

INTERNET

ISDN

Quattro

Intelligent ISDN terminal adapter



Document Reference	1.0.4i Manual 15 Jun 2004
Revision	05
Software Described	Up to version 120192 Rev 7
Date :	30 April 2012

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Section 1. About this manual

1.1 Using this manual



This manual describes the installation of the **Quattrovox V** system, as well as its extension facilities, programming features and operating instructions.

You should become familiar with these facilities and features in order to use your **Quattrovox V** to its maximum efficiency. You should read and understand the contents of this guide. Keep this guide in a safe place. The guide is organised in four different sections:

1.2 Symbols used in this manual



Dial a digit -in this instance, the digit 0. Other values are 1 through 9.



Press this key. Note that decadic phones do not have this key.



Press this key. Note that decadic phones do not have this key.



Press this key. Alternatively, you may also press ** at external dial tone. Note that decadic phones do not have this key. For decadic phones, press the cradle of your phone for a short instance.



The telephone is ringing.



Lift handset.

Internal dial tone

This is the tone generated internally by the system, needed to program most of the programming options and to call another extension of the **Quattrovox V**.

External dial tone

This tone is generated by the ISDN network and is needed to make outgoing external calls and to program the ISDN exchange features available.



It indicates successful programming tone. You will get this tone after you have successfully programmed an option. At this tone, you may continue programming or clear down.



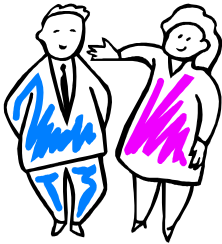
It indicates unsuccessful programming tone. The programming code entered is either wrong or not accepted by the system for other reasons, for example, the feature you wish to program is incompatible with other settings of the system. Check to make sure the option is possible and then, try again



Clear Down

Section 2. Familiarisation with Quattrovox V

2.1 Quattrovox V Overview



Welcome to Quattrovox V

Quattrovox V is an advanced telephone switching system that opens access to the power of the expanding ISDN network. Home working and the Internet are fuelling demand for more call capacity and more data bandwidth within the home. ISDN provides all of the functionality of two telephone lines, and the capacity to provide up to 128 kb/s for fast data transfer.

Conversion to ISDN is easy and cost effective. It is a powerful technology if the right equipment is chosen. **Quattrovox V** is designed specifically as a cost effective, home-ISDN solution.

It is easy to use, easy to install, remotely serviceable and most importantly, it supports all of the ISDN services that you will need. And because it can be upgraded remotely, you will not be left behind if new ISDN features become available later.

Quattrovox V is an ISDN system that offers a comprehensive range of simple-to-use communication features. It has been designed to be flexible and adjustable to individual needs. **Quattrovox V** allows up to 4 extension users to communicate freely among each other sharing the availability of an ISDN line. Standard telephone equipment can be retained and connected to any of the four analogue extension ports. That includes any caller ID equipment you may already have, because the **Quattrovox V** will convert the ISDN caller ID and display it on your existing caller ID terminals.

You can connect up to four analogue devices: standard telephones, both tone dialling and decadic, and other 2-wire devices. You have the freedom to connect a fax, a cordless phone, an answering machine or a modem, for example.

2.2 Quattrovox V features

Quattrovox V allows you to make internal calls between any of the extensions connected to the system.

- ◆ Internal calls between any of the four extensions
- ◆ Calls between any of the four extensions and the external ISDN line
- ◆ Assignment of up to three MSN/DDI numbers per extension

Enhanced facilities include:

- ◆ Call Hold and Park
- ◆ Page all
- ◆ Internal Transfer
- ◆ Internal and external diversion (also on no answer and on busy)
- ◆ Call enquiry and multiple call handling
- ◆ Call pick-up
- ◆ CLI Restriction/Presentation (Calling Line Identity)
- ◆ COL Restriction/Presentation (Connected Line Identity)
- ◆ Analogue CLI (for analogue extensions fitted with display)
- ◆ Do not Disturb
- ◆ External call-back (CCBS)
- ◆ Alarm call
- ◆ Call waiting alert tones
- ◆ Different ringing cadences for internal and external calls

Put your MSNs to work

The system enables you to assign up to three MSN/DDI numbers per extension. The first MSN programmed at your extension will also be your "Calling Line Identity" (CLI). Your CLI may be withheld from the party you are calling by entering a code as you dial their number. In the same way, you may restrict your connected line identity (COLR) when receiving calls by programming the associate option in system programming. Analogue CLI refers to the identity of the parties that are calling you.

Note

When the **Quattrovox V** system is first installed and powered up, by default, all analogue extensions will ring for any incoming calls to the system.

Some programming may be necessary before incoming calls are dealt with the way you want. See section 4 for how to programme MSNs.

Surfing the Net



You can connect to the Internet via the **Quattrovox V**:

- ◆ **Via a modem connected to any of the analogue ports of the system.** The data rate will depend on the modem connected, usually 33.6K or 56K.

2.3 Programming the Quattrovox V

Through programming you can configure the **Quattrovox V** to suit your particular needs. There are three types of programming that can be done:

- ◆ System programming
- ◆ Advanced System Programming
- ◆ User programming

You may program the **Quattrovox V** from any of the DTMF extensions connected to it.

Note: On leaving a programming session, the system must be idle (all extensions on hook) for up to approximately one minute before any changed settings are stored in flash. If the unit loses power before settings are stored in flash you may lose the last programming sessions changes.

2.4 What kind of telephone are you using?



The **Quattrovox V** supports the use of analogue phones. You may connect up to four analogue telephones to the analogue ports.

There are two types of analogue telephones:

- ◆ DTMF telephones (tone dialling)
- ◆ Decadic telephones (pulse dialling).

Some of the features described in this manual are only accessible from DTMF phones and some facilities are operated in a different way from decadic telephones.

Try the following test:

Lift the handset of your telephone and press any digit on the keypad. If you hear a series of "clicks", you are using a decadic telephone. If you hear a single tone or "beep", you are using a DTMF telephone.

Notes

Some telephones are switchable - a switch is set on the telephone to make it suitable for either tone or pulse dialling. If you have a switchable dial telephone, we recommend you switch it to tone dialling.

Once you found out the type of analogue terminals you have connected to the system, the option Extension Devices in System Manager Programming allows you to "tell" the system what type of terminal is connected to each extension.

2.5 Visual status of the system

The control unit has five LEDs that show the status of the system. The red LED is for both power "on" and the ISDN line status, and the remaining four (green) for the extensions' status.

- ◆ **One Red led for power on and ISDN line status:**
 - ◆ OFF: unit switched off (no mains).
 - ◆ ON: unit ready for use.
 - ◆ FLASHING: no contact to the public ISDN network.

- ◆ **Four Green LEDs, one for each extension to indicate its status:**
 - ◆ OFF: extension is not connected or on-hook.
 - ◆ ON: extension is off-hook.
 - ◆ FLASHING VERY SLOWLY: there is a call on hold
 - ◆ FLASHING NORMAL SPEED: extension is being rung.
 - ◆ FLASHING VERY QUICKLY: extension is in programming mode.

2.6 Extension numbering table

The numbering plan for the **Quattrovox V** is a fixed length 1-digit numbering scheme. The user has the option to ring all ports by dialling the 1-digit number specified below.

Port number	Extension number
☎ Analogue terminals:	
port 1 →	1
port 2 →	2
port 3 →	3
port 4 →	4

To ring all analogue extensions, dial 6
--

Section 3. System installation

3.1 Location

Find a location that is:

- ◆ easily accessible
- ◆ isolated from plumbing or electrical wiring
- ◆ within 2 meters of the nearest power point
- ◆ within 1 meter of the NT1 (ISDN line socket)
- ◆ not exposed to extremes of temperature, humidity, dust or to chemicals or direct sunlight
- ◆ sufficiently spacious and well-lit to allow you to wire the system

3.2 Equipment

Equipment required for system installation:

- ◆ Two no. 8 screws and rawl plugs (supplied)
- ◆ Mounting template (see carton)
- ◆ Drill and chuck-key
- ◆ Drill bit and flathead screwdriver
- ◆ ISDN cable (2 x RJ45), 150 cm, to connect to the T interface on the NT1.(Supplied)

3.3 Wall Mounting the Quattrovox V

1. Position the **Quattrovox V** template on the wall and mark the positions of the two retaining screws.
2. Drill holes for retaining screws and insert rawl plugs, now insert a screw in position 1. Hang unit on wall.
3. Secure the **Quattrovox V** by inserting the remaining screw in positions 2. It should be firm against the wall but do not over-tighten the screws.

The system is now ready for wiring.

3.4 System Wiring

All the connectors are plug in for the extension and exchange terminals.

Extensions 1 - 4

Plug extension devices directly into the ports at the base of the **Quattrovox V**

Important

Never route extension wiring outside the premises as this could expose the **Quattrovox V** and its users to hazardous voltages such as lightning

Please, use only approved telecommunications terminals on the extensions.

Connecting the ISDN line

Route the supplied exchange cable from the **Quattrovox V** to the exchange line connection point. Plug the exchange cord into the connection point.

Powering Up

Connect the supplied adaptor to the socket at the bottom of the **Quattrovox V**. Prior to connecting the adaptor to the mains, ensure that:

- ◆ All wiring is properly connected.
- ◆ The Line cord has been plugged into the telephone line.

You can now plug the **Quattrovox V** into the mains socket.

By default, all analogue extensions will ring for any incoming calls to the system.

Programming may be necessary before incoming calls are dealt with the way you want. See section 4 for how to programme MSNs.

Safety Notes

- Only supplied 42.5 Vdc adaptor (Model No's: M15-425026-C5/MU15-425026-C5) should be used with the **Quattrovox V**
- No serviceable parts are inside the plastics

Section 4. System programming

4.1 What is system programming?

System Programming allows you to customize the system for your particular application ensuring that it is working to maximum efficiency for you. You may access system programming from any 2-wire MF phone

When your **Quattrovox V** is first installed, the memory contains default settings. During programming, these settings are changed. You should record the new settings so they are not forgotten.

Notes

- Only one extension can be in system programming mode at a time.
- You may not use the extension as a normal phone whilst it is in program mode.
- It is not possible to program the system with a pulse-dialling phone.

4.2 To Enter System Programming

To enter system programming, go off-hook and dial, at internal dial tone, the following sequence of numbers:



The default PIN code is **0000**.

Notes

- If you have not successfully entered system programming, then you will hear fail tone instead of success tone.
- After entering a wrong PIN code on three consecutive attempts from any extension, no further attempts will be allowed from any extension for an hour.
- Only one user can enter advanced or basic system programming at any one time. If a second user attempts to enter programming, then he/she will get programming fail tone.

To exit system programming, simply replace the handset.

4.3 Change PIN

You are allowed to change the PIN code from any extension. Note that you are not allowed to enter the symbols "*" or "#" in your new PIN. The default PIN code is 0000.

Important

Remember to take note of your new PIN. If you lose it you would need to reset the entire system back to default in order to return to the default PIN.



4.4 Reset Programming and PIN

This allows you to reset the complete system (User Programming options included) and restore all programming, including your PIN, to default. **This option can only be carried out at extension 1.**

Remember

In the case of a system reset, your PIN will also revert to its default value.



4.5 Table of System Programming Options

	Option Name	♣ Defaults
1.	Assignment of DDI/MSNs to the Extensions for Day Ringing	No MSN Assigned
2.	Direct Line Seizure	Off
3.	Type of hold signal	Timed Break (Recall button)
4.	Remote Download	-
5.	Ringing Cadences	External ringing cadence for external and internal calls
6.	COLP / COLR	COL Presentation
7.	Analogue CLI Presentation	On
8.	Call waiting alert tone	Sequence of alert tones for all calls
9.	Terminal Portability/Call Park Code	Park-code = 1
10.	De-activate TP/Call Park Code	-
11.	Extension Devices	Telephone / Fax / Modem
12.	Single Call MSN	-
13.	Display Software Version Number	-

4.6 System Programming Options and Codes

Enter System Programming as described on previous pages.

Remember

After entering a programming code, you will receive successful programming tone (see table of tones and ring patterns). At this point, you may either continue to program another option by entering its sequence of digits, or you may exit programming by putting down the handset. If programming has been unsuccessful, you will hear unsuccessful tone. You may try to program that option again.

[1] Assignment of DDI/MSNs to the Extension Ports for Day Ringing

Allows you to assign up to three MSN numbers per extension. If the system is to operate in Point to Point operation, treat the DDI block exactly as MSN numbers. This option is programmed on an extension-by-extension basis.

Note

You can program each MSN number from 1 digit to 20 digits.
The first MSN is sent as the Calling Line Identity, "CLI", for all outgoing calls from that extension.




*	n	m	*	MSN	#	
---	---	---	---	-----	---	---

- n = extension number
- m = 1, 2 or 3.
 - If m = 1: first MSN to ring at extension "n".
 - If m = 2: second MSN to ring at extension "n".
 - If m = 3: third MSN to ring at extension "n".
- MSN = enter the associate MSN number in relation to "m".


The incoming calls for the MSNs programmed at extension "n" will ring at that extension and also at all extensions which haven't programmed any MSN number.

Default: No MSN numbers assigned

Examples:

*	1	1	*	MSN	#		First MSN number to ring at extension 1.
*	1	2	*	MSN	#		Second MSN number to ring at extension 1.
*	1	3	*	MSN	#		Third MSN number to ring at extension 1.

To cancel assignment of DDI/MSNs to Extension Ports for Day Ringing:

#	n	m	#	
---	---	---	---	---

Or

*	n	m	*	#	☺
---	---	---	---	---	---

Example:

#	1	3	#	☺
---	---	---	---	---

To cancel the third MSN number assigned to extension 1.

[2] Direct Line Seizure

Exchange line direct seizure on going off-hook is programmable per extension.

*	8	1	*	n	0 / 1	#	☺
---	---	---	---	---	-------	---	---

n = extension number
 0 = off
 1 = on

Default: Off. Therefore you receive internal dial tone when you lift the handset.

[3] Type of hold signal

This option allows you to program the type of hold signal recognized at an extension. Depending on which telephone you have, you may be able to use "Hook Flash" or the "Recall Button" for the operation of your telephone. Program this option on an extension per extension basis.

*	8	2	*	n	0 / 1	#	☺
---	---	---	---	---	-------	---	---

n = extension number
 0 = Timed Break (Recall button)
 1 = Hook Flash

Default: Timed Break (Recall Button)

[4] Remote Download

You can arrange to have the **Quattrovox V** program updated remotely by calling your service centre from any of the extensions. By doing so, the latest software will be downloaded over the telephone line.

Do not hang up until your call has been answered and has received successful programming tone. The system will hold the line for about 1½ minutes while the download is implemented. Then the system is out of service for a further 2 minutes while the new program is being implemented. After that, all of the customer-programmed settings will have been restored except the time, which is restored once the customer has made one outgoing telephone call from any extension.

*	9	0	*	XXX	#	☺
---	---	---	---	-----	---	---

XXX = external number for remote download server (20 digits maximum).

[5] Ringing Cadences for Internal and External calls

This code enables you to choose a different ringing cadence for internal calls and external calls,

*	8	4	*	n	0/1	#	☺
---	---	---	---	---	-----	---	---

n = extension number

0 = external ringing cadence for external and internal calls

1 = different ringing cadence for internal calls

Default: 0

[6] COLP/COLR

You may restrict the central office exchange from sending your line identity to parties who are calling you. This option is programmed on an extension-by-extension basis.

*	8	3	*	n	0 / 1	#	☺
---	---	---	---	---	-------	---	---

n = extension number

1 = COL Restriction

0 = COL Presentation

Default: COL Presentation

Notes

This note only applies to some countries: COLP is implemented in a modified proprietary way whereby Quattrovox V always echoes back the called number to the calling party.

[7] Analogue CLI Presentation

This option allows you to program the analogue extensions that will receive the Calling Line Identification (CLI) of the party that is calling them.

*	8	8	*	n	0 / 1	#	☺
---	---	---	---	---	-------	---	---

n = extension number

0 = no analogue CLI

1 = analogue CLI

Default: Analogue CLI enabled for all of the analogue extensions

[8] Call Waiting Alert Tone

When this option is enabled, during an active call, an incoming call to a busy extension is signalled with an alert tone. Switching off this tone may sometimes be required, as for example, for connected modems and fax machines.

With this option you may program alert tones for all calls or just external calls, and to choose the type of alert tones: only one alert tone or a sequence of alert tones with an interval of 9 seconds.

*	8	5	*	n	w = 0/1/2/3/4	#	☺
---	---	---	---	---	---------------	---	---

n = extension number

w = 0 / 1 / 2 / 3 / 4

w = 0: one alert tone every 9 seconds for all calls

w = 1: a single alert tone for external and internal calls

w = 2: no alert tones

w = 3: a single alert tone for external calls only

w = 4: one tone every 9 seconds for external calls only

Default: Sequence of alert tones with an interval of 9 seconds for all calls (w=0)

Example:

*	8	5	*	4	2	☺
---	---	---	---	---	---	---

Extension 4 has programmed not to receive any alert tone if, when busy on a call, there is another call ringing the extension. In this case, the calling party will get busy tone.

[9] Terminal Portability/Call park Code

The **Quattrovox V** allows users to park a call and retrieve it from any of the extensions by dialling 7 at internal dial tone. The park-code is sent to the ISDN exchange to identify the parked call. In this way, the parked call can be retrieved from other ISDN equipment on the same ISDN line using the Park-code.

This programming option allows you to program a park-code of **up to 4 digits**.

*	8	6	*	Park-code	#	☺
---	---	---	---	-----------	---	---

Default: The park-code is 1

[10] Deactivate Terminal Portability/Call Park Code

Program this option deactivates the park-code that is used to park calls (and terminal portability).

*	8	6	*	#	☺
---	---	---	---	---	---

[11] Extension devices

This option allows you to configure the system with the type of device that is connected to the analogue extensions, setting the Bearer Capability, High Layer and Low Layer Compatibility for that extension to the appropriate values. There are three different types of terminals specified in the table below.

*	8	9	*	n	0 / 1 / 2	#	☺
---	---	---	---	---	-----------	---	---

n = extension number

Type of terminal	Bearer Capability	High Layer Capability	Lower Layer Compatibility	Group Ring / Page
0 = Telephone/Fax/ Modem	3.1 kHz	-	-	Yes
1 = POTS (Plain old phones)	Speech	Telephony	-	Yes
2 = Fax / Modem	3.1 kHz	-	-	No

Default: Telephone / Fax / Modem

Notes

- (1) Fax machines cannot be rung for group calls/page all.
- (2) Progress indication is always set, "Call is not end-to-end ISDN".
- (3) Announced and unannounced transfer to a Fax/Modem extension is possible.

[12] Single Call MSN

This option allows the user to programme a particular MSN to be blocked, if an external call is already in progress (using blocked MSN) an incoming call on that MSN will be rejected and the calling party will hear busy tone

* 9 8 * e * MSN # ☺

To cancel single call MSN;

* 9 8 * e * # ☺

e = entry number (1 - 8)

MSN = external number (to a maximum of 20 digits)

[13] Display software version number

This option allows you to check the software version number of the **Quattrovox So Bus**.

* 9 9 9 * 2 / 4 # ☺

2 = display on an analogue phone (the version number will only be displayed on analogue phones equipped with a display).

4 = flashing LEDs to show revision of software.

4.7 Table of Advanced System Programming Options

	Option Name	Defaults
1	Assignment of DDI/MSNs to the Extension Ports for Night Ringing	No MSN assigned
2	Hold Signal Time Periods	Time break (Recall button) = 190msec Hookflash (Cradle break) = 875msec
3	Point to Point / Point to Multipoint	Point to Multipoint
4	Ringing Cadence based on MSN	All external calls have cadence c=0
5	CLIP/CLIR	CLI Presentation
6	Alarm Ring Timer	30 sec.
7	Time Retrieval on Power-up	Off
8	Transfer Time-out	30 sec.
9	Divert on No Answer Timer	20 sec.
10	Call Pick-off	Disabled
11	Automatic Day/Night Switch Times	No switch time programmed
12	Disable automatic switch times	-
13	Manual Day/Night Switch	-
14	Level of Call Blocking	No Call Blocking
15	Call Blocking Exception Table	
16	Enable Hotline Feature	Off
17	Disable Hotline Feature	-

4.8 Advanced System Programming Options & Codes

To enter advanced system programming, go off-hook and dial, at internal dial tone, the following sequence of numbers:

	Internal Dial Tone	*	8	8	*	PIN Code	#		You are now in advanced system programming
---	--------------------	---	---	---	---	----------	---	---	--

The default PIN code is **0000**.

Notes

- If you have not successfully entered advanced system programming, then you will hear fail tone instead of success tone.
- After entering a wrong PIN code on three attempts at any extension, no further attempts will be allowed from any extension for an hour.
- Only one user can enter advanced or basic system programming at any one time. If a second user attempts to enter programming, then he/she will get programming fail tone.

To exit advanced system programming, simply replace the handset.

1. Assignment of DDI/MSNs to the Extension Ports for Night Ringing

Allows you to assign up to three MSN numbers per extension. If the system is to operate in Point to Point operation, treat the DDI block exactly as MSN numbers. This option is programmed on an extension-by-extension basis.

Note

You can program each MSN number from 1 digit to 20 digits.

The first MSN is sent as the Calling Line Identity, "CLI", for all outgoing calls from that extension.

*	n	m	*	MSN	#	
---	---	---	---	-----	---	---

- n = extension number
- m = 1, 2 or 3.
 - If m = 1: first MSN to ring at extension "n".
 - If m = 2: second MSN to ring at extension "n".
 - If m = 3: third MSN to ring at extension "n".
- MSN = enter the associate MSN number in relation to "m".

The incoming calls for the MSNs programmed at extension "n" will ring at that extension and also at all extensions which haven't programmed any MSN number.

Default: No MSN numbers assigned

Examples:

*	1	1	*	MSN	#	☺	First MSN number to ring at extension 1.
*	1	2	*	MSN	#	☺	Second MSN number to ring at extension 1.
*	1	3	*	MSN	#	☺	Third MSN number to ring at extension 1.

To cancel assignment of DDI/MSNs to Extension Ports for Night Ringing:

n m # ☺

Or

* n m * # ☺

Example:

1 3 # ☺ To cancel the third MSN number assigned to extension 1.

2. Hold Signal Time Periods

This option allows you to program the timing of the hold signal recognized for the system.

* 0 8 * 0/1 * T # ☺

0 = Timed Break (Recall button)

1 = Hook Flash (Cradle break)

T = enter the time between 120 and 1200 milliseconds

Default: Time break (Recall button) = 190msec

Hookflash (Cradle break) = 875msec

3. Point to point/multipoint operation

This code determines whether the ISDN Line (basic rate access) connected to the system operates in point to point mode or in point to multipoint mode.

* 9 2 * 0/1 # ☺

0 = Point to multipoint

1 = Point to point

Default: Point to multipoint

Note

When the line is programmed as Point to point, it has a TEI value of 0.

4. Ringing Cadences based on MSN

This code enables you to choose different ringing cadences for incoming calls based on their MSN.

* 9 6 * e * m * c # ☺

e = entry number (1 - 8)

m = MSN

C = refers to the cadence type. There are four types of cadence signals: 0, 1, 2, 3. See Appendix 1.

Default: All external calls have cadence C=0

Note

In order for this option to be available, you must have different ringing cadence for external and internal calls, see option 6 in System Programming.

To clear ringing cadences based on MSN :

* 9 6 * e * # ☺

e = entry number (1 - 8)

5. CLIP/CLIR

You may restrict the network from sending the calling party's ID to the called party. This is programmed as follows:

* 0 9 * n 0/1 # ☺

n = extension number

0 = CLI Restriction

1 = CLI Presentation

Default: CLI Presentation

6. Alarm Ring Timer

This option allows you to program how long an extension should ring for, once an alarm call has been activated.

* 0 4 5 * n * T # ☺

n: enter the extension number

T: enter the period of time in seconds, minimum 10sec. and maximum 180sec.

Default: 30secs

7. Time retrieval on Power-up

This option allows the system manager to program the number the **Quattrovox V** system will automatically ring to retrieve the time from the Network on power-up. You can

program your own number if you would like the system to loop back. Maximum length: 20 digits long.

* 0 2 * XXX # ☺

XXX = external telephone number

Default: Automatic time retrieval Off

To disable time retrieval from the network

* 0 2 * # ☺

8. Transfer Time-out

The system manager has the ability to program how long a transferred call will attempt to call an extension before returning to the original party.

* 0 4 0 * T # ☺

T: enter the period of time in seconds, minimum 10 sec. and maximum 180 sec.

Default: 120 sec.

9. Divert No Answer Timer

This option allows the system manager to program the divert no answer Timer for Internal Call diversion.

* 0 4 1 * T # ☺

T: enter the period of time in seconds, minimum 10 sec. and maximum 180 sec.

Default: 20 sec.

10. Call Pick-off enable

This option allows the system manager to program which extensions on the **Quattrovox V** can have calls picked-off by other extensions. This is very useful if you wish to pick-off calls that ring an answering machine connected to the system.

* 0 5 * n 0/1 # ☺

n = extension number

0 = Pick-off disabled

1 = Pick-off enabled

Default: Pick-off disabled for all extensions.

11. Automatic Day/Night Switch Times

The system manager has the ability to program the times that the Day and Night switch will trigger in the **Quattrovox V** system.

* 0 6 * Day time * Night time # ☺

Day time: Day Ringing Trigger time in 24 hr. format (e.g. 09:00)
 Night time: Night Ringing Trigger time in 24 hr. format (e.g. 17:30)

Default: No times programmed.

12. Disable automatic switch times

This option allows you to disable the automatic switch times programmed with the option above.

* 0 6 * # ☺

13. Manual Day/Night Switch

Entering the code specified below, you may manually set Day or Night Ringing mode outside the times programmed for the automatic Day/Night switch.

If you wish to set Day or Night ringing mode:

* 0 7 * S # ☺

S = 1: Day mode
 S = 2: Night mode

You may also enter the number of days (24hr periods) for which the programmed ringing mode will apply (optional field).

* 0 7 * S * No. of days # ☺

S = 1: Day mode
 S = 2: Night mode

No. of days: enter the number of days that the filtering mode will be set before returning to automatic switch mode. Maximum: 99 days e.g. to keep night ringing mode active over weekends.

14. Levels of Call Blocking

The user can set the levels of call blocking for each extension from advanced system manager programming. This option determines what type of blocking each extension has when dialling.

* 6 0 * n * Level 0/1/2/3/4/5 # ☺

n = extension number

note: if you dial 0 for extension number it will set blocking level for all extensions.

Levels of call blocking:

Level 0: 06-0 up to and including 06-6,084,087,09 and 00

Level 1: 06-0 up to and including 06-6

Level 2: 084

Level 3: 087

Level 4: 09

Level 5: 00

Default: No Call Blocking Enabled

Note

Emergency code can be dialled from all extensions with all levels of call blocking

To Clear Blocking for an extension:

*	6	0	*	n	*	#	☺
---	---	---	---	---	---	---	---

To Clear Blocking for all extensions:

*	6	0	*	#	☺
---	---	---	---	---	---

15. Call Blocking Exception Table

You may enter numbers that you wish to override from being blocked at extensions with Levels 0 - 5.

*	6	1	*	e	*	External Number	#	☺
---	---	---	---	---	---	-----------------	---	---

You may program up to 8 numbers. Each external number can be up to 20 digits long.
Valid characters: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9

e = entry number (1 to 8)

Note

If a number is common to both an exception table and blocking table, the exception table will have precedence over the barring table. The exception number should only be a match to the blocking numbers.

To clear an entry:

*	6	1	*	e	*	#	☺
---	---	---	---	---	---	---	---

To clear All entries:

*	6	1	*	#	☺
---	---	---	---	---	---

16. Hotline Feature

This option allows you to program an extension as a Hotline extension.

Immediate Hotline

Going off hook at an extension programmed for Immediate Hotline triggers the Hotline function to dial a pre-programmed number.

Delayed Hotline

Going off hook at an extension programmed for Delayed Hotline gives you dial tone and an opportunity to dial a number as normal. If no digits are dialled during this time-out the system triggers hotline function to dial a pre-programmed number.

*	3	0	*	n	*	XXX	*	0/1	#	☺
---	---	---	---	---	---	-----	---	-----	---	---

- n = enter extension number
- xxx = telephone number (1 - 19 digits)
- 0 = Immediate hotline
- 1 = Delayed hotline

Default: Hotline disabled


17. Disable Hotline Feature

Enter the code below to disable Hotline feature.

*	3	0	*	n	*	#	☺
---	---	---	---	---	---	---	---

4.9 Reset Advanced System Programming

This allows you to reset the Advanced User Programming options to default. This option can only be carried out at extension 1.

	Internal Dial Tone	*	8	9	*	5	6	7	8	*	5	6	7	8	*	5	6	7	8	#	☺
---	--------------------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Note: This does not affect System Programming settings

Section 5. Telephone Extension Operation

5.1 USER-PROGRAMMING

◆ **DLS enabled:**

If your extension has Direct Line Seizure enabled, by lifting the handset you will get external dial tone. Some of the functions specified in this section are performed at internal dial tone. To get internal dial tone, press the R key of your phone, alternatively you may dial **, or press the cradle of the phone for a short instance.

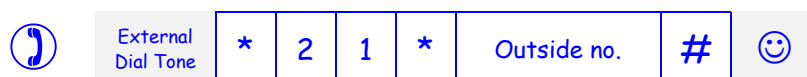
◆ **DLS disabled:**

If your extension has Direct Line Seizure disabled, by lifting the handset you will get internal dial tone. Some of the functions specified in this section are performed at external dial tone. To get external dial tone, dial 0.

After entering a user-programming code, you will receive a positive tone if successful or a negative tone if unsuccessful, which will stay until a DTMF digit has been dialled or until you replace the handset. (See Appendix 1 for tone patterns).

Direct External Diversion at the ISDN Network

This facility allows you to divert, to an outside number, all incoming calls to the MSN number assigned to the first position at your extension. To set this facility, dial the following code while on external dial tone:



To cancel external diversion:

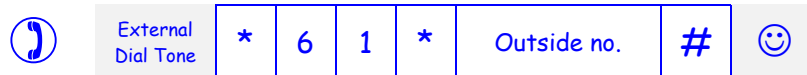


Notes

This note only applies to some countries: If you dial the code as described above the system will automatically insert a 0 after the 1 for acceptance by the ISDN Network. You may also dial 210 instead of 21 when entering the above code.

External Diversion on no answer

This facility allows you to divert on no answer, to an outside number, all incoming calls to the MSN number assigned to the first position at your extension. The call will ring unanswered at your extension for 20 seconds before being diverted. To set this facility, dial the following code when on external dial tone:



To cancel external diversion on no answer:



Notes

This note only applies to some countries: If you dial the codes as described above the system will automatically insert a 0 after the 1 for acceptance by the ISDN Network. You may also dial 610 instead of 61 when entering the above code.

External Diversion on busy

This facility allows you to divert when busy, to an outside number, all incoming calls to the MSN number assigned to the first position at your extension. To set this facility, dial the following code when on external dial tone:



To cancel external diversion on no answer:

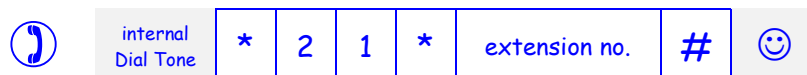


Notes

This note only applies to some countries: If you dial the code as described above the system will automatically insert a 0 after the 7 for acceptance by the ISDN Network. You may also dial 670 instead of 67 when entering the above code.

Internal diversion to an extension

This facility allows you to divert all calls to your extension to another extension connected to the Quattrovox V. To set this facility, dial the following code when on internal dial tone:



To cancel internal diversion to an extension:



Internal diversion on no answer

This facility allows you to divert calls, but only those that are not answered at your extension after a period of time. By default, a call will ring unanswered at your extension for 20 seconds before being diverted. You can program this time-out in advanced system programming.

To set this facility, dial the following code when on internal dial tone:



To cancel internal diversion to an extension:



Internal diversion on busy

This option allows you to have your calls diverted to another extension when your extension is busy. To set this facility, dial the following code when on internal dial tone:

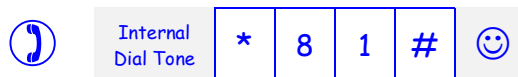


To cancel internal diversion to an extension:



To set Do not Disturb

This option allows you to stop external calls ringing your extension. To set Do not Disturb at your extension,



To cancel Do not Disturb

To cancel Do not Disturb at your extension:



To set Do Not Disturb Timed

This option allows you to program Do Not Disturb for a specific period of time. Enter the on time and the off time in 24-hour format.



Example:



If the above code has been entered at extension 2, this extension will be in DND mode and no external calls will ring extension 2 between 20:00 hrs. and 08:00 hrs.

To Cancel Do Not Disturb Timed

To cancel Do not Disturb Timed at your extension:



Alarm call

This option allows you to enter the time you want your telephone to ring, for example, as a reminder for an appointment. Enter also the number of days that the alarm will remain active (1-5 days), if you enter 0, that means that the alarm will be active indefinitely. You can program more than one alarm call on each extension up to a maximum of 5.

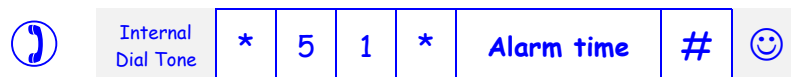
To set an alarm call:



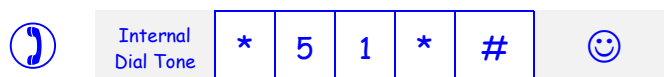
To set an alarm call for multiple days:



To cancel an specific alarm call:



To cancel all alarm calls set at your extension:



Room Monitor

If you set this option at a particular extension, by calling that extension from any other phone (external or internal), you will be able to listen to the sounds emanating from the room where the extension is located.

Room monitor is set at the extension located in the room that you want to monitor. You may monitor the sounds emanating from the room by making a call to the extension that has room monitor set. This call may either be from an external telephone or from any other extension connected to the **Quattrovox V**.

To set room monitor for internal monitoring:



To set room monitor for external monitoring:

If you wish to be able to monitor the sounds from an external incoming call, dial in the CLI number (4 to 10 digits) associated to the outside caller.



Note:

External room monitoring can also be dialled from an internal extension dialling incoming CLI as a password after dialling the extension number .

To Call Room Monitor Internally

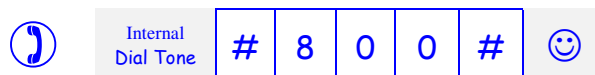


To cancel room monitor:

Room monitor may only be cancelled from the extension that has room monitor set. To cancel this option, just replace the handset.

Reset User Programming

Enter the code below to reset all the user programming settings from an extension.



5.2 Normal Operation

◆ **DLS enabled:**

If your extension has Direct Line Seizure enabled, by lifting the handset you will get external dial tone. Some of the functions specified in this section are performed at internal dial tone. To get internal dial tone, press the R key of your phone, alternatively you may dial **, or press the cradle of the phone for a short instance.

◆ **DLS disabled:**

If your extension has Direct Line Seizure disabled, by lifting the handset you will get internal dial tone. Some of the functions specified in this section are performed at external dial tone. To get external dial tone, dial 0.

Answering Calls

When your phone rings, you will hear either internal or external ringing indicating that either another extension is calling or an external call is waiting to be answered. See ringing patterns in Appendix 1.

Call ringing at your extension



The call is automatically answered upon lifting the handset

Call Pick-Up (global)

To pick-up any calls ringing at another extension:

Internal Dial Tone	8	0
--------------------	---	---

Note

You cannot pick up alarm calls ringing another extension.

Call Pick-Up (extension directed)

To pick-up a call ringing at a specific extension:

Internal Dial Tone	8	extn. no.
--------------------	---	-----------

Call Pick-Off (extension directed)

To pick-off any call answered at a specific extension:

Internal Dial Tone	8	extn. no.
--------------------	---	-----------

Note

An extension must be enabled for this feature before you can pick-off a call from it, see advanced system programming.

Making Calls

Internal Calls

To call another extension:

Internal Dial Tone	extn. no.
--------------------	-----------

Enter the extension number you wish to call

External Calls

Internal Dial Tone	0	External Dial Tone	Tel. no.
--------------------	---	--------------------	----------

Enter the external number you wish to call

MSN for outgoing calls

This facility allows you to program which of the MSN numbers configured at your extension will be sent as your identity (CLI) to the party you are calling. Remember that if you have CLI presentation set at your extension, your CLI will be the MSN 1 by default. This option is programmed on a per call basis, i.e. MSN to be sent as CLI for the following call.

Internal Dial Tone	*	3	m	*	Tel . no.
-----------------------	---	---	---	---	-----------

- ◆ m = MSN index 1 to 3
 - m = 1: No MSN number sent
 - m = 2: MSN 2 number sent
 - m = 3: MSN 3 number sent

Notes

Don't dial 0 to seize an outside line when entering the code above.

Deactivate alert tones

This facility is only useful if your extension has been programmed, in system programming, to receive alert tones during a call to indicate that another call is ringing at your extension. This option allows you then, on a per call basis, to deactivate any call waiting alert tones for a specific call. Enter the following function code before dialling the external number.

Internal Dial Tone	#	4	3	*	Tel . no.
-----------------------	---	---	---	---	-----------

Notes

Don't dial 0 to seize an outside line after entering the function code.

Page

This feature allows you to ring all extensions.

To ring all extensions:

Internal Dial Tone	6
-----------------------	---

Transfer

Announced Transfer

While on a call	R	Internal Dial Tone	Extn. No.
--------------------	---	-----------------------	-----------

The extension will start to ring

Once the extension has answered, inform the extension about the call to be transferred and then clear down. The call will automatically be transferred.

- If at Ring Tone you press Recall (R) you will hear internal dial tone, if you press Recall (R) again the call will come back to you.

Unannounced Transfer

While on a call	R	Internal Dial Tone	Extn. No.
--------------------	---	-----------------------	-----------

Once the extension start to ring, clear down.

By clearing down at ring tone, the call will automatically be transferred to the extension. If the transferred call ringing the extension is not answered within a pre-programmed time-out, the call will return to your extension. This time out is an unattended transfer timer that is configurable in Advanced System Programming.

- If at Ring Tone you press Recall (R) you will hear internal dial tone, if you press Recall (R) again the call will come back to you.

Transfer to Busy Extn. (Camp-On)

To transfer a call to a busy extension:



The call will ring the extension when it becomes free. If it is still not answered within a pre-programmed time-out, the call will return to your extension. This time out is an unattended transfer timer that is configurable in Advanced System Programming.

- If at busy tone you press Recall (R) you will hear internal dial tone, if you press Recall (R) again the call will come back to you.

CCBS (Completion of Calls to Busy Subscribers)

If when making an external call, you get busy tone, you may use CCBS to book a call to the busy subscriber you are trying to call. Your telephone will ring when the other party clears down. By lifting the handset, the external number will automatically be dialled.



After dialling 5, you will get a positive indication tone if the CCBS has been accepted by the public exchange. If the busy subscriber hasn't cleared down within 45 minutes of the CCBS being established, the CCBS will be released by the public exchange. In the case that the public exchange doesn't clear the CCBS, the **Quattrovox V** will clear it within 60 minutes of the CCBS being established.

Notes

Only one CCBS is possible per extension at a time. A second CCBS is rejected and you will get a negative indication tone.

Call Parking and Terminal Portability (TP)

When on an external call, you may park the call. This allows you to make, receive or handle other calls as you wish. When parked, a call may be retrieved from any extension (including your own extension). Only one call can be parked by the system, using a park code.

Parking a call using system park code

When on an external call

R	Internal Dial Tone	7
---	--------------------	---



To retrieve a parked call using system park code:

Internal Dial Tone	7	
--------------------	---	--

Note

This feature also works if you are on an internal call. Internal calls are parked internally and not at the public exchange

Conference/ 3 PTY

Analogue extensions may establish a three party conference call. For this, before dialling the following code, the extension must have one external call externally held and another external call internally held.

Internal Dial Tone	9
--------------------	---

Multiple Call Handling

Note that a call put on hold is exclusive to your extension; no other extension can take it over.

Making an Enquiry Call

When engaged on a call, you may hold that call and make an enquiry call to an extension. When you place a call on hold, it is on 'exclusive' hold and may be retrieved only from your extension.

To put a call on hold (internal or external) and make an internal call to an extension:

While on a call	R	Internal Dial Tone	Extn. No.
-----------------	---	--------------------	-----------

To toggle between two calls

Once you have put a call on hold and established an enquiry call to an extension, you may toggle between the two calls, i.e. you may move back and forth between the two calls.

While on a call with another call on hold:

R	Internal Dial Tone	This will put the current call on hold (you will have two calls on hold)
---	--------------------	--

To retrieve first call on hold:

Internal dial tone (with two calls on hold)	R	You will be connected to the first call that was on hold.
---	---	---

Answering a waiting incoming call (CW)

To place a call on hold and pick up an incoming call giving alert tones at your extension:

While on a call you get alert tones	R	Current call is put on hold and you are connected to the new call
-------------------------------------	---	---









- Alternatively you can answer a call waiting call by replacing your headset, this will clear your call and the waiting call will ring your extension.

Making a Second External Call (CH)

While on an external call	R	Internal Dial Tone	0	External Dial Tone	Dial external no.
---------------------------	---	--------------------	---	--------------------	-------------------






Dialling 0 will put the call on hold back at the public exchange and give you external dial tone.

Appendix 1: Tones and Ringing Patterns

Tone patterns	CADENCE	MEANNING
Dial tone		System is ready to accept dialling <i>(450 Hz continuous)</i>
Normal call diverted Dial tone		External or internal divert facility is active or DND is set. <i>(interrupted dial tone)</i> 500msecs on, 55msecs off
Ring Back tone		Called extension is ringing 1 sec on, 4 secs off
Busy tone		Called extension is busy 500msecs on, 500msecs off
Single Call waiting Alert Tone		Tone(s) heard when an incoming call is ringing while you are already on a call. 5 secs off, 120msecs on
Sequence of call waiting alert tones		Tone(s) heard when an incoming call is ringing while you are already on a call. 5 secs off, 120msecs on, 4 secs off, continuously.
☺ Successful programming tone		Tone heard after entering a programming code to confirm that programming has been successful 1 second on
⊗ Unsuccessful programming tone		Same as previous but programming is unsuccessful. (4 tones in 2 sec.; 250 mSec. on/off)

Note

If no MSN numbers are programmed and you have all four extensions connected to the system, all extensions (1,2,3,4) will ring during one 5 second ringing cycle slightly delayed from one extension to another. This will also be the ringing cycle in case of a page call.

Ringing patterns	CADENCE	MEANNING
Internal (if set)		Another extension is calling 400msecs on, 200msecs off, 400msecs on, 4 secs off
External (Cadence 0)		External call is waiting for answer 1 second on, 4 seconds off
Cadence 1		100msecs on, 100msecs off, 800msecs, on, 4 seconds off
Cadence 2		800msecs on, 100msecs off, 100msecs, on, 4 seconds off
Cadence 3		100msecs on, 100msecs off, 600msecs on, 100msecs off, 100msecs on, 4 secs off

Appendix 2: List of functions, programming codes and default settings

System programming options, codes and default settings:

To enter system programming, enter at internal dial tone: *** 8 7 * PIN # ☺**

Do not hang up. You may now enter the code of the option you wish to program.
You will get successful programming tone if the option has been successfully programmed.
Hang up at any moment to finish programming.

System Programming Options	Code	♣Default
Assign DDI/MSNs to extensions for Day Ringing	* n m * MSN #	Empty
To cancel MSN number assigned to extensions for Day Ringing	# n m # (or) * n m * #	-
Exchange Line Direct Seizure	* 8 1 * n 0/1 #	Off
Type of hold signal	* 8 2 * n 0/1 #	Flash (Recall button)
Extension Devices	* 8 9 * n 0/1/2 #	Telephone/Fax/Modem
Analogue CLI Presentation	* 8 8 * n 0/1 #	On
Call waiting alert tone	* 8 5 * n 0/1/2/3/4 #	Sequence of alert tones
Different cadences for internal & external calls	* 8 4 * n 0/1 #	External ringing cadence for external and internal calls
COLP / COLR	* 8 3 * n 0/1 #	COLP
TP/Call Park Code (to ISDN Network)	* 8 6 * Park-code #	Park-code = 1
Deactivate TP/Call Park Code	* 8 6 * #	-
Remote Download	* 9 0 * XXX #	-
To Set Single Call MSN	* 9 8 * e * MSN #	-
To Cancel Single Call MSN	* 9 8 * e * #	-
Display Software version Number	* 9 9 9 * 2 /4 #	-

Advanced System Programming Options, Codes and Default Settings:

To enter advanced system programming, enter at internal dial tone: *** 8 8 * PIN # ☺**
 Do not hang up. You may now enter the code of the option you wish to program.
 You will get successful programming tone if the option has been successfully programmed.
 Hang up at any moment to finish programming.

Advanced System Programming Options	Code	♣Default
Assignment of DDI/MSNs to the Extension Ports for Night Ringing	* n m * MSN #	No MSN assigned
To cancel Assignment of DDI/MSNs to the Extension Ports for Night Ringing	# n m # (or) * n m * #	
Hold Signal Time Periods	* 0 8 * 0/1 * T #	Time break (Recall button) = 190msec Hookflash (Cradle break) = 875msec
Point to Point / Point to Multipoint	* 9 2 * 0/1 #	Point to Multipoint
To set Ringing Cadence based on MSN	* 9 6 * e * m * c #	All external calls have cadence c=0
To cancel Ringing Cadence based on MSN	* 9 6 * e * #	
CLIP/CLIR	* 0 9 * n 0/1 #	CLI Presentation
Alarm Ring Timer	* 0 4 5 * n * T #	30 sec.
To enable Time Retrieval on Power-up	* 0 2 * xxx #	Off
To disable Time Retrieval on Power-up	* 0 2 * #	
Transfer Time-out	* 0 4 0 * T #	30 sec.
Divert on No Answer Timer	* 0 4 1 * T #	20 sec.
Call Pick-off	* 0 5 * n 0/1 #	Disabled
To enable Automatic Day/Night Switch Times	* 0 6 * hhmm * hhmm #	No switch time programmed
To Disable Automatic Day / Night Switch Times	* 0 6 * #	-
Manual Day/Night Switch	* 0 7 * S #	-
Manual Day/Night Switch for No. of Days	* 0 7 * S * 1/2/3/4/5 #	Day Mode (1)
Level of Call Blocking	* 6 0 * n * 1/2/3/4/5 #	Unrestricted Access (5)
Clear Blocking for an extension	* 6 0 * n * #	-
Clear Blocking for all extensions	* 6 0 * #	-
Call Blocking Exception Table	* 6 1 * e * xxx #	-
To clear an Exception Entry	* 6 1 * e * #	-
To clear all Exception Entries	* 6 1 * #	-
Enable Hotline Feature	* 3 0 * n * xxx * 0/1 #	Off
Disable Hotline Feature	* 3 0 * n * #	-

User programming options, features and function codes:

User Programming Options:	Code
◆ Options programmed at external dial tone:	
To set External Diversion	* 2 1 * No. #
To cancel External Diversion	# 2 1 #
To set External Diversion on no answer	* 6 1 * No. #
To cancel External Diversion on no answer	# 6 1 #
To set External Diversion on busy	* 6 7 * No. #
To cancel External Diversion on busy	# 6 7 #
◆ Options programmed at internal dial tone:	
To set Internal Diversion to an extension	* 2 1 * n #
To cancel Internal Diversion to an extension	# 2 1 #
To set Internal Diversion on no answer	* 6 1 * n #
To cancel Internal Diversion on no answer	# 6 1 #
To set Internal Diversion on busy	* 6 7 * n #
To cancel Internal Diversion on busy	# 6 7 #
To prevent ringing at night	* 8 0 * hh'-mm' * hh''-mm'' #
To revert to normal ringing	# 8 0 #
To set Do Not Disturb	* 8 1 #
To cancel Do Not Disturb	# 8 1 #
To set Alarm Call	* 5 0 * hhmm #
To set Repeat Alarm Call	* 5 0 * hhmm * 0/1/2/3/4/5 #
To cancel Specific Alarm Call	* 5 1 * hhmm #
To cancel All Alarm Calls	* 5 1 * #
To set Internal Room Monitor	* 9 8 #
To set External Room Monitor	* 9 8 * CLI #
To cancel Room Monitor	Replace Handset
To reset user programming	# 8 0 0 #
Change Pin	* 8 7 * Old * New * New #
Reset System Programming & Pin and Advanced System Programming <i>(only from extn. 1)</i>	* 8 9 * 1 2 3 4 * 1 2 3 4 * 1 2 3 4 #
Reset Advanced System Programming only <i>(only from extn. 1)</i>	* 8 9 * 5 6 7 8 * 5 6 7 8 * 5 6 7 8 #

User Features	Function codes
◆ Basic operation:	
To get internal dial tone when direct line seizure is set 'on'	R (Recall) Or * *
To get internal dial tone when direct line seizure is set 'off'	Lift Handset
To dial an extension when direct line seizure is set 'on'	R n Or * * n
To dial an extension when direct line seizure is set 'off'	n
To seize a line when direct line seizure is 'off'	0
To seize a line when direct line seizure is 'on'	Lift Handset
From a Fax if direct line seizure is off	0
◆ Advance features:	
Present MSN on outgoing calls	* 3 2/3 * xxx
Restrict MSN on outgoing calls	* 3 1 * xxx
Deactivate alert Tones	# 4 3 * No.
To put a call on hold and get internal dial tone (if no call waiting)	R (Recall)
Call pick-up (Global)	8 0
Call pick-up from a specific extension	8 n
Page all	6
CCBS	5
To set up 3 PTY call	9
To clear 3 PTY call	R
Call Parking and TP	7
To retrieve parked call	7

Appendix 3: Technical overview

Capacity	1 x Euro ISDN Basic Rate Access 4 a/b extensions
Power (market dependent)	230V [~] ac at 50Hz
Extension connectors	RJ11 female
Line connector	RJ45 female
Temperature range (operating)	0°C to 40°
Temperature range (storage)	-20°C to 70°C
Humidity	To 80% non-condensing at 40°C
Ringling Voltage	55V [~] , 42 V ^{dc} , 25 Hz sinusoidal
Extension feed	48V fully balanced
Analogue CLI	DTMF
Insertion loss	< 6 dB at 1 000 Hz
Extension length	2-wire instruments, 200 Ohm loop (typically 1.3km max.)
Extension protection	3 kV protection
Safety	Complies with European CE requirements. EN 60950
EMC	EN55022 : 1998 Class B EN55024 : 1998
CCU dimensions	146mm x 182mm x 40mm (W x H x D)
Weight	460g approximately