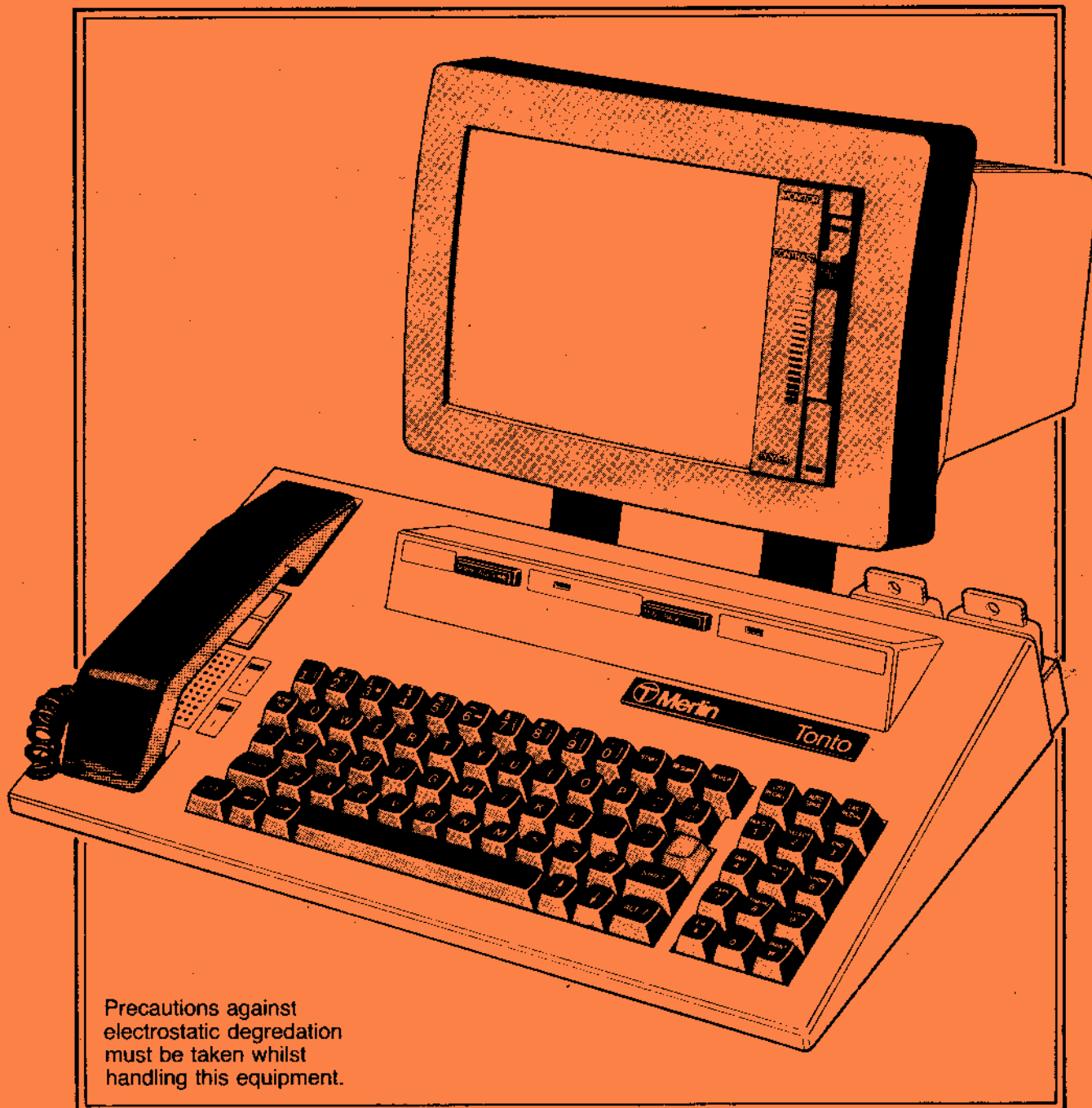


MERLIN TONTO

Personal Information Centre



Precautions against
electrostatic degradation
must be taken whilst
handling this equipment.

British
TELECOM

Technical College
LCS/TD 7.3.8F

Issue 1
April 1985

DIFFICULTIES

BTHQ relies to a large extent on the A646 procedure to show up any problems which staff experience with items of equipment. Please take advantage of this procedure to inform BTHQ of difficulties, so that corrective action can be taken.

Installation and maintenance problems should be referred to LCS/BSSU 3 via local liaison and support duties.

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THE TONTO PERSONAL INFORMATION CENTRE

(INSTALLATION AND MAINTENANCE)

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APPENDIX 1 The M1880 Dot Matrix Printer.

APPENDIX 2 The M1881 Daisy Wheel Printer.

1. INTRODUCTION.

Tonto is a powerful easy to use Personal Information Centre that integrates communication and computer facilities. It is suitable for both business and home use, and has the capability of carrying out a variety of tasks, which would normally require several pieces of equipment.

Its main features are as follows,

*** Comprehensive telephone facilities.** These include Abbreviated Dialling and computer directories; Automatic Answering with electronic voice; user programmed call timing and charging facilities; call monitor loudspeaker.

*** A 128K Ram personal computer.** This consists of keyboard, display and two microdrives for storage. The Basic programming language and a calculator are provided and a set of four business application packages known as Xchange can be added.

*** An information access terminal.** The equipment necessary for the connection to and use of information and mailbox services such as Prestel and Telecom Gold has been provided.

*** A data communication terminal.** Data can be exchanged with other Tonto users or larger computers.

*** An electronic messaging terminal.** A MESSAGING application package utilizes the data communication facility, to enable the user to automatically send typed messages over the telephone line and receive typed messages from other Tonto users.

To increase TONTO's flexibility still further, a second telephone line and/or a printer can be added.

When equipped with 2 telephone lines it will be possible to,

- * Make a voice call and send or receive data at the same time. Two data calls cannot be made at the same time as there is only one modem.
- * Conduct 2 voice calls.
One call will have to be on hold since there is only one handset.
A 'Hold-Shuttle' key is provided to enable ease of switching from one call to the other.

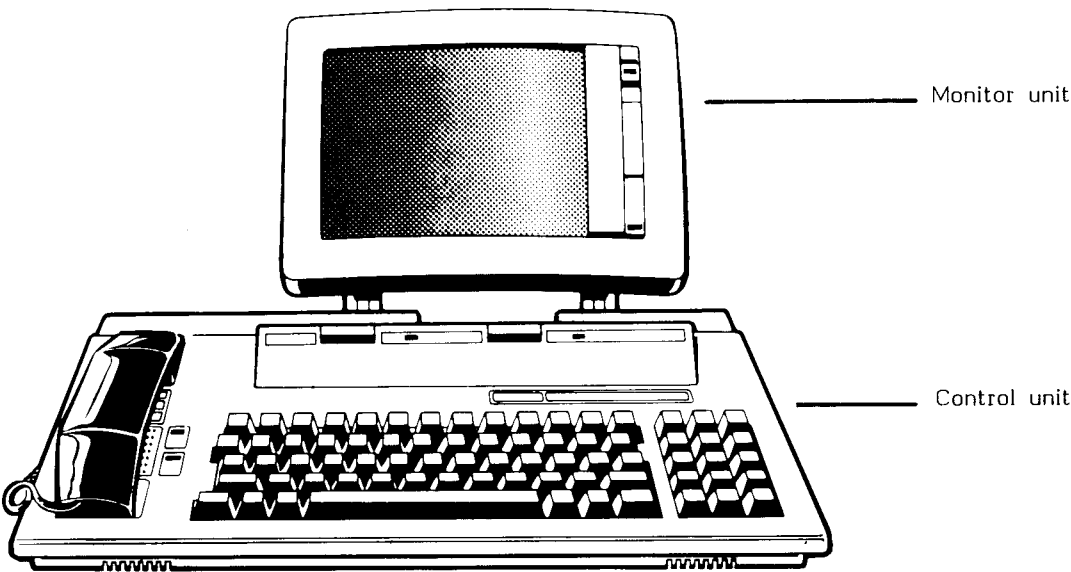
When equipped with two lines Tonto always selects line 1 for an outgoing voice call, or answers line one first when both lines are ringing. Outgoing voice calls are automatically routed to the 'other' line if one is busy. Normally line 1 is used as the 'voice line' because line 2 which is equipped with a modem must be used for 'data' calls.

When Tonto is equipped with a single line it will be used for both voice and data calls. To ensure that an emergency call can be made, any outgoing data call will be stopped immediately the handset is lifted.

Whether equipped with one or two lines a 9 volt battery maintains telephone service on line 1 in the event of mains failure.

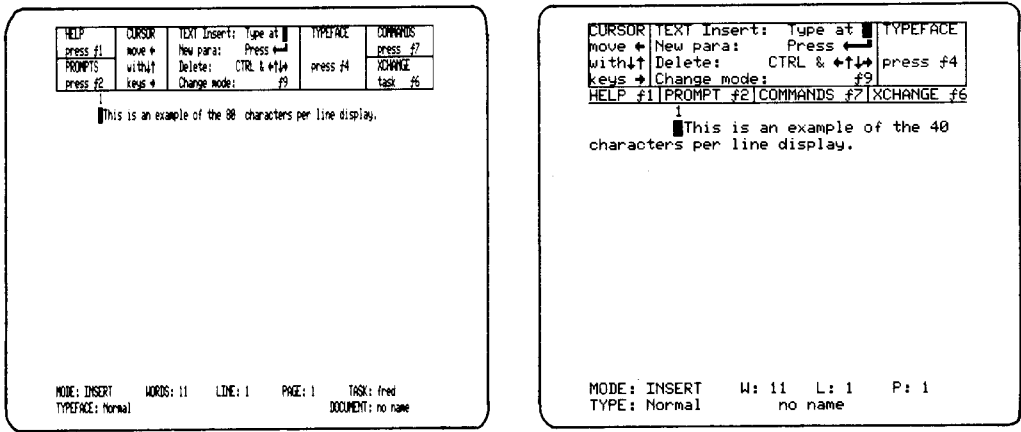
2. GENERAL DESCRIPTION.

The illustration below shows that Tonto consists of two main units: the monitor unit and the control unit.



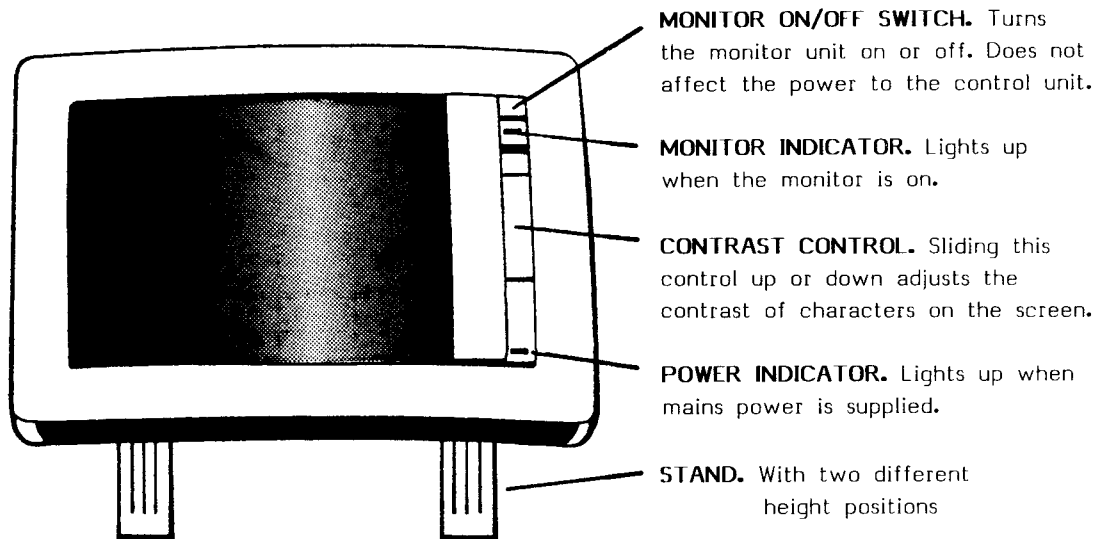
2.1 The Monitor Unit.

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 four shades of grey.



2.1.1. Controls and indicators.

The illustration below shows the monitor units controls and indicators. Note that the Monitor on/off switch only controls power to the monitor. There is no power on/off switch for the control unit as Tonto is designed to be left on all the time (for Messaging and Auto-answering of telephone calls). To turn off the power to Tonto it must be switched off at the mains power socket or the plug pulled out.



2.1.2. Screen blanking.

To prolong the life of the monitor, Tonto blanks (or turns off) the screen if it detects that the display has not changed for five minutes. If anything happens that requires the use of the screen, a warning tone sounds as a prompt to restore the display. The display can be restored by lifting the handset or pressing a key (the shift key will not affect anything running at the time). When Tonto is not to be used for some time (overnight or at weekends) the monitor should be switched off.

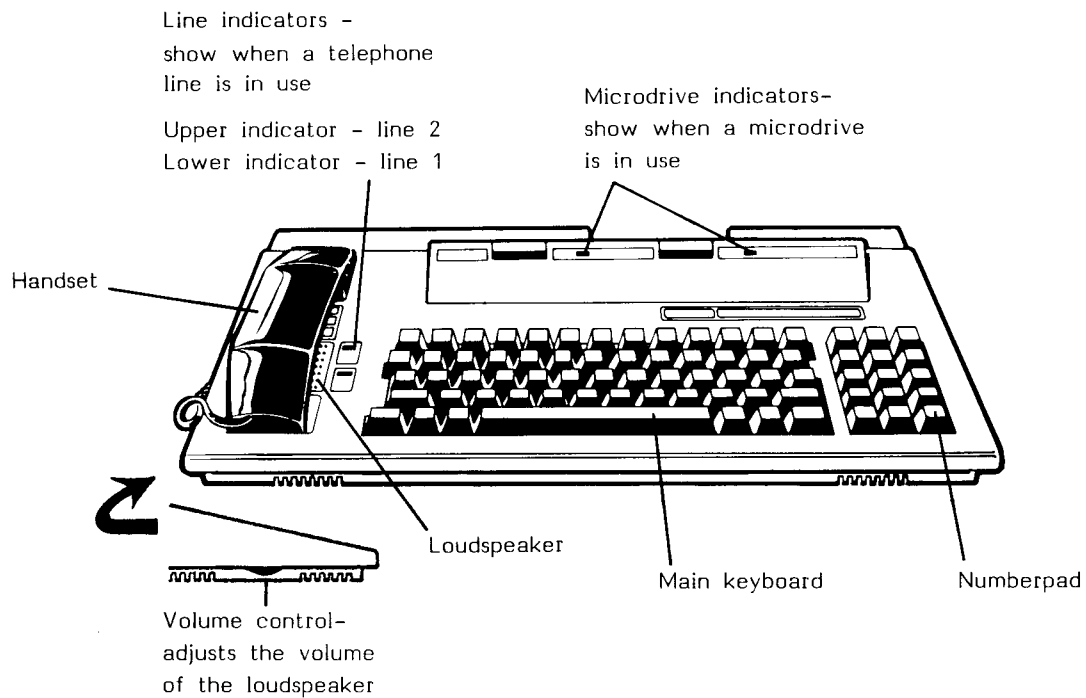
2.2 The Control Unit.

The control unit incorporates:

- A 32-bit 68008 microprocessor
- A telephone with connections for two telephone lines
- Two microdrive storage devices that take microdrive cartridges.
- A fullsize (73 key) keyboard consisting of a main keyboard and a separate numberpad.
- A loudspeaker mainly used for handsfree monitoring of telephone calls.
- A Rompack module with slots for two Romcapsules.
- A port (socket) for the connection of a printer.

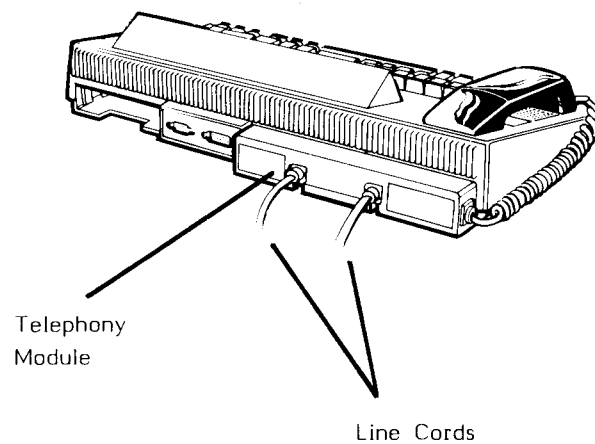
2.2.1. Controls and indicators.

The illustration below shows the controls and indicators on the control unit.



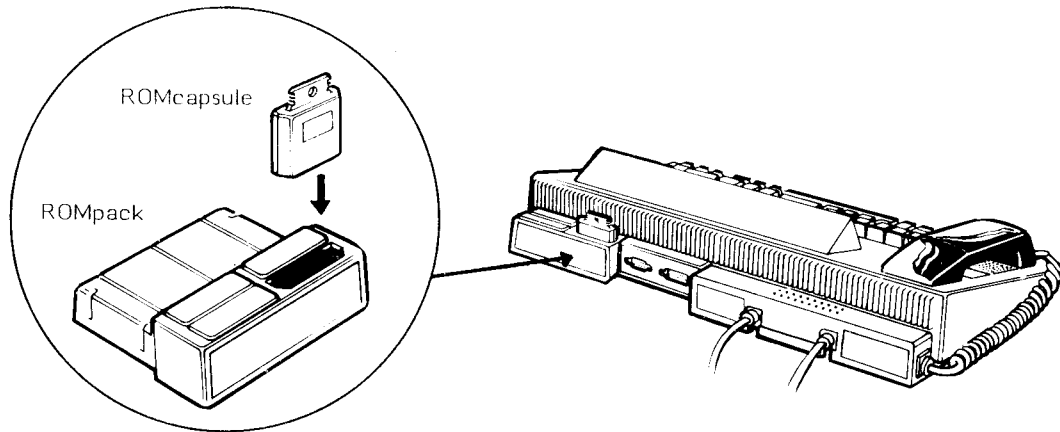
2.2.2. Telephony Module.

The handset and line cords for both lines are connected to a telephony module which plugs into the rear of the control unit. A D.I.P. switch on the module enables it to be set up for 1 or 2 line working, MF or loop-disconnect dialling. The position of the telephony module is shown below.



2.2.3. ROMpack and ROMcapsules.

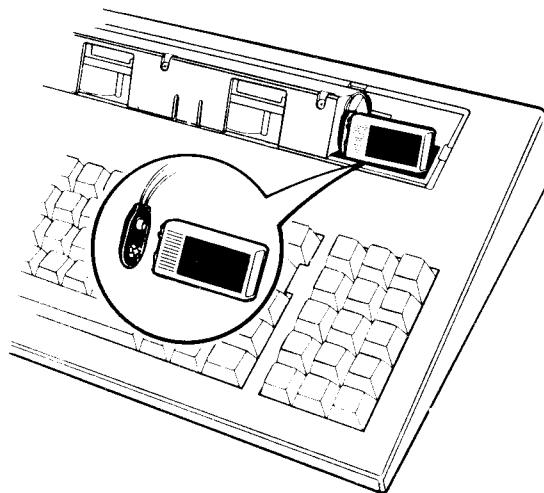
Tonto is supplied with a Rompack module which plugs into the back of the control unit. The Rompack enables individual Romcapsules which contain application programs, for example MESSAGING, to be connected to Tonto. The position the Rompack occupies is shown below.



The Romcapsule and the Xchange Rompack contain IC's onto which the application programs are permanently written; it is envisaged that many different application programs will be available in the future.

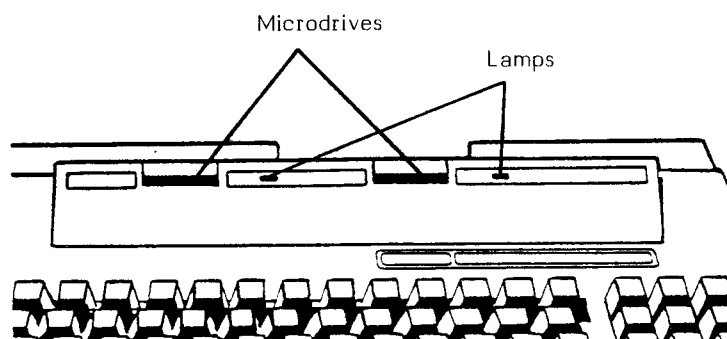
2.2.4. Battery.

The control unit contains a battery housed beneath the microdrive cover to power the telephone and numberpad during a power failure. The battery is automatically tested when Tonto is switched on at the mains, and also tested every 24 hours whilst Tonto is running. If the battery fails a test, the message "BATTERY LOW" is displayed on the monitor screen and the customer should replace the battery as soon as possible. Providing the mains power is switched on Tonto can still be used if the battery is low. **It is recommended that customers replace the battery at least once a year.**

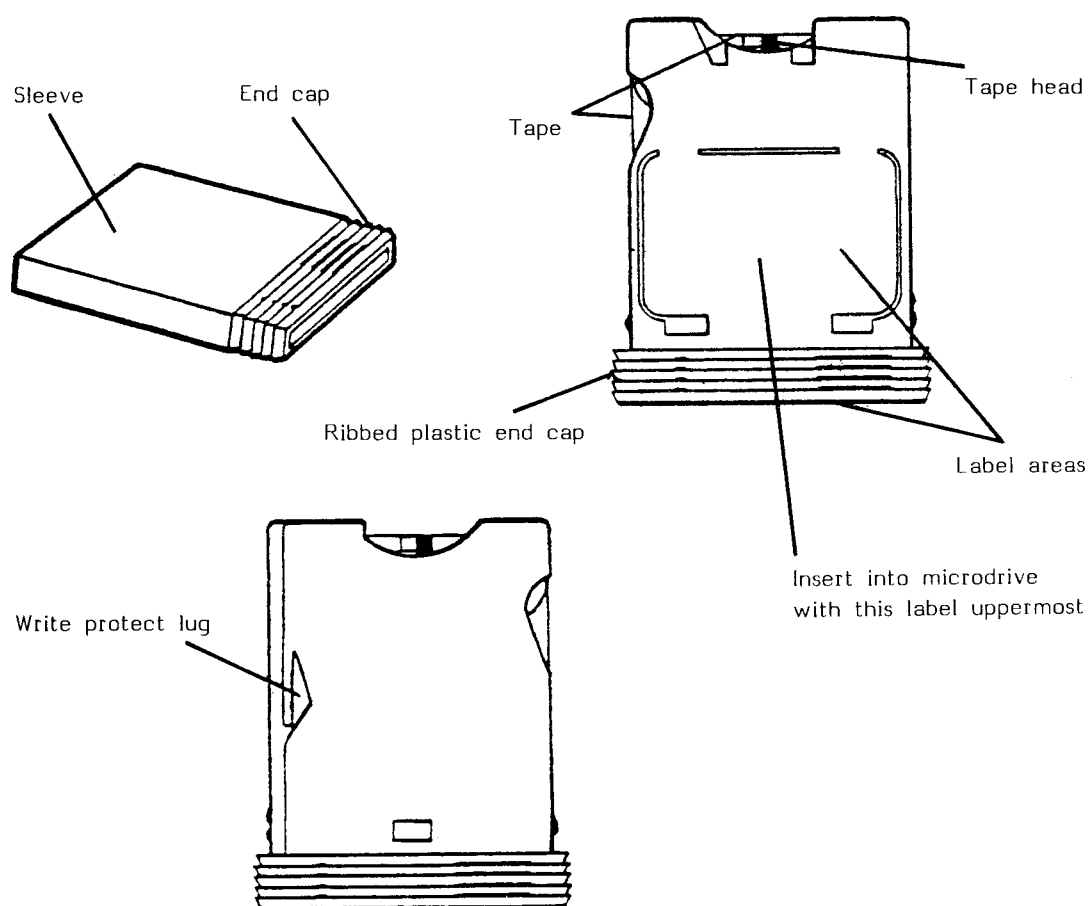


2.2.5. Microdrives and Cartridges.

The control unit has two microdrives which are used to save and load programmes and information on cartridges containing a continuous loop of recording tape. To the right of each microdrive is a red lamp which glows when the microdrive is in use. Cartridges must not be inserted into or removed from the microdrive whilst the red lamp is glowing.



Each cartridge is able to store a maximum of 200 blocks of information (512 bytes/block). A 'write protect' lug on the cartridge can be broken off if necessary, to safeguard the information stored on it from being accidentally overwritten. Cartridges must be inserted label side up into the microdrives, and care taken not to touch the magnetic tape.



2.2.6. Printer Port.

A port is provided on the rear of the control unit for the connection of a printer.

2.2.7. Data Comms Adaptor.

This plugs into the Rompack in one of the Romcapsule positions. The data comms adaptor allows direct connection to a local computer, local area network or a company's own data communication network.

3. EQUIPMENT VARIANTS AND STORES.

3.1 Equipment Variants.

TONTO is supplied in several variants, which are obtained by adding supplementary or alternative equipment to a basic model known as the M1800.

The basic model cannot be supplied on its own. The variants available are as follows:

Model M1801: Basic model with black and white monitor, to which an M1810 Rompack is added to provide MESSAGING.

Model M1802: Basic model with black and white monitor, to which an M1811 Rompack is added to provide MESSAGING and an Xchange business application package.

Model M1803: Same as Model M1801 but with colour monitor.

Model M1804: Same as Model M1802 but with colour monitor.

Any of the above models can be further enhanced by the addition of the following:

M1880 - Dot Matrix Printer
M1881 - Daisy Wheel Printer
M1887 - Data Comms Adaptor
M1800 - Documentation Box (for storage of manuals)
M1890 - Microdrive Cartridge (4 blank)

3.2 Stores.

MOA - M1800 Base System (item code 983050)
MOA - M1810 Rompack (item code 983051)
MOA - M1811 Rompack (with Xchange item code 983053)
MOA - M1885 Colour Monitor (item code 983103)
MOA - M1887 Data Comms Adaptor (item code 983097)
MOA - Printer MP/1711/1A (M1880 Dot Matrix) item code 981691
MOA - M1881 Daisy Wheel Printer (item code 98....)

4. INSTALLATION.

4.1 Selecting a location.

TONTO can be installed anywhere that a desk top telephone would normally be placed. However, do try and avoid locations that cause reflections on the screen or key tops. Also make sure that all leads can be routed safely and tidily to avoid hazards to passers by. If a printer is required, noise and vibration may be a consideration depending on the type of printer. Thermal printers create least noise and vibration and can be placed almost anywhere. Impact printers may need an acoustic cover to reduce noise if this is troublesome, and may be best placed on a separate surface to reduce vibration.

4.2 Mains Supply.

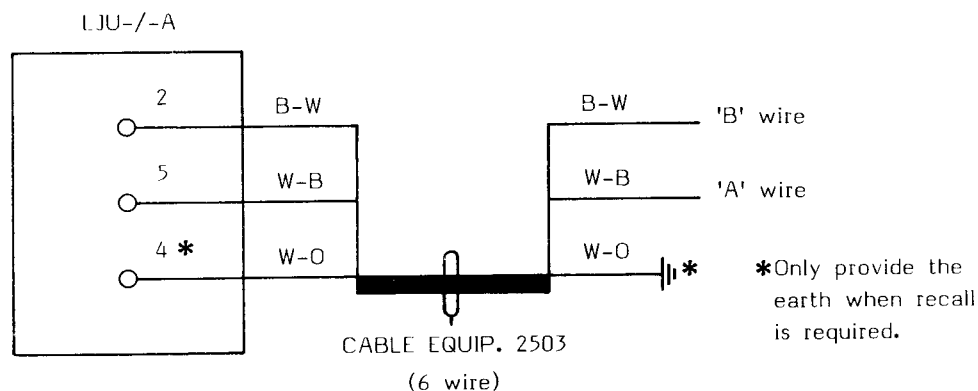
A mains supply socket outlet (240v 50Hz) preferably of the switched type and suitable for use with a standard UK 13amp 3 pin plug, should have been provided by the customer, within easy reach of the 2 metre mains lead supplied with TONTO.

4.3 Termination of Exchange Lines and Line Jack Units.

Tonto can be equipped with 1 or 2 exclusive or PBX lines that employ either loop-disconnect or MF signalling. The incoming signalling circuit of TONTO has a REN value of 1 enabling Tonto to be installed as an extension instrument within the normal limits. On 2 line installations it is advantageous if the 2nd line which has been nominated for data communication is used exclusively by TONTO.

Line Jack Units (LJU) must be sited within 3 metres of TONTO as the line cords supplied are standard and cannot be obtained in longer lengths. LJU's must be of the 'master' type, except in those instances where TONTO is connected as an extension instrument and a master LJU is already connected elsewhere in the circuit. On 2 line installations it is advisable to label the LJU's line 1 and line 2 for future reference.

Each LJU should be terminated as follows,



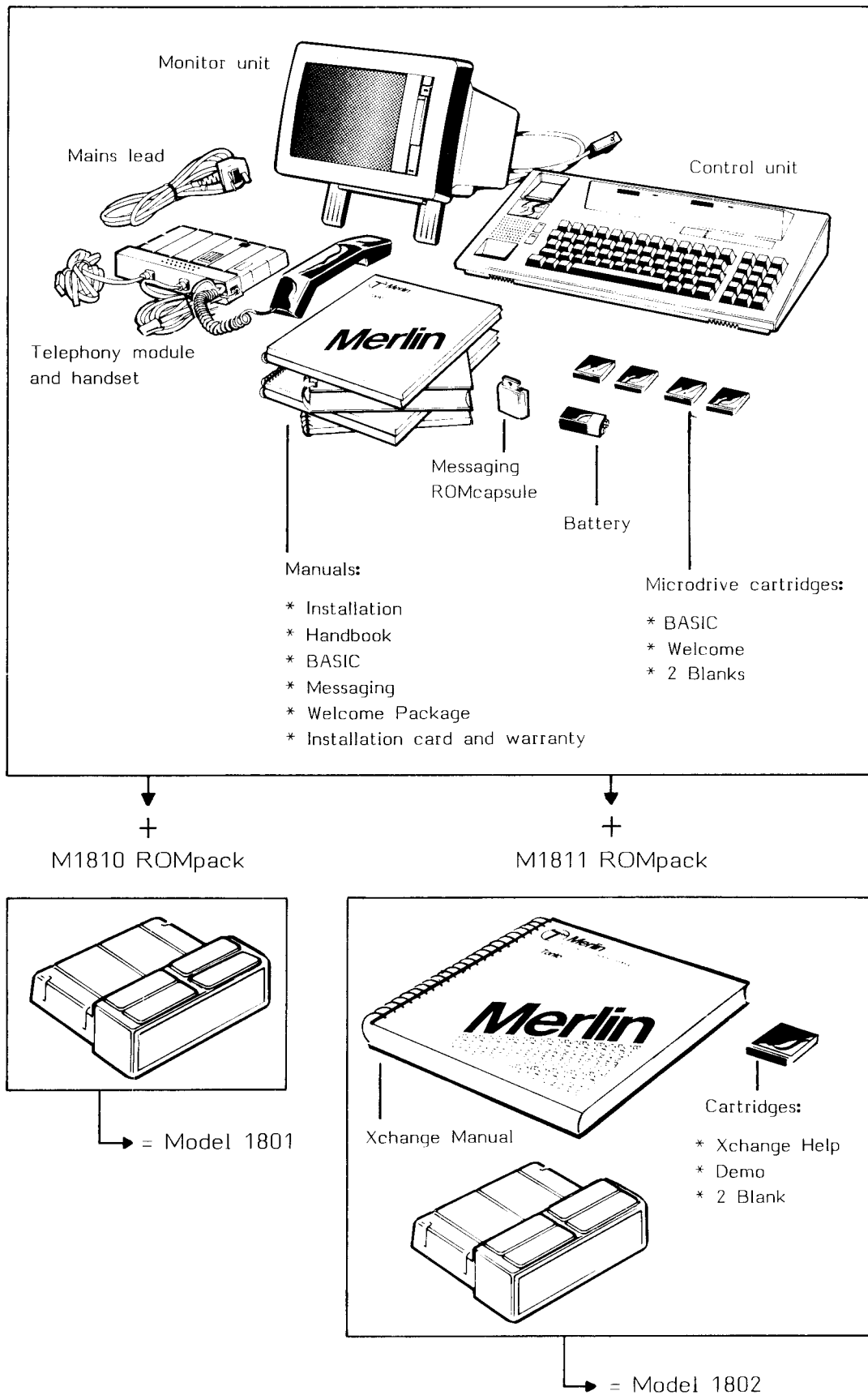
4.4 Handling the equipment.

Don't handle the equipment unnecessarily. Avoid in particular contacts with the metal pin and socket connexions since grease from the fingers can affect them and static discharge may damage internal components.

4.5 Unpacking and checking the equipment.

The equipment contained in the TONTO packages is illustrated opposite. All equipment should be unpacked carefully and checked for damage. If any item in the package is physically damaged then the complete contents of the package should be exchanged. New equipment returned to stores in this way should be returned in the original packaging and accompanied by an A8807A which states that it was 'Dead-on-Arrival'.

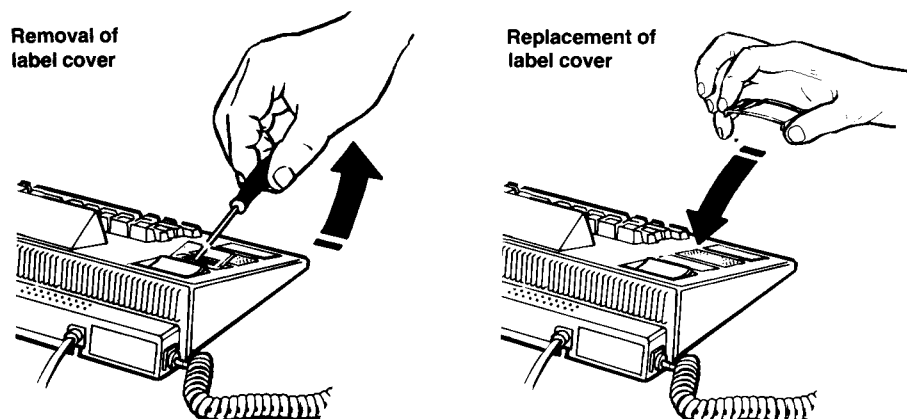
The M1800 Base System.



If a BT printer is being provided check that the manual, mains lead and interface lead to connect it to the control unit have been supplied.

4.6 Labelling the Control Unit.

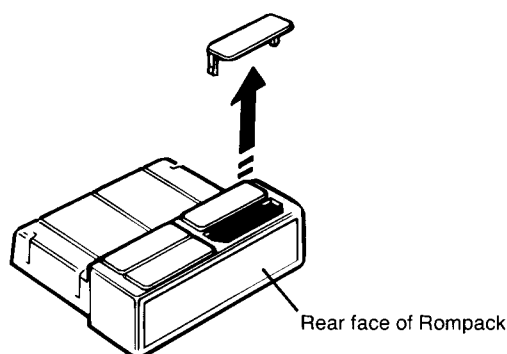
The telephone number label is housed beneath a clear plastic cover on the left of the control unit. To remove the cover, very carefully slide an instrument such as a screwdriver beneath the centre of the lower edge of the cover and gently lever the cover up and out.



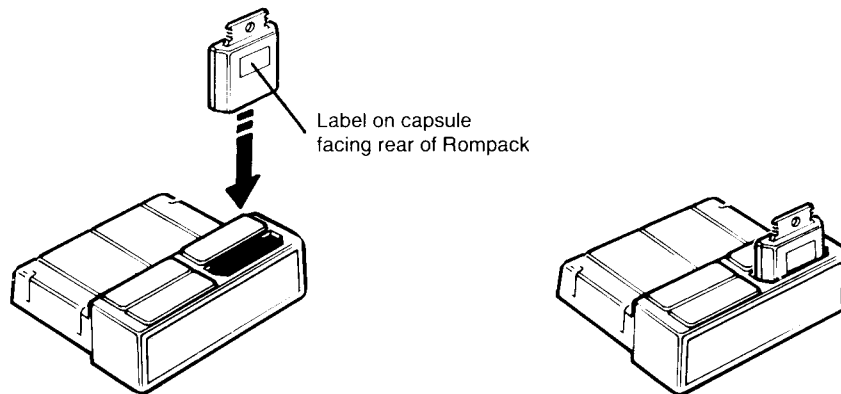
To replace the label, place it in the recess and ease the cover back into position. Be careful not to crack the cover. You may find it helps if you bend it by squeezing the sides as you insert it.

4.7 Fit the ROMpack and ROMcapsule.

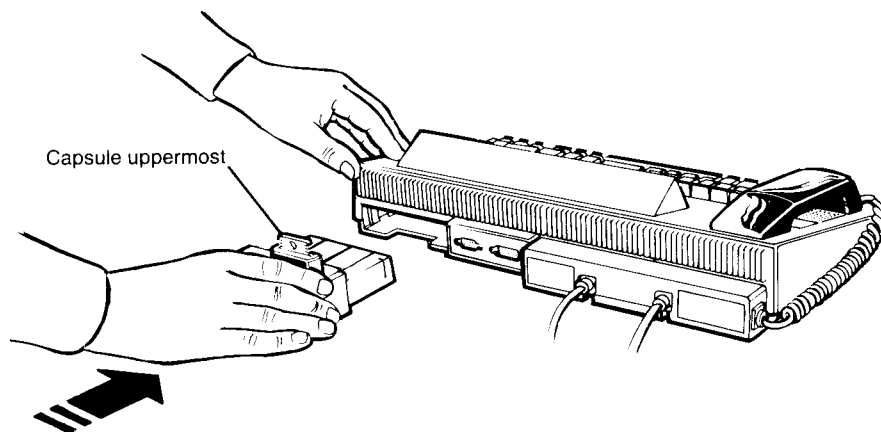
The Rompack and Romcapsules must always be fitted whilst the mains supply is disconnected. Expose a connector inside the Rompack by removing either of the two rear plastic blanks.



Place the Rompack on a firm level surface, and then holding the Messaging Capsule vertically, insert it carefully into the slot in the Rompack. The capsule will only fit 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.



Check that the aperture into which the ROMpack fits is not obstructed by the red/black battery lead. If it is necessary to move the lead follow the instructions given on page 17 to remove the microdrive cover, and gently pull the lead into the battery housing. **DO NOT FIT THE BATTERY AT THIS STAGE.**

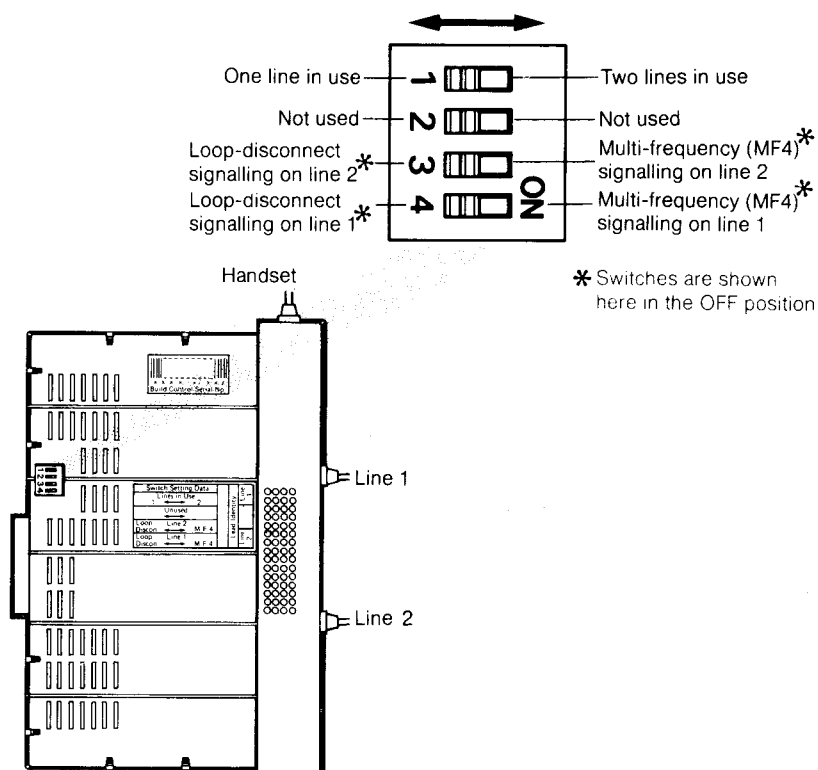


Hold the Rompack with the capsule uppermost, and slide it into position at the rear of the control unit. You should feel slight resistance as contact is made inside the control unit. Push the Rompack fully home to make sure it engages properly.

4.8 Fit the Telephony Module.

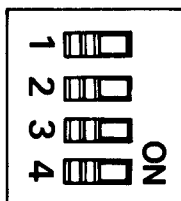
Set the switches on top of the telephony module, using a pointed object such as a ball-point pen, in accordance with the type of dialling which is employed and the number of lines in use.

Make sure the switches are either ON or OFF.

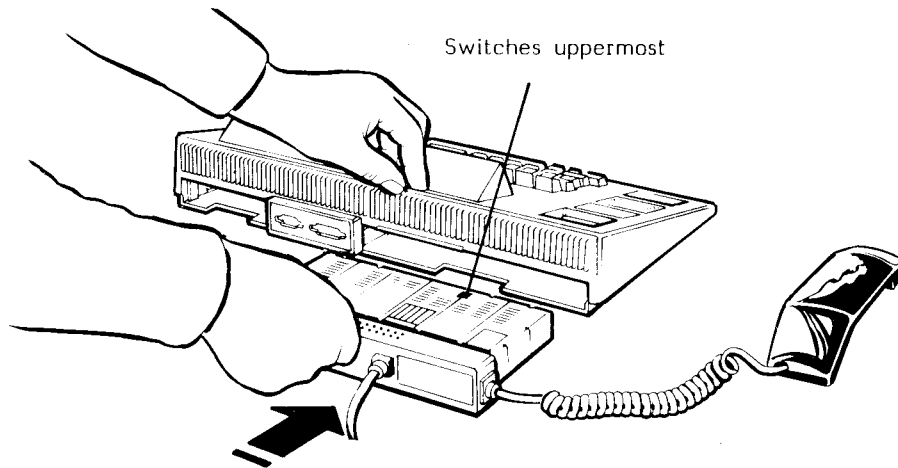


Example

For a TONTO connected by one line to an exchange that accepts the loop-disconnect dialling method



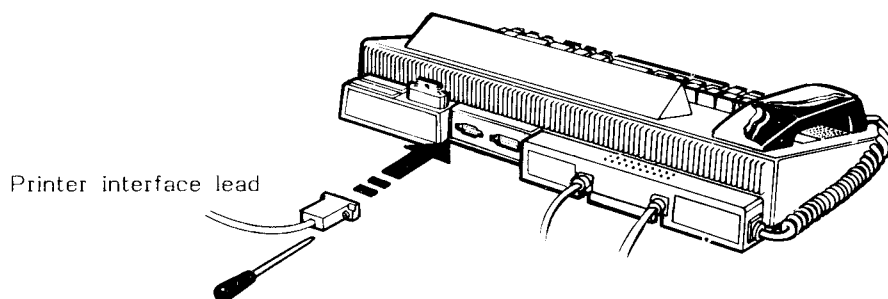
Plug the telephony module into the control unit.



Hold the telephony module with the face containing the switches uppermost, and slide the module into the large slot at the rear of the control unit. You should feel slight resistance as contact is made inside the control unit. Push the module fully home to make sure it engages properly. Do not plug in the line cords to the line jack units at this stage.

4.9 Connecting a Printer.

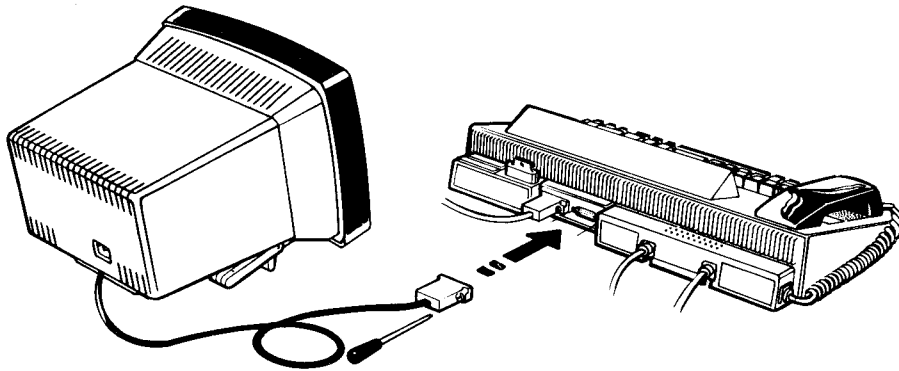
Install the printer according to the instructions given in the appendix. Make sure that the printer is switched off and disconnected from the mains supply before you connect it to TONTO. Connect the printer interface lead to the smaller socket on the rear of the control unit. The connector fits only one way round. Use a screwdriver to secure the connector.



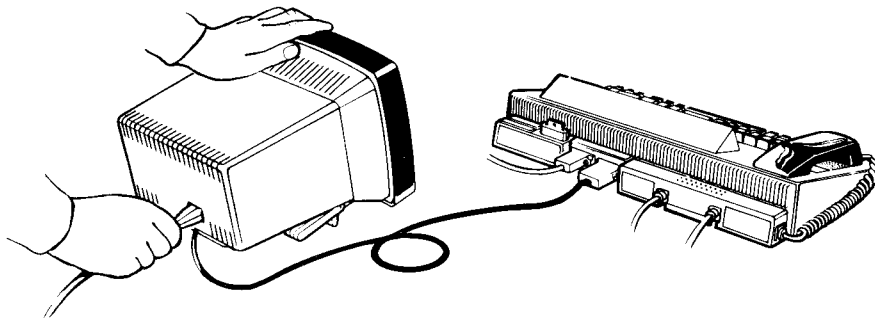
Do not plug the printer into the mains supply at this stage.

4.10 Connecting the Monitor.

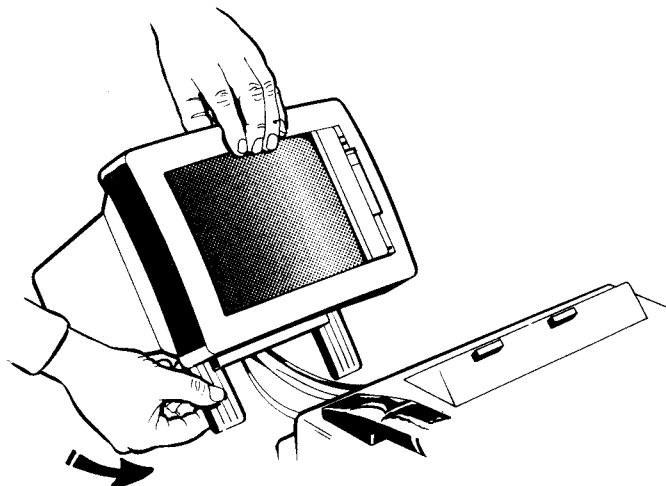
1. Connect the lead from the monitor to the larger socket at the rear of the control unit. The connector fits only one way round. Use a screwdriver to secure the connector.



2. Connect the mains lead to the socket at the rear of the monitor. Do not connect the other end of the mains lead to the supply yet.



3. Place the monitor in its final position and raise its stand if this helps to give a clearer view of the screen. It may be convenient to run the monitor lead beneath the raised stand.

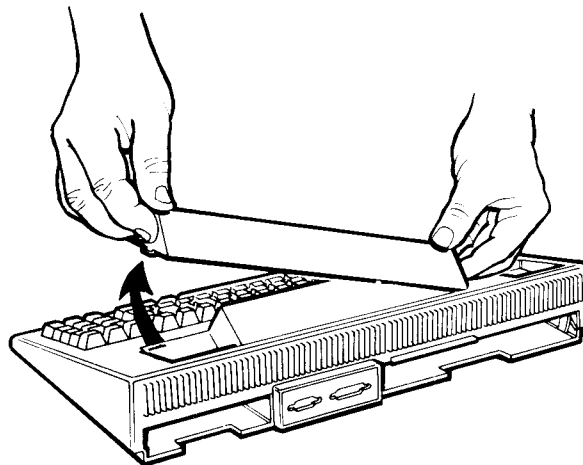


4.11 Fitting the Battery.

The battery is used to power the telephone during mains failure.

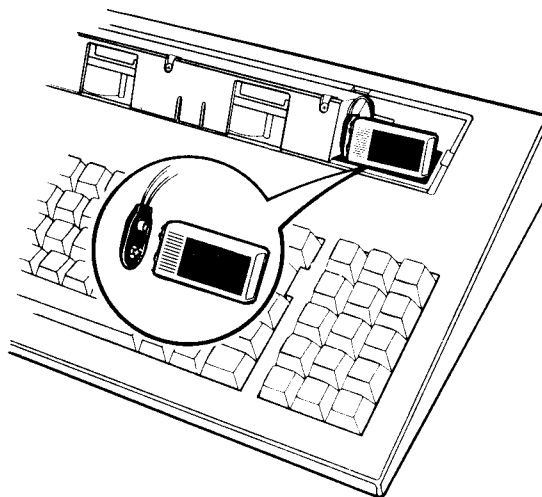
To prevent unnecessary power drain check that the handset is on the rest before connecting the battery. To fit the battery:

1. Remove the microdrive cover

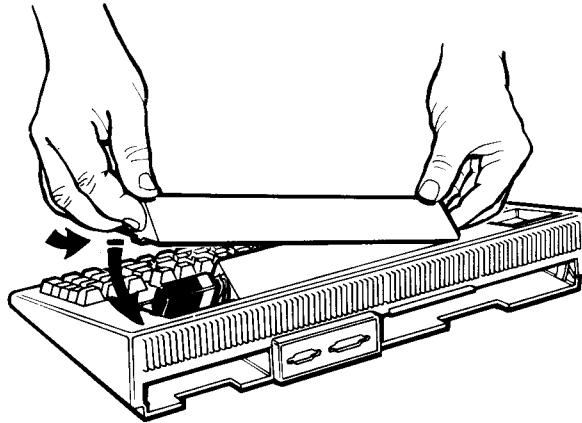


Press the cover in firmly at one end to release its retaining tab and lift the cover off.

2. Take the lead from the battery recess and connect it to the battery. The connector snaps on and fits only one way round. Place the battery in the recess.



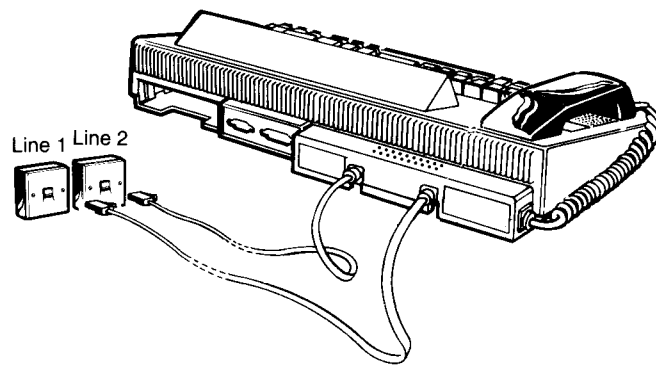
3. Replace the microdrive cover.



Locate one end of the cover first then press the other end in firmly to engage its retaining tab. Be careful not to trap the battery leads. Press the cover down on all sides to make sure that it is located properly in the recess.

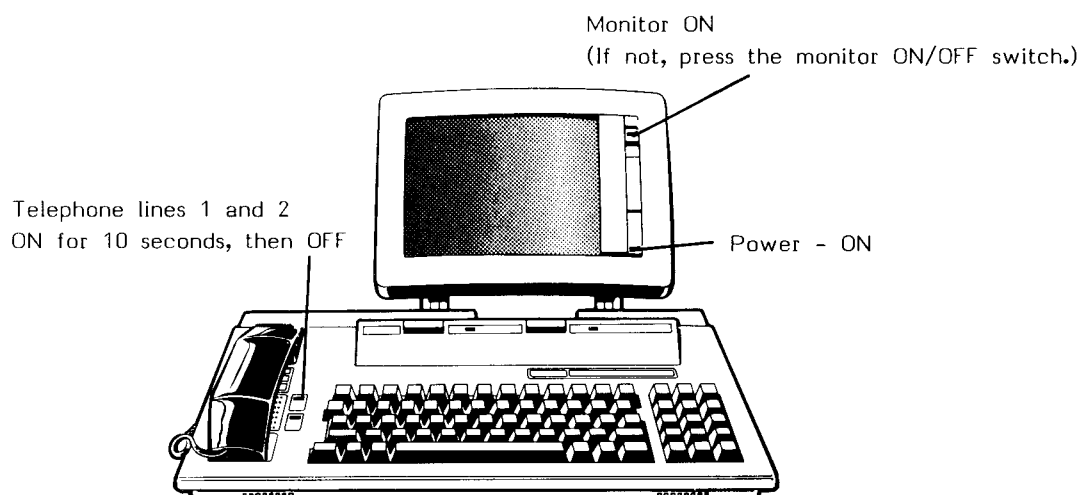
4.12 Connect the lines.

Connect the line cords to their correct LJU's noting the relevant positions of line cords 1 and 2 on the telephony module. If only one line is required neatly coil up line cord 2 and leave the plug end cap in place.

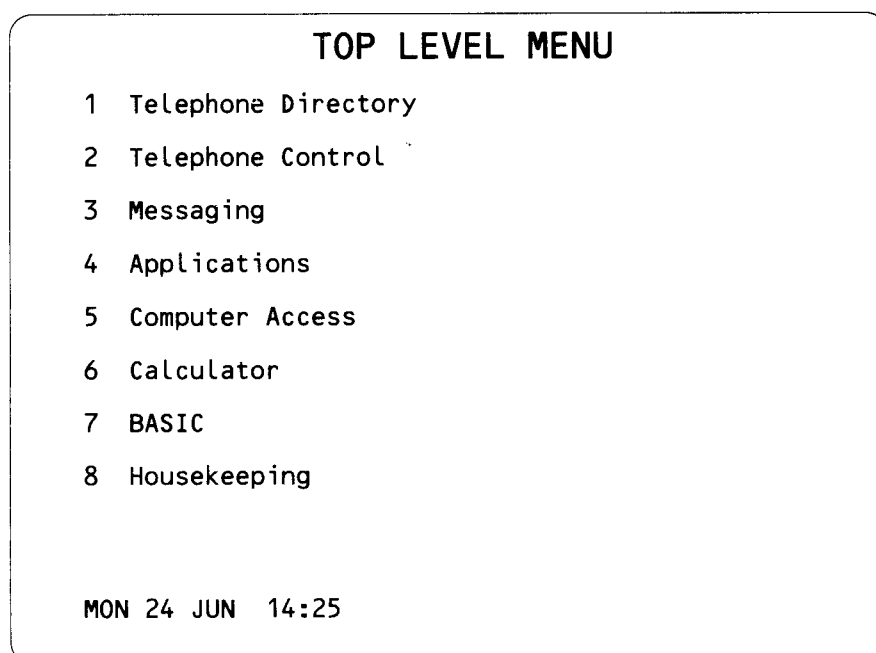


4.13 Connect to Mains Supply.

If a printer is being provided plug in and switch on at the socket. Connect the mains lead from the monitor to the mains supply and switch on at the socket. Tonto will then perform a series of self tests, which last about 10 seconds. Immediately after switching on check the condition of the indicators as shown below.



The self test routine that Tonto performs is indicated by a series of grids and patterns displayed on the monitor screen. If the self test is completed satisfactorily, then the top level Menu shown below will be displayed.



Those facilities that are available for immediate use are shown in bright type. Don't worry about the wrong date and time at the bottom of the screen. If the monitor displays the message 'Battery Low' change the battery on the control unit.

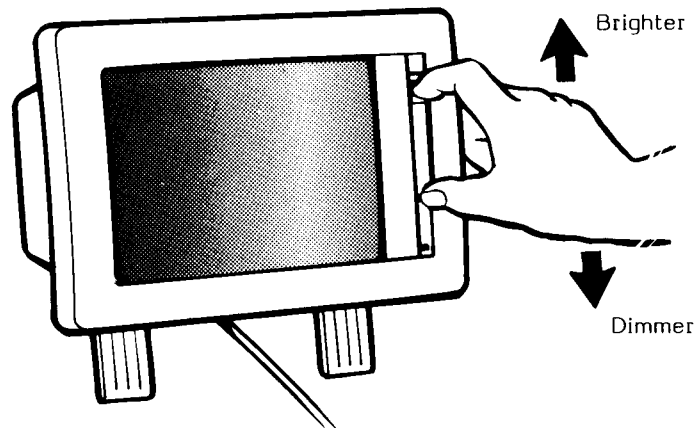
If TONTO fails to perform the above self-tests satisfactorily, then carry out the 'Dead-on-Arrival' procedure 5.8.1 on Page 26.

5. COMMISSIONING

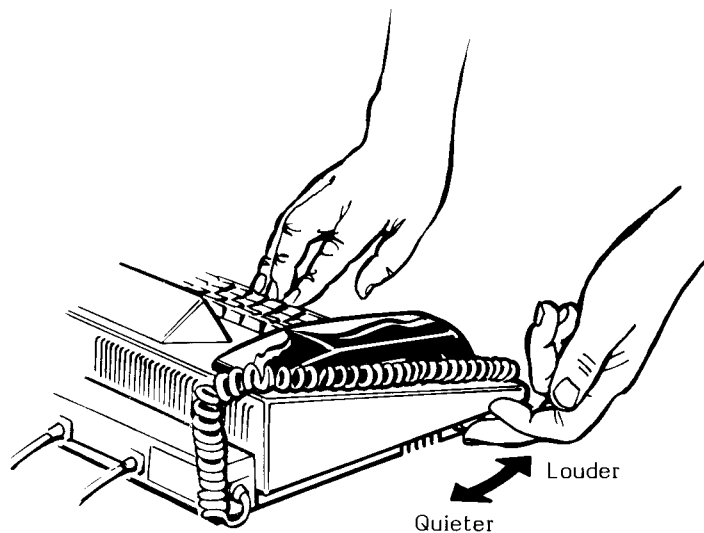
SEE PAGE 32 - PARA 7.

5.1 The Monitor.

- * Adjust the contrast control until the display is easy to read in the prevailing lighting conditions.

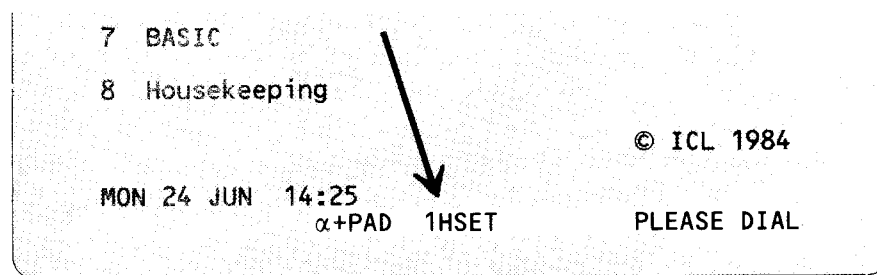


- * Press the space bar on the main keyboard and listen to the error tone produced. Adjust the volume control and repeat as necessary until the error tone is at a comfortable volume. This also sets the volume of an incoming ring.



5.2 Check line 1 as follows:

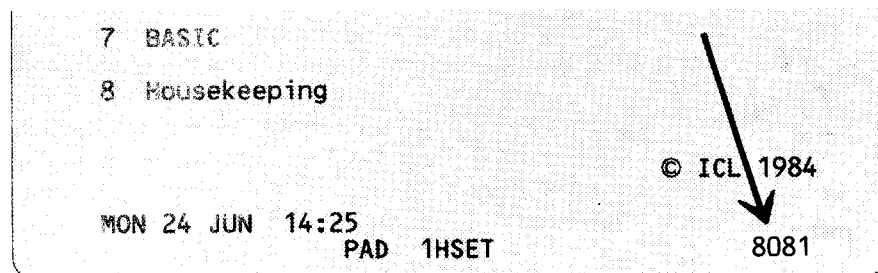
- * Pick up the handset and check that dial tone is present and that line 1 indicator is glowing. Check that the display shows line 1 selected for the next telephone call.



- * Make an outgoing test call and obtain a ringback using the numberpad on the right of the keyboard.



- * As the digits are sent to line they will be displayed on the screen.



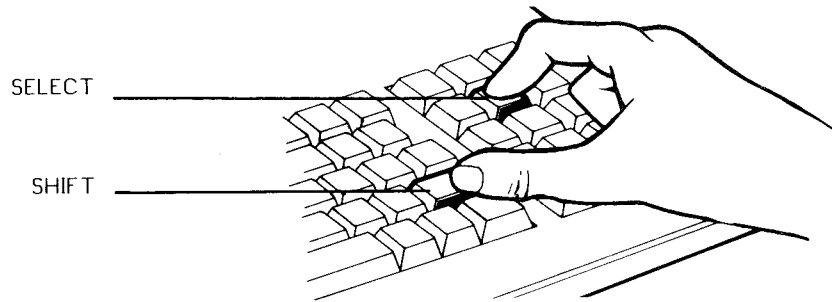
- * During the test call, check for satisfactory transmission and upon ringback ascertain the tone caller volume is adequate, if not adjust the volume control.

Note: If Tonto is connected to a PBX with a recall facility this should be checked at the end of the test call using the LIST/RECALL key on the top left of the numberpad.

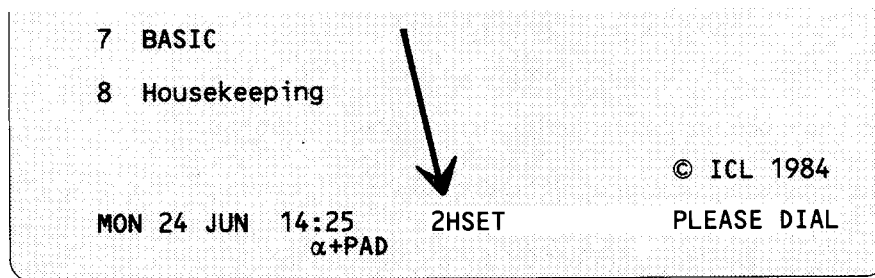
- * Replace handset.

5.3 Check line 2 (if fitted) as follows:

- * With handset on rest press and hold down the SHIFT key, then press the SELECT key. Release the SELECT key then the SHIFT key.

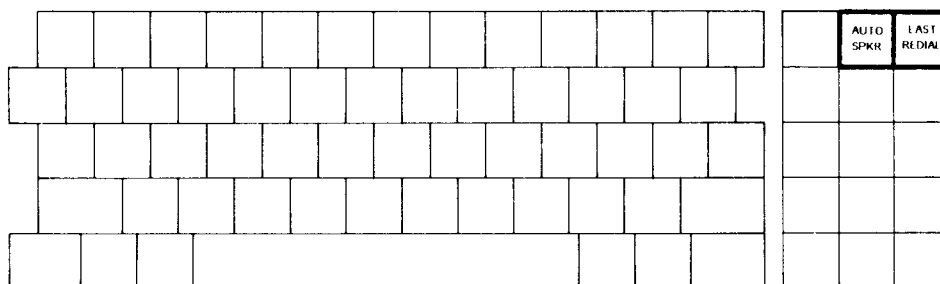


- * Pick up the handset and check that the display shows line 2 selected for the next telephone call, and the line 2 indicator glows.



- * Make a test call (or ring line 1) to check dialling. The number dialled will be displayed on screen.
- * Replace the handset as before.
- * Obtain ring back (or ring line 2 from line 1) to check receipt of an incoming call.

5.4 Check waiting amplifier and last number redial.



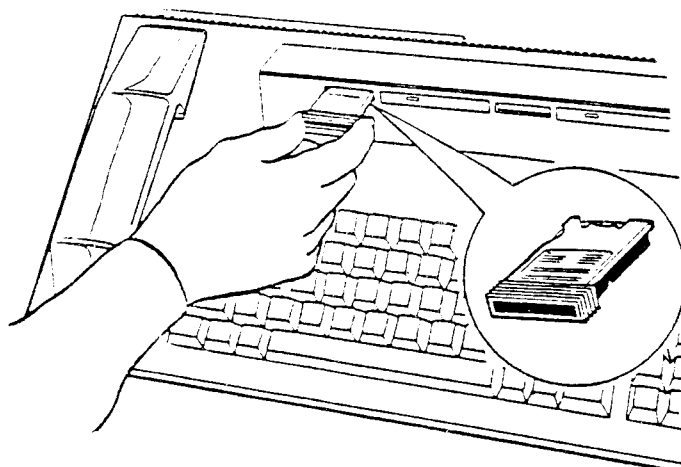
- * Press and release the AUTO SPKR key on the keypad. Tonto should seize line 1 and dial tone should be heard on the loudspeaker.
- * Press and release the LAST REDIAL key on the keypad. Tonto should dial and display on screen the number of the last test call made. If the error tone is heard when the 'last redial' key is pressed, the store in which the last number is kept is empty. Dial a number using the keypad and make a second attempt using the 'last redial' key.
- * Press and release the AUTO SPKR key on the keypad to clear the call.

5.5 Check that the Welcome package can be loaded and run.

The Welcome cartridge used in conjunction with the Welcome manual serves to introduce the customer to TONTO's facilities and give them some practice in their use. Installation staff should check that the cartridge can be loaded and run, but there is no need to be familiar with its contents. If customers require additional help in operating the more complex telephony features, or in running the application packages, then they should dial FREEPHONE TONTO for assistance. Installation staff must not train customers in the overall use of TONTO but politely refer them to the manuals supplied and to the existence of Freephone Tonto.

To check the Welcome cartridge proceed as follows

- * Remove the cartridge from its sleeve and without touching the recording tape place it in the left hand microdrive with the label uppermost.

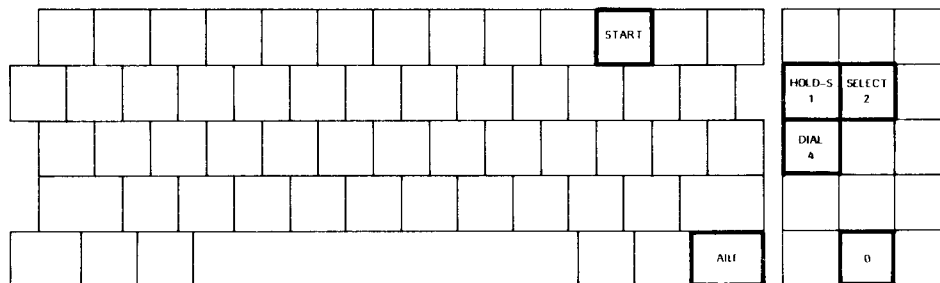


Load the Welcome program from cartridge to memory as follows

- * Press the START key The Top Level memory is displayed
- * Press the 4 key The Application Menu is displayed
- * Press the 1 key Tonto searches cartridge for programs

Note If difficulty is experienced with loading the Welcome cartridge then the 'Dead-on-Arrival' procedure 5.8.2. on page 26 should be carried out.

- * When the screen lists 'Welcome' enter the number beside it to run the Welcome program.



After approx 45 secs. a 'BASIC' screen will appear, and then 45 secs. after this the WELCOME program will start to run automatically. The monitor screen initially displays information by building it up paragraph by paragraph, and then stops, waiting for a command to proceed. At this point it can be assumed that the program is functioning correctly.

- * Press and hold down the red Altf key, Press 0 and release the Altf key. (Tonto removes Welcome program from memory).
- * Remove the cartridge from the microdrive and replace in its sleeve.

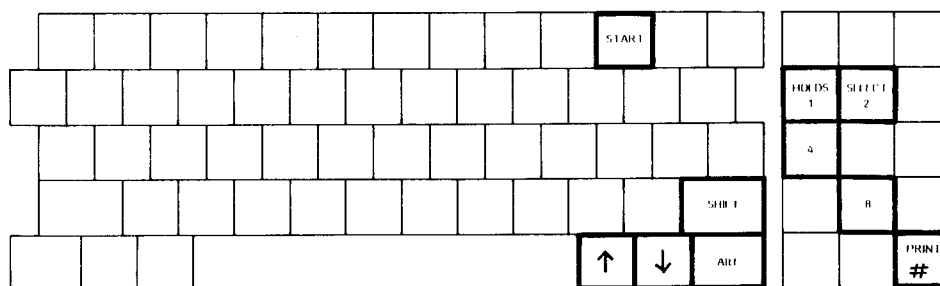
5.6 Checking the Right Hand Microdrive and Printer (if supplied).

The following instructions should be carried out regardless of whether a printer is being installed or not. This is in order to test that the right hand microdrive is working correctly.

5.6.1. Configuration.

Because a range of printers are available for use with Tonto, it is necessary to 'configure' Tonto so that it knows which one it has to work with. This is carried out as follows.

- * Insert the BASIC cartridge label side up into the right hand microdrive



- * Press the start key (The Top Level Menu is displayed)

- * Press the 4 key (The Applications Menu is displayed)
- * Press the 1 key (The Cartridge Menu and READ FAIL will be displayed)

Note If difficulty is experienced with the following, then the 'Dead-on-Arrival' procedure Para 5.8.3. on page 27 should be followed.

- * Press the 1 key (Tonto searches the cartridge in the right hand micro-drive and lists the programs.)
- * Press the number shown against 'CONPRIN' (Wait and Tonto will display the Printer Configuration Menu. At the top of the menu is shown the type of Printer that Tonto is currently installed to work with).
- * Using the ↑ and ↓ keys, move the bright bar on the screen to highlight the type of printer that is being installed. If no printer is being installed highlight MERLIN M1880.
- * Press and hold down the red AltF key, press 2 then release both keys. After a short time 'ACCESSING PERMANENT STORE' will be displayed followed by the Printer Configuration Menu which should now show the "currently installed printer" as the one you have selected.
- * Press and hold down the AltF key, press 8 then release both keys. (Tonto will now display the Top Level Menu and remove the configuration program from memory.)

At this point the right hand microdrive has been tested, and if a printer is not being installed then the remainder of the commissioning procedure 5.7 on page 26 should be carried out.

5.6.2. Print Test.

- * Check that the printer is 'ON LINE'.
- * With the Top Level Menu displayed, press and hold down the SHIFT key, press the PRINT key then release the SHIFT key.

The printer should now print the Top Level Menu displayed on the screen. If there is no response from the printer check the security of the printer to Tonto connecting lead, and then re-try the above. If there is still no response then the 'Dead-on-Arrival' procedure 5.8.4. on page 27 should be followed.

If horizontal white lines appear through the lettering of the printed text (or worse) then the printer is probably wrongly configured. Check the configuration again, and if still not successful, carry out the 'Dead-on-Arrival' procedure 5.8.4 on Page 27.

When the print text is satisfactory, then continue with the commissioning procedure.

Housekeeping

IMAGE PRINT - FOR BLACK + WHITE PRINTERS

MUST BE SET TO BLACK + WHITE
UNDER IMAGE PRINT

5.7 Check service in mains failure.

Under mains failure conditions incoming and outgoing service is only available on line 1. Although the tone caller will sound to an incoming call on line 2, the call cannot be answered and neither can an outgoing call be made.

Check mains fail conditions as follows.

- * Check 'Battery Low' message is not displayed.
- * Switch off mains supply to Tonto.
- * Lift handset. The line indicator will not glow, but dial tone should be present.
- * Make test call and obtain ringback.
- * Switch mains supply back on and wait for Tonto to complete its self tests.

The installation and commissioning of Tonto is now complete. Point out to the customer the Welcome cartridge and manual, and that the other manuals contain all the information for using Tonto. Tell them about Freephone Tonto so they know where to seek further assistance should they require it.

5.8 Dead-on-arrival procedures.

If the TONTO fails to function correctly at the time of the initial installation then the following procedure should be adopted.

5.8.1. Failure of the system to function correctly.

If the system does not function correctly at the time of installation then it will be necessary to determine whether it is the M1800 BASE SYSTEM that is at fault or the ROMPACK. To find out which, the TONTO should be disconnected from the mains and the ROMPACK removed. The TONTO should then be reconnected to the mains and retested. If the fault condition still exists, then the TONTO should be assumed to be faulty and returned with an A8807A label stating that it was 'Dead-on-Arrival'. If the self tests have been completed satisfactorily then the ROMPACK should be assumed to be faulty and should be returned with an A8807A.

Remember when repacking the items for return to stores that the M1800 BASE SYSTEM comprises the complete TONTO including the M1821 MESSAGING CAPSULE but excluding the M1810 or M1811 ROMPACK. Note that the M1811 ROMPACK also includes the Xchange manual and cartridges.

5.8.2 Failure of the TONTO to load 'WELCOME'

The Installation Engineer should have with him a spare M1850 WELCOME cartridge. (Note:- These are available in packs of 5. The item code is No.983058). If during the commissioning of the Tonto the Welcome Package will not load then it should be determined whether it is the cartridge at fault or the machine. The spare cartridge is used to determine this. If the Installers cartridge will not load into the system then the system is assumed to be at fault and the base system (ie M1800 BASE SYSTEM) should be returned complete with its packing and associated documentation with an A8807A label stating that the system was 'Dead-on-Arrival'. Otherwise the faulty 'Welcome Cartridge' should be returned to stores quoting the system serial number and the Customer should be provided with a replacement 'Welcome Cartridge'.

5.8.3. Failure of the TONTO to load 'BASIC'.

If Tonto fails to load the BASIC cartridge in the RH microdrive, then it is necessary to determine whether it is the M1800 BASE SYSTEM that is faulty or the BASIC cartridge. This can be accomplished by placing the WELCOME cartridge in the RH microdrive and making an attempt to load it by pressing the following keys in turn . . .
START 4 1 1 .

If the M1800 BASE SYSTEM is working correctly, then after a short time 'Cartridge name (R): BTWELCO 4' will be displayed on the screen, and the fault must lie with the BASIC cartridge and a replacement obtained.

If the above proves the M1800 BASE SYSTEM to be faulty then it should be repacked and returned with an A8807A stating that it was 'Dead-on-Arrival'.

5.8.4. Failure of the M1800 Printer.

The Printer on initial installation may not function correctly. The TONTO should be checked to ensure that it is configured to support that particular make of printer. (Note: This should have been set for the M1880 when leaving ICL). If the configuration is correct then the printer can be assumed to be faulty and should be returned with an A8807A stating that it was 'Dead-on-Arrival' and another supplied to the customer.

5.9 Stores Handling Procedures for returned Dead-on-Arrivals.

i) Cartridges

The cartridges are not covered by warranty and should not be returned to ICL, but should be sent quoting the TONTO System Serial Number to:-

Mr.C.D.Whitlum, Room 109, Anzani House, Trinity Avenue, Felixstowe, IP11 8XB.

ii) TONTO Base System or Rompack

The faulty items should be returned to ICL at the address below, along with a delivery note indicating the address to which the replacement item should be sent,

For the attention of Mr.B.A.Jones, Product Support Centre, ICL, Blackhorse Road, Letchworth, Herts, SG6 1EL.

iii) Printer

A faulty MP/1711/1A printer should be sent along with a delivery note indicating the address to which the replacement item should be sent to:

For the attention of Mr.Jeremy Banks, Walters Microsystems International, Matrix House, Lincoln Road, Cressex Industrial Estate, High Wycombe, Bucks, HP12 3RD.

Note: The above applies only to printers supplied by Walters Microsystems International. Instructions for dealing with printers from any other manufacturer will be given in future Tonto Notes.

6. MAINTENANCE

6.1 General.

Tonto may be maintained by Area/District Customer Apparatus Maintenance Technicians. Fault localisation is by functional testing and unit replacement techniques. No routine maintenance is required. It is the customers responsibility to change the battery. If a printer has been provided it is also the customers responsibility to change the ribbon cassette and paper. It is not a BT maintenance function to train customers in the use of Tonto or its software packages.

6.2 Fault Reporting and User Support.

Area/Districts will offer a comprehensive first level support service for both equipment repair and customer operational problems. Service Codes 1, 2 and 3 will be offered for equipment maintenance but assistance to users with operational problems will be restricted to normal office hours.

Customers may report both equipment faults and operational problems to a designated 'user assistance' point using a Freephone 'Tonto' service. Equipment faults will be forwarded to the appropriate RSC or fault control.

Second level support for complex programming or technical problems is available to Areas/Districts via the LCS/BSSU service desk.

6.3 RSC Procedures

If customers report faults direct to RSC's it is important for the RSC to establish with the customer whether the report has been correctly reported, or whether the report should have been referred to the 'user assistance point'.

Before authorising a Faultmans visit RSC's should ensure that the following conditions apply:

- a) That the system is covered by a BT maintenance agreement.
- b) That the mains supply hasn't failed or been switched off.
- c) That the system does not reset itself and clear the faults, if the mains supply is switched OFF and then ON.
- d) That the exchange line/s test O.K.
- e) That there are no error messages displayed on screen indicating an operational or software problem.

In most cases equipment faults will be obvious, but in cases of doubt the five main modules should be sequentially eliminated as likely faults by determining with the customer points 1 to 5 on the next page.

- | | | |
|---|-----------------------------|--|
| 1 | VDU MONITOR | - Both neons lit? Picture OK? |
| 2 | TELEPHONE MODULE | - I/C and O/G calls OK? Telephone facilities OK? |
| 3 | KEYBOARD UNIT | - Keyboard functions OK? |
| 4 | MICRODRIVES | - Both motors OK? Program loading OK? |
| 5 | BASE UNIT (INC. ROMPACK) | - Both Exch Line neons OK? Application package access OK? |

A negative response to any of the above pointers will indicate that an equipment fault probably exists and that an engineering visit by a Tonto trained technician is required. If all responses are positive it is likely that an operational problem exists and the RSC should refer the fault to the designated 'user assistance' point.

6.4 Documentation.

Merlin Product Manual
Customer Apparatus Guide Notes . . . (TGN 0031)
A comprehensive range of user documentation is provided with Tonto and its software packages.
Maintenance Information Sheet No.60
Maintenance information can be found on Prestel Page 540024141

6.5 Tools.

Screwdriver Instruments No.1, No.2, No.10 and No.11
Anti-static Kit

6.6 Handling Precautions.

Printed circuit boards are very fragile. Careful handling and correct packaging are essential.
Precautions should be taken to prevent static damage (Maintenance Information Sheet 018 refers). Printed circuit boards should always be transported in anti-static bags. Remember paperwork must not be put inside anti-static bags.

6.7 Warranty.

New units are date stamped and carry 14 months warranty from the date of manufacture. Spares and warranty replacement items carry 6 months warranty from the date of supply or repair.

ICL date code major parts at the front end of the part serial number or directly onto p.c.b.'s using 3 figures to represent the month and year. ie. 025 = February 1985. Warranty commences on the last day of the month shown. Spares are marked with the word 'SPARE' or 'SP' next to the date code. Parts which are themselves date coded, carry the 14 months warranty from the date indicated by the serial number on the underside of the control unit base cover.

6.8 Spares.

The following is the full list of TONTO spares. They should be retained in the packaging supplied by the manufacturer and that packaging must be used when returning faulty items for repair via Section Stock. Faulty Monitors and Rompacks should always be returned as complete assemblies with covers. Faulty Processor and Telephony PCB's must be returned without covers. Printers should not be repaired on site, and faulty printers should be returned to repair centres as complete units. Customers should be charged for covers that have to be changed due to damage using per occasion charging procedures. All faulty equipment must be accompanied by a completed A8807A indicating the warranty expiry date in section 1 if appropriate.

| RATE BOOK DESCRIPTION | ITEM CODE NO. |
|---|------------------|
| Main Modules | |
| *MOA M1800 Processor PCB | 98 3063 |
| *MOA M1800 Keyboard Sub Assembly | 98 3064 |
| *MOA M1800 Microdrive Assembly | 98 3090 |
| *MOA M1800 Telephony PCB | 98 3065 |
| *MOA M1800 Monitor (Complete) | 98 3093 |
| MOA M1885 Colour Monitor | 98 3103 |
| MOA M1887 Data Comms Adaptor | 98 3097 |
| Printers | |
| MOA Printer MP/1711/1A (M1880 Dot Matrix) | 98 1691 |
| MOA M1881 Daisy Wheel Printer | 98 |
| Miscellaneous | |
| *MOA M1800 Line Cord | 98 3088 |
| *MOA M1800 Handset and Cord | 98 3087 |
| MOA M1800 Mains Lead | 98 3092 |
| MOA M1800 Monitor/Base Cable | 98 3094 |
| *MOA M1800 PSU Fuse | 98 3091 |
| Covers | |
| MOA M1800 Control Unit Cover (inc.spkr & swhk) | 98 3069 |
| MOA M1800 Control Unit Base (Base of main unit) | 98 3070 |
| MOA M1800 Microdrive Cover | 98 3089 |
| MOA M1800 CRT Bezel | 98 3071 |
| MOA M1800 Monitor Case | 98 3072 |
| MOA M1800 Tel Module Base | 98 3073 |
| MOA M1800 Tel Module Cover | 98 3074 |
| MOA M1800 Rompack Base | 98 3075 |
| MOA M1800 Rompack Cover | 98 3076 |
| MOA M1800 Dial Label and Cover | 98 3098 |
| Software Packages | |
| *MOA M1810 Rompack | 98 3051 |
| *MOA M1811 Rompack with Xchange | 98 3053 |
| *MOA M1821 Messaging capsule | 98 3057 |
| Cartridges | |
| MOA M1850 Welcome Cartridge | 98 3058 |
| MOA M1851 BASIC Cartridge | 98 3059 |
| MOA M1853 Xchange Demo Cartridge | 98 3061 |
| MOA M1854 Xchange Help Cartridge | 98 3062 |
| MOA M1890 Microdrive Cartridges (Blank X 4) | 98 3077 |

6.9 Maintenance Kit.

Areas/Districts should set up Maintenance Kits consisting of the main modules, miscellaneous spares and software packages with the exception of the monitor which should be held separately. Carrying cases can be supplied by Topper Cases Ltd., St Peters Hill, Huntingdon, PE18 7ET.

6.10 Faulting Procedures.

The design of Tonto is such that it should be possible to quickly localise faults down to module or p.c.b. level by adopting a changeout procedure. Fault reports should be considered carefully in order to diagnose in which part of the installation the fault may lie. Use should be made of the Fault Diagnosis Flow Chart in Section 6.11.

Before commencing faulting the customer should be asked to save on cartridge any essential data by carrying out a 'SAVE STORE' in 'Housekeeping'.

Fault Examples.

Does the fault only affect telephony services? Possibly the telephony module, substitute and test.

Does the fault only affect 1 of 2 lines? Change lines over on LJU's and see if fault remains with the line, if yes, could be a line fault.

In some instances it may be necessary to substitute several of the existing items with items from the maintenance kit before the faulty one is found. In these cases remember to replace all the existing serviceable items and renew only those necessary.

Notes

1. No work must be carried out on the monitor whilst it is connected to the mains supply, since high voltages are generated in the monitor circuitry. Static charges may be present for some time after the mains supply has been disconnected and it is necessary to **wait for a full 3 minutes after disconnection from the mains supply, before opening the monitor case.** The only occasion the monitor case should be opened is to change the fuse or to replace damaged covers or monitor base lead.
Be extremely careful when handling or working upon the monitor since the tube itself will implode if damaged.
2. Full electro-static precautions should be taken whenever there is a need to open any of the modules. Electro-static matting should be used to protect the customers desk/table especially when removing the monitor chassis assembly from its casing.
3. To prevent damage to the system the mains supply must be disconnected whenever modules are plugged into or removed from the control unit. Before switching off, ask the customer to save on a cartridge any information stored in memory for loading later.
4. Maintenance staff are not expected to be familiar with the contents or usage of the application packages.
When it is suspected that a fault may be due to a program stored upon either a cartridge, Rompack or Romcapsule, the item should be substituted and the customer asked to run the program to help diagnose the fault as hardware or software related.
If operator error is suspected the customer should be asked to refer to the user manuals and then the Area/District User Assistance point via Freephone TONTO if necessary.

5. The 9V battery used to power the telephone for emergency calls during a mains failure, rapidly discharges if the handset is left off. If it is necessary to remove the handset whilst servicing Tonto, it is advisable to disconnect the battery to conserve its energy. If any difficulty is experienced obtaining a voice call under mains failure conditions, try replacing the battery even though the 'battery low' message is not displayed on the screen. Cells with a high internal resistance will cause problems under load, even though their terminal voltage is correct.
6. Before leaving the customers premises after a maintenance visit the system should be checked by following the commissioning procedure starting on page 20.
7. Functional testing of a Data call

Making a call to Prestel can serve as a simple functional check of the integral modem used on data calls.

A call can be set up as follows:

- *Press start key (top level menu displayed)
- *Press 5 key (the computer access menu is displayed)
- *Press 2 key (to set up a manual connect call)
- *Press 1 key (to set up the viewdata profile; at this stage dial tone is returned.)
- *Dial local access for Prestel. (eg London is 618)

When successfully connected to Prestel a page will be displayed which will request the input of a 10 digit numeric customer identity code. Keying in 10 '1's should return the message "wrong customer identity - please re-key".

To clear the call from Tonto, press and hold down the red function key 'f', press 6, then release both keys.

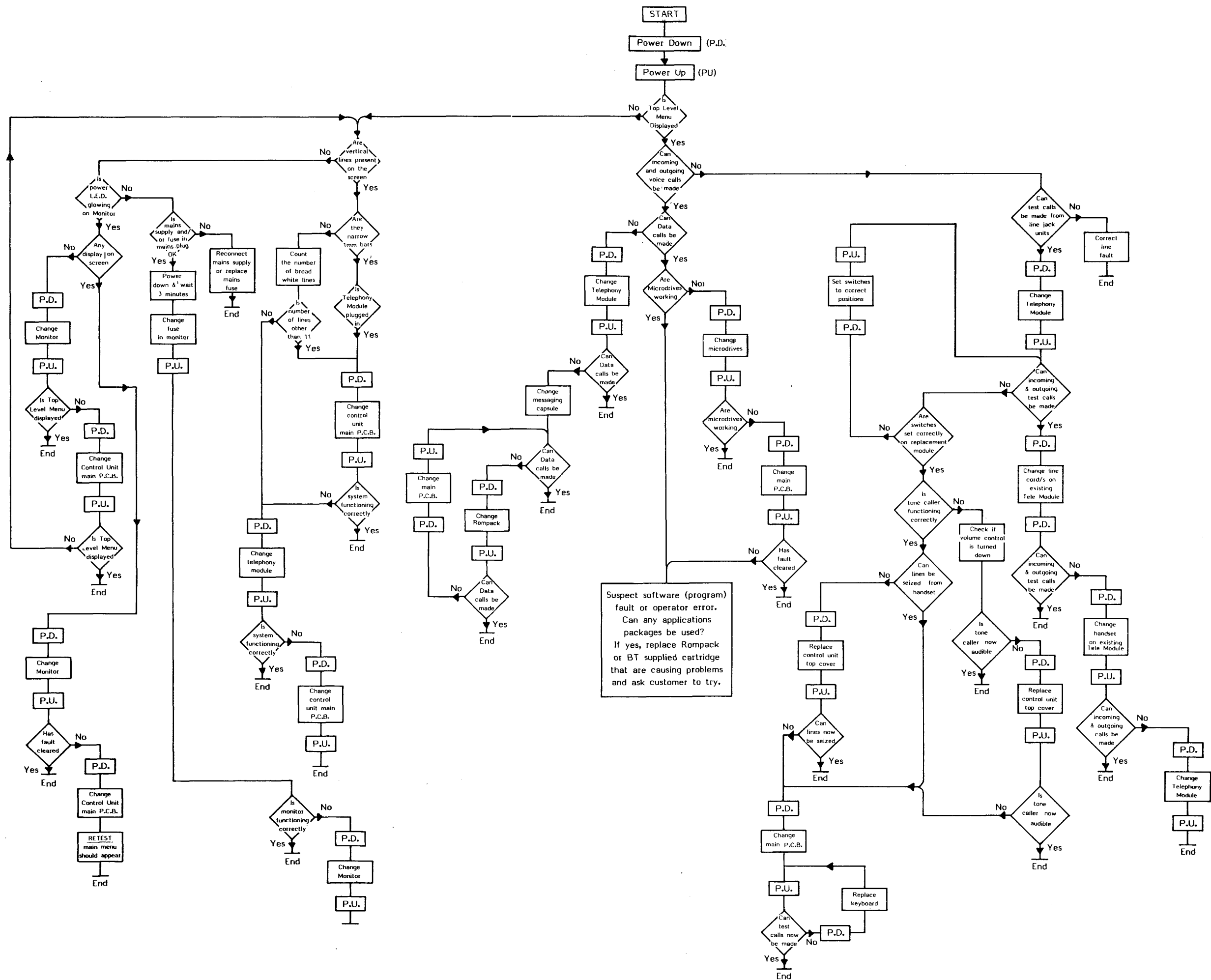
Now press the 'START' to return to the main menu.

FOR ACCESS TO PRESTEL KEY IN 10 '4'S AND THEN 4 '4'S

8. The configurator programme for Printer Configuration requires a large amount of store. On initial installation this store is available, but on a maintenance visit it may be necessary to ask the customer to delete some data by using the Housekeeping, 'Store Report'. The customer should first save on cartridge any essential data by carrying out a 'Save Store' in 'Housekeeping'.

6.11 Flow Chart for Fault Diagnosis.

By following the flow chart on the next page from START, it will be possible to locate most of the faults that will be encountered on Tonto. Given on the pages following the flow chart are details on the dismantling and re-assembly of the control unit, telephone module and monitor. As with all plastic assemblies care not brute force should be exercised when opening them otherwise they will be damaged. Item codes of replacement plastic parts are given on page 30.



7. DISMANTLING AND RE-ASSEMBLING THE MODULES.

7.1 The Monitor.

The only serviceable parts on the monitor are the mains lead, the power supply unit fuse, the monitor to control unit lead, the case and the front bezel.

Proceed as follows taking full electro-static precautions:

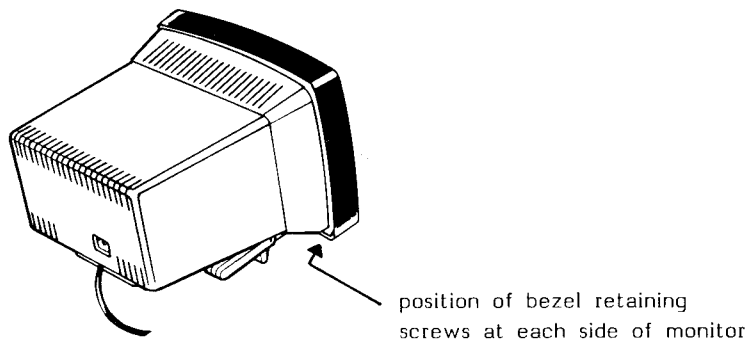
Dismantling:

*Disconnect mains lead from monitor and mains supply

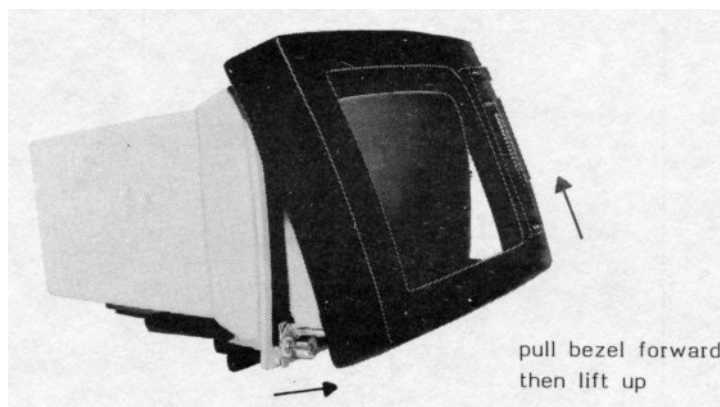
Wait 3 minutes for any static charges on the monitor circuitry to dissipate. See Note 1 on page 31.

*Disconnect monitor to control unit lead.

*Place monitor on electro-static mat and remove the 2 bezel securing screws using a No.10 screwdriver.

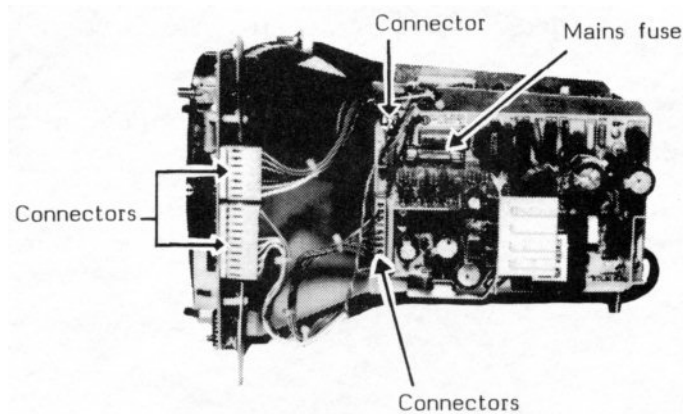


*Turn monitor the correct way up and facing towards you, and remove bezel by pulling forwards and upwards to disengage the top lugs.



*Ease the chassis assembly as a complete unit out of the case. If it jams during this operation, check that the lead to the control unit is not preventing it from being pulled clear.

*The mains supply fuse is positioned on the right hand printed circuit board as shown below.

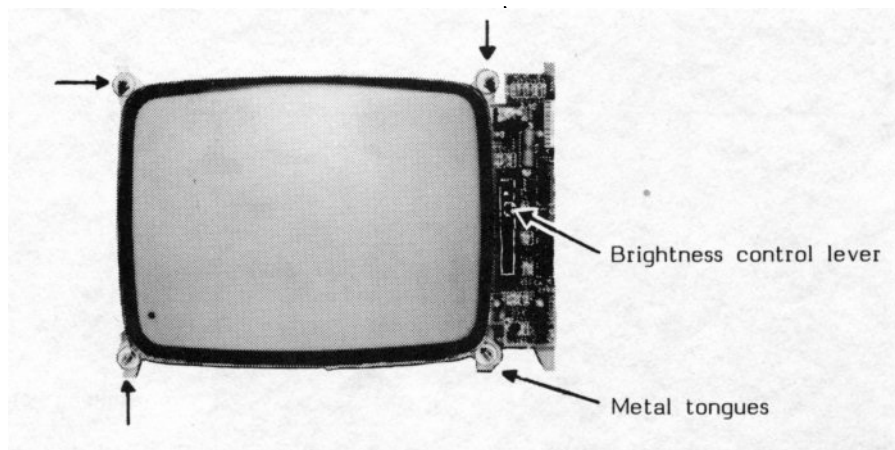


*The monitor and base unit lead should be changed only if there is evidence of physical damage. The connectors attaching the lead are arrowed on the illustration above.

Re-Assembly:

*With case correct way up and with stand lowered, ease the chassis back into the case whilst feeding the control unit lead through the rear of the case.

*With chassis in case raise the stand. To some extent the chassis is self locating in the case, but check that the 4 metal tongues on each corner of the chassis, cover and touch the 4 circular pillars on the case.



*Push the 'brightness control' lever (see above) upwards to the extent of its travel.

*Slide the 'brightness control' on the bezel upwards to the extent of its travel, so that it will engage the lever on the chassis.

*Offer the bezel up squarely to the case and screen so that the brightness control and ON/OFF switch levers and power LED's on the chassis, engage correctly with their counterparts on the bezel.

*Lift the bezel upwards and pushing backwards at the top, snap the bezel into position on the top 3 case lugs.

*Holding the bezel in position, carefully turn the monitor over and replace the 2 bezel retaining screws.

AFTER RE-ASSEMBLY ALWAYS CHECK THAT THE BRIGHTNESS CONTROL AND MONITOR ON/OFF SWITCH'S OPERATE, AND THE GLOW OF THE LED'S CAN BE SEEN CLEARLY.

7.2 Telephony Module.

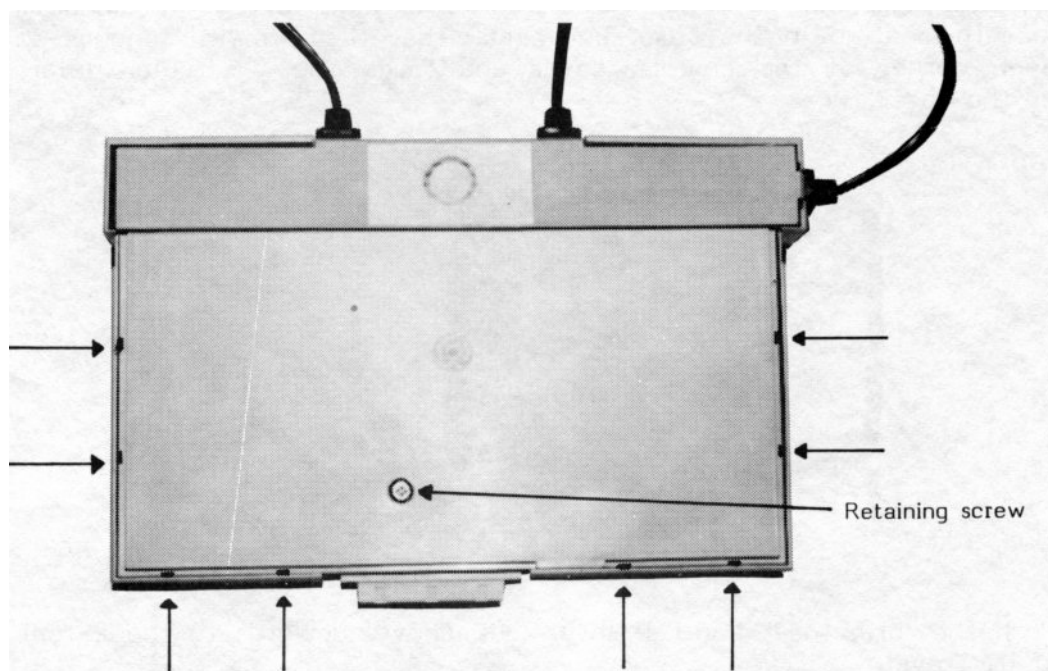
The serviceable parts of the Telephony Module are the line cords, handset and cords, plastic base and cover and printed circuit board.

Taking full electro-static precautions:

Dismantling:

*The base plate is held to the cover by the lugs which are arrowed on the illustration below and a single screw.

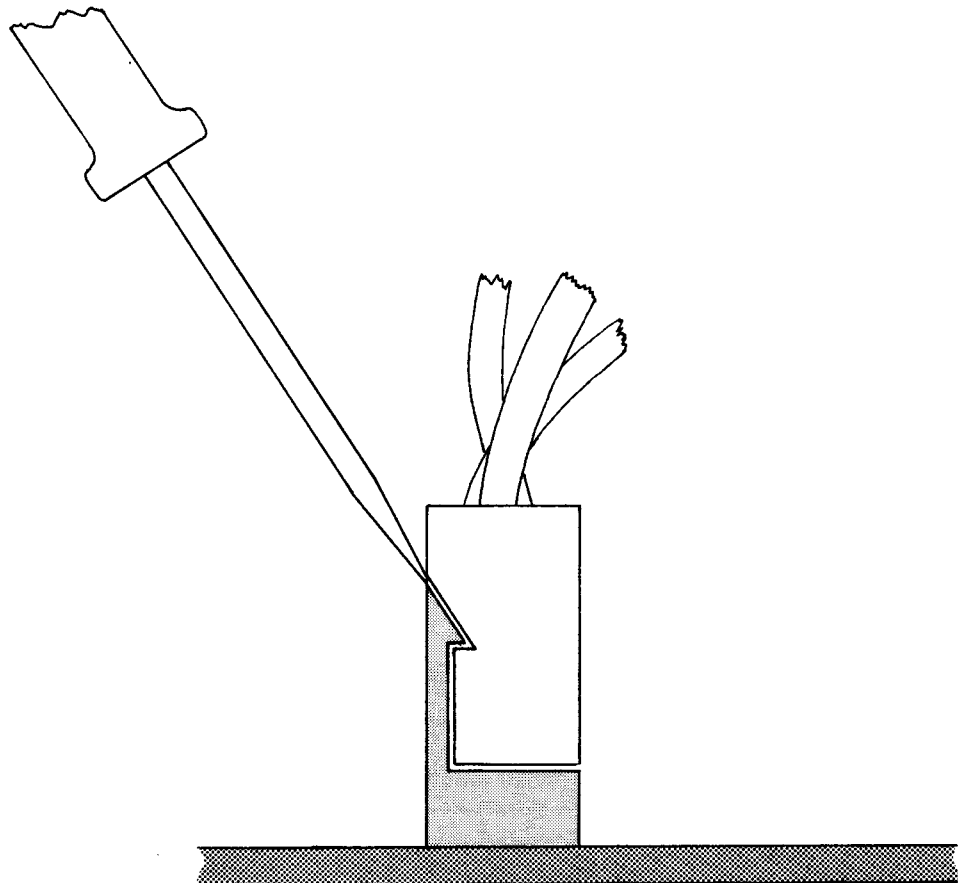
*Remove the retaining screw using a Screwdriver Instrument No.11.



*Remove the baseplate by disengaging the 4 lugs on the connector side of the module first. Now lift the base plate in the region of the connector, and the lugs on the 2 short sides will then disengage themselves.

*Lift the Printed Circuit Board (PCB) clear of the cover and detach the cord grommets from their guides.

*The connectors terminating the cords to the PCB are retained by a latch, which also serves to key the connector and prevent reversals. To remove the connectors disengage the latch using a screwdriver instrument No.1 as shown below.



Re-Assembly:

*Position the PCB component side down into the cover, and place cord grommets in their correct guides. Check that there are no cord conductors to be seen trapped between PCB and cover.

*Snap the base plate into position engaging the lugs.

*Replace the screw.

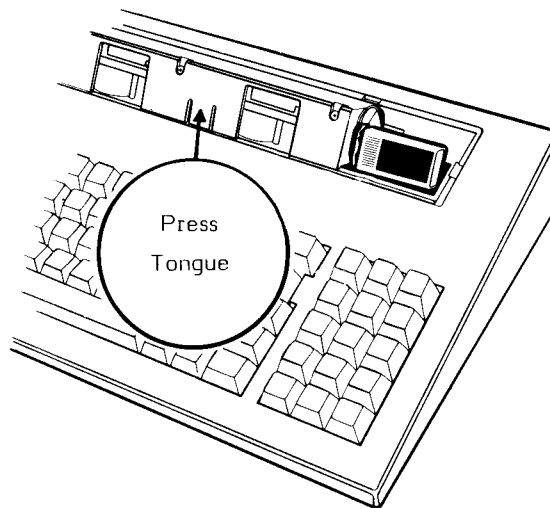
7.3 Control Unit.

The following parts can be replaced on the control unit. Plastic cover complete with switch-hooks and loudspeaker, base, microdrive cover, microdrive assembly, main processor pcb, keyboard pcb and dial label cover.

Taking full electro-static precautions:

Dismantling:

- * Disconnect mains supply.
- * Remove telephone module, Rompack, leads to monitor and printer (if fitted).
- * Remove the microdrives as follows.
 1. Remove the microdrive cover by pressing in at both ends and lifting clear.
 2. Remove the battery.
 3. Press in tongue illustrated below, lift assembly upward at front edge and forwards out of the cover. Rest the assembly on the keyboard.



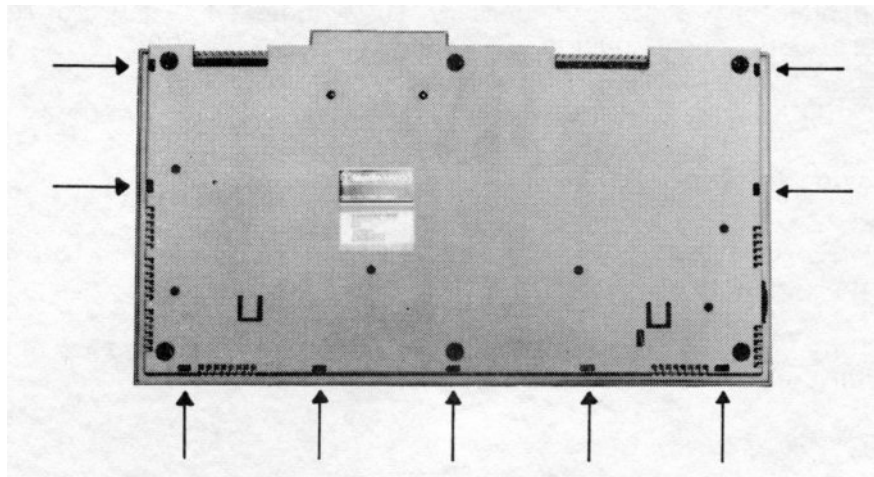
4. Feed battery connector through battery compartment in microdrive assembly.
 5. Disconnect the ribbon cable connecting the microdrives to the main processor pcb by unplugging from the processor board.
- * Place the microdrive assembly carefully to one side.

Remove control unit cover from base.

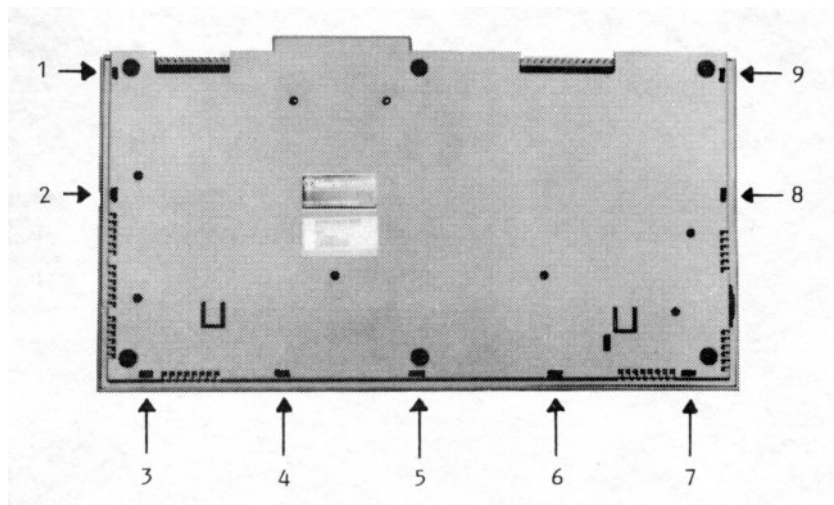
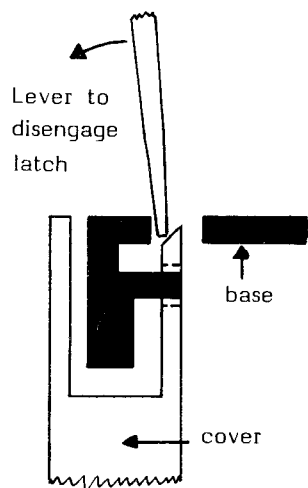
Note: The cover houses the loudspeaker and switch-hooks which are connected to the processor pcb in the base by fly leads. Any attempt to lift the cover clear of the base without disconnecting these leads may result in the loudspeaker and the switch-hook components being damaged.

Taking full electro-static precautions.

- * Look into the telephony module compartment and you will see two of the catches which secure the cover to the base. This will give you an idea of how they function.
- * Turn the control unit keyboard side down onto the electro-static matting.
- * Locate the slots above the latches as illustrated below.



- * Using a Screwdriver Inst No.2 disengage each latch in turn as shown below. Working in the direction indicated gently prise the cover from the base as each latch is disengaged.



- * With all latches disengaged, place the control unit correct way up on the matting.
- * Lift cover to one side sufficient to unplug the loudspeaker and switch-hook connectors from the p.c.b. The loudspeaker connector has a latch.

Removing the keyboard assembly.

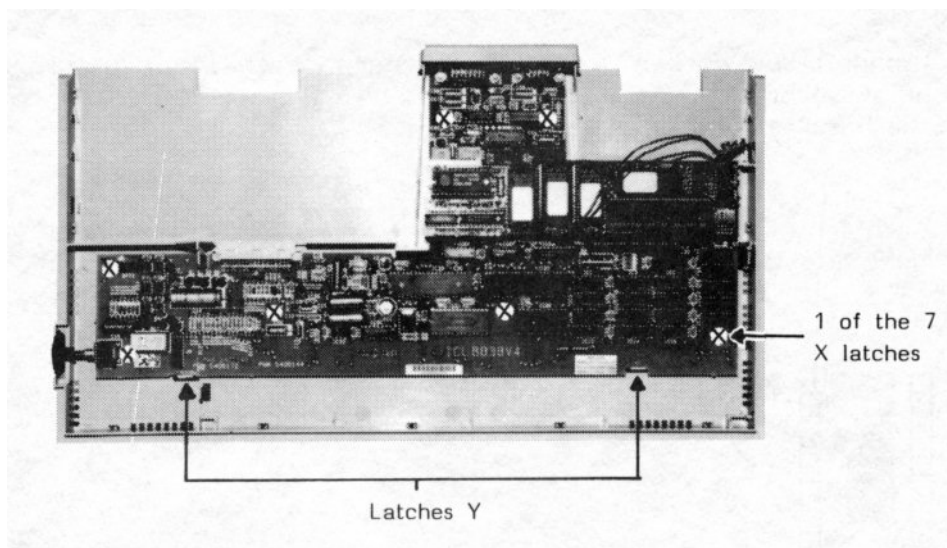
- * Note the position of the keyboard in between the locating ribs on the base. Lift and fold the keyboard over so that it rests 'keys down' on the p.c.b.
- * Remove the plug in ribbon cable connecting the keyboard to p.c.b. as follows.

Grip ribbon cable on each side between thumb and forefinger, immediately above the connector. Pull the ribbon cable vertically out of the connector. If it is necessary to 'wiggle' it a bit to release it, be careful it doesn't buckle.

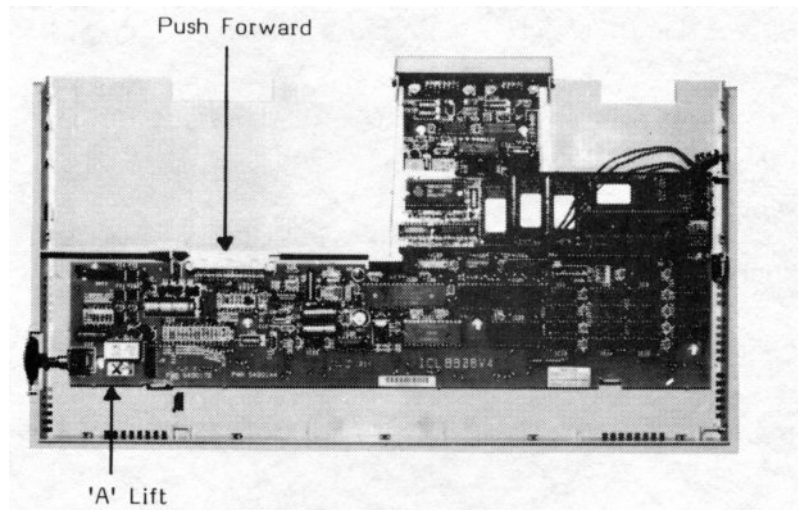
- * Place the keyboard to one side.

Removing the processor p.c.b. from the base.

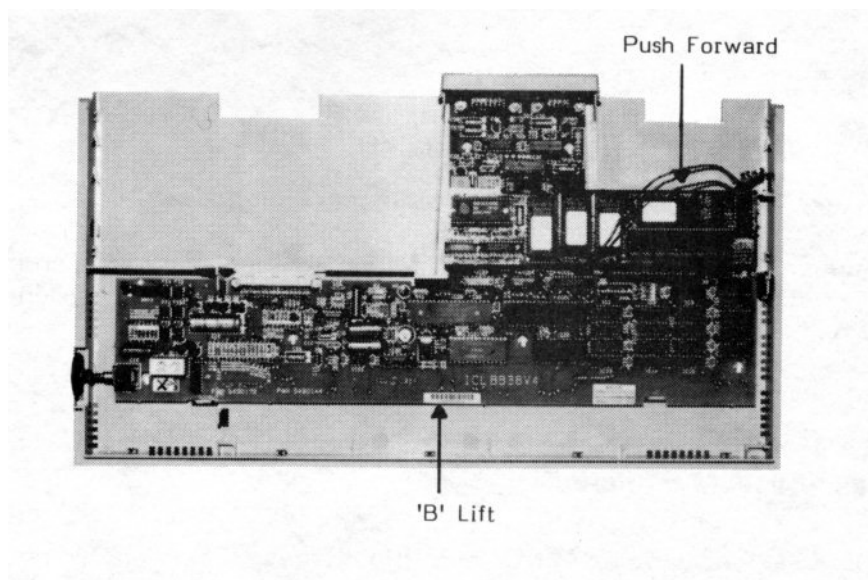
- * Find the latches marked X and Y on the illustration below, that clip the p.c.b. to the base.
- * Carefully remove the soft glue on latches Y using the blade of a screwdriver.



- * Release the left hand side of the board first by lifting gently at point A at the same time as pushing forward on the telephony module connector. If the pcb does not slide forward over the front latch Y push the latch downwards with the flat of a screwdriver blade.



- * Release the right hand side of the board in a similar manner to the above by lifting at point B and pushing forward on the Rompack connector. With all latches released the pcb can be lifted clear and placed to one side.



Re-Assembly:

The re-assembly of the control unit is the reverse of dismantling.

Replacing processor p.c.b. in base;

- * Position p.c.b. so that latch holes are directly above the latches.
- * Press down on p.c.b. and slide backwards so that latches engage board and it locks into position. There is no need to re-glue the board into position.

Replacing keyboard;

- * Place keyboard keyside down above the ribbon cable connector.
- * Gripping the ribbon cable as before, push it firmly down into the connector. Be careful not to buckle it.
- * Turn keyboard over and position it squarely between the locating ribs.

Replacing the control unit cover.

- * Re-connect loudspeaker and switch-hook leads.
- * Thread battery lead through microdrive aperture.
- * Position cover squarely over base and keyboard, then press down around edges to engage latches.

Replacing microdrive assembly.

- * Re-connect ribbon cable to processor p.c.b.
- * Feed battery connector and cable into battery compartment.
- * Engage lugs on back edge beneath cover, hinge forward and down so that front latch locks assembly into position. Check assembly is located squarely to cover.
- * Replace battery and microdrive cover.

7.4 ROMpack and ROMcapsules.

These have no serviceable parts and should be exchanged as complete units.

8 RETURN OF FAULTY PARTS TO THE MANUFACTURER UNDER WARRANTY.

8.1 TONTO Parts.

Tonto is supplied to British Telecom by International Computers Ltd. (ICL)

If Tonto fails after its initial installation then it should be restored to service on the customers premises by module or p.c.b. replacement.

ICL's Warranty to BT

14 months on Tonto equipment supplied as complete M1800 BASE SYSTEMS

14 months on all new ROMPACKS

6 months on all new spare parts other than ROMPACKS

6 months on all spare parts (including ROMPACKS) supplied as warranty replacements

NOTE THAT NO WARRANTY IS GIVEN ON MICRODRIVE CARTRIDGES

The major parts of Tonto are date-coded. Using this date-code, the Maintenance Technician can determine whether or not the part is still under warranty.

Parts that are not date-coded carry the warranty indicated by the date code on the underside of the control unit base cover.

8.2 The Date-Code

ICL's date-code consists of three figures - the first two represent the month whilst the third number represents the year. For example the date-code 025 indicates February 1985, 116 indicates November 1986 and so on.

The date-code may form part of a serial number in which case it is the first three figures e.g. in the serial number 025/000112 the date-code is 025. Alternatively, the date-code may be by itself, for example on printed circuit boards.

The date-code shows the month and year of manufacture or repair of a part. The appropriate warranty period for a particular part always commences on the last day of the month shown.

8.3 Determining whether a date-coded part is within its appropriate warranty period.

It is first necessary to decide whether the part is original or whether it is a spare part that has been fitted on a previous maintenance visit. Spare parts are marked with the words 'SPARE' (or the letters 'SP') next to the date-code. If this marking is not present then the part is original and hence carries 14 months warranty. Spare parts carry 6 months warranty.

8.4 Procedure for returning faulty parts under warranty to ICL.

The Field Maintenance Technician must indicate on the A8807A fault report form when a faulty part is still under warranty. The faulty part should be put in the packaging in which the replacement spare part was supplied and the fault report form attached. The faulty part should then be sent via Section Stock to the Area Repair Centre.

8.5 M1880 Printer.

If an M1880 Printer fails after its initial installation then the complete printer should be replaced. These printers carry 14 months warranty from the original date of delivery to BT. In order to determine whether a printer is within warranty, the Field Maintenance Technician should assume that the warranty commenced at the same time as the date code on the base of the Tonto control unit.

The faulty printer should be put in the replacement printer's packaging and an A8807A fault report form attached. This should indicate that the printer is under warranty. The faulty printer should then be sent to the Area Repair Centre who will check the printers serial number against its date of delivery to BT to confirm its warranty.

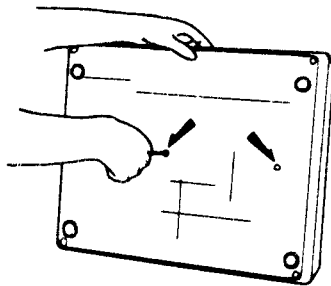
End

THE M1880 DOT MATRIX PRINTER.

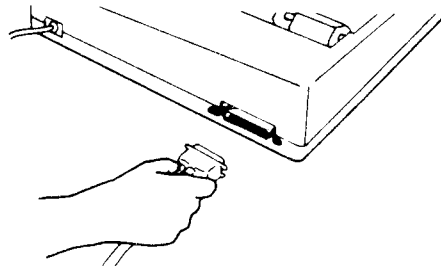
The M1880 Dot Matrix Printer is supplied preset and ready for use with Tonto. No attempt should be made to remove its casing or to alter internal switch settings. If it fails to function correctly during installation, or during the commissioning procedure outlined on Page 24, then it should be returned to Section Stock with an A8807A stating that it was 'Dead-on-Arrival'.

1. Installation.

- 1.1 Carefully unpack and remove the shipping screws.



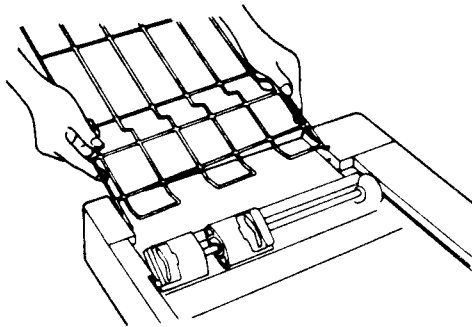
- 1.2 Lift the cover and check that the ribbon cassette is firmly in position with the ribbon between print head and platen (roller). Tighten the ribbon if necessary by turning the knob on the cassette anti-clockwise. If the cassette has not been fitted follow the instructions given later in this Appendix.
- 1.3 Connect the Printer to Tonto lead at the Printer end only, making sure that it is secure.



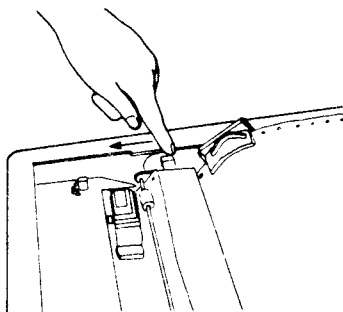
Connect the mains lead to the printer, but do not plug into the mains at this point.

1.4 Load the paper into the printer as follows.

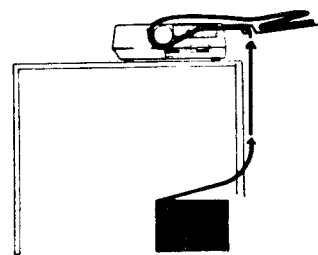
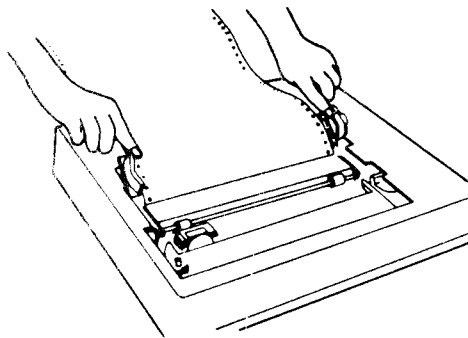
- 1 Fit the wire rack.



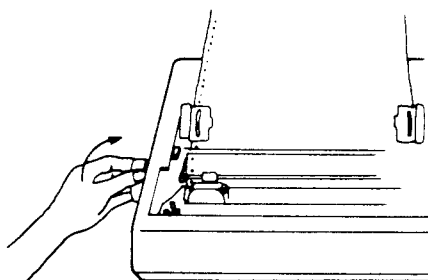
- 2 Pull the paper release lever forward. It should be kept in this position if sprocket feed paper is used.



- 3 Open the latches on the sprockets by lifting them upwards. The sprockets can be moved horizontally on their bar to match the width of the paper. Feed the end of the paper beneath the wire rack, and position it on the sprockets. Close the sprocket latches.



- 4 Feed the paper forward with the platen knob, until a perforation appears just above the print head. This setting will be placed in the printer's memory when it is switched on.



1.5 A print test can now be made as follows,

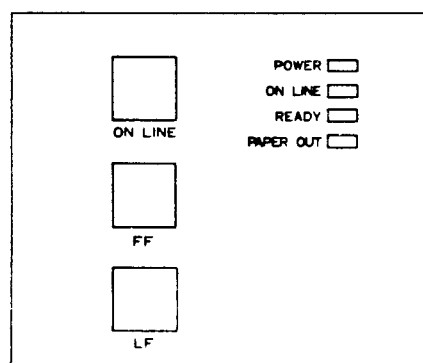
1. Hold down the LF button.
2. Plug in and switch on the mains.

All the characters will now be printed, with printing continuing for as long as the LF button is pressed.

1.6 **Switch off the mains supply** so that the Printer can be connected to Tonto later.

2. The Control Panel.

The functions of the lamps and switches on the control panel are as follows.



2.1 **POWER lamp:** Lights up when power is on.

2.2 **ON LINE lamp:** Lights up when printer is ready to receive data from Tonto for printing.

2.3 **READY lamp:** Lights when printer is 'on-line' ready for printing.

2.4 **PAPER OUT lamp:** Lights when paper has run out or is incorrectly inserted.

2.5 **ON LINE switch:** Used to connect the printer to Tonto for a print out.

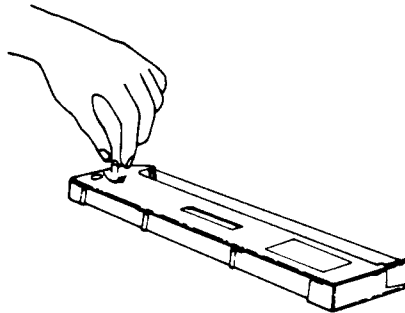
2.6 **FF switch:** The form feed (FF) switch advances the paper to the next sheet. The paper position is fixed in the printers memory when the power is switched ON. The ON LINE lamp must be out for the FF switch to work.

2.7 **LF switch:** The line feed (LF) switch advances the paper one line. The ON LINE lamp must be out for the LF switch to work.

3. Replacing the Cassette Ribbon.

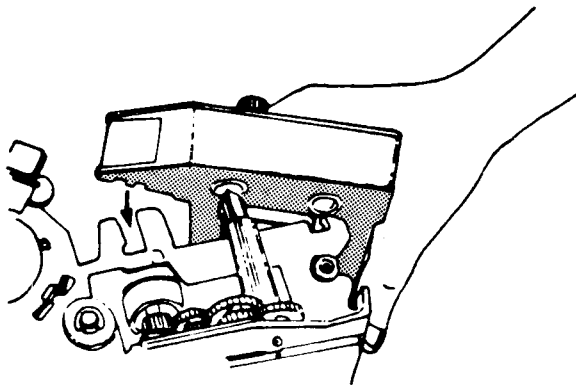
This is normally the customers responsibility. However, the instructions below are included in case the cassette has become displaced during transit.

- 3.1 Tighten the ribbon by turning the knob anticlockwise.



- 3.2 Push the Printer head to the left.

- 3.3 With the plastic knob on the cassette uppermost and on the left, place the cassette between the side frames of the printer mechanism so that the catches will engage with the cassette. The cassette should be tilted during this operation. Finally press the cassette firmly into position.



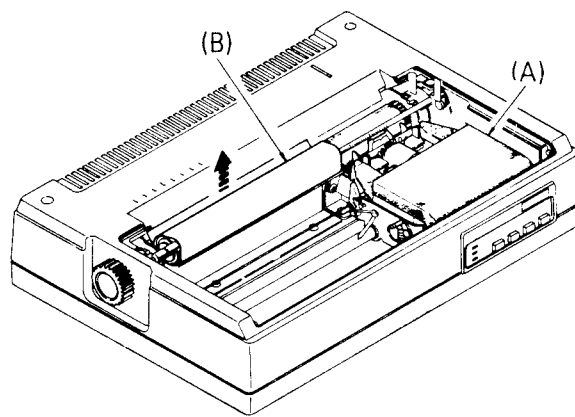
- 3.4 Tighten the ribbon again if necessary, checking that it is correctly positioned between printer head and paper.

The M1881 Daisy Wheel Printer.

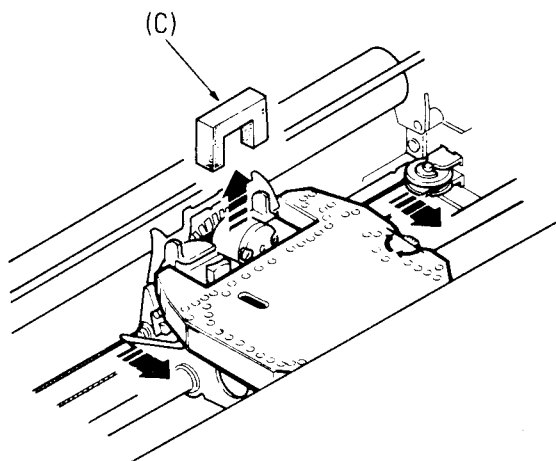
The M1881 Daisy Wheel Printer is supplied preset and ready for use with Tonto. No attempt must be made to remove its casing or to alter internal switch settings. If it fails to function correctly during installation or during the commissioning procedure outlined on page 24 then it should be returned to Section Stock with an A8807A stating that it was 'Dead-on-Arrival'.

1. Installation.

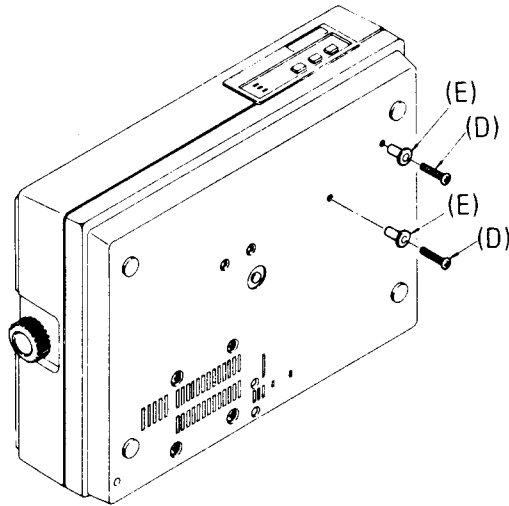
- 1.1 Unpack and remove the top cover by raising it and pulling it upwards. Remove the packing piece (A) on the cassette ribbon and pull out the paper (B) from the platen in the direction of the arrow.



- 1.2 Draw the cassette ribbon to the front and then remove the white transportation packing piece (C) by lifting upwards. Instructions for replacing the cassette ribbon are given later in this Appendix should this be necessary.

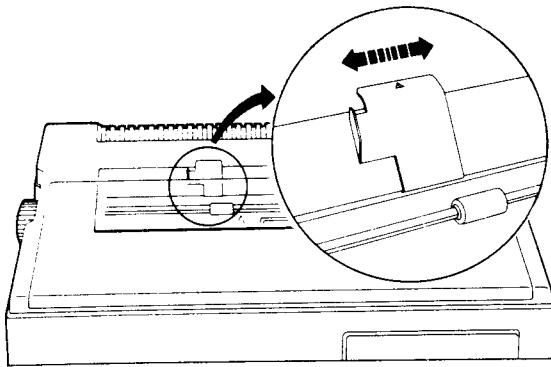


- 1.3** Remove the two shipping screws (D) and their collars (E).

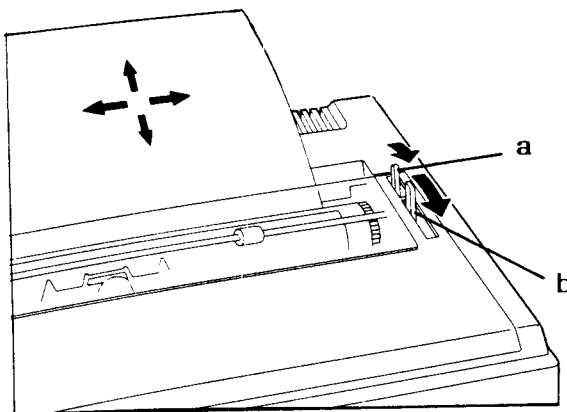


- 1.4** Load a sheet of paper into the printer ready for testing.

The paper should be aligned as follows.

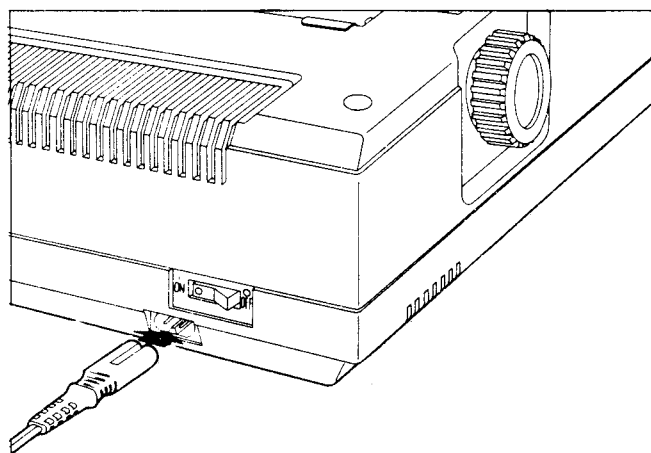


Use the paper guides to position the paper in a horizontal direction.



Use the paper release lever (a) and the paper bail lever (b) in conjunction with each other to free the pressure applied on the paper by the platen. This allows it to be set square and if necessary moved to the desired horizontal position.

- 1.5 Check that the Printer ON/OFF switch is set to 'OFF' and then connect the mains lead between the Printer and the mains socket. Switch the mains 'ON' at the socket if necessary.



- 1.6 A print test can now be performed as follows,

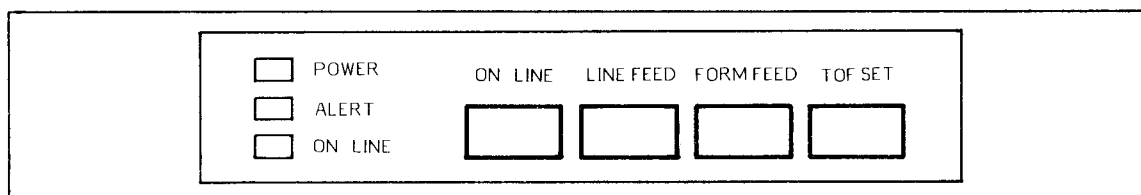
1. Press and hold down the 'LINE FEED' switch.
2. Switch mains switch to 'ON'.

A five-line printout should now occur.

- 1.7 Switch OFF mains supply at the socket.

- 1.8 Connect the Printer to Tonto lead at the Printer only.

2. The Control Panel.



The functions of the lamps and switches on the control panel are as follows,

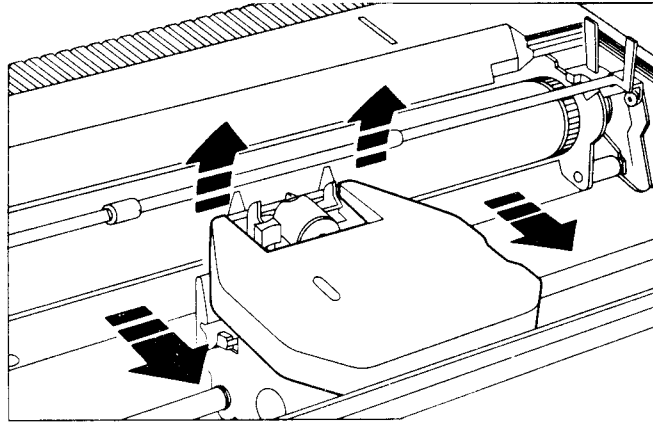
- 2.1 **Power Lamp:** Lights when power is on.
- 2.2 **Alert Lamp:** Lights when the ribbon is depleted or the cover is open.

- 2.3 On Line Lamp:** Lights when the printer is ready for printing. If an 'Alert' condition exists then this lamp will not light.
- 2.4 On Line Switch:** Used to switch the Printer 'on line' when a printout is required.
- 2.5 Line Feed Switch:** Advances the paper one line each time it is pressed. Continuous pressure on the switch will give a continuous paper feed.
- 2.6 Form Feed Switch:** Advances the paper to the next page when a continuous length of paper is used. When single sheets of paper are being used it will advance the paper out of the printer.
- 2.7 TOF SET Switch:** The 'Top of Form' switch. When the paper is positioned to the first printed line, pressing the 'TOF SET' switch puts the setting into the printers memory. The 'TOF SET' switch and the 'FORM FEED' switches can be used to automatically insert paper into the printer as follows:
1. Insert paper into position at the back of the platen.
 2. Press and hold down the 'TOF SET' switch and press the 'FORM FEED' switch. The paper will load automatically leaving a 25mm margin at the top.
- 2.8 The Bell:** A bell will sound if,
1. The cover is lifted (half a second).
 2. The carriage passes over the right paper margin.
 3. The daisy wheel and ribbon become entangled (five times).
 4. An 'Alert' condition exists.

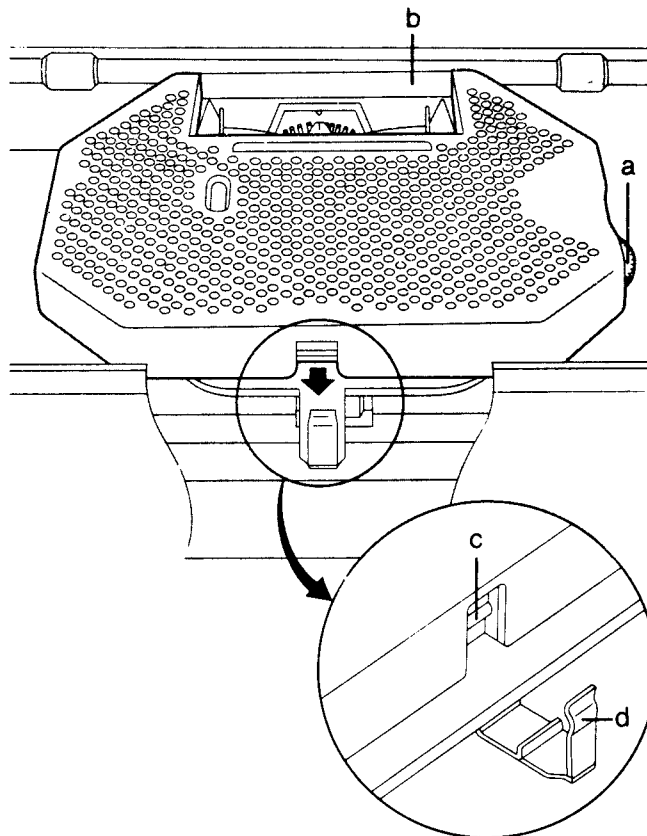
3. Replacing the Cassette Ribbon.

This is normally the customers responsibility. However, the instructions below are included in case the cassette has become displaced during transit.

- 3.1 Remove the top cover. Hold the ribbon with both hands and lift up at the front whilst pulling forwards.



- 3.2 Tighten the ribbon (b) by turning wheel (a). Position the recess (c) on the cassette in line with the cassette retainer (d). Push the cassette down until it clicks into position with the ribbon between the daisy wheel and platen. Retighten the ribbon if necessary.



HOW TO CHECK THE STORE ON THE TONTO

It may be necessary to FREE a section of memory to load another application. An example of this is the removal of the CONPRIN program used to set the printer up. If this were left in the STORE there would not be enough memory left to load and use the WELCOME PACKAGE .

To check to see how much memory is being used we need to go to the HOUSEKEEPING MENU and look at the STORE REPORT by pressing 8. This will display the store report and give a description on how to delete information from memory when not required. -----

IMPORTANT THE DELETION FACILITY REMOVES THE INFORMATION COMPLETELY FROM MEMORY AND SHOULD ONLY BE USED BY BT ENGINEERS AT THE TIME OF INSTALLATION ONLY.

TO USE

| | |
|--------------------------------|-------------|
| PICK ITEM TO BE DELETED | USE TAB KEY |
| TO DELETE | PRESS f1 |
| OK TO DELETE message displayed | |

ONCE THE Y KEY IS PRESSED THE INFORMATION IS IRETRIEVABLY REMOVED . NOT TO BE USED AFTER INSTALLATION OR COMPLETE MAINTENANCE CHANGE.
