

Multimessage Systems Limited

Dealer's stamp

PABX 2x10 Module

User Guide

**Multimessage Systems Ltd.
Unit 1 / 2, Block 26,
Cranborne Industrial Estate,
Cranborne Road, Potters Bar, Herts.
EN6 3JH**

**Tel. 01707 644480
Fax 01707 646745
www.multimessage.co.uk**

ISSUE 1.1

Revised 06/09/05

Model

M404

GUARANTEE

Multimessage Systems Ltd. guarantees this product for one year from the date of purchase provided that:

- The product has only been used for its intended purpose, and has not been subjected to misuse, or been wilfully or accidentally damaged.
- The product has been installed according to the maker's Installation Instructions.
- The product has not been tampered with or repaired by anyone other than Multimessage Systems Ltd. or its approved agents.

If a fault occurs in this product within twelve months of purchase you should return it to where you bought it, together with the sales receipt, and it will then be replaced or repaired free of charge.

This guarantee does not affect your statutory rights and is applicable to the United Kingdom only.

CONTENTS

INTRODUCTION	4
M404 features	4
Product Illustration	5
INSTALLATION	6
Installation of Exchange Lines	6
Installation of Telephones	6
Door opener	7
Checking out System	7
Group switches	9
USING THE M404	11
Tones used by M404	12
Summary of M404 facilities	13
Making an exchange line / internal call / using speed dial	14
Answering an internal / exchange line call	15
Answering an exchange line call - when all extensions are busy / putting an external call on hold / making an enquiry call	16
Transferring a call / making a remote transfer	17
Setting and cancelling “do not disturb “/ call pick up	18
Divert / operating when mains power fails	19
USER OPTIONS	20
Changing the Pass Code	20
Speed Dial	21
Call Barring	22
Setting up and cancelling reception phone.	23
Door phone	24
Music On Hold	26
In Case of Difficulty	27
TECHNIAL NOTES	28
Guarantee	31

INTRODUCTION

The PABX 2x10 Module (M404) is a small telephone system intended for use in the home, office or small business. It serves up to ten internal telephone extensions from two exchange lines. It provides both a high quality intercom between extensions, and access to outside lines from each extension with total privacy on all calls. It is one of the modules available to fit into the Multimessage Systems Home Communication System which provides networking of all common household communications around the home.

The M404 is simple to operate and easy to install using an ordinary 2-wire telephone cable and master line adaptor. Extensions may be situated up to 200 metres from the M404.

Advanced microprocessor technology has enabled a number of special features, normally available in larger, expensive systems to be provided.

M404 features

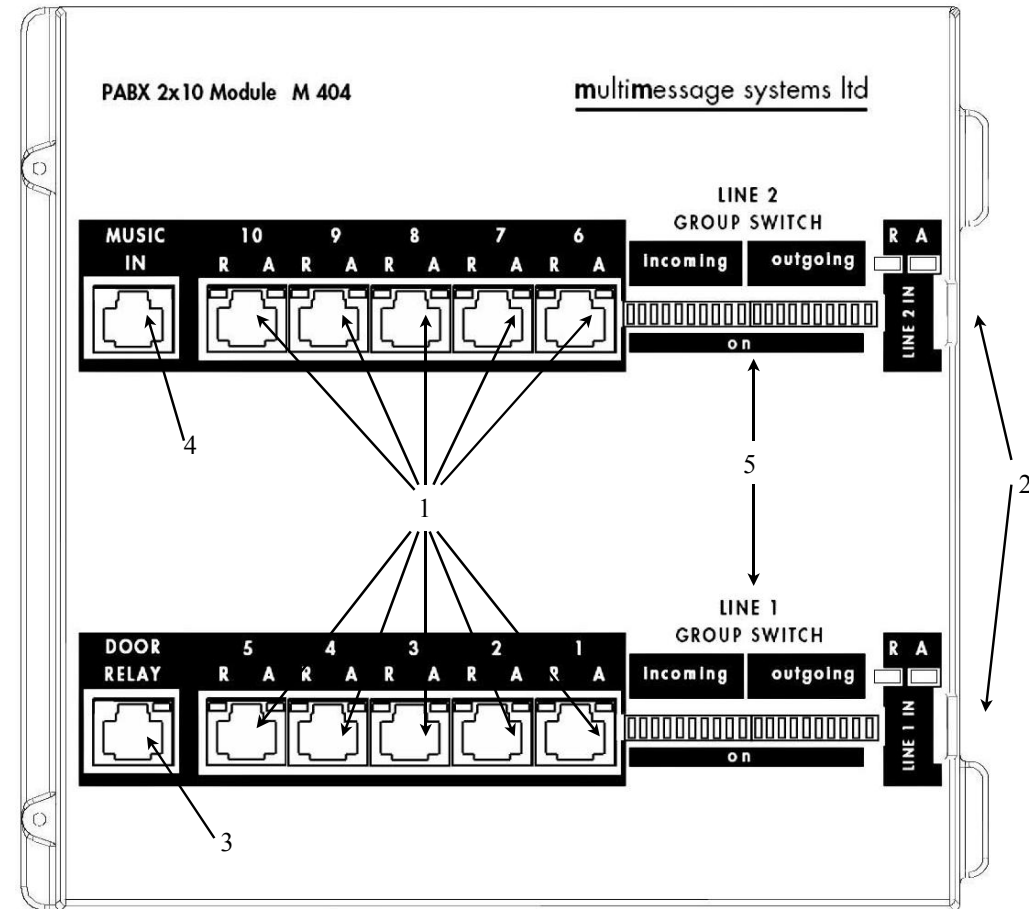
- Two external and four internal calls at the same time
- Private use of exchange lines
- Private intercom between extensions
- Incoming call intercept
- Call Hold, Enquiry and Transfer
- Music on Hold
- External Call Transfer to attended or unattended extension
- Do Not Disturb - Ringer off
- Call Barring
- Speed Dial
- Door phone / opener ports
- Disconnect Clear feed through (required for some answer phones)
- Power Fail Operation on Extension 20
- No Operator Required

TECHNICAL NOTES

1. This equipment has been approved pursuant to Council Decision 98/482/EC [CTR 21] for pan-European single terminal connection to the Public Switched Telephone Network (PSTN). However, due to differences between the individual PSTN provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN termination point. In the event of problems, you should contact your equipment supplier in the first instance.
2. The Multimessage Systems 10 Line Telephone System (M404) is suitable for connection to exchange lines which provide Multi-Frequency (MF) signalling. The M404 can be used with Timed Break Recall (TBR).
3. Interconnection directly, or by way of other apparatus, of ports marked in accordance with BS 6301 or EN41003 with ports not so marked may produce hazardous conditions on the telephone network and that advice should be sought from a competent engineer before such a connection is made.
4. Interconnection circuits made to the door relay port should be such that the equipment continues to comply with the requirements of EN60950 2.3 for SELV circuits. (The voltages in a SELV circuit shall not exceed 42.4V peak or 60V dc). Advice should be sought from a competent engineer before such a connection is made.
5. The system is not suitable for use as an extension to a payphone.
6. Refer all servicing to qualified personnel or to the Multimessage Systems Customer Servicing Department at the address given on the back page of this handbook.
7. **The line cords and power cable must be disconnected before removing the cover of the Multimessage Systems 10 Line Telephone System .**

Exchange Lines	MF REN of 3 (TNV3 Circuit)
Extensions	MF REN of 1 (TNV3 Circuit)
Door Relay	30V @ 1A maximum switching capacity
Music on Hold Source	0db feed 600 Ohms
Dimensions	200mm long x 186mm wide x 33mm deep
Weight	620g
Power Supply	24V AC 50 Hz
Power Consumption	500mA maximum
Temperature	0 to 40°C working
Relative Humidity	0 to 95% (non-condensing)

Product Illustration



1. Extension line connectors
2. Exchange line connectors
3. Door opener connector
4. Music on hold source input connector
5. Group switches for both exchange lines

INSTALLATION

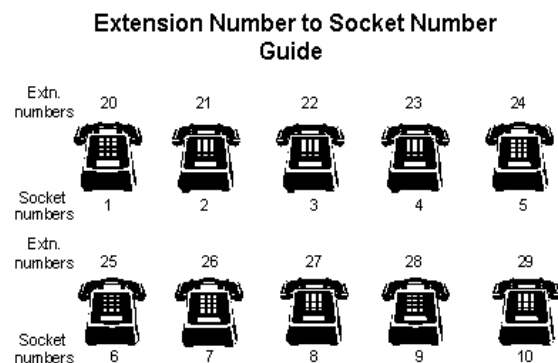
The M404 should already be fitted into the M400 chassis by an installation engineer. If the M404 has not been installed please follow the installation guide supplied with the unit.

Installation of Exchange Lines

- For details of exchange line and system wiring see the technical notes at the end of this manual.

Installation of Telephones

- Plug a telephone line cord into a master line adaptor supplied, then plug the adaptor into the required wall socket.
- Note down the number of the wall socket.
- On the patch panel within the M400 Home Communications chassis, link the corresponding number socket on the patch side to one of the lines on the M404 using the appropriate coloured patch lead.
- The extension numbers of the telephones connected to the system are between 20 and 29.
- The corresponding M404 socket numbers to extension numbers can be determined from the diagram below.



- Extension 20 **must always** be wired and connected as this is the power fail telephone. Note : It is recommended that the power fail phone is capable of operating without mains power.

In Case Of Difficulty

These notes should be of assistance if you encounter any difficulty in using the M404.

Remember that an outside call cannot be made from a **call barred** extension (other than a 9 999 or 9 112 call) - make sure that the Call Barring settings are set to your requirements.

Be careful not to leave an outside call on hold by accident. If in doubt press **recall** to check. If public network dial tone is received, clear the system by replacing the handset.

Ensure that **do not disturb** has not been set accidentally. Cancel by lifting and replacing the handset at the relevant extension.

Replace the handset after an outside call even if the other party clears down first and you receive dial tone.

Remember the timing features of the system:

When originating an outside call, you must wait at least twenty seconds after dialling the last digit before attempting to place a call on hold.

When an outside call is put on hold and the extension replaced, the outside call will remain on hold for up to two minutes. During this time the call can only be accessed from the original extension.

At the end of the preset time the line will be released and the system reset.

If, after investigating the above possibilities, you still cannot obtain an outside line, proceed as follows:

Switch off the mains power to the M404, wait at least ten seconds and switch on again. If the fault has not cleared, unplug the M404 from the exchange line socket, and plug in the extension 1 phone in its place.

If the dial tone is still not obtained, try a second telephone. If this is unsuccessful then the line may be assumed to be faulty, and you should contact the telephone company e.g. BT.

Music On Hold

A music source (e.g. a CD player) maybe connected to the 3.5mm phono socket. The plug should be of mono type. A caller that is put on hold will hear music.

Music on hold can be turned on or off.

To turn music on hold on:

- Lift handset.
- Listen for internal dial tone.
- Dial RECALL 61.
- Listen for confirmation tone.
- Replace handset.

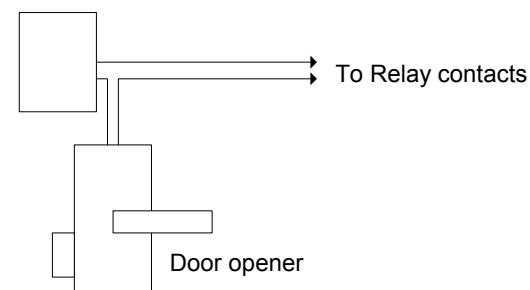
To turn music on hold off:

- Listen for internal dial tone.
- Lift handset.
- To turn music on hold off.
- Dial RECALL 60
- Listen for confirmation tone.
- Replace handset.

Door Opener

A typical installation is shown below. Please note that the power supply for the door opener should be approved to EN60950, and the M404 relay contacts have a maximum rating of 30V d.c. @ 1A. (i.e. a 12 or 24V power supply & door opener should be used).

Power supply



Checking Out The System

- Ensure that all the phones are operative and set to Tone and Timed break recall (usually marked as T, TB, DTMF& TBR,MF&TBR).
Please note that the M404 does not support the use of phones which are PULSE, LOOP DISCONNECT (LD) or EARTH RECALL (E,ER).
- Check that there are no wiring mistakes and that all the extension phones are plugged in.
- Make an internal call from one extension to another.
- Ensure that the ringer works correctly and that the speech is clear and noise free. Repeat this procedure to check all the extensions.
- Switch the main power off to the Home Communications Centre (M400)
- Lift the handset at extension 20 - you should hear the public exchange dial tone. Now make an outside call to check the exchange line. Replace handset.
- Switch on the mains power again.
- Make another outside call from extension 20. This time dial **9** followed by the external number. Make another call from extension 21 to check the second line. Refer to "Using the M404" section of this handbook.

- If a fault is found during the above, switch off the mains power, remove the exchange line cord from its socket and check that the wiring is correct.
- **Under no circumstances must the cover of the M404 be removed.**

Please note :

The M404 uses master line adaptors for its extensions, not extension adaptors. The effect of using the latter is that the phones will not ring.

WARNING

Only the local telephone authority can install a Master Line Jack Socket to your external line. It is illegal for you to attempt to install or tamper with this Master Line Jack Socket.

Answering the door phone

When the door phone is activated (off hook) it causes the pre-programmed extensions to ring with the door phone ring.

To answer the door phone:

- Lift handset
- Converse with the person at the door
- Replace handset

If you now wish to activate the door opener to let them in :

- Lift handset
- Dial *
- Listen for confirmation tone
- Replace handset

The door opener has now been activated for the programmed time.

Note: You can activate the door opener at any time from any extension.

The door opener can be set to open between 10 and 90 seconds. Default is 10 seconds.

To set the time the door opener is open:

- Lift handset
- Listen for internal dial tone.
- Dial RECALL 78 1 XX
- Listen for confirmation tone.
- Replace handset

Where XX is the time that door opener will be open.

Door Phone

A door entry phone may be connected to any extension between 21 and 29. When the door phone goes off hook it rings the designated extensions with a different ring. This can be answered and if required activate the door opener after talking to the person at the door phone.

To allocate an extension as a door phone:

- Lift handset
- Dial RECALL 78 XX

Where XX is the door phone extension. 21-29 (dialling 20 clears)

A confidence tone is returned if your entry was successful

Note: extension 20 cannot be set as this is the power fail extension. Dialling 20 will clear the door phone extension.

To set type of door phone:

- Lift handset
- RECALL 78 X

Where X is type of phone. 3 for normal phone and 4 for the MMS entry phone.

A confidence tone is returned if your entry was successful

To allocate which extensions are to be rung:

- Lift handset
- Dial RECALL 76 XX

Where XX is the extension number. A confidence tone is returned if your entry was successful

To set the maximum time the phones will ring, do the following:

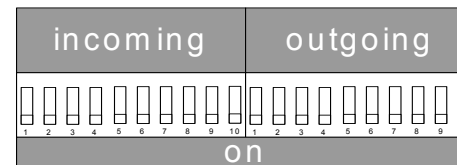
- Lift handset
- Dial RECALL 761 XX

Where X is time 1-9 which sets 10-90 seconds (default 30 seconds)

A confidence tone is returned if your entry was successful.

Group Switches

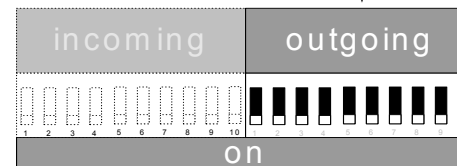
There are two banks of switches that are used to program the Line Groups. These are Incoming Groups and Outgoing Groups for exchange lines 1 and 2.



- The Incoming Line Group switches are used to select which extensions ring for each incoming exchange line. An extension can be set to ring for line 1, 2 or both incoming lines. To set an extension to ring move the switch to the “on” position.



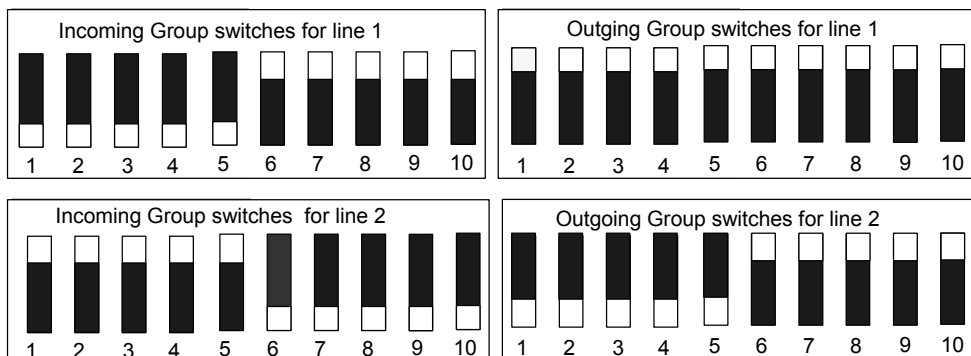
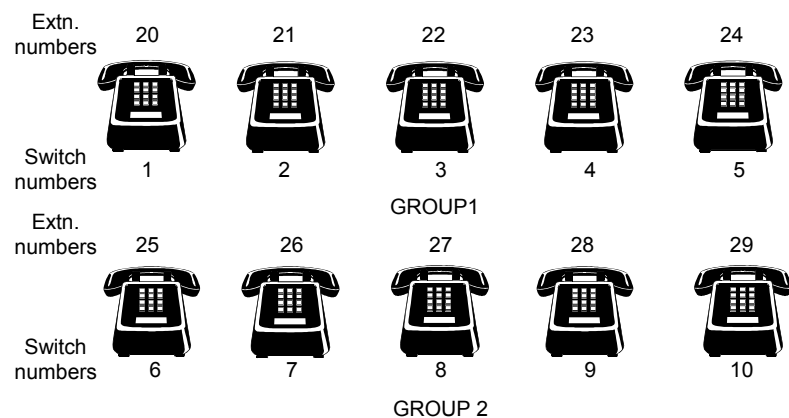
- The Outgoing Line Group switches are used to select which extensions can access each exchange line. An extension can be allowed to access Line 1, Line 2 or both lines. To allow an extension to make outgoing calls set the switch to the “on” position.



- The factory default setting is all switches on, allowing incoming and outgoing calls on all extensions.
- Please use a suitable instrument when setting the program switches e.g a ball point pen.

Group Switches Example

EXAMPLE OF SWITCH SETTINGS



In this example, Group 1 extensions have been set up to ring on an incoming call on line 1.

Group 2 extensions have been set up to ring on an incoming call on line 2.

Group 1 extensions have been set up to allow outgoing calls on line 2 only. All other extensions are set for no outgoing calls.

Setting up and cancelling Reception phone

A reception phone(s) can be set up for each exchange line group. All incoming calls will then only ring the reception phones. However if these phones are busy then all other available phones in the group will ring. The reception service can be turned on or off as required. The reception phone(s) can be set or cleared.

To set reception service

- Lift handset
- Listen for internal dial tone
- Dial RECALL 71 L (L= Line 1 or Line 2)
- Listen for confirmation tone
- Replace handset.

To turn off reception service

- Lift handset.
- Listen for internal dial tone
- Dial RECALL 710 L(L=Line 1 or Line 2)
- Listen for confirmation service
- Replace handset

To set reception phone(s)

- Lift handset of any extension
- Listen for internal dial tone
- Dial RECALL 72 L XX .(L=1 or 2 ,XX=20 to 29 extension for reception)
- Listen for confirmation tone.
- Replace handset

To clear reception phone(s)

- Lift handset of any extension
- Listen for internal dial tone
- Dial RECALL 73 L XX (L=1 or 2,XX=20 to 29 extension to clear)
- Listen for confirmation tone.
- Replace handset

Call barring

Extensions that are in a group can be barred from making outgoing calls. Standard call bar only allows calls to the emergency services (999, 112). Speed dial only call bar allows only speed dial numbers and calls to the emergency services.

Extensions must be a member of an outgoing group. If an extension is not a member of an outgoing group then no outgoing calls can be made from that extension.

To set call bar

- Lift handset
- Listen for internal dial tone
- Dial RECALL 9 PPPP XX T
- Listen for confirmation tone
- Replace handset

Where PPPP is the pass code

XX is the extension number

T is the call bar type: 0 = No call bar.

1 = 999/112 calls only

2 = Speed dial only

In order for call bar to work the extension must be a member of an outgoing group, otherwise 999 and 112 calls and speed dial will not work. See page 13 to set up outgoing groups.

Remember to dial 9, then 999, or 9, then 112 after hearing dial tone.

USING THE M404

The M404 offers the user many powerful features which are not available when telephones are connected through ordinary parallel extensions.

Furthermore, this has been achieved without sacrificing the incomparable economy and versatility offered by simple, standard telephones.

Because of this, your telephone keypad is called on to perform many more functions than the customer dialling of another subscriber's number. The telephone now has a second function as a control panel, putting options such as intercom / outside line and hold / transfer at your fingertips.

Fortunately, the M404 has been designed so that the control functions are simple to perform and easy to remember. Nevertheless, it is necessary to be a little more careful than when using a basic telephone. This is because wrongly or inadvertently dialled digits which normally are easily corrected merely by replacing the handset can program the M404 to an undesired mode.

Using the functions of the M404 and programming the user options requires the use of the RECALL button on the handset. This is marked as "Recall" or with the letter "R".

Tones And Rings Used By The M404

When your telephone is connected through M404 to the outside line, you will hear the usual public exchange tones for Ringing, Engaged (Busy), and Number Unobtainable. However, to enable you to control the intercom and other facilities, the M404 generates the following tones of its own.

TONES	
Internal Dial Tone	
Internal Ringing Tone	
Engaged Tone	
Number Unobtainable & Error	
Confirmation Tone	

RINGS	
Incoming exchange call	
Internal call	
Door Phone	

← 3 seconds →

	Dial Tone (high & low mixed)
	High Tone
	Low Tone
	Ring

Speed dial

12 speed dial numbers can be stored by the M404 for use by all extensions. Each of these can be up to 41 digits long. The pass code must be entered before changing the speed dial numbers.

To store a speed dial number:

- Lift handset
- Dial **RECALL 8** PPPP L XX.....XX **RECALL**
- Listen for confirmation tone
- Replace handset.

Where PPPP is the pass code (default = 0000).
L is the store number from 0 to 9
X is the speed dial number, up to 41 digits.

To clear a number, simply don't enter any digits for X.

The default is no numbers set.

e.g. Recall 8 0000 0 01707644480

This places 01707 644480 into speed dial number 80.

USER OPTIONS

Overview

The facilities which can be programmed are as follows:

- Change pass code
- Speed dial numbers
- Call bar
- Setting up reception phone (priority phone)
- Door phone
- Music on hold

Changing the pass code

Any four digit combination can be used for access to the speed dial numbers and call barring options. It is recommended that if the default passcode is changed then the new number is recorded and held in a secure place. If you forget your passcode then contact your dealer.

To change the standard pass code:

- Lift the handset.
- Dial RECALL 8 PPPP # NNNN.
- Listen for confirmation tone.

Where PPPP is the old pass code and NNNN is the new pass code, a confidence tone is returned if your entry was successful.

The default setting is 0000.

Summary of M404 facilities

FACILITY	ACTION
Outgoing External Call	Dial 9 then external number
Outgoing External Call using speed dial	Dial 8 followed by the store number (0-9)
Internal Extension Call	Dial 20 to 29
Hold External Call	Press RECALL
Set Reception Service	Dial RECALL 71 followed by line number.
Set Reception Phone	Dial RECALL 72 followed by the line number and then the extension number
Set 'Do Not Disturb'	Dial RECALL 0
Clear 'Do Not Disturb'	Lift handset and then replace
Enquiry Call to Third Party During an External Call	Press RECALL to hold external call, dial extension - make enquiry
To Return to External call: a) After enquiry b) If extension busy c) If extension unobtainable	Press RECALL
Transfer External Call	Press RECALL to hold external call dial extension - make enquiry Replace handset
To Return to External Call : a) If extension busy b) If extension unobtainable	Press RECALL
Remote Transfer External Call	Press RECALL to hold external call Dial extension Listen for ring tone Press RECALL if extension busy to return to external call
Transfer will terminate after 2 minutes if no reply at extension	Otherwise replace handset. Answer external call at remote extension
Activate Door opener	Lift handset then dial *
Emergency Calls	Dial 9 999 or 9 112

Making an exchange line call

- Lift handset.
- Listen for internal dial tone.
- Dial 9.
- Listen for external dial tone.
- Dial required number.
- At the end of the call, or if there is no answer, replace the handset.

Emergency calls can only be made from an extension that is a member of a Line Group. See page 13 for Line Group settings. Remember to dial 9, then 999, or 9, then 112 after hearing dial tone.

Making an exchange line call using speed dial

- Lift handset.
- Listen for internal dial tone.
- Dial 8 X (X = store number 0-9,* ,#)
- At the end of the call, or if there is no answer, replace the handset.

Note: If you get NU tone returned, the speed dial store is empty.

Making an internal call

- Lift handset.
- Listen for internal dial tone.
- Dial the required extension number. The extensions are numbered 20 to 29.
- Listen for ring tone.

If the called extension is busy you will hear the engaged tone. At the end of the call, or if there is no answer, replace the handset.

Divert

Calls can be diverted to another extension. Any calls sent to an extension with divert set, will be transferred to the designated extension.

To set divert

- Lift the handset
- Dial RECALL 31 XX
- Listen for confirmation tone
- Replace handset.

Where XX is the extension you want to divert your calls to.

To cancel divert

- Lift the handset
- Dial RECALL 31 0
- Listen for confirmation tone
- Replace handset

Calls will now be put through to your extension.

Internal paging

All free extensions may be paged.

To page all available extensions:

- Lift the handset
- Dial RECALL 4
- All free extensions will ring.

Operating when mains power fails

In the event of a mains power failure, the telephone at extension 1 is connected directly to the exchange line. The line is then accessed from this extension without dialling 9. The other extensions will not function.

Setting up and cancelling do not disturb

Any or all of extensions 20 to 29 may be set up to prevent ringing at that extension.

To set up Do Not Disturb:

- Lift handset at appropriate extension.
- Listen for internal dial tone.
- Dial RECALL 0.
- Listen for confirmation tone.
- Replace handset.

Ringing is now disabled to that extension for both internal and external calls.

To cancel Do Not Disturb.

- Lift handset at appropriate extension.
- Replace handset.

Call pick up

It is possible to pick up an external call ringing at a different extension in a group by:

- Lift the handset
- Listen for internal dial tone.
- Dial RECALL 33

The call will now be connected to your extension.

Answering an internal call

A single ring repeated every three seconds indicates an internal call from another extension.

- Lift handset.
- Answer call.
- At end of call replace handset.

Answering an exchange line call

An incoming call from the exchange line causes all extensions to ring, unless reception (priority phone), do not disturb, or no incoming calls are set.

A double ring repeated every three seconds indicates an outside call.

If you can hear more than one extension, you will notice that the sounds do not coincide. The sequence is:

Extensions 20 and 22 ring together, then extensions 21 and 23 ring together, then extensions 24 and 26 and so on.

However, each individual telephone gives a double ring every three seconds, exactly as if it were connected directly to the exchange line.

The ringing sequence continues until the call is answered or the caller abandons the call attempt.

Picking up any of the extension telephones which are ringing will answer the call. If your extension is not ringing then you can answer the call by :

- Lift the handset.
- Listen for internal dial tone.
- Dial RECALL 33.

Recall

Some B.T services may require the sending of a RECALL signal to the exchange line.

- To send a RECALL signal to the exchange line
- Press RECALL twice within 5 seconds
- This will send the RECALL signal to the exchange line

Putting an external call on hold

An outside call, whether incoming or outgoing can be held while an enquiry call is made or the call is transferred to another extension.

- To put the call on hold, press RECALL once.
- To cancel hold and return to the held caller, press RECALL.

Pressing RECALL twice within 5 seconds will send a RECALL signal to the exchange line, so care should be taken not to do this when putting a caller on hold.

Making an enquiry call

- Press RECALL to hold the exchange line.
- Listen for internal dial tone.
- Dial the required extension.
- You will hear the ringing tone or engaged tone.
- When the extension answers, make the enquiry.
- Press RECALL to cancel "hold" and return to exchange line caller.
- If the enquiry extension is engaged or does not answer, return to the exchange line by pressing RECALL.

Transferring a call

An exchange line call can be transferred to another extension on the system.

- With the outside call established, press RECALL.
- Listen for internal dial tone.
- Dial the required extension number (20 to 29).
- When the extension answers, replace your handset.
- The transfer is now complete.

The extension to which the call has been transferred to has control of the call and can make an enquiry or transfer to a third extension. If the enquiry extension is engaged or does not answer, return to the call by pressing RECALL.

Making a remote transfer

When your extension is connected to an outside call, you can make a transfer to another extension (a remote extension), before the remote extension answers.

- With the outside call established, press RECALL.
- Dial the required extension number (20 to 29).
- Listen for ring tone.
- Replace the handset.

The dialled extension will now ring for up to two minutes after you replace your handset. If the remote extension answers within two minutes the outside call will automatically transfer to it.

If the call is not answered within two minutes then the call will "clear down" i.e. the outside caller will be cut off.