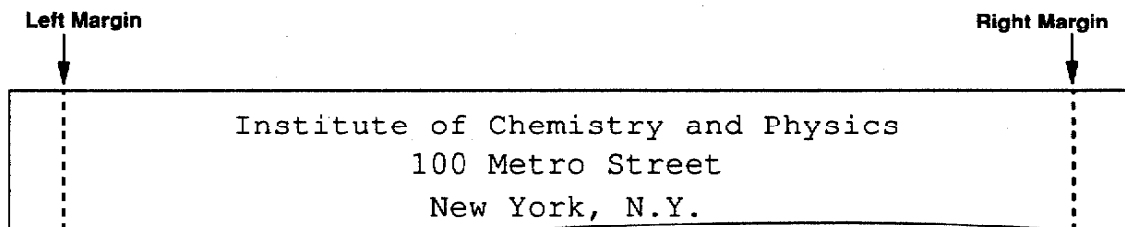

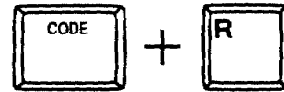# Centering and Right Margin Flush Functions (CTR/RMF)

Centering

```
STYLE        CTR/RMF
             CENTERING
             RIGHT MARGIN FLUSH
```
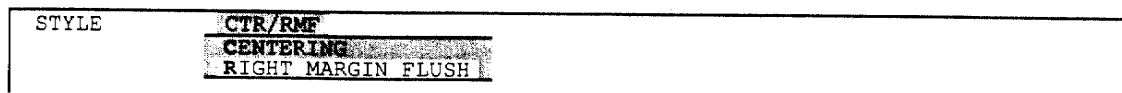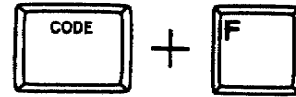
The centering function is used to center headlines or titles between the margins.

1. Press **MENU** to display the menu.
2. Use 🔲 and 🔲 to select CTR/RMF, and press **RETURN** or 🔲.
- ***Accelerator:*** *Instead of (2), you may type "C".*
3. Use 🔲 and 🔲 to select CENTERING and press **RETURN**. The CTR indicator shows up.
- ***Accelerator:*** *Instead of (3), you may type "C".*
- ***Short cut:*** *Instead of (1), (2), and (3), you may press* CODE *+* 🔲 *.*
4. Type your text and press **RETURN**.
- *Pressing* **CANCEL** *or* CODE *+* 🔲 *switches back to the normal mode.*

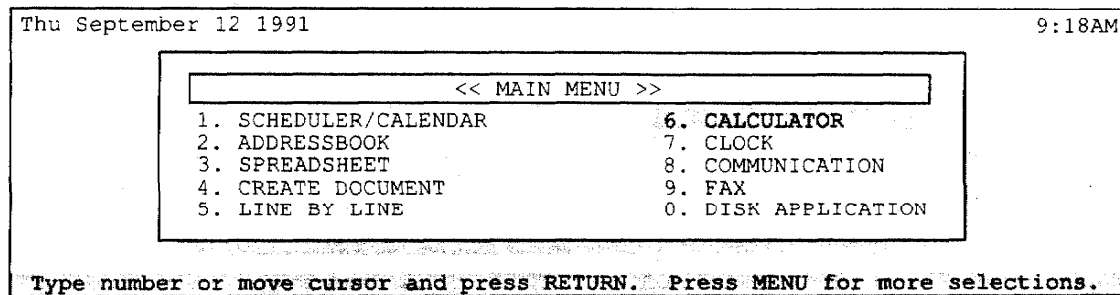**Left Margin**   **Right Margin**

```
        Institute of Chemistry and Physics
               100 Metro Street
               New York, N.Y.
```

Right Margin Flush

CODE + R

```
STYLE    CTR/RMF
         CENTERING
         RIGHT MARGIN FLUSH
```

The right margin flush function is used to have the last character of a line exactly on the right margin. This is used, for example, to type the date of a letter.

1. Press (MENU) to display the menu.

2. Use ← and → to select CTR/RMF, and press (RETURN) or ↓.

- *Accelerator: Instead of (2), you may type "C".*

3. Use ↑ and ↓ to select RIGHT MARGIN FLUSH and press (RETURN). The RMF indicator shows up.

- *Accelerator: Instead of (3), you may type "R".*

- *Short cut: Instead of (1), (2), and (3), you may press (CODE) + (R).*

4. Type your text and press (RETURN).

- *Pressing (CANCEL) or (CODE) + (R) switches back to the normal mode.*

Right Margin

May 26, 1989

LINE BY LINE
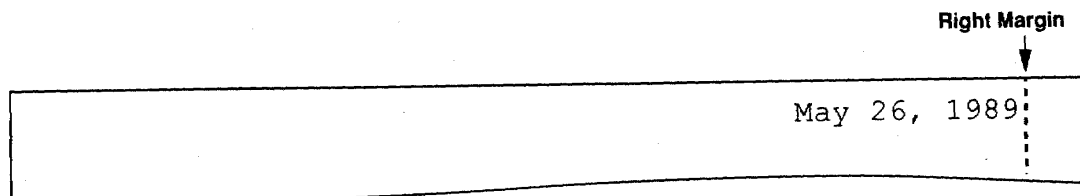
Calculator

Using Your Machine like a Pocket Calculator

In the CALCULATOR mode, the screen looks like a pocket calculator and allows for elementary arithmetics. The result can be transferred to the INPUT/EDIT screen of the Create Document mode.
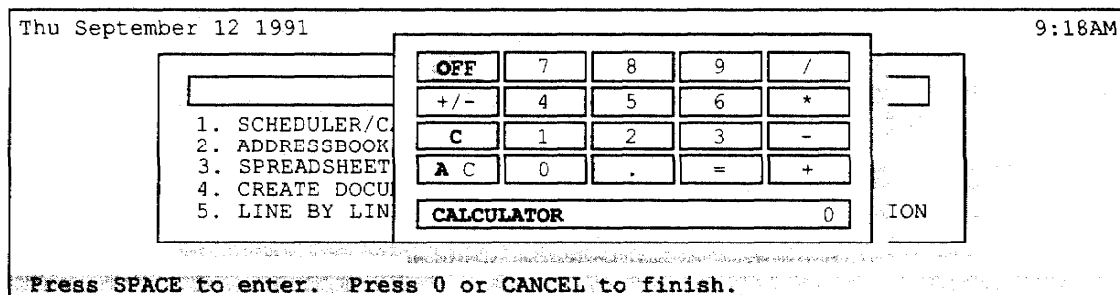
How to Start?

From the Main Menu

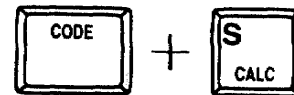1. Switch the machine on to display the MAIN MENU.

```
Thu September 12 1991                                        9:18AM

        ┌─────────────────────────────────────────────┐
        │               << MAIN MENU >>               │
        │  1. SCHEDULER/CALENDAR    6. CALCULATOR     │
        │  2. ADDRESSBOOK           7. CLOCK          │
        │  3. SPREADSHEET           8. COMMUNICATION  │
        │  4. CREATE DOCUMENT       9. FAX            │
        │  5. LINE BY LINE          0. DISK APPLICATION│
        └─────────────────────────────────────────────┘

 Type number or move cursor and press RETURN.  Press MENU for more selections.
```

2. Move the cursor to 6. CALCULATOR using ⊕, ⊕, ⊕, and ⊕, then press ⌈RETURN⌋. The CALCULATOR screen appears.

*   ***Accelerator:*** *Instead of (2), you may type "6".*

```
Thu September 12 1991                                        9:18AM

        ┌──────────┐  ┌────┬───┬───┬───┬───┐  ┌───┐
        │          │  │OFF │ 7 │ 8 │ 9 │ / │  │ ─ │
     1. SCHEDULER/C. │+/- │ 4 │ 5 │ 6 │ * │  └───┘
     2. ADDRESSBOOK  │ C  │ 1 │ 2 │ 3 │ ─ │
     3. SPREADSHEET  │A C │ 0 │ . │ = │ + │
     4. CREATE DOCU  ├────┴───┴───┴───┴───┤
     5. LINE BY LIN  │CALCULATOR       0  │   ION
                     └────────────────────┘

 Press SPACE to enter.  Press 0 or CANCEL to finish.
```

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From the Create Document Mode

CODE + S CALC

You may also display the CALCULATOR screen when you need to carry out calculation while working on the INPUT/EDIT screen of the Create Document mode. To do this, simply press (CODE) + (CALC) ((S)).

• *The CALCULATOR can be called up only during normal input. You cannot call up the CALCULATOR when the help menu is displayed, when a function like permanent backspace, a function of the menu, etc. is activated.*

Calculating

1. Use the number keys (1) — (0) to type numbers. The number is displayed on the bottom line of the display. To correct the last digit, press (BS) and retype.
2. Type an operator (+, for example).
3. Type the second number.
4. To get the result, press (=) or (RETURN).

• *Instead of typing, you may also use ⬅, ➡, ⬆, and ⬇ to move the cursor to an item on the display. Press (SPACE BAR) to select the item. Press (RETURN) to calculate.*

Order of Calculation

Operations are carried out in the normal order of precedence: multiplication or division first, then addition or subtraction.

Example 1: To calculate 1+2*3=7, use (1) (+) (2) (*) (3) (=).

Example 2: To calculate (1+2)*3=9, use (1) (+) (2)(=) (*) (3) (=).

Sign

To change the sign of a number, select (+/-) after entering the number.

Example: To calculate 2*(-5)=-10, use (2) (*) (5) (+/-) (=).

Maximum Length of Numbers and Precision

The maximum length of a number is eight digits. If you enter more digits, they will be ignored.

12345678 or 0.1234567 are accepted.

123456789 is truncated to 12345678 (9 ignored).

Since the calculator truncates all numbers to eight digits, small errors may occur.

Example: If you enter 1/3*3, you obtain 0.9999999 instead of 1.

Storing a Constant

If you enter the same operation twice in a row, K appears on the screen and the previous result is stored in a temporary memory. That result is automatically reused if you omit to enter a number after an operation.

Example: ⑤ ⊕ ⊕ (K appears and 5 is stored) ② ⊟ (7 is displayed).

- *If you enter the same operation more than twice in a row, K disappears and reappears alternately.*

Clearing

Ⓒ clears the last entered number or operation.

Example 1: ① ⊕ ② Ⓒ ③ gives 4 (2 has been cleared).

Example 2: ⑤ ⊡ Ⓒ ⊡ ② gives 3 (+ has been cleared).

- *To clear an operation and replace it with another, you may also simply enter the second operation. When you enter two or more different operations in a row, only the last operation is used.*

   Example: ① ⊡ ⊕ ② *gives 3.*

ⒶⒸ clears all operations and numbers.

Turning the CALCULATOR off
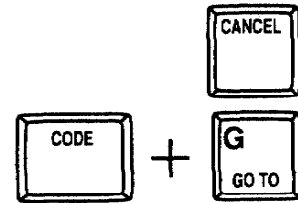
To turn the CALCULATOR off, move the cursor to ⓞFF and press ⟮(SPACE BAR)⟯. You may also use ⟮CANCEL⟯, ⟮O⟯, or ⟮CODE⟯ + ⟮CALC⟯ (⟮S⟯). You will be back to the MAIN MENU or to the INPUT/EDIT screen of the Create Document mode, wherever you were coming from.

If you were coming from the Create Document mode, pressing ⟮CODE⟯ + ⟮GO TO⟯ (⟮G⟯) turns the CALCULATOR off and transfers the result of the calculation to position of the text before you switched to Calculator.
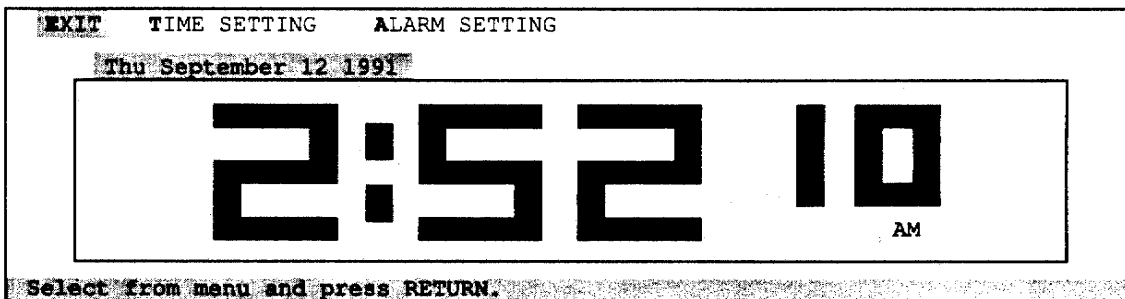
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Clock

The Time Clock

This machine is equipped with an internal time clock featuring an alarm. The CLOCK screen shown below can be permanently displayed when the machine is not used. The time is also displayed on the upper-right corner of some screens, like the MAIN MENU, for example.

Turning the CLOCK ON

1.   Switch the machine on to display the MAIN MENU.

```
Thu September 12 1991                                             9:18AM

                   ┌─────────────────────────────────────┐
                   │            << MAIN MENU >>           │
                     1. SCHEDULER/CALENDAR      6. CALCULATOR
                     2. ADDRESSBOOK             7. CLOCK
                     3. SPREADSHEET             8. COMMUNICATION
                     4. CREATE DOCUMENT         9. FAX
                     5. LINE BY LINE            0. DISK APPLICATION


  Type number or move cursor and press RETURN.  Press MENU for more selections.
```
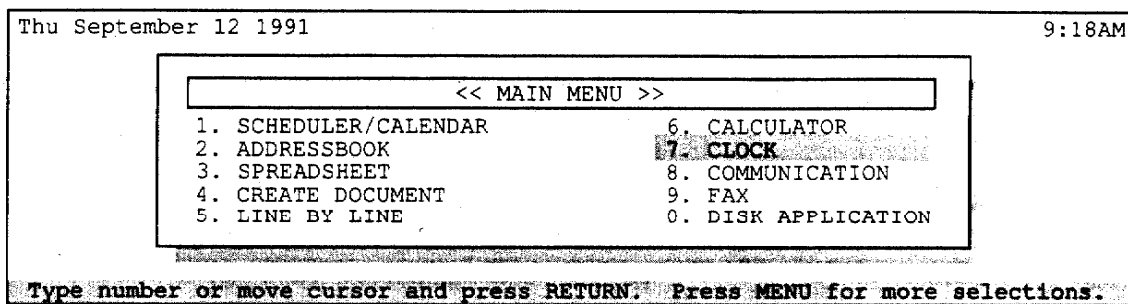
3.   Move the cursor to 7. CLOCK using ⊕, ⊕, ⊕, and ⊕, then press ⌜RETURN⌝. The CLOCK screen appears.

•   ***Accelerator:*** *Instead of (3), you may type "7".*

```
 EXIT    TIME SETTING    ALARM SETTING
      Thu September 12 1991
    ┌──────────────────────────────────────────┐
    │                                          │
    │      2:52    10                          │
    │                              AM          │
    └──────────────────────────────────────────┘
  Select from menu and press RETURN.
```

Setting the Time

1. Use ⊕ and ⊕ to select TIME SETTING and press (**RETURN**). The TIME SETTING screen appears.

*   **Accelerator:** Instead of (1), you may type "T".

```
                                                              12:16AM
                    ┌──────────────────────────┐
                    │    << TIME SETTING >>     │
                    └──────────────────────────┘
                       MONTH                 1
                       DAY                   1
                       YEAR               1990
                       TIME           12:14:00
                       AM or  PM            AM
                       M/D/Y or D/M/Y    M/D/Y
                       12Hr. or 24Hr.    12Hr.

 Type number.  Press RETURN to set time.
```

2. Use ⊕ and ⊕ to move the cursor to an item that you wish to set and press (**SPACE BAR**) or type a value (see table below).

*   *The date and time can be set until December 31, 2099.*

3. When all items are set, press (**RETURN**) to start the clock.

Time setting

Setting	Selection	Explanation
Month		Type the month number (ex. 5 for May)
Day		Type the day (ex. 12)
Year		Type the year (ex. 1991)
Hour		Type the hour
Minute		Type the minutes
Second		Type the seconds. The seconds are always reset to zero when the TIME SETTING function is activated.
AM / PM	AM PM	This setting is available only when the hour mode is set to 12Hr. Select with (**SPACE BAR**).
Date mode	M / D / Y D / M / Y	May first 1991 will be displayed as MAY 1, 1991 May first 1991 will be displayed as 1 MAY, 1991 Select with (**SPACE BAR**).
Hour mode	12Hr 24Hr	PM1:00 will be displayed as PM 1:00 PM1:00 will be displayed as 13:00 Select with (**SPACE BAR**).
Day of week	Mon, Tue, Wed, Thu, Fri, Sat, Sun	This is automatically calculated according to the year, month, and day.

Setting the Alarm

1. Use ⊕ and ⊕ to select ALARM SETTING and press [RETURN]. The ALARM SETTING screen appears.

•   **Accelerator:** *Instead of (1), you may type "A".*
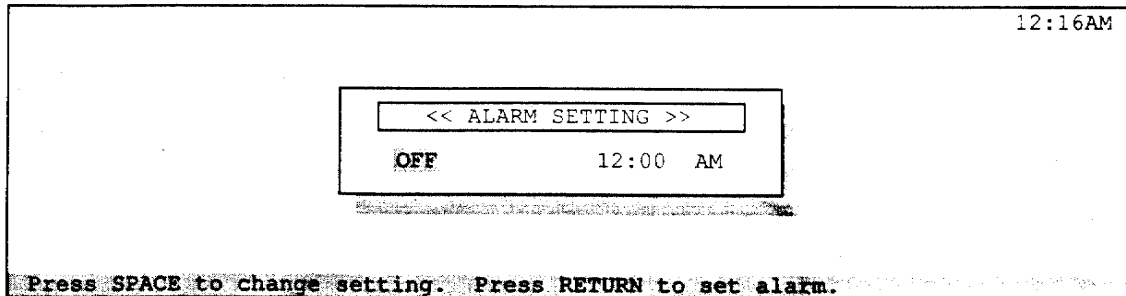
```
                                                              12:16AM




             ┌──────────────────────────────┐
             │   << ALARM SETTING >>         │
             │                               │
             │ OFF              12:00  AM     │
             │                               │
             └──────────────────────────────┘



 Press SPACE to change setting.  Press RETURN to set alarm.
```

2. Use ⊕ and ⊕ to move the cursor to an item that you wish to set and press [SPACE BAR] or type a value (see table below).

3. When all items are set, press [RETURN] to display the CLOCK screen. If the alarm is ON, the machine will beep every day at the time you set.

Alarm setting

Setting	Selection	Explanation
Switch	ON	Alarm will beep
	OFF	Alarm will not beep
		Select with [SPACE BAR].
Hour		Type the hour
Minute		Type the minutes
AM/PM	AM	This setting is available only when the hour mode is set to
	PM	12Hr on the TIME SETTING screen.
		Select with [SPACE BAR].

Returning to the Main Menu

To return to the MAIN MENU from the CLOCK screen, use ⊕ and ⊕ to select EXIT and press [RETURN].

•   **Accelerator:** *You may also type "E".*

•   **Short cut:** *You may also press* [CANCEL].

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Communication

The Communication Mode

In the Communication mode, you can transfer files between your unit and a personal computer. You can also transfer files between two Brother Power Note units. You are able to attach a cable between the two units to transfer files, or you can communicate with a personal computer or Power Note at a distant location by using the telephone line and a modem. The most popular use of this feature is to exchange messages and files with friends and obtain access to commercial data bases and electronic mail services. The Communication mode solves most problems of compatibility between your machine and other computers. You already know that another computer is not able to read your data disks, and that your machine cannot read another computer's data disks. When you use the Communication mode, the data is converted at each end of the line to ensure automatic compatibility.

Before You Start

Purchase a Modem

In order to use the Communication mode by connecting your machine to a computer through the telephone line, you need to connect a modem between your machine and the telephone line. For details about compatible modems and connections, see "Modem and Fax Adapter" on page 9.

- *If you own a personal computer and want to use the Communication mode for data transfer between the two machines, you do not need a modem. Your computer must be equipped with an RS-232C connector, and a communication program. Simply connect the RS-232C ports with a NUL MODEM cable as explained on page 9. The procedures for data transfer between the two machines are the same as when you use a modem, except that you do not need to dial.*

If you want to use Information Services...

Before trying to access a data base or electronic mail service, you must have established an account with the desired service and received an ID name and password.

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How to Start?

1. Switch the machine on to display the MAIN MENU.

```
Thu September 12 1991                                        9:18AM
          ┌──────────────────────────────────────────────┐
          │              << MAIN MENU >>                  │
          │ 1. SCHEDULER/CALENDAR      6. CALCULATOR       │
          │ 2. ADDRESSBOOK             7. CLOCK            │
          │ 3. SPREADSHEET             8. COMMUNICATION    │
          │ 4. CREATE DOCUMENT         9. FAX              │
          │ 5. LINE BY LINE            0. DISK APPLICATION │
          │                                               │
          └──────────────────────────────────────────────┘
 Type number or move cursor and press RETURN. Press MENU for more selections.
```
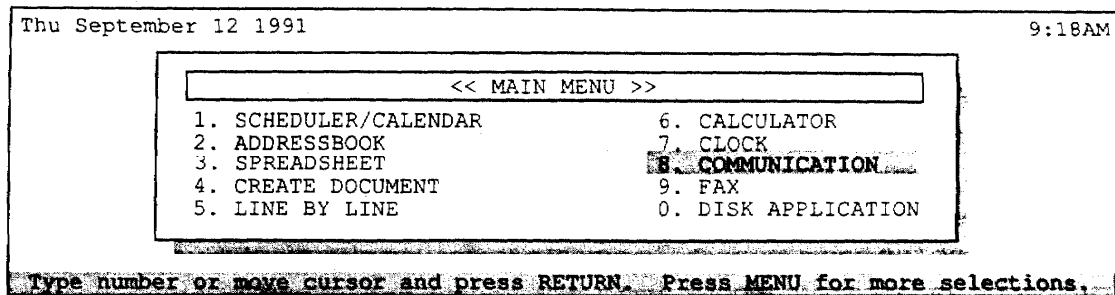
2. Move the cursor to 8. COMMUNICATION using the cursor keys and press ⌈RETURN⌉. The COMMUNICATION screen shown appears.

```
 << COMMUNICATION >>            KB:I                        0:00:00




 Emulating TTY terminal. Press MENU to use options.
```
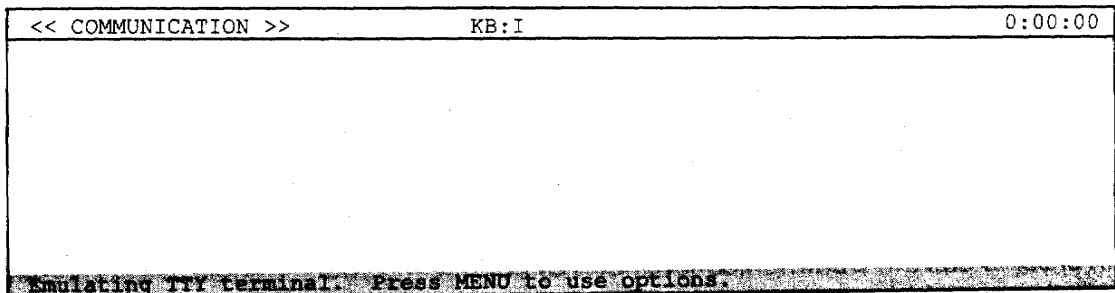
- **Accelerator**: *Instead of (2), you may type "8".*

- *The COMMUNICATION screen does not show the time. Instead, it shows the time elapsed from the moment you entered the COMMUNICATION mode in the format "hour:minute:second".*

Communicating

A communication session involves those separate steps: setting up the communication parameters, dialing (or being dialed), and transmitting/receiving. When you call an information service, you must also identify yourself with a "log in".

1. **Setting up**: Communicating through a modem is very similar to a telephone conversation between two people. In order to make the conversation possible, some rules must be observed. For example, both persons will speak the same language and will agree to speak one at a time. When communicating through modems, some parameters like baud rate and parity must have the same setting at each end of the line.

When you subscribe to an information service, you receive a list of the settings that you are supposed to use. If you use different settings, the host computer will not adjust automatically, and communication will be impossible.

Before you try to communicate with a friend, simply agree on the settings that you will use. For more details about the setting, see:

* "Setting Up" on page 241.

2. **Being dialed**: This machine can be dialed only when the Terminal mode is displayed on the screen. If you are working with your unit or if you are already communicating with someone, your machine cannot be dialed.

3. **Dialing**: This machine performs automatic dialing. This means that you do not have to manually dial a number on the phone but simply type it on the screen. To make this procedure even easier, you can select the phone number from the current Address Book file.

   A communication service can usually be dialed at any time. The same is not always true when transferring a file to a friend's personal computer. Before dialing a friend, call him by phone to make sure that his computer is ready. For more details about dialing, see:

* "Dialing" on page 238

* *When sending a file to a personal computer that is connected to your unit by a NUL MODEM cable, dialing is not necessary.*

4. **Entering a log in**: A log in contains data that allows an information service to identify you. This machine allows you to enter and edit the log in data on a separate screen in order to have it ready when you are requested to identify yourself.

5. **Transmitting/Receiving**: Once you are connected, the text that you type is transmitted and the text that is received is displayed on your screen. Optionally, the text that is transmitted can be "echoed" back to your screen for confirmation.

   You can transmit the contents of a Create Document file or store the information received in a memory file. For more details about reception and transmission, see:

* "Sending a File" on page 244

* "Receiving a File" on page 246

How to Finish?

CODE + MENU / FILE
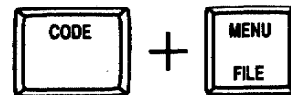
From the Terminal mode, simply press CODE + FILE (MENU) to return to the MAIN MENU.

The COMMUNICATION Screen

```
┌─────────────────────────────────────────────────────────────────────┐
│ << COMMUNICATION >>              KB:I                       0:00:00   │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│ Emulating TTY terminal.  Press MENU to use options.                   │
└─────────────────────────────────────────────────────────────────────┘
```
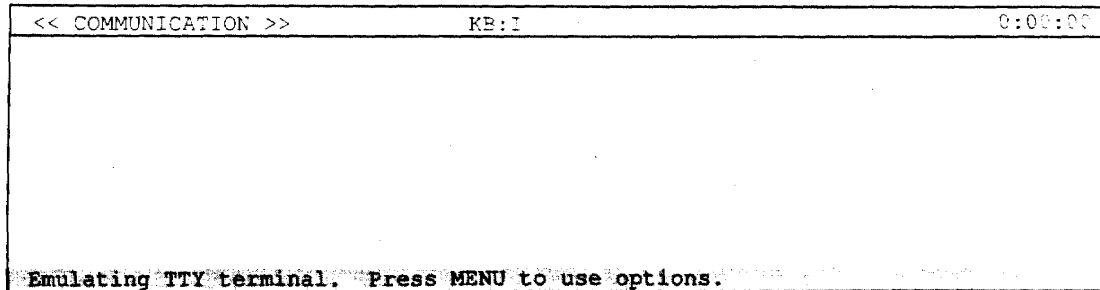
The main mode of the COMMUNICATION screen is used to send and receive messages. This is called the Terminal mode. You know that the machine is in the Terminal mode when this message is displayed:

```
┌─────────────────────────────────────────────────────────────────────┐
│ Emulating TTY terminal.  Press MENU to use options.                   │
└─────────────────────────────────────────────────────────────────────┘
```
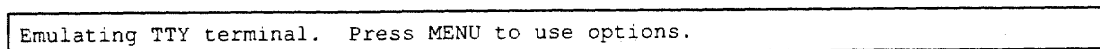
To prepare your machine for receiving a call, proceed as follows:
1. Make sure that the Terminal mode is displayed.
2. Type ATS0=1 and press [RETURN].
3. Wait until connection is established.

The Function Menu

Press [MENU] to display three main functions, use ⬆ and ⬇ to move the cursor to the desired function, then [RETURN] or ▶ to display a sub menu. Use ▼ and ▲ to select a function on a sub menu, and [RETURN] to execute the function. Accelerators (bright characters) can be used to select and execute a function quickly. Short-cut keys can be used to bypass the function menu. See table below for a complete list of function.

- *When the cursor is on EXIT, pressing ▼ produces a beep, and pressing [RETURN] switches to the MAIN MENU.*

Function Menu	Sub-menu	Short-cut Key	Page
OPTIONS1	VIEW LAST PAGE	(CODE) + (PRES) (⬆)	237
	DIAL	(CODE) + (D)	238
	LOG IN	(CODE) + (L)	240
	SET UP	No short cut	241
OPTIONS2 (FILE)	SEND ASCII FILE (NO PROTOCOL)	No short cut	244
	SEND ASCII FILE (XMODEM)	No short cut	244
	RECEIVE ASCII FILE (NO PROTOCOL)	No short cut	246
	RECEIVE ASCII FILE (XMODEM)	No short cut	246
	SEND TEXT FILE	No short cut	244
	RECEIVE TEXT FILES	No short cut	246
EXIT	No submenu	(CODE) + (FILE) ((MENU))	248

Scrolling the Display

[CODE] + [⬆ PRES]

```
OPTIONS1    OPTIONS2(FILE)    EXIT
VIEW LAST PAGE
DIAL
LOG IN
SET UP
```
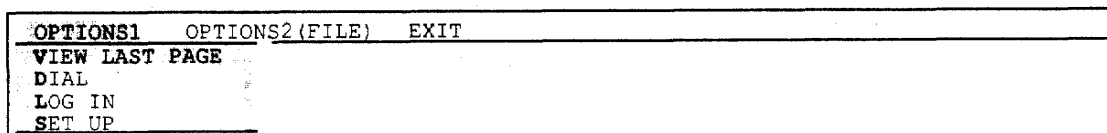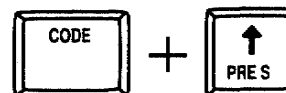
The screen displays the messages that you receive and the messages that you send are echoed back. When the screen is full, the messages on the top of the screen disappear and are stored in a buffer. The capacity of the buffer is one full screen. When the buffer is full, the oldest information is automatically deleted to make room for the new data. When there is information stored in the buffer, the VIEW LAST PAGE option of the function menu allows you to quickly recall that information on the screen. Proceed as follows:

1. Press (MENU) to display the function menu.

2. Use (◄) and (►) to select OPTIONS1 and press (RETURN) or (⬇). The submenu appears.

*   **Accelerator:** Instead of (2), you may type "1".

3. Use (⬆) and (⬇) to select VIEW LAST PAGE and press (RETURN).

*   **Accelerator:** Instead of (3) you may type "V".

*   **Short cut:** Instead of (1), (2), and (3), you may press (CODE) + (PRES) (⬆).

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Scrolling the screen interrupts the Terminal mode. To return to that mode, press
[CANCEL].

Dialing

[CODE] + [D]

```
OPTIONS1   OPTIONS2(FILE)   EXIT
 VIEW LAST PAGE
 DIAL
 LOG IN
 SET UP
```
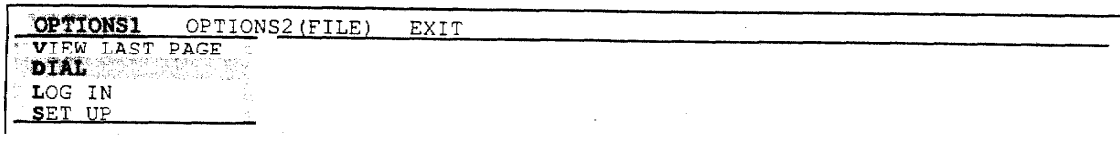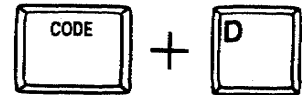
A dial command is made of two parts: a dialing mode specification (ATDT for tone dialing, and ATDP for pulse dialing) which depends on your telephone, and a phone number that may include hyphens for easy reading.

1. Press [MENU] to display the function menu.

2. Use [◄] and [►] to select OPTIONS1 and press [RETURN] or [▼]. The submenu appears.

*   ***Accelerator:*** *Instead of (2), you may type "1".*

3. Use [▲] and [▼] to select DIAL and press [RETURN]. These messages will appear:

```
Enter phone number and press RETURN to execute.
Use ATDT for touch tone dialing or ATDP for pulse dialing.
DIAL COMMAND: ATDT
```
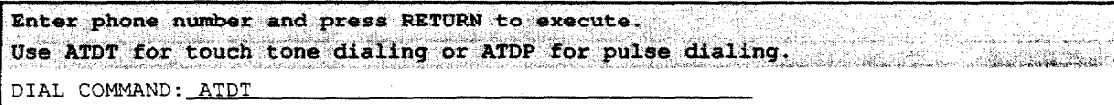
*   ***Accelerator:*** *Instead of (3) you may type "D".*

*   ***Short cut:*** *Instead of (1), (2), and (3), you may press* [CODE] + [D].

You may type the dial command or select it from the current Address Book.

Direct Typing of the Dial Command

1. Type the dial command (you may insert hyphens between the different parts of the number to make it more easy to read) and press [RETURN]. Automatic dialing starts.

*   *If you do not know whether your phone is ATDT or ATDP, try either one, and restart with the other option if the first did not work.*

*   *The dialing command ATDT or ATDP, as well as the phone number, is stored in the memory and will be automatically displayed the next time you enter the dial mode.*

- *To edit the phone number, you may use* ⌗BS⌗, ⌗CODE⌗ + ⌗WORD OUT⌗ *(* ⌗0⌗ *), and* ⌗CODE⌗ + ⌗LINE OUT⌗ *(* ⌗.⌗ *) to delete,* ⌗CODE⌗ + ⌗INSERT⌗ *(* ⌗I⌗ *) to switch the insert mode on/off, and* ⌗←⌗, ⌗→⌗ *to move the cursor on the entry field. If you delete the ATDT or ATDP command, do not forget to retype it.*

- *Pressing* ⌗CANCEL⌗ *returns the machine to the Terminal mode without dialing.*

Selecting the Phone Number from the Address Book

⌗CODE⌗ + ⌗G GO TO⌗
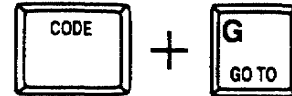
1. Instead of typing the phone number, you may press ⌗CODE⌗ + ⌗GO TO⌗ (⌗G⌗). The current Address Book file appears.

2. Use ⌗↑⌗ and ⌗↓⌗ to select the person or company that you want to call and press ⌗RETURN⌗. The phone number appears on the entry field of the DIAL COMMAND and you may edit it as explained above. Press ⌗RETURN⌗ to start automatic dialing.

- *Pressing* ⌗CANCEL⌗ *when the Address Book file is displayed returns the system to the dial input mode without selecting a number.*

- *The selection of a phone number using the Address Book file is possible only if the file contains a column whose label starts with the string "TELEPHONE" (all capitals). For example, "TELEPHONE NO" is valid while "Telephone" or "telephone" are not. If a valid label is not found, this message will appear:*

```
ADDRESSBOOK has no telephone number column.
```

If the Address Book file is empty, this message will appear:

```
ADDRESSBOOK has no data.
```

Dialing and Connection Problems

- *After the connection is established, CONNECT appears on the Terminal mode screen. If any other message appears (NO CARRIER, etc.), the line may be busy or you may have entered a wrong telephone number. Check the number and try dialing again.*
  If OK does not appear, or if 0 (zero) appears instead, when you type AT and press ⌗RETURN⌗ *in the terminal mode while the line is not connected, this means that the modem does not return the messages. Type ATQ0V1 and press* ⌗RETURN⌗. *Check whether OK appears.*

- *If the received data are not displayed correctly, check the settings (see "Setting Up" on page 241). If the baud rate of your machine and the baud rate of the host machine do not match, data cannot be displayed correctly.*

When you want to terminate a communication while you are connected, simply return to the MAIN MENU (see "Returning to the MAIN MENU" on page 248). With some types of modem, or with some settings of the modem switches, communication cannot be interrupted that way. In that case, simply turn off the power of the modem.

Log in

<div style="float:right">⌷ CODE ┼ ⌷ L LIND</div>

```
OPTIONS1    OPTIONS2(FILE)    EXIT
  VIEW LAST PAGE
  DIAL
  LOG IN
  SET UP
```
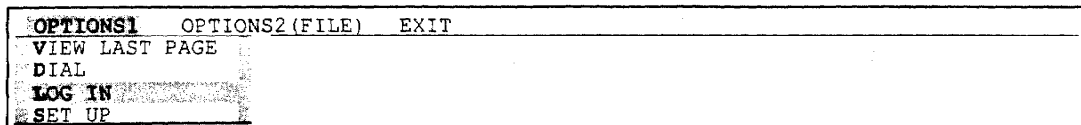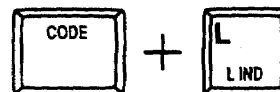
With most information services, you are requested to enter an ID name and a password just after being connected. You can simplify that step by preparing this "log in" information before dialing. The log in will be stored in the memory.

1. Press ⌷MENU⌷ to display the function menu.

2. Use ⊕ and ⊕ to select OPTIONS1 and press ⌷RETURN⌷ or ⊕. The submenu appears.

*   ***Accelerator:*** *Instead of (2), you may type "1".*

3. Use ⊕ and ⊕ to select LOG IN and press ⌷RETURN⌷. The log in input screen appears.

```
┌─────────────────────────────────────────────────── 0:00:00 ┐
│ LOG IN                    KB:I                               │
│                                                             │
│                                                             │
│                                                             │
│ Type ID or password to log in.  Press RETURN to execute or TEMP to store. │
│   ID/PASSWORD                                               │
│         LINE 1:_____                       │
│         LINE 2:_____                       │
│         LINE 3:_____                       │
│         LINE 4:_____                       │
└─────────────────────────────────────────────────────────────┘
```
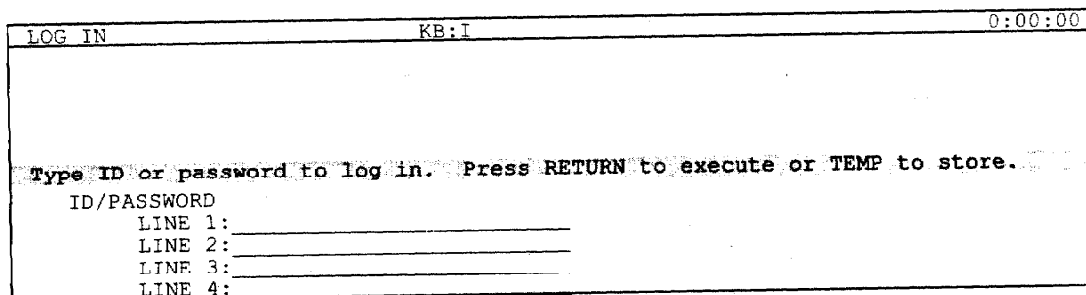
*   ***Accelerator:*** *Instead of (3) you may type "L".*

*   ***Short cut:*** *Instead of (1), (2), and (3), you may press* ⌷CODE⌷ + ⌷L⌷.

4. Type the log in data according to the requirements of the service that you want to use. For example, type your user name on the first line, and your password on the second line. Four lines of 20 characters each are available. Use ⊕ and ⊕ to change lines.

5. Press [RETURN] to store the data into the memory and start transmitting the log in, or press [CANCEL] to abandon the data, restore the old one and return to the terminal mode.

6. If you have pressed [RETURN], the first line is transmitted and this message appears:

```
Executing log in.  Press SPACE to continue.  Press CANCEL to abort.
```

7. Press [(SPACE BAR)] to transmit the second line. Repeat this step to transmit each of the next lines. The lines are displayed one by one and the machine waits before each line until you press [(SPACE BAR)]. The line is transmitted when you press [(SPACE BAR)]. To cancel the transmission, press [CANCEL].

Setting Up

```
OPTIONS1    OPTIONS2(FILE)    EXIT
VIEW LAST PAGE
DIAL
LOG IN
SET UP
```

The SET UP screen allows for several settings. You do **not** have to completely understand these settings in order to communicate. If you communicate with an information service, set the parameters as specified by the information service. If you communicate with a friend using the same machine, simply use the default settings. If you communicate with a friend using a different machine, conform with his settings.

To set up the machine, proceed as follows:

1. On the COMMUNICATION screen, press [MENU] to display the function menu.

2. Use ⬅ and ➡ to select OPTIONS1 and press [RETURN] or ⬇. The submenu appears.

• **Accelerator:** *Instead of (2), you may type "1".*

3. Use ⬆ and ⬇ to select SET UP and press [RETURN]. The SET UP screen appears.

```
BAUD RATE                           1200
PARITY                               NO
DATA BITS                             8
STOP BITS                             1
XON/XOFF CONTROL                     ON
SIGNAL LINE CONTROL                 NONE
LOCAL ECHO                          OFF
AUTO LINEFEED                       OFF
AUTO LINEFEED (SEND)                 ON
CODE TABLE                          8BIT
```

Press SPACE to change setting.   Press RETURN to finish.

- *Accelerator: Instead of (3), you may type "S".*

4. On the SET UP screen, use ⬆ and ⬇ to select a parameter, (SPACE BAR) to select the setting, and press (RETURN) to return to the COMMUNICATION screen. The settings are stored in the memory.

- *To return to the COMMUNICATION screen without saving the setting, press (CANCEL). The old settings will be restored.*

- **BAUD RATE (300, 600, 1200, 2400, 4800, 9600)**
  This parameter determines the transmission speed in bits per second. For example, if you are transmitting 8-bit characters with a single stop and start bit, each character will use 10 bits. If you select the baud rate 1200, the machine will, in principle, transmit about 120 characters per second (or about one page of 1200 characters in ten seconds). Since the data has to be checked for transmission errors, and eventually echoed back, the overall transmission speed is usually lower than this figure. In general, increasing the baud rate also increases the risk of transmission errors, specially on noisy lines.

- **PARITY (NO, ODD, EVEN, SPACE, MARK)**
  This determines how the bits of each characters are checked for transmission errors.
  This machine does not performs any parity check during reception.
  NO: No parity bit is added to the characters.
  EVEN: The machine counts the number of non zero bits in a character. If this number is even, the parity bit is set to zero, and to one otherwise. This way, all "words" (characters + parity bit) will have an even number of non zero bits. The receiving unit must have the same parity setting and expects only words with even number of non zero bits. When this number is odd, the receiving machine knows that something is wrong (for example, one bit has been spoiled by noises on the line).
  ODD: This is the opposite of the EVEN parity. A parity bit is set so that the total number of non zero bits is odd.
  SPACE: (Possible only when DATA BITS=7). The parity bit is always zero.
  MARK: (Possible only when DATA BITS=7). The parity bit is always one.

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- **DATA BITS (7, 8)**

  This determines how many bits are necessary to encode the characters. Standard ASCII characters use seven bits. Accented letters and other special characters need eight bits.

- **STOP BITS (1, 2)**

  Each word must be separated from the next one with a special bit called "stop bit". This parameter specifies the length of the stop bit (1=single, 2=double).

- **XON/XOFF CONTROL (ON, OFF)**

  This parameter determines whether or not to allow flow control by the X parameter. If this control is allowed, an XOFF code (13hex) will be transmitted by the receiving machine when the free area in the reception buffer is less than 25%. As the data is processed and removed from the buffer, the free area increases. When the free area becomes greater than 75%, the receiving machine sends an XON code (11hex) to make the other machine resume data transmission. When the transmitting machine receives an XOFF code, it enters a state in which it can transmit only XON/XOFF codes. This state is terminated upon reception of an XON code. This is valid only during data transmission other than file transfer using XMODEM protocol. Regardless of the flow control method, data transmission is possible only when the control signal lines DSR and CTS are active.

- **SIGNAL LINE CONTROL (NONE, DTR, RTS, DTR&RTS)**

  This parameter determines whether or not to allow flow control by the control lines DTR and/or RTS. The selected line(s) will allow transmission only when active. If NONE is selected, both lines are maintained active.

- **LOCAL ECHO (ON, OFF)**

  When local echo is on, transmitted data is displayed on your screen.

- **AUTO LINEFEED (ON, OFF)**

  This parameter determines the effect of a received carriage return code (0Dhex) on the cursor. If you select ON, a carriage return will automatically add a line feed. Set this to OFF if the received data is displayed with double line spacing. Set it to ON if the received data is displayed on the same line, overwriting the previous message.

- **AUTO LINEFEED SEND (ON, OFF)**

  This parameter determines what is transmitted when you press the `RETURN` key.

Pressed key	AUTO LINEFEED ON	AUTO LINEFEED OFF
`RETURN`	CR,LF	CR
`CODE` + `RETURN`	CR	CR,LF

- **CODE TABLE (7BIT, 8BIT)**

  This parameter determines the character code table used for operations other than text file transfer. In general, the 7-bit table is compatible with the 7-bit table of Brother HR Series printer. The 8-bit table is compatible with the IBM Extended table. For details see "Character Code Table" on page 249.

Sending a File

```
OPTIONS1    OPTIONS2(FILE)    EXIT
            SEND ASCII FILE (NO PROTOCOL)
            SEND ASCII FILE (XMODEM)
            RECEIVE ASCII FILE (NO PROTOCOL)
            RECEIVE ASCII FILE (XMODEM)
            SEND TEXT FILE
            RECEIVE TEXT FILE
```

```
OPTIONS1    OPTIONS2(FILE)    EXIT
            SEND ASCII FILE (NO PROTOCOL)
            SEND ASCII FILE (XMODEM)
            RECEIVE ASCII FILE (NO PROTOCOL)
            RECEIVE ASCII FILE (XMODEM)
            SEND TEXT FILE
            RECEIVE TEXT FILE
```

```
OPTIONS1    OPTIONS2(FILE)    EXIT
            SEND ASCII FILE (NO PROTOCOL)
            SEND ASCII FILE (XMODEM)
            RECEIVE ASCII FILE (NO PROTOCOL)
            RECEIVE ASCII FILE (XMODEM)
            SEND TEXT FILE
            RECEIVE TEXT FILE
```

- *The machine can transmit Create Document files stored in the memory. If you want to transmit a file that is stored on a disk, first load the file into the memory. For details, see "Transferring a File from Disk to Memory" on page 209.*

Before sending a file, you must be connected (your machine has been dialed or you have dialed another machine, and if necessary, entered the log in data). If you are sending to a personal computer or Power Note and are connected directly by a NUL MODEM cable, you are automatically connected and no dialing is necessary. You must also specify that you are going to send a file. With an electronic mail box service, this is usually done by selection on an option menu. If you are communicating with a friend, just tell him that you are going to send a file (type the message and press ⌈RETURN⌉). This will give him time to prepare his machine for receiving your file. Verify that both the sending and receiving units are "set-up" to use the same parameters.

1. On the COMMUNICATION screen, press ⌈MENU⌉ to display the function menu.

2. Use ⊟ and ⊞ to select OPTIONS2(FILE) and press ⌈RETURN⌉ or ⊡. The submenu appears.

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- **Accelerator:** Instead of (2), you may type "2".

3. Use ⬆ and ⬇ to select SEND ASCII FILE (NO PROTOCOL), SEND ASCII FILE (XMO-DEM), or SEND TEXT FILE and press [RETURN]. The MEMORY INDEX appears.

- *If you select SEND ASCII FILE (NO PROTOCOL) or SEND ASCII FILE (XMODEM), your text file will be converted into a standard ASCII file. Attributes and most of the format will be removed from the data. You must select one of these options if the receiving machine is not the same as yours (Power Note). Select NO PROTOCOL or XMODEM according to the parameter setting of the receiving system.*

- *If you select SEND TEXT FILE, the format of your text file will be preserved. However, this works only if the receiving machine is identical to yours. With this option, the protocol is automatically set to XMODEM.*

- *If there is no text file in the memory, this message will appear:*

```
No files to send.
```

4. Select a file with the cursor keys and press [RETURN] to start transmission.

During transmission using NO PROTOCOL, the transmitted text as well as the reception errors are echoed back as determined by the settings. The amount of data already transmitted will be displayed in Kbytes.

During transmission using the XMODEM protocol, the receiving machine checks the data by blocks of 128 bytes. When an error occurs, the receiving machine sends a retransmission request and your machine sends the same block again. The number of transmitted bytes as well as the number of retrials are displayed on the screen.

- *To cancel transmission, press [CANCEL]. When using the XMODEM protocol, transmission is also aborted if the [CANCEL] key is pressed on the receiving machine. This key is usually the Escape key on a personal computer.*

Receiving a File

```
OPTIONS1    OPTIONS2(FILE)    EXIT
            SEND ASCII FILE (NO PROTOCOL)
            SEND ASCII FILE (XMODEM)
            RECEIVE ASCII FILE (NO PROTOCOL)
            RECEIVE ASCII FILE (XMODEM)
            SEND TEXT FILE
            RECEIVE TEXT FILE
```

```
OPTIONS1    OPTIONS2(FILE)    EXIT
            SEND ASCII FILE (NO PROTOCOL)
            SEND ASCII FILE (XMODEM)
            RECEIVE ASCII FILE (NO PROTOCOL)
            RECEIVE ASCII FILE (XMODEM)
            SEND TEXT FILE
            RECEIVE TEXT FILE
```

```
OPTIONS1    OPTIONS2(FILE)    EXIT
            SEND ASCII FILE (NO PROTOCOL)
            SEND ASCII FILE (XMODEM)
            RECEIVE ASCII FILE (NO PROTOCOL)
            RECEIVE ASCII FILE (XMODEM)
            SEND TEXT FILE
            RECEIVE TEXT FILE
```

Before receiving a file, you must be connected (your machine has been dialed or you have dialed another machine, and if necessary, entered the log in data). If you are receiving from a personal computer or Power Note and are connected by a NUL MODEM cable, you are automatically connected and no dialing is necessary. You must also specify that you are going to receive a file. With an electronic mail box service, this is usually done by selection on an option menu. If you are communicating with a friend, just tell him that you want a file (type the message and press (RETURN)). This will give him time to prepare his machine for sending a file. Verify that both the sending and receiving units are "set-up" to use the same parameters.

1. On the COMMUNICATION screen, press (MENU) to display the function menu.

2. Use ⊕ and ⊕ to select OPTIONS2(FILE) and press (RETURN) or ⊕. The submenu appears.

• *Accelerator: Instead of (2), you may type "2".*

3. Use ⊕ and ⊕ to select RECEIVE ASCII FILE (NO PROTOCOL), RECEIVE ASCII FILE (XMODEM), or RECEIVE TEXT FILE and press (RETURN). You are asked to enter a file name.

- *If you select RECEIVE ASCII FILE (NO PROTOCOL) or RECEIVE ASCII FILE (XMODEM), the received ASCII file will be converted into a text file. The layout of the converted text file will be quite primitive but you are free to improve it later using the Create Document mode. You must select one of these options if the transmitting machine is not the same as yours (Power Note). Select NO PROTOCOL or XMODEM according to the parameter settings of the transmitting system.*

- *If you select RECEIVE TEXT FILE, the file will be stored without conversion. The format of the transmitted file will be preserved. However, this works only if the transmitting machine is identical to yours. With this option, the protocol is automatically set to XMODEM.*

- *If there is less than three Kbytes of free space in the memory, this message will appear:*

```
Not enough memory remaining.
```

4. Type the file name under which the received file has to be stored in the memory and press (RETURN) to start receiving. You may also press (CANCEL) during file name input to cancel the operation and return to the COMMUNICATION screen.

During reception using NO PROTOCOL, the amount of data already received will be displayed in Kbytes.

During reception using the XMODEM protocol, your machine checks the data by blocks of 128 bytes. When an error occurs, your machine sends a retransmission request and the same block is received again. The number of received bytes as well as the number of retrials are displayed on the screen.

- *To cancel reception, press (CANCEL) or (CODE) + (FILE) ((MENU)), according to the message on the bottom of the screen. When using the XMODEM protocol, reception is also aborted if the (CANCEL) key is pressed on the transmitting machine.*

- *Pressing (CODE) + (FILE) ((MENU)) during reception of an ASCII file displays this message:*

```
Press RETURN to close and save, CODE+D to delete.
```

- *If the memory becomes full during reception of an ASCII file, this message will appear:*

```
Memory full.  Press RETURN to close and save, CODE+D to delete.
```

In both cases, if you press `RETURN`, *the portion of the file that has been received will be converted into a text file and saved under the file name that you specified. If you press* `CODE` + `D`, *the file will be deleted.*

Returning to the Main Menu

`CODE` + `MENU/FILE`
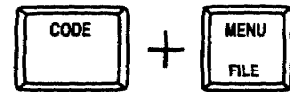
```
OPTION1   OPTION2(FILE)   EXIT
```

1. To return to the MAIN MENU, press `MENU`.

2. Use ← and → to select EXIT and press `RETURN`. This message will appear:

```
Disconnecting?   Press RETURN(yes) or CANCEL(no).
```

- *Accelerator: Instead of (2), you may type "E".*
- *Short cut: Instead of (1) and (2), you may press* `CODE` + `FILE`*(* `MENU` *).*

3. Press `RETURN` to return to the MAIN MENU, or `CANCEL` to stay in the Terminal mode.

Character Code Table

8-bit Code Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL	DLE	SP	0	@	P	[˙]	p		[É]	[å]				α	≡
1	SOH	DC1	!	1	A	Q	a	q	ü		[í]				β	±
2	STX	DC2	"	2	B	R	b	r	[é]		[ó]				Γ	
3	ETX	DC3	#	3	C	S	c	s	[â]	[ô]	[ú]				π	
4	EOT	DC4	$	4	D	T	d	t	ä	ö	[ñ]				Σ	'
5	ENQ	NAK	%	5	E	U	e	u	[à]	[ò]	[Ñ]				σ	⌋
6	ACK	SYN	&	6	F	V	f	v	å	[ô]					μ	÷
7	BEL	ETB	'	7	G	W	g	w	ç	[ù]					τ	
8	BS	CAN	(	8	H	X	h	x	[ê]	ÿ	¿				Φ	°
9	HT	EM	)	9	I	Y	i	y	ë	Ö					Θ	
A	LF	SUB	*	:	J	Z	j	z	[è]	Ü					Ω	·
B	VT	ESC	+	;	K	[	k	{	ï	¢	½				δ	√
C	FF	FS	,	<	L	\	l	|	[î]	£	¼				∞	
D	CR	GS	-	=	M	]	m	}	[ì]	¥	¡				φ	2
E	SO	RS	.	>	N	[^]	n	[~]	Ä						ε	
F	SI	US	/	?	O	_	o	DEL	Å							

- Codes on grey background are ASCII controls. They can be input from the keyboard and transmitted in the terminal mode. See "Transmitting Control Codes" page 251 for a list of input keys. Code 15HEX (NAK) transmits the character §.

- Any character of the above table can be received and most of them will be displayed correctly. The only exceptions are å, Å, ÿ, í, and ú, which are displayed without diacriticals. Codes without a character are displayed as spaces.

- Codes above 7FHEX cannot be transmitted, except boxed characters like [é]. To input such characters, use the dead keys of KB:I.

COMMUNICATION

7-bit Code Table

	0	1	2	3	4	5	6	7
0	NUL	DLE	SP	0	@	P	°	p
1	SOH	DC1	!	1	A	Q	a	q
2	STX	DC2	"	2	B	R	b	r
3	ETX	DC3	#	3	C	S	c	s
4	EOT	DC4	$	4	D	T	d	t
5	ENQ	NAK	%	5	E	U	e	u
6	ACK	SYN	&	6	F	V	f	v
7	BEL	ETB	'	7	G	W	g	w
8	BS	CAN	(	8	H	X	h	x
9	HT	EM	)	9	I	Y	i	y
A	LF	SUB	*	:	J	Z	j	z
B	VT	ESC	+	;	K	[	k	1/4
C	FF	FS	,	<	L	±	l	1/2
D	CR	GS	-	=	M	]	m	¶
E	SO	RS	.	>	N	²	n	§
F	SI	US	/	?	O	_	o	DEL

- Codes on grey background are ASCII controls. They can be input from the keyboard and transmitted in the terminal mode. See "Transmitting Control Codes" page 251 for a list of input keys.

- Characters \, ^, ', {, |, }, ~, and ' of KB:I and character ¢ of KB:II cannot be transmitted.

- Character ¶ can be received and displayed but cannot be transmitted.

Transmitting Control Codes

The following keys can be used in the terminal mode to transmit ASCII control codes.

Keys	Code (Hexadecimal)	ASCII Control Name
CODE + SHIFT + 0	00	NUL
CODE + SHIFT + A	01	SOH
CODE + SHIFT + B	02	STX
CODE + SHIFT + C	03	ETX
CODE + SHIFT + D	04	EOT
CODE + SHIFT + E	05	ENQ
CODE + SHIFT + F	06	ACK
CODE + SHIFT + G	07	BEL
CODE + SHIFT + H	08	BS
CODE + SHIFT + I	09	HT
CODE + SHIFT + J	0A	LF
CODE + SHIFT + K	0B	VT
CODE + SHIFT + L	0C	FF
CODE + SHIFT + M	0D	CR
CODE + SHIFT + N	0E	SO
CODE + SHIFT + O	0F	SI
CODE + SHIFT + P	10	DLE
CODE + SHIFT + Q	11	DC1(XON)
CODE + SHIFT + R	12	DC2
CODE + SHIFT + S	13	DC3(XOFF)
CODE + SHIFT + T	14	DC4
CODE + SHIFT + U	15	NAK
CODE + SHIFT + V	16	SYN

(Continued)

Keys	Code (Hexadecimal)	ASCII Control Name
CODE + SHIFT + W	17	ETB
CODE + SHIFT + X	18	CAN
CODE + SHIFT + Y	19	EM
CODE + SHIFT + Z	1A	SUB
CODE + SHIFT + 1	1B	ESC
CODE + SHIFT + 2	1C	FS
CODE + SHIFT + 3	1D	GS
CODE + SHIFT + 4	1E	RS
CODE + SHIFT + 5	1F	US
BS	08	BS
TAB	09	HT
(SPACE BAR)	20	SPACE
CODE + BS	7F	DEL
RETURN	AUTO LF (SEND) ON: 0D+0A	CR+LF
	AUTO LF (SEND) OFF: 0D	CR
CODE + RETURN	AUTO LF (SEND) ON: 0D	CR
	AUTO LF (SEND) OFF: 0D+0A	CR+LF

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Fax

The FAX Mode

In the FAX mode, your machine is able to send a text to a receiving fax machine. With a normal fax machine, you can send and receive printed information. With the FAX mode of this machine, you can send the contents of a document file directly through the telephone line. You do not need to print the document first and you do not need to have a fax machine. All you need is to connect the optional pocket-size Fax Adapter between your machine and a telephone line. For details about that optional adapter and its connections, see "Modem and Fax Adapter" on page 9.

Before You Start

Only a text file that is currently stored in the memory can be transmitted. If the file is on disk, first load it into the memory. For details, see "Transferring a File from Disk to Memory" on page 209.

The Address Book file which is currently stored in the memory can be used for easy selection of the fax number. Again, if the desired file is stored on disk, you should first load it into the memory. For details, see "Loading a File from a Disk" on page 73.

How to Start?

1. Switch the machine on to display the MAIN MENU.

```
Thu September 12 1991                                          9:18AM

                     ┌──────────< MAIN MENU >>──────────┐
                     │ 1. SCHEDULER/CALENDAR   6. CALCULATOR      │
                     │ 2. ADDRESSBOOK          7. CLOCK           │
                     │ 3. SPREADSHEET          8. COMMUNICATION   │
                     │ 4. CREATE DOCUMENT      9. FAX             │
                     │ 5. LINE BY LINE         0. DISK APPLICATION│
                     └────────────────────────────────────────────┘

Type number or move cursor and press RETURN.  Press MENU for more selections.
```
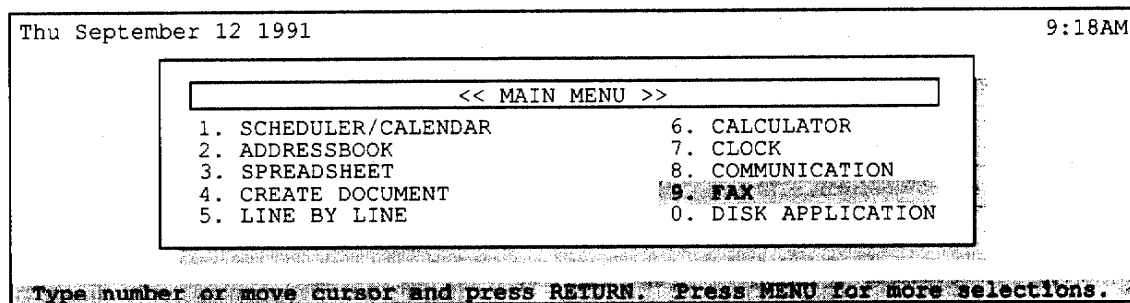
2. Move the cursor to 9. FAX using the cursor keys and press (RETURN). The MEMORY INDEX screen appears and you can see the list of the text files which are currently stored in the memory.

•   *Accelerator: Instead of (2), you may type "9".*

```
<< MEMORY INDEX >>              MEMORY:XXXF           SHIFT        9:22AM

    LETTER1      (XX.X)     TEXT1      (XX.X)     TEXT2      (XX.X)


 Select a file and press RETURN.
```

3. Use the cursor keys and, if necessary, [CODE] + [PRES] (⬆) and [CODE] +
    [NEXTS] (⬇) to select the text file and press [RETURN]. The SEND A FAX
    screen appears.

```
<< SEND A FAX >>                        KB:X                        1:48AM


    FILE NAME TO SEND:  XXXXXXXX

    FAX NUMBER                          [                    ]

    DIAL MODE    (TONE/PULSE)              TONE

    TRANSMITTER ID                      [                  ]

 Press GOTO to display ADDRESSBOOK.  Press RETURN to send.
```

Sending the File

The SEND A FAX screen displays the name of the selected file and allows you to
enter the fax number of the recipient and to set some transmission parameters.
You can directly type the fax number or jump to the display of the current Address
Book file and select the number from there.

1. Enter the fax number. For details see "Entering the Fax Number" on page
    256.

2. If necessary, set the dial mode (tone or pulse) and type your transmitter ID.
    For details, see "Dial Mode" on page 257 and "Transmitter ID" on page 258.

3. After setting the machine and entering the fax number, use ⬆ and ⬇ to move
    the cursor to the fax number entry field and press [RETURN]. The machine will
    ask you to confirm.

```
Press RETURN to execute.  Press CANCEL to cancel.
```

4. Press [RETURN] again to send the fax. The machine will automatically dial the
    fax number and transmit the file. The page number of the page being trans-
    mitted will appear on the screen.

```
SENDING PAGE : XXX
```

When the transmission is complete, this message will appear:

```
TRANSMISSION COMPLETED TOTAL PAGES : XXX
```

For more details about what can happen during transmission, see "Transmission Problems" on page 258.

• *The printout of a file and the fax copy that is received at the end of the line may slightly differ. For details, see "Printout vs Fax Copy" on page 259.*

How to Finish?

CODE + MENU / FILE
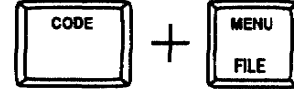
1. If the transmission is successful, this message will appear:

```
Fax communication completed.  Press FILE to exit.
```

2. Press **CODE** + **FILE** (**MENU**) or **CANCEL** to return to the MAIN MENU.

FAX

The SEND A FAX Screen

```
<< SEND A FAX >>                          KB:X                        1:48AM

       FILE NAME TO SEND:   XXXXXXXX

       FAX NUMBER                              [                        ]

       DIAL MODE    (TONE/PULSE)              TONE

       TRANSMITTER ID                         [
_____
Press GOTO to display ADDRESSBOOK.  Press RETURN to send.
```

The SEND A FAX screen displays the name of the file which you selected from the MEMORY INDEX (FILE NAME TO SEND), an entry field for the fax number (FAX NUMBER), a setup area for the DIAL MODE, and an entry field for the TRANSMITTER ID.

- FILE NAME TO SEND: The file name is displayed to remind you of the name of the file that you are going to send. You cannot change the file name on this screen. If you want to change the file name, press [CANCEL] to return to the MEMORY INDEX and select another file.

- FAX NUMBER: There are two methods for entering the fax number: direct input, or selection from the ADDRESS BOOK file.

- DIAL MODE: Depending on your telephone, there are two methods of dialing, tone and pulses. You must set your machine accordingly, otherwise, transmission is impossible. If you do not know which dialing mode is used on your telephone, you may try the modes one by one.
The setting for the dial mode will remain in the memory.

- TRANSMITTER ID: This is an optional entry. It is automatically printed on the top of the fax copies to allow the recipient to identify you. The setting for the dial mode will remain in the memory.

Entering the Fax Number

Direct typing

1. On the SEND A FAX screen, use ⬆ and ⬇ to move the cursor to the entry field for FAX NUMBER.

2. Type the fax number.

A fax number is basically made of digits (0—9). You may also use other characters in addition to the digits. These characters and their function are listed below:

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Characters used for auto dialing

Characters	Function
"0"—"9"	The actual fax number.
"(" ")" "-"	Parentheses and hyphens: make the number easier to read and are ignored during auto dialing.
","	Each comma inserts a two-second pause. This is useful when the auto dialing pace is too fast.
"*" "#" "A"—"D"	Produces a tone while dialing.
"W"	Waits for a second dial tone (insert this character between the international call number and the rest of the fax number to allow for connection).
"P" "T"	Specify pulse or tone dial mode. Enter one of these characters before the fax number to override the dial mode setting of the FAX SET UP screen.

Using the Address Book File

1. On the SEND A FAX screen, use ⬆ and ⬇ to move the cursor to the entry field for FAX NUMBER.

2. Press (CODE) + (GOTO) ((G)). The Address Book file is displayed.

*   *If the Address Book file is empty, this message appears:*

```
ADDRESSBOOK has no data.
```

*   *If the Address Book file has no FAX NUMBER label (the label must start with the three characters "FAX"; the next characters can be anything), this message appears:*

```
ADDRESSBOOK has no FAX number column.
```

3. Use ⬆ and ⬇ to select the recipient.

4. Press (RETURN) to confirm the selection and return to the SEND A FAX screen. The fax number is now displayed in front of FAX NUMBER.

Dial Mode

The dial mode has to be entered only when you are transmitting for the first time, or when you are transmitting from another telephone. The dial mode will be kept in the memory until you change it.

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1. On the SEND A FAX screen, use ⬆ and ⬇ to move the cursor to the DIAL MODE setup area.

2. Press (SPACE BAR) to select TONE or PULSE.

Transmitter ID

The transmitter ID is optional. If you enter a transmitter ID, it will be kept in the memory until you change it.

1. On the SEND A FAX screen, use ⬆ and ⬇ to move the cursor to the TRANSMITTER ID entry field.

2. Type your name, the name of your company, etc. (up to 20 characters).

Transmission Problems

- If the line is busy, the machine will automatically retry twice at intervals of three minutes (for a total of three dialing). This message will appear:

```
Awaiting redial.
Line is busy.
```

- If transmission fails, the machine will display one of these messages:

```
Fax adapter does not exist.
```
```
Line is busy.
```
```
No response from remote fax.
```
```
The telephone circuit is disconnected.
```
```
Line was interrupted.
```
```
Fax communication error.
```

Correct and retry.

- If a power failure occurs, the next time you switch the power on, this message will appear:

```
Last fax transfer failed.
```

Printout vs Fax Copy

If you compare a fax copy with the printout of the same file, you will notice some differences in pitch and line spacing: the fax copy will usually be slightly more compact.

The following table shows the list of codes that can be transmitted. Please note that dead characters are not supported.

	0	1	2	3	4	5	6	7
0			SP	0	@	P	'	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			#	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	[	k	{
C			,	<	L	\	l		
D			-	=	M	]	m	}
E			.	>	N	^	n	~
F			/	?	O	_	o	

FAX

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Disk Application

The Disk Application Mode

The last option on the MAIN MENU, DISK APPLICATION is used for running programs that are available on disk. A disk containing the TETRIS game and Spreasheet Templates comes with your machine. Although the TETRIS program and the Spreadsheet Templates are protected against accidental deletion, it is a good idea to make a backup copy of this disk (see "Copying a Disk (Disk Back-Up)" on page 206).

What is the TETRIS Game?

Pieces made of four small squares fall one by one from the top of the screen into an empty pit. While a piece is falling, you can move it to the right or to the left and rotate it so that the piece fills exactly the gaps at the bottom of the pit. The pieces come in seven different shapes (see illustration below). When one row of the pit is filled without gaps, it is deleted. This challenging game of speed and maneuvering consists of deleting as many lines as possible. As the lines with gaps build up at the bottom of the pit, you have less time to adjust the position of the falling piece. The game ends when the pit is filled with such lines.

How to start?

1.   Switch the machine on to display the MAIN MENU.

```
Thu September 12 1991                                              9:18AM

              ┌──────────────────────────────────────────┐
              │           << MAIN MENU >>                 │
              ├──────────────────────────────────────────┤
                1. SCHEDULER/CALENDAR      6. CALCULATOR
                2. ADDRESSBOOK             7. CLOCK
                3. SPREADSHEET             8. COMMUNICATION
                4. CREATE DOCUMENT         9. FAX
                5. LINE BY LINE            0. DISK APPLICATION

 Type number or move cursor and press RETURN.  Press MENU for more selections.
```
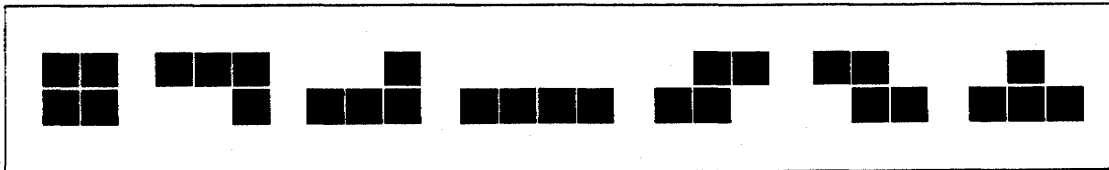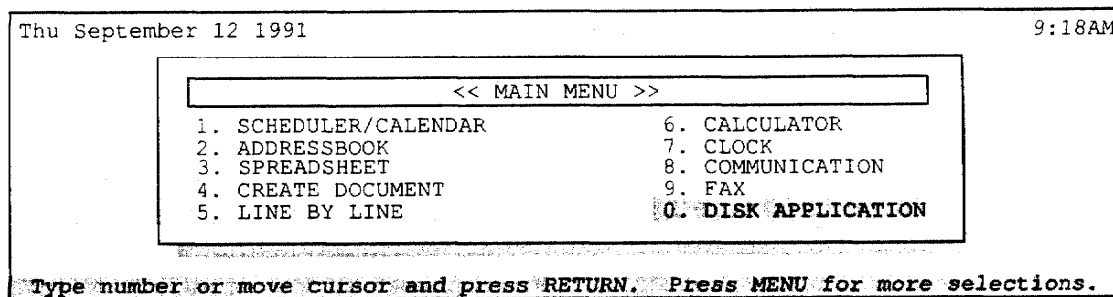
2. Insert the TETRIS disk.

3. Move the cursor to o. DISK APPLICATION using ⬅, ➡, ⬆, and ⬇, then press (RETURN). This message will appear:

```
All memory files must be saved on disk before using DISK APPLICATION.
Press CODE+S to save files, CODE+D to delete files.
```

- *Accelerator: Instead of (3) you may type "0".*

4. Since the game makes use of all the memory, you must transfer all your files to the disk or delete them before the game is loaded. Press (CODE) + (S) to save the files, or (CODE) + (D) to delete them. You may also press (CANCEL) to return to the MAIN MENU.

- *The files can be saved on the TETRIS disk or on a data disk. To save the files on a data disk, insert the desired disk before pressing (CODE) + (S).*

To delete the files...

- If you do not want to save your files (because you have already saved them, for example), simply press (CODE) + (D). This message will appear:

```
Delete?  Press RETURN(yes) or CANCEL(no).
```

- **If you press (RETURN), all the files are deleted. This includes the Create Document, Address Book, and Scheduler/Calendar files, as well as the User Dictionary and Abbreviated Phrase files.**

- If you press (CANCEL), the machine returns to the normal MAIN MENU, and you can select another mode.

To save the files...

- Press (CODE) + (S). The MEMORY INDEX displays Create Document, Address Book, and Scheduler/Calendar files currently in the memory. The first file that is going to be saved is displayed in reverse color and a message asks you to wait:

```
Saving the file....please wait.
```

- After the file has been saved, the machine automatically starts saving the next file. When all files displayed on the MEMORY INDEX have been saved, the machine starts saving files that are not displayed on the MEMORY INDEX, such as the USER DICTIONARY, etc. A message like this asks you to wait:

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```
Saving user dictionary....please wait.
```

- If a file with exactly the same file name already exists on the disk, this message appears:

```
Overwrite.  Press RETURN to overwrite.
```

- If you press (RETURN) the file is saved, overwriting the old file on the disk. If you press (CANCEL), you are requested to enter a new file name:

```
Type filename and press RETURN.
FILENAME:■
```

- If you type a file name and press (RETURN), the file is saved under that file name. If you press (CANCEL), this message will appear:

```
Press RETURN to delete current file, CANCEL to exit.
```

- If you press (RETURN), the file will **not** be saved. If you press (CANCEL), the machine returns to the MAIN MENU.

After the files are saved or deleted...

After your files have been saved or deleted, the DISK APPLICATION screen appears:

```
<< DISK APPLICATION >>         REMAIN:XXX.XK                    2:18AM

    TETRIS   .OP4 (XX.X)




Select a file and press RETURN.
```

1. Press (RETURN) to display the TETRIS logo, or (CANCEL) to return to the MAIN MENU.

<div style="border:1px solid;">

brother TETRIS

</div>

2. A Copyright Notice screen comes after the logo, then the TETRIS SET UP screen appears. (To get to that screen faster, you may press ((SPACE BAR)) while the logo is being displayed.)

Setting the LEVEL and HEIGHT

<div style="border:1px solid;">

```
                LEVEL            HEIGHT

           0 1 2 3 4         0 2 4
           5 6 7 8 9         7 10 <<

        Select LEVEL and HEIGHT by using J or L key.

                Press RETURN to start.
```
♪

</div>

LEVEL and HEIGHT determine the difficulty of the game.

The level sets the speed at which the pieces fall from the top of the screen. You can select values from 0 (slow) to 9 (fast).

The height sets the number of rows at the bottom of the pit that are already randomly filled. Normally, you will start with an empty pit (0). If you select 10 (maximum), you will start the game with ten rows with gaps at the bottom of the pit. You may challenge someone else with the same configuration which you last played by selecting "<<" on the HEIGHT menu. This will give you the same block placement from the previous case.

1. To set the LEVEL, use (L) to increase or (J) to decrease. ((H) can also be used to increase the LEVEL while playing, but you cannot decrease the LEVEL while playing).

2. When the LEVEL is set, press (RETURN) or ((SPACE BAR)) to start setting the HEIGHT.

3. To set the HEIGHT, use (L) to increase or (J) to decrease.

4. Press (RETURN) or ((SPACE BAR)) to start playing. The TETRIS screen appears.

Playing

Increase Level | **Next on/off**

HI-SCORE : 0
SCORE : 0
LINES : 0
LEVEL : 0

NEXT

Sound on/off | **Drop**
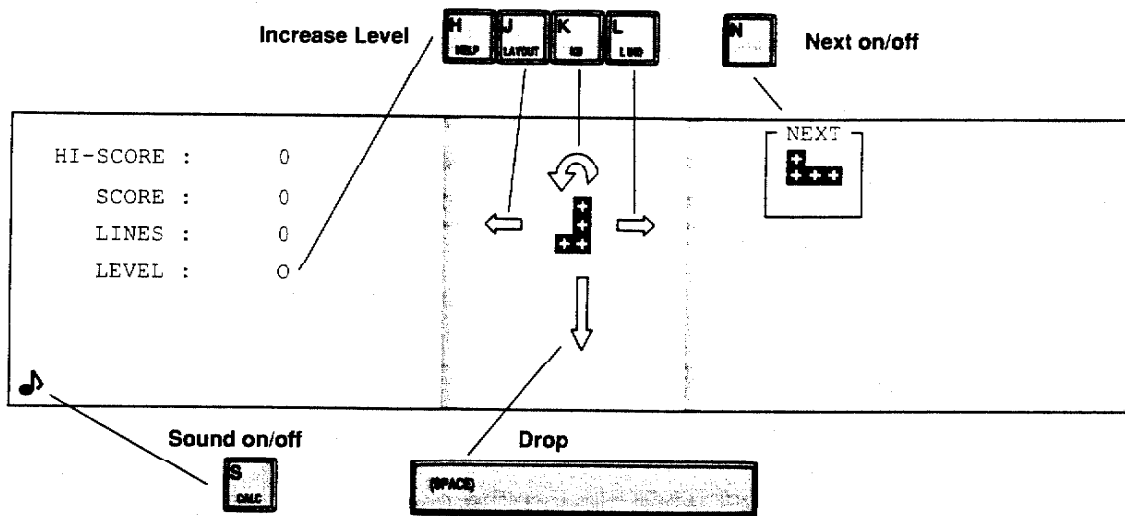
1. To move a falling piece to the left, use ▣ or ◀. To move it to the right, use ▣ or ▶. To rotate it, use ▣ or ▼.

2. The faster a piece falls, the more points you get when a row is deleted. You can always drop the piece by pressing ▣SPACE BAR▣, ▲, or ▣ when you are sure it is aligned.

3. When a game is over, the machine asks if you want to start again:

```
Do you want to play again?
Press RETURN(yes) or CANCEL(no).
```

4. Press ▣RETURN▣ to reset and play again, or ▣CANCEL▣ to return to the MAIN MENU.

• *The difficulty of the game (LEVEL) will automatically increase as the game progresses depending on the number of lines deleted. The game will jump from LEVEL 0 to LEVEL 1 after deleting 11 lines, then it will jump from LEVEL 1 to LEVEL 2 after deleting 22 lines. The LEVEL will keep jumping up until reaching LEVEL 9.*

DISK APPLICATION

The Indicators

Indicator	Meaning
HI-SCORE	Indicates the highest score of a series of games.
SCORE	Indicates the score for the current game.
LINES	Indicates the number of deleted lines.
LEVEL	Indicates the selected LEVEL while playing
♪	Indicates that the sound is on (this can be switched off).
NEXT	Indicates the shape of the next piece (this can be switched off).

Other Options

Other options are available:

- **H**: to increase the LEVEL while playing (there is no key to decrease the LEVEL while playing).

- **N**: to switch the display of the NEXT piece on/off.

- **S**: to turn the sound on/off.

- **MENU**: to switch to the Create Document mode INPUT/EDIT screen. This is useful when you do not want to be caught playing at a time you should be working. Although the INPUT/EDIT screen is displayed, no input is actually possible.

  From the INPUT/EDIT screen, you may press **MENU** again to return to your game, or **CANCEL** to display the MAIN MENU.

How to Finish
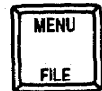
To stop playing at any time and return to the MAIN MENU, press **MENU**, then **CANCEL**. If you press **MENU** again instead of **CANCEL**, the game restarts where you left it.

Appendix

Error Messages

Error Message or Indicator	Cause	Remedy
BATTERY	The rechargeable battery is low.	Recharge as soon as possible.
Battery low. Can't use Disk Drive.	The rechargeable battery is low.	You can still use the machine for a while, but the disk drive cannot be accessed. Recharge as soon as possible.
Check disk.	Malfunction of the disk or disk drive.	Consult your dealer.
Disk is write protected. Insert another and press RETURN.	You are using a write-protected disk.	Use another disk or disengage the protection.
Incorrect disk. Insert another and press RETURN.	The selected file cannot be found on the inserted disk (you changed the disk so that the DISK INDEX screen and the inserted disk do not match).	Press ⌈CANCEL⌉ or reinsert the correct disk and press ⌈RETURN⌉.
Insert disk and press RETURN.	The disk is not inserted when you start a read operation, or the disk is removed during read or write operation (a message was telling you to wait).	Insert the disk and press ⌈RETURN⌉. In the future, please avoid removing or inserting a disk while prompted to wait.
Memory full.	You attempted an operation that would require more memory than the total limit of 32 kilobytes.	Delete some of the file to make more free room.

(continued)

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APPENDIX

Error Message or Indicator	Cause	Remedy
MemLoss	The lithium battery is low.	Save all your files on disk and change the lithium battery as soon as possible.
Ram down.	Malfunction detected in your machine's Random Access Memory.	Consult your dealer immediately.
Rom down.	Malfunction detected in your machine's Read Only Memory.	Consult your dealer immediately.
Unidentified disk error. Insert another and press RETURN.	Defective disk.	Consult your dealer.
	You attempted to copy an uninitialized source disk.	Initialize the disk. (This will erase any files previously stored on the disk.)

Troubleshooting Chart

Your unit has been precision-manufactured to give you years of trouble-free use. In the rare case that trouble does happen, you will probably be able to find the solution in the table below. If you cannot, please do not attempt to repair the machine yourself. Instead, please contact your dealer.

Trouble	Remedy
Nothing works after the machine has been switched on.	Check that the AC Adapter cord is correctly connected.
Will not print or printout is difficult to read.	Check the printer connections and settings, and whether the printer is ON LINE.
All seems normal after the machine has been switched on, but nothing is displayed.	Adjust the brightness controller.
Disk operation is not possible.	If you are running the machine on the rechargeable battery, the battery may be low. The disk has been damaged, or a television set is located too close to the disk drive. Try with another disk and/or move the unit. The disk may be an "HD" disk. Use "1DD" or "2DD" disks only.

Specifications

General

Display	LCD, 14 lines x 80 characters
Keyboard	59 keys Auto repeat function 2 selectable character sets

Memory
  Internal (Text)
  External
	
	32K bytes
	240K bytes (formatted) 3.5" floppy disk

Power Supply	AC Adapter (AC120V/DC9V) or
	optional rechargeable Ni-Cd Battery
	    Battery recharge time: 6~15 hours
	    Battery life: 8 hours (display backlight off)

Memory Backup Battery	Lithium Battery life: 1 year (at room temperature)
Weight Dimensions	5.0lbs (without rechargeable battery) 11.2" (W) x 1.9" (H) x 9.5" (D)
Interface	RS232C connector x 1 Parallel connector x 1
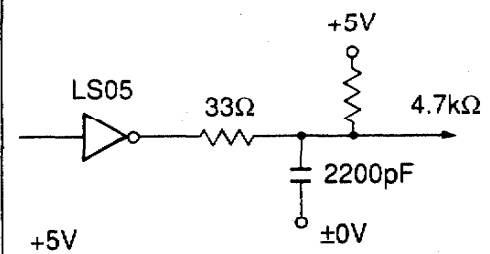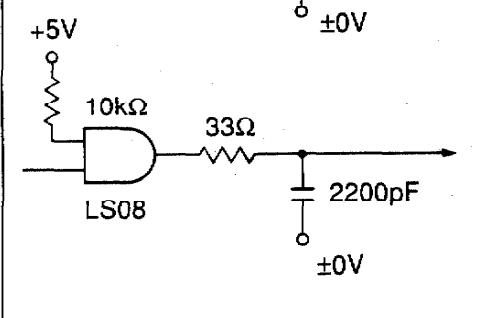
Printer (Parallel) Interface

25 pin D subminiature Connector
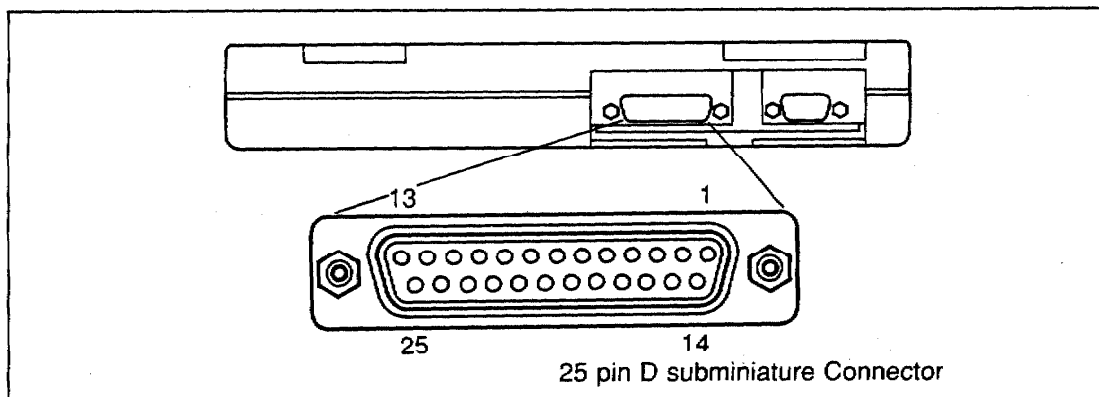
Pin No.	Signal Name	Input/Ouput
1	Data Strobe	Output
2	Data 1	Output
3	Data 2	Output
4	Data 3	Output
5	Data 4	Output
6	Data 5	Output
7	Data 6	Output
8	Data 7	Output
9	Data 8	Output
10	Acknowledge	Input
11	Busy	Input
12	Not Connected	
13	Select	Input
14	Not Connected	
15	Not Connected	
16	Input Prime	Output
17	Not Connected	
18~25	Ground	

Driver Circuit

Signal	Configuration
Data Strobe (STROBE)	LS05 33Ω +5V 4.7kΩ 2200pF ±0V
Data 1~8 (D0~D7)	+5V 10kΩ LS08 33Ω 2200pF ±0V

Receiver Circuit

Signal	Configuration
Acknowledge (ACK) BUSY Select (SLCT)	+5V 10kΩ LS05 100Ω 2200pF ±0V
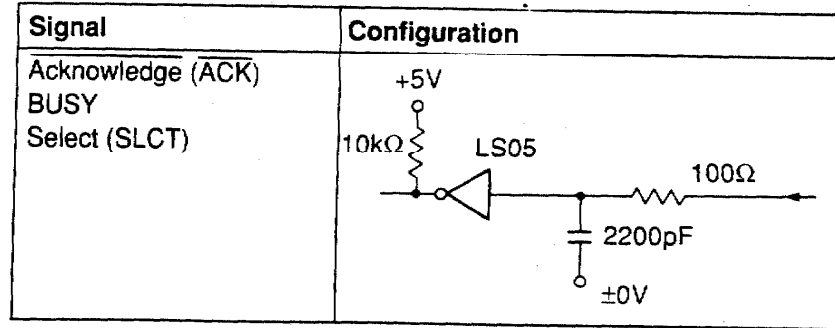
Communication (RS-232C) Interface

9 pin D subminiature Connector
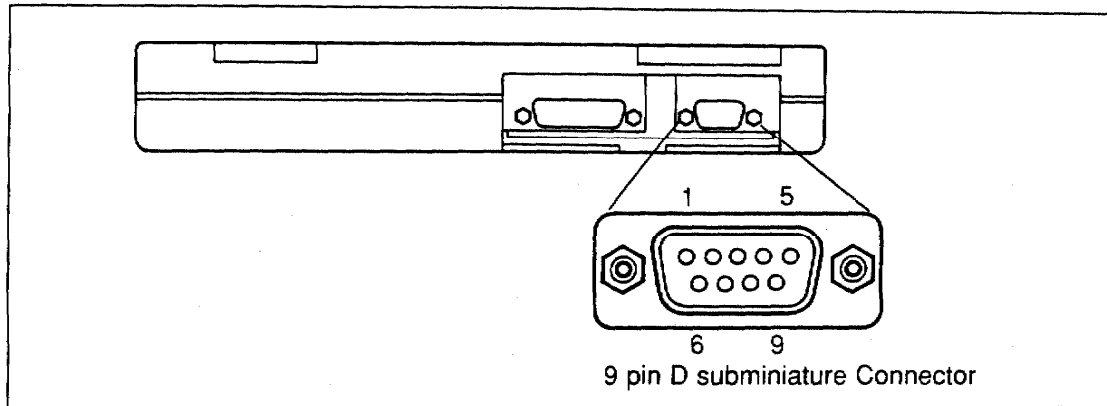
Pin No.	Signal Name	Input/Ouput
1	Carrier Detection (CD)	Input
2	Reception Data (RxD)	Input
3	Transmission Data (TxD)	Output
4	Data Terminal Ready (DTR)	Output
5	Signal Ground (SG)	
6	Data Set Ready (DSR)	Input
7	Request To Send (RTS)	Output
8	Clear To Send (CTS)	Input
9	Not connected	
E (Shell)	Frame Ground (FG)	

Driver Circuit

Signal	Configuration
Transmission Data (TxD) Data Terminal Ready (DTR) Request To Send (RTS)	+12V 2.2kΩ 2SA812 100Ω 1/2W 3.3kΩ 470pF −12V ±0V

Receiver Circuit

Signal	Configuration
Carrier Detection (CD) Data Set Ready (DSR) Clear To Send (CTS)	+5V 4.7kΩ SN75189 1000pF ±0V
Reception Data (RxD)	SN75189 1000pF ±0V

Glossary

ABBREVIATED PHRASE

To increase your typing speed, you can store frequently used phrases in a special abbreviated phrase file and recall any text string by merely typing its abbreviation (which has been stored along with the string).

ACCELERATOR

Instead of selecting a function from a menu with ⊟ or ⊞ and then pressing 〔RETURN〕 to activate the function or to display a submenu, you may press the letter keys that appear in bold on the menu. This character is called an accelerator.

ADDRESS BOOK

The Address Book mode is used to create and edit lists of names, addresses, telephone numbers, etc. The data of an Address Book file can be merged in a text file during printing. If the data contains telephone and fax numbers, these can be used for automatic dialing in the COMMUNICATION and FAX modes.

ALARM

The machine allows you to set a single alarm from the Clock mode (morning alarm, for example), and up to five different alarms to remind you about important schedules. These are set in the Scheduler/Calendar mode.

BACKUP DISK

When a disk contains valuable information, use the disk copy function to make a backup copy of the disk. Keep the original in a safe place and work with the copy. This way, if an accident occurs (accidental erasure, for example) you will still be able to retrieve your data.

BACKUP BATTERY

The internal memory of the machine is protected by a small, long-life lithium battery. If the battery is removed or becomes low, the contents of the memory will be erased.

BLOCK OPERATIONS

The block operations on the Create Document mode allow for on-screen cutting & pasting tasks. They include block copy, move and delete.

CALCULATOR

A screen that looks like a pocket calculator can be activated from the MAIN MENU or from the Create Document mode. You can carry out simple arithmetics problems and insert the result in your text file, if desired.

CLOCK	The machine is equipped with a time clock powered by the lithium battery. Once the clock is set, it will display the date and time on the first line of most screens. A clock screen is also available which permanently displays the time in large characters.
COMMUNICATION	The Communication mode is used to transmit and receive files between two PN-4400 or a PN-4400 and a personal computer. This communication is handled via a cable connected between two units or through a telephone line and a modem hook-up.
CREATE DOCUMENT	The Create Document mode allows you to create and edit documents such as letters, reports, chapters of a book, etc.
DATA MERGE	An advanced function which allows you to automatically print many copies of a document (a letter, for example) using variable data (names and addresses) stored in a separate ADDRESS BOOK file.
DIALING	This machine performs automatic dialing in the Fax and Communication modes, which means that you do not have to manually dial on the telephone set. The telephone number is input directly on the screen, or selected from the Address Book file.
DISPLAY	The LCD display shows the setting indicators, the text you are typing, function menus, and messages. The display of this machine is backlit to allow for operation in a poorly lit place. If you are running the machine on the rechargeable battery, turn the back light off to safe energy in a well illuminated place.
DOUBLE COLUMNS PRINTING	This function allows you to print your document in two columns. On the screen, the text is displayed continuously as one column.
DUAL SCREEN	This function splits the display in half and allows you to work simultaneously with two documents.
EDITING	Editing a file simply means modifying it.
ELITE	One of the available pitches on this machine. Elite pitch corresponds to 12 characters per inch. When you select this pitch, make sure that the daisy wheel in use bears the indication "12" (or "1012").

FAX	The Fax mode allows you to transfer a text file to a remote fax machine through the telephone line. To use that mode, you must connect the optional fax converter between your machine and the telephone line.
FOOTER	A footer is a line of text that is printed automatically at the bottom of each page. With this machine, the footer includes automatic page numbering.
FORMULA	In the Spreadsheet mode, you may input data in order to automatically perform a mathematical operation.
FUNCTION MENU	A listing of available operations that can be performed. By pressing the (MENU) key, you may choose an operation available for the selected mode.
HEADER	A header is a line of text that is printed automatically at the top of each page. With this machine, the header includes automatic page numbering.
HYPHEN SCAN	The hyphen scan function detects the lines of the document with too many blank spaces and helps you insert hyphens in order to improve the layout.
JUSTIFICATION	When a line is printed in justify mode, the machine divides the total length of the line, minus the length of the actual characters, by the number of spaces between words to obtain equal spacing between words. The first character of the line is aligned with the left margin, and the last one with the right margin.
LINE OUT	The LINE OUT function allows you to quickly erase the current line, from the cursor position to the beginning of the line.
MEMORY	A special part of the machine where data can be stored. An electronic memory is divided into small units called "bytes" where a single character can be stored. See also RAM and ROM.
MICRON	One of the available pitches on this machine. Micron pitch corresponds to 15 characters per inch.
MODEM	A MODEM (MOdulator/DEModulator) is a device used to convert data from a form which is compatible with a data processing machine to a form that is compatible with a transmission device, and vice-versa.

PAGE LAYOUT VIEW	The page layout view function of this machine allows you to preview several pages on the screen by compressing the size of the characters. On that screen, you are not able to read your text, but you have a global view of your document.
PICA	One of the available pitches on this machine. Pica pitch corresponds to 10 characters per inch.
PROTOCOL	A set of conventions between communicating devices regarding the format and contents of messages to be exchanged. This machine can use the popular XMODEM protocol.
RAM	Random Access Memory -- a memory you can store in or recall from. All the information you input from the keyboard is stored in this type of memory. The RAM is protected by a small lithium battery.
RANGE	A range of cells is a portion of the spreadsheet that is enclosed in a rectangle. Many functions, such as move, copy, delete, and print can be applied to a range.
RECALCULATION	In the Spreadsheet mode, a result which is related to other cells through a formula can be recalculated if the contents of the cells have been modified. Since recalculation of a large spreadsheet is time consuming, the machine lets you edit without recalculating automatically each time you edit a cell. Recalculation is carried out only when you activate the function.
RECORD	A record is an entry of the Address Book. It may contain different items but must fit on a single line.
REDUNDANCY CHECK	Redundancy check is a function of the Spell Checker. It detects repeated words.
ROM	Read Only Memory. This kind of memory is where the manufacturer stored the software of this machine. This permanent memory is not cleared when you turn the power off.
SCHEDULER / CALENDAR	The Scheduler/Calendar mode is used to organize your schedule. It is equipped with an alarm function and an electronic calendar.
SEARCH & REPLACE	The search and replace function automatically scans the document and stops at each occurrence of a specified word. It allows for easy replacement of a word.

SHORT-CUT KEYS	Keys that are used to activate a function quickly, without displaying the function menu.
SPELL CHECKER	The spell checker function automatically checks your text and warns you when a mistake is detected (misspelled or redundant word).
SPREADSHEET	The Spreadsheet mode allows you to create files containing numbers to be calculated. Calculation is performed automatically. This mode is ideal to create files like financial reports, balance sheets, check books, paylists, etc.
THESAURUS	The Thesaurus function allows for easy replacement of words with synonyms.
WORD OUT	The WORD OUT function allows you to quickly erase the word the cursor is on, from the current position to the beginning of the word.
WORD WRAP	When displaying or printing a file, a word that cannot fit on a line is automatically "wrapped" to the next line.

Alphabetic Index

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APPENDIX

ACCESSORY ORDER FORM

Dear Customer,

Please use this order form when ordering accessories for your typewriter.
Please add $3.00 for shipping and handling charges. For orders to be shipped outside of the Continental U.S., please add $10.00 for shipping and handling.

Item No.		Price	Q'ty	Total
MFD-60	A box of ten 3.5" Floppy Disks	$26.50		
FX-4000	Robotics Pocket Fax Modem	Call for price		
BL-2	Business letter template	$49.95		
BA-4000	Rechargeable Ni-Cd Battery	Call for price		
CA-4000	Carrying case	Call for price		

* Above pricing subject to change without notice.
   For further information on these accessory items, call 901-373-6256.

ACCESSORY ORDER FORM

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BA-4000	Rechargeable Ni-Cd Battery	Call for price		
CA-4000	Carrying case	Call for price		

* Above pricing subject to change without notice.
  For further information on these accessory items, call 901-373-6256.

SHIPPING LABEL

Brother International Corporation
Typewriter Division
P.O. Box 1332
Bartlett, TN 38184-1332

NAME _____

ADDRESS _____

_____

CITY, STATE, ZIP _____

_____

Sub Total

CA, GA, IL, NJ, NY, LA, SC, VA, TX, TN,
NC, NM and MA residents add
applicable sales tax _____

Total _____

Add $3.00 for shipping and handling

Method of payment (check one)

[   ] Check or Money Order enclosed

Please charge my [   ] Master card

[   ] Visa.

· Account Number

Expiration Date _____

Signature _____

SHIPPING LABEL

Brother International Corporation
Typewriter Division
P.O. Box 1332
Bartlett, TN 38184-1332

NAME _____

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_____

CITY, STATE, ZIP _____

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[   ] Visa.

Account Number
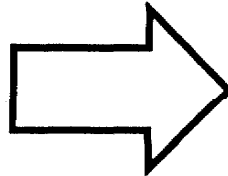
Expiration Date _____

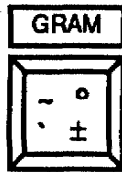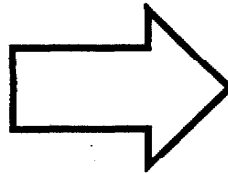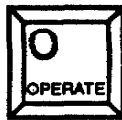Signature _____

INSERTION SHEET

(INCORRECT)   (CORRECT)

PAGE
18, 19

PAGE
18, 19

List of Factory Authorized Service Depots:

J & J SERVICE & SUPPLY
1601 CAPITOL AVENUE
OMAHA, NE68102
(402)331-5952

(INCORRECT)

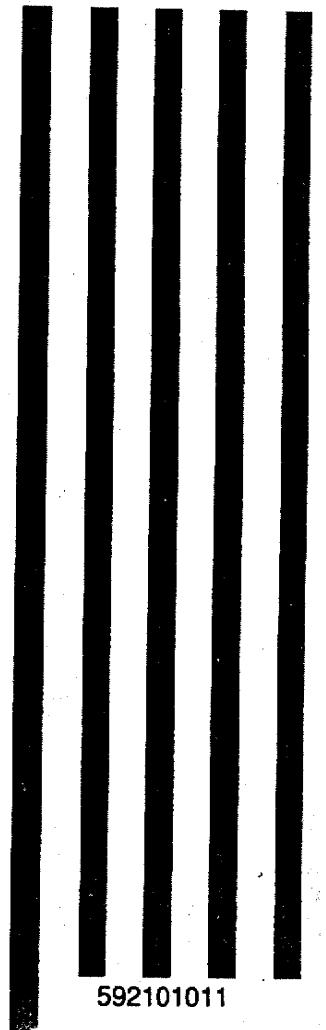J & J SERVICE & SUPPLY
9662 MOCKINGBIRD DRIVE
OMAHA, NE68127-2047
(402)331-3336

(CORRECT)

brother.

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