British TELECOM

QWERTYphone™
User's guide

QWERTYguide

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APPROVED for connection to telecommunication systems specified in the instructions for use subject to the conditions set out in them.

S/S IND No. /5/1000 3 6 500495

Contents

Welcome to the QWERTYphone

The QWERTYphone is designed to be user friendly and therefore the easiest way to learn about all its facilities is to use it. DO NOT BE AFRAID TO TRY THINGS OUT. YOU CANNOT HARM THE QWERTYphone by simply pressing a few wrong keys.

Because the QWERTYphone is so friendly the user guide is designed to be used in conjunction with the QWERTYphone. It uses the actual screen formats to walk you through the functions provided. It does not explain everything however and does allow you to explore!

The first section explains how to install the QWERTYphone. The second guides you through the setting up procedures. You will then be able to make telephone calls!

Once you have set up your QWERTYphone you can study the advanced features at your leisure.

Different functions have been described in separate sections so that you need only read those sections relevant to you.

If you are not sure about the names used for the various parts of the QWERTYphone refer to the labelled diagram in the Getting Started section of this guide.

Telephone sockets

Your QWERTYphone has a telephone lead fitted with a new style British Telecom plug. If you need a new style socket, refer to Appendix 3.

Conventions

This page explains some of the terms which will be used with particular meanings throughout this guide.

Select   means press the screen key next to the screen option you require. For example: "select the 'Dial' option" means press the screen key next to the option 'Dial' shown on the screen.
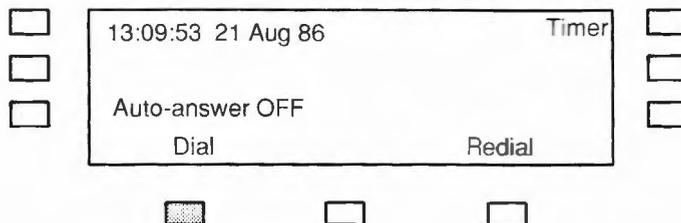
Some options on the screen include additional status information. This is always given in block capitals for example 'Auto-answer ON'. When you select these screen keys the current status changes and the new status is displayed in block capitals.

Press   means press a key on the keyboard. In some cases this will be a shifted key. For example: "press the [Send] key" means press the [Memo] key while the [Shift] key is depressed.

Idle screen   This is the screen which is displayed on your QWERTYphone when none of the features are in use. You can always return to the Idle screen display by pressing the ⬚ EXIT ⬚ key.

Configure   Configuration is the term used for the process of setting up the QWERTYphone so that it will operate in a particular way.

If you are not sure about the names used for the various parts of the QWERTYphone refer to the labelled diagram in the Getting Started section of this guide.

Installation

Unpacking

Remove the QWERTYphone from its packing and check that everything has been supplied. As well as this guide the box should contain:

- One QWERTYphone
- 4 AA batteries
- One interlock plug

Points to note

The batteries ensure that, should the mains supply fail, any "setting up" information in the QWERTYphone is not lost. They also allow calls to be made using the handset during mains failures. No screen display is provided during mains failures, however.

Installation

To install the QWERTYphone follow these simple steps:

1 Place the QWERTYphone on a firm surface.

2 Carefully pull out the telephony module.

Handset rest area

Withdraw the Telephony module
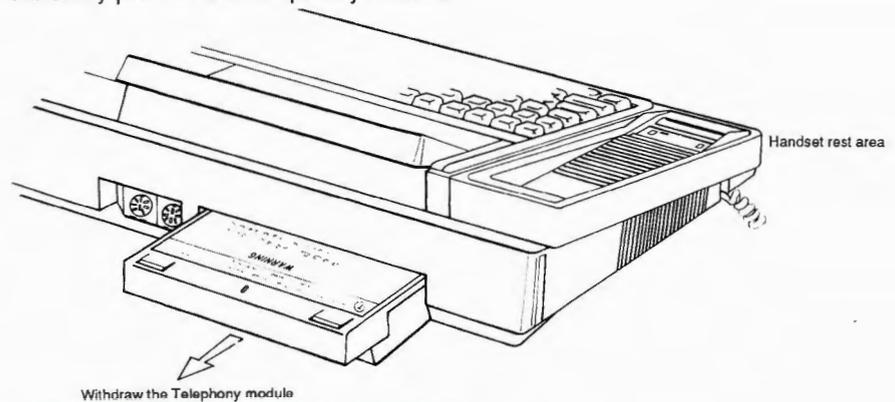
3   Place the QWERTYphone face downwards.

4   Lever out the interlock plug using an instrument such as a small bladed screwdriver.

5   Release the catch by pushing it towards the outside of the machine.

Lever out the interlock plug

Release the catch
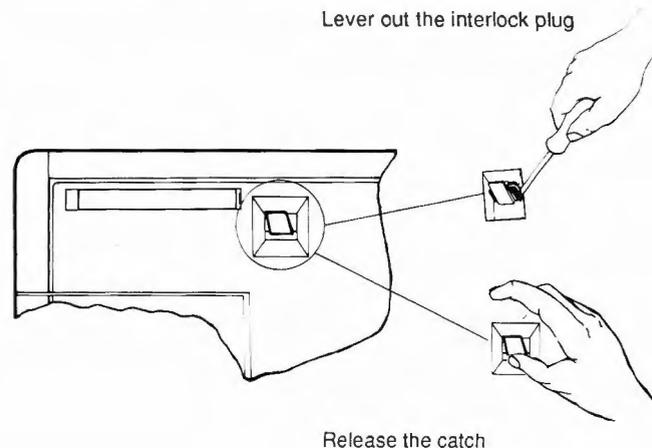
6   Turn the QWERTYphone over.

7   Pull the handset rest area forwards and lift out the battery carrier.

Warning   **Do not replace the telephony module while the handset rest area is open**

Handset rest area

PC port

Printer port

Socket for second
directory module B

Directory module A
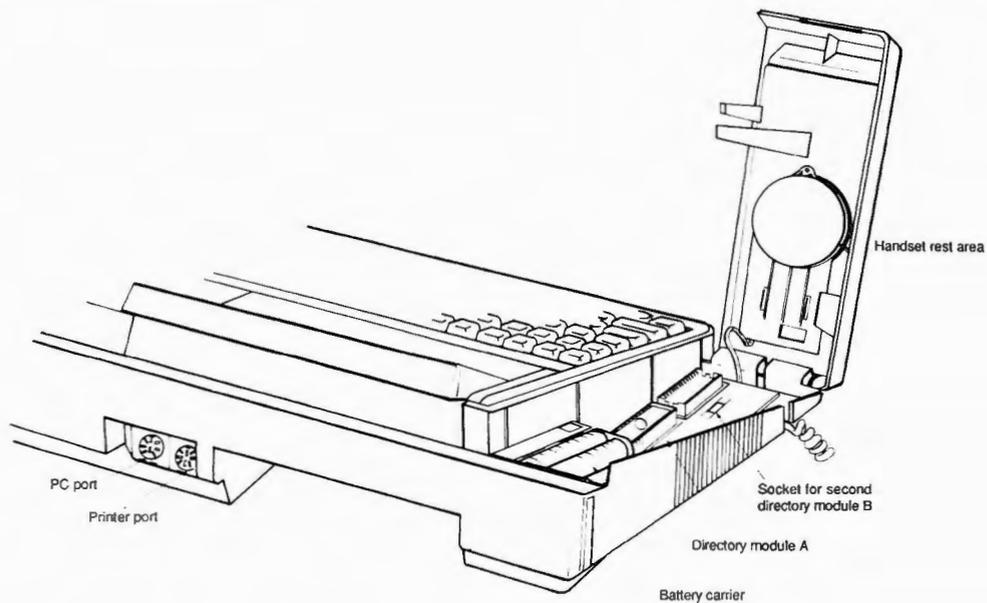
Battery carrier

8   Insert the batteries into the carrier, being careful to match the polarity markings
     on the batteries to those marked on the carrier.

9   Replace the battery carrier and lower the handset rest area.

10   Replace the interlock plug.
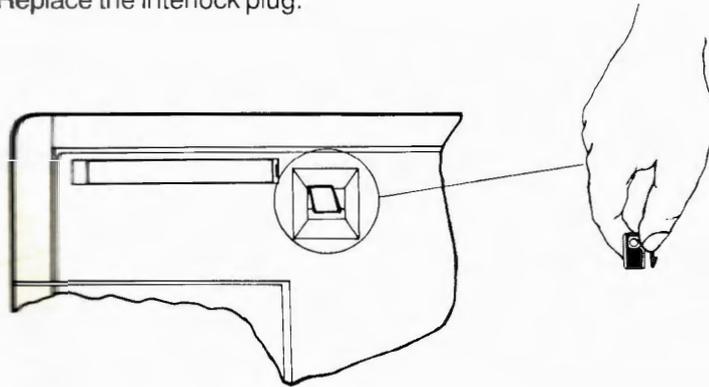
Warning   **Close the handset rest area and replace the interlock plug before fitting the telephone module**

11   Push the telephony module back into place.

12   Plug the mains and telephone plugs into the appropriate sockets.

13   Lift the handset and you should hear dial tone.

You have now installed your QWERTYphone

Printer

The QWERTYphone is already configured for printers purchased from BT. Printer installation instructions are supplied with the printer.

If you purchase a printer from another supplier you may need to re-configure your QWERTYphone. Refer to the Printer section of the Comms Configurator (See Appendix 1).

Points to note

The batteries are not rechargeable and must be changed regularly. Under normal use once a year should be enough but if the QWERTYphone is used frequently during power failure OR if frequently turned off for long periods the batteries should be changed more often.

To prevent the loss of "setting up" information do not disconnect your QWERTYphone from the mains while changing the batteries.

This section describes your QWERTYphone and also tells you how to configure it ready for use.

The QWERTYphone

The QWERTYphone consists of a keyboard, integral screen, telephone handset. integral modem and telephone keypad. Peripherals can be attached to the two ports at the rear of the QWERTYphone.

The keyboard is shown below.
The diagram opposite identifies the various parts of your QWERTYphone.

Function keys

Mute key

Recall key

Screen keys

Volume control

Telephone key pad

Screen viewing
angle control

Handset rest area
[Battery & directory
module compartment
beneath]
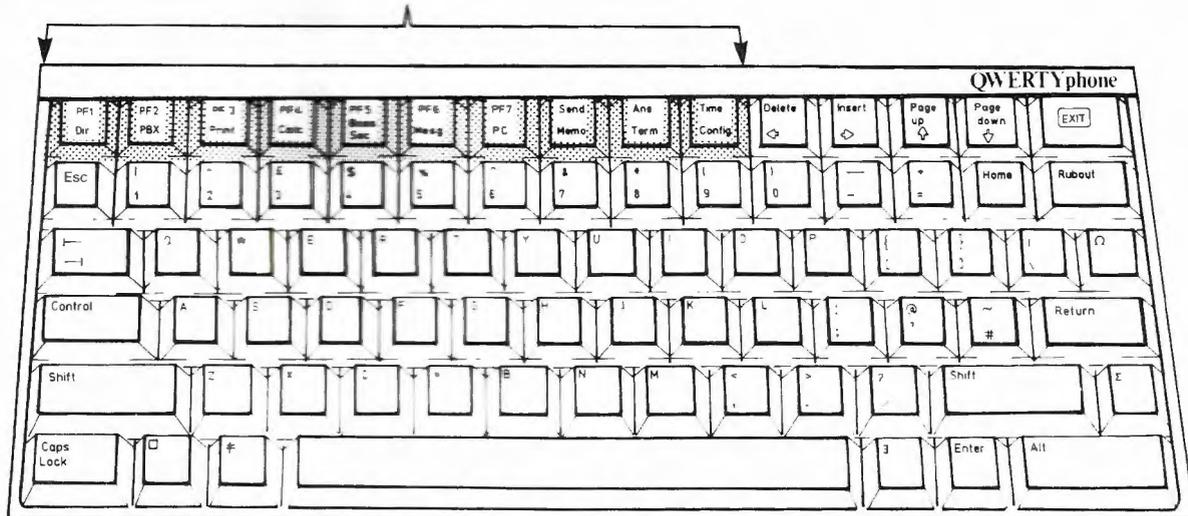
QWERTYphone

Setting up the Telephone

You have now been introduced to the layout of the QWERTYphone. Before you can make calls from it some simple configurations are required.

When the QWERTYphone is first powered up the screen below is displayed:

```
    ☐          ┌─────────────────────────────┐          ☐
                │            LINE 1            │
    ☐          │                             │          ☐
                │                             │
    ☐          │  EL recall      PULSE dialling│         ▓
                │                      Next    │
                └─────────────────────────────┘
                   ☐         ☐         ▓
                                   Ringing selections
```

Select EL recall for PBX
extensions
Select TB recall for direct
lines on System X
exchanges.
You will not need to
change the selection if
neither of the above apply

Select PULSE for direct lines
Select TONE for PBX extensions
Select PULSE/TONE if you will
need to change from PULSE to
TONE dialling during a call - to
access a voice messaging service
for example

Select the appropriate options for the type of telephone line your QWERTYphone is connected to. If you are not sure about the line type consult your PBX operator, comms manager or your local British Telecom District Office.

Setting up the Ringer

Selecting the option 'Next' presents you with a choice of six ringing options. The screen looks like this:

```
☐     ▶ Warble 1      LINE 1        Warble 3      ☐
☐       Warble 2      RINGER        Arpeggio      ☐
☐       Scale                       Tune          ☐

          ☐             ☐             ☐
```
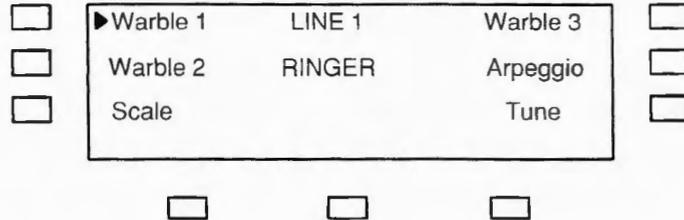
Choose one of the ringing options by selecting it's screen key. An arrow will appear on the screen to indicate your chosen selection.

To try out the different options, get someone to call your QWERTYphone's number. You will be able to choose the one you want while the QWERTYphone is ringing.

You can now use the QWERTYphone as a telephone. Just lift the handset and dial some numbers! The next section describes some of the more advanced telephony features available to you.

The previous section described the use of your QWERTYphone as a simple telephone. This section describes some of the extra features that you can use when making telephone calls.

Loudspeaking telephone

The QWERTYphone can be used as a loudspeaking telephone. This allows you to hold telephone conversations "hands free".

To make outgoing calls follow this procedure:

1   Press EXIT to obtain the Idle screen.

2   Select the 'Dial' option and key the number in.

When the call is answered do not touch the handset - just speak. You will see the screen displayed below.

```
┌──────────────────────────────────────────┐
│ 07:29:26       14 Jun 86         00:00:42 │
│ 9272606 ◀                                 │
│                                           │
│      Hang up                  New Call    │
└──────────────────────────────────────────┘
```
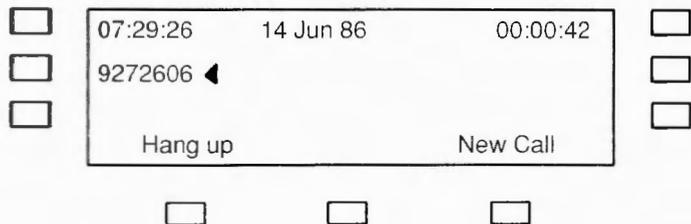
3   Once your call is completed select the 'Hang up' option.

For incoming calls the procedure is very similar:

When the QWERTYphone rings

Press [EXIT] to obtain the Idle screen

```
┌─┐   ┌──────────────────────────────────┐   ┌─┐
└─┘   │ 13:09:53  21 Aug 86        Timer │   └─┘
┌─┐   │                                  │   ┌─┐
└─┘   │                                  │   └─┘
┌─┐   │ Auto-answer OFF                  │   ┌─┐
└─┘   │       Answer                     │   └─┘
      └──────────────────────────────────┘
          �        ┌─┐        ┌─┐
                         └─┘        └─┘
```
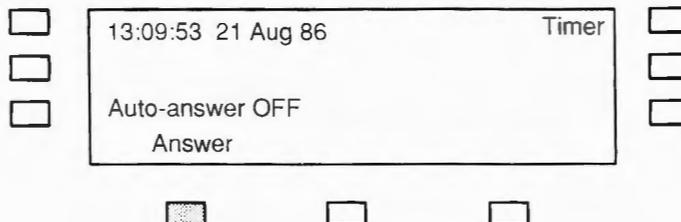
Select the 'Answer' option and proceed as before

Points to note

■ You may pick up the handset at any time and shuttle between the handset and the speaker by selecting the appropriate screen key option.

■ If you want to make another call immediately select the 'New Call' option and dial the new number.

■ On poor connections or in noisy local environments you may prefer to use the handset rather than the loudspeaking facility. The quality of speech obtained with the handset will always be more natural.

Time and date

On the idle screen you will see the time and date displayed. When the QWERTYphone is first powered up the time and date need to be set.

1   Press **Config.**

```
┌─┐   ┌──────────────────────────────────────┐   ┌─┐
└─┘   │ Time          CONFIGURE       Comms  │   └─┘
┌─┐   │                                      │   ┌─┐
└─┘   │ Date                          PF keys│   └─┘
┌─┐   │                                      │   ┌─┐
└─┘   │ PBX type                      Security│   └─┘
      │              Telephone               │
      └──────────────────────────────────────┘

         ┌─┐          ┌─┐          ┌─┐
         └─┘          └─┘          └─┘
```
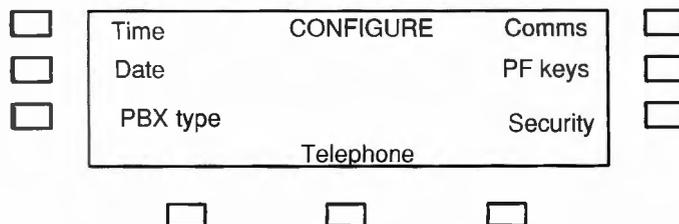
2   To change the date or time select the appropriate screen key option. You will then be prompted to enter the correct date or time

3   Complete the entry by pressing the **Return** key.

Points to note

■   The QWERTYphone uses a 24 hour clock.

■   By calling Timeline (the speaking clock) before setting up the time you can make sure that it is accurate.

■   Press the **EXIT** key to check that the date and time are now correctly displayed on the Idle screen.

Timing calls

The QWERTYphone allows you to time calls. The timer is displayed on the idle screen.

The timer will start:14 seconds after the last digit has been dialled
OR
when the 'Timer' option is selected.

The timer is stopped when you hang up.

Selecting the 'Timer' option when no call is in progress displays the duration of the previous call.

Points to note

If you have a printer, you can obtain a printed record of each call. Press the
Print key before replacing the handset or selecting the 'Hang up' option.

The Idle screen will be printed, providing the following information.

Time and date of call

Duration of call

```
07:29:26    14 Jun 86              00:00:42
9272606◄


        Hang up              New Call
```
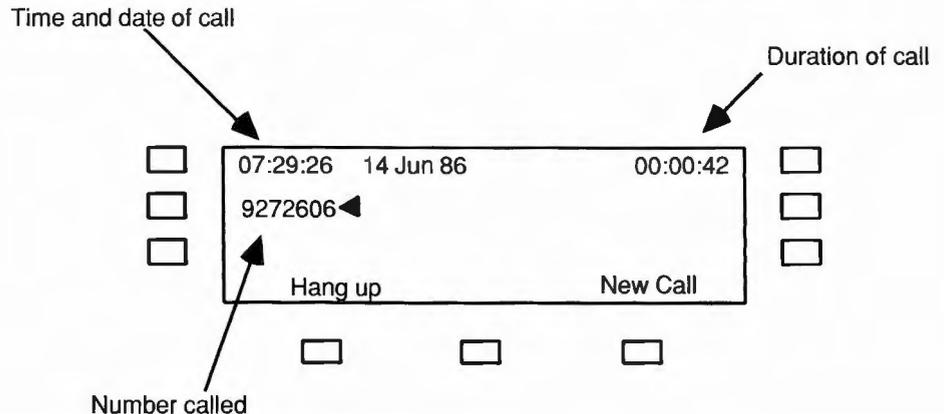
Number called

Redialling calls

The QWERTYphone will automatically redial the last number called. The 'Redial' option is available on the Idle screen.

Privacy feature

The Mute key provides a local privacy feature. It is located on the telephone keypad immediately below the Recall key.
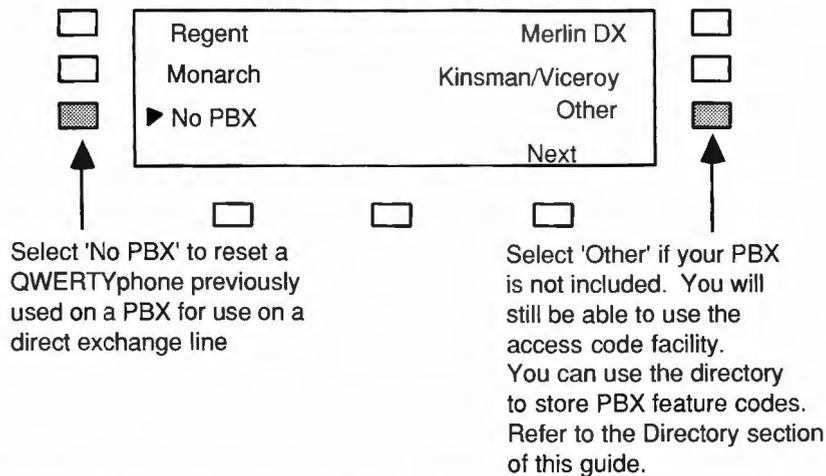
Press the Mute key, and keep it depressed, to turn off the QWERTYphone's microphone. You can now conduct a private conversation which will not be heard by your distant caller. The Mute key operates whether you are using the handset or the loudspeaking facility.

If your QWERTYphone is connected as a PBX extension you can:

■ Configure it to automatically insert the exchange line access code when it autodials your calls

■ For selected PBXs, access the most commonly used features directly as screen key options.

Selecting PBX type

Press [Config.] and select the option 'PBX type'. The PBX selection screen is displayed.

	Regent	Merlin DX	
	Monarch	Kinsman/Viceroy	
	▶ No PBX	Other	
		Next	

Select 'No PBX' to reset a QWERTYphone previously used on a PBX for use on a direct exchange line

Select 'Other' if your PBX is not included. You will still be able to use the access code facility. You can use the directory to store PBX feature codes. Refer to the Directory section of this guide.

If you are not sure of the name of your PBX consult your PBX operator, comms manager or your local British Telecom District Office.

PBX pause time

Select the option 'Next'. The PBX pause time set up screen is displayed.

You will need to use the PBX pause time if your PBX lets you hear a second dial tone, from the public exchange, after the access code is dialled. The length of the pause may be varied from 3.5 to 12 seconds in steps of 0.5 seconds. However, the default value (3.5 seconds) is suitable for most cases. You will not need to change it unless you experience difficulty with exchange line calls.

PBX access code

Select the option 'Next'. The PBX access code set up screen is displayed:
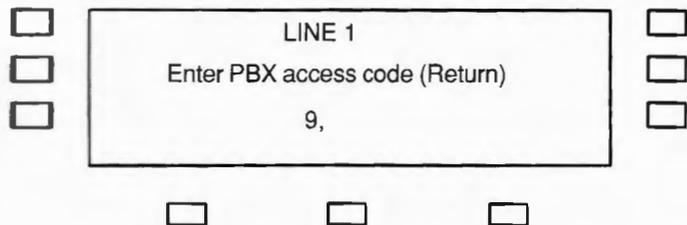
```
┌──────────────────────────────────────┐
│                LINE 1                 │
│      Enter PBX access code (Return)   │
│                  9,                   │
└──────────────────────────────────────┘
```

Type in the exchange line access code for your PBX. This is usually '9'. If your PBX needs a pause (Regent, Kinsman and Viceroy always do) invoke the pause time by adding a comma to your entry - as in the example above. Press Return

Using PBX facilities

Press the ⬚PBX key. The features available as screen key options for your selected PBX are displayed:

If you select a divert, the warning 'Divert set' is subsequently displayed on the Idle screen.

```
Divert all



Group pick up          Direct pick up
```
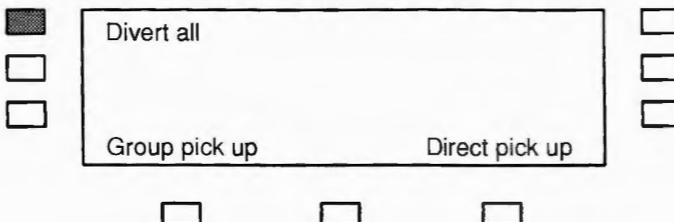
If you press the ⬚PBX key during a call an additional set of "offhook" features is displayed:

```
Callback                    Private call

Conference
   Group pick up            Direct pick up
```
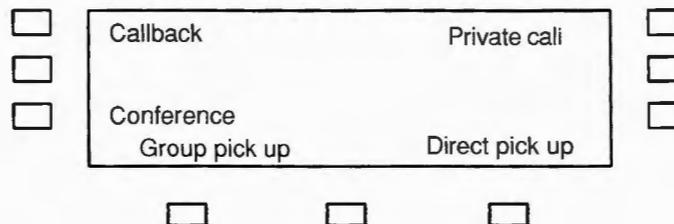
Points to note

A different set of features is provided for each of the selected PBXs. The examples shown are for the Merlin DX.

QWERTYphone's directory can store up to 250 entries in a secure memory module. The contents of your directory are not affected by failure of the mains power supply, neither are they reliant on QWERTYphone's batteries

The directory module is located underneath the handset rest area. A second directory module socket is provided for users who need a larger directory and to enable directory modules to be copied.
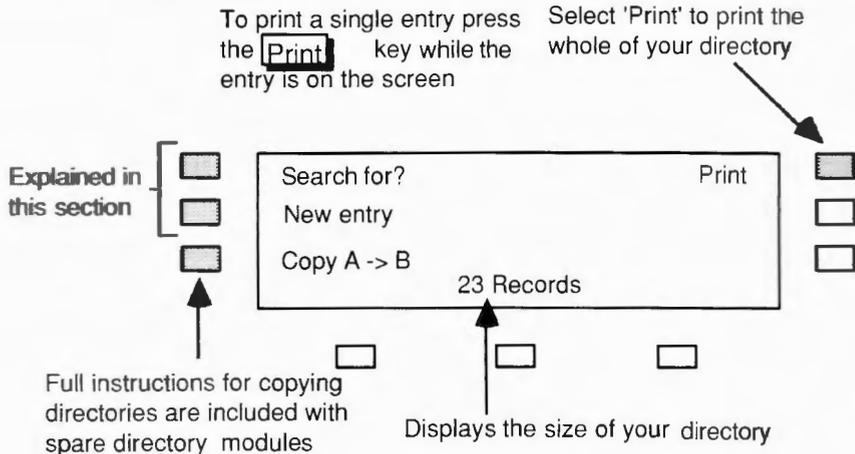
The directory may be searched by name, number or in any other way that you choose

Press the [Dir.] key. The directory options are displayed:

To print a single entry press the [Print] key while the entry is on the screen

Select 'Print' to print the whole of your directory

Explained in this section

Search for?	Print
New entry	
Copy A -> B	
23 Records	

Full instructions for copying directories are included with spare directory modules

Displays the size of your directory

Creating a new entry

Press the [Dir.] key and select the option 'New entry'. You will be prompted for Name (max 32 characters), Number (max 23 digits), Ext. (max 4 digits), and Notes (max 32 characters).
You can correct any typing errors in each field by using the arrow [←] [→] keys and overtyping or by using the [Rubout] or [Delete] keys. Refer to the Memotyper section of this guide for a fuller discussion of editing.
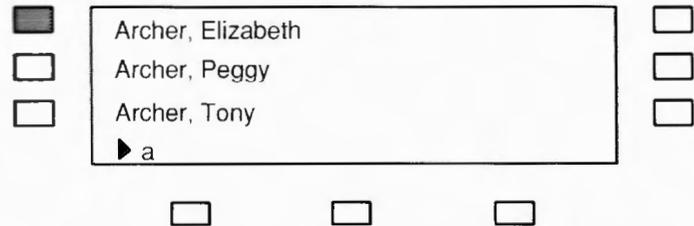
Press [Return] as you complete each field to proceed to the next field. Finally, to make the best use of space in the directory module, ensure that your entry is correct before you select the 'Accept' option.

Points to note

■ QWERTYphone automatically inserts the last number dialled in the Number field. If it is not the number you want you can overtype it.

■ **PBX users**
If you have set up a PBX access code, QWERTYphone will insert it in front of the number when it autodials a call. If you do not want it included for a particular number tell your QWERTYphone by putting a letter "I" in front of the number. If you complete the Extn. field but leave the Number field blank, QWERTYphone will assume that the entry refers to an extension on your own PBX and will not insert the access code.

Using the directory

Press the EXIT key to return to the idle screen. Type the first letter of the entry you require. Three directory entries will be displayed.

```
■    Archer, Elizabeth          □
□    Archer, Peggy              □
□    Archer, Tony               □
     ▶ a
```

```
□        □        □
```

If the entry you want is displayed, expand it by selecting its screen key. If it isn't displayed you can type in more letters until it appears and then select it.

```
□    Archer, Elizabeth              □
■    089132 388              Ext     □
□    Brookfield Farm, Ambridge      □
```

```
□        □        □
```
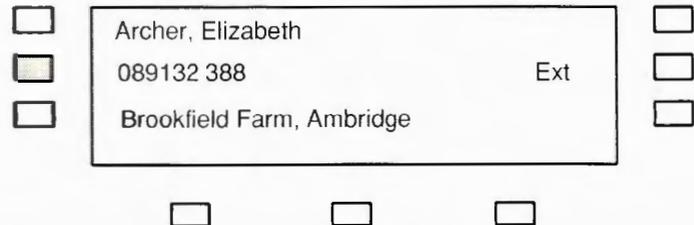
To autodial your chosen entry select the screen key next to the number displayed on the screen.

Points to note

■ You can use the arrow [▽] [△] keys to scroll through the directory.

■ To prevent other people using your directory while your QWERTYphone is unattended, you can "lock" it. Refer to the Security Configurator section at Appendix 1.

Searching the directory

Press the [Dir.] key and select the option 'Search for?' You will be prompted to enter a string of characters folowed by [Return]
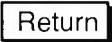
QWERTYphone will search all the fields in the directory for your chosen string. If more than one entry containing it is found you will be offered the option 'Next' when the first entry is displayed.

For example, to find an entry for a resident of Brookfield farm you would enter "Brook" followed by [Return]
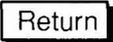
Editing the directory

You will be offered the option to edit an entry if you access it using the 'Search for?' option described above.

Storing PBX features codes

If your QWERTYphone is connected to a PBX not on QWERTYphone's selected list, you can use the directory to store PBX feature codes. To facilitate this, a number of special characters may be included in the number field of your directory entries, to give special instructions to your QWERTYphone.

Character(s)	Name	Instruction
I	Inhibit	Do not insert PBX access code
R	Recall	Recall the PBX
,	Pause	Pause for preset PBX pause time (See PBX facilities section of this guide)
— +		
X	Disconnect	Hang up the call
P	Pulse	Switch to pulse dialling
T	Tone	Switch to tone dialling
W	Wait	Wait (until any key is pressed)
S	Standard Pause	Pause for 3.5 seconds

For example suppose the code for "Divert all calls" on your PBX is 14, and you want to store an entry for diverting all your calls to extension 3688. Your directory entry would look like this:

```
Divert to 3688
I143688,X                              Ext
```
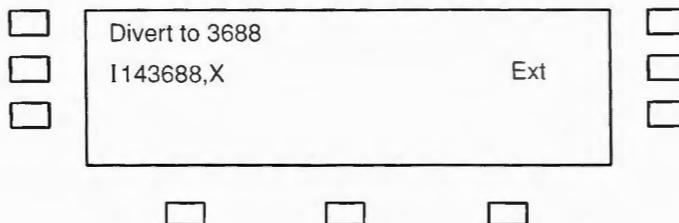
When this entry is selected, QWERTYphone will dial the code for you, wait so that you hear the assurance tone from your PBX, and then hang up the call.

Directory modules

Contact your supplier to order additional directory memory modules.

You can use QWERTYphone's Memotyper whether you have a printer or not. Used together with a printer it turns your QWERTYphone into an electronic typewriter. On its own it is used to prepare offline messages for sending to electronic mail services, or to other QWERTYphones. The pre-prepared text - up to an A4 page - is stored in the Memotyper memory.

Using Memotyper

Press | Memo. | The Memotyper screen is displayed:

The number of the current line .
The display "Line:1" denotes an
empty Memotyper memory

```
MEMO            Line:1          Column: 01



New memo     Print OFF
```
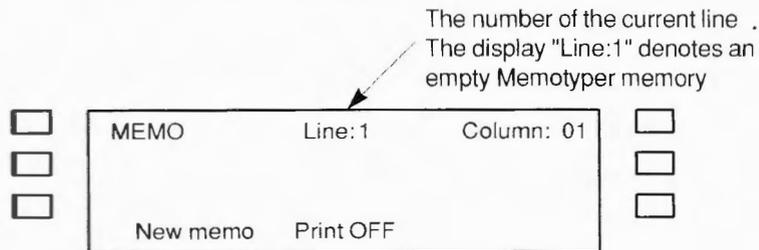
Select 'New memo' to delete
any text already in the memo-
typer memory - otherwise
any text you enter is
appended to the contents of
the existing memo.

Select 'Print ON' if you
want your memo printed
line by line as you type

Type in your memo. QWERTYphone starts a new line at the 69th character position. The preceeding line is automatically stored in the Memotyper memory.

Press the | Return | key to start a new line and at the end of your memo.

Editing

You can edit the current line by using the arrow keys | ⤓ | | ⬅ |

and overtyping, or by using the | Rubout | or | Delete | keys.

The | Rubout | key deletes the character to the left of the cursor.

The | Delete | key deletes the character at the cursor position.

If you press the | Insert | key, to put the QWERTYphone into insert mode, the insert arrows are displayed in the bottom right hand corner of the screen. The QWERTYphone remains in insert mode until you press the | Insert | key again.

Points to note

■ You can reset the length of the line in the Printer section of the Comms Configurator (See Appendix 1).

■ To date and time stamp a memo press the | Time | key.

■ To save retyping commonly used phrases, such as your name and address, you can store them "under" PF keys and copy them to your memo by pressing the appropriate PF key. Refer to the PF Keys Configurator, Appendix 1.

Printing a memo

Press the | Print | key, after pressing the | Memo. | key, to print the complete contents of the Memotyper memory.

Sending a memo

The entire contents of the Memotyper memory can be sent to another QWERTYphone or an electronic mail service. Refer to the next section of this guide.

This section tells you how to send and receive data calls on the QWERTYphone. You can:

■ access on line electronic mail services such as Telecom Gold

■ message between QWERTYphones

■ send messages prepared off line using the Memotyper

Making a data call

Making a data call is identical to making any other call. Either from the directory OR using the keypad.

1   Once the call is answered you will hear a high pitched tone (known as answer tone) press the ⌐Term.⌐ key. After a couple of seconds the screen displays "Modem ready".

2   If the answering computer is another QWERTYphone you will next see a screen similar to the one overleaf.

```
┌─┐        ┌──────────────────────────────────────────┐        ┌─┐
└─┘        │  Elizabeth Archer's QWERTYphone          │        └─┘
┌─┐        │                                          │        ┌─┐
└─┘        │  QWERTYgram (Q)                          │        └─┘
┌─┐        │                                          │        ┌─┐
└─┘        │  Directory (D)                           │        └─┘
           └──────────────────────────────────────────┘
              ┌─┐          ┌─┐          ┌─┐
              └─┘          └─┘          └─┘
```

3   The 'Directory' option (when offered) enables you to search the distant
    QWERTYphone's directory and save selected entries into your own
    directory.

4   Select the 'QWERTYgram' option to leave a message. The distant
    QWERTYphone will prompt you to enter your message, indicating any
    restriction on message length. If it responds with the screen
    message:" ****MESSAGE MEMORY FULL,*** ***PRINTER NOT
    AVAILABLE****" it is unable to accept and store a message and you should
    terminate your call.

5   Type in your message. The QWERTYphone starts a new line at the 32nd
    character position. You can edit the current line by using the ☐ ☐
    keys and overtyping. or by using the │ Rubout │ or │ Delete │ keys. Refer to
    the Memotyper section of this guide for further information on editing.

6   If you have prepared a message using the Memotyper you can send it now by pressing the [Send] key.

7   When you have completed your message terminate your call.

8   If the answering computer is not another QWERTYphone simply follow the instructions for accessing your chosen service from a teletype terminal (Most services will expect you to press the [Return] key initially).

9   To terminate a data call press [EXIT] and select the 'Hang up' option.

Printing

Press the [Print] key during a data call to turn your printer on. Data is printed as it is received. Press the [Print] key again to turn the printer off.

Point to note

It is not possible to print the current screen during a data call.

Electronic Mail

Your QWERTYphone is a very convenient terminal for use on electronic mail services. Some hints on using it to best advantage are given below.

1   Create a directory entry for your mail service. Your QWERTYphone will then be able to autodial your mail service calls.

2   Use the PF keys to store the items of information your system requires from you when you logon. You can transmit them once you are on-line by pressing the appropriate PF key. Refer to the PF keys Configurator in Appendix 1.

3   Prepare your message in advance using the Memotyper. You can transmit the contents of the Memotyper memory once you are on-line, by pressing the Send key. Refer to the previous section of this guide.

4   To read your electronic mail you can either -

■   Print it out. Press the Print key to turn the printer on. Press it again to turn the printer off.

■   Read it on the screen 4 lines a a time. Select 'Page ON' in the Modem section of the Comms Configurator (see Appendix 1). Press the ☐ key to display the next 4 lines.
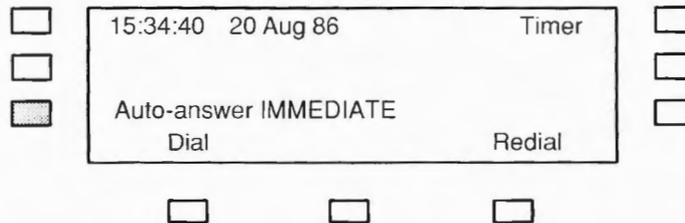
Point to note

Your QWERTYphone's modem is already configured for communication with other QWERTYphones and electronic mail services like Telecom Gold. If you intend to access other services you may need to re-configure your QWERTYphone. Refer to the Modem section of the Comms Configurator (see Appendix 1).

Answering a data call

The QWERTYphone can receive messages while unattended. Alternatively you can conduct a text based ' conversation' with another QWERTYphone during a normal voice call.
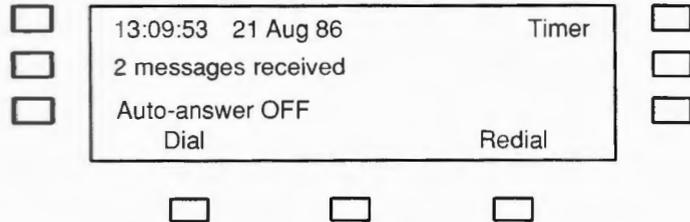
Unattended mode

1 Press the EXIT key and select one of the Auto-answer options. Selecting 'Auto-answer' once gives immediate answering, whilst selecting it twice gives delayed answering so that the call may be manually answered if desired.
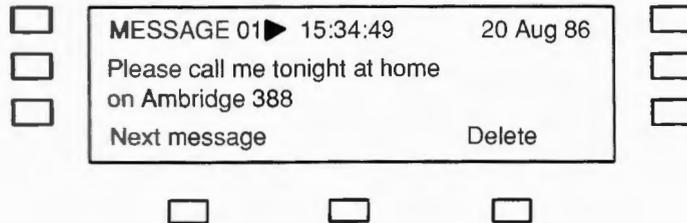
```
┌──────────────────────────────────────────────┐
│ 15:34:40   20 Aug 86                   Timer   │
│                                                │
│                                                │
│  Auto-answer IMMEDIATE                         │
│      Dial                          Redial      │
└──────────────────────────────────────────────┘
```

2 The DELAYED option allows you 12 seconds to answer the call.

3 Program your answerback message under your PF1 key in the PF keys Configurator (See Appendix 1). When your QWERTYphone auto-answers a call the answerback message is transmitted.

4 When your QWERTYphone has been set to auto-answer it will offer a caller the opportunity to send you a message. If you wish, you may offer callers a second option *lb*emotely search your directory. To allow this select the 'Rem. lockout OFF' option in the Security Configurator (see Appendix 1).

Message reception

1 Incoming messages will be stored in memory and are automatically time and date stamped. Each message is limited to 128 characters or less. A note on the Idle screen tells you when messages have been received.

```
 13:09:53   21 Aug 86                Timer

 2 messages received

 Auto-answer OFF
      Dial                        Redial
```

2 Messages can be read at any time by pressing the Mes'g. key.

```
 MESSAGE 01▶  15:34:49           20 Aug 86

 Please call me tonight at home
 on Ambridge 388
 Next message                  Delete
```

3 Use the arrow keys ⬆ ⬇ to read the complete message.

```
☐   ┌──────────────────────────────────────────┐   ☐
    │  MESSAGE 01▶  15:34:49        20 Aug 86  │
☐   │  on Ambridge 388                         │   ☐
    │  Lizzie   Archer                         │
☐   │  Next message              Delete        │   ☐
    └──────────────────────────────────────────┘

        ☐            ☐            ☐
```

4 Press the │Print│ key, when any part of the message is displayed, to print the complete message.

5 To prevent other people reading incoming messages stored in memory you can locally "lock" your QWERTYphone in the Security Configurator (See Appendix 1). Once locked the QWERTYphone can only be used as a simple telephone until the password you have programmed is entered.

6 Your incoming messages can be printed automatically on receipt. Select the 'Auto-print ON' option in the printer section of the Comms configurator (See Appendix 1).In this case the messages are not stored in memory and there is no limit on their length. Of course you cannot prevent other people reading them once they are printed.
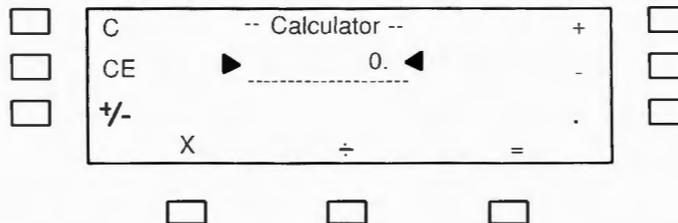
Conversational mode

1   To change from a normal voice call to a conversational mode data call without clearing your connection down press the [Term.] key .

2   At the same time the other QWERTYphone user should press their [Ans.] key.

3   On seeing 'Modem ready...' you can then start to type your text.

4   When you have finished typing the other QWERTYphone user may reply.

5   When you wish to return to a normal voice call press the [EXIT] key.

Your QWERTYphone provides the facilities of a standard pocket calculator.

Using the calculator

Press the [Calc.] key. The calculator screen is displayed.

```
┌─┐   ┌──────────────────────────────────────────┐   ┌─┐
└─┘   │ C            -- Calculator --          +  │   └─┘
┌─┐   │ CE        ▶        0. ◀                 -  │   ┌─┐
└─┘   │ +/-                                     .  │   └─┘
┌─┐   │        X              ÷            =       │   ┌─┐
└─┘   └──────────────────────────────────────────┘   └─┘
        ┌─┐            ┌─┐            ┌─┐
        └─┘            └─┘            └─┘
```

For ease of use, the various functions are available as screen key options.

Points to note

■ Press the [Print] key with the calculator screen displayed to turn your QWERTYphone into a Printing Calculator. Your calculations will be printed fully formatted in a column, as you carry them out.

■ To save retyping figures you commonly use, expenses rates, for example, you can store them "under" PF keys and insert them into the calculator by pressing the appropriate PF key. Refer to the PF Keys Configurator in Appendix 1.

With the addition of the optional QWERTYphone Boss/Sec kit your QWERTYphone becomes, together with another QWERTYphone, a powerful communications system for manager/secretary and partner working situations.

Some of the features provided are:

- full intercom
- 1 or 2 lines
- line status display
- call filtering
- hold, transfer and conference

Contact your supplier for further details.

PC port

Your QWERTYphone may be configured to operate in one of three modes via its serial pc port:

- As an Autodial V21 modem operating under HAYES® Smartmodem control codes

- As a serial terminal (teletype) using the keyboard and the LCD screen

- As a 'PC peripheral' in PC control mode. This is an extension of the Hayes control codes which allows the controlling device complete access to your QWERTYphone's telephony circuits and keyboard

You can select the mode you require using the PC port section of the Comms Configurator . (See Appendix 1). The QWERTYphone enters the selected mode when the $\boxed{\text{P.C.}}$ key is pressed.

Using QWERTYphone in one of these modes enables you to add British Telecom's telephony to almost any computing device.
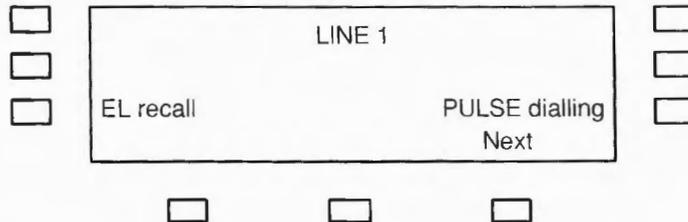
Interface cables

Contact your supplier for details of the QWERTYphone range of interface cables and keyboard adaptors.

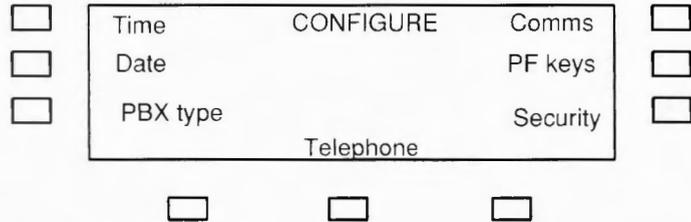Hayes® is a registered trademark of Hayes Microcomputer Products Inc.

If you experience any difficulty in using your QWERTYphone please check that your problem - and its solution! - is not among those described in this section, before contacting your supplier for service. If you do need to return your QWERTYphone, remember to remove and retain your directory module(s).

1. Problem: Your QWERTYphone rings quietly.
    Solution: **Volume** control turned down. Turn the volume control (right hand wheel) upwards.

2. Problem: **Display** is not clearly visible.
    Solution: **Viewing angle** incorrectly adjusted, adjust the left hand wheel.

3. Problem: **Your QWERTY**phone will not dial out.
    Solution: **Wrong type** of dialling selected. Press Config. then select 'Telephone', **change 'PULSE'** to 'TONE' or vice versa.

4. Problem: **PBX users**
    Exchange line calls dialled from the directory or by using the 'Redial' **option sometimes** fail.

    Solution: **Your PBX needs** a pause (or a longer pause) after the exchange line access **code is dialled.** Invoke the PBX pause time or, if you have already done so, **increase its length.** Refer to the PBX facilities section of this guide.

5. Problem: QWERTYphone pauses before dialling a number from the directory or a PBX
                feature code.

    Solution: QWERTYphone waits 3.5 seconds to ensure that the exchange is ready to
                recieve its dialled information before it starts to dial. If you select the number or
                feature key again as soon as you hear the dial tone QWERTYphone will start to
                dial immediately.

6. Problem: Screen blank, QWERTYphone does not do much.
    Solution: Check mains is plugged in, and switched on at the socket. Check that the
                telephony module is correctly plugged in.

7. Problem: Programmable function (PF) key data corrupted, or printer will not print, or
                meaningless information on screen (Japanese characters - Kana,
                48 messages received etc).

    Solution: RAM corruption, probably caused by frequent removal of the telephony module
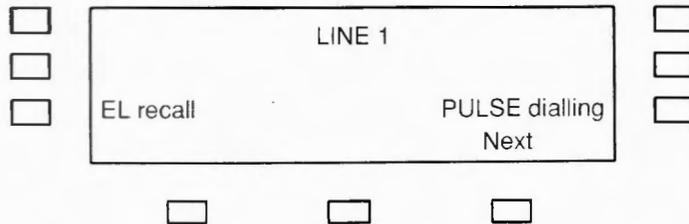   Disconnect the mains supply then reconnect it. The screen below is displayed:

```
  ┌─┐   ┌────────────────────────────────┐   ┌─┐
  └─┘   │              LINE 1             │   └─┘
  ┌─┐   │                                │   ┌─┐
  └─┘   │                                │   └─┘
  ┌─┐   │ EL recall         PULSE dialling│   ┌─┐
  └─┘   │                        Next     │   └─┘
        └────────────────────────────────┘

           ┌─┐        ┌─┐        ┌─┐
           └─┘        └─┘        └─┘
```

Press Config. . The Configurator options are displayed:

```
┌─┐          ┌──────────────────────────────────┐          ┌─┐
└─┘          │  Time        CONFIGURE    Comms   │          └─┘
┌─┐          │                                   │          ┌─┐
└─┘          │  Date                     PF keys │          └─┘
┌─┐          │                                   │          ┌─┐
└─┘          │  PBX type                 Security│          └─┘
             │                                   │
             │              Telephone            │
             └──────────────────────────────────┘

             ┌─┐         ┌─┐         ┌─┐
             └─┘         └─┘         └─┘
```

and type: RESET

If the Configurator options are not displayed when your press the Config. key. disconnect the mains supply again and in addition remove the batteries. Refer to the Installation section of this guide. Then replace the batteries and reconnect the mains supply, and then press the Config. key again.

Your QWERTYphone reverts to the telephone set up the screen.
Set it up as usual.

```
┌─┐          ┌──────────────────────────────────┐          ┌─┐
└─┘          │                                   │          └─┘
┌─┐          │              LINE 1               │          ┌─┐
└─┘          │                                   │          └─┘
┌─┐          │  EL recall          PULSE dialling│          ┌─┐
└─┘          │                          Next     │          └─┘
             └──────────────────────────────────┘

             ┌─┐         ┌─┐         ┌─┐
             └─┘         └─┘         └─┘
```

8. Problem: Screen like the one above appears first thing every morning.
    Solution: Mains fail, tell the cleaner to stop unplugging the QWERTYphone at night.
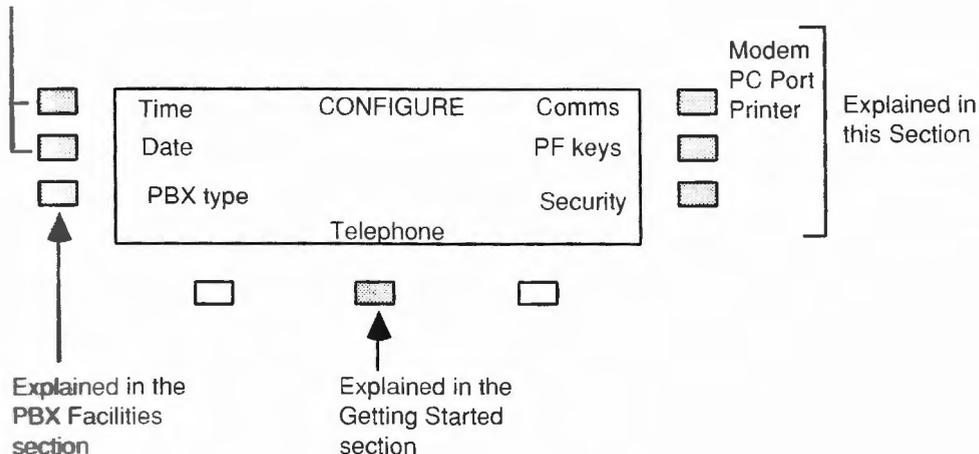
9. **Problem:** Callers complain that some of their calls are answered by a high pitched whistle.
   Solution: Your QWERTYphone is auto-answering whilst you are out. Turn auto-answer off on the Idle screen.

10. **Problem:** Callers complain that your loudspeaking telephone sounds very quiet.
    Solution: Noise guard active, the microphone (rear right hand corner) is probably near a source of continuous noise, perhaps above or near a computer or hard disk with a fan.

11. **Problem:** Japanese characters (Kana) appear on the screen when using the terminal onto Telecom Gold, or another QWERTYphone.
    Solution: Modem Config settings incorrect. Press ⏺ Config. ⏺ and then select the 'Comms' option. Check the Modem parameters against the default values shown in Appendix 1.

12. **Problem:** Printer does not print or prints rubbish.
    Solution: Printer Config settings incorrect. Press ⏺ Config. ⏺ and select the 'Comms' option then select the 'Next' option 3 times. Check the printer parameters against the default values given in Appendix 1.

13.   Problem: Incoming messages do not print automatically.

Solution: Check that 'Auto Print ON' has been selected in the Printer section of the Comms Configurator (See Appendix 1).

14.   Problem: Memotyper will not accept further text.

Solution: Printer inoperable or no printer connected. You have selected 'Print ON' but your printer is not accepting text from the QWERTYphone. Investigate why your printer is not printing.

15.   Problem: Unable to copy a directory module. Screen message   : "***DIRECTORY B ERROR!***" displayed.

Solution: Directory module B already contains some entries - only "blank" modules may be copied to. Obtain a "blank" directory module from your supplier.

The various parts of QWERTYphone may be set up to operate in particular ways. This setting up is carried out in the configurator.

Press ⌈ Config. ⌋ . The 7 configurator options are displayed. 4 of them are covered elsewhere in this guide; the remainder are explained in this Appendix.

Explained in the
Enhanced Telephony
section

Time	CONFIGURE	Comms	Modem PC Port Printer
Date		PF keys	
PBX type		Security	
	Telephone		

Explained in
this Section

Explained in the
PBX Facilities
section

Explained in the
Getting Started
section

Comms Configurator

Enables you to set up the parameters of the Modem, PC port, and Printer.

Press [**Config.**] and select the 'Comms' option. The Modem set up screen is displayed.

You can check the options available by repeatedly selecting the appropriate screen key. The default options are shown in this appendix so that you can re-select them as necessary.

Modem

The default parameters are shown below. They are appropriate for communication between QWERTYphones and with electronic mail services like Telecom Gold. If you intend to access other services, refer to the instructions for accessing those services from a teletype terminal, to check whether you need to change any of the parameters. The speed of the modem is fixed at 300 baud, full duplex.

```
┌──────────────────────────────────────────────────┐
│  Ans. echo ON      MODEM           NO parity       │
│                                                    │
│  7 - bit word                   Local echo OFF     │
│                                                    │
│  1 stop bit(s)              XON/XOFF protocol      │
│        Page OFF      Send CR        Next           │
└──────────────────────────────────────────────────┘
```

Select 'Page ON'
if you want to read
your electronic mail
on the screen, 4 lines
at a time

PC port

Select the option 'Next'. The first of the two PC port set up screens is displayed. This screen is used to select the mode the QWERTYphone will enter when the P.C. key is pressed.

```
┌──────────────────────────────────────────┐
│                  PC PORT                   │
│                                            │
│  PC key function:  TERMINAL                │
│                                            │
│    PC/Modem startup:  SEND RESULTS         │
│                                    Next    │
└──────────────────────────────────────────┘
```

Select the option 'Next'. The second PC port set up screen is displayed.

```
┌──────────────────────────────────────────┐
│  4800 Baud        PC PORT        No Parity │
│  8 - bit word              Local echo OFF  │
│  1 stop bit(s)        XON/XOFF protocol    │
│       Page OFF     Send CR        Next     │
└──────────────────────────────────────────┘
```

Printer

Select the option 'Next'. The printer set up screen is displayed.

The default parameters are shown below. They are suitable for printers purchased from BT. If you purchase a printer from another supplier, refer to the instructions supplied with it to check whether you need to change any of the parameters.

9600 Baud	PRINTER	NO parity
8 - bit word		Auto-print OFF
1 stop bit(s)		69-character width
	Send CR+LF	

Select 'Auto-print ON' if you want your "QWERTYgram" messages printed out automatically as they are received

PF Keys Configurator

You can store a string of up to 32 characters "under" each of the 7 PF (Programmable Function) keys.

The string is sent to whichever QWERTYphone function is in use when you press that PF key.

Answerback

Press ⌈ Config. ⌋ and select the 'PF keys' option. The F1 key string set up screen is displayed. This is dedicated for your "answerback" - the message that your QWERTYphone transmits to a distant QWERTYphone when it auto-answers a call.

```
┌─┐    ┌───────────────────────────────────┐    ┌─┐
└─┘    │ F1 KEY STRING (ANSWERBACK):       │    └─┘
┌─┐    │                                   │    ┌─┐
└─┘    │ Elizabeth Archer's QWERTYphone    │    └─┘
┌─┐    │                                   │    ┌─┐
└─┘    │                            Next   │    └─┘
       └───────────────────────────────────┘

       ┌─┐         ┌─┐         ┌─┐
       └─┘         └─┘         └─┘
```

Type in your answerback. Select the option 'Next' to proceed to the F2 key string.

Points to note

■ Complete each entry by selecting the option 'Next'
or pressing the | EXIT | key. Do NOT press the | Return | key to complete
an entry.

■ Correct any errors by using the arrow | :> | | <: | keys and overtyping
or by using the | Rubout | or | Delete | keys. Refer to the
Memotyper section of this guide for more information on editing.

■ **Control Characters**
You can store control characters "under" a PF key by pressing the
appropriate control key. For example, to store your name for use
with the Memotyper you could type it followed by | Return |

When you press the appropriate PF key in memotyper mode your
name is input and a new line started automatically.

The editing keys. however, retain their editing functions. If you
need to store them you must type the actual control codes. For
| Rubout | the control code is "Control H". Press the | H | key while

the | Control | key is depressed. The code for | :> | is "Control I".

Security Configurator

To prevent unauthorised access to the information stored in your QWERTYphone, you can 'lock' it when it is left unattended. Once locked the use of your QWERTYphone is restricted until your programmed password is entered.

Setting up Security

Press [Config.] and select the 'security' option. The first security set up screen is displayed.

▶ Local   SECURITY   Remote

Local + Remote   Rem. lockout ON
                                      Next

Select 'Rem.lockout OFF' to allow your directory to be remotely searched when your QWERTYphone is not "locked". 'Rem.lockout ON' prevents your directory being remotely searched at any time, whether your QWERTYphone is "locked" or not.

Choose the level of security you require by selecting its screen key. This will apply each time you lock your QWERTYphone. An arrow on the screen indicates your choice.

Local Security prevents the use of your QWERTYphone as other than a simple telephone (by lifting the handset).

Remote Security prevents callers being offered the option to remotely search your directory when your QWERTYphone autoanswers a call.

Select the option 'Next' and type in your password - max 4 characters.

When you are sure you have memorised it press ⌊ Return ⌋

Locking your QWERTYphone

Press ⌊ EXIT ⌋ to obtain the idle screen. Select the centre right hand screen key

```
  ☐     ┌─────────────────────────────────────┐     ☐
        │  13:09:53  21 Aug 86          Timer │
  ☐     │                              LOCKED │     ▣
        │                                     │
  ☐     │  Auto-answer OFF                    │     ☐
        │     Dial                    Redial  │
        └─────────────────────────────────────┘

           ☐            ☐            ☐
```
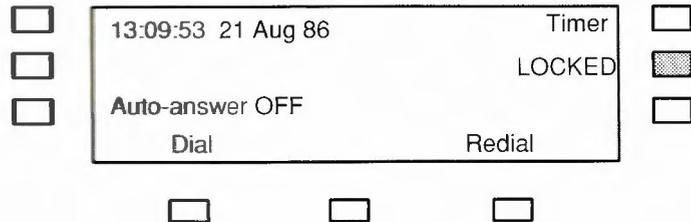
Your chosen level of security is invoked.

To unlock select the centre right hand screen key and type in your password.
Press the ⌊ Return ⌋ key.

Suitability

The QWERTYphone is suitable for connection to the British Telecom Public Switched Telephone Network (PSTN). This connection may be either

A British Telecom direct exchange line (DEL)
An extension to a compatible Private Branch Exchange (PBX) that is approved for connection to the PSTN.

Please consult your supplier for an up to date list of PBXs with which the QWERTYphone is compatible.

It cannot be guaranteed that the QWERTYphone will operate correctly under all possible conditions of connection to compatible PBXs. Please consult your supplier if you have any difficulty. It is suitable for connection to a Private Automatic Branch Exchange (PABX) that returns Secondary Proceed indication (such as a dial tone).

The QWERTYphone should only be used on British Telecom lines that provide telephone services for voice and data transmission, using loop-disconnect or multi-frequency (MF4) signalling.

Multiple connections

The maximum number of instruments allowed on a line is determined by the sum of the Ringer Equivalence Numbers (REN) of the instruments, which must not exceed 4. If this number is exceeded the instruments's bells may not ring (The REN is a measure of the power drawn from the line to operate the bell; the smaller the REN the less power required, and the more instruments that can be

connected.) The QWERTYphone has a REN of 1, as do most instruments provided by British Telecom (unless marked otherwise). Up to four instruments can therefore usually be connected to a line.

Unsuitable uses

The QWERTYphone is not suitable as an extension to a payphone. If you have any doubts about its suitability for use in a particular circumstance, please consult a qualified person.

Approved facilities

This apparatus has been approved for the use of the following facilities

■ simple telephone

■ loudspeaking facility

■ modem

■ storage of telephone numbers for retrieval by a predetermined code

■ automatic dialling

■ automatic storage of last number dialled

Any other usage will invalidate the approval of the QWERTYphone if, as a result, it ceases to conform to the standards against which approval was granted.

Warning	The QWERTYphone has no user serviceable parts inside (except within the battery and directory module compartment under the handset rest area). Servicing should be referred to qualified personnel.
Warning	Always close the handset rest area and replace the interlock plug before refitting the telephony module

Your QWERTYphone is supplied with a telephone lead fitted with a British Telecom plug. If you do not already have an appropriate line and socket installed, you should make the necessary arrangements as soon as possible.

■ If you have a PBX with extension wiring **not owned** by British Telecom contact the authorised maintainer of your exchange. If you want someone else to alter the wiring you must give the authorised maintainer 14 days written notice.

■ Otherwise, contact your local British Telecom Sales Office. You can do this by phone or by completing and sending the attached form (you will find the address and telephone number in the front of your phone book). British Telecom will be happy to supply details of installation and rental charges.

Socket installation request

Name _____

Address _____

Postcode _____ Telephone _____

I wish to use a QWERTYphone (approval number S/1000/3/G/500495). Would you please arrange for the following work to be carried out as soon as possible.

■ Convert my existing installation to new style sockets. I currently have _____ telephone(s).

■ Install _____ new telephone line(s).

■ Install _____ extension socket(s).

■ Other - please specify.

Signature _____ Date _____

Appendix 4 Specification

Mechanical Features

Dimensions

width 390 mm
depth 250 mm
height 100 mm

Weight

3.2 Kg

Keyboard

102 Keys: 14 Key Telephone Pad
9 Screen Keys
10 Function Keys
69 Key QWERTY Keyboard designed to DIN 66234 standard

Case Material

ABS

Hardware Features

Display

4 lines by 32 character Liquid Crystal display with electrical viewing angle control.

Modem

Autodial/ Autoanswer V21

Processor

Hitachi HD 6303X

Memory	8K battery backed CMOS static RAM 32K Program ROM 16K directory EPROM in a carrier (250 Directory entries per EPROM) Spare directory socket
Handset	Electret Microphone Moving Coil Receiver Magnetic proximity switch
Loudspeaking Telephone	Half Duplex 'Soft switched'

Interfaces

Telephony	PSTN or PBX, telephone line MF4 or loop disconnect signalling, earth loop or timed break recall designed to BS6305, BS6317, BS6320 and DTI 83/009I Modem 300 baud full duplex CCITT V21 Autoanswer in compliance with V25.
Printer port	DIN connector with RS232C compatible signals, serial port, speeds 300, 1200, 2400. 4800, 9600, 7 or 8 bit, 1 or 2 stop bits, odd, even or no parity.
PC port	DIN connector with RS232C compatible signals, serial port, speeds 300, 1200, 2400, 4800, 9600, 7 or 8 bit, 1 or 2 stop bits, odd, even or no parity.

Power

240V, 50Hz,6VA mains supply via integral moulded plug fitted with 3A fuse.
Max current consumption 25mA
Battery back up - 4 AA cells