Merlin

British Telecom Business Systems

Handbook

Tonto personal information centre

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About this manual

The TONTO Handbook tells you how to operate the TONTO and gives step by step instructions for using the standard facilities.

If you are using the TONTO for the first time, you'll find the *Welcome Package* gives you a good introduction to the TONTO. The *Welcome Package* contains a program on cartridge and a set of scripts with which you can try out most of the standard facilities.

As a new user, you will also benefit from reading Parts A and B, and scanning through Parts C and D, of this Handbook. (The Glossary at the back of the Handbook explains any unusual terms.) Once you are familiar with the TONTO, you will probably just use this Handbook to check on details, for which you'll find the Index at the back valuable.

A guide to the TONTO configurator programs is given in *Advanced Operations*.

Details of the BASIC programming language and the Messaging and Xchange applications are given in the following manuals:

BASIC

Messaging

Xchange

For installation instructions see *Installation*.

Note: You can connect the TONTO to one or two telephone lines. Paragraphs containing information which applies specifically to a one line or a two line TONTO begin with the wording **"On a one line TONTO"** or **"On a two line TONTO"** in bold print.

Proper use of this equipment

The TONTO has been designed, manufactured and tested to meet the highest international standards for data processing equipment. As with any electrical apparatus, you should take care when using it.

DO read the operating instructions carefully before you attempt to use the equipment.

DO ensure that all electrical connections (including mains plugs and any extension leads) are properly made in accordance with the instructions. For information on how to wire mains plugs see *Installation*.

DO keep your fingers, paper clips and so on away from connectors or apertures in the equipment. If you have a printer, be particularly careful to keep clear of its moving parts.

DO disconnect the equipment from the mains (and the telephone lines from the wall sockets) before plugging in or unplugging the individual parts or external devices.

DO check periodically that leads have not become worn or damaged.

DON'T continue to operate the equipment if you doubt that it is working normally, or think that it is damaged in any way. Withdraw the mains plug and consult your maintenance authority.

DON'T trail wires across gangways or under carpets.

DON'T obstruct the ventilation slots in the equipment. This could cause overheating and shorten its life.

DON'T remove any fixed covers unless you are qualified to do so, and even then withdraw the mains plug from the supply and the telephone leads from the wall sockets before you start.

Contents

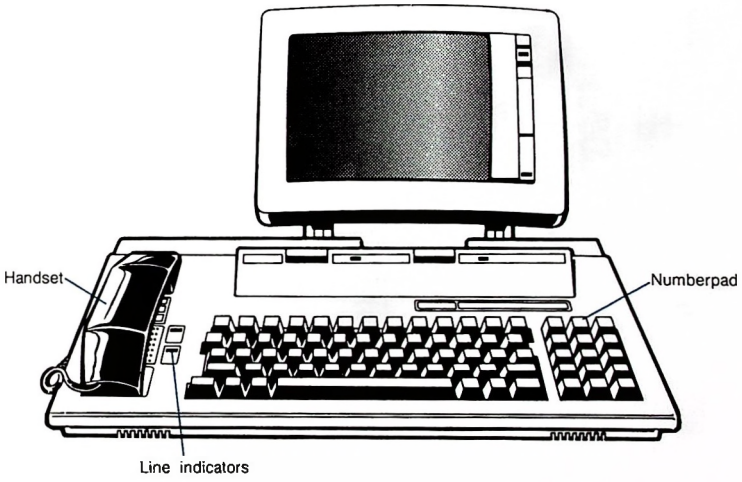
This Handbook has eight parts. Each part is divided into sections, which are introduced on the first page of the part. The quickest way to locate information on a particular topic is to use the comprehensive Index at the back.

Making and receiving telephone calls

These brief instructions tell you how to make or receive a phone call straight away, before you are familiar with the TONTO.

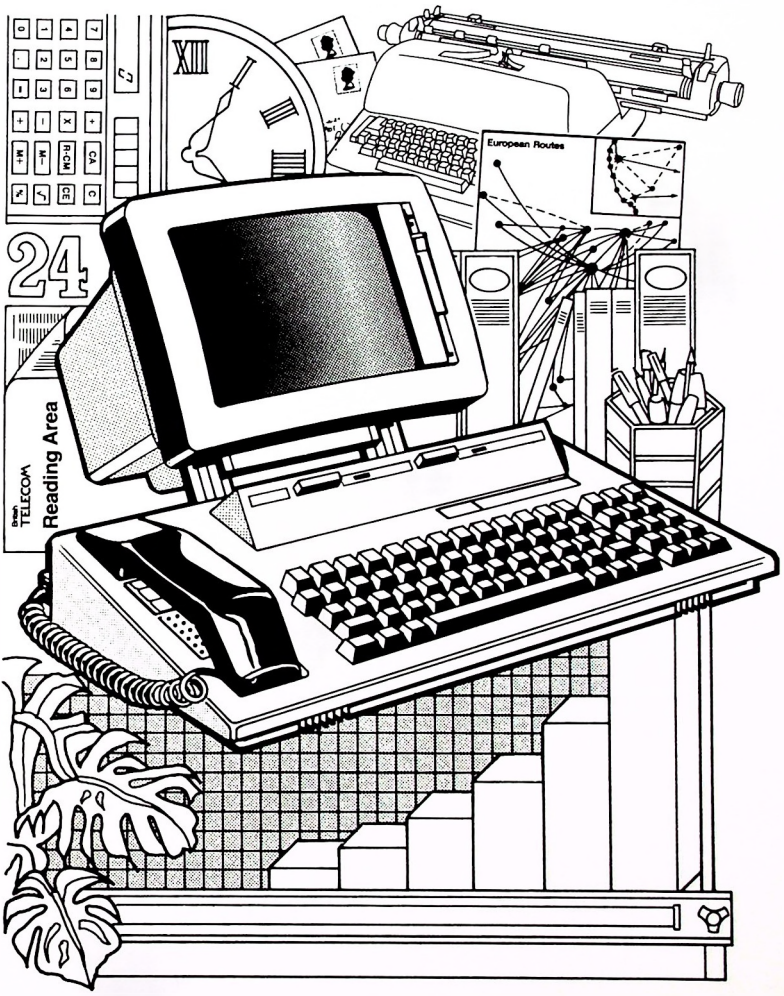
- **To make a phone call,** just pick up the handset, wait for the dialling tone, and type the number on the numberpad (shown on the diagram below).

- **An incoming call** is signalled by a ringing sound and the flashing of one of the two line indicators to the right of the handset. To answer the call just pick up the handset.



A Introducing the TONTO

2 What can the TONTO do?



The TONTO has a wide range of facilities. The main ones are listed below.

Telephone facilities

- ☐ Connections for two telephone lines
- ☐ Simultaneous voice and data communications
- ☐ Automatic answering by a voice synthesiser
- ☐ Shortcode dialling
- ☐ Call timing and charging
- ☐ Loudspeaking facility for monitoring the progress of a call
- ☐ Telephone and Computer Services Directories
- ☐ Automatic dialling from the directories
- ☐ Directory search facilities
- ☐ Storage of directories on microdrive cartridge

Computer Access

- ☐ Automatic dialling from the Computer Services Directory
- ☐ Timing and charging of computer service calls
- ☐ Viewdata:
  - Ability to connect to Prestel and Prestel-compatible Viewdata, such as ICL Bulletin
  - Storage, retrieval, and printing of Viewdata pages
- ☐ Glass teletype:
  - Ability to connect to Data retrieval and messaging services such as Telecom Gold, Packet SwitchStream and ICLMAIL on DRS
  - Storage, retrieval, and printing of information

Calculator

- Addition, subtraction, multiplication, division, and percentage functions
- Memory
- Rack up display of operations and results
- Up to eight significant digits in each value

Noticeboard

- Digital display of date and time
- Monitoring of incoming and outgoing telephone calls
- Telephone numbers displayed when dialling
- Helpful messages to keep you informed

Microdrives

- Two microdrives, for use with removable microdrive cartridges, for data storage
- Each compact microdrive cartridge holds approximately 200 blocks of information (equivalent to about 30 A4 pages)

BASIC programming language

- Powerful BASIC programming language for personal programs

Electronic messaging

- Messaging application, which gives you the power to send typed messages over the telephone line and receive messages from other TONTOs automatically

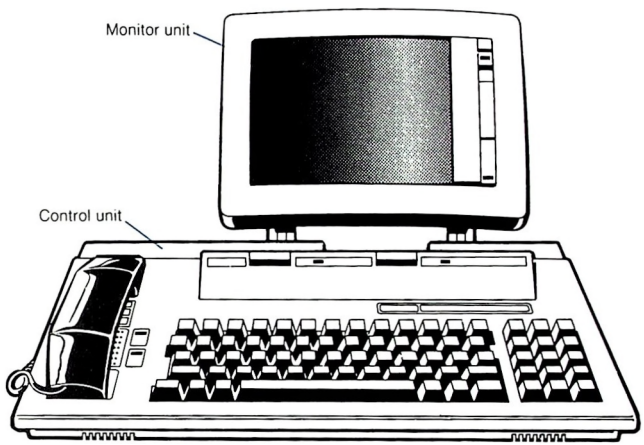
Optional facilities

- ☐ Xchange applications package containing
  - Abacus spreadsheet
  - Quill word processor
  - Easel business graphics
  - Archive database
- ☐ Printer

See your supplier for details.

3 Finding your way round

The TONTO is made up of two main units: the monitor unit and the control unit.



The monitor unit

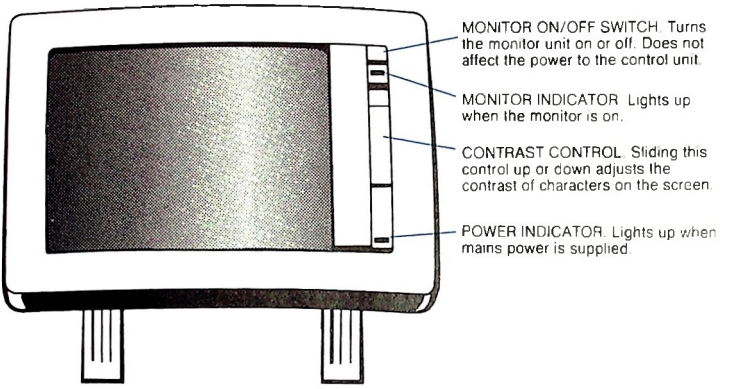
The monitor unit has a nine inch (23cm) screen giving 26 lines of 80 or 40 characters.

- In 80 character mode the monitor can display each character in white, black, or one of two shades of grey.
- In 40 character mode the monitor can display each character in white, black, or one of six shades of grey.

For more technical details of the monitor unit see *Technical information*, page 235.

Controls and indicators

These are the monitor unit controls and indicators.



Note that the MONITOR ON/OFF switch only controls the power to the monitor. There is no power ON/OFF switch for the control unit, as the TONTO is designed to be left on all the time (for Messaging and Auto-answering of telephone calls). To turn off the power to the TONTO you must use the switch on the mains power socket, or pull out the plug if the socket has no switch.

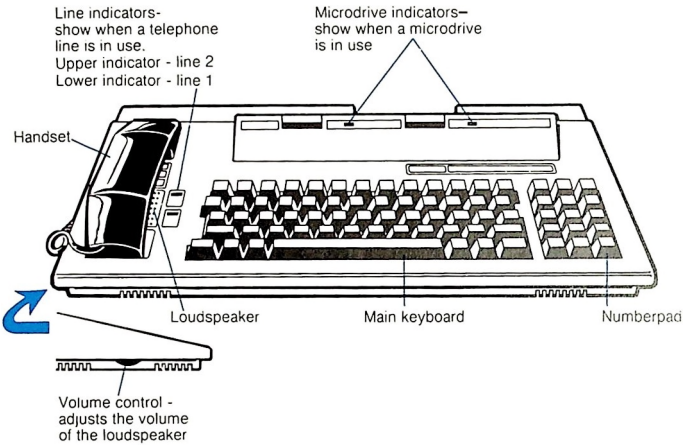
Screen blanking

The TONTO *blanks* (turns off) the screen if it detects that the display has not changed for about ten minutes. To restore the display, just lift the handset or press a key (the SHIFT key will not affect any applications running at the time). The TONTO restores the display if anything happens that requires the use of the screen.

To prolong the life of the monitor, always switch off the monitor unit when you know you won't be using it for some time (overnight or at weekends, for example). Use the monitor ON/OFF switch to turn the monitor unit off (see the diagram above). When you want to use the monitor again, switch it back on by using the monitor ON/OFF switch.

Controls and indicators

These are the controls and indicators of the control unit:



The battery

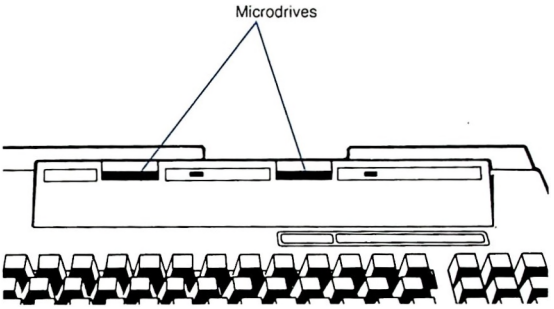
The control unit contains a battery, which powers the telephone and numberpad during a power failure.

The battery is automatically tested when you switch the TONTO on at the mains. It's also tested every 24 hours while the TONTO is running. If the battery fails a test, the message **BATTERY LOW** is displayed. Replace the battery as soon as possible; see *Replacing the battery*, page 199. You can continue to use the TONTO on mains power when the battery is low.

You should replace the battery at least once a year.

Microdrives and cartridges

The TONTO has two microdrives.

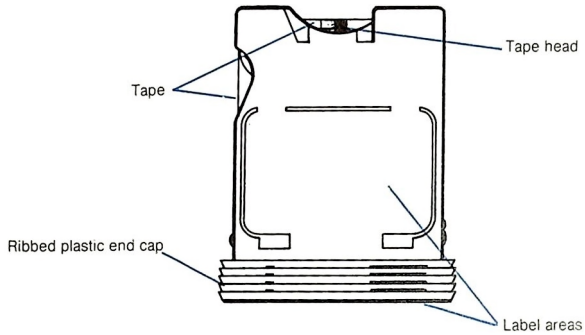


Microdrives are used to save and load programs and information on removable cartridges that contain a continuous loop of tape. The microdrives are referred to as L for left and R for right.

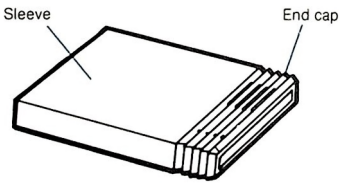
There are two microdrive indicators (one to the right of each microdrive). An indicator lights up when a microdrive is in use. Do not remove a cartridge from a microdrive that's in use.

Cartridges

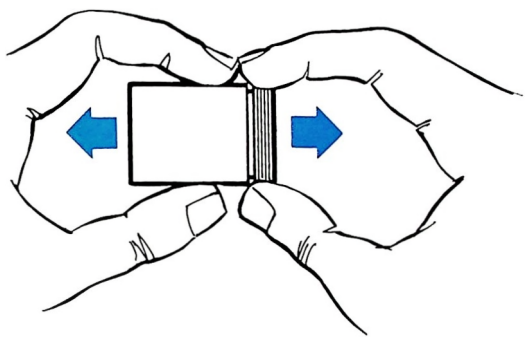
This is a microdrive cartridge. A *formatted* cartridge can hold approximately 200 *blocks* (see *Glossary*) or about 30 A4 pages of information. All new blank cartridges must be formatted. Formatting prepares the cartridge so that it's suitable for use on a TONTO (see *Formatting a cartridge*, page 176).



Cartridges come in protective sleeves.



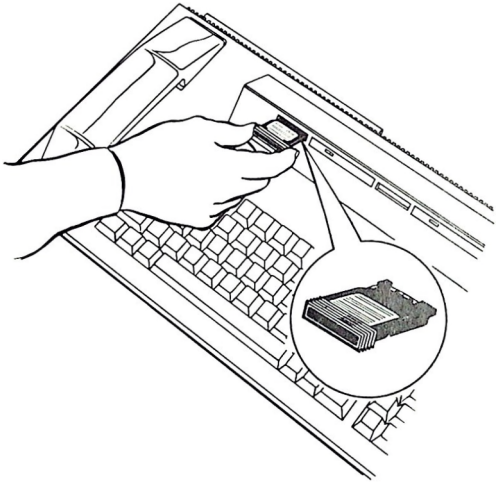
To remove the cartridge, hold the sleeve by its sides and pull the cartridge out as shown below.



Inserting a cartridge into a microdrive

To insert a cartridge into a microdrive, hold the cartridge with the label face up and slide it carefully into the microdrive opening. If you feel resistance, don't force the cartridge but check that it's the right way up.

Push the cartridge in until you feel it click into place. Only the end cap should be visible.



Removing a cartridge

Never remove a cartridge when the microdrive indicator is lit.

Check that the indicator next to the microdrive is off; then carefully pull out the cartridge and return it to its protective sleeve.

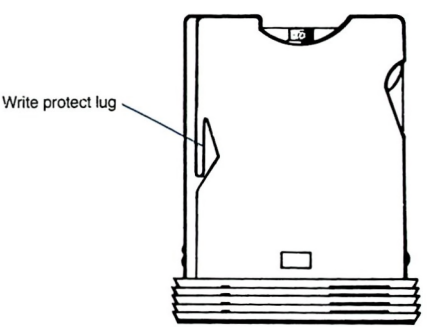
Back-up copies

You are recommended to take at least two *back-up* (security) copies of important information and programs stored on cartridge.

Like all computer storage devices, microdrives and cartridges may occasionally become defective, making it impossible to load data from the cartridge. Having a good back-up copy ensures that you can recover the lost information or programs. For details of copying information and programs, see *Microdrive Utilities*, page 175.

The write protect lug

If you turn a cartridge over (so that the label area is face down), you'll see a small plastic ear called the *write protect lug*.



The presence of this lug lets you store data on the cartridge. By breaking off the lug you can protect the data stored on the cartridge from being accidently overwritten by other data.

To update data stored on a cartridge which no longer has a write protect lug, copy the data onto a cartridge that has a lug and update the copy.

Looking after cartridges

Always treat cartridges with care. For the best performance:

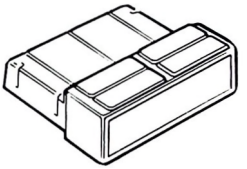
- ☐ Always store cartridges in their sleeves.
- ☐ Always insert and remove cartridges slowly and carefully.
- ☐ Always ensure a cartridge is firmly installed before using the microdrive.
- ☐ Never touch the tape with your fingers, or insert anything into a cartridge.
- ☐ Never turn the TONTO on or off when a cartridge is in a microdrive.
- ☐ Never move the TONTO with a cartridge installed.
- ☐ Never touch a cartridge while the microdrive indicator is lit.
- ☐ Never place cartridges close to sources of strong magnetic fields.

Rompacks and capsules

The TONTO comes with a *Rompack* that slots into the back of the control unit. The Rompack contains TONTO software and has two slots into which you can fit *capsules*. The slots are fitted with plastic caps (four plastic caps are present; you can remove only the two caps nearest the outside edge of the Rompack). Capsules contain applications. A Messaging capsule is available.

If you have ordered the optional Xchange applications, you'll have the Xchange Rompack. This performs the same function as the standard Rompack and also contains the Xchange applications.

Capsule



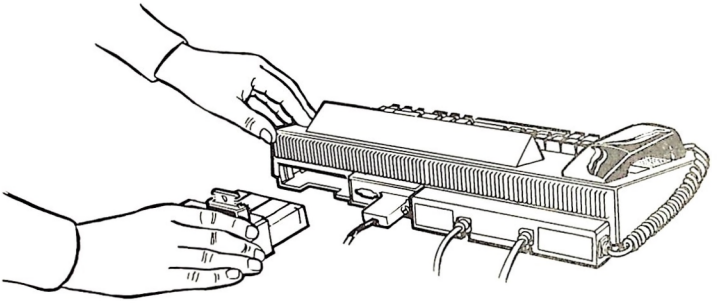
Rompack

Inserting and removing a Rompack

Before inserting or removing a Rompack, stop any applications that are running and switch off at the mains, or pull out the plug. When you switch off the power to the TONTO, the data in its store is lost. If need be, take a copy of the stored data to reload afterwards (see *Data Record facility*, page 185).

To insert a Rompack, hold it with the capsule slots uppermost and push it into the small slot in the back of the control unit. You'll feel some resistance as contact is made inside the control unit. Push the module fully home to make sure it engages properly.

You can insert or remove Rompacks with or without capsules fitted. If you want to fit any capsules, do so before you plug the TONTO into the mains or switch on at the socket.

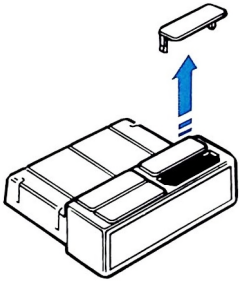


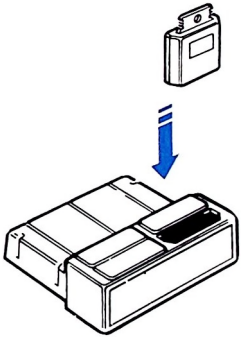
To remove a Rompack, just pull it out.

Inserting and removing a capsule

Before inserting or removing a capsule, stop any applications that are running and switch off at the mains, or pull out the plug. When you switch off the power to the TONTO, the data in its store is lost. If need be, take a copy of the stored data to reload afterwards (see *Data Record facility*, page 185).

To insert a capsule into a Rompack, remove one of the two plastic caps nearest the outside edge of the module to reveal a slot in the module. (Keep the cap to refit in the slot when you remove the capsule.) Place the Rompack on a firm, level surface. Now hold the capsule vertical and insert it carefully into the slot in the Rompack. The capsule fits only one way round. When you feel that contact has been made with the connector inside the Rompack, press down firmly to locate the capsule securely.



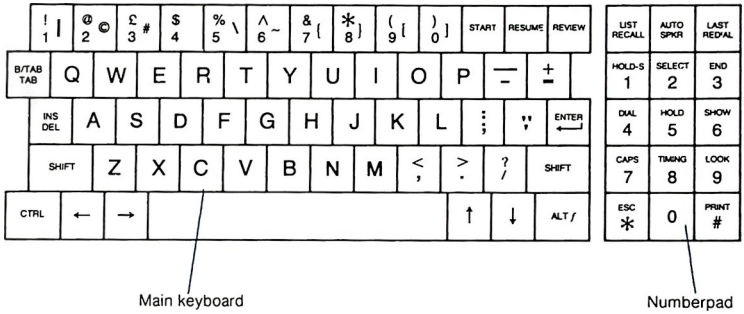


To remove a capsule, just pull it out.

After removing a capsule, always replace the plastic cap in the Rompack.

4 Using the keyboard

The keyboard has two blocks of keys: the main keyboard and the numberpad.



- The main keyboard has all the keys you would expect to find on a standard typewriter, plus extra keys with special functions.

- The numberpad has keys with digits and special functions. You use the numberpad when dialling a telephone number, selecting facilities, or selecting a special function.

- Key repetition. When you are typing in information, the character keys on the main keyboard, and the keys for controlling the cursor and editing, repeat their function when you hold them down. For example, if you hold down the key with the letter X on it, a row of Xs appears on the screen.

- There are two groups of special function keys: system control keys and telephone control keys.

  The system control keys are: START, RESUME, REVIEW, LIST, LAST, and PRINT (LOOK and SHOW are system control keys reserved for future optional enhancements).

  The telephone control keys are: RECALL, SPKR, AUTO, REDIAL, HOLD-S, SELECT, END, DIAL, HOLD, and TIMING.

Using keys with more than one function

Many keys have more than one function. When you press a key you get the function marked by the character on the lower part of the key. In the case of letters, you get a small (lower case) letter.

To get any other function from a key, you have to use it with one of the three keys: SHIFT, ALT*f*, or CTRL. To use one of these keys with another key, press the SHIFT, ALT*f*, or CTRL key and hold it down while pressing the other key. Then release both keys. In the text this is shown as:

KEY1/KEY2

where KEY1 is one of SHIFT, ALT*f*, or CTRL, and KEY2 is any other key. (The *f* function of the ALT*f* key is an exception; see ALT*f* below.)

The SHIFT key

This key gives you the upper function on any key marked with two or more functions. For example:

When used with the letter keys, the SHIFT key gives you capital (upper case) letters.

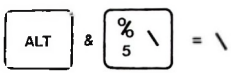
A SHIFT key is provided on both sides of the main keyboard.

Note: Pictures of keys in the margin of the Handbook only show the function for which details are given in the text alongside. Where the function requires the use of the SHIFT key, the name of the function is shown at the top of the key.

The ALT *f* key

This key has two functions: ALT and *f*.

- As the ALT key, it gives you the third character marked on the top row of keys on the main keyboard. For example:



  You may also use it to *alter* the function of other keys (for an example, see *Controlling the cursor,* overleaf). In Computer Access you can use the ALT key with another key to generate a sequence of characters.

- As the *f* key, you'll use it with the numeric keys on the numberpad when selecting a function from some displays. (The numeric keys on the numberpad are the same colour as the ALT*f* key.) In the text this action is expressed as *press f n*, where *n* is a digit.

The CTRL key

The CTRL (CONTROL) key is used by some applications to change the function of other keys. When you are using the Computer Access Viewdata program, for example, you can use the CTRL key to send special codes to the Viewdata service. Also, when you're editing, you can use the CTRL key with the DEL key to perform the function REMOVE (see *Keys for editing*, on page 33).

Key functions

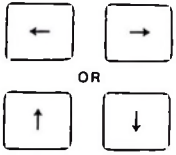
Details of the special keys on the main keyboard are given below. The diagram on page 37 gives you a brief explanation of the special keys on the numberpad. More details of the numberpad telephone control keys are given in Part C *Telephone facilities*. To find the page reference for full details of a particular key function, look up the name of the function in the Index.

Controlling the cursor and editing

You can use these keys when you're typing in or editing text or data, or filling in boxes displayed on the screen. No information is displayed on the screen to remind you how to use these keys, so you need to memorise the details given below.

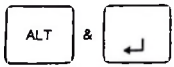
Controlling the cursor

The *cursor* is a small rectangle the size of one character. It appears on the screen when you are typing or editing text or data. The cursor shows you where you are on the screen, and marks the place where the next character appears. (The cursor does not appear when you dial a number or when you type a single character to respond to a prompt.)



Moves the cursor one position in the relevant direction.

Moves the cursor to the beginning of the next line within a box, or, if you're at the end of the box, moves the cursor to the beginning of the next box.

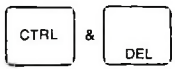


Clears the rest of the line (the character under the cursor and all those to the right of it) and moves the cursor to the beginning of the next line.

Keys for editing

Moves the character under the cursor, and all those after it, one position to the right. This lets you insert another character. (Any character that is pushed off the end of the last line is lost.)

Deletes the character to the left of the cursor; then moves the cursor over this space so that you can type in a different character. This lets you change the character that you've just typed.



Performs the function REMOVE; deletes the character under the cursor and closes up the gap.

Moves the cursor to the beginning of the next box on the screen.

Moves the cursor back to the beginning of the box. If the cursor is already at the beginning, it is moved to the beginning of the previous box.

You can use this key instead of pressing /'1 to tell the TONTO that you've completed the screen or finished editing.

Locks capitals on or off. Press to lock capitals on, press again to release the lock. When the capitals lock is on, the keys A to Z give capital letters with or without the SHIFT key, and the message CAPS appears on the noticeboard.

The START, RESUME, and REVIEW keys

These keys are *system control keys*. The effect of each key is explained below.

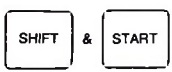
This is the START key. When you press this key the Top Level Menu is displayed. (The Top Level Menu is the first list of options the TONTO presents to you). You can press this key at any time; it will not affect an established phone call.

If you are using an application when you press the START key, the effect on that application depends on its type. Applications running on the TONTO are divided into two groups: *transient* and *extended* (details of transient and extended applications are given in *Running applications* on page 57)

Pressing the START key while a *transient* application is running causes that application to be abandoned and it stops running. To get back to it, you must reselect it from the Top Level Menu.

Pressing the START key while an *extended* application is running causes that application to be *suspended*, or to continue running in the *background* (without the use of the display or keyboard). When an application is suspended, the status message **WAITING** appears against the appropriate menu option (because the application is waiting to use the display and keyboard). Likewise, the message **BACKGROUND** appears when the application is running in the background. To get back to an extended application, press the RESUME key (see RESUME, below).

Pressing the START key also abandons any other activities, such as printing a screen image by pressing the PRINT key, or reviewing applications by using the REVIEW key (described below).



This key combination has the same effect as pressing the START key except that the display of the Top Level Menu is blanked out. You can still make a selection from the Top Level Menu if you know the number of the option you want.

You may like to use this key combination if you prefer to remove the Top Level Menu from the screen when you are using the TONTO just as a telephone.

To restore the Top Level Menu to the screen, press the START key.

This key lets you go back to what you were doing before. There are two occasions on which you'll use the RESUME key:

- If you are running an extended application and press the START key to do something else, you can return to the application at any time by pressing the RESUME key. If you have more than one extended application running when you press the RESUME key, the TONTO displays a menu so that you can select the application you want to resume.

- When you use the keys REVIEW (and lock the display), LAST, or LIST, you use the RESUME key to return to the application you were using before.

Pressing the RESUME key while a transient application is running causes that application to be abandoned. Pressing the RESUME key while an extended application is running causes that application to continue running in the background, or to be suspended, until you press the RESUME key again.

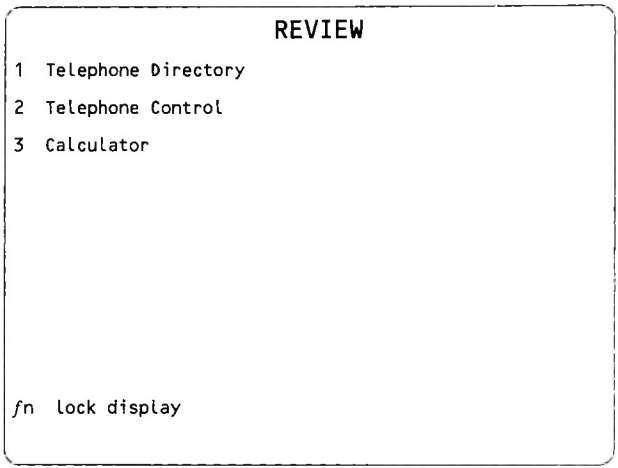
The REVIEW key allows you to take a quick look at some of the information stored in the TONTO. You can press this key at any time; it has no lasting effect on any applications running on the TONTO.

When you press the REVIEW key, the REVIEW Menu is displayed. A sample REVIEW Menu is shown overleaf. Each option on the menu gives one screen of information. The number of options depends on the information stored in the TONTO, although the Telephone Directory and Telephone Control options always appear.

There are two ways to select an option:

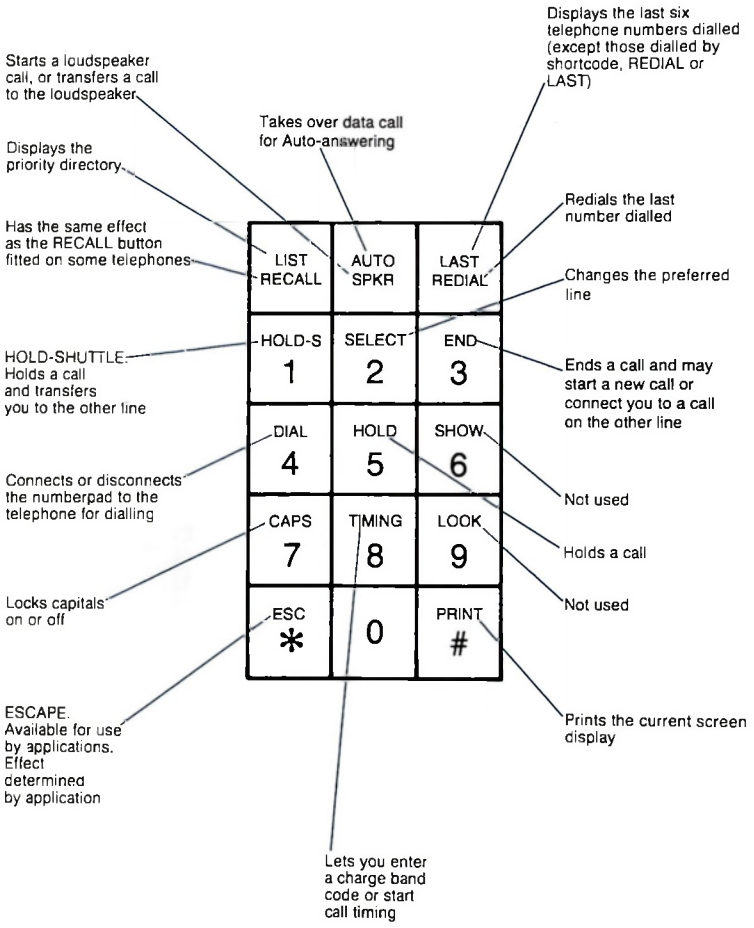
- Press and hold down the number key that corresponds to the option you want. The display of each option only appears while you hold the key down. When you release the key the display reverts to what it was before you pressed the REVIEW key.

- Press the *f* key and hold it down while you press the numberpad key that corresponds to the option you want; then release both keys. This brings the display for that option onto the screen and locks it there. To return to the application you were using when you pressed the REVIEW key, press the RESUME key.



An example of the use of the REVIEW key is looking at the last calculation you did with the TONTO Calculator while you are connected to a Viewdata service.

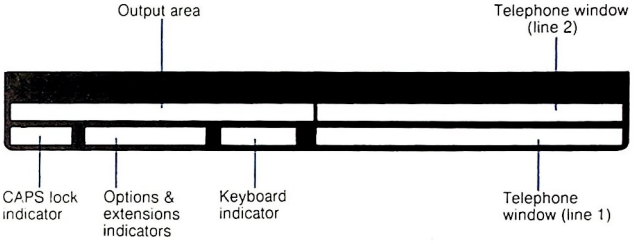
Numberpad key functions



5 The noticeboard

The noticeboard occupies two lines at the bottom of the screen. It displays messages and information to tell you what's happening.

The noticeboard is divided into six areas (shown below). One line TONTOs use only five of these areas; the sixth gives information on the second telephone line.



The information displayed in each area is explained below. When an explanation refers to a facility that is explained in full later, a reference to the relevant section is included.

CAPS lock indicator

If you press the CAPS key to put the capitals lock on, the message CAPS is displayed in this area of the noticeboard. When you press the CAPS key again, the keyboard returns to normal and the message disappears.

Options and extensions indicators

This area is used by options and extensions. Look in the documentation supplied with each option or extension to find out if they display anything here.

Keyboard indicator

This area shows whether the numberpad or the whole keyboard is connected to the telephone handset (for dialling of numbers or shortcodes and transmission of DTMF tones).

One of two indicators appears:

PAD	The numberpad is connected to the handset or loudspeaker.
α +PAD	The whole keyboard (except main keyboard digits, system and telephone control keys) is connected to the handset.

When the area is blank, no keys are connected to the handset. To diconnect (or reconnect) the numberpad from the handset during a phone call, press the DIAL key.

Telephone window for line 1

This area displays information on the use of telephone line 1. Three aspects are covered: the number being dialled; the time and cost of a call; the status of the line. Each aspect is explained further below.

When information is displayed in the telephone window, the line number appears at the beginning of the window. If the line is connected to the handset, loudspeaker, or an application, a message appears immediately after the line number telling you what the line is connected to. The messages are:

HSET	For handset
SPKR	For loudspeaker
PC	For personal computer program or application.

While call timing information is displayed, these messages are reduced to their first two letters.

Dialling

When you pick up the handset (or press the SPKR key), the message PLEASE DIAL is displayed (unless call timing is set for the line; see *Call timing and charging*, below). When you start dialling, this message is replaced by the digits (or characters) which enter the window from the right as they are dialled. (Access pauses always appear as full stops.) If you're dialling by shortcode, any extension number associated with the phone number is also displayed for a short time (preceded by an X) so that when you get through to the switchboard, you know which extension to ask for. (Dialling by shortcode is explained on page 69.) The window has room for 14 digits; if there are more than 14 digits to display, digits roll out of the window on the left to make room for those entering from the right.

The number remains in the window for 26 seconds after the last digit dialled, and is then replaced by the line status message VOICE CALL. (Once this message is displayed, any other digits you type are sent down the telephone line, but don't appear on the noticeboard.)

Call timing and charging

Call timing and charging is explained on page 72.

If call timing is set for the line when you start a call, the message TIMING IS REQD appears to remind you to press the TIMING key and type in a charge band code (using the numberpad for digits). You can do this before or after dialling the number. The prompt is only a reminder; ignore it if you don't want to time the call. When you start to dial, the prompt disappears and the dialled digits appear, as described above. If you don't supply a charge band code before you dial, the timing prompt reappears about 26 seconds after you've dialled the last digit.

If you do press the TIMING key, the question CHARGE BAND? appears, to prompt you to enter the charge band code.

If you've dialled from a directory, by shortcode, or by the LAST key, and the number already has a charge band code assigned to it, the prompt TIMING IS REQD does not appear, as the TONTO knows the charge band code. (If you want to use a different code, press the TIMING key and supply the new code.)

While timing is in progress, a message recording the duration and cost of a call is displayed. The display shows: the charge band code; the elapsed time in minutes and seconds; the cost in pounds and pence. (The cost is updated each time a charge unit is consumed.) Here's an example:

b1 12:57 £0.96 Shown here are: charge band code b1; elapsed time 12 minutes and 57 seconds; the cost so far £0.96.

Unless you dial another number, this display remains for two minutes after the end of a call and is then replaced with a line status display, if any.

Line status

Whenever the window is not displaying a number or call timing message, it can display a short message showing the status of the line. For a complete report of line status, select Telephone Control from the Top Level Menu and then select line status from the Telephone Control Menu (or press the REVIEW key and select Telephone Control from the REVIEW Menu).

The line status messages are:

AUTOANSWERING DATA	A data call is being Auto-answered.
AUTOANSWERING VOICE	A voice call is being Auto-answered.
AUTOANSWERING V & D	A call is being Auto-answered, first as a data call then, if no data is present, as a voice call.
DATA CALL	A data call is in progress.
HOLD	A voice call is in local hold.
RINGING	The line has an incoming call. This is not the preferred line.
SELECTED RINGING	The preferred line has an incoming call.
SET FOR AUTO DATA	The line is free and is set to Auto-answer data calls.
SET FOR AUTO VOICE	The line is free and is set to Auto-answer voice calls.
SET FOR AUTO V & D	The line is free. If an incoming call arrives it's Auto-answered, first as a data call then, if no data is present, as a voice call.
VOICE CALL	A voice call is in progress.

If no call is in progress and the line is not set to Auto-answer calls, the telephone window is blank.

Telephone window for line 2

This area displays information on the use of line 2 in the same way as the lower window does for line 1. If you don't have a second telephone line, this area is always blank.

Output area

The output area displays messages from applications running on the TONTO. These messages provide you with information, or warn of error conditions.

When not displaying messages, the output area displays the date and time.

Examples

Here are some examples of noticeboard displays:

```
THU 31 MAY  15:25
              α+PAD 1HSET    PLEASE DIAL
```

The noticeboard would look like this if you'd just picked up the handset to make a call. Both the numberpad and main keyboard are connected to the handset ready for you to dial a number or shortcode.

```
THU 31 MAY  15:29   2            RINGING
                PAD  1HSET     VOICE CALL
```

On a two line TONTO, an outgoing voice call is in progress on line 1 when an incoming call arrives on line 2.

The outgoing voice call is now in local hold and the handset is connected to the incoming call on line 2 (result of pressing the HOLD-S key).

B Getting started

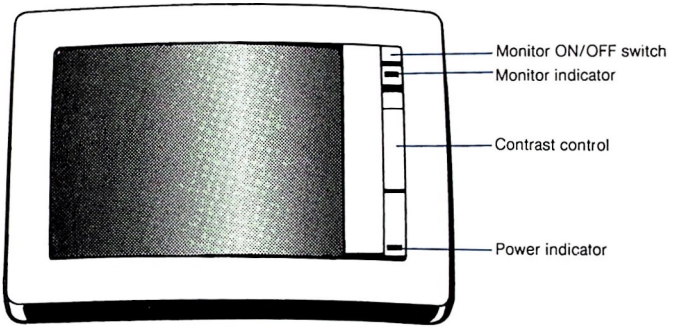
1 Switching on

For installation instructions see the separate booklet, *Installation*.

If the TONTO does anything unexpected, or if you encounter problems, turn to Part G *Solving Problems* for guidance.

Always make sure the microdrives are empty before switching the power on or off.

1 Make sure that the telephone lines are plugged into the telephone wall sockets, and that you have fitted the Rompack and any capsules you require. Plug the TONTO into the mains and (if the socket has a switch) switch the mains power on. The TONTO power indicator lights up. (If you need to insert any cartridges, for automatic loading of applications or data, do so now). Now switch on the monitor unit. The monitor indicator lights up.



The TONTO performs a series of self-tests when the mains power is switched on. You'll see both telephone line indicators light up and, if the monitor unit has warmed up, a series of patterns displayed on the screen.

When the TONTO passes all the tests (which take less than half a minute), the line indicators go out and the Initialisation display appears, shortly followed by a display headed `TOP LEVEL MENU.`

(Should the TONTO fail any of these tests, either the line indicators remain lit and some bars are left on the screen, or an error message appears on the Initialisation display. If either of these conditions occurs, see Part G *Solving problems* for guidance. In the case of an error message, the condition should not prevent you from using the TONTO and you'll be prompted to press the START or RESUME key.)

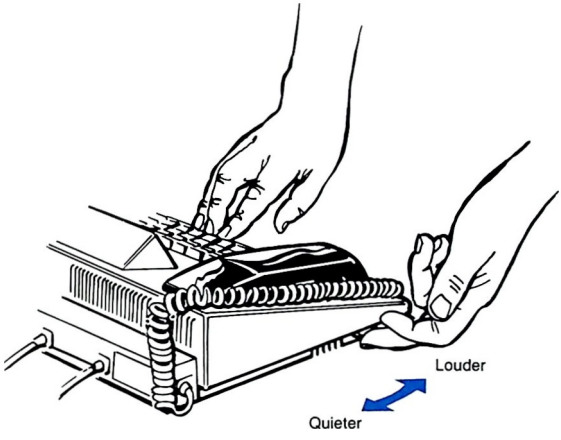
Note: If someone has *configured* (set up) the TONTO to load an application automatically when mains power is switched on, the first display of that application appears in place of the display headed **TOP LEVEL MENU**. (The configurator programs are described in *Advanced Operations*.) Should the TONTO be unable to load the application (because you haven't plugged in the necessary Rompack or capsules), it displays the Top Level Menu. If the application is on cartridge, insert the relevant cartridge immediately after switching on the mains power.

Also, if the TONTO is configured to load data into store from cartridge when the mains power is switched on, insert the relevant cartridge into a microdrive immediately after switching on.

Where an application or data is loaded from cartridge, the initialisation display remains on the screen for several seconds, while loading takes place.

2 Adjust the contrast control if necessary (the slide control on the monitor).

3 Check the volume of the loudspeaker by pressing the space bar while the Top Level Menu is displayed. (This causes an error tone.) Adjust the volume if necessary (see below).



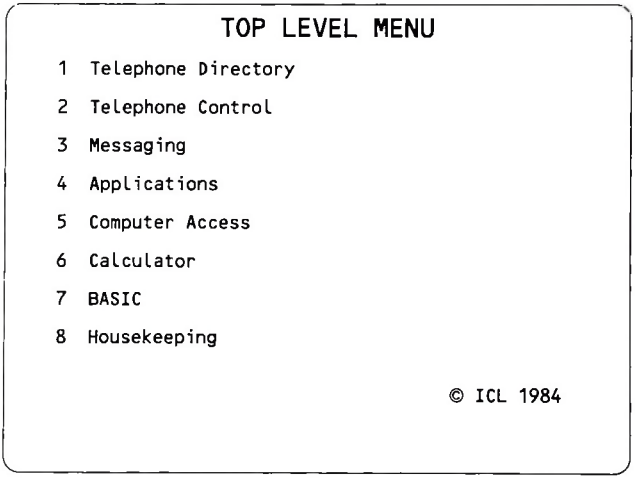
Now you're ready to start. The TONTO is very easy to use. Menus and prompts guide you through each application. Turn to the next section for advice on using menus and details of the Top Level Menu.

The TONTO comes with a *Welcome Package* that contains a Welcome program and a set of scripts. This package gives you a good introduction to the facilities available on the TONTO. If you haven't already used the *Welcome Package*, it is worth doing so.

2 Using menus

A *menu* is a list of options from which you select by simply typing the number of the option you want. So, to select option 1, just press 1. It's like using a menu in a restaurant; you choose what you want from what's available.

Here is the primary TONTO menu, known as the Top Level Menu.



Note: Illustrations showing screen displays, such as this one, do not show the noticeboard area at the bottom of the screen.

The Top Level Menu is your starting point. You can get to any application from this menu and you can always return to the Top Level Menu by pressing the START key.

(In addition to the eight Top Level Menu options shown above, you can configure the TONTO to show a ninth option of your choice, so that you can easily select an application that you use frequently. For more details see *Advanced Operations*.)

When you select something from the Top Level Menu, you'll usually be presented with another menu giving you a list of options for the application you've selected.

If you have to select from more than one menu to get the feature you want, and you know which numbers to press, you can type these numbers in, one after the other, without waiting for the menus to be displayed.

An option on a menu may not always be available. For example, if there are no entries in the Telephone Directory then the search directory option on the Telephone Directory Menu is not available. Such an option is displayed in dark grey. If you try to select it you'll just get an error tone.

Status messages

When an application is running, a status message is displayed to the right of the appropriate option on the menu. This message tells you what's happening to the application. The messages are:

Status message	*Meaning*
ABANDONED	You have abandoned this option and it's just tidying up before it stops running. You cannot select the option while this message is displayed.
ATTENTION	The application is waiting for you to return the screen to it (RESUME it) so that it can report some condition.
BACKGROUND	The application is running in the background and does not need the screen.
LOADING	The TONTO is either searching a cartridge for this application, or has found the application and is loading it from the cartridge.
LOADING BASIC	The TONTO is either searching a cartridge for BASIC, or has found BASIC and is loading it from the cartridge.
UNAVAILABLE	The option is temporarily unavailable and cannot be selected.
WAITING	The application is waiting for you to return the screen to it (RESUME it).

Top Level Menu options

Here are some notes on each option shown on the Top Level Menu. The notes give you some idea of what the option covers and tell you where you can find more details.

1 Telephone Directory

Takes you to the Telephone Directory Menu. This directory is for voice telephone numbers and data numbers used for sending messages. Details of this application are given in *Telephone and Computer Services Directories*, page 95.

2 Telephone Control

Takes you to the Telephone Control Menu which lets you view the telephone line status, set up and control Auto-answering or view the charge band totals for call timing. More details are given in *Telephone Control*, page 77.

3 Messaging

Takes you to the Messaging Control Menu, provided you have the Messaging capsule plugged into the TONTO. Details are given in the manual *Messaging*.

4 Applications

Takes you to the Applications Menu. This menu lists any applications stored on capsule or Rompack plugged into the TONTO (and not already shown as an option on the Top Level Menu), plus any applications that have been loaded from cartridge and are still running.

When the Applications Menu is displayed, you can press 1 to start a search of a loaded microdrive cartridge and display a menu of any applications on that cartridge. By pressing 1 again, you can start a search of a cartridge in the other microdrive.

For details of a particular application, see the documentation supplied with it.

5 *Computer Access*

Takes you to the Computer Access Menu which offers options that let you use the TONTO as a Viewdata or glass teletype terminal. It also has an option that takes you to the Computer Services Directory. For more details of the directory see page 95. Details of the Computer Access application are given in *Computer Access*, page 115.

6 *Calculator*

Takes you to the Calculator. Instructions for using the Calculator are given on page 157.

7 *BASIC*

Takes you into BASIC. To select this option you must have the cartridge containing BASIC in one of the microdrives, or have BASIC loaded into store. A guide to using BASIC is given in the manual *BASIC*.

8 *Housekeeping*

Takes you to the Housekeeping Menu which offers options such as Set date and time, Microdrive Utilities, Save store, Load store, and Store Report. Details are given in Part E *Housekeeping* (page 169).

3 Setting up

The TONTO holds essential values (such as charge band rates) in permanent store. These values are not lost when the power to the TONTO is switched off. A new TONTO is supplied with a set of standard values so you don't have to go through a long setting up procedure before using the TONTO. You can, however, change these values or add new ones (such as the name of an application that you want to appear as the ninth option on the Top Level Menu) by using the configurator programs, described in *Advanced Operations*).

The only things you need to set before using the TONTO are the date and time. To do this:

1 Select option 8 from the Top Level Menu.

2 Select option 2 from the Housekeeping Menu.

3 Fill in the date and time, and press *f* 1.

More details of setting the date and time are given on page 173.

4 Running applications

This section explains *transient* and *extended* applications and describes the effect of performing other activities, such as printing or reviewing information. It also gives details of running applications held on Rompack, capsule, or cartridge.

Applications are the facilities or programs you select from menus, run from the Rompack or capsules, or load from cartridge. There are two types of application: transient applications and extended applications.

Transient applications

Transient applications are *abandoned* (stop running) when you press the START or the RESUME key. An example of a transient application is the Telephone Directory.

Extended applications

Extended applications are temporarily *suspended* or continue running in the *background* when you press the START or the RESUME key.

The screen and keyboard cannot be shared between applications, so when you press the START key, an extended application tries to continue running without them; this is known as running in the *background*. (The application using the screen and keyboard is, therefore, running in the *foreground*.) Examples of applications running in the background are:

- The Viewdata application, which can continue to update information on the page you selected, even though the page is not displayed.
- The Messaging application, which can continue to send and receive messages, even though a Messaging display is not shown.

If the application cannot continue running in the background, because it needs the use of the screen and keyboard (perhaps for instruction from you), it is temporarily *suspended*.

You can go back to an extended application that is running in the background or has been suspended by pressing the RESUME key. You can also reselect it from the Top Level Menu or Applications Menu.

Several applications can run in the background at the same time. The only limit to the number of applications you can run at one time is the amount of free store you have available (each application requires some working space and may use a database which is held in store; for more details see *Store Report* on page 191). If you have more than one application running in the background, or suspended, when you press the RESUME key, the TONTO displays a menu of these applications so that you can choose the one you want to resume.

Other activities

There are also a few other activities that you may carry out. These are fleeting activities that may briefly interrupt an application by using the screen and keyboard. When they finish, the screen and keyboard are returned to the application you were using so that you can carry on where you left off. These activities have no lasting effect on either transient or extended applications. Examples of these activities are pressing the REVIEW key to review an application, and pressing the PRINT key to print a screen image.

Applications and activities

Transient applications	*Extended applications*	*Other activities*
Computer Access (unless you're connected to a computer) Computer Services Directory (unless loading or saving) Housekeeping (except Microdrive Utilities) Store Report Telephone Control Telephone Directory (unless loading or saving)	BASIC application BASIC Calculator Computer Access terminal programs, such as Viewdata or glass teletype (while you're connected to a computer) Messaging Microdrive Utilities (except *Format cartridge**) Xchange (optional application package)	Using these keys: LAST LIST PRINT REVIEW

* Formatting a cartridge is an exception. This operation is abandoned if you press any key, lift the handset, or if an incoming call arrives.

Running Rompack, capsule, or cartridge applications

Selecting option 4 from the Top Level Menu takes you to the Applications Menu. This menu lists any applications stored on capsule or Rompack plugged into the TONTO (and not already shown as an option on the Top Level Menu), plus any applications that have been loaded from cartridge and are still running.

When the Applications Menu is displayed, you can press 1 to start a search of a loaded microdrive cartridge and display a menu of any applications on that cartridge (the Cartridge Menu). By pressing 1 again, you can start a search of a cartridge in the other microdrive.

If you select an application from the Cartridge Menu, the loading of that application starts straight away. If you don't wait for the process to finish, but press a system control key to get on with something else, the loading continues and the name of the loaded application is added to the Applications Menu. (If the load fails a message is displayed.)

Note: Only one application of a given name should be in the TONTO at one time. You cannot load an application from cartridge if there is one of the same name in the TONTO's store, or in a plugged-in Rompack or capsule.

C Telephone facilities

1 Using the telephone

The TONTO provides a wide selection of useful telephone facilities, from holding a call to setting up a synthesised voice message to respond to a call. You get to some of these facilities through the Top Level Menu; others you use directly, by pressing one or two keys or by picking up the handset. This section contains essential background information for using the telephone, together with instructions for using the direct telephone facilities.

If you don't want to read the background information, turn to *Making a telephone call*, on the following page.

Two line TONTOs

You can connect a TONTO to two separate telephone lines. You can use both lines at the same time by having one data call and one voice call, or by having two voice calls (with two voice calls, one call must be in local hold as there is only one handset). You cannot have two data calls at the same time as there is only one *modem* (see *Glossary*).

One line TONTOs

If the TONTO is connected to only one telephone line, you can use this line for voice or data calls.

To ensure that you can make an emergency voice call, an outgoing data call is abandoned if you pick up the handset. In the case of incoming calls, on some exchanges there is no guarantee that you can clear the line, as you need the co-operation of the caller (just as you do on an ordinary telephone).

Line indicators

The TONTO is fitted with two line indicators which show the status of the telephone line(s). **On a two line TONTO** an indicator is assigned to each line (the lower one to line 1 and the upper one to line 2). **On a one line TONTO** only the lower indicator is used.

A line indicator is lit when the line is in use. When an incoming call is received, the appropriate line indicator flashes in time with the ringing signal. When you accept the call, the indicator remains lit until the call is finished. If you make an outgoing call, the indicator lights up as soon as you start the call and remains lit until your call is over.

The preferred line

On a two line TONTO, the preferred line determines which line is chosen when the TONTO has a choice to make. When both lines are free, the preferred line is chosen for an outgoing voice call, and the non-preferred line is chosen for a data call. If both lines are ringing, the preferred line is answered first. Line 1 is usually the preferred line, but you can change the preferred line by pressing the SELECT key (as described below).

Changing the preferred line

You can temporarily change the preferred line to line 2 by pressing SELECT (SHIFT/numberpad 2). If you've already changed the preferred line to line 2, pressing the SELECT key sets it back to line 1. (The key acts as a switch, moving the preferred line from one line to the other.)

The preferred line remains as line 2 until the next time the TONTO has to select a line (when you make a call when both lines are free, or when you receive a call when both lines are ringing). Afterwards, the preferred line reverts to line 1.

You can change the preferred line at any time (even if you haven't picked up the handset). If you've picked up the handset but haven't started to dial, pressing the SELECT key changes the preferred line and transfers you to the new preferred line, if it's available. The original line is left free. (Look at the noticeboard to see which line you're using and whether the other line is free. If you press the SELECT key to transfer to the other line, the noticeboard changes to show that you're using the other line.) If you press the SELECT key after you've started to dial then dialling continues on the same line; the preferred line is changed for the next occasion.

Making a telephone call

To make an ordinary telephone call, just pick up the handset and dial by typing the number on the numberpad. The telephone reacts just like a standard pushbutton telephone. Any application running on the TONTO continues to run when you make a phone call (unless it was using the line).

Always use the numberpad when dialling a number. You cannot dial a number by using the digit keys on the main keyboard. If you have to dial 9 (or some other digit) to get an outside line, you may have to wait for the dialling tone before you dial the rest of the number.

When you make a phone call, the noticeboard displays the number you've dialled, plus other messages and indicators which let you know what's going on (for more details, see *The noticeboard*, page 40).

When you pick up the handset, both the numberpad and the main keyboard (except the main keyboard digits, system and telephone control keys) are connected to the handset. This lets you dial either a number or a shortcode. (Shortcodes are for fast dialling, explained later). As soon as you hit the first key, the TONTO decides whether you're dialling a number or a shortcode (the first character of a shortcode is always a letter). If you're not dialling by shortcode, or when you've typed in the shortcode, the TONTO releases the main keyboard from the telephone so you may use it with any applications you're running. The numberpad remains connected to the handset for the duration of the outgoing call. (A message on the noticeboard tells you what is currently connected to the handset.)

The DIAL key (SHIFT/numberpad 4) acts as a switch, disconnecting (and reconnecting) keys that are currently connected to the handset or loudspeaker. You may want to use this key to release the numberpad from the handset during an outgoing call, so that you can use the numberpad with any applications you're running.

Main keyboard digits, system control keys, and other telephone control keys are not affected by the DIAL key.

Dialling more than 25 digits

The TONTO offers facilities that redial the last telephone number dialled, or one of the last six telephone numbers dialled (see pages 67 and 68). These facilities cannot redial a number more than 25 digits long. For this reason, a warning tone sounds for every digit you dial over the maximum of 25, although the extra digits are sent down the telephone line as normal.

Note: Any digits you dial after using the RECALL key are included in the total number of digits dialled.

Ending a call

To end a call that's connected to the handset, just replace the handset. If you want to make another call, you can keep the receiver lifted and press the END key (SHIFT/numberpad 3). This ends the current call and restores the dialling tone to the line.

On a two line TONTO, if the other line is in local hold or is ringing when you end a call with the END key, the handset is transferred to that line and the call is taken out of local hold, or answered, as appropriate.

You cannot end a call that is in local hold.

Using the loudspeaker

The TONTO is fitted with a loudspeaker so that you can listen to a line without having to hold the handset. This is particularly useful if you have made a call and are asked to hold on. If you press the SPKR key, you can put the handset back on its rest and get on with something else until the other party returns. When they speak you will hear them on the loudspeaker and you can simply pick up the handset to carry on with your conversation.

The TONTO is not a completely hands-free telephone. You must use the handset to talk to the person on the line.

All types of call can be monitored through the loudspeaker.

- To monitor an outgoing call, leave the handset on its rest and press the SPKR key. You'll hear the dialling tone initially and after dialling you'll hear the ringing, engaged, or unobtainable tone from the loudspeaker. To talk to the person you are calling, pick up the handset when the call is answered.

- To monitor an incoming call, press the SPKR key instead of picking up the handset. To talk to the caller pick up the handset.

You can start using the loudspeaker at any time during a call by pressing the SPKR key. If the handset is off its rest, the SPKR key acts as a switch, taking the line back and forth between the loudspeaker and handset. If the handset is on its rest, the SPKR key acts as a switch, starting and ending a call. To end a loudspeaker call, press the END key (replacing the handset on its rest while a call is being monitored by the loudspeaker does not end the call). If you make another call, the new call goes through the handset unless you press the SPKR key again.

On a two line TONTO, the loudspeaker and handset are mutually exclusive — you can't have one line connected to the handset and the other line connected to the loudspeaker at the same time.

Redialling the last number

When you've dialled a number you can make the TONTO redial it by pressing the REDIAL key. This lets you retry an engaged line, or get back to the person you've just spoken to, by pressing one key. The REDIAL key should be the first key that you press after you hear the dialling tone (except for START, SELECT, or HOLD-S, which don't affect redialling).

Notes:

- If you dialled the original call manually, and this included dialling a digit to get an outside line, you cannot always redial the number reliably by using the REDIAL key, as the redialled sequence will not include an access pause.

- If you used the RECALL key during the original phone call, any digits dialled after pressing the RECALL key are redialled with the original number (up to the maximum of 25 digits).

Redialling a recent number

If you press the LAST key (SHIFT/REDIAL), the Recent Number Redial display appears. This shows the last six telephone numbers dialled in full, that is excluding numbers dialled by shortcode or the LAST or REDIAL key. If you entered a charge band code for any of the numbers, this is also displayed. Here's a sample display:

```
RECENT NUMBER REDIAL

f1  2851
f2  9.111198765                b1
f3  9.000011223                b
f4  3892
f5  9.8888899999               a
f6  9.000011123                b
```

To redial one of the numbers:

1 Lift the handset or press the SPKR key.

2 Press the key combination shown against the number you want to redial. So if you want to redial the last number but one, which in the example above is 9.111198765, press *f*2.

This activity has no lasting effect; after you've selected the number the display reverts to what it was before you pressed the LAST key.

Notes:

- Access pauses are shown as full stops on the Recent Number Redial display.
- If you dialled the original call manually, and this included dialling one digit to get an outside line, you cannot always redial the number reliably from the Recent Number Redial display, as the redialled sequence of numbers will not include an access pause.
- If you used the RECALL key during any of the original phone calls, any digits dialled after using the RECALL key are redialled with the original number (up to the maximum of 25 digits).

Dialling by shortcode

Dialling by shortcode is much faster than manual dialling, as you just type in one to three characters instead of dialling the telephone number.

You assign a shortcode to a telephone number as part of a Telephone Directory entry (the shortcode may be something like the initials of a person, or a short name such as TOM).

To do shortcode dialling you must have the directory loaded into the TONTO.

To dial by shortcode, pick up the handset (or press the SPKR key), wait for the dialling tone and then type the shortcode (use the numberpad for digits). The characters appear on the noticeboard just as they do with normal dialling. If the shortcode is less than three characters long, put space characters after it, or just press the ENTER key when it's complete.

The TONTO searches your Telephone Directory for an entry with an identical shortcode and dials the telephone number for you. The telephone number and any extension number appear on the noticeboard and the call proceeds as usual.

Notes:

- An error tone sounds if the Telephone Directory entry specifies that the number must be dialled on a particular line, and you try to dial on the wrong line.

- Shortcodes assigned to Computer Services Directory entries are for use with the Computer Access application only.

Dialling from the directory

When part of a Telephone or Computer Services Directory is displayed on the screen, one directory entry is highlighted as the current entry. You can dial the telephone number for this entry by pressing *f* 1 or *f* 2. Details are given in *Dialling from the directory*, page 108.

Accepting an incoming call

An incoming call is signalled by one of the line indicators flashing and by ringing from the loudspeaker. To accept the call, just pick up the handset.

For a two line TONTO, where one line is already in use when a call arrives, refer to the following table for advice.

The keys mentioned in this table are explained in full later in this section.

ACCEPTING A CALL WHEN ONE LINE IS BUSY

Condition of line 1	*Condition of line 2*	*Action*
Call in progress (connected to handset or loudspeaker)	Ringing	To hold the call on line 1 and transfer to line 2, press the HOLD-S key.
In local hold (by use of the HOLD key). Handset on its rest	Ringing	To keep the call on line 1 in local hold and transfer the other call to the handset or loudspeaker, press the HOLD-S key and lift the handset.
Ringing	Ringing	To answer the preferred line, lift the handset or press the SPKR key. To answer the other line, press the SELECT key and then pick up the handset or press the SPKR key.

Data calls should always be Auto-answered. If you answer an incoming call and hear a whistling noise on the line, you've accepted a data call. To put this call through to the data Auto-answer service, press the AUTO key (SHIFT/SPKR). Do this as soon as possible. If there's a delay of more than about fifteen seconds, the computer sending the data may abandon the call. To answer data calls, you must have a communications application loaded (for example, the Messaging application).

Holding a call

By pressing the HOLD key (SHIFT/numberpad 5) you can put a call into local hold. On a two line TONTO you can hold both lines at once. When you put a call into local hold, the caller is cut off from the handset and loudspeaker. The caller can't be heard, has no means of attracting your attention, and can't overhear local conversation.

You can leave a call in local hold indefinitely, although the line is still in use and is charged for. When a call is in local hold, the word HOLD appears on the noticeboard.

Notes:

- Replacing the handset while a call is in local hold does not end the call. To remind you that you're holding a call, a sequence of pips sounds from the loudspeaker; the pips are repeated at one minute intervals.

- Pressing the HOLD key a second time brings the call out of local hold and reconnects it to the handset or loudspeaker. (If the handset is on its rest when you press the HOLD key, the call is reconnected to the loudspeaker.)

- **On a two line TONTO:**

  - You can hold both lines at once.

  - Pressing the HOLD key does not transfer the handset (or loudspeaker) to the other line. If you want to be connected to the other line, press the HOLD-S key (details of HOLD-S are given overleaf).

  - Pressing the HOLD key when both lines are in local hold, reconnects you to the line that the noticeboard indicates is connected to the handset or loudspeaker.

Using the HOLD-S key

The HOLD-S, or HOLD-SHUTTLE, key (SHIFT/numberpad 1) is for use on a two line TONTO. (On a one line TONTO the HOLD-S key has the same effect as the HOLD key). The HOLD-S key puts the call connected to the handset or loudspeaker into local hold and transfers you to the other line.

The HOLD-S key will not transfer you to a line that's being used for a data call.

If both lines are in local hold, pressing the HOLD-S key reconnects you to the line that the noticeboard indicates is not connected to the handset or loudspeaker.

Call timing and charging

The call timing facility lets you keep records of the approximate cost of calls dialled from the TONTO, and obtain a running display on the noticeboard of the duration and cost of a call while it's in progress.

To time a call you must supply a *charge band code*. This code specifies the rate charged for the call at different times of the day. The TONTO is set up to recognise the standard British Telecom charge band codes. If you want to change these codes, or add new ones, use the configurator programs (described in *Advanced Operations*).

The TONTO uses the charge band code and the length of the call to calculate the cost while the call is in progress. At the end of a call, the final cost is added to the total for that charge band, which is stored in the TONTO. Both charge band totals and the details of charge band codes are held in permanent store so that they are not lost when the power is switched off. You can view or clear charge band totals by selecting option 3 from the Telephone Control Menu.

You can *set* a line (or lines) for call timing so that the prompt **`TIMING IS REQD`** is displayed on the noticeboard every time you start a call on that line. This reminds you to supply the charge band code. You can ignore the prompt if you don't want to time the call.

You'll need to set call timing for a line if you want automatic timing of calls dialled from the directory, by shortcode, or by the LAST or REDIAL keys; see *Timing autodialled calls*, on the following page. To set a line for call timing, use the configurator programs (described in *Advanced Operations*). You don't need to have call timing set for the line to time manually dialled calls; just supply a charge band code, as described below.

Using call timing

To supply a charge band code:

1 Press the TIMING key (SHIFT/numberpad 8). The question CHARGE BAND? is displayed on the noticeboard.

2 Type in the charge band code (use the numberpad for digits). If the code is a single character, press the space bar, or the ENTER or ←┘ key. You should type in the code within ten seconds of pressing the TIMING key. (If you don't, or if the code is rejected, press the TIMING key and start again.)

You can press the TIMING key and type in the charge band code before or after dialling the number. If you give the charge band code before you dial, timing starts about 26 seconds after you dial the last digit, or, if you dialled while monitoring on the loudspeaker, as soon as you pick up the handset to talk to the person you're calling. If you give the charge band code after you dial, timing starts as soon as you've typed in a valid charge band code.

Once you've supplied the charge band code and dialled the number, you can start call timing immediately (or reset the timing to zero) by pressing the TIMING key and then the ENTER or ←┘ key. You can also supply a different charge band code at any time during a call. This causes the cost of the whole call to be recalculated at the new rate.

When call timing is in progress, the display on the noticeboard shows the elapsed time in minutes and seconds, and the cost in pounds and pence (the cost is updated each time a charge unit is consumed).

Note: If your charge band code is rejected and an error tone sounds, it may be because the charge band codes held in permanent store are not correct. To check or change these charge band codes, use the configurator programs, described in *Advanced Operations*.

Timing autodialled calls

If call timing is set for the line when you redial a number by using the REDIAL key or the LAST key, the TONTO will use the charge band code supplied for the original call to time this call. If timing is set for the line, but you didn't supply a code for the original call, you are prompted to time the call. Should you supply a code now, the code will be stored with this number for the next occasion on which you use the REDIAL key or the LAST key.

Dialling from a directory and by shortcode

If timing is set for the line when you dial from a directory display or by shortcode, and if the directory entry you are dialling contains a charge band code, the TONTO uses that code to time the call.

Should the entry not have a charge band code (and timing is set for the line) then you're prompted to supply a code. However, if timing isn't set for the line, to time the call you have to dial from the display by pressing / 2 (connect & time).

If the entry in the directory has the no timing mark / in its charge band box, then timing is not started (even if it's set for the line) unless you dial from the directory display by pressing / 2 (connect & time). On pressing / 2, you are prompted to supply a charge band code.

Timing data calls

The procedure for timing data calls is the same as that for timing voice calls. However, if you've an outward voice call on one line and an outward data call on the other, pressing the TIMING key will affect the voice call only.

Timing of data calls always starts as soon as the TONTO detects the presence of a modem at the other end of the line. The call is ended if the TONTO does not detect the modem within 60 seconds of the end of dialling.

Using the RECALL key

The RECALL key has the same effect as the RECALL button found on some telephones. If you are connected to a switchboard that responds when you press a RECALL button, you will get the same response when you press the RECALL key.

On some switchboards, pressing the RECALL key twice puts you through to the switchboard so that you can transfer a call to another extension. The switchboard may also hold the call while you dial another extension.

If you are unsure about the effect of the RECALL key, ask your switchboard operator, or telephone supervisor, for advice.

Handing over data calls

The AUTO key (SHIFT/SPKR) puts a data call through to the Auto-answering service.

If you hear a whistling noise when you answer the phone, you've probably answered a data call. Press the AUTO key (SHIFT/SPKR) to put the call through to the data Auto-answering service before the caller rings off (usually in about 15 seconds). Once you've put the call through, replace the handset — unless you have a call on a second line (see below).

On a two line TONTO, if you put a voice call into local hold to answer the data call, the voice call is reconnected to the handset once you've handed over the data call to the auto-answering service (so keep the handset off its rest).

If you try to use this facility when you already have a data call on the other line, an error tone sounds because the TONTO can answer only one data call at a time.

Viewing the Priority Directory

The LIST key (SHIFT/RECALL) takes you straight into the Telephone Directory facility, to the Priority Directory display (shown on page 106). You can do this at any time; it does not affect any phone calls in progress. Pressing the LIST key has no lasting effect. To return to the application you were using before, press the RESUME key.

Using the telephone without mains power

You can still use the telephone when there is no mains power supply to the TONTO, provided the battery in the TONTO is operating.

When the telephone and numberpad are being powered by the battery:

- ☐ Only line 1 operates (although an incoming call on line 2 will ring).
- ☐ You must dial numbers manually.
- ☐ The only keys you can use are the numberpad digits, * and #.
- ☐ Auto-answering is not possible.

2 Telephone Control

Telephone Control facilities are those that you select from the Telephone Control Menu, shown below. To get to this menu, select option 2 on the Top Level Menu. Each Telephone Control option is explained below.

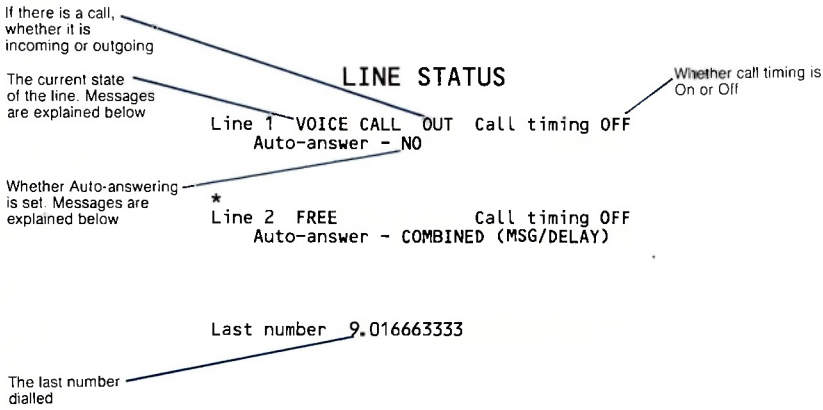
```
TELEPHONE CONTROL

1  Line status

2  Auto-answer control

3  View charge band totals
```

Line status

Selecting option 1 takes you to the Line Status display. This display is an expansion of the line status message which appears on the noticeboard.

An example of the display that appears on a two line TONTO is shown overleaf. Information that only appears on a two line TONTO is marked with an asterisk.

The information is not updated while it is displayed, but you can update it by pressing *f*1. Press a system control key to leave the line status display (pressing the RESUME key will take you back to the application you were using before).



Line status messages

In the line status display, the state of the line is shown by one of the following messages:

FREE	The line isn't in use.
RINGING	A call has been received and the telephone is ringing.
ANSWERING	A call is being Auto-answered with a voice response.
VOICE CALL	A voice call is being answered on the handset.
LOCAL HOLD	A voice call has been put in local hold.
DATA CALL	A data call is in progress.
MONITORING	A voice call is being monitored on the loudspeaker.

Auto-answer status messages

In the line status display, the setting of Auto-answer is shown by one of the following messages.

NO	Auto-answering is not set.
VOICE (*MSG*)	Voice Response Auto-answering is set. The voice response called *MSG* will answer a call immediately.
VOICE (*MSG*/DELAY)	Voice Response Auto-answering is set. After allowing the telephone to ring for about 14 seconds, the call is answered by the voice response called *MSG*.
DATA	Data Auto-answering is set.
DATA (DELAY)	Data Auto-answering is set to answer the telephone after allowing it to ring for about 14 seconds.
COMBINED (*MSG*)	Both data and voice Auto-answering are set. The TONTO tries data Auto-answer first; if it's not a data call, the voice response called *MSG* is used to answer the call.
COMBINED (*MSG*/DELAY)	Both data and voice Auto-answering are set for this line. After allowing the telephone to ring for about 14 seconds, the TONTO tries data Auto-answer. If the incoming call is not a data call, the voice response called *MSG* is used to answer the call.

Notes:

- When a call is answered by a voice response, the response is spoken twice.
- If you have set a time of day for voice Auto-answering and have not given an alternative response for use outside the specified period then calls are not answered and the Auto-answer status message does not show the line as set for voice Auto-answering outside this period.

- When DELAY is not set, there is still a delay of three to four seconds before the call is Auto-answered. This allows time for the telephone to ring at least once, so that the caller is prepared for the answer. Only the caller hears the ringing sound; the TONTO receiving the call does not ring.

Auto-answer control

Selecting option 2 takes you to the Auto-answer Control Menu, shown below.

```
AUTO-ANSWER CONTROL

1  View voice responses/Set Auto-answer
2  View/amend voice response
3  Create new voice response
4  Delete voice response
5  Rename voice response
```

The first option, *View voice responses/Set Auto-answer*, displays any voice response held in your Voice Response Library and lets you set up or amend the Auto-answering service for voice and data calls. The other four options allow you to set up and maintain the library of voice responses that you use for voice Auto-answering.

The Auto-answering service cannot record a message from the caller.

The voice Auto-answering service gives an effect similar to the recorded announcements which you may have heard when using an ordinary telephone. You make up your own responses from the vocabulary of words that the TONTO can speak. You can set up to two responses for each line, for use at different times of the day.

This section tells you how to create and maintain your library of voice responses, explains the Auto-answer Control display, and tells you how to set up, or change the setting of, the service.

Creating a response

1 Select option 3 from the Auto-answer Control Menu.

2 The prompt **NAME OF RESPONSE TO BE CREATED?** appears.

Each response you create must have a unique name.

The name can be up to three characters long. The first character must be a letter, other characters must be letters or digits.

3 Type in the name and press *f* 1 or the ENTER key.

The name you've chosen appears on the Voice Response Library Vocabulary display, which is now shown on the screen (for details of this display, see the following page).

4 Now type in the text of your response.

Make up the response from the words and characters shown on the screen (see *Vocabulary* on page 83).

Each word is checked as you type it in; any unacceptable words are highlighted. Take care that the spelling of each word is the same as that in the Voice Response vocabulary and follow the guidelines given in *Vocabulary* on the use of other characters and special representations. You can use capitals or small (lower case) letters.

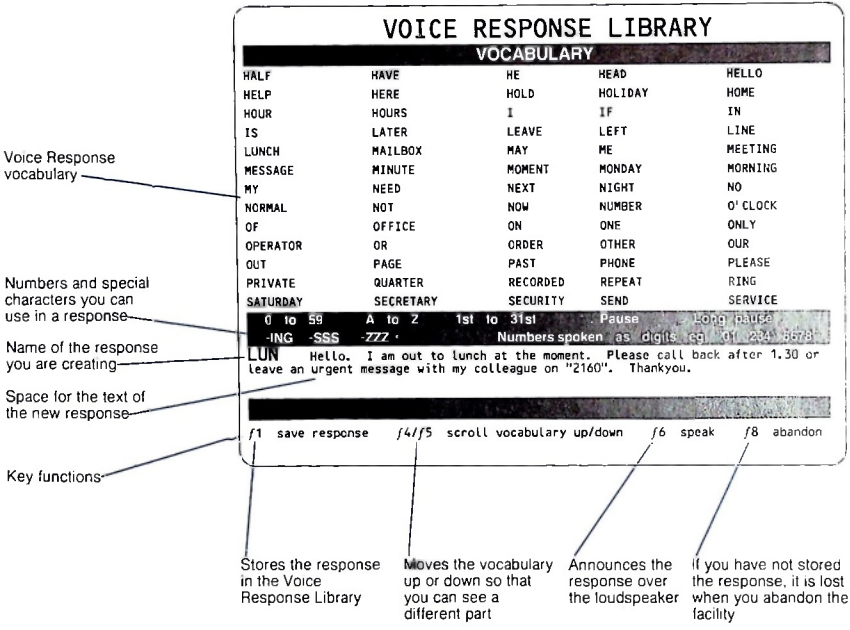
The maximum number of characters allowed for one response is 312, including spaces.

5 To listen to your response on the loudspeaker, press *f* 6.

6 When you are satisfied with the response, press *f* 1. This stores your response in the Voice Response Library.

To set up the Auto-answer service with this response, follow the guidelines on page 91.

The Voice Response Library can hold up to 16 responses.



Vocabulary

This is the Voice Response vocabulary. Details of numbers, other characters, and special representations that you can use when making up a response are given on the following pages.

A
ABLE
AFTER
AFTERNOON
AGAIN
ALL
AM
AN
AND
ANSWER
ARE
AS
AT
AVAILABLE
AWAY

BACK
BE
BEFORE
BETWEEN
BUSINESS
BUSY
BY

CALL
CAN
CLOSED
CODE
COLLEAGUE
CONTACT
COULD
COURSE

DATA
DAY
DAYS
DIAL
DINNER
DO
DOUBLE
DUE
DURING

EMERGENCY
ENQUIRY
EVENING
EXTENSION

FEW
FOR
FRIDAY
FROM

GET
GONE
GOODBYE

HALF
HAVE
HE
HEAD
HELLO
HELP
HERE
HOLD
HOLIDAY
HOME
HOUR
HOURS

I
IF
IN
IS

LATER
LEAVE
LEFT
LINE
LUNCH

MAILBOX
MAY
ME
MEETING
MESSAGE
MINUTE
MOMENT
MONDAY
MORNING
MY

NEED
NEXT
NIGHT
NO
NORMAL
NOT
NOW
NUMBER

O'CLOCK
OF
OFFICE
ON
ONE
ONLY
OPERATOR
OR
ORDER
OTHER
OUR
OUT

PAGE
PAST
PHONE
PLEASE
PRIVATE

QUARTER

RECORDED
REPEAT
RING

SATURDAY
SECRETARY
SECURITY
SEND
SERVICE
SHALL
SHE
SHOULD
SOON
SORRY
SUNDAY

TAKE
TEXT
THANKYOU
THAT
THE
THEE
THEY
THIS
THURSDAY
TIME
TO
TODAY
TOMORROW
TONIGHT
TRY
TUESDAY

UNIT
URGENT
US

VOICE

WE
WEDNESDAY
WEEK
WEEKS
WHILE
WILL
WISH
WITH
WOULD

YOU
YOUR

The or thee?

Two forms of pronunciation of the word **the** are available. The long E sound is spelt **thee**. Use this spelling in your response where you want the long E pronunciation. For example:

The meeting is in thee afternoon.

As a general rule, thee precedes a vowel sound.

Suffixes

The following suffixes are available:

ING, SSS, and **ZZZ**

You can add a suffix to any suitable word from the vocabulary. When you type in a word with a suffix, always join the suffix to the word with an underline character. For example:

ANSWER_ING

The suffixes **SSS** and **ZZZ** are provided for the formation of plurals such as MINUTE_SSS and HOLIDAY_ZZZ.

Individual letters

Individual letters are pronounced as separate letters where they are separated from other letters by spaces or full stops, or where they are in quotation marks. For example, B.B.C "BBC" and "B" "B" "C" are all pronounced as separate letters.

Punctuation

Punctuation is used to mark the end of words and to represent pauses. This table shows you how to use punctuation.

PUNCTUATION

Character	*Example*	*Suggested use*
Underline	FOR_GET	Use to mark the end of words without causing a pause. Here it links two words to form a new word *forget*. Also use to add suffixes to words
Quotation marks	"1234" "BBC"	Use where you want each number or letter pronounced
Space	I AM OUT TO LUNCH	Use for the short pause needed between words (25ms or $^1/_{40}$ of a second)
Comma	I AM OUT TO LUNCH, AND WILL BE BACK AT 2	Use for a short break in a sentence (150ms or $^1/_6$ of a second)
Full stop	I AM OUT TO LUNCH, AND WILL BE BACK AT 2. PLEASE CALL LATER.. GOODBYE	Use where you want a pause long enough to draw breath (500ms or half a second). Here two full stops have been used together to produce a longer pause of one second

Using several commas or full stops has a directly proportional effect on the length of pause produced (see the notes on the full stop in the table above). If spaces are used next to commas or full stops, the facility ignores the spaces when evaluating the length of the pause. Several spaces occurring together give a pause equivalent to one space.

Numbers

- Always use digits to represent numbers; do not spell them.
- The numbers 0-59 are pronounced as one number. For example, 23 is pronounced as "twenty three".
- Numbers in quotation marks are pronounced in sequence as individual digits. For example, "123" is pronounced as "one two three". (A number greater than 59 is highlighted as an error if it is not in quotation marks.)
- The ordinals 1st-31st can be pronounced.

Here are some examples:

Number	*Pronunciation*
NINE	Numbers spelt out cannot be pronounced
11	"Eleven"
"11"	"One one"
123	Numbers greater than 59 cannot be pronounced unless they are in quotation marks
"1234"	"One two three four"
"01 123 4567"	"Oh one (pause) one two three (pause) four five six seven"
FIRST	Numbers spelt out cannot be pronounced
28TH	"Twenty eighth"
"31ST"	"Three one S T"

Finally, here is an example of a response with numbers:

I will be available on "01 123 4567" until 12 30 on Wednesday the 4TH.

Viewing or amending a response

1 Select option 2 from the Auto-answer Control Menu.

2 The prompt NAME OF RESPONSE TO BE VIEWED/AMENDED? appears.

Type in the name of the response you wish to view or amend and press *f*1.

You cannot view or amend a response that is currently being used to Auto-answer a call.

3 The response that you want to view or amend appears on the Voice Response Library Vocabulary display. Details of the display are given on page 82.

The cursor is positioned at the beginning of the response.

4 Make any changes you require.

The text is checked as you type it. Any unacceptable characters or words are highlighted. Correct these before trying to store or listen to the response.

5 To listen to the response, press *f*6.

6 When you are satisfied with the response, press *f*1 to store it in the Voice Response Library and display the Auto-answer Control Menu.

To set up the Auto-answer service with this response, follow the guidelines given on page 91.

Deleting a response

1 Select option 4 from the Auto-answer Control Menu.

2 The prompt **NAME OF RESPONSE TO BE DELETED?** appears.

Type in the name of the response you wish to delete and press ↵.

You cannot delete a response that is set to Auto-answer calls.

3 The response is displayed and you are prompted to confirm that you want to delete it. Press Y to confirm (or N to avoid deleting it).

4 When the response is deleted, the Auto-answer Control Menu is displayed.

Renaming a response

1 Select option 5 from the Auto-answer Control Menu.

2 The prompt **NAME OF RESPONSE TO BE RENAMED?** appears.

Type in the name of the response you want to rename and press ↵.

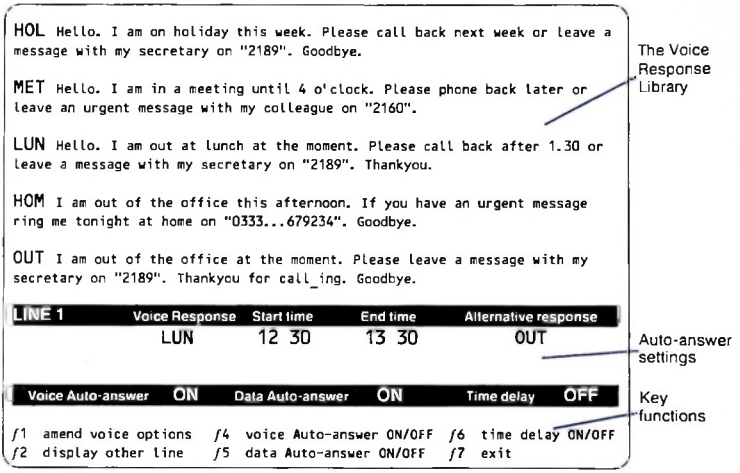
You cannot rename a response that is set to Auto-answer calls.

3 The response appears on the screen and you are prompted to type in its new name. Type the name and press ↵.

4 The new name is stored and the Auto-answer Control Menu is displayed.

The Auto-answer Control display

Selecting option 1 from the Auto-answer Control Menu takes you to the Auto-answer Control display. Details of this display are given below.

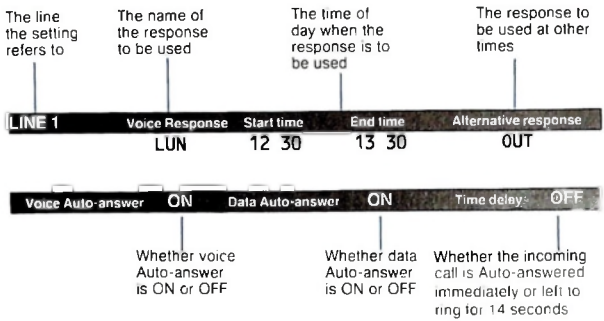


The Voice Response Library

This area shows all the responses stored in the Voice Response Library (you can have up to 16). If there is not enough room to show complete responses, the beginning of each response is shown (the → character tells you there is more text in the response).

Auto-answer settings

This area shows the settings of the Auto-answering service. Details are given in the diagram below.



Key functions

These key functions are provided:

*f*1 Lets you amend the settings. More details are given in *Amending Auto-answer settings* on page 92.

*f*2 Displays the settings for the other line on a two line TONTO.

*f*4 Changes the setting of voice Auto-answer to ON or OFF. You cannot set voice Auto-answer ON if no voice response name is given.

*f*5 Changes the setting of data Auto-answer to ON or OFF. You cannot set data Auto-answer ON if no protocol is set (see the details of the configurator programs given in *Advanced Operations*).

*f*6 Changes the setting of time delay to ON or OFF.

*f*8 Abandons the Auto-answer Control display and takes you back to the Auto-answer Control Menu.

Setting up Auto-answering

1 Select option 1 from the Auto-answer Control Menu to bring the Auto-answer Control display onto the screen.

2 Press *f*1. A new row of boxes appears on the display. The cursor is in the first box. Type the name of the response you wish to use for voice Auto-answering. When you've done this the cursor jumps to the next box.

3 If you want incoming voice calls to be answered with this response during a certain period only, type the times into the next four boxes (for example **12 00** to **14 30**).

4 If you have set a time of day for the first response (step 3), you can give the name of another response to be used at other times. Type this name into the last box.

If you set a time of day and don't give an alternative response, voice calls are not Auto-answered outside the time specified.

5 Press *f*1 to accept the settings.

6 To set a time delay of about 14 seconds before the Auto-answer service answers a voice or data call, so that you can answer it yourself if you want to, set time delay to ON. Press *f*6 to change the setting from OFF to ON or ON to OFF. When time delay is OFF, calls are answered three or four seconds after they arrive. This allows time for the telephone to ring at least once, so that the caller is prepared for the answer. Only the caller hears the ringing sound; the TONTO receiving the call does not ring.

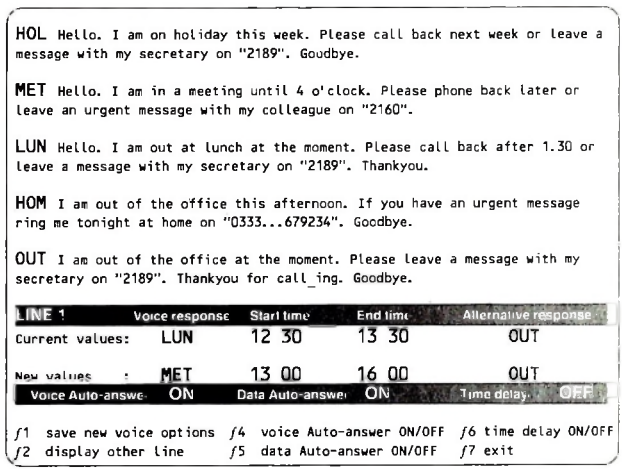
7 Turn the voice Auto-answer service on by pressing *f*4 and turn the data Auto-answer service on by pressing *f*5.

To set up Auto-answering on line 2, press *f*2 and repeat steps 2 to 7.

Amending Auto-answer settings

1 Select option 1 from the Auto-answer Control Menu to bring the Auto-answer Control display onto the screen.

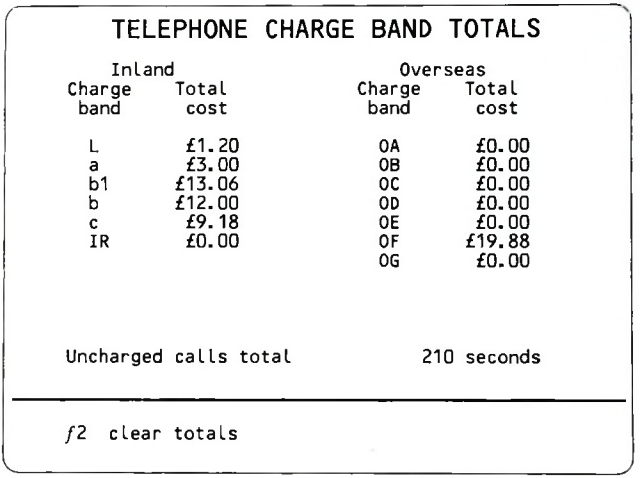
2 Press *f* 1. A new row of boxes appears with the settings ready for you to amend.



3 Amend the settings. When you've finished, press *f* 1. You'll see the new settings replace the old ones in the original Auto-answer boxes.

View charge band totals

By selecting option 3 from the Telephone Control Menu, you can view and clear the charge band totals held in the TONTO. A sample display is shown below.



To reset the totals to zero, press *f*2. You're asked to confirm that you want to clear the totals; press Y to confirm or N to leave the totals unchanged.

Where a line is set for call timing and calls are made without a charge band being given, a total is kept of the length of all the untimed calls. This total (in seconds) is cleared with the other totals when you press *f*2.

Charge bands and the charging rates are held in permanent store. To change these values, use the configurator programs described in *Advanced Operations*.

3 Telephone and Computer Services Directories

This application lets you have your own Telephone and Computer Services Directories stored in the TONTO. All you have to do is type the telephone numbers and entry details into the empty directories provided. Once you've put your entries into a directory, you can use this application to search for a particular entry and dial the number automatically. You can also copy your directory onto a cartridge to keep as a back-up or to load into another TONTO. This section tells you how to put telephone numbers into the directories and how to use the directory facilities.

There are two types of directory:

- The Telephone Directory — for ordinary voice telephone numbers and the data numbers used for sending messages by the Messaging application. Each entry in this directory can have both a voice and a data number.
- The Computer Services Directory — for telephone numbers of Computer Services, such as Viewdata. Each entry in this directory has one data number.

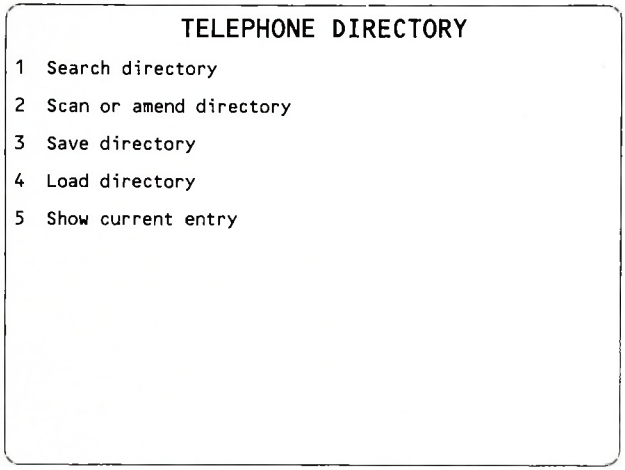
Information in this section applies to both types of directory unless it states otherwise.

Using the directories

To get into the Telephone Directory, select option 1 from the Top Level Menu. The Telephone Directory Menu appears on the screen.

To get into the Computer Services Directory, first select option 5 from the Top Level Menu, then select option 5 from the Computer Access Menu. This brings the Computer Services Directory Menu onto the screen.

The Telephone Directory Menu offers the options shown on the following page. (The Computer Services Directory Menu has one more option, which takes you back to the Computer Access Menu.)



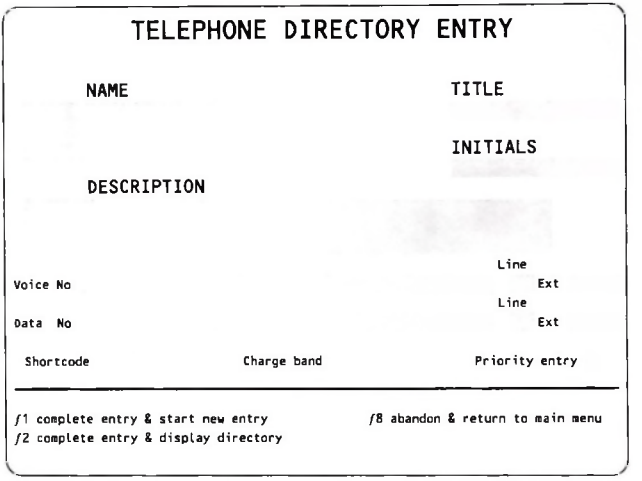
The directories are empty when the TONTO is switched on. If you have a directory stored on cartridge, refer to the loading instructions given on page 110; otherwise, follow these instructions to start putting entries into your directory.

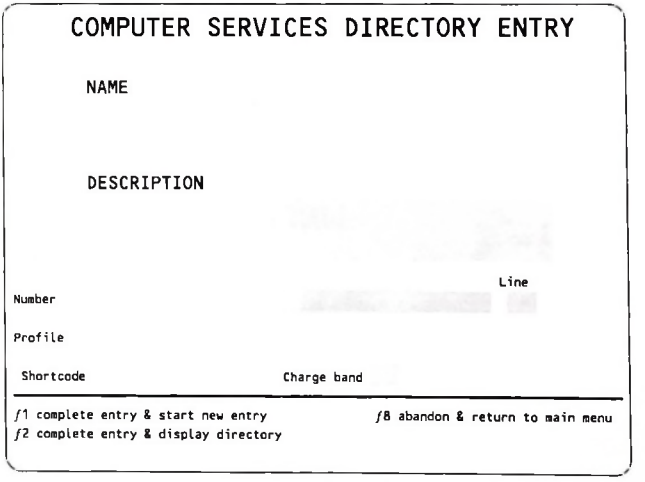
Creating an entry

1 Select option 2 from the Telephone or Computer Services Directory Menu.

2 If the directory is empty, a directory entry form appears on the screen. Both types of form are shown on the following page.

If you already have some entries in your directory, a compact display of the directory is shown. Press *f*3 to bring the directory entry form onto the screen.


TELEPHONE DIRECTORY ENTRY
NAME
TITLE
INITIALS
DESCRIPTION
Line
Voice No
Ext
Line
Data No
Ext
Shortcode
Charge band
Priority entry
ƒ1 complete entry & start new entry
ƒ2 complete entry & display directory
ƒ8 abandon & return to main menu


COMPUTER SERVICES DIRECTORY ENTRY
NAME
DESCRIPTION
Line
Number
Profile
Shortcode
Charge band
ƒ1 complete entry & start new entry
ƒ2 complete entry & display directory
ƒ8 abandon & return to main menu

Details of the directory entry form key functions are given below.

Key	*Function*
f 1	Puts your entry into the directory and restores the blank entry form to the screen, ready for you to put in another entry.
f 2	Puts your completed entry into the directory and displays the directory with your new entry highlighted.
f 8	Abandons the entry form and restores the directory menu to the display. (Any information entered on the form is lost).

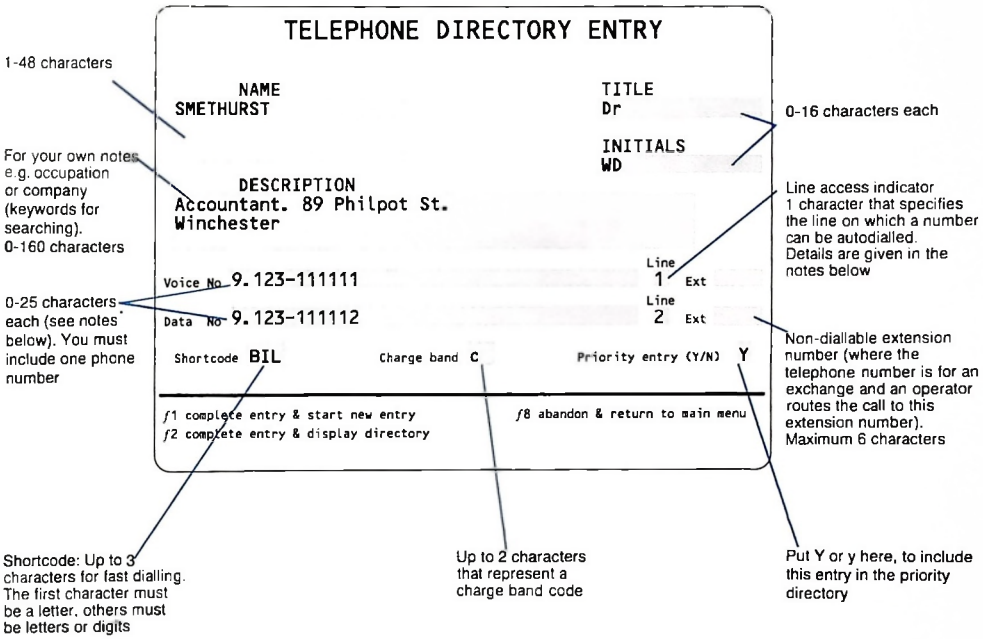
3 The cursor is at the beginning of the first box **NAME**. Using the guidelines given in *Directory entries* (on the following page), fill in the boxes until you have completed the entry. Each Telephone Directory entry must have a name and one telephone number. Each Computer Services Directory entry must have a name, a telephone number, and a profile.

4 When you've finished, if you wish to continue adding new entries, press the ENTER key or *f* 1; or, if you have finished adding entries and want to view the directory, press *f* 2. In both cases your new entry is put into the directory.

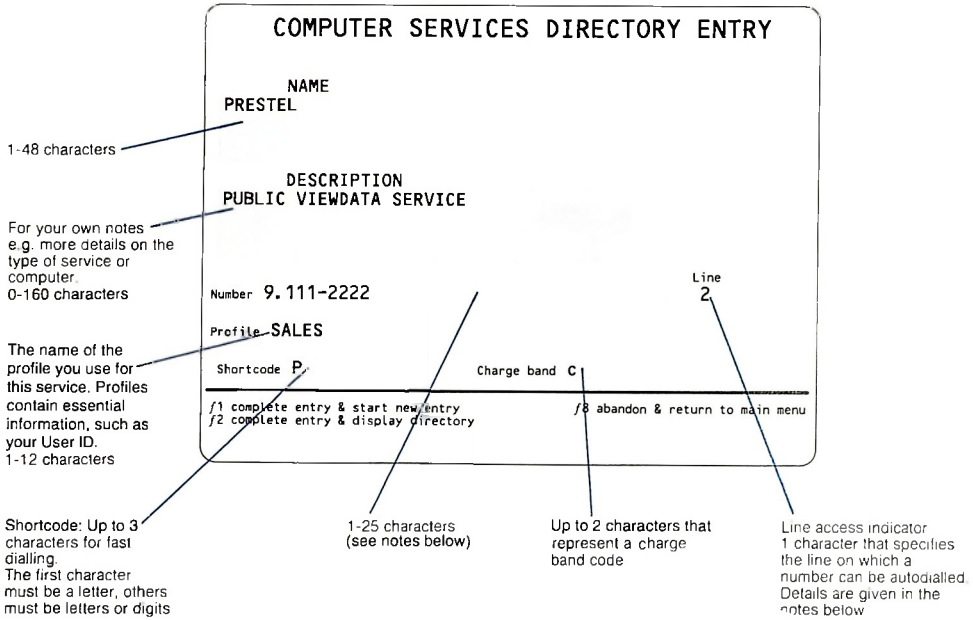
You can try autodialling a number now; turn to page 108 for details.

Directory entries

Each entry is made up of a number of parts. The following diagrams show sample entries on both types of directory entry form.



Each Telephone Directory entry must have a name and at least one telephone number.



Each Computer Services Directory entry must have a name, a telephone number and a profile

Notes to the diagrams:

- All parts are optional unless the bold type at the bottom of the diagram states otherwise.

- Spaces count as characters in the maximum lengths given. Names, initials, and shortcodes cannot start with a space.

- Special rules apply to telephone numbers. Each character of a telephone number must be one of the following:

  - A digit

  - A *space* or *hyphen*. You can use these to make the number easier for you to read. They are ignored during autodialling

  - The characters **! £** " $ % **& ' ( )** + , . and /. You can use one of these to represent an *access pause* for autodialling. An access pause is a pause of about four seconds that allows time for lengthy telephone exchange operations. For example, if you have an extension that will give you an outside line when you dial a single digit, you will probably need to put one of these characters in the number to allow time for the connection to the public exchange. So, if you dial 9 to get an outside line, you should enter the telephone number in the directory like this 9.334998. The full stop after the 9 gives the necessary pause

  - The characters * or #. You can use these to invoke facilities on some exchanges (ask your telephone supervisor for guidance)

- The line access indicator makes the directory check that the selected line is allowed for this number (although it cannot select the line that the number is dialled on). The value of the line access indicator must be one of the following:

Space The default value. This indicates that the number can be autodialled on either line

1 Indicates that the number can only be autodialled on line 1

2 Indicates that the number can only be autodialled on line 2

If you try to autodial a number on the wrong line, dialling is stopped and the message WRONG LINE is displayed.

- The no-timing mark. You can inhibit call timing for an entry by putting the character / in the charge band box. This means that you can inhibit call timing for individual entries even if call timing is set for the line on which you've specified this call must be dialled.

Scanning the directory

When you've put several entries into your directory, it may be too large to display on the screen. By using the keys ↑ and ↓ you can scan backwards and forwards through the directory. Try this out by following the steps below.

1 Select option 2 from the directory menu.

The compact directory display appears. (Details of the different directory displays are given on page 104.) Entries are displayed in alphabetical order and the first entry is highlighted as the current entry.

2 Press the ↓ key and hold it down.

The display scans through the directory, entry by entry. As entries disappear from the top of the screen, so entries appear at the bottom.

3 To go back towards the beginning, press and hold the ↑ key.

Searching by key

The directory facility can help you find an entry by searching through your directory for a group of characters, called a *key*.

You can do two types of search:

- Find a name starting with the key
- Find an entry containing the key

The first type looks for the key at the start of the name of an entry. The second looks for the key anywhere within one part (box) of an entry.

A key can contain up to twelve printable characters. You can use capital or small (lower case) letters. The key **Smith** is matched with an entry **SMITH**.

Searching for a name starting with the key

1 Select option 1 from the directory menu. The directory search display appears.

2 Type the key you want to search with and press *f*1. (There's no need to fill up the rest of the box with spaces.)

3 If a match is found, the search stops, the directory is displayed, and the matching entry is highlighted as the current entry.

If a match is not found, the search stops and the entry that would follow a matching name is shown as the current entry. In addition, the message **ENTRY NOT FOUND** is displayed and an error tone sounds.

Looking at the names in that part of the directory may reveal the one you want. For example, if you were searching with the name MILLAR as the key and no match was found, scanning through the entries in that part of the directory may reveal that MILLER is the one you want.

Searching for an entry containing the key

1 Select option 1 from the directory menu. The directory search display appears.

2 Type in the key you want to search with and press *f*2. (There's no need to fill up the rest of the box with spaces.)

3 If a match is found, that entry is highlighted and the search stops. If this isn't the entry you want, press *f*6 to resume the search.

If a match is not found, the message **ENTRY NOT FOUND** is displayed and an error tone sounds.

Note: When you're searching for an entry containing the key, the key is not matched with characters split between two or more parts of an entry. For example, the key **SMITH MR** cannot be matched with an entry **SMITH MR** because the characters extend over two separate parts of the entry (NAME and TITLE).

Amending an entry

1 Scan or search the directory until the entry you wish to amend is highlighted.

2 Press /'5. The entry is now displayed on the directory entry form.

3 Amend the entry (use the cursor control keys to move the cursor around).

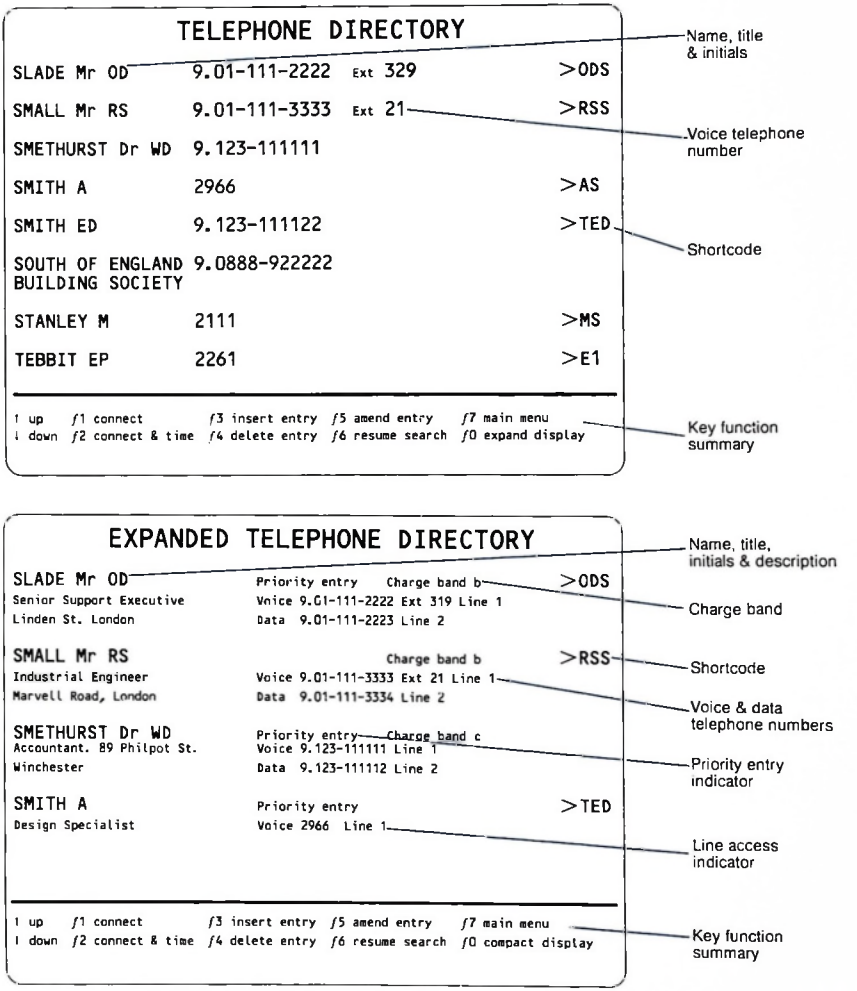
4 When you've finished, press /2. This puts the entry into the directory and restores the compact directory display to the screen. The amended entry is highlighted as the current entry.

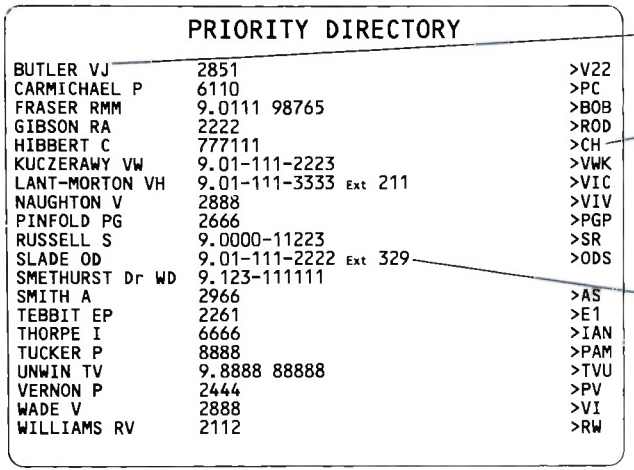
Directory displays

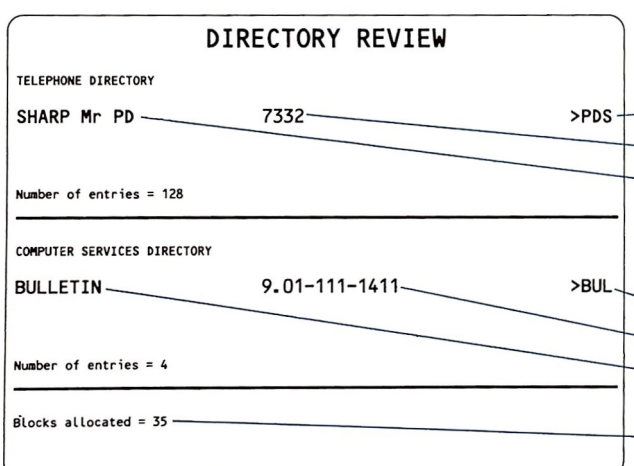
The number of directory entries displayed on a screen depends on the length of your entries and the type of display. There are four types of directory display:

Compact	Contains essential information about each entry — the normal display
Expanded	Gives full details of each entry
Priority	Displayed when you press the LIST key (SHIFT/RECALL). Contains up to 20 entries nominated as priority entries. Only Telephone Directory entries can be nominated as priority entries. This display is limited to one screen, so the number of priority entries allowed is affected by the length of each entry
Review	Displayed when you press the REVIEW key and select option 1 from the Review Menu. The Directory Review display shows the current entry of each directory (the current entry is the one that was highlighted when you left the directory), the number of entries in each directory, and the number of blocks of store occupied by both directories

Examples of the different displays are given on the following pages.


TELEPHONE DIRECTORY
SLADE Mr OD 9.01-111-2222 Ext 329 >ODS
SMALL Mr RS 9.01-111-3333 Ext 21 >RSS
SMETHURST Dr WD 9.123-111111
SMITH A 2966 >AS
SMITH ED 9.123-111122 >TED
SOUTH OF ENGLAND BUILDING SOCIETY 9.0888-922222
STANLEY M 2111 >MS
TEBBIT EP 2261 >E1
↑ up f1 connect f3 insert entry f5 amend entry f7 main menu
↓ down f2 connect & time f4 delete entry f6 resume search f0 expand display
Name, title & initials
Voice telephone number
Shortcode
Key function summary
EXPANDED TELEPHONE DIRECTORY
SLADE Mr OD
Priority entry Charge band b
>ODS
Senior Support Executive
Voice 9.01-111-2222 Ext 319 Line 1
Linden St. London
Data 9.01-111-2223 Line 2
SMALL Mr RS
Charge band b
>RSS
Industrial Engineer
Voice 9.01-111-3333 Ext 21 Line 1
Marvell Road, London
Data 9.01-111-3334 Line 2
SMETHURST Dr WD
Priority entry Charge band c
Accountant. 89 Philpot St.
Voice 9.123-111111 Line 1
Winchester
Data 9.123-111112 Line 2
SMITH A
Priority entry
>TED
Design Specialist
Voice 2966 Line 1
↑ up f1 connect f3 insert entry f5 amend entry f7 main menu
↓ down f2 connect & time f4 delete entry f6 resume search f0 compact display
Name, title, initials & description
Charge band
Shortcode
Voice & data telephone numbers
Priority entry indicator
Line access indicator
Key function summary


PRIORITY DIRECTORY
BUTLER VJ 2851 >V22
CARMICHAEL P 6110 >PC
FRASER RMM 9.0111 98765 >BOB
GIBSON RA 2222 >ROD
HIBBERT C 777111 >CH
KUCZERAWY VW 9.01-111-2223 >VWK
LANT-MORTON VH 9.01-111-3333 Ext 211 >VIC
NAUGHTON V 2888 >VIV
PINFOLD PG 2666 >PGP
RUSSELL S 9.0000-11223 >SR
SLADE OD 9.01-111-2222 Ext 329 >ODS
SMETHURST Dr WD 9.123-111111
SMITH A 2966 >AS
TEBBIT EP 2261 >E1
THORPE I 6666 >IAN
TUCKER P 8888 >PAM
UNWIN TV 9.8888 88888 >TVU
VERNON P 2444 >PV
WADE V 2888 >VI
WILLIAMS RV 2112 >RW
Name & initials
Shortcode
Voice telephone number


DIRECTORY REVIEW
TELEPHONE DIRECTORY
SHARP Mr PD 7332 >PDS
Number of entries = 128
COMPUTER SERVICES DIRECTORY
BULLETIN 9.01-111-1411 >BUL
Number of entries = 4
Blocks allocated = 35
TELEPHONE DIRECTORY INFORMATION
Shortcode
Voice telephone number
Name, title & initials
COMPUTER SERVICES DIRECTORY INFORMATION
Shortcode
Telephone number
Service name
Number of blocks of store occupied by both directories

Key functions

These functions apply when either the standard or the expanded directory display is shown on the screen (see the diagrams on the previous pages).

Key	*Function*
↑	**MOVE UP** Moves the display backwards (towards the beginning of the directory) and changes the current entry. Hold the key down to repeat the movement.
↓	**MOVE DOWN** Moves the display forwards (towards the end of the directory) and changes the current entry. Hold the key down to repeat the movement.
ƒ1	**CONNECT** Starts an autodial of the telephone number of the current entry if you've lifted the handset or pressed the SPKR key (see *Dialling from the directory*, on the following page).
ƒ2	**CONNECT & TIME** Has the same effect as ƒ1 and also sets call timing for this call (regardless of whether the timing facility is already engaged).
ƒ3	**INSERT ENTRY** Displays the directory entry form so that you can put a new entry into the directory.
ƒ4	**DELETE ENTRY** Causes the current entry (highlighted) to be deleted. To avoid mistakes, the message `OK TO DELETE? (Y/N)` appears on the screen after you press this key. Press Y to confirm the deletion (or N to abandon the deletion). After the deletion, the next entry becomes the new current entry.
ƒ5	**AMEND ENTRY** Displays the current entry on a directory entry form so that you can amend the entry.
ƒ6	**RESUME SEARCH** If you were searching the directory for an entry *containing a key* and the entry found was not the right one, pressing ƒ6 causes the search to continue. If you use this key at any other time, the message `NOT SEARCHING` is displayed and an error tone sounds.
ƒ7	**MAIN MENU** Restores the directory menu to the screen.
ƒ0	**COMPACT/EXPAND DISPLAY** Changes the directory display from compact to expanded or from expanded to compact.

Dialling from the directory

You can select an entry and dial the number automatically. Here's how:

1 Scan or search the appropriate directory until the entry you want is highlighted as the current entry.

2 Lift the handset and wait for the dialling tone.

3 Press /1. If call timing is not set for the line you are using, or if the no timing mark / is present in the entry's charge band box, and you want to time this call, press /2 instead.

4 The TONTO dials the number and monitors it on the noticeboard, as it does for ordinary telephone calls.

5 To end the call, put the handset back on the receiver or press the END key.

Saving a directory on cartridge

You can save your directory on a microdrive cartridge so that you have a back-up copy and can transfer the directory to another TONTO. Once you have set up your directory, it's a good idea to have a copy on cartridge, as the directory held in the TONTO's store is lost if there is a power failure or if you have to switch the TONTO off. You'll need to save your directory on a cartridge each time you update it.

Once you've saved a directory on a cartridge you can load it back into the TONTO store by using the Load Directory facility described on page 110.

The application saves each Telephone Directory in a file named ~ TDDIRECTORY and each Computer Services Directory in a file named ~ CSDIRECTORY. The file includes details of the date and time of the save. You can have one directory of each type on each cartridge.

To save a directory on cartridge:

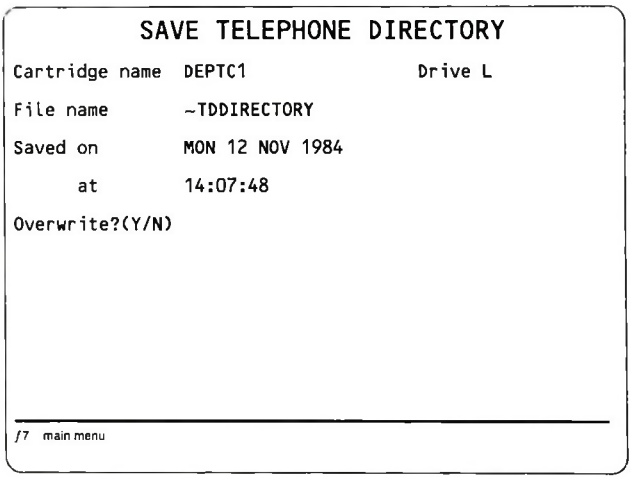
1 Put a cartridge into a microdrive.

2 Select option 3 from the directory menu.

3 When the prompt `DRIVE (L/R)?` appears, press L if the cartridge is in the left-hand drive, or R if it's in the right-hand drive, then press the ENTER key. If only one of the drives contains a cartridge, you can just press the ENTER key.

4 If the cartridge does not contain a directory already, the save goes ahead immediately and the message **IN PROGRESS** is displayed.

If the cartridge already contains a directory of the type you are trying to save, the application displays details of that directory and asks you if you want to overwrite it. Here's a sample display.



Press Y to overwrite the directory, or N to preserve the directory and return to the prompt **DRIVE (L/R)?** (so that you can use another cartridge). Pressing /7 takes you back to the main directory menu, abandoning the save.

While saving is in progress, you can press a system control key (such as RESUME or START) to get on with something else. When the save is complete, the message **DIRECTORY SAVED** is displayed on the noticeboard.

Loading a directory from cartridge

You can load a directory you've saved on a cartridge back into the store of the TONTO. You'll want to do this after the directory held in the TONTO has been cleared from memory (after a power cut, or after you have switched the TONTO off to move it, for example). You may also use this facility to load a directory from another TONTO. A copy of the directory remains on the cartridge after the loading process.

To load a directory from cartridge:

1 Select option 4 from the directory menu.

2 Put the cartridge into a drive. If you have several cartridges containing directories and you don't know which one contains the directory you require, the application will search through them two at a time if you put one in each drive.

3 You have four options:

Load and replace

Option 1 — searches for a directory on cartridge until you confirm that it has found the correct one. Deletes any directory currently stored in the TONTO and loads the cartridge directory in its place.

Load and merge

Option 2 — searches for a directory on cartridge until you confirm that it has found the correct one. Merges (combines) the cartridge directory with the directory already stored in the TONTO to form an enlarged directory. (Each entry in the cartridge directory is put into the directory in the TONTO's store. Where an entry in the TONTO store has the same name and initials as one in the cartridge directory, the stored entry is replaced by the cartridge directory entry.)

Delete directory

Option 3 — deletes the directory stored in the TONTO. You may use this option if you want to create an entirely new directory. To prevent you deleting a directory accidently, the confirmation request `OK TO DELETE? (Y/N)` appears on the screen. Press Y to confirm the deletion, or N to abandon the deletion and return to the main directory menu.

Main menu

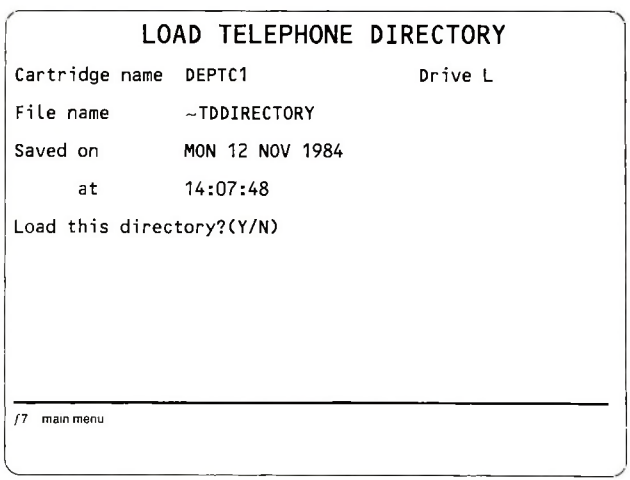
Option 7 — abandons the operation and brings the directory menu back onto the screen.

4 Select the option you require.

5 If you've selected option 3 (to delete), you are prompted to confirm the deletion; then it goes ahead immediately.

If you've selected option 1 or 2, the facility looks for the directory on the cartridge.

As soon as a directory is found, the details are displayed and you're asked whether you want to load this directory.



6 Press Y to load this directory or N to try another cartridge. Pressing f7 takes you back to the main directory menu and abandons the load.

If you press N, you are prompted to specify which drive you want the application to search. Press L or R and then press the ENTER key.

When you have accepted a directory for loading, the load goes ahead and the message **IN PROGRESS** is displayed. While loading is in progress you can press a system control key (such as RESUME or START) to get on with something else. When the save is complete, the message **DIRECTORY LOADED** is displayed on the noticeboard.

Viewing the current entry

This facility is option 5 on the directory menu. Selecting this option displays the directory with the current entry highlighted. The current entry is the entry you were using when you last used the directory. This lets you leave the directory temporarily and return to the place where you left off. If you haven't displayed the directory since it was loaded, the first entry in the directory is highlighted as the current entry.

D Computer facilities

1 Computer Access

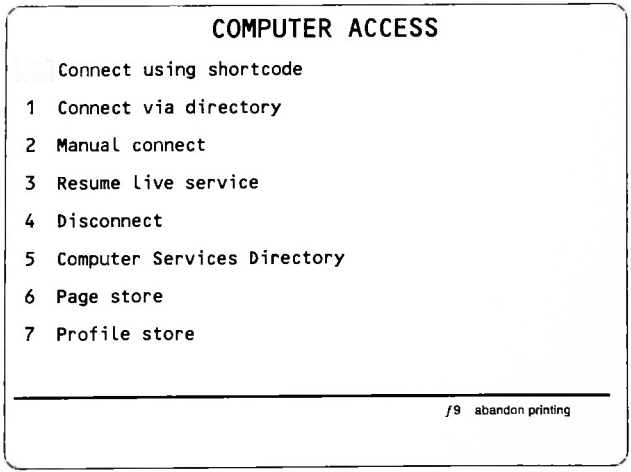
The Computer Access application lets you connect to computer services and use the TONTO as a computer terminal. The application uses *terminal programs* to make the TONTO emulate particular types of terminals. The application comes with two terminal programs: Viewdata and glass teletype. You will be able to obtain other terminal programs in capsules.

To use the TONTO as a terminal, you need to have the appropriate terminal program loaded into the TONTO. If the program is on capsule, make sure the capsule is plugged into the Rompack (if it isn't, follow the instructions for loading capsules given on page 27).

This section tells you how to use the Computer Access application and gives details of the facilities offered by the application (such as storing and printing displays). Sections 2 and 3 describe the features specific to the Viewdata and glass teletype programs.

Using Computer Access

To use the Computer Access application, select option 5 from the Top Level Menu. The Computer Access Menu appears.



This menu offers you a choice of methods of connecting to a service, lets you resume to, or disconnect from, a computer service, and takes you to the Computer Services Directory and the two Computer Access databases: the Page Store and the Profile Store.

Connecting to a service

To connect to a computer service, you need to set up a data call between the TONTO and the computer offering the service. You can set up the call by autodialling or manual dialling.

You can only connect to one service at a time, as each connection requires the use of the TONTO's modem. If you try to connect to a service when the modem is already in use, one of the messages **MODEM IN USE** or **TERMINAL IN USE** is displayed.

Autodialled connections

There are two ways of autodialling a computer service:

- By typing the shortcode of an entry in the Computer Services Directory
- By looking in your Computer Services Directory and dialling the service from the directory

Shortcode dialling

The most straightforward way to connect to a service is to use the shortcode assigned to the service in the Computer Services Directory (which is described in *Telephone and Computer Services Directories*, page 95). When the Computer Access Menu is displayed, you can type in the shortcode directly; you don't need to select anything from the menu. The shortcode appears in the three character box at the top of the menu. If the shortcode is less than three characters long, use spaces to fill up the box, or press the ENTER or ◄┘ key. When the TONTO finds an entry with that shortcode, it starts to make the connection; see *The connection display*, on the next page.

Directory dialling

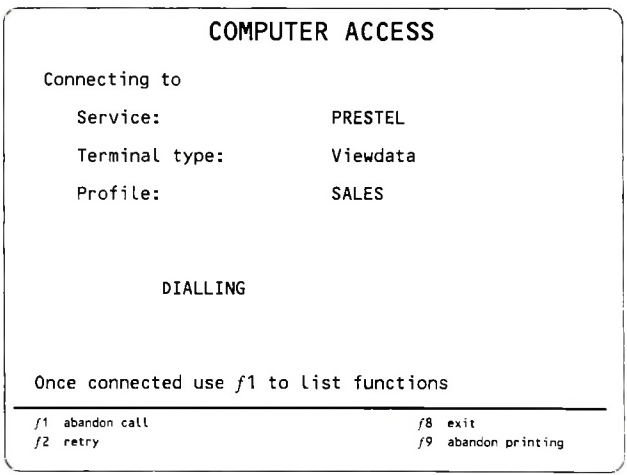
You can look for the service in your Computer Services Directory by selecting option 1 from the Computer Access Menu. When you select this option, the directory is displayed with the most recently selected entry highlighted as the current entry. Once you've found the entry you require, you can use the directory facilities to dial the service.

Alternatively, you can go to the Computer Services Directory Menu by selecting option 5 from the Computer Access Menu. The directory menu has an option that lets you search the directory by key to find the entry you require and then use the directory facilities to connect to the service.

Details of the directory are given in *Telephone and Computer Services Directories*, page 95.

The connection display

When you start dialling a computer service by shortcode or from the directory, the Computer Access connection display appears.



The display shows:

- The name of the service. (The first twelve characters of the name given in the Computer Services Directory.)

- The terminal type
- The name of the *profile* being used. (A profile is a set of data that defines the technical aspects of the method of connection. Profiles are explained later; see page 127.)

Below these details is a status display. This display monitors the progress of the connection. Initially, it contains the message **DIALLING**. This changes to **WAITING** once the number has been dialled. When the service answers and the connection is made, the connection display disappears so that you can use the display and keyboard to communicate with the service.

You can listen to the progress of the connection, as activity on the line is monitored on the loudspeaker while the status messages **DIALLING** and **WAITING** are displayed (provided the loudspeaker is not already in use when you start the call). Monitoring stops when the connection is made or the call is ended.

Notes:

- If you are not connected within about a minute, the line is cleared and the status display changes to **ABANDONED**. If this happens, or if the connection fails for some other reason, you can press *f*2 to redial the number. Pressing *f*8 abandons the call and takes you back to the Computer Access Menu (if you dialled by shortcode), or to the Computer Services Directory (if you dialled from the directory).
- At any time while the status messages **DIALLING** or **WAITING** are displayed, you can abandon the call by pressing *f*1. The status message changes to **ABANDONED**.
- If you press the START key or the RESUME key while the status messages **DIALLING** or **WAITING** are displayed, the connection will continue in the background. When you return to Computer Access, you'll see either the connection display (if the connection is still in progress or has failed), or (if the connection has succeeded) you'll see the information received from the computer service (the *live service display*). Pressing the START key or the RESUME key when the connection has failed abandons Computer Access.

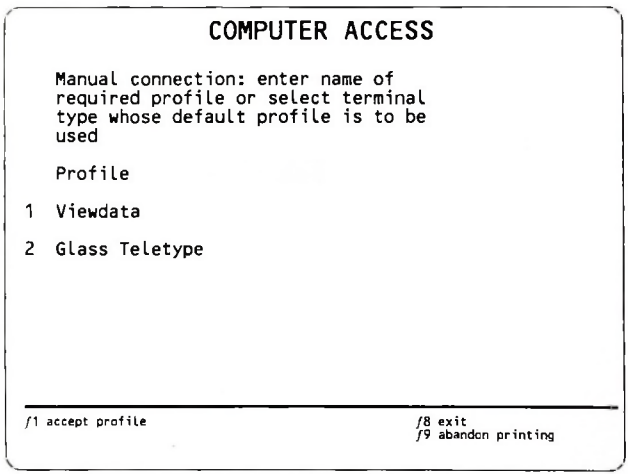
- **On a two line TONTO**, the line used for dialling is the non-preferred line, if it's not already in use. If the non-preferred line is in use then the preferred line is used, if it's free. The line used is checked against the Line Access Indicator in the directory to make sure that it can be used for calls to this computer service. If it can't be used, the message **WRONG LINE** is displayed. Wait until the correct line is free and then press *f* 2 to redial the number.

- **On a one line TONTO**, if you try to start a voice call (by lifting the handset or pressing the SPKR key) the data call to the computer service is ended and the status message changes to **ABANDONED**.

Manually dialled connections

You'll need to dial manually any service for which there is no entry in the Computer Services Directory.

To dial a service manually, select option 2 from the Computer Access Menu. This display appears:



Before dialling, either type in the name of the *profile* you want to use and press *f* 1, or select the terminal type you require by typing the number of one of those listed. (A profile is a set of data that defines the technical aspects of the method of connection. Profiles are explained later; see page 127.)

If you select a terminal type, rather than supplying the name of a profile, the application uses the default profile for that terminal type. The list of terminal types always contains Viewdata and glass teletype. It also contains the names of any other terminal programs which are in plugged-in capsules. You can choose from up to six terminal types.

When you've typed the name of a profile, or selected a terminal type, the Computer Access connection display appears. The display is similar to that shown on page 117, but the service is given as **MANUAL** and, unless you've specified a profile, the profile is given as **DEFAULT**.

The status display below these details shows **DIAL NUMBER** to prompt you to dial. Dial the number in the normal way, using the numberpad. (You cannot dial by shortcode at this point.) Activity on the line is monitored on the loudspeaker (provided it was not in use when you started the call). If you make a mistake, you can abandon the call by pressing *f* 1 (the status display changes to **ABANDONED**) and then start a new call by pressing *f* 2.

When the service answers and the connection is made, the connection display disappears so that you can use the display and keyboard to communicate with the service.

Notes:

- If you are not connected within about a minute, the line is cleared and the status display changes to **ABANDONED**. Press *f* 2 to try again, or *f* 8 to return to the Computer Access Menu.
- If the connection fails, you can press *f* 2 to start a new call. After pressing *f* 2, you can dial the number again or press the REDIAL key or the LAST key to redial the number.
- If you try to start a voice call while you are connecting to a service by manual dialling, you will end the data call to the service. This applies to both one and two line TONTOs.

Using the TONTO as a terminal

When you've established the connection to a computer service and the service has checked your User ID and password, the TONTO operates as the terminal type defined in the profile.

You can now use the TONTO to communicate with the computer service. The effect of each key depends on the computer service and the terminal program you are using. However, in most cases the characters you type on the keyboard are transmitted to the computer service, and data received from the service is displayed on the TONTO's screen.

You can define the key combinations ALT/A to ALT/P to send a sequence of characters. When you press the key combination, the effect is as if you had typed in the sequence of characters. This makes it much quicker for you to input frequently used data, such as the details you have to type when you start a computer session or *log-on*. However, consider carefully whether you want to include password information in a key sequence; it might make it easier for someone to break through your security system.

You can have a different set of key sequences for each profile. Details of key sequences are held in the profile and you set up a key sequence when the profile is shown on the amendment display; see *Stored key sequences*, page 133.

While you are connected to a computer service, you can press a system control key to leave Computer Access and do something else. The Computer Access application will continue to run in the background (some terminal programs may continue to update the display you were viewing if the computer service continues to send data). To return to the service, press the RESUME key.

If you press the START key or the RESUME key when the TONTO is not connected (or in the process of being connected) to a service, the Computer Access application is abandoned, although it will finish any printing.

On a two line TONTO, you can still use the telephone for voice calls while a Computer Access session is in progress. If you make a voice call during a computer service session, the numberpad is assigned to the voice call. Press the DIAL key to restore the numberpad to the computer service session, or use the main keyboard to communicate with the service (see page 65 for more details of the DIAL key).

On a one line TONTO, an outgoing call to a computer service is ended if you pick up the handset. (This ensures that you can make an emergency voice call.)

Computer Access control functions

A set of special control functions are provided to let you use Computer Access facilities during a live computer service session. The key combination *f*1 displays a summary of the control functions available for the terminal type you are using. A sample display is shown below. Pressing *f*1 while the control functions summary is displayed restores the live service display to the screen. All other key combinations have the same effect whether the control functions display or the live service display is shown on the screen. The control functions key combinations are not transmitted to the computer service, but you can still use the keyboard to communicate with the service while the control functions display is on the screen.

```
GLASS TELETYPE CONTROL FUNCTIONS

f1  Live display/Functions display

f2  Snapshot to page store

f3  Snapshot to printer

f4  Monitor to page store (on/off)

f5  Monitor to printer (on/off)

f6  Ring off

f7  Current profile

f8  Main menu

f9  Abandon printing

CTRL/space Break
```

The functions offered depend on the terminal type. The most common functions are explained below. A particular terminal type may not offer all of these functions, but it may offer other functions particularly suitable for that type of terminal. (The control functions display may also list special key combinations, other than function keys, which are relevant to the terminal type.) Check the documentation supplied with the terminal program to find out which functions are offered (for Viewdata and glass teletype see sections 2 and 3).

f2 Snapshot to Page Store

Pressing *f2* stores the current computer service display in the *Page Store*. The Page Store is a database in which you can store *pages* of computer service displays. A page consists of either a *snapshot* of an individual display, or a *monitor file* containing a stream of data that may not fit on one screen (see page 135 for more details of the Page Store). The snapshot remains in the Page Store until you delete it, so you can view it, or print it, later on.

The snapshot is stored in the first free page in the Page Store, and the message **SNAPSHOT TO PAGE** *nn* is displayed on the noticeboard (where *nn* is the page number).

f3 Snapshot to printer

Pressing *f3* prints the current computer service display. This printing facility differs from Image Printing in that it prints whole characters and symbols, rather than an exact copy of the screen (dot by dot). This makes printing much faster. Although some computer service displays may contain symbols and characters that the printer cannot print, the printed copy usually gives an adequate copy of the significant data. (Blank spaces are left for unprintable symbols.)

Computer service displays may also use several shades of grey to form pictures. If you use the Image Printing facility to print this type of display, you may find that the foreground and background colours of the picture are not clearly defined in the printed version. The Computer Access printing facility prints the foreground and background colours only (using black for the foreground colour and white for the background colour).

While printing takes place, you can carry on using the computer service. When printing is finished the message **PRINTING COMPLETE** appears on the noticeboard.

Terminal types with extended graphics capabilities may not offer this control function. It is offered by the standard glass teletype program. Viewdata offers a special printing facility (see *Printing Viewdata pages*, page 143).

f4 Monitor to Page Store

Pressing *f*4 causes all data subsequently displayed on the screen to be copied to the first free page in the *Page Store*. The Page Store is a database in which you can store *pages* of computer service displays. A page consists of either a snapshot of an individual display, or a monitor file containing a stream of data that may not fit on one screen —such as a whole glass teletype session (see page 135 for more details of the Page Store). This function is for use when you want to store a monitor file in the Page Store (so that you can view it or print it later). Data is stored in the Page Store as it arrives, so data that is already displayed when you press *f*4 is not stored. Copying to the Page Store continues until you press *f*4 again. When copying starts, the message **MONITOR TO PAGE** *nn* appears on the noticeboard. When you press *f*4 again to stop copying, the message **MONITOR ENDS** appears.

This facility is particularly suitable when you are using a terminal type such as glass teletype, where the computer service sends a continuous stream of data that scrolls up and off the screen.

f5 Monitor to printer

Pressing *f*5 prints all data subsequently displayed. This function works in the same way as function *f*4, Monitor to Page Store, except that the data is printed rather than stored. The data is printed in the same way as a snapshot (see function *f*3, above). When you get to the end of the part you want to print, press *f*5 again to stop printing.

This control function is particularly suitable for terminal types where the computer service sends a continuous stream of data that scrolls up and off the screen (glass teletype, for example). If data is arriving faster than the printer can print it, it is temporarily stored in the TONTO store (if there is room), so the data is printed even if the printer can't keep up with the display. If there isn't enough store, the function will slow down the service dialogue (by automatic use of the flow control feature described in *Flow control*, page 152). If the computer service doesn't allow flow control and there is a danger that data will be lost (because the printer cannot print fast enough), printing is abandoned.

f6 Ring off

Pressing *f*6 disconnects you from the computer service, but leaves the current ccmputer service display on the screen (whereas selecting *Disconnect* from the Computer Access Menu abandons the current computer service display).

When you've pressed *f*6 (or when the data call has been disconnected for some other reason), pressing the START key, the RESUME key, or *f*8, abandons the service display.

f7 Current profile

Pressing *f*7 takes you to the Profile Store and displays the profile that you're using for the current computer service. (You may want to do this to remind yourself of key sequences you've stored in this profile, or to set up new sequences; see *Stored key sequences*, page 133.)

You can use the full range of profile amendment facilities, although any changes you make to the service characteristics (other than stored key sequences) will not normally take effect until you start another session with the profile.

To return to the live session press *f*8.

*f*8 Main menu

Pressing *f*8 displays the Computer Access Menu, leaving the TONTO connected to the live service. You may want to do this to view the Page Store or to disconnect the TONTO from the service (see *Disconnecting from a service*, below).

*f*9 Abandon printing

Pressing this key stops Computer Access printing and leaves the printer free.

Note: You cannot use monitor to Page Store (*f*4) and monitor to printer (*f*5) at the same time, and while monitoring to either, you cannot take snapshots (*f*2 or *f*3). If you do, the TONTO rejects the new request and displays the message **MONITOR ACTIVE** on the noticeboard.

Disconnecting from a service

There are two ways to disconnect from a service:

- You can use control function *f*8 to return to the Computer Access Menu and then select disconnect (option 4) from the menu. This breaks the connection and clears the line.
- You can use control function *f*6 to *ring off*. This breaks the connection, clears the line, and leaves the current computer service display on the screen.

Before disconnecting from a computer service you should complete any closing (*log-off*) procedures the service requires.

Profiles

Each computer service session is controlled by a *profile*. This is a set of data that defines the technical aspects of the method of connection. It may also contain information about the computer service. Profiles are used so that you don't have to supply these details each time you want to use a computer service. The information stored in the profile may vary from one terminal type to another, but the methods of storage, creation, and amendment of profiles are always the same.

Several computer services can use the same profile if it meets their requirements. Each profile is associated with one terminal type. So selecting a particular profile (or a computer service that uses a particular profile) implies the terminal type (and terminal program) to be used.

Profiles are stored in the *Profile Store*. Up to 99 profiles can be held in the Profile Store. Each profile has a different name that you use when referring to it, and that name is a compulsory part of each Computer Services Directory entry. The name can be up to twelve characters long. The first character must be a letter, the others must be letters or numbers. You can use capital or small (lower case) letters — the application ignores the case of the letters when searching for a name.

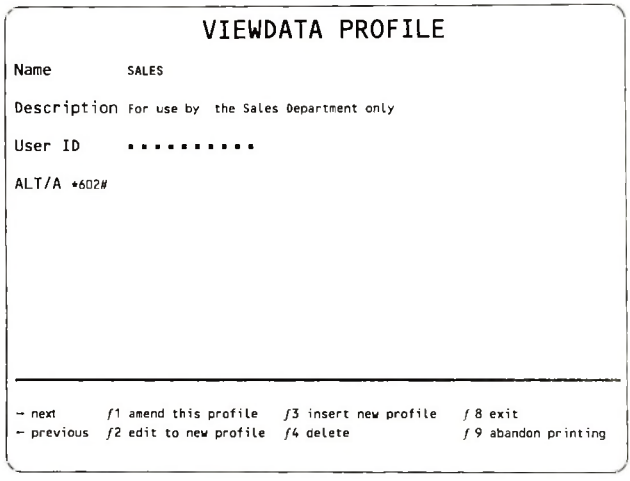
If you connect to a computer service by dialling manually and just give a terminal type (without supplying a profile name), the Computer Access application uses the default profile for the terminal type. (Each terminal program comes with a profile which is known as the default profile.)

Viewing profiles

To view the profiles in the Profile Store, you can either select option 7 from the Computer Access Menu, or press *f*7 during a computer service session. Selecting from the menu takes you to the first profile in the store; pressing *f*7 takes you to the profile you're using for the session. Profiles are not stored in any particular order.

To move on to the next profile use the → key, to move back to the previous profile use the ← key. If you reach one end of the Profile Store, the scan continues from the other end.

A typical profile display is shown below. The name of the terminal type is shown in the heading. There is always a profile name, and there can be a description containing up to 56 characters. Viewdata profiles (of which this is an example) also contain a User ID, which is confidential. Confidential information is displayed as solid blocks, except when it's first typed. Other terminal types would have a different item here. Finally, the diagram shows that the key combination ALT/A is set to generate the key sequence shown.



If you try to display a profile when its terminal program is not loaded, only the profile name and description are shown, and the message **NO TERMINAL PROGRAM** is displayed. In this case, you cannot amend the profile.

While a profile is displayed, the following key functions are available (as indicated by the footnotes at the bottom of the display).

Key	*Function*
→	**Next.** Displays the next profile.
←	**Previous.** Displays the previous profile.
*f*1	**Amend this profile.** Lets you amend the profile displayed; see *Amending a profile*, page 132.
*f*2	**Edit to new profile.** Lets you form a new profile by amending a copy of the profile displayed; see *Creating a new profile*, overleaf.
*f*3	**Insert new profile.** Lets you create a new profile by amending a copy of the default profile for the appropriate terminal type; see *Creating a new profile*, overleaf.
*f*4	**Delete.** Deletes the profile displayed. You cannot delete a profile that is currently being used for a computer service session. When you delete a profile you are prompted to confirm that you want the deletion to go ahead by the message `DELETE PROFILE? (Y/N)`. Type Y to delete the profile, or N to abandon the deletion. When the profile has been deleted, the next profile is displayed. If there are no other profiles, the live service display, or the Computer Access Menu, is displayed.
*f*8	**Exit.** Takes you back to where you were before (the live computer service display or the Computer Access Menu).
*f*9	**Abandon printing.** Causes any Computer Access printing to be abandoned.

Creating a new profile

To create a new profile you can either amend a copy of an existing profile (*Edit to new profile*), or amend a copy of the default profile for the appropriate terminal type (*Insert new profile*). Details of each method are given below. (For details of changing key sequences see *Stored key sequences*, page 133.)

Editing to new profile

1 Select option 7 from the Computer Access menu and search through the Profile Store to find the profile you want to use.

2 When you've found the right profile, press *f*2 (Edit to new profile). A copy of the profile (without a name) is shown on the amendment display.

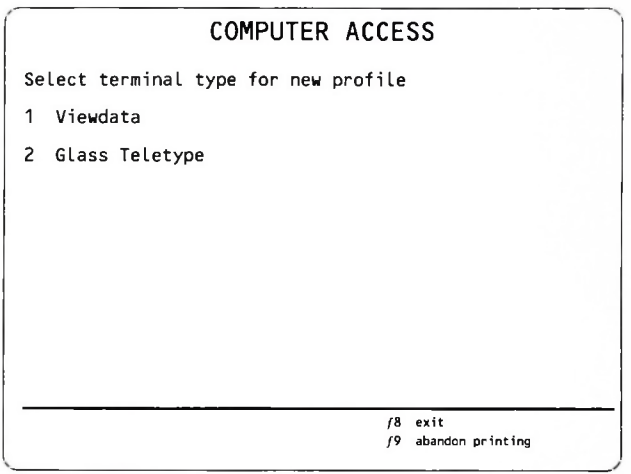
3 Type in the name of the new profile (up to twelve characters; the first character must be a letter and the rest must be letters or numbers).

4 Use the TAB and B/TAB keys to move the editing box to the next item you want to amend and make the changes you require. (For details of moving the editing box and amending profile items, see *Amending a profile*, page 132.) For details of changing key sequences, see *Amending a key sequence*, page 134.

5 When you've finished, press *f*1 or the ENTER key to store the new profile.

Insert new profile

1 Select option 7 from the Computer Access Menu and press *f* 3 (Insert new profile). This display appears:



You create the new profile by amending a copy of the default profile for the appropriate terminal type. This display prompts you to select the terminal type from the list of those available (those in plugged-in capsules or loaded from cartridge). The list always contains Viewdata and glass teletype.

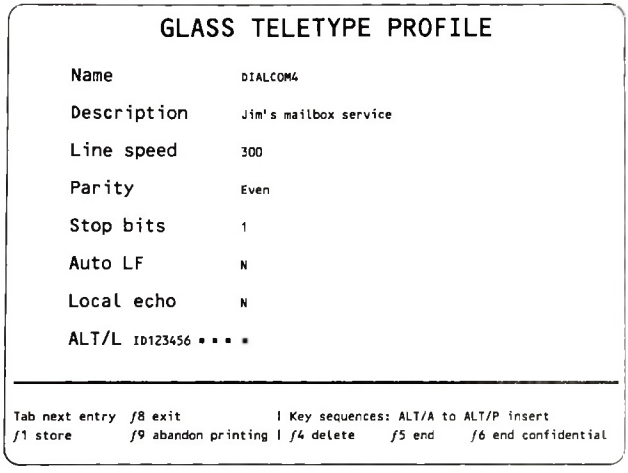
2 Select a terminal type. A copy of the default profile for that type is displayed for you to amend. An entry box appears alongside the label Name, ready for you to type in the name.

3 Type in the name and then amend the rest of the profile. (For details of moving the editing box and amending profile items, see *Amending a profile*, overleaf. Details of inserting key sequences are given on page 134.)

4 Press *f* 1 or the ENTER key to store the new profile.

Amending a profile

To amend a profile, select option 7 from the Computer Access Menu and scan through the profiles to find the one you want. When you've found the right one, press *f*1. The profile is now shown on the amendment display. An example is given below.



You'll notice an editing box. This marks the current editing position. You can move the box to other items by using the TAB and B/TAB keys. So to amend a particular item, move the box until it's positioned on that item and then use the TONTO editing keys to make the amendments you require. You cannot change the name of a profile. (For details of changing key sequences, see *Amending a key sequence*, page 134.)

Some profiles have items which you can only set to a small number of specific values. For example, the line speed of a glass teletype profile must be either 300 or 1200. You can tell when the editing box is on an item of this type, as the cursor doesn't appear in the box. To change the current setting of one of these items, position the editing box on that item; then type a letter or press the space bar. Each time you press one of these keys, the value changes to the next in the list of possible values, returning to the start of the list when the end is reached.

When you've finished amending the profile, press *f*1 or the ENTER key to store it.

Deleting a profile

To delete a profile, scan through the Profile Store until you find the profile that you want to delete. Now press *f*4. You are prompted to confirm the deletion by the message **DELETE PROFILE? (Y/N)**. Press Y to delete, or N to abandon the deletion.

Stored key sequences

You can define the key combinations ALT/A to ALT/P so that they send a sequence of characters to the computer service. When you press the key combination, the effect is as if you had typed in the sequence of characters. This makes it much quicker for you to input frequently used data, such as the details you have to type when you start a computer session or *log-on*. However, consider carefully whether you want to include password information in a key sequence; it might make it easier for someone to break through your security system.

You can have a different set of key sequences for each profile. Key sequences can be up to 68 characters long. The number of key sequences you can store in a profile depends on the number of other items in the profile. A profile can contain up to 18 items (including those required for the terminal type) and each key sequence counts as one item. (If you try to put too many key sequences into a profile, the message **TOO MANY FIELDS** is displayed).

To insert, amend, or delete a key sequence, you must first display the profile on the amendment display. To do this, scan through the Profile Store until you find the right profile, then press *f*1 (*f*2 or *f*3 if you are creating a new profile). When the profile is shown on the amendment display, you'll see footnotes which refer to key sequences, at the bottom of the display.

The key combinations ALT/Q to ALT/Z are reserved for future extensions.

Inserting a key sequence

To insert a key sequence:

1 Press the key combination you want to use for this key sequence (use ALT/A to ALT/P). The key combination appears as a new item on the display.

2 Now type in the sequence of keys. (The sequence cannot include ALT/A to ALT/P, *f*0 to *f*9, or telephone or system control keys. It can include ALT/0 (i.e.]) to ALT/9 (i.e. [), ALT/Q to ALT/Z, CTRL key combinations, and other keys). The characters appear on the display as you type. Keys that don't have a displayable representation (such as B/TAB, for example) are displayed as solid blocks. The sequence can contain almost any key, including editing keys such as INS and TAB. Such keys do not perform their editing functions when they are typed into the sequence.

3 When the key sequence is complete, end it by pressing *f*5. The editing box moves on to the next item. (*f*5 is not stored as part of the sequence.)

   If the key sequence is confidential (a password, for example), end it by pressing *f*6. This works like *f*5, but makes the sequence *confidential*, which means that the characters displayed are replaced by solid blocks.

   Pressing *f*1 when you are putting in a key sequence, finishes off the sequence (as if you had typed *f*5) and then stores the whole profile.

Amending a key sequence

To amend a key sequence:

1 To move the editing box to the key sequence, press the key combination assigned to the sequence that you want to amend, or use the TAB and B/TAB keys.

2 Type the new sequence in the usual way. As soon as you start typing the new sequence, the old sequence disappears. You have to type the whole new sequence, even if it's nearly the same as the old one.

3 When you've finished, press *f*5 or *f*6 (confidential) to end the sequence.

Note: You can't type over an existing sequence if the new sequence starts with the keys TAB, B/TAB, or ENTER. When the cursor is positioned at the start of an existing sequence, TAB and B/TAB move the editing box to the next or previous item, and ENTER causes the profile to be stored. If you want TAB, B/TAB or ENTER at the beginning of the amended key sequence, delete the existing sequence and then insert the amended version as a new sequence.

Deleting a key sequence

To delete a key sequence:

1 Move the editing box to the key sequence by pressing the key combination assigned to the sequence, or using the TAB and B/TAB keys.

2 Press *f* 4. The key sequence disappears from the display and the editing box moves to the next item in the profile.

The Page Store

The Page Store can contain up to 99 *pages*. A page is either a snapshot of an individual display, or a *monitor file*. A monitor file contains data sent in a continuous stream from a computer service; this stream of data may extend over more than one display.

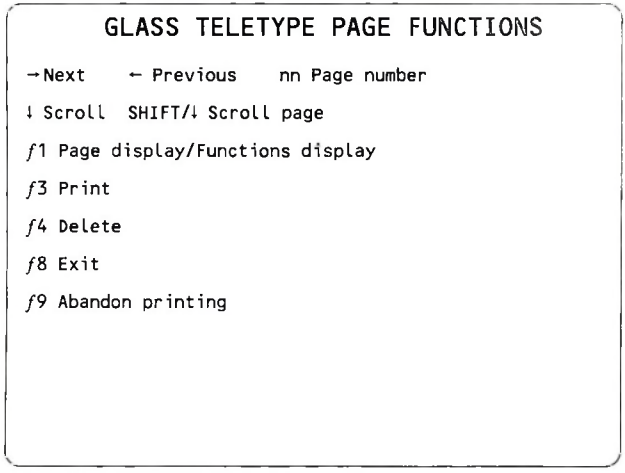
You store pages during a live session by using one of the Computer Access control functions offered by the terminal program you are using. This function will usually be either *f* 2 (Snapshot to Page Store), or *f* 4 (Monitor to Page Store). Details of these control functions are given in *Computer Access control functions*, page 122.

The pages are numbered from 1 to 99. New pages are given the lowest number available. The number is displayed when the page is stored. Pages keep their numbers even when lower numbered pages are deleted.

The Page Functions display

When you enter the Page Store, by selecting option 6 from the Computer Access Menu, the Page Functions display for the lowest numbered page appears. (If there are no pages in the Page Store, the Computer Access Menu remains displayed and the message **PAGE STORE EMPTY** appears.) The Page Functions display shows a summary of the functions offered for the current page. The functions vary depending on the terminal type that produced the page. Some functions are standard (those which let you move from page to page and delete pages, for example).

Particular terminal types may also offer special functions, which are particularly suitable for pages from that terminal type (for example, Viewdata pages may have concealed data, so a *reveal* function is listed on the Viewdata Page Functions display). For details of the Page Store functions for particular terminal types, see the documentation supplied with the terminal program. Viewdata and glass teletype are covered in sections 2 and 3.



Details of the standard Page functions are given below. The keys have these functions when either the Page Store or the Page Functions display is on the screen (with the exception of *f*1 which switches the display from the Page display to the Page Functions display and vice versa).

Key	*Function*
→	**Next.** Displays the next higher numbered page. When you reach the highest numbered page, pressing this key starts you off again at the lowest numbered page. Empty pages are missed out.
←	**Previous.** Displays the next lower numbered page. Has the opposite effect to the → key described above.
↓	**Scroll.** Moves a display of *monitor file* data up so that you can see the next line of data. The line that was at the top of the display is pushed off the top as the new line appears at the bottom. If the page cannot be scrolled, or if the end of the page has been reached, the message **END OF PAGE** appears on the noticeboard. You cannot move backwards through a page of data; you have to reselect the page and move forwards.
SHIFT/↓	**Scroll page.** Displays the next whole screenful of monitor file data stored in this page. You cannot move backwards through a page of data, you have to reselect the page and move forwards.
nn	**Page number.** Displays the page with this number. If the number is only one digit, add a space or press the ENTER or ←┘ key. If you type zero, the lowest numbered page is displayed. If the page doesn't exist, the next page after the requested page is displayed (omitting empty pages). Whenever a page is displayed, its number appears on the noticeboard.

Key	*Function*
*f*3	**Print.** Requests the printing of the page displayed. The page is only printed if the terminal type that stored the page allows printing and if the printer is available (if it's not available, the message **PRINTER NOT FREE** appears on the noticeboard). If you print a monitor file page, the whole page is printed, not just the part that's displayed. You can display other pages or return to the live computer service (if any) while the page is being printed. You can also use the PRINT key to print the screen image. For details of the special facilities for printing Viewdata pages, see page 143.
*f*4	**Delete.** Requests the deletion of the page displayed. You are prompted to confirm that you want the deletion to go ahead by the message **DELETE PAGE? (Y/N)**. Press Y to confirm, or N to abandon the deletion. When you've deleted a page, the next higher numbered page is displayed. If there are no pages left after this deletion the Computer Access Menu is displayed. You cannot delete a page while it is being printed. (If you try to do this, the message **PAGE BEING PRINTED** appears on the noticeboard.) To delete the page, press *f*9 to abandon the printing and then press *f*4.
*f*8	**Exit.** Leaves the Page Store and displays the Computer Access Menu.
*f*9	**Abandon printing.** Abandons any printing started by the Computer Access application.

Note: If you try to display a page when the terminal program that stored the page is not loaded, either the Computer Access application displays the page itself (it can usually display pages containing ordinary text), or the page is not displayed and the message **NO TERMINAL PROGRAM** is displayed.

Similarly, you may not be able to print a page if its terminal program is not loaded.

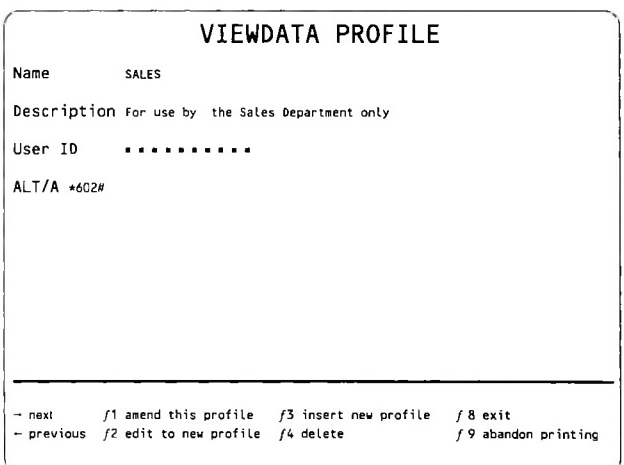
2 Viewdata

A Viewdata terminal program is provided with the Computer Access application. This program lets you use the TONTO as a Viewdata terminal, to connect to Prestel and Prestel-compatible Viewdata systems such as ICL Bulletin. This section contains details of the Computer Access Viewdata program. For general information about the Computer Access application, including details of profiles and the Page Store, see *Computer Access*, page 115.

The TONTO retains its flexibility while you are using it as a Viewdata terminal. Voice calls are still possible on a two line TONTO and the system control keys let you interrupt the Viewdata session to use other TONTO facilities and then return to the session without breaking the connection.

Viewdata profiles

Here's an example of a Viewdata profile:



The following items are always present in a Viewdata profile:

- ☐ Profile name
- ☐ Description (optional)
- ☐ User ID (sometimes referred to as Customer Identity or TIN — Terminal Identification Number)

Viewdata Profiles can be created, amended, and deleted in the standard way described in *Profiles* (on page 127), but if you want to change a User ID, read the instructions given below. Viewdata profiles can contain stored key sequences (see *Stored key sequences*, page 133).

The Viewdata User ID

The Viewdata User ID consists of up to 16 consecutive digits. It is treated as a confidential item and is displayed as solid blocks, except when you first type it into the profile. In the default Viewdata profile, the User ID is empty.

When you connect to a Viewdata service, the Computer Access application sends the profile's User ID to the service — so that you don't have to type it (although the Computer Access application can send the ID for you, it cannot accept User IDs programmed from the Viewdata service).

To amend a Viewdata User ID:

1. Find the profile in the Profile Store and press *f*1 while you're viewing the profile.
2. Move the editing box to the User ID by using the TAB and B/TAB keys.
3. Type the new User ID. When you type the first character of the new ID, the old ID is removed from the display. You can use the editing keys when you're typing the new ID.

   When you remove the editing box from the User ID, the display changes so that the User ID is shown as a series of solid blocks again.

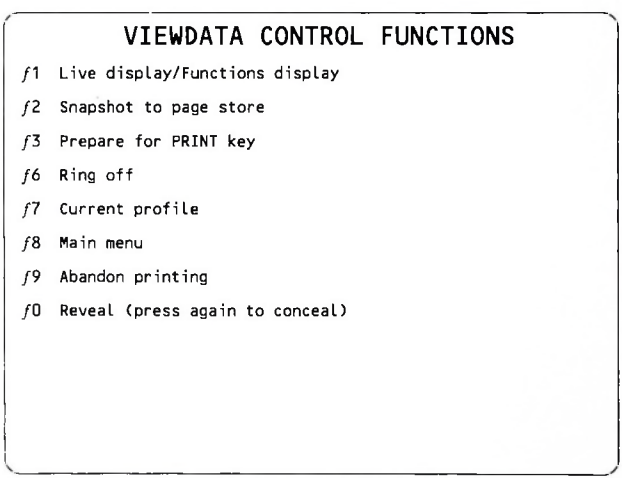
The Viewdata session

When the computer service has checked the User ID held in the profile, you are usually prompted to type a password. Once the service has received a valid password, the session can begin. (If you haven't put your User ID into the Viewdata profile you're using, the Viewdata service usually sends out a prompt and you must type your User ID and password before the session can begin.)

Refer to the Viewdata service documentation for an explanation of the displays available and the responses you should type. For details of sending special characters to the service, see *Sending special characters to a Viewdata service*, page 143.

Viewdata control functions

The Viewdata Control Functions display is shown below.



As you can see, the Viewdata Control functions display offers most of the standard Computer Access control functions described on page 122. *f*3 has a special meaning, described in *Printing Viewdata pages*, on page 143.

Viewdata offers an extra control function: *f*0 Reveal. Some Viewdata pages have concealed data (such as the answers to a puzzle). You can use *f*0 to reveal the concealed data. Pressing *f*0 a second time conceals the data again. When the Viewdata service sends a complete new page, such data is always concealed.

You can store a snapshot of the display in a page in the Page Store, regardless of whether data is concealed or revealed. When you view the page in the Page Store, the data will be concealed initially, but you can reveal it by pressing *f*0.

Note: In Viewdata service terminology, a *page* consists of 1 to 26 *frames*, where each frame occupies one screen. If you use control function *f*2 (Snapshot to Page Store), only the frame displayed is stored; this is called a page in the Computer Access Page Store.

Storing Viewdata displays

You can store Viewdata displays in the Page Store by using the functions shown on the Viewdata Control Functions display, on the previous page. Each Viewdata display occupies approximately 2 blocks of store. The Viewdata Page Functions display is shown below.

```
            VIEWDATA PAGE FUNCTIONS

→ Next    ← Previous    nn Page number

f1 Page display/Functions display

f3 Prepare for PRINT key

f4 Delete

f8 Exit

f9 Abandon printing

f0 Reveal (press again to conceal)
```

Details of the standard page functions are given in *The Page Store*, page 135. An explanation of the special meaning of /'3 is given below.

Printing Viewdata pages

The Viewdata program provides a special printing facility which aims to give you the best printed representation of a Viewdata page that is possible with a black and white printer.

Viewdata function /'3 is used to prepare for the PRINT key. You can use /'3 during a live Viewdata session or when viewing a Viewdata page in the Page Store. The effect of pressing /'3 is to redisplay the page ignoring all the colour information (shown as shades of grey on the TONTO). Each character (and graphic symbol) is displayed in white on a black background. /'3 also stops characters flashing and removes the cursor. It's best to get a good "colour" (grey shaded) picture, without any faults from telephone line noise, before you use /'3 to change it to black and white.

Once you've redisplayed the page, you can print it by using the PRINT key (SHIFT/numberpad #), or by using any of the Image Printing key combinations which give you prints of different sizes (see page 165 for more details of Image Printing). The display is printed so that the white characters appear as black and the black background is left as blank paper (provided that you've not changed the default Image Printing settings by using the configurator programs). This method of preparing and printing the display ensures that every character (or symbol) is printed clearly, and not as black on black or white on white as could otherwise occur.

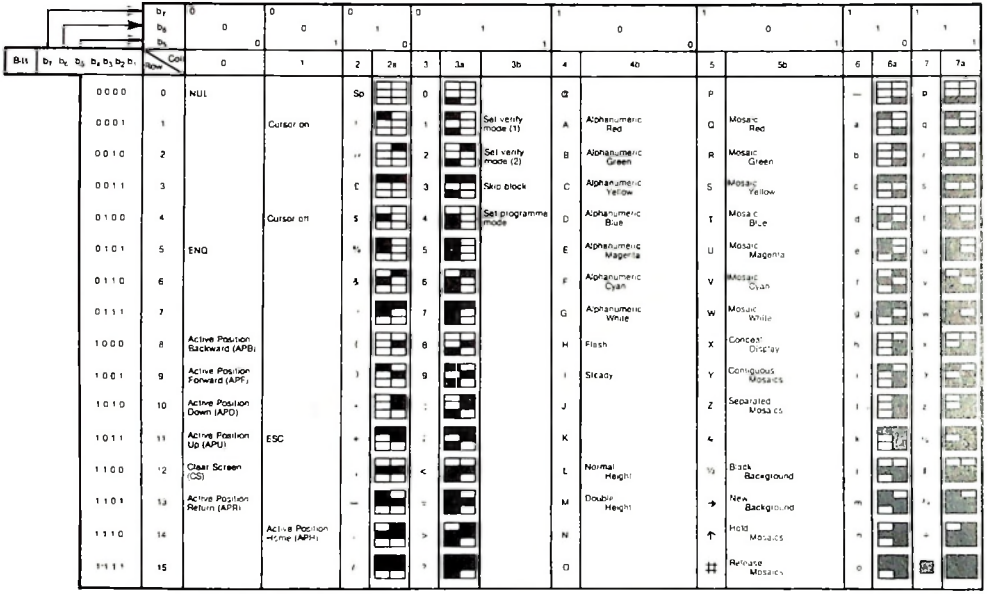
When printing is complete, the Viewdata session (if any) is resumed. Remember that while the Image Print of the page is in progress, you cannot use the keyboard to communicate with the service. The page remains in black and white until either /'3 is pressed again, or the Viewdata service sends a complete new page, in these cases the grey shades are restored.

Function /'3 is independent of the reveal function (/'0). You can use /'0 to reveal or conceal data while the page is displayed in black and white, and you can use /'3 without changing the revealed/concealed state of the display. The page is printed in the state it is in when you press the PRINT key.

Sending special characters to a Viewdata service

You can send digits, letters, and graphics characters to the Viewdata computer by pressing the appropriate key on the TONTO keyboard in the normal way (using the SHIFT and ALT keys as necessary). The full Viewdata character set is shown below.

VIEWDATA CHARACTER SET



If you want to send control characters from the TONTO keyboard, the keys to press are:

Control character	*TONTO key(s)*
Active Position Backward (APB)	← or CTRL/H
Active Position Forward (APF)	→
Active Position Down (APD)	↓ or ENTER or CTRL/J
Active Position Up (APU)	↑ or CTRL/K
Clear Screen (CS)	CTRL/L
Active Position Return (APR)	↵ or CTRL/M
Active Position Home (APH)	CTRL/3
Escape (ESC)	ESC (SHIFT/numberpad *)

Data characters not marked on the TONTO keyboard are transmitted by the following TONTO key combinations:

Data Character	*TONTO key combination*
←	ALT/9 on main keyboard
½	ALT/5 on main keyboard
→	ALT/0 (zero) on main keyboard
↑	SHIFT/6 on main keyboard
# (square)	# or TAB or CTRL/I
_ (underline)	SHIFT/- (hyphen)
	ALT/7 on main keyboard
|| (double bars)	ALT/1 on main keyboard
¾	ALT/8 on main keyboard
÷	ALT/6 on main keyboard
■ (delete)	ALT/- (hyphen)

The keys DEL and B/TAB both cause the character sequence ** (two stars) to be sent. This is the standard way of correcting mistakes when using Viewdata services.

You can send the sequences INTERLOCK & START and INTERLOCK & END (for use when filling in Viewdata forms) by typing these key sequences on the TONTO keyboard:

SHIFT/* SHIFT/K (for INTERLOCK & START)

SHIFT/* SHIFT/J (for INTERLOCK & END)

3 Glass teletype

The Computer Access application comes with a terminal program that lets you use the TONTO as a glass teletype. A glass teletype sends and receives data in the same way as an ordinary teletype machine, but it displays the data on a screen rather than typing it onto paper. Teletypes send and receive data in a continuous stream. When the TONTO is receiving data as a glass teletype, and the screen becomes full, the display is *scrolled up* (the line of data at the top of the display disappears to leave a blank line at the bottom for the new data).

The Computer Access glass teletype program lets you use the TONTO to connect to Telecom Gold (and similar message/mailbox services) and Packet SwitchStream (PSS). (The program makes the TONTO emulate a teletype, like the Teletype Corporation Model KSR 33 asynchronous terminal.)

This section gives details of the Computer Access glass teletype program. For general information about the Computer Access application, including details of profiles and the Page Store, see *Computer Access*, page 115.

The TONTO retains its flexibility while you are using it as a glass teletype terminal. Voice calls are still possible on a two line TONTO and the system control keys let you interrupt the glass teletype session to use other TONTO facilities and then return to the session without breaking the connection.

Glass teletype profiles

Here's an example of a glass teletype profile:

```
                GLASS TELETYPE PROFILE

Name              DIALCOM4
Description       Jim's mailbox service
Line speed        300
Parity            Even
Stop bits         1
Auto LF           N
Local echo        N
ALT/L ID123456 • • • •

→ next       ƒ1 amend this profile   ƒ3 insert new profile   ƒ8 exit
← previous   ƒ2 edit to new profile  ƒ4 delete               ƒ9 abandon printing
```

In addition to the profile name and description, the following items appear in a glass teletype profile. These items can only be set to one of the values shown in brackets.

For general information about profiles see page 127.

Line speed (300/1200)

This item specifies the speed at which data is sent and received. If you set the line speed to 300, data is both sent and received at 300 baud (about 30 characters per second). This conforms to the CCITT V21 standard. If you set it to 1200, data is received from the computer service at 1200 baud (about 120 characters per second) and is transmitted to the service at 75 baud (about seven characters per second). This conforms to the CCITT V23 (mode 2) standard. Some services can handle a choice of line speeds; follow the advice given in the definition of the service you are using. The default setting of the line speed is 300.

Parity (Odd/Even/None)

This item specifies the parity (checking) information that is character. Read the definition of the service you are using t the correct setting. The default setting is Even.

Stop bits (1/2)

This item specifies the number of stop bits to be included in the pattern transmitted for each character. Set this to the value given in the definition of the service you are using. The default setting is 1.

Auto LF (Y/N)

This item specifies whether or not the glass teletype program should cause a line feed when the displayed data reaches the right-hand side of the screen (that is, display the following data on the line below). If the display is already using the bottom line of the screen, the display is scrolled up one line and the following data is put on the newly cleared bottom line. Some computer services send their own line feed instruction so that the program doesn't have to do this, but if you find that the display is going back to the beginning of the line and overwriting data already displayed, you need to set Auto LF to Y (Yes). If, however, you find that you are getting a blank line between each line of the display, you need to set Auto LF to N (No). The default setting is N (no automatic line feed required).

Local echo (Y/N)

This item specifies whether the terminal program locally echoes the characters you send to the service. Most computer services provide *remote echo*. This means that the characters that you send to the service are, where appropriate, sent back and displayed on the TONTO screen. If Local echo is set to Y (Yes), the terminal program displays characters on the TONTO as you type them, as well as sending them to the service. The default setting is N (no need for local echo).

Notes: A glass teletype profile can contain stored key sequences (as described on page 133). If Local echo is set to Y (Yes), the characters in a stored key sequence are locally echoed as they are sent, even if the key sequence is confidential. (The key sequences can contain any of the characters in the Glass Teletype character set, which is defined on page 154.)

The glass teletype session

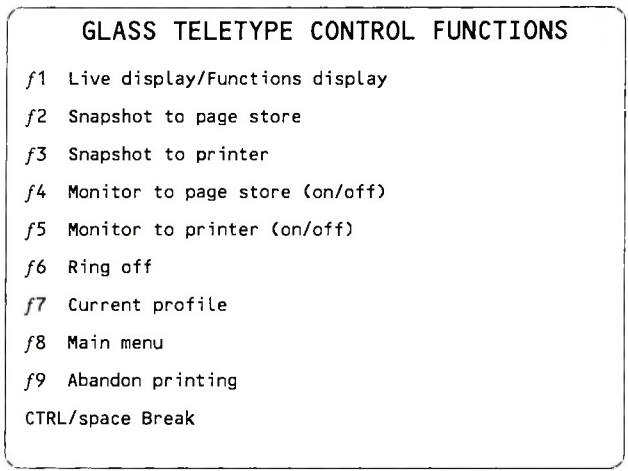
When you've established the connection with the service, the screen is cleared so that you can use the keyboard to send characters to the service. Refer to the service documentation for details of the displays available and the responses you should type. (For details of sending special characters, see *Sending special characters to a glass teletype service*, page 153.)

There is usually a set up or log-on sequence at the beginning of a session. Some services send questions or prompts to which you respond. Other services expect you to type something first. In either case, in this part of the session you will probably need to send standard sequences of characters (such as User identifiers and passwords). You may find it convenient to store these sequences in the profile (see *Stored key sequences*, page 133).

Glass teletype control functions

The Glass Teletype Control Functions display is shown on the following page. This display shows all the standard Computer Access control functions, which are described on page 122.

Glass Teletype offers the extra control function Break, which is achieved by pressing CTRL/space bar. Using this function sends a Break signal (of 250ms) to the computer service. The effect of the signal depends on the service; refer to the service documentation to find out when you should send a Break signal. In many cases, you can use this function to interrupt a long action by the computer service.

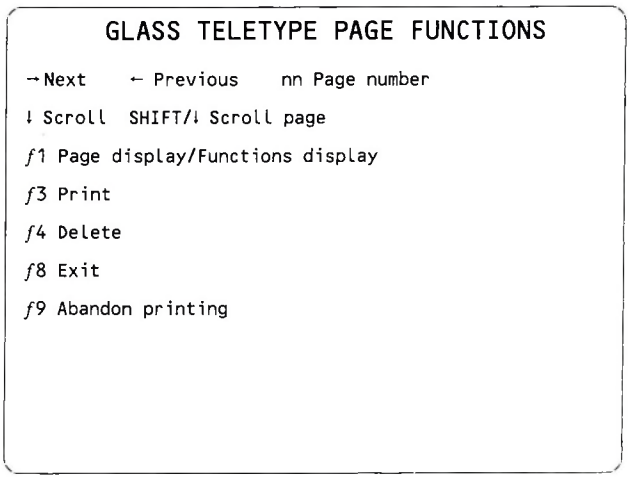


Storing glass teletype pages

You can store snapshots or monitor files of a glass teletype session as pages in the Page Store, by using the functions shown on the Glass Teletype Control Functions display, above.

A snapshot may occupy up to four blocks of store, although it will usually take up less store if there are a lot of spaces in the saved display. The amount of store occupied by a monitor file depends on the amount of data in the file.

Glass Teletype offers all the standard page functions described on page 136. The Glass Teletype Page Functions display is shown overleaf.



Note: The scrolling functions don't appear if the current page is a *snapshot*, to which scrolling is inapplicable.

Printing glass teletype pages

You can print snapshots and monitor files of a glass teletype session by using the print page function (*f*3) described on page 138. The print is an exact copy of the display (the cursor is not printed).

Flow control

Flow control lets the computer at one end of a connection ask the computer at the other end to stop sending data, because, for example, it is busy doing something else. Later on, the computer can ask the other computer to start sending data again.

You use the control code X-OFF to stop the computer sending data and the code X-ON to ask it to start sending it again. The keys to use on the TONTO keyboard are CTRL/S for X-OFF, and CTRL/Q for X-ON (although some computer services may use different control codes and, therefore, different keys).

When you send X-OFF, the display stops being updated as soon as any characters already in the pipeline have been displayed. Then you can study the display without it being scrolled off the screen. Send X-ON when you want the service to send some more data.

The glass teletype terminal program sends an X-OFF automatically when you press a system control key to get on with something else. This avoids the loss of important messages while the live service display is not shown. When you return to the session, the program sends an X-ON, so if you want transmission stopped when you restore the display, send an X-OFF quickly.

If the computer service does not recognise X-OFF and X-ON, the details given above do not apply. The display is scrolled as data arrives, whether or not it is shown on the screen. All data is monitored to the Page Store or the printer, if you have used the control functions *f*4 or *f*5 to set this up.

If you're using a service that doesn't recognise X-OFF or X-ON, and the TONTO is heavily loaded, it is possible that the TONTO will not be able to handle continuous bulk data as fast as it is sent. In this case some of the data might be lost.

The computer service may also send X-OFF and X-ON to the TONTO. When the TONTO receives an X-OFF, the message **PLEASE WAIT** appears on the noticeboard. The only characters you can send now are the control characters in columns 0 and 1 of the table overleaf. (You might need to send one of these to interrupt the computer service.) You can also send a Break signal (CTRL/space bar). When the TONTO receives X-ON, the message disappears. (The message will disappear earlier if the noticeboard area is needed for something else.)

Glass teletype transmission failures

If a corrupt character is received (for example, as a result of noise on the telephone line), it is displayed on the screen as a solid block.

Sending special characters to a glass teletype service

You can send digits, letters, and the graphics characters listed in columns 2 to 7 of the table overleaf (except DEL), by pressing the appropriate key on the TONTO keyboard (using the SHIFT and ALT keys as necessary).

The full glass teletype character set is shown overleaf.

GLASS TELETYPE CHARACTER SET

Bits b_7 b_6 b_5 b_4 b_3 b_2 b_1	Col / Row	0 (0 0 0)	1 (0 0 1)	2 (0 1 0)	3 (0 1 1)	4 (1 0 0)	5 (1 0 1)	6 (1 1 0)	7 (1 1 1)
0 0 0 0	0	NUL	DLE	SP	0	@	P	`	p
0 0 0 1	1	SOH	DC1	!	1	A	Q	a	q
0 0 1 0	2	STX	DC2	"	2	B	R	b	r
0 0 1 1	3	ETX	DC3	£	3	C	S	c	s
0 1 0 0	4	EOT	DC4	$	4	D	T	d	t
0 1 0 1	5	ENQ	NAK	%	5	E	U	e	u
0 1 1 0	6	ACK	SYN	&	6	F	V	f	v
0 1 1 1	7	BEL	ETB	'	7	G	W	g	w
1 0 0 0	8	BS	CAN	(	8	H	X	h	x
1 0 0 1	9	HT	EM	)	9	I	Y	i	y
1 0 1 0	10	LF	SUB	*	:	J	Z	j	z
1 0 1 1	11	VT	ESC	+	;	K	[	k	{
1 1 0 0	12	FF	FS	,	<	L	\	l	|
1 1 0 1	13	CR	GS	−	=	M	]	m	}
1 1 1 0	14	SO	RS	.	>	N	^	n	~
1 1 1 1	15	SI	US	/	?	O	_	o	■ (DEL)

You can send all data characters by pressing the appropriate key on the TONTO keyboard. To send one of the control codes in the first two columns of the table on the previous page, use the TONTO keys listed below.

Abbreviation	*Name*	*TONTO keys*
NUL	Null	CTRL/0 (zero)
SOH	Start of Header	CTRL/A
STX	Start of Text	CTRL/B
ETX	End of Text	CTRL/C
EOT	End of Transmission	CTRL/D
ENQ	Enquiry	CTRL/E
ACK	Acknowledgement	CTRL/F
BEL	Bell	CTRL/G
BS	Backspace	DEL or ← or CTRL/H
HT	Horizontal Tab	TAB or CTRL/I
LF	Line Feed	ENTER or CTRL/J
VT	Vertical Tab	CTRL/K
FF	Form Feed	CTRL/L
CR	Carriage Return	↵ or CTRL/M
SO	Step Out	CTRL/N
SI	Step In	CTRL/O
DLE	Data Link Escape	CTRL/P
DC1	X-ON	CTRL/Q
DC2	Tape On	CTRL/R
DC3	X-OFF	CTRL/S
DC4	Tape Off	CTRL/T
NAK	Negative Acknowledgement	CTRL/U
SYN	Synchronise	CTRL/V
ETB	End of Transmission Block	CTRL/W
CAN	Cancel	CTRL/X
EM	End of Message	CTRL/Y
SUB	Substitute	CTRL/Z
ESC	Escape	ESC (SHIFT/numberpad*)
FS	File Separator	CTRL/1
GS	Group Separator	CTRL/2
RS	Record Separator	CTRL/3
US	Unit Separator	CTRL/4

If you want to send a DEL character, press ALT/- (hyphen).

Notes:

- When **Bell** is received from the service (or locally echoed) an attention tone sounds.

- When **Backspace** is received from the service (or locally echoed) the cursor is moved one place to the left (unless it is already at the edge of the display). If you type another character, it will overwrite the character you've backspaced over. Some computer services let you correct typing errors in this way.

- When **Line feed** is received from the service (or generated by Auto LF, or locally echoed), the cursor is moved down one line on the display, staying in the same column. If the cursor is already in the bottom line, the display scrolls up to give a new bottom line for the cursor to move into.

- When **Carriage return** is received from the service (or locally echoed), the cursor is moved to the left-most column on the current line. (If it is already in that column, it does not move.) With most computer services, you use carriage return to indicate that you've finished typing the current piece of input.

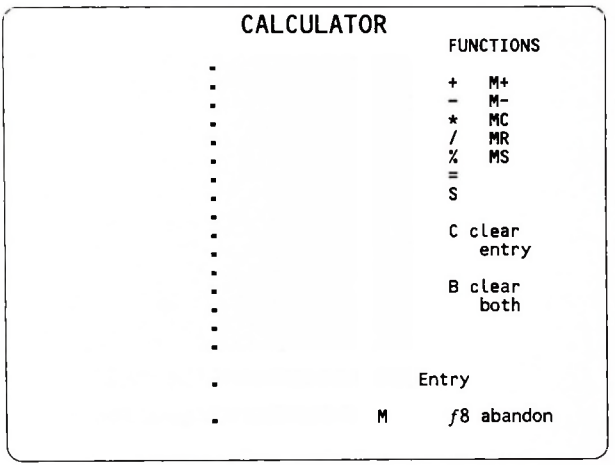
- If a **DEL** character, or **any of the control codes not already described**, is received from the service (or locally echoed), it is ignored, the display is not affected.

4 Calculator

The TONTO Calculator is option 6 on the Top Level Menu. The Calculator is easy to use. It provides similar facilities to those offered by an ordinary pocket calculator, but it takes advantage of the TONTO's screen by using it to display a record of previous entries and results (like the paper copy produced by a printing calculator).

The Calculator display

This is the Calculator display:



Near the bottom of the display you'll see a row of boxes labelled Entry. This is the *entry line*. The entry line is used in the same way as the display on the pocket calculator; it displays the numbers you type and the intermediate and final results of calculations.

The large box above the entry line is called the *scrolling box*. This area displays previous entries and results (it contains 16 lines). The scrolling box is used in the following way. When you press the = key, press one of the standard arithmetic keys + - * / %, or type in a new number, the contents of the entry line moves up into the bottom of the scrolling box. (Anything that was already in the scrolling box moves up one line.)

The scrolling box shows entries and results in the same way that you'd show them when laying out calculations on paper. A line is drawn above and below the final result of a calculation; intermediate results (such as subtotals) are marked by one line drawn above the result.

Below the entry line you'll see the memory box, labelled M. This box shows the contents of the Calculator's memory.

On the right-hand side of the display there is a list of the key combinations that you can use to operate the Calculator. The following functions are provided:

Key(s)	*Function*
+	Add
-	Subtract
*	Multiply
/	Divide
%	Percentage
=	Calculate a result
S	Change the sign of the value in the entry line
M+	Add the value in the entry line to the memory
M-	Subtract the value in the entry line from the memory
MC	Clear the memory
MR	Recall the value from memory and put it into the entry line
MS	Save into the memory the value in the entry line
C	Clear the current entry

B	Clear both the entry and the memory
/8	Abandon the Calculator, discard any results, and display the Top Level Menu

When you use the arithmetic symbols + - * / or =, the symbol appears in the box to the left of the entry line. When you use the alphabetic codes or the % function, the characters and symbols appear in the box to the right of the entry line (except when you use the C key to clear the value you've just typed; in this case C is not displayed). These symbols and characters keep their position beside the value in the entry line when the value moves up into the scrolling box.

If you press an incorrect digit while inputting a number, you can remove it by pressing the DEL key

Using the Calculator

The easiest way to learn how to use the Calculator is to work through some simple examples. (If you are familiar with pocket calculators, you should be able to use the Calculator without working through these examples.)

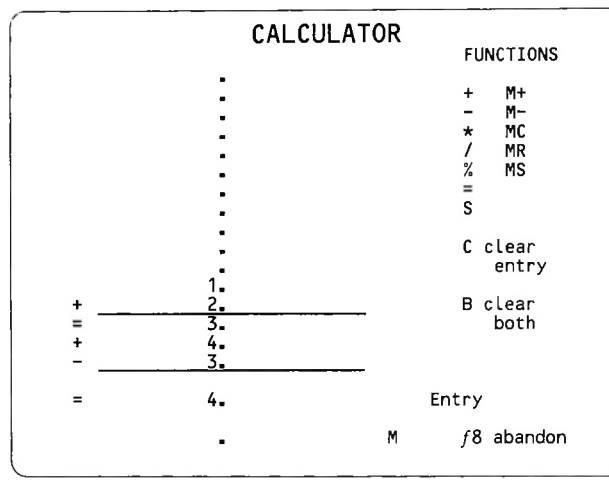
Example 1

To calculate 1+2 and then add 4 and subtract 3.

Type **1**	The number 1 appears in the entry line
Type **+2**	The number 1 moves up into the scrolling box The entry line displays + 2
Type =	The scrolling box displays two lines: 1 + 2 The entry line displays = 3
Type **+4**	The result = 3 moves up into the scrolling box. A second line is not drawn below the result, as the calculation is not complete The entry line displays + 4
Type **-3**	The bottom line of the scrolling box shows + 4 The entry line displays - 3

Type = The bottom line of the scrolling box shows − 3 and a line is drawn below the 3
The entry line displays = 4

When you've finished the display should look like this:



Example 2

To calculate 2 x 3, store the result in the memory and then multiply the value in the memory by 12.

Before you start, press C. This clears the entry line, and moves the previous result up into the scrolling box (a line is drawn across the bottom of the box).

Type **2*3=** The scrolling box shows:

```
  2
* 3
```

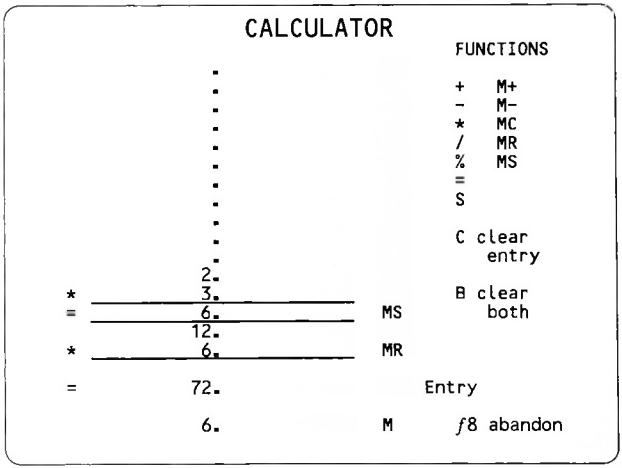
and the entry line displays = 6

Type **MS** This saves the value in the entry line in the Calculator's memory. The value **6** appears in the memory box and **MS** is shown to the right of the value in the entry line

Type **12** The previous result moves up into the scrolling box and a line is drawn below it, to show that it's a final result

Type ***MR=** The value in the memory is multiplied by 12 and the result **72** is shown in the entry line. The memory box still shows **6**

When you've finished, the display should look like the one below (you'll also be able to see the previous calculation on the TONTO's display; this has been omitted from the diagram for clarity).



Example 3

This example shows you how to do percentage calculations. Before you start, press B to clear the entry line and the memory.

The example shows three separate calculations: adding 15% to 60, subtracting 15% from 60 and calculating 15% of 60.

Note: Numbers followed by the % sign are interpreted as percentages, i.e the Calculator interprets 15% as the decimal .15

To add 15% to 60:

Type **60+15%** The scrolling box displays:

```
  60
+ 15 %
```

The entry line displays the result = 69
(There's no need to press the = key when you are doing percentage calculations.)

To subtract 15% from 60:

Type **60-15%** The bottom of the scrolling box shows:

```
  60
- 15 %
```

and the entry line shows the result = 51

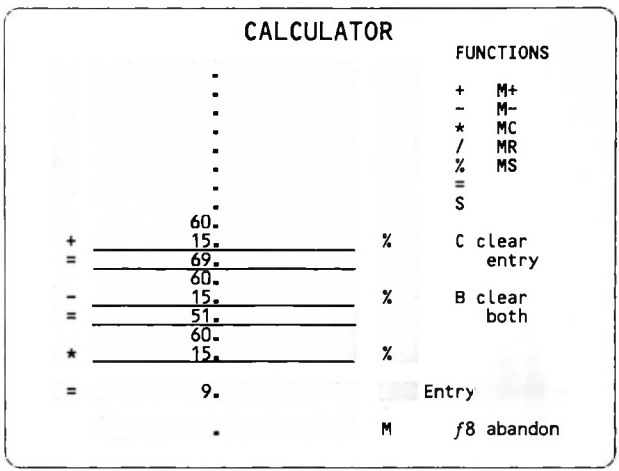
To calculate 15% of 60:

Type **60*15%** The bottom of the scrolling box displays:

```
  60
* 15 %
```

The entry line contains the result = 9

When you've finished, the display should look like the one given on the next page (once again, the TONTO display will show figures from previous calculations in addition to those shown in the diagram).


CALCULATOR
FUNCTIONS
+ M+
- M-
* MC
/ MR
% MS
=
S
60.
+ 15. %
= 69.
C clear
entry
60.
- 15. %
= 51.
B clear
both
60.
* 15. %
= 9.
Entry
M
f8 abandon

5 Image Printing

Image Printing is the standard TONTO printing facility. It lets you print a copy of the display by simply pressing two keys. You can use this facility at any time; it has no lasting effect on any applications running on the TONTO. When printing is complete, the TONTO goes back to what it was doing before. Individual applications may have their own printing facilities, which you can use in addition to Image Printing.

Instructions for connecting a printer are given in *Installation*.

The printed copy of the display does not include the noticeboard, which continues to display messages as usual.

To print a display:

PRINT

Make sure that the printer is loaded with paper and switched on; then press the PRINT key (SHIFT/numberpad #). (Pressing the PRINT key gives you a full size print; for details of other sizes, see *Print sizes*, overleaf.) When you press the PRINT key, the display freezes and the message **PRINTING STARTED** appears on the noticeboard.

If the printer is available, printing starts straight away. When printing is finished, an attention tone sounds and the message **PRINTING COMPLETE** appears on the noticeboard. The TONTO then resumes what it was doing before printing started. The message may appear while the printer is still working. Don't worry about this; you can start using the TONTO as soon as the message appears.

Notes:

- During printing, you can use the telephone control keys and do shortcode dialling, but if you press a system control key, printing is stopped and the message **PRINTING ABANDONED** appears on the noticeboard. All other keys are ignored during printing. If you want to abandon printing (perhaps because you pressed the PRINT key by mistake, or because the printer is not free), pressing the RESUME key takes you back to what you were doing before.

- If one of these messages appears on the noticeboard:

  PRINTER NOT FREE

  PRINTER INOPERABLE

  press a system control key to continue using the TONTO (if you press the RESUME key, you'll go back to what you were doing before). Then wait for the printer to become available, or check that it is switched on and loaded with paper.

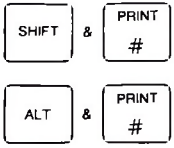
Printing shades of grey

The TONTO monitor can display up to six shades of grey, plus black and white. Each shade of grey is converted into either black or white for printing. The standard way of representing a display is as follows:

- Anything displayed in black, or one of the three darker shades of grey, appears as white on the printed copy.
- Anything displayed in white, or one of the three lighter shades of grey, is printed in black.

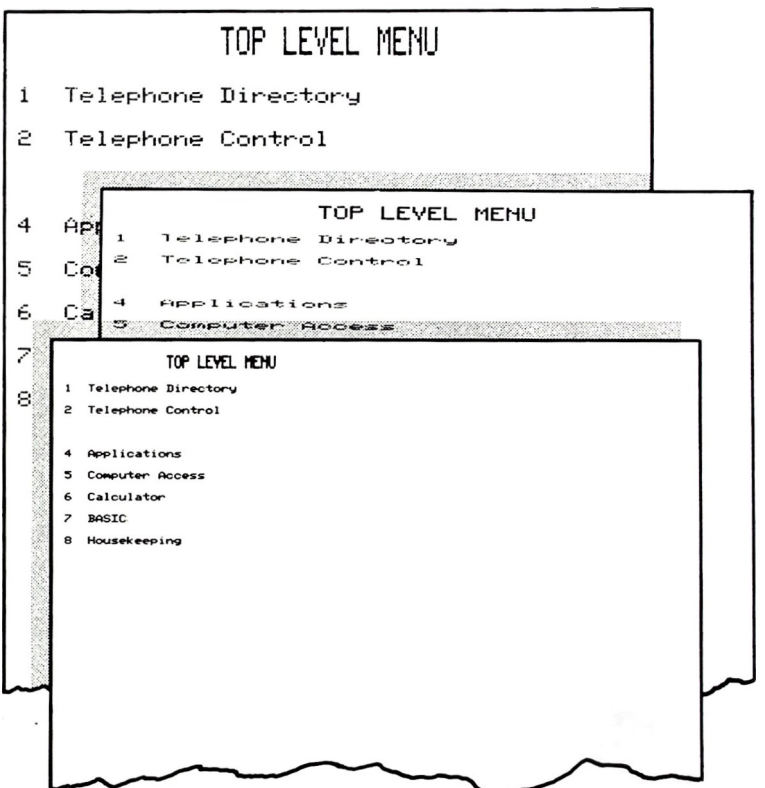
You can change the way the shades of grey are printed by using the configurator programs, described in *Advanced Operations*.

Print sizes



Three print sizes are available: full size, small size, and half height. You produce these prints by pressing either the PRINT key, or ALT/PRINT. By default, the PRINT key gives you a full size print (20.4 cm x 17.0 cm) and ALT/PRINT gives you a print 10.2 cm x 8.5 cm. To get the third size, which is the same width as the full size print but half the height (20.4 cm x 8.5 cm), use the configurator programs to change the function of either the PRINT key, or ALT/PRINT (details of using the configurator programs are given in *Advanced Operations*).

The illustration on the following page shows the three print sizes as they would appear on A4 paper.


TOP LEVEL MENU
1 Telephone Directory
2 Telephone Control
TOP LEVEL MENU
1 Telephone Directory
2 Telephone Control
4 Applications
5 Computer Access
TOP LEVEL MENU
1 Telephone Directory
2 Telephone Control
4 Applications
5 Computer Access
6 Calculator
7 BASIC
8 Housekeeping

E Housekeeping

1 Checking the battery

The battery check facility is the first option on the Housekeeping Menu shown below. When you select this option, the TONTO tests the battery that powers the telephone and numberpad when there is no mains power supply. After the test, one of the following messages is displayed:

```
BATTERY OK
```

or

```
BATTERY LOW
```

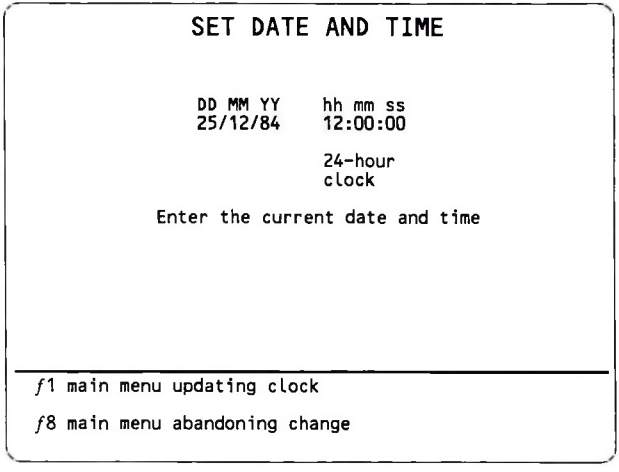
If the battery is low, replace it as soon as possible. Instructions are given in *Replacing the battery*, page 199.

After changing the battery, repeat the test to clear the `BATTERY LOW` message from the display.

```
HOUSEKEEPING

1  Battery check
2  Set date and time
3  Microdrive utilities
4  Save store
5  Load store
6  Save permanent store
7  Load permanent store
8  Store report
```

2 Setting the date and time

Setting the date and time is option 2 on the Housekeeping Menu. When you select this option the Set Date and Time display appears.



To set the date and time, just type the current date and time and press ƒ1. The Housekeeping Menu returns to the screen. To abandon the change, press ƒ8.

The clock automatically adjusts the date for leap years, but does not automatically adjust the time for local changes (such as the start of British Summer Time).

Several TONTO applications use the date and time, so it is important that the date and time are set correctly.

3 Microdrive Utilities

The Microdrive Utilities let you *format* (prepare), or display the contents of cartridges, and create, copy, rename, or delete individual files held on cartridge.

As some operations take a little time (at least 14 seconds to delete a file), you may want to press the RESUME key or the START key to get on with something else while an operation is in progress. All the Microdrive Utilities, except format cartridge, are extended applications which continue to run in the background when you press the START key. When you press the RESUME key and return to the utility, it displays a message telling you the outcome of the process. The format cartridge utility is abandoned if you press a key, pick up or replace the handset, or if an incoming call arrives.

To use the Microdrive Utilities you need to know the terms file, file name, cartridge name and block. Details are given below.

- A *file* on a cartridge is similar to an ordinary office file. Each program or set of data that you save on a cartridge is saved in a different file. The size of the file varies according to the size of the program or amount of data. A file is made up of units called *blocks*; each of which contains 512 bytes (a byte is a small unit of computer store, which can hold a single character).

- The TONTO uses names to identify different files and cartridges. Every file must have a name (known as the *file name*) and you cannot have two files with the same name on one cartridge. Each cartridge also has a name known as a *cartridge name*. It is not advisable to have two cartridges with the same name, as you should never have two cartridges with the same name in the microdrives at one time. Make sure you write the cartridge name on the cartridge label.

  File names can be up to twelve characters long and cartridge names can be up to eight characters long. Both types of name can contain any of the characters and symbols on the TONTO keyboard except © and # (although you can't have a name starting with a space and it's advisable to use only letters and digits for the rest of the name). You can use capital (upper case) or small (lower case) letters. The utilities ignore the case of letters when searching for a name (for example, file names ABC, abc, and Abc all refer to the same file).

In some cases a file name is supplied by an application (for example, when you save a Telephone Directory). These file names start with the character ~ so that they cannot be confused with file names that you supply.

The Microdrive Utilities Menu is shown below. To display this menu, select option 3 from the Housekeeping Menu. Instructions for using each of the options are given below the menu.

```
MICRODRIVE UTILITIES

1  Format cartridge
2  Display cartridge details
3  Copy file
4  Create file
5  Delete file
6  Rename file
```

Formatting a cartridge

A new cartridge must be formatted before you can use it. Formatting prepares the cartridge for use by a TONTO. If you reformat a cartridge that has already been formatted, any information stored on the cartridge is destroyed. Formatting a cartridge takes about 30 to 40 seconds.

Formatting cannot start if the modem is in use, or if the TONTO is printing. During formatting, the time display on the noticeboard stops (although the clock doesn't stop). If you press a key, pick up or replace the handset, or if an incoming call arrives, the formatting process is abandoned.

You can format a cartridge while the handset is off its rest and can, therefore, prevent incoming calls disturbing the formatting process. (Pick up the handset and press the HOLD-S key; if you have two lines, put the second line in local hold by pressing the HOLD key.)

To format a cartridge:

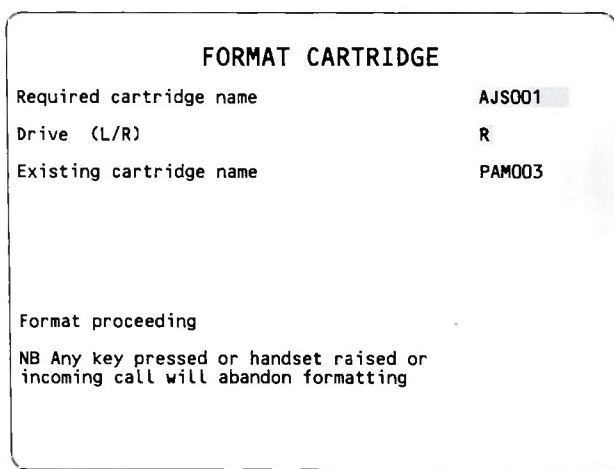
1 Put the cartridge into a microdrive.

2 Select option 1 from the Microdrive Utilities Menu.

3 The Format Cartridge display appears. Type the cartridge name, specify which microdrive contains the cartridge, and press *f*1.

4 When you've entered the details, formatting of a new cartridge starts straight away.

If the cartridge has already been formatted, its existing cartridge name is displayed and you are prompted to confirm that you want formatting to proceed.



5 When the formatting is finished, the message **CARTRIDGE FORMATTED** is displayed. The display also shows the number of blocks you can use on this cartridge and gives you the option of formatting another cartridge. If you want to do so, load the cartridge into a microdrive and press Y. The original Format Cartridge display reappears (see step 3).

Note: If you format a brand new cartridge several times, you may find that the number of blocks available increases. This is quite normal.

Displaying details of a cartridge

The display cartridge details option provides a cartridge report which tells you the condition of the cartridge and how many unused blocks of store it contains. When the cartridge report is displayed, you can request a file list; this is a list of all the files on the cartridge. For each file, the file list gives the file name, the file type (BASIC, CATALOG, DATA, or PROGRAM), its size, the date it was created, and the date when it was last updated. The files are listed in alphanumeric order of file name.

To obtain a cartridge report and file list:

1 Put the cartridge into a microdrive.

2 Select option 2 from the Microdrive Utilities Menu.

3 The Cartridge Report display appears. Press L or R to specify which microdrive contains the cartridge (the cartridge name is optional) and press *f*1.

4 When the details are correct, press *f*1. The report appears on the screen.

The sample display on the next page shows a favourable report on the condition of the cartridge. If the cartridge is not in good condition, one of the following reports is given:

- **CARTRIDGE REPLACEMENT RECOMMENDED**

  If you get this report you should copy the files on the cartridge and replace it as soon as it's convenient for you to do so.

- CARTRIDGE FAULTY - IMMEDIATE COPY & WITHDRAWAL RECOMMENDED

  with one (or both) of the following:

  EXCESSIVE READ FAULT LEVEL

  EXCESSIVE WRITE FAULT LEVEL

  If you get this report you should copy the files on the cartridge and replace it immediately.

If the cartridge contains a copy of data held in store and you cannot copy the files from the cartridge, throw the faulty cartridge away and take another copy of the contents of store by using the Data Record facility described on page 185.

Here's a sample report:

```
                CARTRIDGE REPORT
Cartridge name  AJS001              Drive  R


Free space: 109 (512 byte) blocks


CARTRIDGE OK
Expected life left = 90%


File list required  (Y/N)
```

5 Respond to the prompt asking you whether you want a file list. If you press Y, the application starts producing the file list.

The list is displayed until the screen is full or the end of the list is reached. If the list will not fit on a single screen you can use the ↑ ↓ keys to scan through the list. To abandon the file list, press N. Here's a sample file list:

```
                        FILE LIST

Cartridge name:  BASICLIB
Drive: RIGHT
                   Created     Updated       Blocks      File
  File name      DD MMM YY   DD MMM YY    (512 byte)    Type

!CAT1            20 APR 84   18 JUN 84          2       CATALOG
!CAT2            20 APR 84   18 JUN 84          2       CATALOG
MONTHLY A/C      17 JUN 84   18 JUN 84          6       BASIC
PROFITLOSS       20 APR 84   20 APR 84          4       BASIC
PROLOSSTABLE     21 APR 84   22 APR 84          2       DATA
ROUTINES         01 MAY 84   01 MAY 84         12       PROGRAM




Further cartridge details to display?  (Y/N)
```

The two files !CAT1 and !CAT2 are present on every cartridge. These files contain system information; you cannot delete, rename, or overwrite them.

If you want to display details of another cartridge, press Y and put the cartridge in a microdrive. The original Cartridge Report display reappears; see step 3.

Copying a file

The copy file option lets you copy the contents of a file into another file on the same or a different cartridge. This allows you to make back-up copies of files. If you're copying into a file on the same cartridge, the two files must have different file names.

To copy a file:

1 Put the cartridge (or cartridges) into the microdrive(s).

2 Select option 3 from the Microdrive Utilities Menu.

3 The Copy File display appears. Type the file name and specify the microdrive for both the file you are copying and the file you want to receive the copy (cartridge names are optional); then press ENTER.

If the file you are copying into already exists, you're prompted to confirm that you want the copy to proceed, as the copying process overwrites any data stored in that file. Should the file not be the right size, it is extended or shortened, as necessary.

If the file you're copying into doesn't exist, it is automatically created as part of the copying process.

4 The copying process starts straight away. When the file has been copied, the message `FILE COPIED` is displayed and you are given the option of copying another file. To do so, press Y and put the cartridge (or cartridges) into the microdrive(s). The original Copy File display reappears; see step 3.

Note: Programs are conventionally held in a file of the same name as a program. It may cause confusion if you copy a program file into a file with a different name. This also applies to renaming program files.

Creating a file

The create file option lets you create an empty file on a cartridge. You may need to do this if you want to run an application that requires an empty file (or files) to be created before it's run.

To create a file:

1 Put the cartridge into a microdrive.

2 Select option 4 from the Microdrive Utilities Menu.

3 The Create File display appears. Type the name of the file you want to create and specify which microdrive contains the cartridge (the cartridge name is optional); then press *f*1.

4 A message appears showing the number of empty blocks of store on the cartridge, and prompting you to type the number of blocks you think the file needs. Respond to the prompt and press *f*1.

5 The process of creating the file starts straight away. When it's finished, the message `FILE CREATED` is displayed and you are given the option of creating another file. If you want to do so, press Y (and load another cartridge if necessary). The original Create File display reappears; see step 3.

Deleting a file

The delete file option lets you delete a file from a cartridge.

To delete a file:

1 Put the cartridge containing the file into a microdrive.

2 Select option 5 from the Microdrive Utilities Menu.

3 The Delete File display appears. Type the name of the file you want to delete and specify which cartridge contains the microdrive (the cartridge name is optional); then press *f*1.

4 You're prompted to confirm that you want to delete this file. Respond to the prompt by pressing Y (or N if you want to abandon the deletion).

5 Deleting a file takes at least 14 seconds. When the file has been deleted, the message **FILE DELETED** is displayed and you are given the option of deleting another file. If you want to do so, press Y (and load another cartridge if necessary). The original Delete File display reappears; see step 3.

Renaming a file

The rename file option lets you rename a file on a cartridge.

To rename a file:

1 Put the cartridge containing the file into a microdrive.

2 Select option 6 from the Microdrive Utilities Menu.

3 The Rename File display appears. Type the old file name and the new file name, and specify which microdrive contains the cartridge (the cartridge name is optional); then press *f*1.

4 The renaming process starts straight away. When it's finished the message **FILE RENAMED** is displayed and you're offered the option of renaming another file. If you want to do so, press Y (and load another cartridge if necessary). The original Rename File display reappears; see step 3.

Note: Programs are conventionally held in a file of the same name as the program. It may cause confusion if you rename a file containing a program. This also applies to copying program files.

4 Data Record facility

Information you put into the TONTO's store (such as directory entries, voice responses and Viewdata pages) is stored as collections of data, known as *databases*. Your collection of Telephone Directory entries is known as a Telephone Directory database. Databases stay in store as long as mains power is supplied, but are lost as soon as the power is switched off.

The Data Record facility lets you *save* (or copy) all the databases onto a cartridge and load them back into store after a power failure or switch off. You can also use this facility to copy databases between similar TONTOs.

Permanent store

The TONTO has permanent store in which it keeps essential information. The values you put into the TONTO by using the configurator programs are stored here (charge band rates, for example). (See *Advanced Operations* for details of the configurator programs.) Data held in permanent store is not lost when the power is switched off.

The Data Record facility also lets you save all the data in permanent store onto a cartridge, for loading back into permanent store. If you have several similar TONTOs, you can use this facility to save the data from one of them and then load the data into the others (so that you don't have to use the configurator programs on every machine).

Using the Data Record facility

There are two ways of saving and loading the database store:

- Directly, by selecting the save store and load store options from the Housekeeping Menu.
- Automatically saving at a certain time each day and automatically loading if the power is switched on. You set up automatic saving and loading by using the configurator programs (see *Configurable options*, page 189).

Permanent store can only be saved or loaded by selecting the save permanent store and load permanent store options from the Housekeeping Menu.

Saving or loading store does not affect other applications running at the time unless they are trying to use the store, in which case they either abandon with the message **TRY AFTER S/L STORE**, or wait until the saving or loading is complete.

Saving

To save databases, or the data in permanent store, put a cartridge into a microdrive and select save store, or save permanent store, from the Housekeeping Menu. For automatic saving, just make sure you have a cartridge in a microdrive at the time set for the save.

If there is enough room on the cartridge, the save starts straight away (unless a database is being used by another application, in which case there is a delay). The message **SAVE: FINISHED** appears on the noticeboard when the save is complete.

Selecting a cartridge

Data is saved on the cartridge in a *save file* (see next page). The cartridge must have enough space to take the whole save file and it must not be write protected. Permanent store data takes four blocks of cartridge space. The amount of space needed for databases depends on the amount of data you've put into them.

You may find it difficult to fit all your databases on a cartridge that already contains other files. If you use a cartridge that does not have enough space, but does have one or more save files already, the Data Record facility destroys the oldest (or only) save file to try to make room for the new save file.

If the Data Record facility cannot find enough space on the cartridge, or if the cartridge is write protected, the message **SAVE: NO FILE SPACE** is displayed on the noticeboard. You're given ten seconds to change the cartridge(s); a warning tone sounds after eight seconds to warn you that the microdrive will be searched in two seconds time. (Don't try to put in, or take out, a cartridge while the microdrive is in use.) This procedure is repeated six times before the facility abandons the save. Each time you are given ten seconds to change the cartridge(s). Once the save has been abandoned, you must reselect the appropriate save option from the Housekeeping Menu if you want to try again.

If you put one cartridge in each microdrive, the Data Record facility chooses the better of the two — i.e. the one with enough space that doesn't already have a save file (if they both have enough space and neither has a save file, it uses the one in the left-hand microdrive). If both cartridges have a save file, it chooses the one that does not have the latest save file, and if neither cartridge has enough space (and destroying an old save file doesn't clear enough), it displays the message **SAVE NO FILE SPACE**; see previous page.

For frequent direct saving, or automatic saving, you may prefer to leave a cartridge in each microdrive. Saving will then take place on alternate cartridges, with two or more save files on each cartridge, if space permits.

Alternatively, you may dedicate one microdrive to saving (and loading) and set the *microdrive control* configurable option to make the Data Record facility ignore cartridges in the other microdrive.

Save files

Databases, and data from permanent store, are saved on the cartridge in a file called a *save file*. You can make copies of save files by using the microdrive utility for copying files.

Save files are given file names as part of the saving process. For database save files, file names always take the form

DR*yymmddhhmm*

where DR (for Data Record) is always present and *yy, mm, dd, hh,* and *mm* represent the year, month, day, hours, and minutes at the start of the save. If you have several save files on different cartridges, you can find out which is the most recent copy by looking at the file list available from the display cartridge details utility (described on page 178).

The file name of permanent store save files starts with the characters D@ followed by the date and time as described above.

Loading

To load databases, or data from permanent store, put the cartridge containing the correct save file into a microdrive and select load store, or load permanent store, from the Housekeeping Menu. For automatic loading after switch on, put in the cartridge immediately after switching on. The load starts as soon as the facility finds a suitable save file. The message **LOAD: FINISHED** appears on the noticeboard when the load is complete.

When you load databases, the databases in the save file are added to those already in store. If there is a database in the save file of the same type as one already in store, the database in store is replaced by the one from the save file.

When loading permanent store data, the same principle applies: values from the save file are added to those already in permanent store — except where there are two values for the same item, in which case the permanent store value is replaced by the save file value.

Selecting a save file

The Data Record facility always takes the most recent save file if it finds more than one save file on the cartridge(s). (It knows which save file is the most recent because the file name of each save file contains the date and time of the save.)

If the facility can't find a save file on the cartridge(s), the message **LOAD: NO SAVE FILE** appears on the noticeboard. You're given ten seconds to change the cartridge(s); a warning sounds after eight seconds to warn you that the microdrive will be searched in two seconds time. (Don't try to put in, or take out, a cartridge while it's being searched.) This procedure is repeated six times before the facility abandons the load. Each time you are given ten seconds to change the cartridge(s). Once the load has been abandoned, you must reselect the appropriate load option from the Housekeeping Menu if you want to try again.

Should there be insufficient free store for the facility to load the whole save file, the message **LOAD: NO STORE SPACE** appears on the noticeboard and loading is abandoned. Any databases loaded before the message appeared are complete and correctly loaded. Look at the TONTO Store Report (Housekeeping Menu option 8) to find out what is in store (and abandon an application to free some store), then reselect the appropriate load option from the Housekeeping Menu.

Configurable options

There are four Data Record options that you can set, change, or delete by using the configurator programs (described in *Advanced Operations*). The options are:

1 Pause control

Setting this to the value **P** makes the Data Record facility pause for 15 seconds before examining the cartridge(s) in the microdrive(s) to find space for the save file when saving, or to find a save file when loading. You can use this pause to allow yourself time to change cartridges. During the pause, one of the messages `SAVE: WAITING` or `LOAD: WAITING` appears on the noticeboard.

2 Auto-save time

If you set a time for this option (24 hour clock, *HHMM*), the Data Record facility automatically starts saving all databases at this time each day. (You must have suitable cartridge(s) in the microdrive(s) at the set time.)

3 Auto-load

Setting this to the value **A** makes the Data Record facility automatically load a save file from a cartridge into database store when the power to the TONTO is switched on.

4 Drive control

Setting this to the value **L** or **R** has the following effect:

L The Data record facility searches only the left-hand microdrive when it's looking for space for a new save file or searching for an existing save file to load into store. The right-hand microdrive is ignored.

R The facility searches only the right-hand microdrive when looking for space for a new save file or searching for an existing save file to load into store. The left-hand microdrive is ignored.

5 Store Report

The Store Report tells you how much free store is available and which applications and databases are using store. This lets you keep a check on store usage. If you find you are prevented from doing something because you don't have enough store left, you can go to the Store Report to find out how much store is being used by each database and application, and use the Store Report's delete function to release store by deleting databases and abandoning applications.

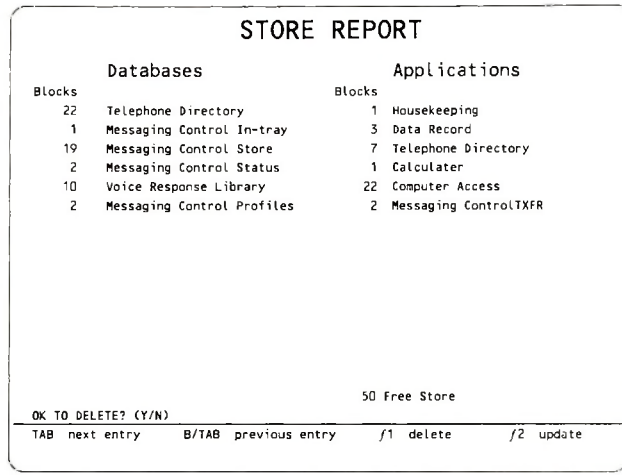
The TONTO contains 256 blocks of store. 64 blocks of this are used by the screen. In addition, the TONTO needs some store for administrative purposes. (The amount used by the TONTO varies considerably; it rises substantially while data is being loaded from a microdrive.) The rest of this store can be used by databases and applications. Data stored here is lost if the mains power is switched off.

In addition to this store, the TONTO contains four blocks of permanent store (which preserves its contents without mains power). The TONTO uses this store to hold essential information. The values you set by using the configurator programs are held here. The Store Report does not cover permanent store.

Using the Store Report

To display the Store Report, select option 8 from the Housekeeping Menu.

A sample report is given overleaf. The report gives two lists: Databases and Applications. Applications that have been abandoned, or are being abandoned, are displayed in dark grey. One entry is highlighted as the current entry. This is the first database, or (if there are no databases) the first application that has not been abandoned. The current entry is deleted (abandoned) if you press *f*1 (see *Deleting*, on page 194). You can change the current entry by using the TAB and B/TAB keys to move forwards and backwards, and between lists. The light bar skips over any applications that have been abandoned, or are being abandoned. The amount of free store is reported at the bottom of the display.



Databases

The report lists up to 16 databases and shows the amount of store each database is occupying. The standard TONTO applications use the following databases:

Telephone Directory (this database includes the Computer Services Directory)

Voice Response Library
Computer Access Page Store
Computer Access Profiles
Messaging Control In-tray
Messaging Control Store
Messaging Control Status

You may have other applications that set up and maintain databases.

The amount of store occupied by a database increases and decreases as you add or delete data. Store that is released when you delete data is re-used as far as possible (see *Free store*, page 193).

Applications

The report lists up to 14 applications and shows the amount of store each application is occupying. The list shows all the applications, including those that you do not use directly, such as the application that handles data communications for Messaging.

Applications use store for working space. If the application is loaded from cartridge, the program itself occupies store. Store shared between several applications (store containing shared data or a shared program, for example) is charged to one of the applications using it (chosen at random). If that application is abandoned, the store charge is transferred to another application. You may not be releasing as much store as you thought if you delete the application being charged with the shared store. A common example of this is the BASIC programming language (loaded from microdrive), which is charged to one of the BASIC programs running.

Free store

An store not being used by databases, applications, or the TONTO itself, is shown as free store at the bottom of the display.

You may find that you are prevented from doing something because there isn't enough free store, even though the amount of free store reported should be adequate for what you want to do. This is because the free store is fragmented (the figure given is the total of all the fragments of store) and there isn't an individual fragment large enough to satisfy the demand. If this happens, try abandoning applications (see *Deleting*, overleaf), as this releases the databases being used by the applications and helps them fit more compactly into the space available. In extreme cases, you may use the Data Record facility to save all your databases onto a cartridge; then empty the store (by deleting each database and application or by switching the mains power off for 30 seconds) and reload the databases into store from the cartridge. When they're reloaded, all gaps of free store will have been closed up by the Data Record facility. This gives you a continuous piece of free store.

Note: The Store Report does not give you a true snapshot of store use at any time. For example, if you get a message telling you that there isn't enough free store when you're trying to add another entry to your Telephone Directory, you must abandon the Telephone Directory application (and thus free the application's work space) to go to the Housekeeping Menu to select Store Report. The Store Report will, therefore, show more free space than there was when you received the message (and other changes may have been made by applications running in the background).

Deleting

To delete a database or abandon an application, use the TAB and B/TAB keys to move the light bar until the database or application is highlighted as the current entry, then press /1. You're prompted to confirm that you want to delete this entry. Press Y to confirm; pressing N abandons the deletion. The deleted entry is now displayed in dark grey. When the report is updated (see below) deleted databases are not listed and the new amount of free store is displayed.

Although databases are deleted immediately, applications can take a little while to abandon and free the store. This is because they are being forced to abandon whatever they were doing and have to spend some time tidying up. (From the application's point of view it's better if you select the application from a menu and then abandon it by using one of the footnotes it displays — usually /8. Likewise, it's better to delete a database through the application that set it up, if possible.)

You cannot delete the Housekeeping application or Store Report, as you must always be able to use the Store Report. Also, you cannot delete a database that is being used by an application or being saved to, or loaded from, cartridge. If you try to delete such an entry, the message **CANNOT DELETE** is displayed and the current entry is left unchanged.

Updating the report

The Store Report is not updated automatically after a deletion. To update the report, press /2. On the updated report, deleted databases are removed from the list, abandoned applications are displayed in dark grey, and a revised free store figure is given.

F

Cleaning and maintenance

1 Cleaning

Clean all surfaces with a damp lint free cloth and a little water-based household cleaner. Take care to avoid spilling any water or cleaning fluid inside the TONTO.

The screen has an etched surface (not coated) and you can clean it in the same way as the plastic surfaces. Alternatively, you may use glass or screen cleaning materials.

Never use acetone or petroleum based products on the plastic surfaces, as these will cause damage.

For details of cleaning a printer, see the documentation supplied with it.

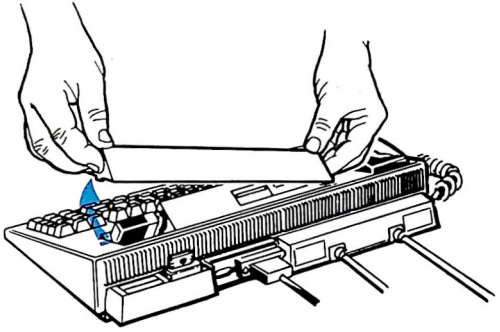
2 Replacing the battery

Replace the battery at least once a year, or immediately after the BATTERY LOW message is displayed. You do not have to disconnect the TONTO from the mains power to replace the battery.

To replace the battery:

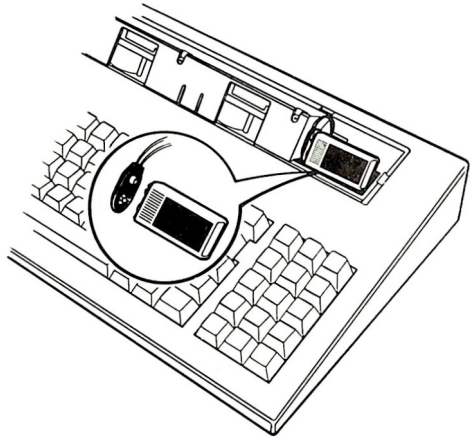
1 Remove any cartridges from the microdrives.

2 Remove the microdrive cover by pressing it in firmly at one end and lifting it, as shown below.

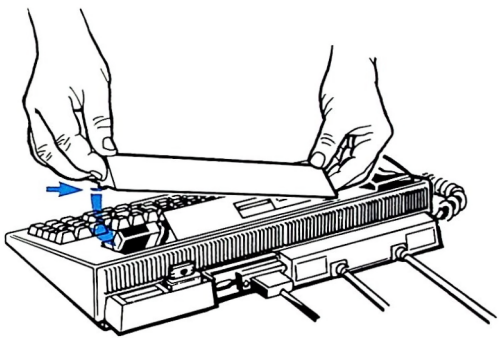


3 Disconnect the old battery and discard it.

4 Fit a new battery of the correct type (IEC 6LF22 — a sealed, manganese alkaline battery, preferably long-life). Make sure you connect it the right way round, fitting the small stud into the small socket.



5 Replace the microdrive cover. There is a small plastic tab at each end of the cover. Fit the tab at one end into the recess, then (being careful not to trap the battery leads) lower the cover, as shown below. Press in the other end firmly to ensure that the tab fits below the edge of the recess. Press down on the top of the cover to make sure it is fitted properly.



6 Test the battery by selecting option 1 from the Housekeeping Menu. If you don't, the screen may continue to report a false **BATTERY LOW** condition.

3 Moving the TONTO

When you switch off the TONTO, the data in its store is lost. Take a copy of the contents of the store to reload later (see *Data Record*, page 185). While the TONTO is disconnected from the power supply, make sure the handset is on its rest so that the battery does not run down.

Don't handle the equipment unnecessarily. Take care to avoid touching metal contacts, as grease from your fingers affects connections and static electricity may damage internal electronic equipment.

Disconnect units by holding and pulling the connectors on the ends of the cables; don't pull the cables themselves.

To move the TONTO:

1 Complete or abandon any work that you are doing on the TONTO.

2 Take a copy of the store contents (see *Data Record facility*, page 185).

3 Remove any cartridges from the microdrives.

4 Disconnect the TONTO from the mains supply.

5 Disconnect the telephone line(s) from the wall socket(s) and put the caps back onto the ends of the telephone leads.

6 Disconnect the monitor unit from the control unit, following the instructions given in *Removing and replacing modules*, on page 205.

7 Disconnect any other units (for example, a printer).

Reassemble the TONTO in its new location by reversing this procedure. If you are connecting the TONTO to telephone lines which use a different form of signalling, you'll need to change the settings of the telephony module switches; for details see *Prepare the telephony module* in the manual *Installation*. Remember to reload the contents of store and reset the date and time.

4 Removing and replacing modules

The TONTO has been designed so that you can replace major units, called *modules*, easily and quickly. The modules that you can replace are:

- Rompack
- Telephony module
- Control unit
- Monitor unit

For details of removing and replacing a printer, see the documentation supplied with it.

Before removing or replacing modules or units, switch off at the mains or pull out the plug. Before removing the telephony module, disconnect the telephone line(s), and put the caps back onto the ends of the telephone leads. When you switch off the TONTO, the data in its store is lost. If need be, take a copy of the stored data to reload later (see *Data Record facility*, page 185). While the TONTO is disconnected from the power supply, make sure the handset is on its rest so that the battery does not run down.

Don't handle the equipment unnecessarily. Take care to avoid touching metal contacts, as grease from your fingers affects connections and static electricity may damage internal electronic equipment.

Disconnect leads by holding and pulling the connectors on the ends of the cables; don't pull the cables themselves.

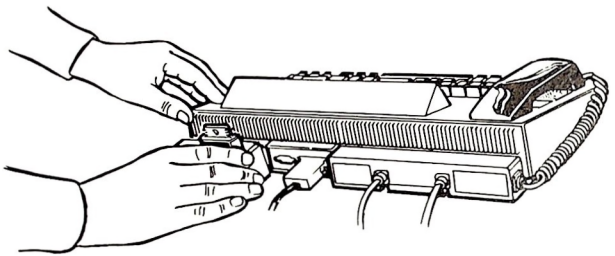
After replacing modules or units and switching the mains power on, remember to reload the store contents and set the date and time.

Rompack

Removal

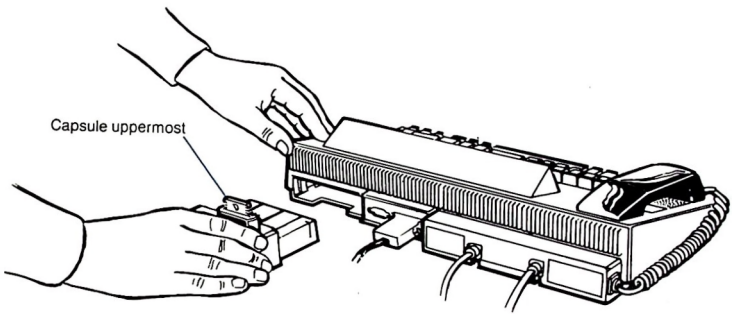
To remove the Rompack, simply pull it out.

If you are returning the Rompack for repair, remember to remove any capsules and put the plastic caps back into the capsule slots.



Replacement

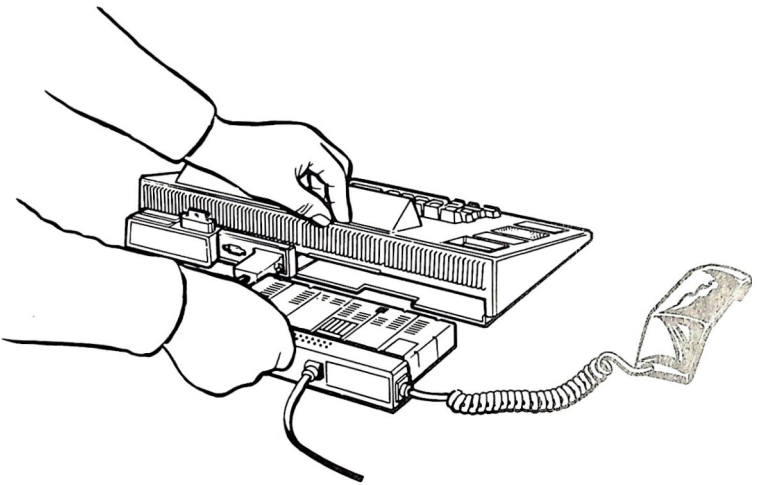
To replace the Rompack, hold it with the capsule slots uppermost and push it into the small slot in the back of the control unit. You'll feel some resistance as contact is made inside the control unit. Push the module fully home to make sure it engages properly.



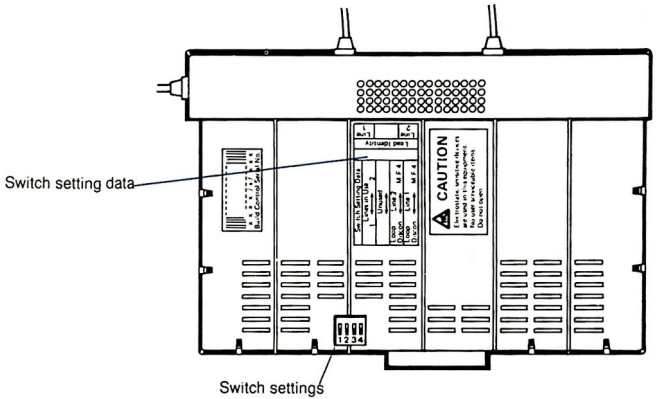
Telephony module

Removal

1 Pull away the module from the control unit.

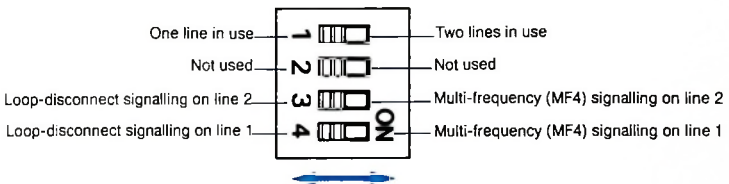


2 Make a note of the switch settings for the replacement module.

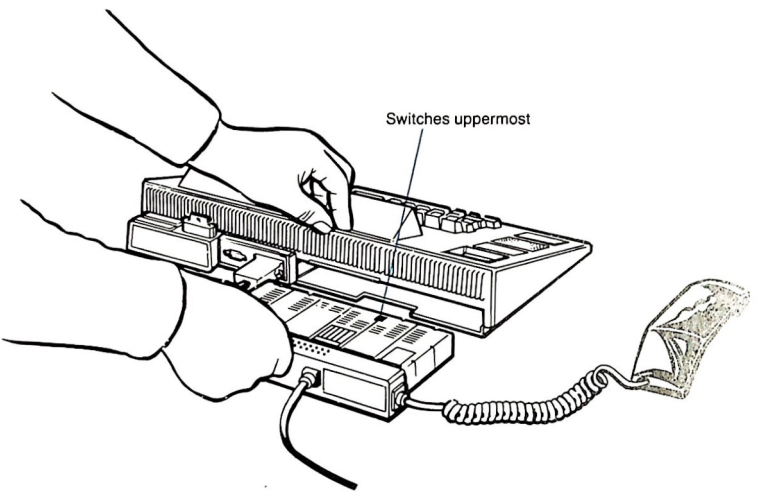


Replacement

1 Set the switches on the replacement module as they were for the old module, using a pointed object such as a ball-point pen. Make sure the switches are fully ON or OFF. The diagram below gives you details of the switches.



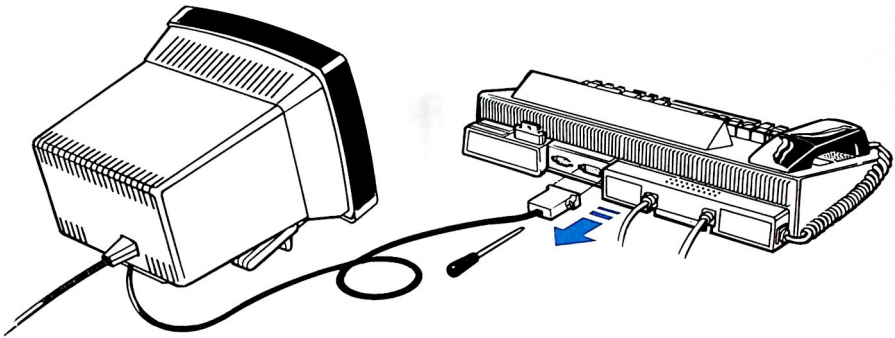
2 Plug the telephony module into the control unit. Hold the module with the face containing the switches uppermost, and slide the module into the large slot at the back of the control unit. You'll feel slight resistance as contact is made inside the control unit. Push the module fully home to make sure it engages properly.



Control unit

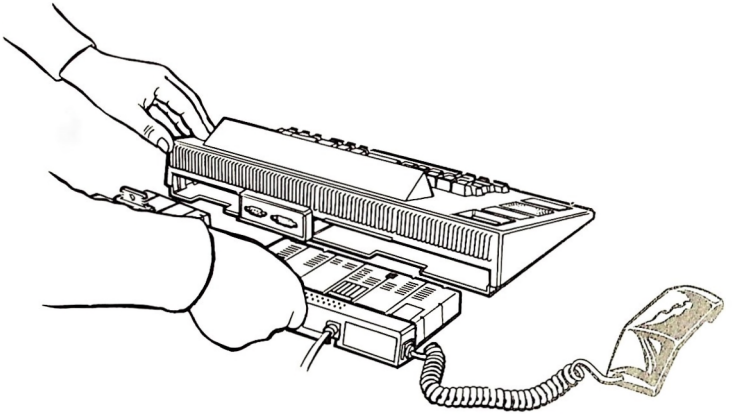
Removal

1 Disconnect the monitor unit by unscrewing the connector fastenings.



2 Switch off and disconnect any other units (for example, a printer).

3 Pull out the Rompack and telephony module from the control unit.



4 Remove the battery (see page 199).

Replacement

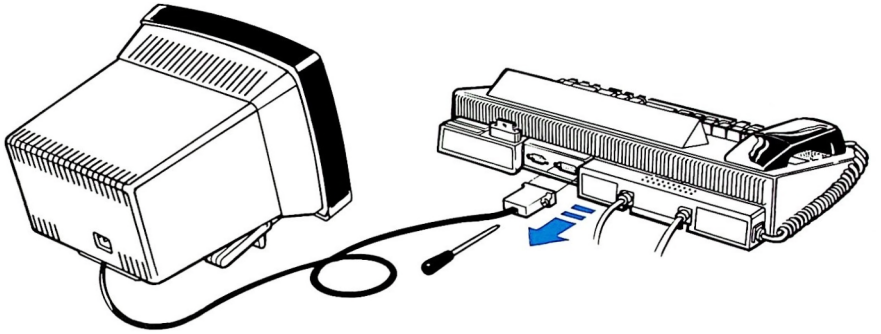
To replace the control unit, reverse the procedure given above.

Monitor unit

Removal

1 Disconnect the mains lead from the socket at the back of the monitor unit.

2 Unscrew the connector fastenings and disconnect from the control unit as shown below.



Replacement

1 Connect the lead from the bottom of the monitor unit to the socket marked *Monitor* at the back of the control unit. Use a screwdriver to secure the connector.

2 Connect the mains lead to the socket at the back of the monitor unit.

G Solving problems

1 Error messages

This section gives you a list of error messages that may be displayed. A remedy is suggested for each error message.

The error messages are listed in alphabetical order. Where error messages in the list are preceded by *<name>*, the message displayed is preceded by the name of the application or file to which the message applies.

For error messages from applications not described in this Handbook, see the documentation supplied with the application.

<*name*> BAD PROGRAM

Appears when a program is no longer working.

Remedy Try reloading the program, as it has probably been corrupted. If this fails, make a copy of your back-up file and try loading from this. If the error message persists, run through the tests given in *Checkout procedure*, Table 6, page 229.

BATTERY LOW

Appears after a battery check.

Remedy Replace the battery, see *Replacing the battery*, page 199.

CARTRIDGE IN USE

Appears when you're displaying the file list of a cartridge and try to use a file on that cartridge.

Remedy Wait until the file list is finished before you use the cartridge.

ENTER FILE NAME

Appears when you haven't completed the file name.

Remedy Type in the file name or press *f*8 to abandon the operation.

ENTER CARTRIDGE NAME AND/OR DRIVE

Appears when you haven't typed the cartridge name correctly, or when you're using two cartridges, both of which contain the required file, and you haven't specified which microdrive you want to use.

Remedy Load the correct cartridge, or amend the details you've given, and press the ENTER key (or abandon the operation by pressing *f*8).

FAULTY CARTRIDGE INSUFFICIENT GOOD BLOCKS

Appears when you're trying to format a cartridge that doesn't have enough good quality blocks to be useful.

Remedy Replace the cartridge.

FILE ALREADY EXISTS

Appears when you attempt to rename or create a file with a file name that is already being used on that cartridge.

Remedy Use another cartridge or another file name.

FORMAT ABANDONED

Appears when you press a key, or lift the handset, while formatting a cartridge.

Remedy Try formatting again when the process will not be disturbed (see page 176 for advice).

FILE IN USE

Appears when a file is being used by another application.

Remedy Wait until the file is free, or abandon the operation.

FILE I/O INCOMPLETE

Appears when loading or saving a file has failed. This error message means that the file or the data has been corrupted, or that the microdrive or cartridge is faulty.

Remedy Run through the tests given in *Checkout procedure*, Table 6, page 229. If the TONTO passes the tests, replace the cartridge.

FILE <*name*> NOT FOUND

Appears when a file is not found on the cartridge.

Remedy Make sure that the cartridge is inserted into the microdrive properly. If the message still appears, load the correct cartridge, or abandon the operation.

FILE <*name*> READFAIL

Appears when a block of data cannot be loaded.

Remedy Replace the cartridge.

HARDWARE FAILURE 01

Appears when the self-tests detect a fault which may stop you using the microdrives and/or printer. Other functions (in particular the telephony) should still work.

Remedy Run through the tests given in *Checkout procedure*, Table 6, page 229.

INCOMPLETE FILE TRANSFER

Appears when loading or saving a file has failed. This error message means that the file or the data has been corrupted, or that the microdrive or cartridge is faulty.

Remedy Run through the tests given in *Checkout procedure*, Table 6, page 229. If the TONTO passes the tests, replace the cartridge.

INSUFFICIENT CARTRIDGE SPACE

Appears when there is not enough space on a cartridge to create or extend a file.

Remedy Replace the cartridge with one that has enough room. You can find out how much room there is on a cartridge by using the display cartridge details utility, described on page 178.

INSUFFICIENT STORE

Appears when an application is prevented from carrying out a task because there is not enough free store in the TONTO.

Remedy Use the *Store Report* (page 191) to find out what is using the store, and to increase the amount of free store by abandoning an application or deleting a database.

INVALID CAPSULE

Appears when you try to use a faulty capsule, or have not inserted one.

Remedy Determine from the context which capsule is faulty. If none of the capsules are faulty, there is a failure of the ROM within the TONTO itself. In this case, report the fault to your maintenance authority.

INVALID CHARGE BAND

Appears when you type a charge band code that the TONTO doesn't recognise. The TONTO compares the code with those held in its permanent store.

Remedy To check or change the codes held in permanent store, use the configurator programs (described in *Advanced Operations*).

LEFT/RIGHT CARTRIDGE IS NOT IN TONTO FORMAT

Appears when you try to use a cartridge that has been formatted to a standard other than the TONTO standard.

Remedy Replace with a correctly formatted cartridge, or reformat the incorrect cartridge. When you reformat a cartridge, anything stored on the cartridge is lost.

LEFT/RIGHT CARTRIDGE IS UNFORMATTED

Appears when the cartridge in the microdrive has not been formatted, or when there isn't a cartridge in the microdrive.

Remedy Format the cartridge, or replace it with a formatted one. If there isn't a cartridge in the microdrive, insert one.

LEFT/RIGHT CARTRIDGE IS WRITE PROTECTED

Appears when the TONTO tries to use a write protected cartridge (a cartridge on which the write protect lug has been broken off).

Remedy Make sure you are using the correct cartridge. If the file you want is on a write protected cartridge, make a copy of your back-up of this file and use that.

LEFT/RIGHT CARTRIDGE NOT LOADED

Appears when there isn't a cartridge in the microdrive.

Remedy Insert a cartridge.

LEFT/RIGHT CARTRIDGE UNUSABLE

Appears when a cartridge has become unusable.

Remedy Replace with a copy of your back-up of that cartridge.

LOAD CARTRIDGE

Appears when the required cartridge is not in the microdrive. (If a microdrive was not specified, both microdrives are searched.)

Remedy Load the correct cartridge, or abandon the operation by pressing *f*8.

MODEM IN USE

Appears when you try to connect to a computer service when the modem (see *Glossary*) is already being used by another application.

Remedy Wait until the data call is over (or end the call) and then try again.

<*name*> NEEDS BASIC

Appears when an application needs BASIC, and there isn't a cartridge containing BASIC in either of the microdrives.

Remedy Load BASIC.

<*name*> NO STORE

Appears when there is not enough free store for the application.

Remedy Use the *Store Report*, (page 191) to find out which applications and databases are using store; then release sufficient store by abandoning applications or deleting databases.

<*name*> NOT FOUND

Appears when a file or data cannot be found.

Remedy Make sure that the cartridge is properly inserted into the microdrive. If the message still appears, ensure you are using the correct cartridge and check that the file or data is on the cartridge by displaying a file list (see *Displaying details of a cartridge*, page 178).

PERMANENT STORE LOST

Appears when the permanent store has become corrupt and has been cleared.

Remedy Reload the values if you have a copy (see *Data Record facility*, page 185), or reset the values using the configurator programs (see *Advanced Operations*).

<*name*> READ FAIL Appears when the TONTO fails to load data from a cartridge.

Remedy If the data cannot be read after several attempts, make a copy of your back-up of the file and use that.

SYSTEM RESET *abcd* Appears when the system software has detected a fault. The fault is identified by the four character code *abcd*.

Remedy This is usually caused by an incorrect action by an application program. Ignore occasional resets, but if frequent resets occur that cannot be tied to a particular application, report the fault code to your maintenance authority. If you trace the problem to a particular application, contact the suppliers of that application.

TOO MANY PROGRAMS Appears when there are too many programs running from capsules.

Remedy Use the *Store Report* (page 191) to find out which programs are running, and abandon those you no longer require.

TRY AFTER S/L STORE Appears when an application cannot use a database because the Data Record facility is saving or loading the contents of store.

Remedy Wait until the Data Record facility has finished saving or loading and then try again.

2 Checkout procedure

This section tells you how to check that the TONTO is working correctly and, if there is a fault, how to find the faulty module. Details of removing and replacing modules and returning them for repair are given in *Removing and replacing modules*, page 205. (For details of resolving faults with a printer, see the documentation supplied with it.)

Check that everything is connected properly before you run through the tests.

To checkout the TONTO, carry out the tests in Table 1. If you get to step 8, your machine is working correctly. If the TONTO fails any of the tests in Table 1, go to the Table indicated in Table 1 to run the next set of tests. If an error message is displayed, refer to the list in *Error Messages* for the remedy.

Always try to run the tests in Table 1 if anything does not appear to be correct.

Some tests ask you to switch off the mains power. When you do this you lose the contents of the TONTO's store (see the warning below).

Before removing or replacing modules or units, switch off at the mains or pull out the plug. Before removing the telephony module, disconnect the telephone line(s) and put the caps back onto the ends of the telephone leads. When you switch off the TONTO, the data in its store is lost. If need be, take a copy of the stored data to reload later (see *Data Record facility*, page 185).

Don't handle the equipment unnecessarily. Take care to avoid touching metal contacts, as grease from your fingers affects connections and static electricity may damage internal electronic equipment.

Disconnect leads by holding and pulling the connectors on the ends of the cables; don't pull the cables themselves.

The TONTO carries out hardware self tests every time mains power is switched on. If the TONTO detects a fault, the sequence of patterns shown on the screen stops, and the display shows between 1 and 32 vertical bars. The number of bars displayed indicates the type of fault (details are given in Table 5).

TABLE 1

Checkout procedure	*Yes*	*No*
1 Plug into mains and switch on supply at wall socket. Power ON/OFF indicator on?	Go to step 2	Go to Table 2
2 Monitor ON/OFF indicator on?	Go to step 3	Go to Table 3
3 Both line indicators on?	Go to step 4	Go to Table 4
4 After 10 seconds both line indicators go out?	Go to step 5	Go to Table 5
5 Initialisation display shown?	Go to step 6	Go to Table 3
6 Error message **HARDWARE FAILURE 01** displayed?	Go to Table 6	Go to step 7
7 Any other error message displayed?	Turn to *Error Messages* (page 217) for remedy, Go to step 1	Go to step 8
8 TONTO running correctly and ready for use.		

TABLE 2

Checkout procedure	*Yes*	*No*
1 Check mains plug and socket are correct.	Go to step 2	Repair/rectify. Go to Table 1 & repeat tests
2 Either Monitor ON/OFF indicator or line indicators on?	Go to step 3	Change monitor unit. Go to Table 1 & repeat tests
3 Switch power off. Disconnect monitor cable. Switch power on. Power ON/OFF indicator on?	Go to step 4	Change monitor unit. Go to Table 1 & repeat tests
4 Switch power off. Reconnect monitor cable. Remove telephony module and Rompack. Switch power on. Power ON/OFF indicator on?	Go to step 5	Change control unit. Go to Table 1 & repeat tests
5 Switch power off. Fit Rompack. Switch power on. Power ON/OFF indicator on?	Go to step 6	Change Rompack. Go to Table 1 & repeat tests

TABLE 2 continued

Checkout procedure	*Yes*	*No*
6 Switch power off. Fit telephony module. Switch power on. Power ON/OFF indicator on?	Suspect intermittent fault. Go to Table 1 & repeat tests	Change telephony module. Go to Table 1 & repeat tests

TABLE 3

Checkout procedure	*Yes*	*No*
1 Press Monitor unit ON/OFF switch. Monitor ON/OFF indicator on?	Go to step 2	Change monitor unit. Go to Table 1 & repeat tests
2 Move contrast control slide to uppermost position. Wait for 10 seconds. Display on?	Go to Table 1 & repeat tests	Go to step 3
3 Is monitor unit cable connection correct?	Change control unit or monitor unit. Go to Table 1 & repeat tests	Refit/rectify. Go to Table 1 & repeat tests

TABLE 4

Checkout procedure	*Yes*	*No*
1 Switch power off. Switch power on. Did audible click come from telephony module?	Go to step 2	Go to step 3
2 Switch power off. Remove Rompack. Switch power on. Was there a click and did the line indicators come on?	Change Rompack. Go to Table 1 & repeat tests	Go to step 3
3 Switch power off. Remove telephony module. Switch power on. Did the line indicators come on?	Change telephony module. Go to Table 1 & repeat tests	Change control unit. Go to Table 1 & repeat tests

Note: If you suspect that the telephone line is faulty, try replacing the TONTO with a conventional telephone instrument or another TONTO. If the telephone line remains faulty, report the fault to British Telecom or the authorised maintainer of your exchange. If you suspect there is a fault in the TONTO telephony module, try connecting the telephone lead(s) to socket(s) known to be working correctly. If the fault still occurs, replace the telephony module and repeat the tests in Table 1.

TABLE 5

Checkout procedure	*Yes*	*No*
1 Switch power off. Switch power on. Same fault conditions?	Go to step 2	Go to Table 1 & repeat tests
2 Is display presenting vertical bars?	Go to step 4	Go to step 3
3 Any other data displayed?	Change control unit. Go to Table 1 & repeat tests	Change control unit or monitor unit. Go to Table 1 & repeat tests
4 Count number of vertical bars on display. Number of bars = 11?	Go to step 5	Change control unit. Go to Table 1 & repeat tests
5 Switch power off. Use telephone to make call. Is telephone working correctly?	Change control unit. Go to Table 1 & repeat tests	Change control unit or telephony module. Go to Table 1 & repeat tests

TABLE 6

Checkout procedure	*Yes*	*No*
1 Select option 8 from Top Level Menu Is there a printer connected to the TONTO?	Press the PRINT key. Go to step 2	Go to step 3
2 Does the printer work?	Go to step 3	Change control unit. Go to Table 1 & repeat tests
3 Insert a cartridge containing some files into one of the microdrives. Select display cartridge details (see page 178 for guidance). Try to display the file list. Was this successful?	Go to step 4	Change control unit. Go to Table 1 & repeat tests
4 Insert an unused cartridge into one of the microdrives and try to format the cartridge (see page 176 for guidance). Is the cartridge formatted successfully?	Suspect intermittent fault. Go to Table 1 & repeat tests. If tests fail, change control unit	Change control unit. Go to Table 1 & repeat tests

H Technical information

1 Control unit

General

Power requirements (supplied via monitor)	+12V 0.5 A + 5V 3.0 A - 5V 0.1 A
Dimensions	Heigh 95mm Width 440mm Depth 250mm
Weight	3.0kg
Mains electricity lead length	1.8m
Telephony lead length	3m
Microprocessor	MC 68008
Real time clock	Separate crystal controlled clock
Interrupts	3 levels
Sound alarm	Integral loudspeaker/piezo transducer
Ambient operating temperature	With cartridges: 10-45°C Without cartridges: 5-50°C
Relative humidity (operating)	With cartridges: 20-80% R.H. Without cartridges: 10-90% R.H.
Storage temperature	Packaged: 5-45°C

ROM memory

Memory size	Base machine 128 Kbytes Rompack 32 Kbytes Optional Rompack with Xchange 160 Kbytes Optional capsules 8, 16, or 32 Kbytes
Memory characteristics	Permanent

RAM memory	Memory size	128 Kbytes
	Memory characteristics	Transparent refresh
C-MOS memory	Memory size	2 Kbytes
	Memory characteristics	Static — battery backed for 5 year minimum life
Microdrives	Recording mode/density	MFM
	Speed	28 ips
	Medium	1/16 inch video tape
Cartridges	Formatted capacity	Maximum 100 Kbytes
Keyboard	General	73 sculptured keys
	Key pressing force	80 grams average
	Key stroke	3mm

2 Monitor unit

Power requirements	115/230V AC ±10% 50/60Hz 0.75A
Cabinet dimensions	Height 250mm (with feet extended 260mm) Width 280mm Depth 280mm
Weight	4.75kg
Mains electricity lead length	1.8m
Screen dimension	227mm (9") diagonal
Phosphor	P1
Screen format	Bit mapped with 2 modes (controlled by software): ☐ 256 x 256 pixels with 4 levels (red/green/blue giving 8 shades of grey including black & white, plus flashing). 40 characters per line. ☐ 512 x 256 pixels with 2 levels (red/green giving 4 shades of grey including black & white). 40 or 80 characters per line.
Ambient operating temperature	5-50°C
Relative humidity (operating)	10-90% R.H.
Storage temperature	Packaged: 5-45°C

Quick reference

Telephone

AUTO-ANSWER (view/set)	Press **START**, type **221**
DATA CALL→ AUTO-ANSWER	Press **AUTO**
DIAL	Lift handset, use numberpad to dial
DIAL FROM C.S. DIRECTORY	Press **START**, type **552**, find entry & press *f* **1** (or *f* 2 to force timing)
DIAL FROM TEL. DIRECTORY	Press **START**, type **12**, find entry & press *f* **1** (or *f* 2 to force timing)
DIAL HANDS-FREE	Press **SPKR** & dial (lift handset to speak)
END CALL/CLEAR LINE	Replace handset or press **END**
HOLD	Press **HOLD**
HOLD & SHUTTLE	Press **HOLD-S**
LINE STATUS	Type **21**, or press **REVIEW** & press & hold **2**
PREFERRED LINE (change)	Press **SELECT**
REDIAL LAST NUMBER	Lift handset/press **SPKR**, press **REDIAL**
REDIAL RECENT NUMBER	Press **LAST**, lift handset/press **SPKR**, select number
TIME & CHARGE	Press **TIMING**, type in charge band (press TIMING & then ENTER for immediate timing)
TRANSFER→ HANDSET	Lift handset
TRANSFER→ LOUDSPEAKER	Press **SPKR**
VIEW CHARGE BAND TOTALS	Press **START**, type **23**

Voice response	AMEND RESPONSE	Press **START**, type **222**
	CREATE RESPONSE	Press **START**, type **223**
	DELETE RESPONSE	Press **START**, type **224**
	RENAME RESPONSE	Press **START**, type **225**
	VIEW LIBRARY/SET AUTO-ANSWER	Press **START**, type **221**
Telephone Directory	LOAD	Press **START**, type **14**
	REVIEW	Press **REVIEW**, press & hold **1**
	SAVE	Press **START**, type **13**
	SEARCH	Press **START**, type **11**
	VIEW CURRENT ENTRY	Press **START**, type **15**
	VIEW PRIORITY DIRECTORY	Press **LIST**
	VIEW/SCAN/AMEND	Press **START**, type **12**
Computer Services Directory	LOAD	Press **START**, type **554**
	REVIEW	Press **REVIEW**, press & hold **1**
	SAVE	Press **START**, type **553**
	SEARCH	Press **START**, type **551**
	VIEW CURRENT ENTRY	Press **START**, type **555**
	VIEW/SCAN/AMEND	Press **START**, type **552**

Computer Access

DIRECTORY CONNECTION	Press **START**, type **51**
DISCONNECT FROM SERVICE	Press **START**, type **54**
MANUAL CONNECTION	Press **START**, type **52**
PAGE STORE	Press **START**, type **56**
PROFILE STORE	Press **START**, type **57**
RESUME LIVE SERVICE	Press **START**, type **53**
SHORTCODE CONNECTION	Press **START**, type **5**

Housekeeping

BATTERY CHECK	Press **START**, type **81**
COPY FILE	Press **START**, type **833**
CREATE FILE	Press **START**, type **834**
DELETE FILE	Press **START**, type **835**
DISPLAY CARTRIDGE DETAILS	Press **START**, type **832**
FORMAT CARTRIDGE	Press **START**, type **831**
LOAD PERMANENT STORE	Press **START,** type **87**
LOAD STORE	Press **START**, type **85**
RENAME FILE	Press **START**, type **836**
SAVE PERMANENT STORE	Press **START**, type **86**
SAVE STORE	Press **START**, type **84**
SET DATE & TIME	Press **START**, type **82**
STORE REPORT	Press **START**, type **88**

Glossary

access pause

A pause in a dialling sequence of about four seconds that allows time for lengthy telephone exchange operations. For example, on exchanges where you dial a single digit to get an outside line, you will probably need an access pause between dialling the single digit and dialling the telephone number, to allow time for connection to the outside line. You can build access pauses into telephone numbers held in your Telephone or Computer Services Directory.

alphanumeric

A set of characters containing letters and digits, but no other characters or symbols.

application

A *program*, or set of programs, that let you use the TONTO for a particular activity.

Auto-answer

The TONTO's automatic answering service for voice and data telephone calls. This service cannot record a message from the caller.

background

A term used to describe an extended application which is running without the use of the display or keyboard (that is running in the background).

back-up copy

A copy of a file, or all the data on a cartridge, that is kept as a security copy for use in the event of cartridge failure or corruption of data.

BASIC

BASIC is a popular *programming language* in which you can instruct the TONTO to perform tasks. When you have loaded the BASIC programming language from cartridge, you can load or type programs (sets of instructions) written in BASIC, and use these programs to instruct the TONTO to carry out tasks. See the manual *BASIC* for more details.

block

A unit of data storage. Data is measured in regular sized portions called blocks. A block contains 512 *bytes* of data.

byte

In the TONTO, a byte is a unit of 8 bits. (A bit is the smallest unit of information stored in a computer.) One byte can hold one *character*.

capsule

A small device, containing 8, 16, or 32 Kbytes of ROM, which plugs into a Rompack. Capsules contain applications (see page 25).

cartridge

A storage device containing a continuous loop of magnetic tape. Cartridges hold up to 200 blocks of data. Cartridges are used in the two TONTO microdrives.

cartridge name

The name given to a microdrive cartridge.

character

A single letter, number, symbol, punctuation mark, or space.

charge band code

A one or two character code that determines the rate at which the cost of a call is calculated during call timing and charging. The TONTO is set up to accept the standard British Telecom charge band codes. To use other charge band codes, use the *configurator programs* to change the settings held in *permanent store* (see *Advanced Operations* for details of the configurator programs).

Computer Access

The Computer Access application lets you connect the TONTO to another computer, or a computer service, over a telephone line.

configurator programs

A set of programs that let you select, or amend, the settings held in *permanent store* (such as charge band codes and rates). The configurator programs are described in *Advanced Operations*.

current entry

In the Telephone or Computer Services Directories, the current entry is the entry highlighted (selected) when you last used the directory. If you have not used the directory since you loaded it, or since you switched on the mains power, the current entry is the first entry in the directory. You can dial, amend, or delete the current entry by using the key functions detailed in the footnotes on the compact or expanded directory displays.

cursor

A small rectangle the size of one character, which appears on the screen when you are typing or editing text or data. The cursor shows you where you are on the screen, and marks the place where the next character appears. (The cursor does not appear when you dial a number or when you type a single character to respond to a prompt.)

data

A term for all types of information (excluding instructions) that the TONTO processes.

data call

A telephone call in which data or computer generated information (rather than speech) is sent over the telephone line.

database

The collection of *data* that is created and maintained by a particular application (the Telephone Directory database is an example).

default

The default is the value or attribute that is assumed unless you select a new value or attribute.

DTMF

Stands for Dual Tone Multi Frequency. A form of signalling used on telephone systems, particularly during dialling.

electronic messaging terminal

A terminal that can transmit and receive messages. The TONTO can act as an electronic messaging terminal when the Messaging capsule is fitted.

error/warning tone

The error or warning tone is an audible tone generated by the loudspeaker to tell you that you've made a mistake, or that your attention is required to restore the display when the screen has blanked.

extended application

An application which is not abandoned when you press the START key, but continues to run in the *background*, or is temporarily suspended. You can return to applications that are running in the background, or are suspended, by pressing the RESUME key.

file

A file is an identifiable piece of store containing blocks of data or program material. All data and programs held on cartridge are held in files identified by a *file name*, which is unique within that particular cartridge.

file name

The name given to each file on a cartridge. Each file name is unique within the cartridge. The file name allows you to identify the file when you're creating, copying, deleting, or renaming files.

foreground

An application is said to be running in the foreground if it has the use of the display and keyboard. Only one application can run in the foreground at any time.

format

To format a cartridge is to prepare it for use on a TONTO. Cartridges that have not been formatted correctly cannot be used on a TONTO. Formatting destroys any information on the cartridge.

glass teletype

A glass teletype sends and receives data in the same way as an ordinary teletype machine, but it displays the data on a screen rather than typing it onto paper. You can use the TONTO as a glass teletype when you use the Computer Access application to connect to a computer service which supports this method of communication.

hardware

The physical components of the TONTO.

Kbyte

Short for a Kilobyte, which consists of 1024 *bytes*. This is the equivalent of two blocks of store.

line indicators

The two indicators to the right of the handset. The lower indicator is for telephone line 1 and the upper one is for line 2. When a telephone line is in use, the appropriate line indicator lights up.

load

To copy the contents of a file into the store of the TONTO.

local hold

A condition in which a telephone call is connected to the TONTO, but is temporarily disconnected from the handset and loudspeaker. No communication can take place between the caller and the called party, and the party in local hold cannot overhear any local conversation.

loop disconnect

A form of dialling signal used on telephone systems, particularly on older exchanges.

menu

A menu is a display containing a list of options from which you can select. Each option has a number. To select an option, just type its number, using the *f* key as well, if need be.

Messaging

The action of transmitting and receiving messages. A messaging application is supplied in the Messaging capsule.

microdrive

A microdrive is a data storage device that lets you save and load data and programs to and from cartridges. The TONTO has two microdrives. The *Microdrive Utilities*, described on page 175, let you manipulate data and programs stored on cartridge.

MF4

Stands for Multi-Frequency 4. A form of signalling used on telephone systems, particularly during dialling.

modem

*Mo*dulator-*Dem*odulator. A device that converts data into a form suitable for transmission over a telephone line and also converts data received over the telephone line into a form acceptable to a computer.

noticeboard

Two lines at the bottom of the screen, used to display messages and information.

overwritten

If data is saved (*written*) onto a piece of tape or area of store that already contains data, the new data is superimposed over the old data; the old data is *overwritten*, or lost.

permanent store

Store which keeps its contents when the power supply is switched off or fails. The TONTO has 2 Kbytes of permanent store, which it uses for essential information such as the values you set and alter using the *configurator programs*.

preferred line

On a two line TONTO, the preferred line determines which line is chosen when the TONTO has a choice to make. When both lines are free, the preferred line is chosen for an outgoing voice call, and the non-preferred line is chosen for a data call. If both lines are ringing, the preferred line is answered first. Line 1 is usually the preferred line, but you can change the preferred line by pressing the SELECT key (see page 64).

Prestel

Prestel is British Telecom's public *Viewdata* service.

profile

A profile is a set of data that defines the technical aspects of the method of connection to a computer service. It may also contain information about the computer service. The Computer Access application uses profiles so that you don't have to supply these technical details every time you connect to a service. For more details of profiles, see page 127.

program

A program is a set of instructions that tells the TONTO to do something. The instructions are written in a programming language, such as *BASIC*.

protocol

An agreed procedure for the exchange of messages and replies in a communications system.

RAM

Random Access Memory. A type of store in which data can be stored and retrieved at random (rather than serially). This type of store can be used as working space for applications. The contents of this store are lost when the power supply is switched off or fails. The TONTO has 128 Kbytes of RAM store.

ROM

Read Only Memory. ROM contains programs and data that can never be changed. All TONTO programs (except those loaded from microdrive cartridge) are held in ROM. You cannot save new data or programs in ROM. The TONTO contains 128 Kbytes of ROM. The standard Rompack contains 32 Kbytes of ROM and the optional Rompack with Xchange contains 160 Kbytes. Each capsule contains 8, 16, or 32 Kbytes of ROM.

Rompack

A device which plugs into the back of the TONTO control unit. The standard Rompack contains 32 Kbytes of ROM, which holds TONTO software. The optional Xchange Rompack contains 160 Kbytes of ROM, which contains both TONTO software and the Xchange business applications. Both types of Rompack have two slots into which you can plug capsules (see page 25 for more details).

save

To copy a file, or the contents of store, onto a storage device such as a microdrive cartridge.

shortcode

A one, two or three character code for fast dialling and fast connection from a Telephone or Computer Services Directory. You can assign a shortcode to a telephone number as part of a directory entry.

software

The programs or instructions that make the TONTO work.

status message

A message displayed to the right of an option on a *menu* that tells you the condition of the application to which the option applies.

system control keys

A collective name for the following keys: START, RESUME, REVIEW, LIST, LAST, and PRINT. (LOOK and SHOW are system control keys reserved for future optional enhancements.)

telephone control keys

A collective name for the following keys: RECALL, SPKR, AUTO, REDIAL, HOLD-S, SELECT, END, DIAL, HOLD, and TIMING.

terminal

In its simplest form, a machine with a keyboard and a screen or printer, connected to a computer by a fixed cable or telephone line. The TONTO acts as a terminal when you use the Computer Access application to communicate with other computers.

transient application

An application that is abandoned when you press the START key.

utilities

The facilities provided for the manipulation of data and programs stored on cartridge.

Viewdata

A means of accessing another computer's information store via a telephone line. Information is presented as a series of pages, each 24 lines by 40 characters. You can select pages by using the digits 0 to 9, * and #. Two examples of Viewdata are ICL's Bulletin and British Telecom's Prestel.

voice response

A message composed of words spoken by the TONTO's voice synthesiser, which you can use to Auto-answer incoming voice calls. You make up your own voice responses from the vocabulary of words that the TONTO can pronounce.

Voice Response Library

A collection of *voice responses*.

write protected

Referring to a cartridge on which the write protect lug has been broken off (see page 23). The absence of this lug prevents you saving (*writing*) information to the cartridge and thus overwriting any information already stored on the cartridge.

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