

# XBLUE Networks X16 Installation Guide



Revision Table

Revision	Description of Changes	Date Released
Preliminary Release – PAL	<p>Page 6 – added a page brake to change the page tab labels.</p> <p>Page 12 – Fixed typo in Installation</p> <p>Page 14 – Fixed typo line up to lineup</p> <p>Page 16 – Fixed typo in Cable Pair</p> <p>Page 20 – Fixed typo on endpoint device</p> <p>Page 35 – Fixed typo, added a “.” to sentence</p> <p>Page 22 – Entered new LIU functionality</p> <p>Page 29 – Fixed typo in Muted Ring</p> <p>Page 29 – Fixed typo in New Message Playback</p> <p>Page 32 – Fixed typo in Transfer</p> <p>Page 56 – Fixed typo in One Touch Record</p> <p>Page 57 – Fixed typos in Using AME</p>	11/2007 1/14/08

## Part Numbers

Part Numbers	Description
1610-00	X16 Voice Server
1630-00	2 CO Line Expansion Module
1680-00	SIP VoIP Module
1670-00	Backlit digital telephone endpoint – Charcoal
1670-92	Backlit digital telephone endpoint – XBLUE
1670-86	Backlit digital telephone endpoint – Titanium Metallic
1670-76	Backlit digital telephone endpoint – Red Mahogany

Reproduction, publication, or duplication of this manual, or any part thereof, in any manner, mechanically, electronically, or photographically, is strictly prohibited.

© Copyright 2006 by XBLUE Network, LLC. All rights reserved.

The information contained in this document is subject to change without notice and should not be construed as a commitment by XBLUE Networks, LLC.; XBLUE Networks, reserves the right, without notice, to make changes to equipment design as advances in engineering and manufacturing methods warrant.

Trademarks: XBLUE, XBLUE Networks, X16 are trademarks of XBLUE Networks, LLC. All trademarks are the property of their respective owners.

Pulse Dialing, 32  
Punch down, 17  
—R—  
Record, 42, 52  
Redial, 42, 52  
Redial Button, 30  
Remote Access, 60  
Remote Commands, 60  
Reserved, 42  
Ring Alert, 31  
Ringer Equivalence, 7  
Ringing, 51  
Audible Indication, 31  
Visual Indication, 31  
Ringing Scenarios, 51  
RJ11 connector, 14  
RJ11 extension, 13  
Room Monitor, 31  
—S—  
Set Relocation, 31  
Setting Time and Date, 31  
Speakerphone, 31  
Speed Dial Bins, 31  
Programmable Pause, 30  
Speed Key, 42  
Star Topology, 13  
System Configuration and Layout, 12  
System Programming, 50  
—T—  
Telephone Callouts, 10  
Termination Box, 31  
Time in Display, 32  
Transfer, 32  
Direct to Voice Mail, 32  
TRK2TRK  
Forward, 25  
—U—  
Underwriters Laboratories, 7  
—V—  
Voice Mail  
Deleting Messages, 58  
Getting Started, 58  
Operation, 56  
Personal Mailbox, 30  
Playing New Messages, 57  
Quick Start Guide, 58  
Voice Mail, 33  
Volume  
Intercom Forced Tone Ring, 33  
Intercom Handset, 32  
Intercom Speakerphone, 32  
Network Handset, 33  
Network Speakerphone, 32  
Ringing, 32  
Volume Control, 31  
Handset, 27  
Headset, 27  
—W—  
Wall Mount, 16

Programming Steps, 43  
 Forward, 25  
 Functions  
   Cadence, 52  
   CO Line Cadence, 53  
   Functions, 52  
   Intercom Tone Cadences, 52, 53  
   Phone Book, 52  
   Ringing Cadence, 53  
 —H—  
 Hands-free  
   Calling, 27  
 Hands-Free  
   Calling, 26  
 Headset, 42, 52  
 Headset Activation, 27  
 Hearing Aid Compatible, 7  
 Hold, 27  
 Hot Dial Pad, 27  
 —I—  
 Idle Display, 55  
 Installation  
   CO Line, 14  
   Expansion Module, 19  
   Extension Numbering, 18  
   Location, 13  
   Telephone Endpoint, 15  
 Installing the system, 13  
 Intercom  
   Intercom Calling, 27  
   Intercom Paging, 27  
 Introduction, 9  
 —L—  
 Line Access  
   Dial 9, 24  
 Line In Use, 27  
 Line Status Detection, 27

—M—  
 Meet Me  
   Paging, 29  
 Memo Recording, 28, 56  
 Message Waiting  
   Telephone Company, 28  
 Multilingual Extension, 28  
 Music on Hold, 28  
 Mute, 29, 42, 52  
 Muted Ringing, 29, 31  
 —N—  
 Navigation Keys, 29, 36  
 New Message Play, 29  
 —O—  
 One Touch Record, 24, 57  
 One-Way Paging, 29  
 —P—  
 Page  
   All Call, 29  
 Paging  
   Meet Me, 29  
   Part Numbers, 2  
 Password  
   Default, 45  
   Pause, 29, 42, 52  
   Personal Mailbox, 56  
   Phone Book Dialing, 30  
   Phone Setup, 49  
   Power up and Initialization, 18  
   Privacy Release, 30  
   Programmable Buttons, 30  
   Programmable Pause  
     Speed Dial Bins, 30  
 Programming, 35  
   Feature Buttons, 30, 42  
   Phone, 35  
   Phone Setup, 37  
   System, 35  
   System Setup, 45

**Table of Contents**

PART NUMBERS ..... 2  
 TABLE OF CONTENTS ..... 3  
 NOTICES ..... 7  
 HEARING AID COMPATIBILITY: ..... 7  
 UL/CSA SAFETY COMPLIANCE: ..... 7  
 FCC INFORMATION ..... 7  
 NOTES: ..... 8  
 INTRODUCTION ..... 9  
 FEATURES ..... 9  
 TELEPHONE CALLOUTS ..... 10  
 BACKLIT LCD DISPLAY ..... 10  
 BUTTON LAYOUT ..... 11  
 SYSTEM CONFIGURATION ..... 12  
 INSTALLATION ..... 13  
   Step 1 - Location ..... 13  
   Step 2 - CO Line Connections ..... 14  
   Step 3 - Telephone Endpoint Connection ..... 15  
 PUNCH DOWN ..... 17  
   Step 4 - Power up and Initialization ..... 18  
   Step 5 - Extension Numbering ..... 18  
 EXPANSION MODULE ..... 19  
   Step 1 - Installing the Expansion Module ..... 19  
   Step 2 - Insert the Expansion Module ..... 20  
 ENDPOINT DEVICE ..... 20  
 FEATURE DESCRIPTION ..... 21

ALL PAGE ..... 21

ANSWERING MACHINE EMULATION ..... 21

AUTO ATTENDANT - VOICE MAIL (STANDARD) ..... 21

BACKLIT BLUE LCD DISPLAY ..... 21

CALL PICK UP ..... 22

CALL TIMER ..... 22

CALLER ID AND CALL WAITING CALLER ID (TYPE 1 & TYPE 2) ..... 22

CO LINE BUSY/IDLE STATUS (LED) ..... 22

CO LINE RINGING – PER EXTENSION ..... 23

CONFERENCE (3-WAY) ..... 23

CONFERENCE – EXPRESS CONFERENCE ..... 23

CONVERSATION RECORDING – VOICE MAIL (STANDARD) ..... 24

DAYLIGHT SAVINGS – AUTOMATIC (USING CID) ..... 24

DIRECT CO LINE ACCESS ..... 24

DIRECT MAILBOX TRANSFER - VOICE MAIL (STANDARD) ..... 24

DIRECT STATION SELECT – BUSY LAMP (LED) FIELD ..... 25

DISTINCTIVE RINGING – RINGER TYPE ..... 25

DO NOT DISTURB (DND) ..... 25

FLASH ..... 25

FLASH TIMER ..... 25

FORWARD ..... 25

HANDS-FREE CALLING ..... 26

HANDSET/HEADSET VOLUME CONTROL ..... 27

HEADSET ACTIVATION ..... 27

HOLD ..... 27

HOT DIAL PAD ..... 27

INTERCOM CALLING ..... 27

INTERCOM PAGING ..... 27

LINE STATUS DETECTION (LINE IN USE) ..... 27

MEMO RECORDING - VOICE MAIL (STANDARD) ..... 28

MESSAGE WAITING (TELEPHONE COMPANY-FSK) ..... 28

MULTILINGUAL DISPLAY PER EXTENSION ..... 28

MUSIC ON HOLD INPUT ..... 28

MUTE WITH LED INDICATION ..... 29

**Index**

—A—

All Call Paging, 29

All Page, 21, 42, 52

Answering Machine Emulation, 21, 57

Auto Attendant, 21, 56

Off, 51

On, 51

Auto Mute, 26

—B—

Backlit Blue LCD Display, 21

Backlit Display, 21

Backlit LCD Display, 10, 22

Bridge Tap, 15, 20

—C—

Cable Pair Colors, 16

Cable Run, 13

Call Forward, 25

External, 26

TRK2TRK, 25

Voice Mail, 25

Call Time, 22

Call Transfer

Extension, 32

Caller ID

Call Waiting Caller ID, 22

Setting Time and Date, 31

Calling

Hands-free, 27

Character Input Keyboard, 41

CO Line

Busy, 22

Idle, 22

Ringling, 23

Common Ringling, 51

Conference, 23, 42, 52

Express Conference, 30

Operation, 23

Conversation Record, 24

—D—

Daylight Savings, 24

Default Button Layout, 11

Direct Mailbox Transfer, 24

Direct Station Select, 25

Distinctive Ring Tone, 25

Distinctive Ringling, 25

DND, 25, 42, 52

Do Not Disturb, 25

DSS

DSS, 25

DSS/BLF Key, 42

DTMF Dialing, 32

—E—

Expansion Module

Installation, 19, 20

Installing, 19

Express Conference, 23

Conference, 30

Extension Numbers, 15

External

Call Forward, 26

—F—

FCC Registration, 7

Feature Button

Programming, 30, 42

Feature Key, 42

Features, 9

Flash

CO Line, 25

Flash Key, 42

Flash Timer, 25

Key, 52

Flexible Button

## Remote Commands

Mailboxes may be accessed from outside of the system using a telephone with standard DTMF (Touchtone®) dialing.

### Remote Access

Call into the system and let the Auto Attendant answer the call and then dial the desired extension number. If the extension is forwarded to voicemail, and the mailbox answers, enter the "Remote Access code" (default remote access code is 123) which is programmed in the "Phone Programming Area".

Once connected remotely, the system will prompt the user through the remote control menu.

1	Replay Previous Message	2 Play All New Messages 3 # Play All Messages	3 Skip to Next Message
4	Record Memo	5 Stop	6 Play Personal OGM
7		8 Repeat this Menu	9 Repeat this Menu
* * *	** - Erase Playing Message	0 Transfer to Auto Attendant	#

MUTED RING (RING ALERT) .....	29
NAVIGATION KEYS .....	29
NEW MESSAGE PLAYBACK - VOICE MAIL (STANDARD) .....	29
PAGING .....	29
MEET ME ANSWER (PAGING) .....	29
PAUSE .....	29
PERSONAL MAILBOX - VOICE MAIL (STANDARD) .....	30
PHONE BOOK DIALING .....	30
PRIVACY (PRIVACY RELEASE) .....	30
PROGRAMMABLE BUTTONS (12) .....	30
PROGRAMMABLE PAUSE (SPEED DIAL BINS) .....	30
REDIAL (LAST 6 NUMBER REDIAL) .....	30
RING ALERT (MUTED RINGING) .....	31
RINGING (AUDIBLE AND VISUAL) .....	31
RINGER VOLUME CONTROL .....	31
ROOM MONITOR .....	31
SETTING TIME AND DATE (AUTOMATIC) .....	31
SPEAKERPHONE (DIGITAL TELEPHONE ENDPOINT) WITH LED .....	31
SPEED DIAL BINS .....	31
SET RELOCATION .....	31
TIME IN DISPLAY .....	32
TONE/PULSE .....	32
TRANSFER .....	32
TRANSFER - DIRECT TO VOICE MAIL .....	32
VOLUME ADJUSTMENTS .....	32
VOICE MAIL (STANDARD) .....	33
PROGRAMMING .....	35
NAVIGATION KEYS .....	36
PHONE SETUP .....	37
PROGRAMMING FEATURE BUTTONS .....	42
FEATURE BUTTON PROGRAMMING .....	43
SYSTEM SETUP .....	45

PROGRAMMING GUIDE .....49

RINGING SCENARIOS.....51

    AUTO ATTENDANT .....51

*Auto Attendant On-AA Ring Only* ..... 51

*Auto Attendant Off-ALL/EXT Ring*..... 51

*Ringling* ..... 51

FUNCTIONS .....52

*Features and LED function*..... 52

*Lamp (LED) Cadence*..... 52

*Lamp (LED)s on Phone*..... 52

*Intercom Tone cadences* ..... 52

*CO Line Cadence and Status Table*..... 53

*Ringling Cadence*..... 53

*Cable Specifications* ..... 53

TROUBLESHOOTING .....54

IDLE LCD DISPLAY .....55

VOICE MAIL OPERATION.....56

    AUTO ATTENDANT .....56

    PERSONAL MAILBOX .....56

*Memo Recording*..... 56

*One Touch Record* ..... 57

*Answering Machine Emulation (AME)*..... 57

*Playing New Messages* ..... 57

*Deleting Messages* ..... 58

*Voice Mailbox Quick Start Guide*..... 58

*Getting Started:* ..... 58

REMOTE COMMANDS .....60

INDEX .....61

Use the up or down navigation buttons to scroll through the programming choices, Press the center navigation button to select the "VoiceMail Setup" parameter.

Use the up or down navigation buttons to scroll through the programming choices, Press the center navigation button to select the "Personal OGM" parameter.



Press the center navigation button to select "Play" to listen to the current message.

To change the message use the down navigation button to scroll to "Re-Record" and press the center navigation button, and **lift the handset** to begin recording.

Press the center navigation button again to "Stop" the recording, and preview the newly recorded message.

Hang up the handset to accept the new message or select "Re-Record" to rerecord the Outgoing Message.

- Each message is automatically saved after it has been played. To scroll through saved messages, use the left and/or right navigation keys.
- Notes:**
- 1) Messages will play in order that they are received.
  - 2) While a message is playing, use the up or down navigation key to scroll through Pause, Volume, and Exit. Press the select navigation button to select, the desired action.
  - 3) While a message is playing and the left navigation key is pressed, the previous message will be played, or if it is the first message, the message will be repeated.
  - 4) While a message is playing and the right navigation key is pressed, the next message will be played. However, if it is the last message in the list, a prompt will be played, "End all Messages".

### Deleting Messages

After listening to a message, it will automatically be saved in the voice mailbox. To delete the message, press the "Delete" button twice or the "Delete" button and the center Navigation Key while the message is playing. The voice mail message will be deleted and the next message will automatically begin to play.

**Note:**

*The message is permanently deleted and cannot be recovered. If an extension is unplugged for more than 120 seconds, all of voice mail messages for that extension will be deleted.*

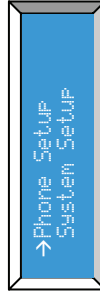
### Voice Mailbox Quick Start Guide

Although each voice mailbox comes with a prerecorded outgoing message, recording a new outgoing message is a nice way to personalize the way the mailbox answers incoming calls.

### Getting Started:

Personal Outgoing Messages are accessed in the voice mailbox area under the "Phone Programming" Parameter.

With your handset on hook...Press the "Programming" button to enter the programming mode, and then Press the center navigation button to access the Phone Setup area.



## Notices

### Hearing Aid Compatibility:

The digital telephone endpoints are hearing aid compatible, as defined in section 68.316 of Part 68 FCC Rules and Regulations.

### UL/CSA Safety Compliance:

The X16 system has met all safety requires, and found to be in compliance with the Underwriters Laboratories (UL) 60950-1.

**Warning:** This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used properly, that is, in strict accordance with the instruction manual, may cause interference to radio and television reception. This equipment has been tested and found to comply with the limits for a Class B computing device in Subject J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. However, there is no guarantee, or warranty, that interference will not occur in a particular installation. If this equipment causes interference or fails to operate correctly, due to radio frequency interference (RFI) or electromagnetic interference (EMI), it will be fixed at the owners' expense.

### FCC Information

Provide the following information to the Telephone Company prior to connection the X16 system to the network.

Item	Specification
FCC Registration	D6XKH05BX16
Ringer Equivalence	0.5B
Networks Address Signaling	E
Service Order Code	9.0Y
Facility Interface Code	02LS2
Required Network Interface	RJ11 & RJ14



## Notes:

### One Touch Record

While speaking to an outside party, the user may press their record button and record the current conversation. The message will be saved as a new voice mail message in the user's personal mailbox.

### Answering Machine Emulation (AME)

This feature "Mimics" the call screening feature of an answering machine. Five seconds after a call is answered by an extension users' voice mailbox, that user can monitor/screen the caller as they leave a message.

The extension user will receive a warning tone, which indicates that a caller has been answered by their voice mailbox. The user has the option to monitor the call, or ignore the alert, and allow the caller to leave a message. Once the user has selected to monitor the caller, they have the option to leave the caller undisturbed (leaving a message) or to retrieve the caller from the voice mailbox and be connected to the caller for a live conversation.

### Using AME

- The extension must be forwarded to Voice Mail.
- The Telephone Company Central Office Line may be transferred directly into the user's voicemail box, or transferred and ring at the extension until it is forwarded to voice mail.
- If a call is transferred to an extension or directly into the users' voice mailbox, AME is available once the Line button turns green. The extension user may press the center navigation button to monitor the message being left.
- Lift the handset to speak live to the calling party.
- Press the left or right navigation button to exit the AME without intercepting the call.



Notes:

Operation  
Voice Mail

### Playing New Messages

The center navigation button will flash when you have a new voice mail message. In addition, the display will indicate how many new voice mail messages you have.

To access your voice mailbox:

- From an idle telephone
  - Press the center navigation key. (No password required)
  - The voice mail count will be announced
  - The time and weekday will be announced
  - The messages will play in the order that they are received.



## Voice Mail Operation

The System comes equipped with a 4 channel auto attendant and voice mail system, which can answer up to 4 different calls simultaneously.

### Auto Attendant

The system can be programmed to answer in "Auto Attendant" mode. When Auto Attendant is set to "On-HA Ring Only" the attendant telephone will ring until the "Waiting Time" expires. When Auto Attendant is set to "Off-ALL EXT RING" all telephone programmed to ring will ring until the "Waiting Timer" expires. Once the Auto Attendant answers the caller may dial the desired extension number.



### Personal Mailbox

Each extension is automatically assigned a personal mailbox, which is used to play a personal greeting and record message. In addition, all extensions are automatically forwarded to their mailbox.

Once forwarded to voice mail the center navigation key will be lit solid, indicating that the telephone has been forwarded to voice mail. Be sure to record the OGM so that callers will receive your personal message. Once forwarded, all calls that are transferred to that extension will be forwarded to the user's personal mailbox and will hear their OGM (Outgoing Message).

### Memo Recording

Each extension can press their record button to record a memo or a conversation that is taking place in the office.

- 1) Press the record button 
- 2) Press the center navigation button to begin, and end recording. 
- 3) The memo will be stored as a new message.

## Introduction

The X16 system is a full featured, next generation, multi-line business telephone system ideal for both home and small office environments. It comes equipped to interface with 4 Central Office (CO) Lines, equipped to receive Caller ID, and sixteen (16) proprietary digital telephone endpoints.

The system can be expanded to accommodate an additional two (2) CO Lines, allowing a maximum configuration of six central office telephone lines. Or the system may be configured with 4 CO Lines and 2 Voice over IP (VoIP) Session Initiation Protocol (SIP) Media Gateways and sixteen proprietary digital telephone endpoints. In addition, the system comes standard with Auto Attendant and all digital telephone endpoints have a personal digitally integrated voice mailbox.

## Features

Auto Attendant	Intercom Paging
Answering Machine Emulation	Meet me Answer (Paging)
Audible and Visual Ringing	Memo Recording
Backlit LCD Display	Message Waiting (Telco-FSK)
Call Timer	Multilingual Display per Extension
Call Transfer	Music on Hold Internal/External
Caller ID and Call Waiting Caller ID	Mute with LED indication
CO Line Busy/Idle Status (LED)	Navigation Keys
CO Line Ringing (programmable)	New/All Message Play
Conference (3-way)	Voice Mail
Conversation Recording	Phone Book Dialing
Daylight Savings (Automatic with Caller ID)	Programmable Buttons (12)
Direct Mailbox Transfer	Programmable Pause (Speed Bins)
Direct Station Select – Busy Lamp Field	Redial
Display Number Dial	Remote Message Pickup
Distinctive Ringing	Ringer Volume Control
Do Not Disturb	Set Time and Date
Flash Timer	Speakerphone with LED
Handset/Headset Volume Control	Speed Dial Buttons
Headset Activation	Time in Display
Hold	Tone/Pulse
Intercom Calling	Voice over IP (VoIP) - future

**Telephone Callouts**



Telephone Callouts

**Backlit LCD Display**



**Idle LCD Display**



Time, Date, Name and Number



In DND Mode



4 New Voice Mail Messages



24 New Caller ID Calls



Trunk to Trunk Forwarding



External Forwarding

Idle LCD Display

## Troubleshooting

Trouble	Possible Causes	Action
The Blue LED "Heartbeat" is not functioning.	AC Cord or Power adaptor is not working correctly or not plugged in correctly.	Remove all of the plugs and re-plug them back in.
Sluggish Performance at Key Telephone – <ul style="list-style-type: none"> <li>Press Speakerphone several time with no reaction</li> <li>Lift/Replace Handset with no reaction</li> </ul>	Cable Pairs connect to one or more KSU digital ports without a telephone connected	<ul style="list-style-type: none"> <li>Remote Connection of un-terminated cable pair at KSU port</li> <li>Install telephones at all locations wired</li> </ul>
Telephone LCD Shows: "No Link to KSU"	Cable Pairs Connected to one or more KSU digital ports without telephone installed	<ul style="list-style-type: none"> <li>Remove connection of un-terminated cable pairs at the KSU.</li> <li>Install telephone at all locations which are wired.</li> </ul>
Telephone reports: "Register Fail" or cycles between "Register Fail" and "Initializing, Please Wait!"	Cable pairs connected to one or more KSU digital ports without a telephone connected.	<ul style="list-style-type: none"> <li>Remove connection of un-terminated cable pairs at the KSU.</li> <li>Install telephone at all locations which are wired.</li> </ul>
One or more extensions are experiencing static or distortion.	Not all extensions are punched down.	<ul style="list-style-type: none"> <li>Remove connection of un-terminated cable pairs at the KSU.</li> <li>Install telephone at all locations which are wired.</li> </ul>

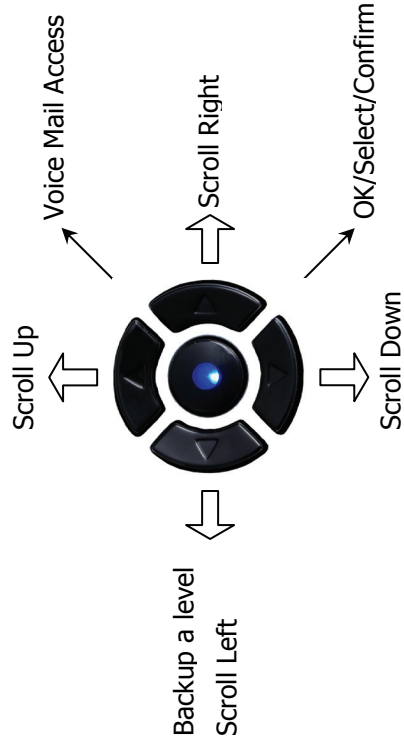
## Button Layout



Delete, Conference, Feature, Transfer, Redial, Hold, Mute and Speaker

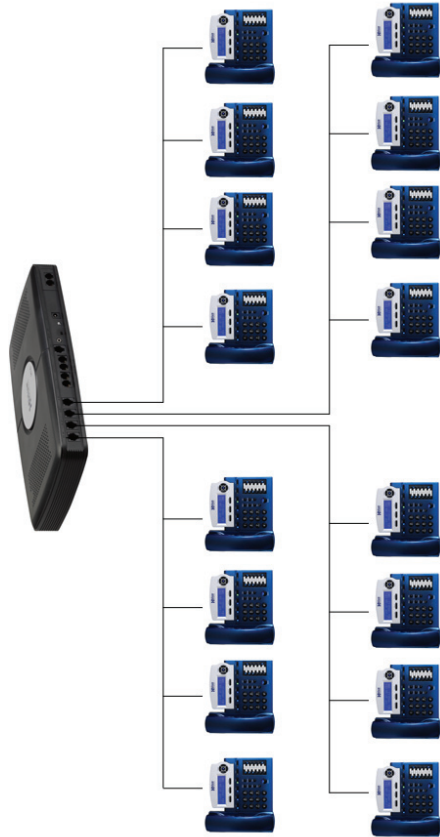
## Navigation keys

Scroll left or right, up and down to update the LCD Display.

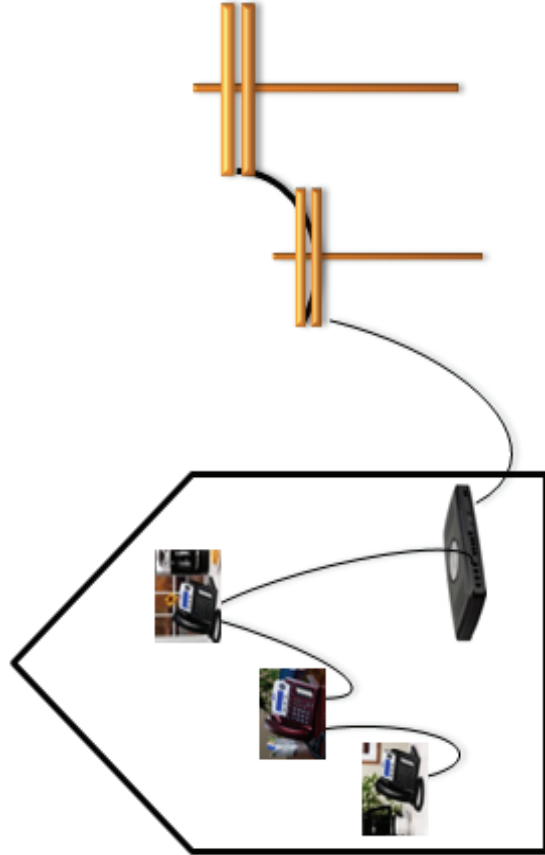


## System Configuration

The system uses advanced digital interface technology. One cable pair supports up to four digital telephone endpoints. Each digital telephone endpoint has its own extension number, and can be called from any other extension in the system.



System Configuration



CO Line Cadence and Status Table

Speaker	Unlit: Speaker or Intercom Link Idle Fast: Receiving incoming call Lit: Talking with the Digital Telephone Endpoint Slow: In headset mode
Enter/VM	Unlit: No New messages Fast: New Message in VM Lit: No answer forward active – unanswered calls will be forwarded to VM
Mute	Slow: New Telephone Company Line Message Waiting Unlit: Inactive – phone is not muted Lit: Active – phone is muted
All Page On Flexible Button	Unlit: Inactive – Not currently paging Lit (rapid flash): Making or receiving a page
DND On Flexible Button	Unlit: Inactive – DND function is off Lit (solid): Active – DND function is active
Record On Flexible Button	Unlit: Inactive – Not recording call Lit (rapid flash): Active – Recording call
Headset On Flexible Button	Unlit: Headset function is off Lit: Headset function is on
DSS/BLF On Flexible Button	Unlit: The extension programmed on the button is idle Lit: The extension programmed on the button is busy Slow: The extension programmed on the button is in DND

Functions

Ringing Cadence

CO Ring	Synchronized with CO Ringing
Intercom Ringing	0.25 sec on, 0.25 sec off, 0.25 sec on, 1.25 sec off repeating.
Transfer/Recall	1 sec on, 1 sec off, repeating
Hold Reminder	1100Hz, 0.05 sec on/off, 4 beeps
Privacy Release	1100Hz, 0.2 sec on/off, 1 beep
Privacy Recover	1100Hz, 0.2 sec on/off, 2 beeps
Call Waiting Beep	500Hz, 0.2 sec on/off, 2 beeps
Single/All Page	600Hz, 1.0 sec on, 1 beep
Confirmation Beep	1100Hz, 0.5 sec on, 1 beep
Warning Beep	1100Hz, 0.05 sec on/off, 3 beeps

Cable Specifications

Category	AWG	Length	Impedance
CAT5e	24	600 feet	20 Ohms



## Functions

Features and LED function

Feature Code	Descriptive	LED lit	LED Not Lit
Feature + 1	Record	Active	Not Recording
Feature + 2	Open	N/A	N/A
Feature + 3	Flash Key	N/A	N/A
Feature + 4	DND	Active	Not in DND
Feature + 5	Mute	Active	Not in Mute Mode
Feature + 6	Conference	N/A	N/A
Feature + 7	Pause	N/A	N/A
Feature + 8	Redial	N/A	N/A
Feature + 9	Headset	Active	Not Active
Feature + 0	All Page	Active	Not Active
Feature + *	Open	N/A	N/A
Feature + #	Open	N/A	N/A

## Functions

Lamp (LED) Cadence

Unlit	Off
Lit	Lit Solid
Fast	0.125 sec off, 0.125 sec on, repeating
Slow	0.5 sec off, 0.5 sec on, repeating
Wink 1	0.250 sec off, 1.750 sec on repeating.
Wink 2	0.250 sec off, 0.250 sec on, 0.250 sec off, 1.25 sec on repeating
Wink 3	0.250 sec off, 0.250 sec on, 0.250 sec off, 0.250 sec on, 0.250 sec off, 0.750 sec on, repeating.

Lamp (LED)s on Phone

CO Line Status	My Station	Other Stations
Idle	Unlit	Unlit
In-Use	Lit Green (I-Use)	Lit Blue (In-Use)
On Hold	Slow Green (I-Hold)	Lit Blue (In-Hold)
Ringing	Fast Blue	Fast Blue
Being Transferred	Slow Green (I-Hold)	Lit blue (I-Hold and Transfer)

Intercom Tone cadences

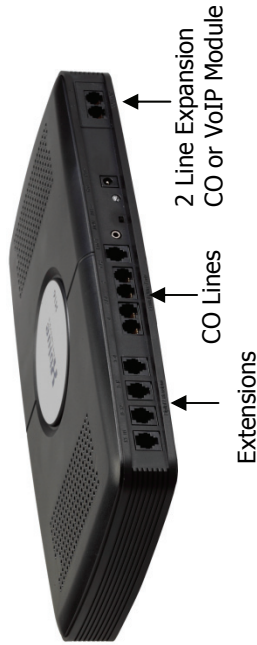
Dial Tone	Continuous Tone
Busy Tone	0.5 sec on, 0.5 sec off, repeating
Ring Tone	1 sec on, 1 sec off, repeating
DND Tone	0.25 sec on, 0.25 sec off, repeating

## Installation

The X16 comes standard with four RJ11 extension ports. Each port supports up to 4 proprietary digital telephone endpoints, for a total of sixteen (16) endpoints. Each port on the system will support up to 600 feet of cable.

In a star topology 600 feet is calculated by adding each Digital Telephone endpoints cable run.  
Cable A + Cable B + Cable C + Cable D <= 600 feet.

In a serial cable topology 600 feet is calculated by adding the distance of the initial run plus the distance between each telephone.  
Cable A to telephone 1 + (distance between telephone1 & telephone 2) + (distance between telephone 2 & telephone 3) + (distance between telephone 3 & telephone 4) <= 600 feet.



### Step 1 - Location

The system should be located close to the telephone company interface (RJ21X), and have a dedicated outlet with an isolated ground.

The system can be mounted on the wall or placed on a table. Once the location of the system is determined use the supplied wall mounting template to level and secure, the system, with the provided screws, or place it on a table.



Lineup the back of the system with the four screws, and slides it into place.



### Step 2 – CO Line Connections

Using the matrix below, connect the CO Lines to the system using one RJ14 connector per CO Line. The port labeled Line 1 is a direct access auxiliary port for line 1 allowing an analog device direct access.



Line	Port Number
AUX CO	Line1
CO Line 1	1 / 2
CO Line 2	2
CO Line 3	3 / 4
CO Line 4	4
CO Line 5	5
CO Line 6	6

## Ringling Scenarios

### Auto Attendant

The Auto Attendant can be set to "On-AA Ring Only" or "Off-AllEXT Ring."

### Auto Attendant On-AA Ring Only

When set to On-AA Ring Only, only the extension defined as the attendant (301 at default) will ring until the Auto Attendant Delay Timer expires. If the timer is set to 10 seconds, for example, the attendant extension will ring up to two times before the auto attendant answers.

### Auto Attendant Off-AllEXT Ring

When set to Off-AllEXT Ring, all telephones programmed to ring, will ring until the Auto Attendant Delay Timer expires.

### Ringling

Each extension may be programmed to ring or not ring, depending on the telephones programming. However, the Auto Attendant must be set to off-AllEXT Ring, to allow extensions to ring before the auto attendant answers the call. The telephones will ring until the Auto Attendant Wait Timer expires, which can be set from 06 seconds to 240 seconds.

### Common Ringling

Auto Attendant Delay - Set the Auto Attendant to Off-AllEXT Ring, and the Auto Attendant Wait Timer to 30 seconds and all telephones will ring for 30 seconds and then the line will be answered by the auto attendant.

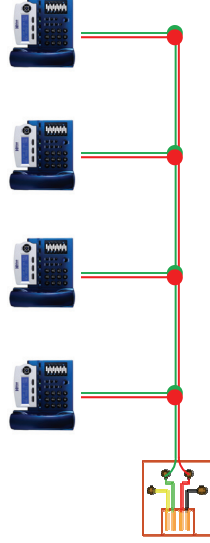
Auto Attendant Answering – Set the Auto Attendant to On-AA Ring Only, and set the Auto Attendant Wait timer to 10 seconds. Only the Attendant telephone will ring, for the length of the timer, and then the Auto Attendant Greeting will begin to play.

Step 3 – Telephone Endpoint Connection



Connect telephone endpoints to the system using one RJ11 port for up to 4 different endpoints, with a maximum of 600 feet per port. Once connected each telephone endpoint will register with the voice server when it is powered up. At default, the extensions begin with number 301. The remaining extension numbers must be entered. See step 5.

*Correct Installation process*



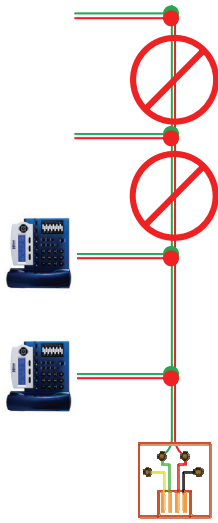
It is important to connect a telephone to every jack that is connected to the system. Extensions connected to a cable with "Bridge Taps", may experience distortion. If locating a bridge tap is not practical, a quick resolution is to use a different cable pair such as the Yellow/Black or White/Orange.

Feature	Parameter	Sub Parameter	
System Programming Default Password "####"	###		
	Date & Time	Year	
		Monthly/Date Time 00:00 format	
	Recall Time	30-120 seconds	
	Tone/Pulse	Tone, pulse	
	Flash Time	80-800 milliseconds	
	Music Source	Internal/External	
	CO MSGW	On/Off	
		Yes?/No?	
	Area Codes	Home Area code	
		Local Area C1	
		Local Area C2	
		Local Area C3	
		Local Area C4	
	Mail System	Local Area C5	
Clear All VMMSG		Yes?/No?	
Auto Attend Ring		On-AA Ring Only Off-ALL EXT Ring	
Attendant Extension		301 Ext	
AA Answer Delay		06~240 seconds	
Message Length		Unlimited Greeting 1 Minutes	
Day Time		09:00 A	
Night Time		06:00 P	
Day Time OGM (Outgoing Msg)			
Night Time OGM (Outgoing Msg ) (Outgoing Msg )			
AUX OGM (Outgoing Msg)			
Reset KSU	Yes?/No?		



# X16 Installation Guide

*Incorrect Installation process - DO NOT leave any ports open:*



X16 Cable Pair

White		Blue	Ports 1~4	
301	302	303	304	

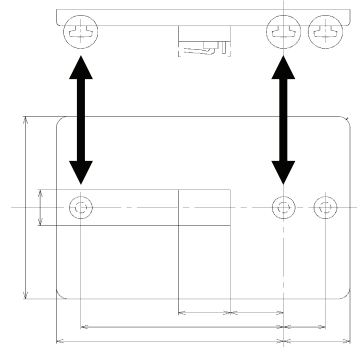
White		Orange	Ports 5~8	
305	306	307	308	

White		Green	Ports 9~12	
309	310	311	312	

White		Brown	Ports 13~16	
313	314	315	316	

Leaving any ports punched down but not connected to a telephone, may result in erratic operation.

When mounting a Digital Telephone Endpoint be sure to use the inner posts on an adjustable wall mount plate.



# Programming Guide

Phone Setup	Feature	Programming Parameter	Sub Parameter
Phone Setup	Language	<b>English</b> , Spanish, French	
	Feature Key	Press feature button	
	Extension Number	3xx	
	Auto Mute	<b>On/Off</b> (Private/ Hands Free)	
	Preference Call	<b>Intercom</b>	
	Line Selection	CO Call	
	Record All Call	<b>Line # 1-4</b>	
	Hold Reminder	Line # 5-6	
		<b>On/Off</b>	
		<b>30</b>	
	60		
	Off		
	Ringer On/Off	Line1 Ringer – <b>On/Off</b> Line2 Ringer – <b>On/Off</b> Line3 Ringer – <b>On/Off</b> Line4 Ringer – <b>On/Off</b> Line5 Ringer – <b>On/Off</b> Line6 Ringer – <b>On/Off</b>	
	Ringer Type	Line1 Ring Type <b>1-6</b> Line2 Ring Type <b>1-6</b> Line3 Ring Type <b>1-6</b> Line4 Ring Type <b>1-6</b> Line5 Ring Type <b>1-6</b> Line6 Ring Type <b>1-6</b>	
	Call Forward	Waiting Time	<b>10 - 25 Seconds</b>
		FWD Destination	Off <b>VoiceMail</b> External TRK2TRK
	Voice Mail Setup	FWD Phone Number	<b>Empty</b>
		Remote Code	<b>123</b>
		Personal Outgoing MSG	
		Clear VM messages	
		Call Screening	<b>=On</b>
	User Name	Yes?/No?	<b>Empty</b>
	Reset Phone		

Day Time  
=09:00A

Night Time  
=06:00P

Day Time OGM  
Play

Night Time OGM  
Play

AUX OGM  
Play

**Day Time** – This timer determines when the system will start to function in day mode.

**Night Time** – This timer determines when the system will start to function in the night mode.

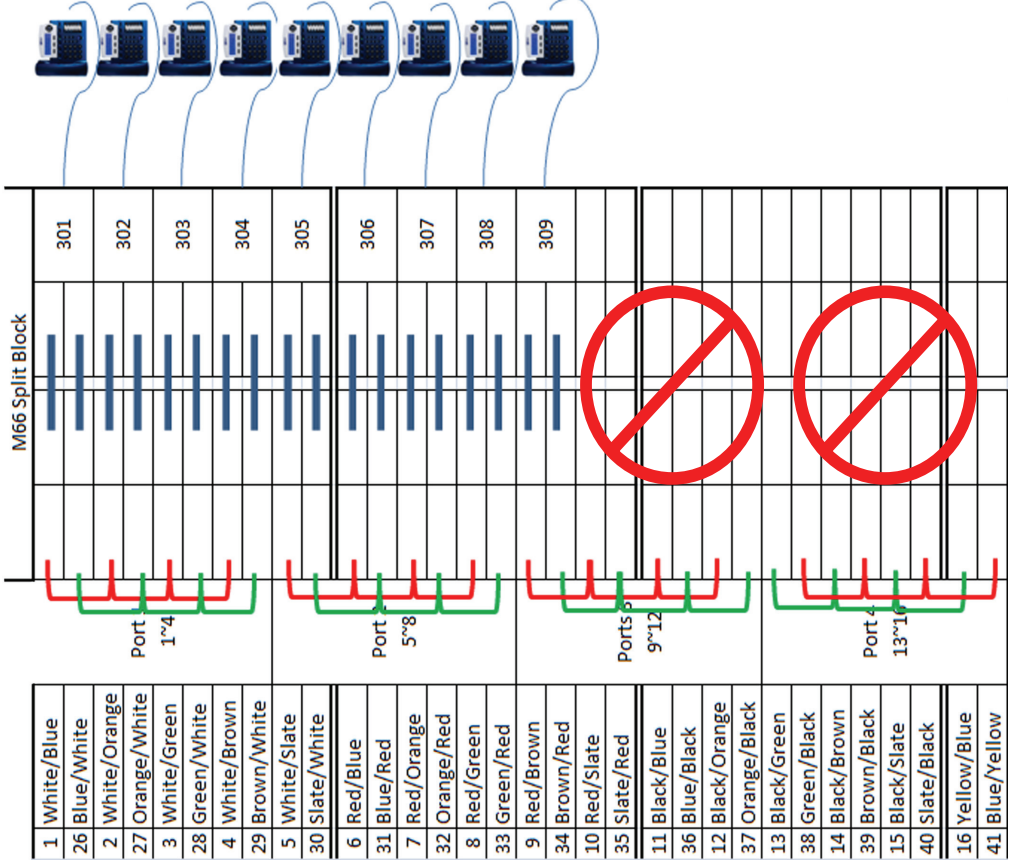
**Day Time OGM** – This is the message that will play when the system is in Day mode.

**Night Time OGM** – This is the message that will play when the system is in Night mode.

**AUX OGM** – The Auxiliary Outgoing Message, is accessed when the caller dials "7" while in the Auto Attendant. At default this is intended to be used to record the company directory. However, it can be used as an announcement only "mailbox" for commonly asked questions such as hours of operation or directions to the office.

## System Setup

### Punch Down



In this example, system ports 10 through 16 do not have telephones connected to them but they are still "punched down" on the system. There is a potential that extensions, especially extension 309 in this example, may experience distortion.

## X16 Installation Guide

### Step 4 – Power up and Initialization

Connect the power to power on the system. To initialize the system, once the blue LED begins flashing at 1 impulse per second (IPS), switch the “init switch” back and forth three times and the LED will begin flashing at rapid rate, for 5 seconds and then return to 1 IPS. For proper operation, be sure to reset, by unplugging, the system after all extensions are connected.



### Step 5 – Extension Numbering

One extension will automatically be numbers 301 all other extension numbers will have to be entered at the time of installation. Valid numbers are 302 to 399. Please refer to Phone Setup (see Page 37), in the programming section.

The system becomes fully functional after all extensions are registered. Extensions may be moved from one port to another simply by unplugging the unit and plugging it into another active port. If the extension is unplugged for longer than 120 seconds (2 minutes) the port may initialize, and revert back to factory default – This includes all personal voice mail settings. Any port that is active must have either a telephone or an Endpoint Device connected to it, or distortion may be heard.

**Note:** An “Endpoint Device” may be needed when relocating an extension.

Mail System

Mail System – Voice mail comes standard with the system and only takes a few minutes to setup.

Clear All VMGS  
=No?

Clear All VMGS - Select “Yes?” to clear all voice mail messages in the system. Select “No?” or press the left navigation key to retain the messages.

Auto Attend Ring  
=On-AA Ring Only

Auto Attend Ring – When set to “Off-AllExt Ring” all telephones will ring until the AA answer delay timer expires. When set to “On-AA Ring Only” only the attendant telephone will ring and then the call will be answered by the auto attendant.

Attendant EXT#  
=301

Attendant EXT# – This is the extension that will ring when a caller dials “0” in the auto attendant.

AA Answer Delay  
=10

AA Answer Delay – The Auto Attendant Answer Delay is the time between a call ringing into the system and the Auto Attendant answering. The timer is variable between 06~240 seconds.

Message Length  
=Unlimited  
=Greeting  
=1 Minute

Message Length – This setting determines the maximum amount of recording time available to callers when leaving a message.

**Unlimited** – giving no limit to the amount of time each message can take.

**Greeting** – A message can only be as long as the recorded greeting. Callers that try to record a message longer than the greeting will be disconnected.

**1 Minute** – A message recording can only be 1 minute long. Callers that try to record a message longer than 1 minute will be disconnected.

Music Source  
=External

CO MSGW  
=off

Clear CO MSGW  
=No?

Area Codes

Home Area Code  
Local Area C1  
Local Area C2  
Local Area C3  
Local Area C4  
Local Area C5

Music Source – The system comes with an internal music on hold source, or can be connected to an external music on hold source such as a CD or MP3 player.

CO MSGW – If this parameter is set to "On" and a Network (Telephone Company) voice mail system with Message Waiting Indication (MWI) is being used, then the display will show what lines have a new voice mail message. On the second line of the display it will show:  
CO MSGW: 12 4 5 – for lines 1, 2, 4 and 6.

Clear CO MSGW – This will erase (clear) all of the Message Waiting Indication (MWI) left by the Network (Telephone Company) voicemail system.

Area Codes – There are a total of 6 area codes that can be entered into the area code parameter.

The first is the Home Area Code. This is the area code of the physical location of the system. When Caller ID is received, the 3 digits entered into the "Home Area Code" will not be displayed or redialed.

The next five "Local Area" codes are used if the calling area requires ten (10) digit dialing. When Caller ID matches an entry, the number will be displayed and redialed with only 10 digits.

When Caller ID does not match an entry in either the Home Area code or the local area codes, the system will display and redial the number with 11 digits.

### Expansion Module

The X16 system comes with four CO Lines and is expandable to six CO Lines. The two line expansion module can be either a CO Line module or a two channel VoIP Gateway Module.



2 CO Line Expansion Module

The expansion module mounts inside the communication server and connects to the main board, via ribbon cable. When the system is powered on, the expansion module will be recognized in software and fully operational. Use the following steps to install the expansion module.

#### Step 1 – Installing the Expansion Module

Place the voice server face down on a stable surface such as a table, showing the four rubber feet.



Rubber Feet

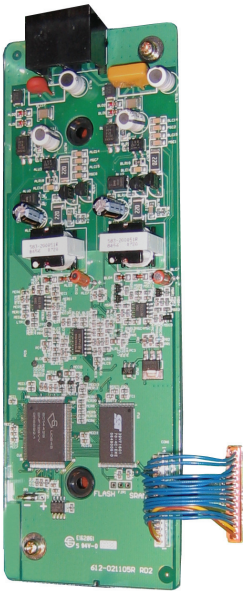
Remove the four rubber feet, placing them in a safe place, such as the back of the voice server, exposing 4 screws. Unscrew the four screws and remove the cover.



Phillips Head Screws

## X16 Installation Guide

Step 2 – Insert the Expansion Module



Remove the plastic tab found on the front of the Voice server. Insert the RJ14 (RJ48 for VoIP) connections through the front of the voice server and secure the card with the provided screws. Connect the ribbon cable from the expansion module to the main board and replace the cover. Place the provided black plastic encasement window around the newly installed card.

### Endpoint Device

Every live telephone jack connected to the system will receive a data signal. If the system finds an open jack (bridge tap) the data signal may be lost, causing the remaining digital telephone endpoints to receive erroneous data, which may lead to improper operation. Therefore, for proper operation each live telephone jack, connected to the system, must have either a digital telephone endpoint or an endpoint device.

Symptoms of an open jack include – but not limited to - voice distortion, static and slow speakerphone reaction when the button is pressed, problems accessing CO Lines, etc.



Endpoint Device

### System Setup

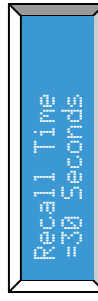
When System Setup is selected, the password will need to be entered. At default, the password is #####.



The default system password is #.#.#.#.#, and can be changed to any 4 digit number.



To set the system date and time: Enter the Year in two digit year and then press the center navigation button. Enter the month and the day in four digit format and then press the center navigation button. Enter the hour and the minutes in 12 hour format, and then press the center navigation button. Press the up navigation button for P (PM) and the down navigation button for A (AM). **Note: Caller ID will maintain the time and date after it is set the first time.**



Recall time – When a call is placed on hold, this timer begins. When this timer expires, the call placed on hold, will begin ringing all extensions in the system. Using the up or down navigation key, the timer can be adjustable from 30, 45, 60, 90, and 120 seconds.



Tone/Pulse – This allows the system to be used on older network (Telephone Company) Lines. DTMF (Touch Tone) Tones are used on most network (Telephone Company) lines.



Flash – The Flash, which is a momentary closure, is a rudimentary indication to the telephone company line that a feature is being enabled, such as call waiting. This timer is adjustable from 80 to 800 milliseconds.



**Notes:**

**Feature Description**

**All Page**

At default, one of the flexible buttons is preprogrammed as an "All Page" button. From an Idle telephone, the user may press this button or dial the feature code "Feature + 6" to page someone through all of the telephone speakers. The paged party can answer the page, while active, by pressing the "All Page" button from another phone.

**Answering Machine Emulation**

This feature "Mimics" the call screening feature of an answering machine. Within a specific time after a call is answered by an extension users' voice mailbox, that user can monitor/screen callers as they leave a message.

The center navigation (Voice mail) button will light which indicates that a caller has been answered by their voice mailbox. The user has the option to monitor the caller or ignore the alert and allow the caller to leave a message. Once the user has selected to monitor the caller, they have the option to leave the caller undisturbed (leaving a message) or to retrieve the caller from the voice mailbox and be connected to the caller for a live conversation.

**Operation**

- 1) Call Rings an extension, either directly or from the auto attendant.
- 2) The call is forwarded, if programmed, to the user's voice mailbox.
- 3) The Voicemail button (center navigation) will flash rapidly, which is the user's indication that someone is in their mailbox leaving a message.
- 4) After the center button is pressed, the calling party will be heard.
- 5) Lift the handset to retrieve the caller from the voice mailbox.
- 6) To exit and not retrieve the caller, press the left navigation key

**Auto Attendant - Voice Mail (Standard)**

The automated attendant can be programmed, in system programming, to answer and direct incoming calls to the callers' desired extension. The attendant extension (301 at default) will ring prior to the auto attendant answering.

**Backlit Blue LCD Display**

Each digital telephone endpoint (speakerphone) comes equipped with a backlit display allowing users to see their display even in dim lighting.

## X116 Installation Guide

### Call Pick up

There are two types of call pick up, intercom and CO Line. In both cases, the telephone that has the call picked up from must be ringing.

**Intercom** – When one extension calls another extension, but the called party is not there, the calling party presses the “\*” key to activate ringing. If the extension user of the called party hears their extension ringing, they may press the “\*” key on any other telephone endpoint and pick up the actively ringing call.

**CO Line** – Transferred Telephone Company Lines can be picked up by another extension by press the “#” key on their telephone endpoint.

- When the “\*” key is pressed the first ringing extension will be picked up.
- When the “#” key is pressed the first transferred CO Line will be picked up.

### Call Timer

When making or receiving a call the backlit display shows the time that the call has been connected in four digit format (00:00).

### Caller ID and Call Waiting Caller ID (Type 1 & Type 2)

The telephone company offers two types of caller ID; type 1 and type 2. Type 1 caller ID presents the caller's name, number (when available) and the date and time of each call. Type 2 incorporates all of the features of type 1 plus it adds call waiting, caller ID. The system will automatically begin working with caller ID when the user subscribes for the telephone companies Caller ID service, and it will set the system's time and date.

### CO Line Busy/Idle Status (LED)

Each Preprogrammed CO Line button has an associated dual color Light Emitting Diode (LED), which lights when the line is in use and remains unlit when the line is idle. When the user presses a Line button the LED will illuminate green (I-use) on their telephone and blue (busy) on all telephones. The Line button will light blue (Busy) when a device which is connected to a telephone company line, in front of the system, is off hook. Once off hook, only one digital telephone endpoint may access the line by presses the busy line button, all others will receive busy tone.

### Feature Button Programming

- Step 1 – Press the program button
- Step 2 – Select phone setup
- Step 3 – Press the select (center) navigation key
- Step 4 – Press the down navigation key and select “Feature Key”
- Step 5 – Press the center navigation button to begin
- Step 6 – Press the up or down navigation key to select the feature button to be programmed or press the feature key to be programmed.



The display will show the selected FTR button. The display below shows FTR#01, FTR button 1, was pressed.



Step 7 – Press the Program button to exit programming and not modify the current button programming or press the center button to change the current setting.



Step 8 – Using the up or down navigation key, select between DSS/BLF, Speed Key, or Feature.

Step 9 – Press the select button to display the current programmed function.

Step 10 – Enter the appropriate extension, speed dial number or use the up or down navigation keys and select the desired feature.

Step 11 – Press the select button to confirm the selection.



## X16 Installation Guide

### Programming Feature Buttons

Each digital telephone endpoints has twelve (12) programmable feature buttons, which can be customized by each extension user. There are three programmable feature button categories.

Selections	Description
DSS/BLF Key	Direct Station Select (DSS) – allows extension users to press one button to dial another extension. In addition, the DSS button doubles as Busy Lamp (LED) Field (BLF). The BLF shows the status, idle or busy, of other extensions.
SPD Key	Each of the twelve (12) buttons can be programmed as a speed dial key. Input the number to be dialed once the key is identified as a speed key. Simply press the speed key to dial the number once it is programmed. "Feature + 7" will enter a pause, shown as a P.
Feature Key	Feature + 1 = Record Feature + 2 = Open Feature + 3 = Flash Key Feature + 4 = DND Feature + 5 = Mute Feature + 6 = Conference Feature + 7 = Pause Feature + 8 = Redial Feature + 9 = Headset Feature + 0 = All Page Feature + * = Open Feature + # = Open

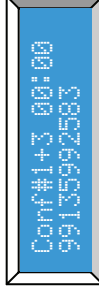
### CO Line Ringing – Per Extension

Each extension may be programmed to ring when a call is received on a specific CO Line. By default, all CO Lines ring on all extensions. This may not be ideal for all installations, so each extension can be programmed, in phone setup, each line to ring or not ring.

### Conference (3-way)

An extension may conference two external parties, or one internal and one external party, together so that they may all converse. (Privacy Release may affect this operation). A conference call cannot be recorded. The system can have two, 3-way calls simultaneously.

- 1) Put the first call, must be a CO Line, on Hold
- 2) Make the second intercom call or CO Line call. After the third party answers the call, press the "Conf" button.
- 3) The three parties will be joined together in a conference.



Feature Description

### Conference – Express Conference

Express Conference is a quick and easy way to allow another extension to join in on an existing CO Line call. While speaking with an outside party, the extension user presses the Line button, which is lit green, allowing another party to press the busy (lit blue) line button on their telephone and join in on the existing conversation.

If the first extension hangs up, the second extension may continue to speak with the outside party. The second extension's line button will turn green allowing the second extension to press the button and have someone else join in on the call.

### Operation:

- Step 1: An extension (301) makes an outbound or answers an incoming call.
- Step 2: The extension user presses the same Line button again.
- Step 3: Another extension (302) may now press the busy line button on their telephone and join in on the existing call. If extension 301 hangs up, the call is "passed" to extension 302. 302 may press the Line button and have another or the same extension, join the call.

## X16 Installation Guide

### Conversation Recording – Voice Mail (Standard)

Extensions come with a preprogrammed button which gives them the ability to record the current conversation. Often referred to as One Touch Record this feature is extremely helpful for remembering telephone numbers or addresses when a pen and paper are not readily available. The recording is placed in the user's personal mailbox so that they may listen at a more convenient time.

**Note:** *Call Waiting will not work if an extension is recording a conversation.*

### Daylight Savings – Automatic (Using CID)

The system uses caller ID to set and resynchronize, the date and time (requires a subscription to the telephone networks' caller ID feature). In addition to setting the time and date it is also used to adjust the time for daylight savings.



### Direct CO Line Access

Dial "9" from an idle telephone to access an available CO Line. If all CO Lines are busy, a beep tone is heard and the telephone will not get access to the line.

### Direct Mailbox Transfer - Voice Mail (Standard)

Callers may be transferred directly into another extension's mailbox, so that the caller does not have to wait for the telephone to ring before forwarding.

#### Outside Calls

- 1) While speaking with the outside caller
- 2) Press your voice mail button – select button  
- 3) Press the preprogrammed extension button or dial the extension number of the intended party.
- 4) Hang up

#### Inside Calls

- 1) When calling another extension, if the party does not answer the call, you may press the "☎" key to activate ringing.
- 2) Then press your voice Mail button – Center navigation key
- 3) Then press the center navigation key again to confirm that you want to leave a voice mail message – while recording your "record" button will flash.
- 4) Record message and hang up.



**Personal OGM** – This greeting is heard by a caller once they are forwarded to someone's voice mailbox.  
Press the Select button to Play and Stop the existing message, press the up button to record the Outgoing Message.



**User Name** – Each extension can be programmed to display up to 12 characters of the extension user's name. Once in the name entry field, the dial pad becomes the character input keyboard. Each depression of the number will change the character in the following way.

Character Input Keyboard

	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	10 <sup>th</sup>
1	,	-	'	0	.	(	)	@	!	
2	a	b	c	A	B	C	2			
3	d	e	f	D	E	F	3			
4	g	h	i	G	H	I	4			
5	j	k	l	J	K	L	5			
6	m	n	o	M	N	O	6			
7	p	q	r	P	Q	R	5	7		
8	t	u	v	T	U	V	8			
9	w	x	y	Z	X	Y	Z	9		
0	Space or 0									
*	*									
#	#									



**Reset Phone** – The reset function will bring the digital endpoint back to default. Press the up navigation key to select "Yes?" to default and "No?" to not default the telephone.

FWD Destination

FWD Destination  
=Off

Forward Destination – Extension users may select from three destinations; Off, Voice Mail, External Call and Trunk2Trunk.

**Off** – Calls will not forward

**Voice Mail** – Calls will be forwarded to the users’ personal mailbox. The center navigation button will be lit solid.

**External** – The system will transfer an incoming caller, using a second CO Line, to an external destination.

**Note:** External Call forward uses two CO Lines, and you may experience a volume loss when analog lines are connected using this feature. Also, toll charges may apply. If all CO Lines are busy, the call will not forward.

**TRK2TRK** – Allows calls to be transferred to an external destination using the telephone networks facilities. This may require special features from the network provider.

FWD PhoneNumber  
=(Empty)

Phone Number- Enter the telephone number to be dialed when the External or TRK2TRK forward timer expires. This can be any external telephone number such as a cellular or home telephone number.

VoiceMail Setup

Each extension can set up their own voice mail parameters.

Remote Code

Remote Code – The remote code is the code that an extension user will dial to access voice mail from a remote location.

## Direct Station Select – Busy Lamp (LED) Field

Each preprogrammed extension (station) button has an associated LED which lights when the Extension is in use and remains unlit when the extension is idle. At default the digital telephone endpoints are preprogrammed with DSS/BLF buttons for extensions 301 through 309.

## Distinctive Ringing – Ringer Type

Extension users may select between 6 unique ring tones to differentiate their telephone’s ring from others in the group.

## Do Not Disturb (DND)

When do not disturb is activated all internal and external calls are blocked from ringing that extension. *Feature + 4* is used to toggle DND off and on.

## Flash

The flash command (*Feature + 3*) is used to invoke features on telephone lines such as call waiting and three-way calling. The Flash command may be programmed on one of the programmable buttons.

## Flash Timer

This adjustable timer is used to compensate for telephone network variations.

## Forward

Calls can be forwarded to one of three destinations; voice mail, external number or trunk to trunk. Calls transferred to an extension that is forwarded, will only forward after the “Waiting Time” has expired. At default the Waiting Time is set to 10 seconds. Use the “Phone Programming” area to program this parameter.

*Voice mail* – At default all extensions are forwarded to voice mail, and the center navigation button will be illuminated (lit solid); no other visual indication will be given. After the expiration of the Waiting Time, the call will be diverted (redirected) to the extension’s Outgoing Message (OGM).

**TRK2TRK** – When an extension is forwarded to an external number the system will send a command to the telephone network line, known as a “Flash”, which begins the transfer. The telephone system will then dial the preprogrammed digits, pause until the call is established, and then hang up, releasing the call from the system. TRK2TRK FWD will appear in the display, use the right navigation button to clear this from the display.

## X16 Installation Guide

### Note:

This feature may require a special service from the telephone company central office called, "Three-way calling with call disconnect". Please consult with your telephone company for information regarding this feature. This type of forwarding may result in a usage and toll charge for each forwarded call.

*External* – External Call forwarding uses two telephone system lines.

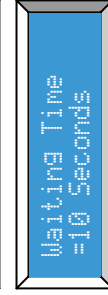
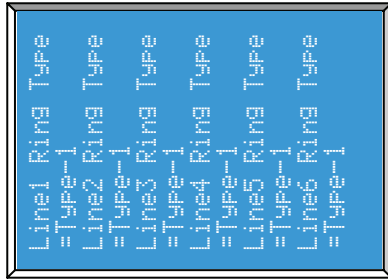
- 1) This feature occupies two CO Lines. Therefore, if a second CO Line is not available, the call will not forward. Also, a slight volume decrease is normal.
- 2) If an ancillary device (single line before the system) is on a CO Line, and the system does not detect that line as being busy, the system will forward the call, and dial over the call.
- 3) This feature is considered disabled if no number is entered in the "FWD Phone Number" field.
- 4) At default the "External" transfer will release after 3 minutes. Use the following codes to extend the length of the call
  - a. \*1 – Extends the call by 1 Minute
  - b. \*2 – Extends the call by 2 Minutes
  - c. \*3 – Extends the call by 3 Minutes
  - d. \*4 – Extends the call by 4 Minutes
  - e. \*5 – Extends the call by 5 Minutes
  - f. \*6 – Extends the call by 6 Minutes
  - g. \*7 – Extends the call by 7 Minutes
  - h. \*8 – Extends the call by 8 Minutes
  - i. \*9 – Extends the call by 9 Minutes
  - j. \* – Extends the call by 20 Minutes
  - k. \*# – Extends the call by 30 Minutes
  - l. \*0 – Disconnects both lines immediately

### Note:

This type of forwarding may result in a per call usage and toll charge for each forwarded call.

### Hands-Free Calling

Calls between extensions are answered hands-free. This allows extension users to answer and converse without pressing the speaker button or lifting the handset. If "Auto Mute" is enabled the called party will be able to hear the calling party, but they will not be able to converse without pressing the mute button or going off hook on the handset. There will be one, 1 second tone when an extension calls another extension.



Ringer Type – Each extension user can select from 6 different ring tones for each of the 6 CO Lines. Press the navigation key up or down to scroll through the different tones.

Call Forward – Each extension can select where calls will be forwarded to when they are busy or when a call goes unanswered.

Waiting Time – The call waiting time is the amount of time a call will ring before it is sent to the programmed destination. Waiting Time uses the up or down navigation key to select from 10 to 25 seconds.

Preference Call

Preference Call – The user can select from accessing a CO Line or Intercom when going off hook.

Line Selection

Line Selection – Each digital telephone endpoint user can set their telephone to directly access a CO Line or group of lines.

Record All Call  
=Off

Record all Calls – This parameter, when enabled, will record all network calls answered by this extension.

Hold Reminder  
=30 Seconds

When a call is placed on hold this timer starts. Each time this timer expires, a beep is heard to remind the extension user that a call is on hold.

Ringer On/Off

Extension users can program CO Lines to ring (on), or not ring (off), by pressing the up or down navigation key. Each CO Line can be programmed individually.

```
Line1 Ringer
=On
Line2 Ringer
=On
Line3 Ringer
=On
Line4 Ringer
=On
Line5 Ringer
=On
Line6 Ringer
```

## Handset/Headset Volume Control

The volume of the handset and headset can be adjusted to compensate for hearing levels. Press the **volume +** to increase or the **volume-** to decrease the volume of the active status of the endpoint. For example, while speaking on the handset, the volume keys will adjust the handset volume.

## Headset Activation

Each digital telephone endpoint comes with a 1/8 inch (2.55 mm) standard "cellular" style telephone headset jack, which can be activated by dialing the feature code *Feature +* . This feature code can be programmed on a button, so that headset can be enabled and disabled as needed. In addition, a headset must be plugged in to enable headset mode.

**Note:** *The voice quality and performance of headsets may vary.*

## Hold

Extension users may place Telephone Company central office line calls on hold allowing them to be picked up at other extensions.

## Hot Dial Pad

Hot dial pad allows extension users to dial numbers without lifting the handset or pressing the speaker button.

## Intercom Calling

Each extension is assigned a unique three digit code (number) ranging from 301 to 399. The number used as the time of registration becomes that extension's intercom number. Dial the three digit code to intercom another extension. DSS/BLF buttons allows for one touch intercom calling.

## Intercom Paging

Intercom paging is similar to intercom calling, but when the call is connected, the called party's mute button is active. This allows the called party to have private conversations without being overheard.

## Line Status Detection (Line in Use)

*From Idle to Busy* – The system will detect if another device is using one of the CO Lines and will automatically identify the line as busy.

*From Busy to Idle* – The system will detect when the line is no longer busy, and automatically identify the line as idle.

## X16 Installation Guide

**Not Connected** – If a CO line is not connected to the system, it will be automatically disabled, and no one will be able to connect to the line. A beep tone is heard if a disabled CO Line is pressed.

**Non-system phone picking up the call** – When the call is picked up by a non-system phone, the system will, after 2 seconds, light the line button and see that the line is busy. However, one digital telephone may join in on the call by pressing the lit CO Line. If a second digital telephone tries to join the conversation both digital telephones will be disconnected but the non-system telephone will retain the call. When the call is disconnected, the line will return to idle.

### Memo Recording - Voice Mail (Standard)

The voice mail is equipped to record a memo, or a meeting in an office, by pressing the preprogrammed Record button. When finished, press the speaker button or replace the handset to hang up. The memo is then placed into the user's mailbox. In addition, a remote user may also record a memo after they are in their mailbox. A memo should not exceed 35 minutes in length.

### Message Waiting (Telephone Company-FSK)

The Telephone Company's voice mail system alerts the user via a visual (light) and/or an audible stutter dial tone when there is a new voice mail message. If the system receives this indication, it will update the LCD display and flash indicating which CO Lines have messages. For example, if CO Lines 1, 3 and 5 have messages, the LCD will blink showing CO MSGW: 1 3 5.



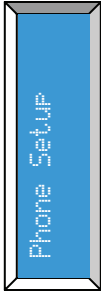
### Multilingual Display per Extension

Each extension can select from three different languages English, French and Spanish to be used in the display. The display will update to the proper language in a real-time fashion, so if a user that is set to French calls a user that is set to Spanish the display will update to Spanish.

### Music on Hold Input

The system comes standard with one music on hold input which can be connected to an external music source. All Calls placed on hold or being transferred will hear this music rather than silence.

## Phone Setup



**Phone Setup** – The parameters are used by the end user to customize their telephones.



**Language** – Each telephone user can select between three different languages; English, Spanish, and French.



**Feature Key** – Each extension has 12 programmable buttons which can be customized by each user.



**Extension Number** – Valid numbers are 301 through 399. Changing this number may result in a loss of extension configuration settings. Changing this parameter will result in the loss of some extension settings, such as voicemail notification.



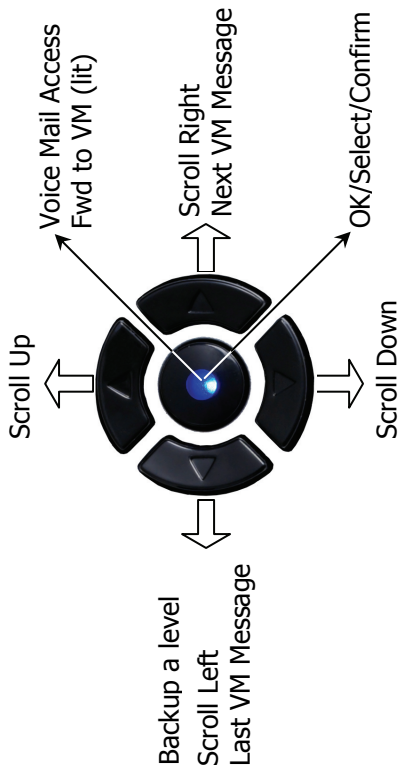
**Auto Mute** – This feature is used to allow extensions to call you, and make an announcement; your microphone is automatically muted so callers cannot hear the conversation. This is also called Page Mode.



## X16 Installation Guide

### Navigation Keys

Navigating through programming



### Phone Setup Parameters

Feature	Default (shown in bold)
Language	English, French, Spanish
Feature Key	
Extension No.	<b>301</b> – 399
Auto Mute	<b>Off</b>
Preference Call	<b>Intercom</b> or CO Call
Line Selection	<b>1</b> – 4
Record All Call	<b>Off</b>
Hold Reminder	<b>30</b>
Ringer On/Off	<b>On</b> (CO Line 1 – 6)
Ringer Type	<b>1</b> (CO Line 1 – 6)
Call Forward	<b>VoiceMail/External/TRK</b> to TRK/Off
Voice Mail Setup	
Remote code	<b>123</b>
Personal Outgoing MSG (OGM)	
Clear My MSG	
Call Screening	<b>On</b>
User Name	
Reset Phone	

**Note:** Extension will appear busy to all other extensions when they are in Programming or reviewing caller ID.

### Mute with LED indication

When the Mute button is pressed, the LED illuminates, and mute becomes active. Which means that the transmit for that extension is suspended; allowing the user to converse privately.

### Muted Ring (Ring Alert)

Extensions that are programmed to ring and on a telephone line or extension call, will receive a 1-second beep every 5 seconds until the line is forwarded or answered by another extension.

### Navigation Keys

Each digital telephone endpoint has a set of five navigation keys which are used to scroll through and activate features.

### New Message Playback - Voice Mail (Standard)

Voice mail messages are played one after the other until all messages are heard. Each message is automatically saved. To delete a voice mail message press the delete key while the message is playing. Remote Access allows extension users to select between playing all new messages (dial 2) or all messages (dial 2#). All messages are automatically saved after playing.

### Paging

An extension user may dial *Feature* + **6** or press the preprogrammed feature button to active one-way paging to make an announcement to all extension users. If the extension answers an inbound call, and dials the code or presses the "All Page" button, the CO Line will automatically be placed on hold and activate the paging procedure.

### Meet Me Answer (Paging)

After a one-way page is activated, the "Meet Me" answer code *Feature* + **6** can be dialed or the preprogrammed "All Page button" can be pressed to have a private conversation with the extension doing the Paging.

### Pause

The system has a programmable pause, which can be used in speed bins, redial numbers, etc. to insert a short delay before more numbers are dialed. This can be very helpful when using special features such as "Call Waiting Cancel". Press *Feature* + **6** - to enter a pause into a dial string. A Pause will be displayed as a "p".



## X16 Installation Guide

### Personal Mailbox - Voice Mail (Standard)

Extension users have a voice mailbox that can be programmed to play a personal outgoing message which will be heard by callers when they are redirected to the called party's mailbox.

### Phone Book Dialing

Each extension has a personal phone book. The phone book can have up to 50 entries each containing up to 24 digits.

### Privacy (Privacy Release)

All calls in the system are considered private, and no one can "Barge in" unless the express conference (see Express Conference Page 30) feature is used.

### Programmable Buttons (12)

All digital telephone endpoints have 12 programmable buttons which can be customized by each user to accommodate the way they use their telephone. (See Programming Feature Buttons)

### Programmable Pause (Speed Dial Bins)

The system has a programmable pause, which can be used in a speed bin, to insert a short delay before more numbers are dialed. This can be very helpful when using special features such as "Call Waiting Cancel".

### Redial (Last 6 Number Redial)

The Redial button allows the user to press one button and select from the last six telephone numbers dialed. Using the up or down keys, select which of the six numbers to redial, and then press the select button. In addition, any one of the six numbers can be copied into the phone book.

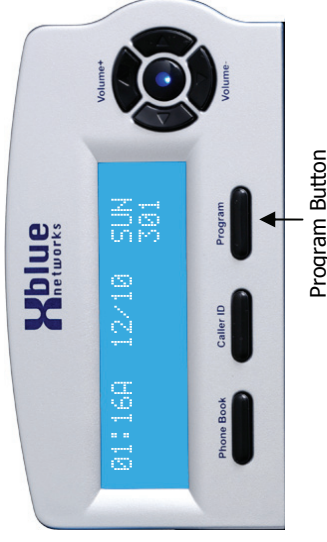
#### Operation:

- 1) Press the redial button to display the list
- 2) Press the up or down navigation key to scroll through the list.
- 3) When the desired number is in the display, press the select button.
- 4) Press the select button again to dial the displayed number Or press the up or down navigation key to select between copying the displayed telephone number to the phone book to cancel the redial function.

## Programming

The system has two areas of programming; Phone (extension) and System. The system programming parameters affect the whole system, whereas the Phone programming parameters will only affect the extension that is doing the programming.

From an Idle telephone press the program button



The navigation keys are used to select the area of programming to be modified, Phone or System Setup.



Extension parameters such as voicemail will remain, for up to 120 seconds when an extension is unplugged or being relocated. To relocate an extension simply unplug it and plug it into another extension port.  
**Note:** Extension will appear busy to all other extensions when they are in Programming or reviewing caller ID.

### Notes:

#### Ring Alert (Muted Ringing)

When an extension is busy, and a second call rings into the system, if the extension is programmed to ring the extension will receive a ring alert, indicating that there is a second call. Extensions that are busy on either a CO Line or Extension call will receive a special "Warning BEEP" for 5 seconds, or until the line is answered by another extension.

#### Ringring (Audible and Visual)

When an extension is ringing, there will be an audible sound, which can be adjusted from very low to very loud and a visual indication, flashing LED, to indicate that the extension is ringing.

#### Ringer Volume Control

Using the digital telephone endpoint's volume up and down keys, an extension user may adjust the ringing volume of their telephone, while the call is ringing.

#### Room Monitor

Each telephone endpoint can be used as a "Room Monitor" device. If the "Auto Mute" feature is enabled at the called location, the Mute key must be disabled before monitoring can begin.

#### Setting Time and Date (Automatic)

The system time and date can be set in system programming or by using Caller ID. Caller ID, if subscribed for, will set the system's time and date and automatically reset the clock for daylight savings.

#### Speakerphone (Digital Telephone Endpoint) with LED

Each digital telephone endpoint is equipped as a speakerphone. When the speakerphone is active, the LED will be illuminated.

#### Speed Dial Bins

The station has 12 speed dial bins; each can take up to 24 digits to be dialed.

#### Set Relocation

Extension parameters such as voicemail will remain for up to 120 seconds when an extension is unplugged or being relocated. To relocate an extension simply unplug it and plug it into another extension port.

**Note:** An "Endpoint Device" may be needed when relocating an extension.

## X16 Installation Guide

### Time in Display

All digital telephone endpoints have a backlit Liquid Crystal Display (LCD) display which when idle, displays the current date and time, extension name and number.

### Tone/Pulse

The system can accommodate either DTMF Tone or Dial Pulse dialing.

### Transfer

Telephone Company (CO) Line Calls answered at one extension can be transferred to another extension in the system. To transfer a call:

- 1) While on a telephone line
- 2) Press Transfer button
- 3) Press the preprogrammed button or dial the extension number where you would like to transfer the call.
- 4) The call will automatically be transferred, so simply hang up.



### Transfer – Direct to Voice Mail

- 1) While on a telephone line
- 2) Press the Voice mail button
- 3) Press the preprogrammed DSS/BLF button or dial the extension number where the caller would like to leave or retrieve a message.

### Volume Adjustments

#### Ringing Volume

While your telephone is idle or ringing, use the volume up key to increase or the volume down key to decrease the ringing volume.

#### Speakerphone Intercom Volume

While using your speakerphone, use the volume up key to increase or the volume down key to decrease the speakerphone volume.

#### Speakerphone Network Volume

While using your speakerphone, use the volume up key to increase or the volume down key to decrease the speakerphone volume.

#### Handset Intercom Volume

While speaking to another extension using your handset, use the volume up key to increase or the volume down key to decrease the handset volume.

### Handset Network Volume

While speaking on a telephone company line, using your handset, use the volume up key to increase or the volume down key to decrease the handset volume.

### Forced Ringing Intercom Volume

Calls between extensions are answered hands free and will not forward to voicemail. To forward intercom calls to voicemail, press the “\*” key, which will force the extension to start ringing.

### Voice Mail (Standard)

Each extension has a personal voice mailbox. The extension user’s “Outgoing Message” will be heard when callers are redirected to their personal mailbox.