MILLENNIUM®

Converged Communications Platform

Telephone Operating Instructions

eOn communications

Section 32-112-460
Issue 5, July 2008

185 Martinvale Lane

San Jose, CA 95119

(800) 955-5321 • Fax (408) 694-9600

• • • • •

www.eoncommunications.com

• • • • •

Contents

Introduction

This document describes the telephones that can be used with the Millennium Digital Communications Platform and provides instructions for placing and answering calls and accessing the features available with the system. The instructions in this document apply to eOn digital telephones, Type 3100 electronic telephones, and single-line telephones.

This document is being reissued to update company information and the telephone drawings. Whenever this document is reissued, the reason for reissue will be given in this paragraph.

Related Documents

For additional information about the Millennium Digital Communications Platform, refer to the list of related documents in Section 32-112-100.

Conventions

▶ This symbol indicates a special condition or other important information.

❖ This symbol indicates a first-level subparagraph.

● This symbol indicates a second-level subparagraph.

General Operating Information

The following paragraphs provide general information concerning terminology, system timeouts, user programmable features, and basic telephone operating procedures.

Common Terms

The following terms apply to the telephone operating procedures in this section.

Extension: This refers to an extension number and may correspond to a single-line telephone, or a button on a digital telephone or Type 3100 telephone.

Prime Extension: When an extension number has more than one appearance in the system, one appearance can be programmed as the primary extension number. This appearance can be a button on a digital telephone or BEM, or a Type 3100 telephone or Type 3100 DSS/BLF console, the principal line on a single-line telephone, or a logical button on a telephone. When a feature such as call announce, station hunt, or directed call pickup is used, this primary appearance of the extension number is the only location that responds. When the primary appearance is ringing, all other appearances will indicate busy. When the telephone with the primary appearance is in the do-not-disturb mode, all other appearances will indicate ACTIVE.

Second Dial Tone: Second dial tone, also called transfer hold or distinctive hold dial tone, consists of three alternations of system dial tone, followed by a steady system dial tone. You hear second dial tone when you press the TRANSFER HOLD (XFER) or CONFERENCE HOLD (CONF) button. Depending on system programming, it may also be used to indicate a waiting message.

Hookswitch Flash: Holding the hookswitch down for approximately one second, then releasing it sends a signal to the Central Office to get dial tone after a call has been terminated by the far end or to initiate a feature. Some telephones have a FLASH button which can be used instead of pressing the hookswitch. It is much more reliable since it requires no guessing on the part of the user of the length of time to operate it.

Feature Access

Most system features can be accessed either by dial access code or feature button. A feature for which a telephone has no button programmed can be accessed by dial code, provided it is allowed by the telephone's class-of-service. Table A lists the system default dial access codes.

Dial access codes are programmable and may be any combination of the digits 0 through 9, #, ✱, A, B, C, and D. If the digits A, B, C, and D are used, buttons for these functions must be programmed on the multibutton telephones from which the codes will be dialed. Digits other than 0 through 9 should only be used if all telephones using dial codes use tone (DTMF) dialing.

All features are assigned time limits to aid in system efficiency. A feature operation must be completed within the specified time limit. or the selected button or feature is released for someone else to use or, in a feature such as call forward or hold, the next step in the sequence begins. If the button or feature is released, the system returns reorder tone.

Audible Call Indications

The tones and signals heard during telephone operation are described in Table B.

Resource Queuing

When an outside call is originated, or a feature that returns dial tone or confirmation tone is accessed, all the required system resources may not be available. If a resource is not available, the extension is queued on that resource, and the system returns an alerting tone repeated at intervals.

When all the necessary resources are available, the the system returns dial tone or confirmation tone, as appropriate. If the extension is hung up while queued for a resource, it is taken out of the queue.

A call into the system on a trunk may put the call in the trunk extension queue if the trunk cannot ring the destination specified in the routing plan. The system gives no indication that the queue is full; the caller just hears ringback tone.

Line Selection

There are three ways to originate a call with a digital or Type 3100 telephone: manual line selection, automatic line selection, and preselection. Programming determines how each telephone functions and which method to use to originate a call. With a single-line telephone, line selection is always automatic.

- Preselection puts a digital or Type 3100 telephone with a SPEAKER button in the handsfree mode.

TABLE B

SYSTEM TONES

SUPERVISORY TONES:		DUAL FREQUENCY TONES		SINGLE FREQUENCY TONES	
TONE	**CADENCE**	**μ-law or A-law**	**μ-law**	**μ-law**	**A-law**
Dial Tone	Continuous	350 + 440 Hz	440 + 480 Hz		430 Hz
Distinctive Dial Tone	100 ms. on, 100 ms. off, repeated 6 times, then continuous dial tone	350 + 440 Hz	440 + 480 Hz		430 Hz
Busy Tone	500 ms. on, 500 ms. off, repeated	480 + 620 Hz	440 + 480 Hz		430 Hz
Distinctive Busy Tone	As with Busy Tone, but last 50 msec. of each tone burst is 500 Hz	480 + 620 Hz	440 + 480 Hz		430 Hz
Reorder Tone	250 ms. on, 250 ms. off, repeated	480 + 620 Hz	440 + 480 Hz		430 Hz
Confirmation Tone	100 ms. on, 100 ms. off, repeated 3 times	350 + 440 Hz	440 + 480 Hz		430 Hz
Override Tone	100 ms. on, 9.9 sec. off			500 Hz	500 Hz
MOH Tone	50 ms. on, 1-65 sec. off, programmable			500 Hz	500 Hz
MER Tone	0-65535 sec. on, programmable			500 Hz	500 Hz
Call Announce Tone	1-6 sec. on, programmable			500 Hz	500 Hz
Call Monitor Tone	50 ms. on, 1-65 sec. off, programmable			500 Hz	500 Hz
Camp-on Tone	50 ms. on, 1-65 sec. off, programmable			500 Hz	500 Hz
Warning Tone	1-6 sec. on, programmable			500 Hz	500 Hz

RINGBACK TONES (μ-law or A-law):				
TONE	**CADENCE 1**	**CADENCE 2**	**CADENCE 3**	**CADENCE 4**
Ringback Tone American	1 sec. on, 3 sec. off	1 sec. on, 4 sec. off	2 sec. on, 4 sec. off	1 sec. on, 2 sec. off
Ringback Tone European	400 ms. on, 200 ms. off, 400 ms. on, 3 sec. off	400 ms. on, 200 ms. off, 400 ms. on, 4 sec. off	400 ms. on, 200 ms. off, 400 ms. on, 5 sec. off	400 ms. on, 200 ms. off, 400 ms. on, 2 sec. off
Ringback Tone Low Priority	200 ms. on, 3.8 sec. off	200 ms. on, 4.8 sec. off	200 ms. on, 5.8 sec. off	200 ms. on, 2.8 sec. off
Special Ringback on Busy	50 ms. beep after initial ring burst	50 ms. beep after initial ring burst	50 ms. beep after initial ring burst	50 ms. beep after initial ring burst
Tone Frequencies	440 + 480 Hz	440 + 480 Hz	440 + 480 Hz	440 + 480 Hz

ALERTING PATTERNS:	
There are alerting patterns that duplicate the cadence of the ringback tones, as well as the following:	
Alarm Clock	200 ms. on, 200 ms. off
Alerting Low Priority	200 ms. on, 1-64 sec off, programmable in station PROFILE (except for SYS 3100 stations)

aw98-28f

Telephone Descriptions

eOn Digital Telephones

The eOn digital telephones are available in 6-, 12-, 18-, and 30-button models. (See Figures 1 through 4 respectively.) All models include a 12-button dial pad, an electronic ringer, and, except the 6-button model, a built-in speaker and microphone. All models may have an optional 2-line by 24-character message display module; the 30-button telephone can have either a 2-line by 24-character display module or a 4-line by 48-character display module. The 18- and 30-button models may also have an optional data adapter, and support a Button Expansion Module (BEM).

The 18- and 30-button telephones have liquid crystal displays (LCDs) next to the feature buttons to indicate the status of the button. Visual call indications and their meanings are shown in Table C.

The 6-button telephone supports the Group Listen feature and on-hook dialing, but does not support handsfree speakerphone operation. The 12-button telephone does support handsfree operation. Both telephones support off-hook call announce; the announcement is mixed in the receiver with the existing call.

Pushbutton Dial

The pushbutton dial on all models of eOn digital telephones is programmed for hot keypad operation. Any time the telephone is off-hook, the 12 keypad buttons can be used to send tones (DTMF signals) to the system or to a distant office.

Feature Buttons

All feature buttons on the digital telephones are programmable, except on the 6-button model, which has only three programmable buttons. Button functions are determined by system programming. When the telephone is first plugged in, the software that determines the function of each button is downloaded from the system.

Digital telephones can have several logical buttons programmed on each physical button, greatly expanding the button capability at each telephone. Up to 10 banks of buttons can be programmed, with up to 254 buttons in each bank.

Display Module

Two models of display modules are available: a 2-line, 24-character-per-line display, and a 4-line, 40-character-per-line display. The 2-line model shows the top two lines of a 4-line message. The 4-line model shows all four lines. When the telephone is idle, either display shows the date/time on the top line and the company logo on the second line. When the telephone is in use, the display scrolls downward allowing call progress information to be shown.

The display modules can display additional characters not represented on most keyboards. All displays use the character patterns shown in Table D. The character set shown in Table D will be replaced in the future with the character set shown in Table E.

Depending on system programming, call duration may be displayed on the right end of the display line. A running count is displayed up to 999 minutes and 59 seconds, after which the timer resets to 999 minutes and 00 seconds and continues counting. When a trunk call is answered or retrieved, an additional display message is posted for 10 seconds. This message indicates the total time the trunk call has been in the system.

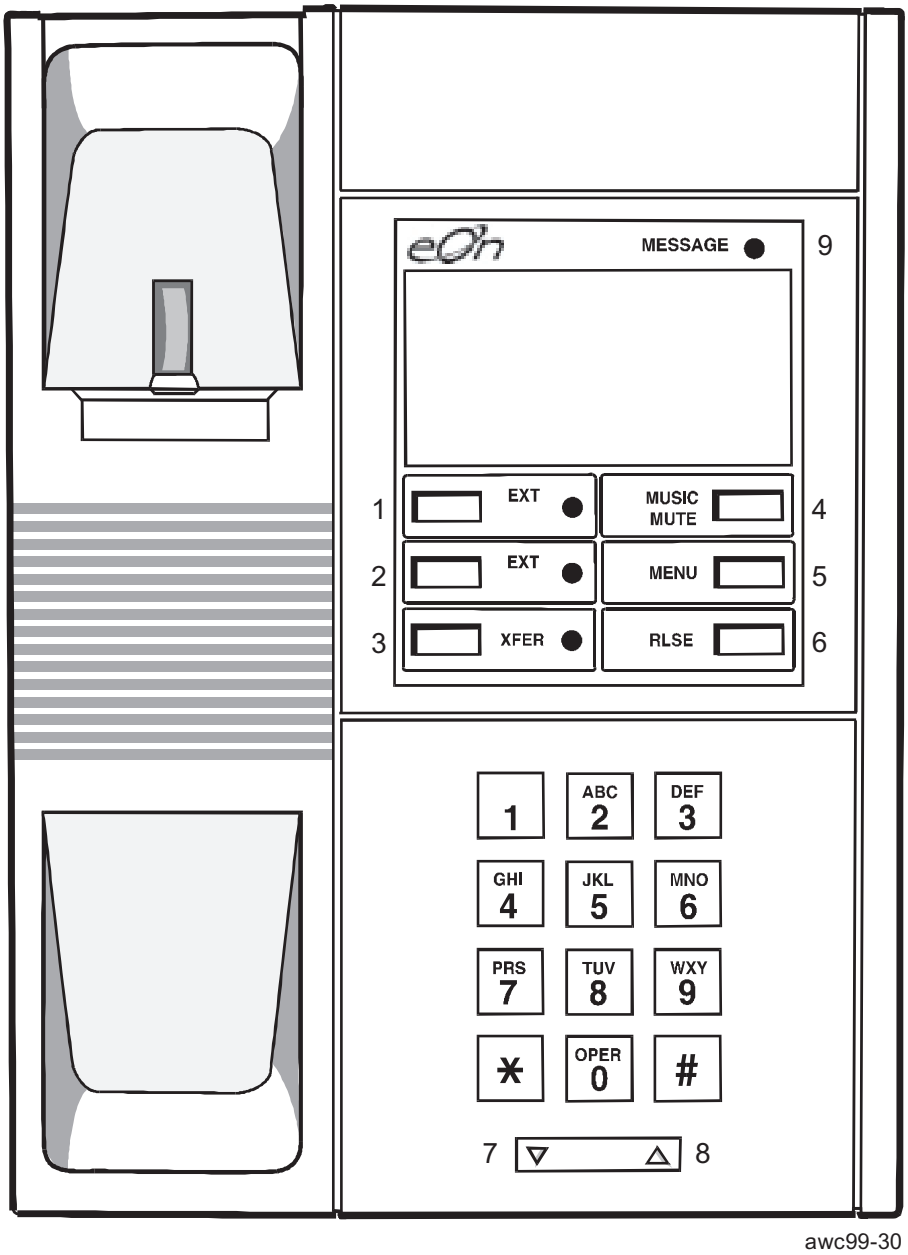


Figure 1: eOn 6-Button Digital Telephone

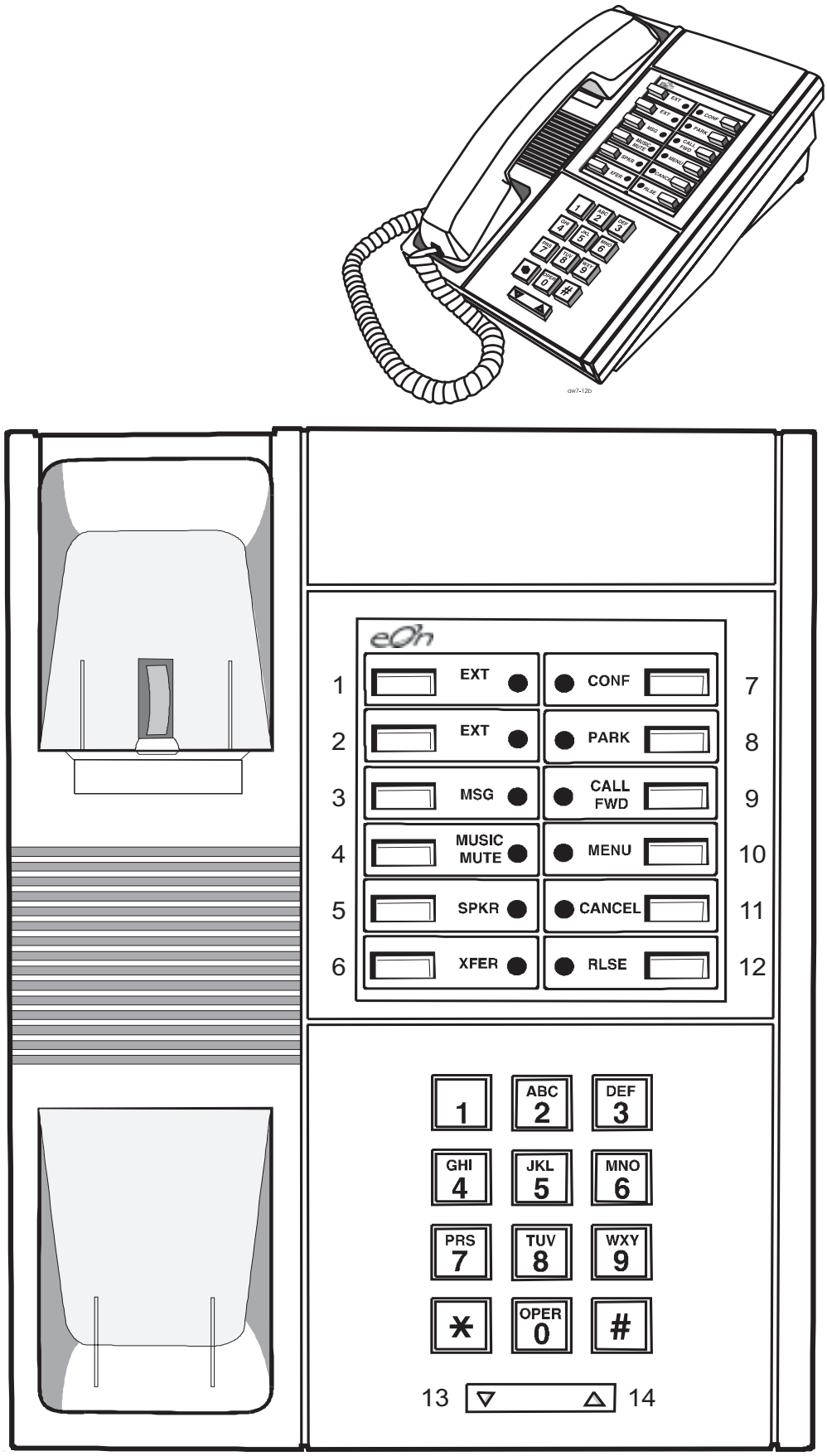
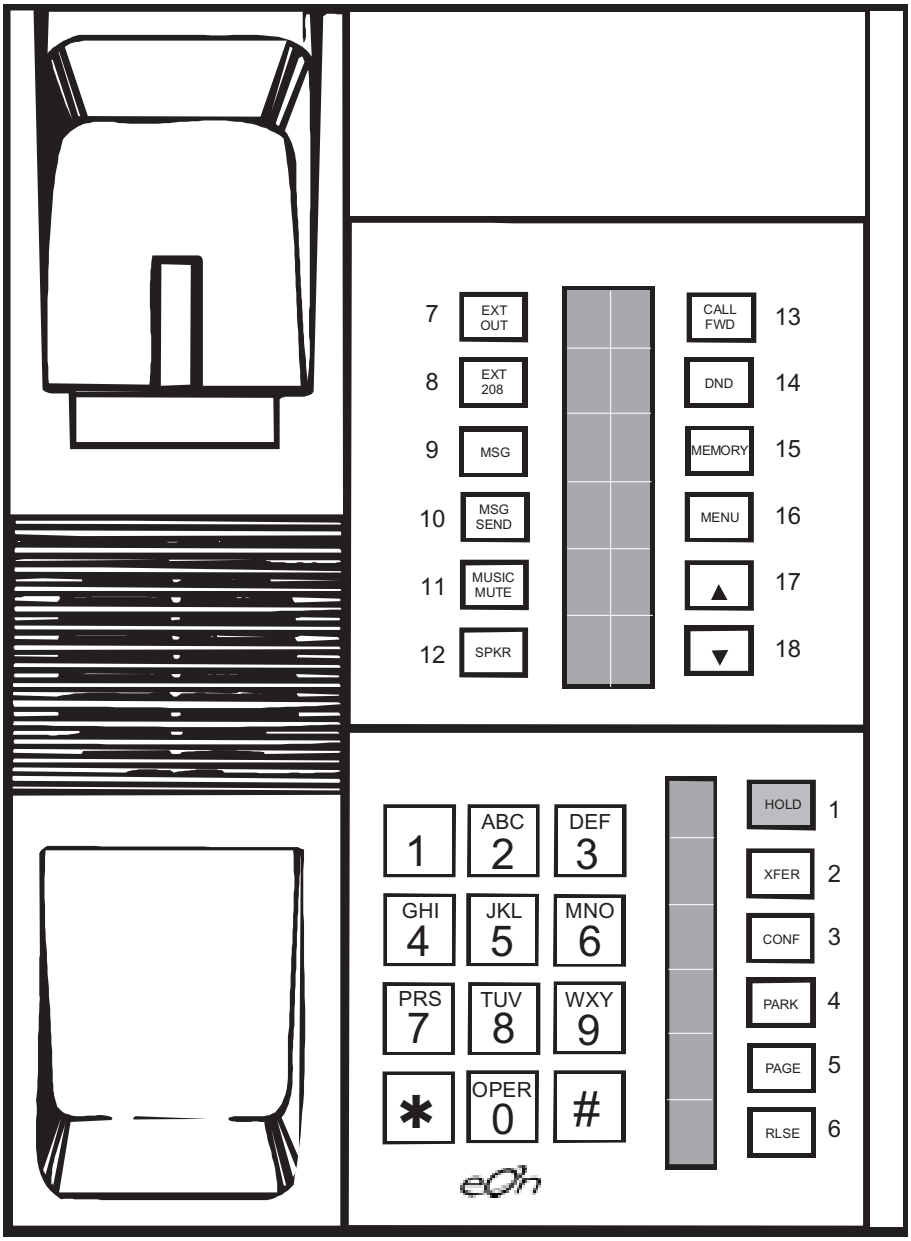


Figure 2: eOn 12-Button Digital Telephone



awc2-320

FIgure 3: eOn 18-Button Digital Telephone

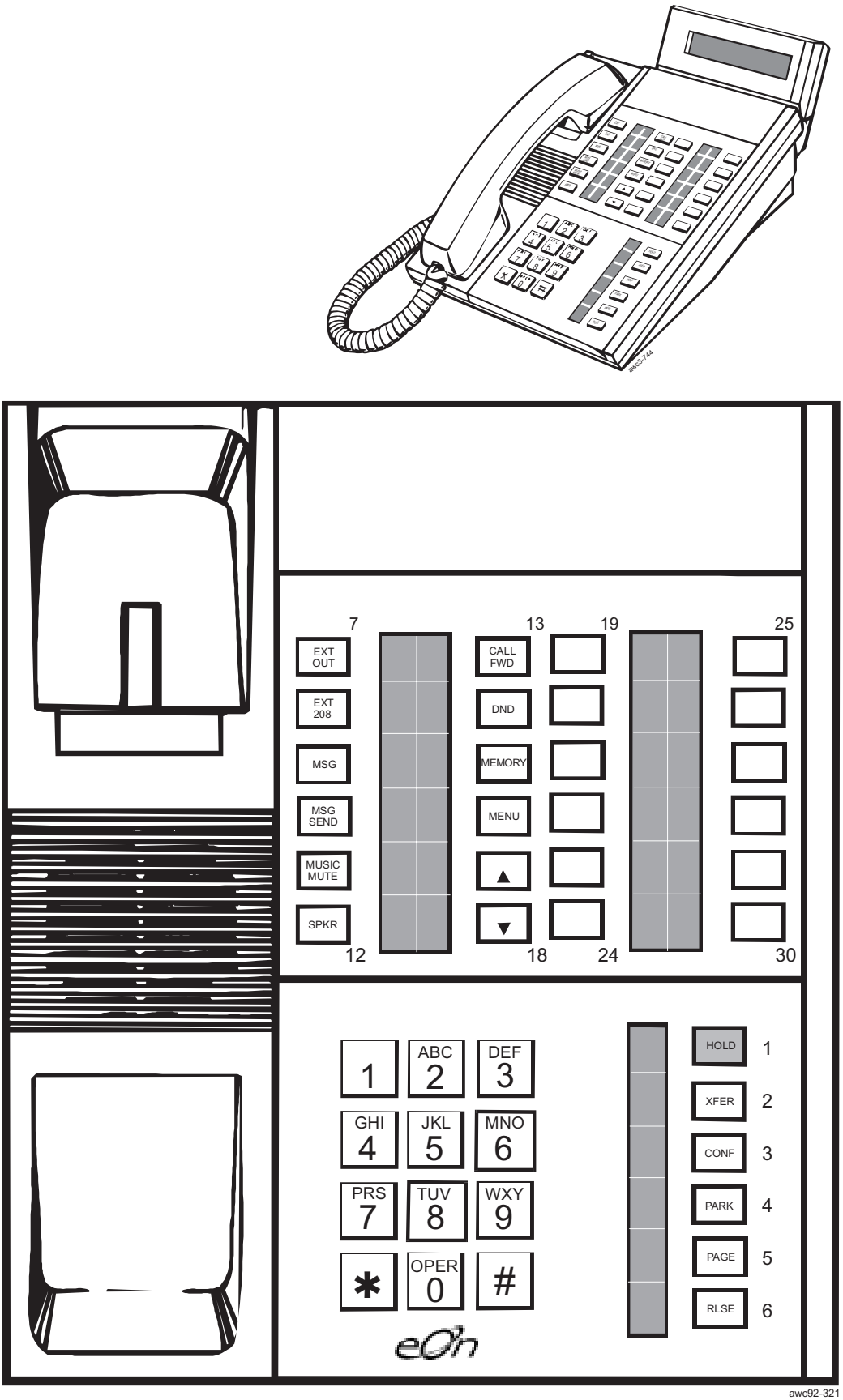
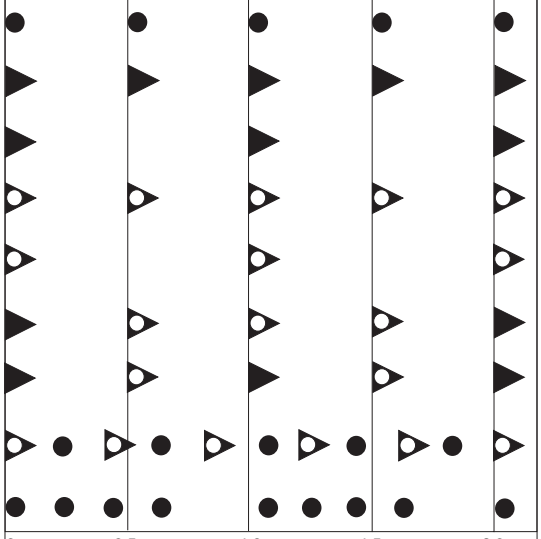


Figure 4: eOn 30-Button Digital Telephone

TABLE C

DIGITAL TELEPHONE VISUAL CALL INDICATIONS

CONDITION	LCD DISPLAY	EXPLANATION
BUSY		Closed circle displayed continuously.
ACTIVE		Closed triangle displayed continuously.
CALLING		Closed triangle; on/off at 0.5-second intervals.
P-HOLD		Open triangle displayed continuously.
RECALLING		Open triangle; on/off at 0.5-second intervals.
I-HOLD		Alternating open and closed triangles; open for 1.5 seconds and closed for 0.5 second.
T-HOLD		Alternating open and closed triangles; changing at 0.5-second intervals.
ATTENTION		Alternating open triangle and closed circle; changing at 0.2-second intervals.
STATION BUSY		Closed circle displayed 0.8 second on, 0.2 second off.

awc91-80

TABLE D

DIGITAL TELEPHONE DISPLAY

Lower 4 Bits \ Upper 4 Bits	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111
xxxx0000	CG RAM (1)															
xxxx0001	(2)															
xxxx0010	(3)															
xxxx0011	(4)															
xxxx0100	(5)															
xxxx0101	(6)															
xxxx0110	(7)															
xxxx0111	(8)															
xxxx1000	(1)															
xxxx1001	(2)															
xxxx1010	(3)															
xxxx1011	(4)															
xxxx1100	(5)															
xxxx1101	(6)															
xxxx1110	(7)															
xxxx1111	(8)															

TABLE E

FORTHCOMING DIGITAL TELEPHONE DISPLAY

Upper 4 bit / Lower 4 bit	LLLL	LLLH	LLHL	LLHH	LHLL	LHLH	LHHL	LHHH	HLLL	HLLH	HLHL	HLHH	HHLL	HHLH	HHHL	HHHH
LLLL	CG RAM (1)															
LLLH	(2)															
LLHL	(3)															
LLHH	(4)															
LHLL	(5)															
LHLH	(6)															
LHHL	(7)															
LHHH	(8)															
HLLL	(1)															
HLLH	(2)															
HLHL	(3)															
HLHH	(4)															
HHLL	(5)															
HHLH	(6)															
HHHL	(7)															
HHHH	(8)															

Button Expansion Module

The Button Expansion Module (BEM) (see Figure 5) connects directly to a digital telephone or another BEM. It contains 48 programmable buttons arranged in four groups of twelve. Up to four BEMs can be connected in series to provide a total of 192 programmable buttons, resulting in a 210-button station when associated with an 18-button telephone, or a 222-button station when associated with a 30-button telephone.

The BEM can be equipped with a display module. The information shown on the display complements the information shown on the display of the companion telephone. When the telephone is idle, the BEM display is blank and the idle state information appears on the telephone display. When the telephone is in use, call status information in lines three and four of the 4-line, 24 characters-per-line message is shown on the telephone display and the idle state information in lines one and two appears on the BEM display.

Recorder Jack

The 30-button telephone can be equipped to connect to recording equipment that records both sides of calls.

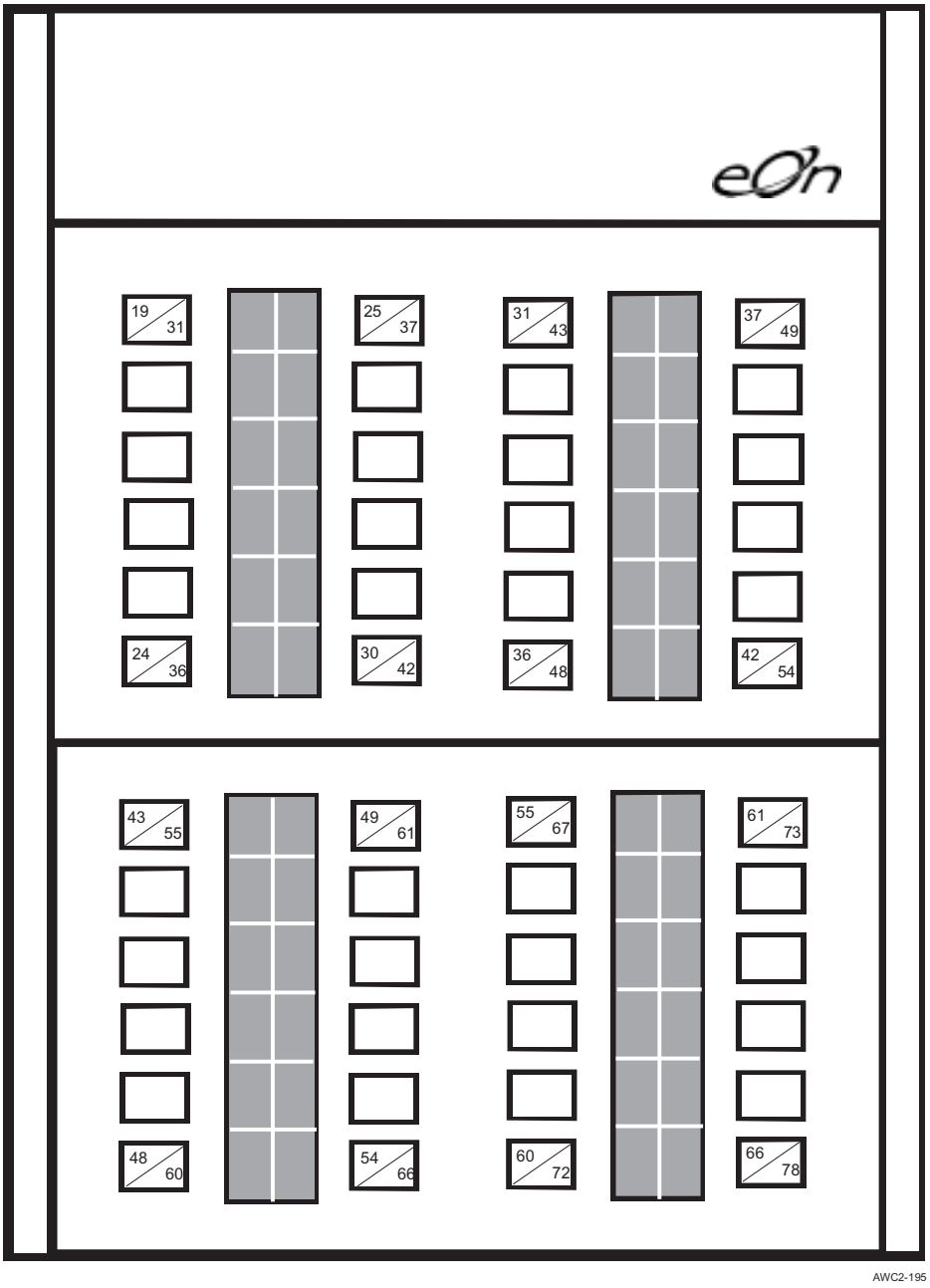


Figure 5: Button Expansion Module

Personal Preferences Setup

The following items can be programmed at each telephone:

- Background music source and volume level.
- Ringer volume level and ring type.
- Display module contrast.
- Handset receiver volume level.
- Speaker volume level (handsfree and call announce).
- Sidetone level.

Music Source Selection

To select the background music source and adjust the volume level:

- With the handset on-hook, press the MUSIC/MUTE button one or more times to select music source 1 or 2, or no music.
- Press the UP ARROW or DOWN ARROW button to adjust the volume level.

Ringer Adjustment

For about 3 seconds after pressing the MENU button, you can use the UP ARROW or DOWN ARROW button to scroll through the modes. At the end of that time, the telephone will go into the selected mode for about 10 seconds. Afterward, the display will change and the telephone will return to its idle state. If the telephone goes into one of the selection modes, the UP ARROW and DOWN ARROW button indicators will change to ACTIVE or BUSY, indicating that the buttons can now be used to set the ring level, ring type, or display contrast. In either of the two ring modes, the ringer will ring.

To set the ringer volume level and ring type:

- With the telephone on-hook and idle (even the MUSIC button displays nothing), press the MENU button.
- Within about 3 seconds, if necessary, press the UP ARROW or DOWN ARROW button one or more times until the message *Mode = ring level select* is displayed. Wait for the UP ARROW and DOWN ARROW button indicators to change to ACTIVE and for the ringer to ring.
- Press the UP ARROW or DOWN ARROW button to increase or decrease the ringer volume level. When the maximum or minimum volume is reached, the related button indicator changes to BUSY.
- When the ringer volume is satisfactory, press the MENU button or wait for the 10-second timeout to save the choice and exit the ring level select mode. The ringer is silenced and the UP ARROW and DOWN ARROW button indicators change to IDLE.
- Press the MENU button again.
- Within about 3 seconds, if necessary, press the UP ARROW or DOWN ARROW button one or more times until the message *Mode = ring type select* is displayed. Wait for the UP ARROW and DOWN ARROW button indicators to change to ACTIVE and for the ringer to ring.
- Press the UP ARROW or DOWN ARROW button to change the ring type.