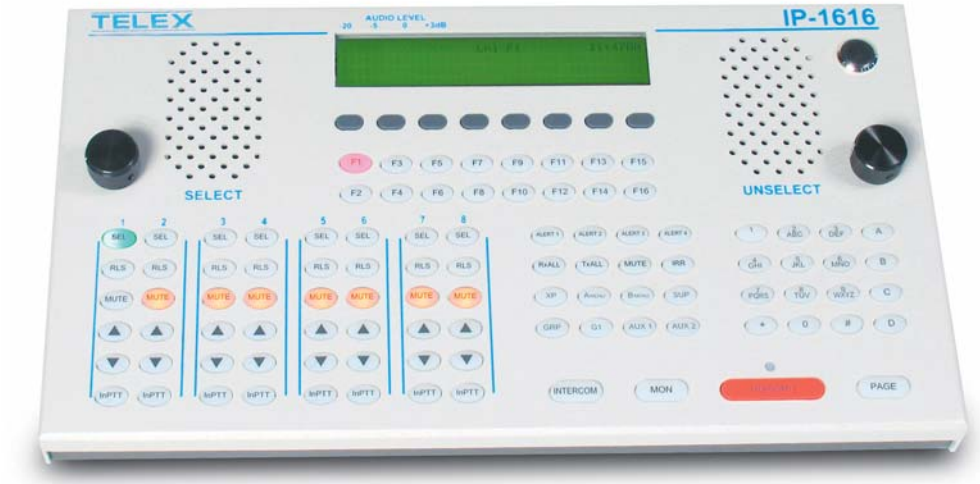
TELEX®

RADIO DISPATCH PRODUCTS

Model IP-1616
Radio Control Console
Technical Manual

up to and including version 4.100



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CHAPTER 1

Introduction

The IP-1616 is a unique multi-channel, full-featured, self-contained, **VoIP** (Voice over Internet Protocol) desktop radio control console. It controls up to eight (8) lines with two-tone paging, crosspatch (2–8 lines), parallel updates, up to four (4) minutes of recording on selected or unselected lines as well as numerous standard VoIP console features.

The IP-223 accommodates Ethernet connections for controlling two radios. The console connects to any internal ethernet network, which allows for an unlimited number of IP-1616 consoles to have full control and functionality over the system.

The IP-1616 has an **LCD** (Liquid Crystal Display) that provides channel alphanumeric indication allowing the user to view the display in all lighting conditions and does not require to be backlit. The display provides a 12/24 hour clock and a audio-level meter with a modern membrane keypad. These features allow for a flexible dispatch environment in which the console may be installed. It is easy for the console operator to use the console while sitting or standing.

The IP-1616 does not ship with a microphone. This gives you the flexibility to choose between a gooseneck, handset/headset, desk mic or footswitch, depending on your business environment. When a **PTT** (Push-To-Talk) occurs from one of the two microphones, the other microphone mutes to avoid any unnecessary ambient noise during transmission.

The IP-1616 is a **DSP** (Digital Signal Processor) based design, allowing easy field programming using a web browser. Unlike other manufacturers' equipment, no additional software is required to configure the IP-1616 console. Most modifications and enhancements can generally be made using the software. If you require a special feature enhancement, please contact the Radio Dispatch Sales Department for cost and feasibility.

Features

- Half or Full Duplex Per Line
- Programmable Squelch Control Per Line
- Four Programmable Alert Tones
- 4 x 40 (4 lines, 40 characters) LCD Display
- Crossmute Per Line (Ethernet)
- TX Microphone Notch Filter
- Instant Recall Recorder
- Crosspatch
- Paging
- Web Page Configurable
- Automatic Initial Settings
- Per-line Radio Scan Control
- TX All and Group Select
- MDC ANI Display (with IP-223)
- FLEETSYNC ANI Display (with IP-223)
- Clock and VU Meter
- Summed Audio Recorder Output
- Phone Line Control
- FTP Firmware Upgrades
- Timed Mute Unselected Audio

Optional Hardware

Item	Model Number	Part Number
Handset with Cradle	HS-6200	HS-6200
Rack Mount Kit	IP1616 RMK	0101254
HB-3 Plus Adapter (US)	HB-3 Plus Adapter (US)	301886001
HB-3 Plus Adapter (EU)	HB-3 Plus Adapter (EU)	301886002
HB-3 Plus ADapter (UK)	HB-3 Plus ADapter (UK)	301886003
Desktop Microphone	Desktop Mic	301905000
Gooseneck Microphone	GNM-18	GNM-18
Dispatcher Headset - MONO	DH2000	302070100
Dispatcher Headset - Dual sided MONO	DH2200	302070200
ANR Dispatcher Headset - MONO	DH3000	PRD000021000
ANR Dispatcher Headset - Dual Sided MONO	DH3200	PRD000021100
Lower Cord, 15 ft.	LC1500	302068000
Lower Cord, 25 ft	LC2500	302068001
Dispatch Headset - MONO	DISH-1	2490161
Desktop Microphone	MD-MS	0118022
Footswitch DPDT	FS-1	0108024
Desktop Microphone	DM2000	PRD000181001
NOTE: All headsets require an HB-3 adapter box.		

Hardware Overview

The IP-1616 is a multi-line, multi-mode console designed specifically for medium-level system requirements. All functions are housed in a single console and consist of the following sub-assemblies:

- Main Processing Board
- Keypad/Display Board

Main Processor PCB

The **Main Processor Board** contains two distinct sections, the Ethernet circuitry and the Signal Processing circuitry.

Ethernet Circuitry Section

The **Ethernet Circuitry Section** consists of an **ARM** processor[1] (a 32-bit RISC processor) with an Ethernet **MAC**[2] (Media Access Control Address), connected to the Physical **NIC** (Network Interface Card) card and transformer. Around the ARM processor are various peripheral devices, including **FLASH** (non-volatile memory that can be electrically erased and reprogrammed.) and **SRAM** (Static Random Access Memory). This section controls all the Ethernet processing, such as the **FTP** (File Transfer Protocol) server, web page and packet transfer for the IP-1616.

Signal Processing Circuitry Section

The **Signal Processing Circuitry Section**, with **DSP** (Digital Signal Processing - TMS320VC5510), is used to process all audio for each of the 18 full duplex channels, plus four (4) additional channels of user I/O audio. The DSP is a microprocessor designed to work with analog signals such as video or audio that are digitally encoded. The DSP controls all the keypad and device I/O as well as the LED and display drivers. It includes SRAM and SDRAM for the audio playback feature and a real-time clock. The DSP is connected to the back plane by two (2) 20-pin connectors.

Keypad PCB

The **Keypad PCB** board is interfaced to the main board via a 20-pin IDC ribbon cable. The board contains the circuitry to drive the 152 LEDs, decode the keypad matrix, and interface the DSP to the display.

Display

The **Display** is mounted to the chassis cover with four screws and connected to Keypad PCB with a 14-pin IDC ribbon cable.

1. *ARM is the industry's leading provider of 32-bit embedded RISC microprocessors. Due to their power saving features, ARM CPUs are dominant in the mobile electronics market, where low power consumption is a critical design goal.*
2. *The MAC Address uniquely identifies each node of a network and interfaces directly with the network media. The IP-1616 Front card has a small serial device on the board the ARM processor can read the unique MAC Address from. For more information on MAC IDs, contact technical support.*

Controls and Indicators

IP-1616 Console Top

The IP-1616 Console Top, shown in Figure 12, contains the user interface, which features volume control, intercom and monitor functions, panel PTT with indicator, per line select, release and mute functions, **DTMF** (Dual-Tone Multi-Frequency) keypad, supervisory, scan, menu, and function tone buttons. The IP-1616 is programmed from the top panel using the eight (8) softkeys located below the console display.

Common Controls and Indicators

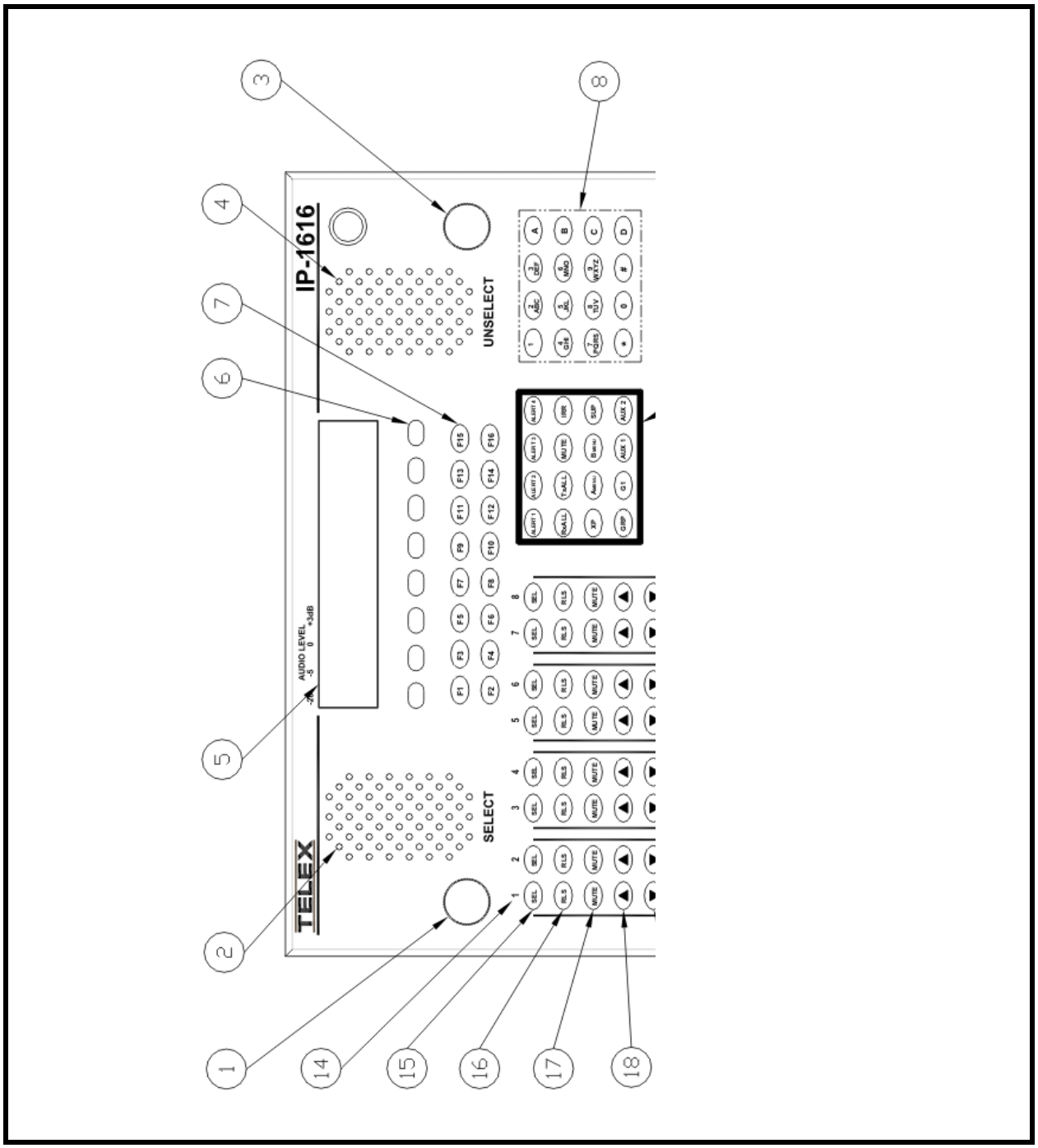


FIGURE 12. IP-1616 Console Top

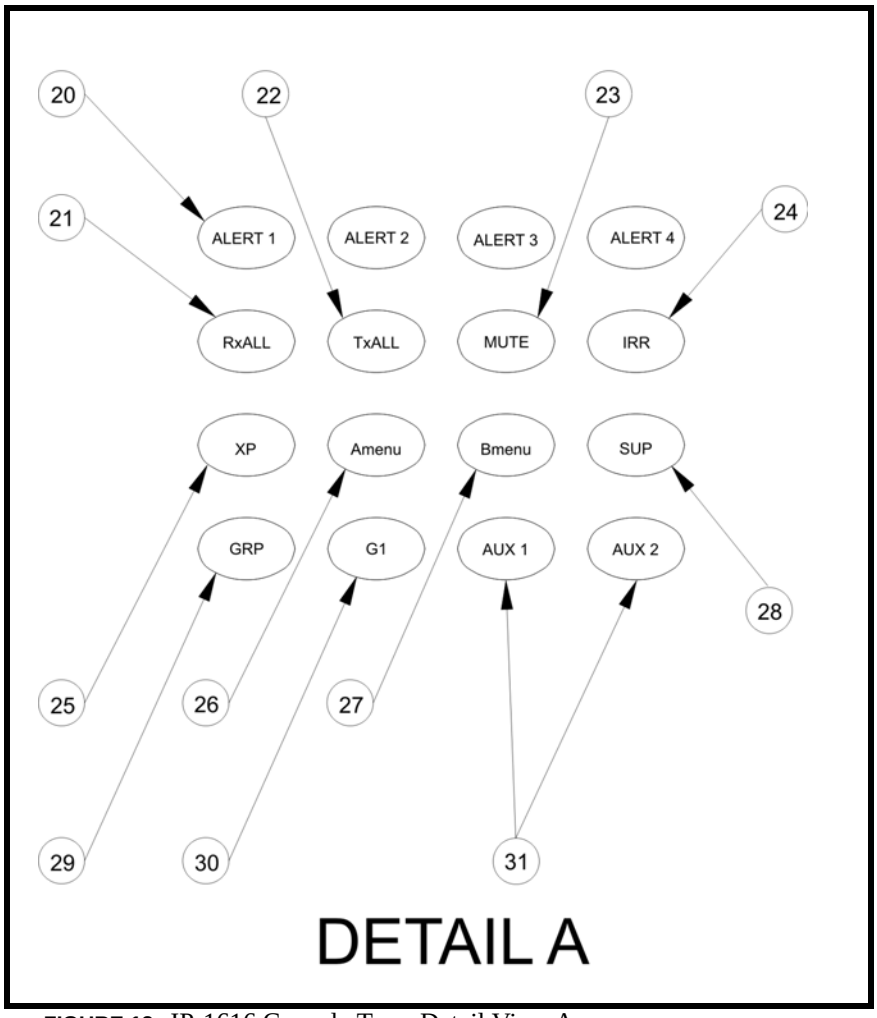


FIGURE 13. IP-1616 Console Top - Detail View A

The numbers in the drawing correspond to the numbered list below:

1. **Volume Control Knob - Select**: Use the volume control knob to adjust the selected speaker's audio level.
2. **Speaker - Select**: The speaker plays sidetone and audio from the selected line.
3. **Volume Control Knob - Unselect**: Use the volume control knob to adjust the unselected speaker's audio level.
4. **Speaker - Unselect -** The speaker plays crosspatch and audio from the unselected line.
5. **Microphone Connection -** A Telex ® GNM-18 gooseneck microphone may be installed for operation along with a handset (or headset) as indicated on the rear of the IP-1616. When a PTT occurs from either of the two microphones, the other is muted so as not to pick-up unnecessary ambient noise during transmission.

   NOTE: For dual microphone configurations, the desk microphone is the default microphone. The dedicated PTT button on the handset or headset must be pressed to use the handset/headset.
6. **Console Display -** Displays the following items:

   VU Meter - A **VU** (volume unit) meter is an audio metering device. It is designed to visually measure the loudness of an audio signal. The meter uses the first 12 top character blocks on the display (starting on the left). Level ranges from *-20dBm to +3dBm*. The VU meter displays selected receive and microphone audio bus levels. This meter is shown on the top upper left line of the display.

   Clock - The clock can be configured to display in either 12- or 24- hour notation. The time appears in the upper right corner of the console display.

   Line and Function - The line number and function appear when a line is selected. *No SEL* appears when no line is selected.
7. **Softkeys (1–8) -** Use the softkey buttons to soft program the console. When different modes are accessed on the IP-1616 the functions display above the button on the bottom line in the console display. These keys are not backlit.
8. **Function Tone Buttons (F1–F16) -** Use the Function Tone buttons to change function tones. When a function tone is selected, it lights to indicate the selected function.
9. **Line (1–8) Labels -** There are eight (8) lines to choose from. Each line is labeled above the line selection buttons. The six (6) buttons available for each line are arranged below the line number.
10. **SEL Buttons -** Use the SEL (select) buttons to activate the selected line (1–8) to transmit and receive audio. When active, the SEL button lights.
11. **RLS Buttons -** Use the RLS (release) buttons to release a selected line from select mode or to generate a flash-hook when the selected line is a phone line. When pressed, the selected line is deselected and the SEL button light is off. When the line receives audio activity the RLS button blinks.
12. **MUTE Buttons -** Use the MUTE buttons to stop monitoring audio received through the selected or unselected speaker for the line. When the MUTE button light is steady, the line mutes when audio is received. A blinking button indicates audio is being blocked.
13. **Volume Control (▲ & ▼) Buttons -** Use the ▲ and ▼ buttons to adjust the speaker and handset audio level. When adjusting the level up or down, the console display shows the selected level. If the handset is offhook, HSVOL is displayed and the handset volume is adjusted. These buttons remain dark when pressed.

    NOTE: The volume remains at the last setting for each line until it is reset with the volume buttons.

    NOTE: A minimum volume level can be set in the web configuration page so the console operator cannot change the speaker volume to zero.
14. **InPTT Button -** Use the **InPTT** (Instant Push-To-Talk) to immediately engage the specific line whether or not it is selected. This allows the console operator to respond on a single line without having to reset a group. When pressed the button is active and the InPTT button lights.
15. **INTERCOM (IC) Button -** Use the IC button, on the selected line, to transmit audio packets marked as intercom.

16. **MON Button -** Use the MON button to send out a packet burst to the selected line. The MON button lights while the button is pressed.
17. **TRANSMIT Button and LED -** Use the Transmit button to transmit audio from the console to all selected lines. When active, the TRANSMIT LED lights, indicating audio is being sent.
18. **PAGE Button -** Use the PAGE button to open the paging system for sending a page to an individual or group. When active, the page button lights.
19. **DTMF Keypad -** Use the 16-key DTMF keypad to transmit DTMF digits and enter alphanumeric strings for various functions. The buttons send DTMF tones when pressed and do not light.
20. **Alert (1–4) buttons -** Use the Alert buttons to send an alert tone to the selected line. One of three possible cadences are assigned to each alert button. Cadences include *Steady tone, Hi-Lo warble,* and *Pulsed Steady tone*. When active, the alert button lights.
21. **Rx ALL Button -** Use the RX ALL button to place all lines into unselected mode. Unselected mode opens the unselected lines for receiving audio through the unselect speaker. Lines that are muted are automatically reset to play audio through the unselect speaker. When active, the RxALL button and all select buttons configured for radio phone light.
22. **Tx ALL Button -** Use the TX ALL button to select all lines to transmit all without having to select one at a time to make a group selection. When active, the TxALL button and all select buttons configured for radio phone light.
23. **MUTE Master Button -** Use the Mute master button to mute all selected line at once.
24. **IRR button -** Use the **IRR** (Instant Recall Recorder) button to recall audio received in the last four (4) minutes. The console operator is able to choose whether this is select or unselect audio as well as the time frame from which to begin or end.
25. **XP Button -** Use the XP (crosspatch) button to crosspatch lines. Once active, the XP button lights and lines can be selected for crosspatch.
26. **AMENU Button -** Use the AMENU button to access optional FleetSync commands. Once pressed, up to eight (8) FleetSync commands appear.
27. **BMENU Button -** Use the BMENU button to access one (1) of seven (7) predefined page groups. Once pressed, the BMENU button lights and the quick page menu appears in the display.
28. **SUP Button -** Use the SUP button to disable all parallel consoles on a particular line to take control. Once supervisor control is established, the selected line blinks on supervised consoles to indicate supervisor activity. Not all consoles have supervisor capability, the SUP button is enabled per console. When active, the supervisor button lights and select buttons under supervisor control light.
29. **GRP Button -** Use the GRP button to manually create a group of lines. When active, the GRP button lights and console operator can begin to select lines for the desired group.
30. **G1 Button -** Use the G1 button to select a predetermined group. When active, the GRP1 button lights and all select buttons for lines in the predetermined group light.
31. **AUX (1– 2) Buttons -** Use the AUX (1–2) buttons to open and close the auxiliary relays located on the back panel. When active, the AUX button lights and the auxiliary device connected to the specified relay becomes active. The amount of time the auxiliary device remains active is determined by the console's configuration and operator's actions.

Back Panel Connections

Figure 14 shows the reference drawing of the rear panel of the IP-1616. Each of the connections is described in the following section. See “Hardware Installation” on page 15 for installation details.

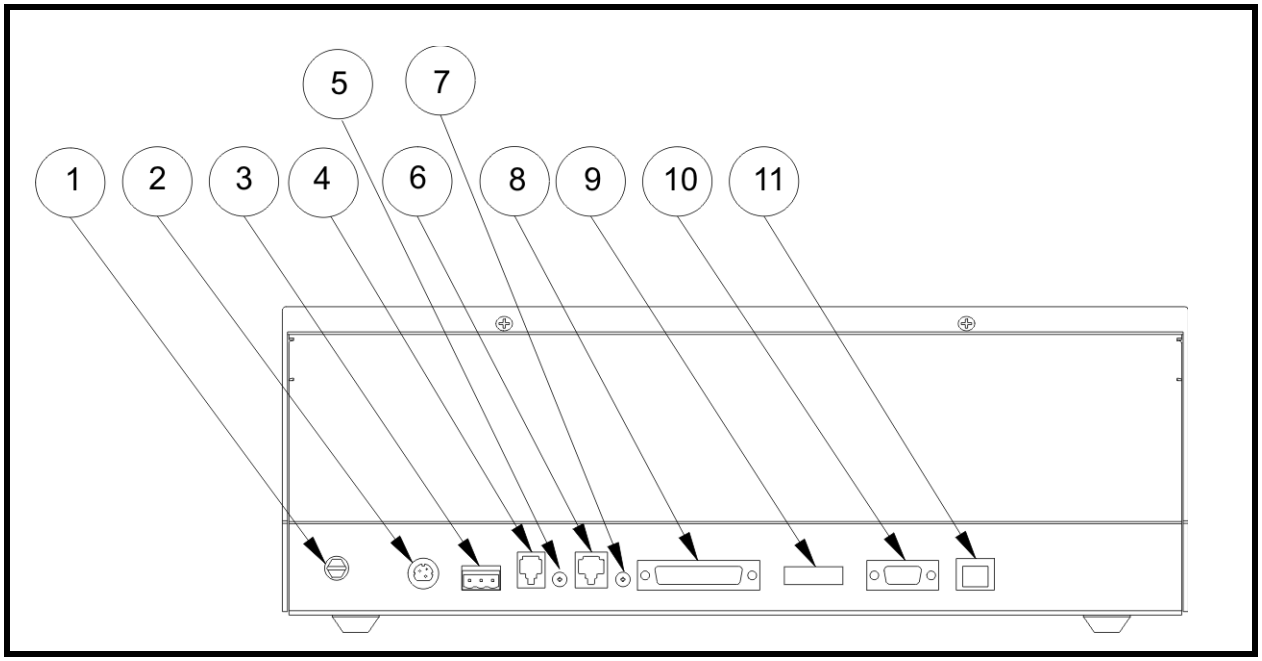


FIGURE 14. IP-1616 Console Back.

1. **Ground Screw -** The ground screw is used to ground the unit. It is imperative the chassis ground is tied to some fixed reference for proper operation of the unit. The line filtering is dependent on a solid ground to function correctly.
2. **Power Jack -** The power jack is used to connect power. The power supply (2.5mm center positive plug) cord is included with the unit shipment.
3. **AUX PWR Port -** The auxiliary power input J18 (3-pin terminal block) is a diode protected +12V input used for battery backup. When connected, Telex recommends the unit to be tied to earth ground through the AUX power connector.
4. **Handset Port -** Connect handset or headset adaptor boxes (HB-2 or HB-3) at this 4-pin modular jack.
5. **DM ADJUST Screw -** The DM adjust screw is used to adjust the deskmic gain.
6. **Deskmic Port RJ12 -** Connecting an MD-MS or DM-2000 desk microphone is accomplished at this RJ-12 modular jack.
7. **GN ADJUST Screw -** The GN adjust screw is used to adjust the gooseneck gain.
8. **Tapeout Relays -** The tapeout relays for the auxiliary DB25 connector are used to route audio output from an external device to pass over the network. See Figure 15 for pinout information.

NOTE: Earth Ground provides an Earth ground connection. Use is advised.

Pin number	Signal	Pin number	Signal
1	AUX relay 1 common	14	AUX relay 1 N.C.
2	AUX relay 1 N.O.	15	AUX relay 2 common
3	AUX relay 2 N.C.	16	AUX relay 2 N.O.
4	SPKRSEL	17	SPKRSEL
5	SPKRUNSEL	18	SPKRUNSEL
6	FOOTSWITCH IN	19	N/C
7	N/C	20	N/C
8	N/C	21	N/C
9	N/C	22	N/C
10	N/C	23	Unselect Tape Out
11	Unselect Tape Out	24	Select Tape Out
12	Select Tape Out	25	AUX PTT
13	AUX audio IN	Shield/shell	Ground

FIGURE 15. Tape Out Relay Pin Outs

9. **Serial Number Label -** The serial number label gives the serial number of the IP-1616 unit.
10. **SERIAL Port -** The serial port is used to communicate between the console and computer. For more information on cable requirements, see “Alternate method: Change IP Address and Subnet Mask” on page 23.

Placeholder for DB9 pin outs

FIGURE 16. Serial Port Pin Outs

11. **10/100 Network Port**: The 10/100 Network port is used to connect the unit to a router or computer with a standard RJ-45 Ethernet interface. Link and TX LEDs are built into the connector. The Ethernet port connector supports a Base 10/100 CAT 5E connection.

Specifications

Power Requirements:

117VAC, 60Hz, 22W, or 12VDC at 5A maximum

CAUTION: The IP-1616 is ***NOT PoE (Power Over Ethernet) Compatible***. Serious damage may occur to the unit by plugging it into ports supplied by PoE.

Distortion:

3% maximum at full compression

Hum and Noise:

50dB below operating levels

Speaker (Two):

3.5 in. oval, 8 Ohm, heavy-duty

Amplifier Power:

5W maximum at 3%THD into an 8 Ohm load or equivalent

Handset Audio Level:

Adjustable level independent of speaker volume.

Audio Frequency Response:

±1.5dB, 300Hz to 3000Hz, except at the transmit tone notch frequency.

Tone Frequencies:

All function frequencies are selectable from 300Hz to 3000Hz ±1Hz

Microphone Connections:

Handset and Headset: 4-wire

Deskmic and Gooseneck: 6-wire

Operating Temperature:

0 to 50° C (32° F to 122° F)

Dimensions:

5.5” H x 12” D x 15.5” W (139.7mm H x 304.8mm D x 393.7mm W)

Weight:

8.3 lb. (3.76 kg)

CHAPTER 2

Communications System Design

System Design

Designing a system with the IP-1616 requires an understanding of the radio network and how the various radios and communication equipment are connected.

The first step in designing the system with the IP-1616 is to create a roadmap of the radio, console, IP-223 and any other communication equipment locations. This roadmap must include the following:

- Multicast Addresses for each channel of **TX** (transmit) and **RX** (receive) communication.
- Port numbers for each channel of TX and RX communication.
- Base IP addresses assigned to each console or radio on the network and the number of frequencies each radio operates on.

Network Requirements

Bandwidth

Each VoIP channel requires 50kBit of bandwidth while active. **Full-duplex** (audio in each direction) conversation requires 100kBit of bandwidth.

NOTE: Most radio voice communications are **half-duplex** (audio in one direction at any one time), thus requiring 50kBits.

Some radio systems transmit go-ahead beeps when it is clear to talk. In order for the console operator to hear the beeps, the system must support full-duplex communication. Full-duplex bandwidth may only be required for the first few seconds of a conversation, due to the brief nature of the go-ahead beeps at the beginning of the transmission.

When using a **TDI** (Telephone Dispatch Interface), C-6200, or the NI-223 for a telephone connection, a full 100kBit is required since it is a full-time,
full-duplex conversation.

Multicast

In general, Telex systems require **multicast** to function. The network must be able to create a static multicast address is accessible at all times.

It is common for networks to enable multicast after an **IGMP** (Internet Group Management Protocol) join message is sent out, and then prune off branches after a period of time. Due to the intermittent usage patterns of two-way radio, such a system can appear to work flawlessly for a period of time, then no longer work.

NOTE: When using Cisco technology, **IP PIM dense mode** is generally recommended. Generally speaking, **sparse-dense-mode** can also be implemented effectively. We recommend explicitly joining the multicast group with an **IP IGMP static-join X.X.X.X command**. For more information on Cisco and IGMP visit www.cisco.com

Internet Group Management Protocol (IGMP)

IGMP can be used to control where multicast is allowed to propagate. When a console on the subnet is expected to be continually operational, multicast must be active for that subnet at all times.

Network Performance

Networks should perform well under any loading conditions. The default audio delay is *120ms*, plus any delay added by the network. While delay alone does not cause issues, **variable delay (jitter)** does. Jitter in a network cannot exceed the maximum packet buffer of any individual product buffer. Refer to the individual product manuals for these specifications. For example, the IP-223 can handle approximately 600ms of network jitter.

NOTE: Losing more than 5% of the total packets transmitted compromises audio quality and system performance. Optimally, packet loss should be less than 1%.

CHAPTER 3

Install, Configure, and Update

Hardware Installation

The back of the IP-1616 provides a power jack and ports for tape, auxiliary, and network connections. For port and jack locations, see Figure 14.

GROUND Screw

The **GROUND** screw is used to ground the unit, limiting voltage build up and avoiding possible damage. It is imperative chassis ground is tied to some fixed reference for proper operation of the unit. The line filtering is dependent on a solid ground to function correctly.

POWER Jack

The **POWER** jack is included in the shipment with the IP-1616 console. The inline power supply is connected at J3.

To **connect the power jack**, do the following:

1. Insert the **receptacle end** into the back of the unit.
2. Insert the **plug** into an electrical outlet
   The unit power is ON.

CAUTION: Power specification are: +12Vdc to +16Vdc. Do not operate the unit outside this range.

AUX Power Port

The **AUX POWER** port is used to connect auxiliary power to the IP-1616 using the 6-pole terminal connector included in the IP-1616 shipment. Consult manufacturer's data for proper interface instructions and hardware requirements. Pin (E) is also connected to the chassis allowing for positive grounding of the unit. Telex recommends the unit be tied to earth ground through the AUX power connector on the back of the unit.

CAUTION: Power specification are: +12Vdc to +16Vdc. Do not operate the unit outside this range.

HANDSET port

The **HANDSET** port is used to connect an optional 4-wire handset or headset, not included in the shipment, to the IP-1616 console. See Figure 14 for port location.

NOTE: All connections can be used at the same time.

NOTE: When a PTT is active from a 4-wire mic, the 6-wire connector is blocked from transmitting.

To **connect the handset**, do the following:

1. Insert **one end of the handset cord** into the handset.
2. Insert **the other end of the cord** into the handset port on the left side of the IP-1616 console.
   The handset receives and transmits audio when PTT is activated.

DM ADJ Screw

The **DM ADJ** screw is used to adjust the gain on the desk mic. Experiment with the adjustment screw to determine best gain setting for your situation

To **adjust the gooseneck microphone level**, do the following:

1. From the expected operating distance, **press PTT and speak** into the microphone.
2. Turn the **DM adj screw** on the back of the unit until you arrive at the appropriate gain level for your system

NOTE: The Telex desk microphone provides for gain adjustment on the microphone itself, affecting the DM screw adjustment.

DESK MIC Port

The **DESK MIC** port is used to connect a 6-wire Telex deskmic. See Figure 14 for port locations.

NOTE: All connectors can be used at the same time.

NOTE: When a PTT is active from a 4-wire mic, the six-wire connector is blocked from transmitting.

NOTE: A gooseneck deskmic, or a gooseneck monitor mic to the IP-1616 console can be connected using an HB-3 adapter box.

To **connect a deskmic device**, do the following:

1. Insert **one end of the deskmic cable** into the deskmic device of your choice.
2. Insert the **other end of the deskmic cable** into the Deskmic port on the left side of the IP-1616 console.
   The device receives and transmits audio when PTT is activated.

GN ADJ Screw

The **GN ADJ** screw is used to adjust the gain of the gooseneck microphone. Experiment with the adjustment screw to determine best gain setting for your situation.

To **adjust the gooseneck microphone level**, do the following:

1. From the expected operating distance, **press PTT and talk** into the microphone.
2. Turn the **GN adj screw** on the back of the unit until you arrive at the appropriate gain level for your system

TAPE OUT/RELAYS Port

The **TAPE OUT RELAY** port is used to connect auxiliary devices to the IP-1616 console. See Figure 15 for pin out information.

To **connect an auxiliary device using a cable and DB25 connector**, do the following:

1. Plug the **connector** into the port.
2. Hand tighten the **two (2) screws** to secure the connection.
3. Connect the **other end of the cable** to auxiliary device.

IMPORTANT: Consult the auxiliary device manufacture’s data for proper interface instructions.

Serial Number Label

The **Serial Number** label is located on the back of the IP-1616 console. See Figure 14 for location.

SERIAL Port

The **SERIAL** port is used to connect a computer for reprogramming the IP-1616. For details and pinout information see “Alternate method: Change IP Address and Subnet Mask” on page 23. See Figure 14 for port location.

10/100 NETWORK Port

The 10/100 NETWORK Port is used to connect the IP-1616 to a computer’s network router.

To **connect to a network computer**, do the following:

1. Insert **one end of an Ethernet cable** into the 10/100 NETWORK port on the back of the console
2. Insert the **other end of the Ethernet cable** into a router connected to a computer.

NOTE: Alternatively, a crossover cable may be used to connect the IP-1616 directly to a computer.

NOTE: The computer and the IP-1616 must be on the same subnet. For information on how to change your computer’s IP Address, contact you system administrator.

CAUTION: The IP-1616 is NOT PoE compatible, serious damage may occur to the unit by plugging it into ports supplied by PoE.

Programming Mode Menu

The **Programming Mode** menu, shown in Figure 19, is accessed directly from the IP-1616 console. If an Admin **PIN** (Personal Identification Number) has been set, then it is required to enter programming mode, otherwise, no PIN is required. Once you are in the Programming Mode menu you can access the programmable menus to change the *clock (CLK), IP Address and Subnet Mask (IP Setup)* and *set a new PIN number (PIN).*

NOTE: Only the administrator has permission to upload new firmware to the IP-1616.

To **access the Programming Mode Menu without a PIN**, do the following:

> On the IP-1616 keypad, press and hold the console **MUTE** button, **F16** and the **GRP** button, in that order.
> *One of two menus appear on the console display PIN Login screen or Console Programming Mode*, *See* Figure 17.

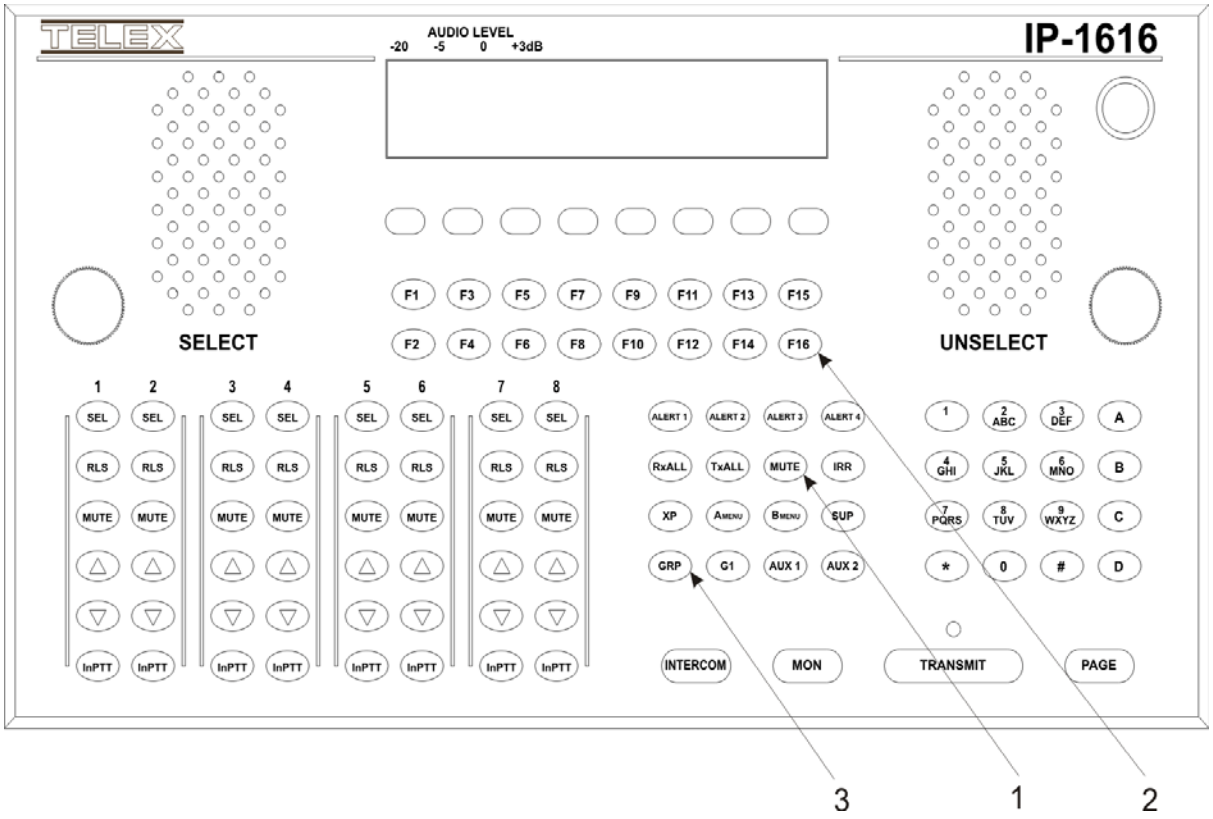


FIGURE 17. Enter Programming Mode Buttons

PIN Login Menu

The IP-1616 comes with a programmable **PIN Login** menu, shown in Figure 18. Once an admin PIN has been set, it is required to access the Programming Mode menu.

To **login to Programming Mode with a PIN**, do the following:

1. On the IP-1616 keypad, press and hold the **MUTE** button, the **F16** button, and the **GRP** button in that order.
   One of two menus appear on the console display: PIN (Personal Identification Number) Login screen, see Figure 18 or Console Programming Mode, see Figure 19.
2. Using the DTMF keypad, enter the **admin PIN number**.
   Asterisks appear, on the top line, for each character you enter.

   NOTE: To clear the entry, press the **Clear** softkey.

   NOTE: To exit without making changes, press the **Cancel** softkey.
3. Press the **OK** softkey.
   You are in programming mode.

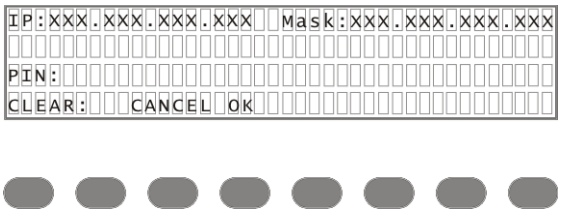


FIGURE 18. Console Login—PIN Required

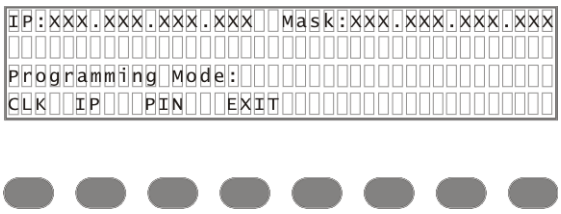


FIGURE 19. Console Programming Mode Menu

Programmable Menus

The **Programmable** menus are used to change the CLK, IP Setup, and PIN settings.

CLK Menu

The **CLK** menu, shown in Figure 20, is used to set the console clock.

NOTE: For alternate method of setting the console clock, see “Alternate Method: Set Quick Clock Mode” on page 20.

To **set the console clock**, do the following:

1. On the IP-1616 keypad, press and hold the **MUTE** button, the **F16** button, and the **GRP** button in that order.
   One of two menus appear on the console display PIN Login screen or *Programming Mode, see Figure 20.*
2. Using the DTMF keypad, enter the **admin PIN number**, if one is required.
   Asterisks appear, on the top line, for each character you enter.
3. Press the **OK** softkey.
   The Programming Mode menu appears.
4. Press the **CLK** softkey.
   The clock menu options, Edit, A/P, 12/24, and back appear.
5. Press the **12/24** softkey until *12hr* displays.
   The 12-hour clock mode is selected and 12hr: appears above the back softkey label.
   OR
   Press the **12/24** softkey until *24hr* displays.
   The 24-hour clock mode is selected and 24hr: appears above the back softkey.
6. If the 12hours clock mode is selected, press the **A/P** softkey to set the 12-hour clock time to AM or PM, otherwise continue to step 7.
   The time appears with AM or PM on the right.

7. Press the **Edit** softkey.
   The clock settings appear on the display.
8. Press the **Hours** menu.
   The Hours menu appears and displays the current setting.
9. Press the **12** softkey.
   The clock resets to 12 hours or 1200 hours depending on selected mode.
10. Press the **dwn** or **up** softkey until correct hours display.
    The hour setting changes.
11. Once the hours are set, press the **back** softkey.
    The edit clock menu appears.
12. Press the **Mins** softkey.
    The minutes menu appears and displays the current settings.
13. Press the **0** softkey.
    The clock resets to 0 minutes.
14. Press the **dwn** or **up** softkey until correct minutes display.
    The minutes setting changes.
15. Once the minutes are set, press the **back** softkey.
    The hour and minutes setting menu appears.
16. Press the **back** softkey.
    The edit clock menu appears.
17. Press the **back** softkey.
    The Programming Menu appears.
18. Press the **EXIT** softkey.
    The console displays, Resetting IP-1616. The time appears in the upper right corner of the display.

Alternate Method: Set Quick Clock Mode

The **Quick Clock Mode** is used to change the console clock without having to logon on to the Programming Mode menu.

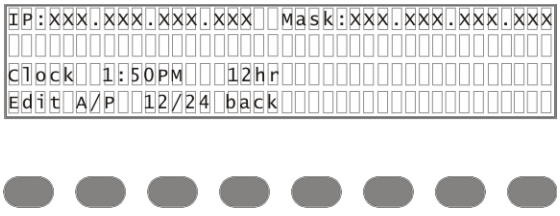


FIGURE 20. Clock Menu

To **set the console clock in quick mode**, do the following:

1. On the IP-1616 keypad, press and hold the **MUTE** button, **F16** button, and the **XP** button in that order.
   One of two menus appear on the console display PIN Login screen, see Figure 18 or *Programming Mode, see Figure 19.*
2. Follow step **5-18** in “CLK Menu” on page 19.

IP Setup Menu

The **IP Setup** menu, shown in Figure 21, is used to set both the IP Address and Subnet Mask of the IP-1616 console to allow communication between the console and web browser configuration.

NOTE: For more information see Figure “Alternate method: Change IP Address and Subnet Mask” on page 23.

To **set or change an IP Address and Subnet Mask**, do the following:

1. On the IP-1616 keypad, press and hold the **MUTE** button, the **F16** button, and the **GRP** button in that order.
   One of two menus appear on the console display PIN Login screen, see Figure 18, or *Programming Mode, see Figure 19.*
2. Using the DTMF keypad, enter the **admin PIN number**, if one is required.
   Asterisks appear, on the top line, for each character you enter.
3. Press the **OK** softkey.
   The Programming Mode menu appears.
4. Press the **IP** softkey.
   The IP setup menu, shown in Figure 21, appears on the display.

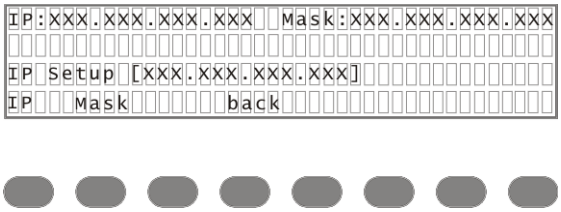


FIGURE 21. IP Setup Menu

5. Press **IP** softkey.
   The IP menu, shown in Figure 22, appears.

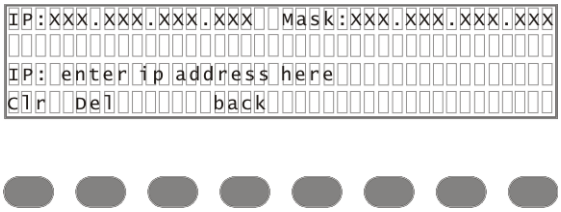


FIGURE 22. IP Menu

6. Using the console's keypad, enter the **IP Address** you want to assign to the IP-1616 (use the * key for the dot between the octets).
7. Press the **back** softkey.
   The IP Setup screen appears.
8. Press the **Mask** softkey.

NOTE: The following keys are used to enter the IP and Mask dotted quad once the IP or Mask program button is pressed

DTMF 0-9:	The DTMF digits allow entry of the specific numbers.
*DTMF * or A*:	DTMF * or *A* is the decimal point used in entering the octet.
PROG4:	The *back* button is pressed the octet has been entered.
PROG1:	The *Clr* function clears the current entered value and starts over.
PROG2:	The < *backspace* function deletes the laster entered number.
PROG3:	The > *forward space* function steps past the next number, if necessary.

9. In the Mask field, enter the **Subnet Mask** of the network to which the IP-1616 is connected (use the * key for the dot between the octets).

10. Once you are finished entering the Subnet Mask, press the **back** softkey.
The IP Setup programming menu appears in the console display.
11. Press the **back** softkey.
The Programming Mode menu appears in the console display.
12. Press the **EXIT** softkey.
IP-1616 Resetting, appears in the console display. It is now possible to connect to the IP-1616 using the web browser. See"IP-1616 Web Browser Configuration" on page 29 to setup your web browser.

NOTE: Press the **Clr** softkey to delete all characters from the display.
Press the < or > softkey to navigate between characters in the IP Address.
See your network administrator if you need help determining which IP Address to use.

PIN Setup menu

The **PIN Setup** menu, shown in Figure 23, is used to delete, set new or change the existing admin PIN number. This is the same admin PIN as the web browser configuration admin PIN. When an admin PIN is set, the IP-1616 prompts for it before allowing changes.

NOTE: To set or change the admin PIN number with the web browser configuration, see "New PIN Field" on page 57.

To **set a new admin PIN number**, do the following:

1. On the IP-1616 keypad, press and hold the **MUTE** button, the **F16** button, and the **GRP** button in that order.
One of two menus appear on the console display PIN Login screen, see Figure 18, or *Programming Mode, see Figure 19.*
2. Using the DTMF keypad, enter the **current admin PIN number**, if one is required.
Asterisks appear on the top line, for each character you enter.
3. Press the **OK** softkey.
The Programming Mode menu appears.
4. Press the **PIN** softkey.
The PIN Setup menu, shown in Figure 23, appears
5. Press the **New** softkey.
The PIN entry menu appears.
6. Using the **DTMF** keypad, enter a **new 4–16 digit PIN number**.
Asterisks appear for each number you enter.

   NOTE: To delete the PIN entry from the console display, press the **CLEAR** softkey.

   NOTE: To exit the menu and return to the PIN Setup menu without saving changes, press the **QUIT** softkey.
7. Press the **OK** softkey.
The confirm PIN menu appears.
8. Using the DTMF keypad, reenter the **new PIN number**.
Asterisks appear for each number you enter.

   NOTE: To exit the menu and return to the PIN Setup menu, without saving changes, press the **QUIT** softkey.
9. Press the **SAVE** softkey.
The PIN Setup menu appears.

   NOTE: If you enter the wrong PIN, an Invalid PIN message appears. To return to the PIN Setup menu, press the **OK** softkey.
10. Press the **back** softkey.
The programming mode menu appears.
11. Press the **EXIT** softkey.
Resetting IP-1616 message appears and a new admin PIN is set.

To **set the admin PIN to none required**, do the following:

1. On the IP-1616 keypad, press and hold the **MUTE** button, the **F16** button, and the **GRP** button in that order.
   One of two menus appear on the console display PIN Login screen, see Figure 18, or Programming Mode, see Figure 19.
2. Using the DTMF keypad, enter the **admin PIN number**, if one is required.
   Asterisks appear on the top line for each character you enter.
3. Press the **OK** softkey.
   The Programming Mode menu appears.
4. Press the **PIN** softkey.
   The PIN Setup menu appears.
5. Press the **Clr** softkey.
   The message, Clear PIN? appears.
6. To exit the menu without clearing the PIN, press the **NO** softkey.
7. Press the **YES** softkey.
   The PIN is cleared from the IP-1616 setup.
8. Press the **back** softkey.
   The Programming Menu appears.
9. Press the **EXIT** softkey
   Resetting IP-1616 appears and the admin account is set to no PIN required.

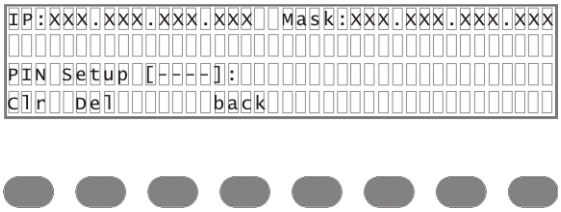


FIGURE 23. Pin Setup Menu

Alternate method: Change IP Address and Subnet Mask

An alternative to setting the IP Address and Subnet Mask from the IP-1616 console is to configure the setting with **Microsoft® Hyper Terminal**.

NOTE: Go to http://www.hilgraeve.com/htpe/ for information about using HyperTerminal with Microsoft® Vista®.

DB9 Connector

A **DB9 connector** cable (not included) is required to Hyper-terminal the IP-1616. The cable is connected to the computer (RS-232 port) and the serial port on the back of the console, for location see Figure 14.

Serial Port	RS232 Port	
Back of IP-1616 Console	DB-9 Pin	DB-25 Pin
Pin 1	Pin 2	Pin 2
Pin 2	Pin 3	Pin 3
Pin 3	Pin 5	Pin 7

To **change the IP Address and Subnet Mask Address using Microsoft® Hyper Terminal,** do the following:

1. Using a DB-9 or DB-25 serial cable, connect the **IP-1616 data port** (J3 3-pin data port) to your computer.
2. From the Start Menu on your computer, open the **Hyper Terminal application**
   Click *Start|Programs|Accessories|Communications|Hyperterminal*, see Figure 24
   The Connection Description window appears, see Figure 25.

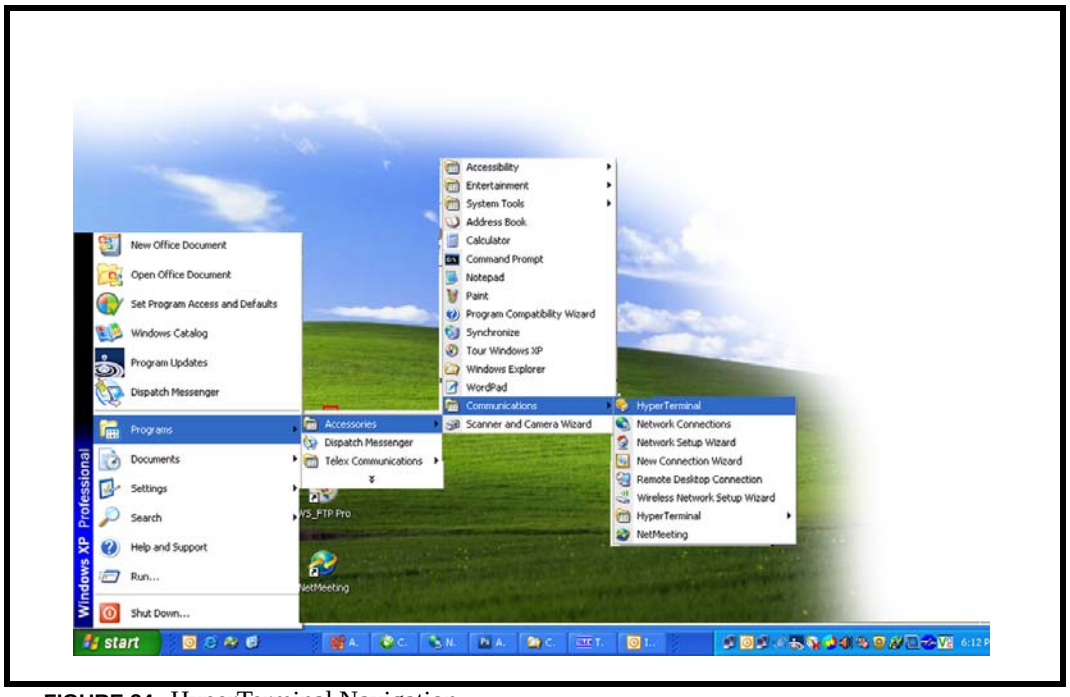


FIGURE 24. HyperTerminal Navigation

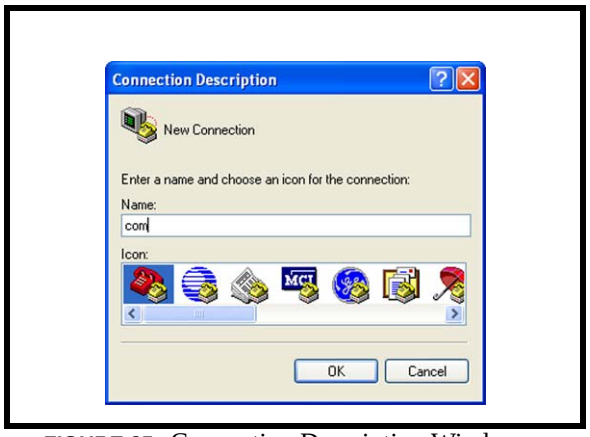


FIGURE 25. Connection Description Window

3. In the Name field, enter **com**.
4. Click **OK**.
   The Connect To window appears, see Figure 26

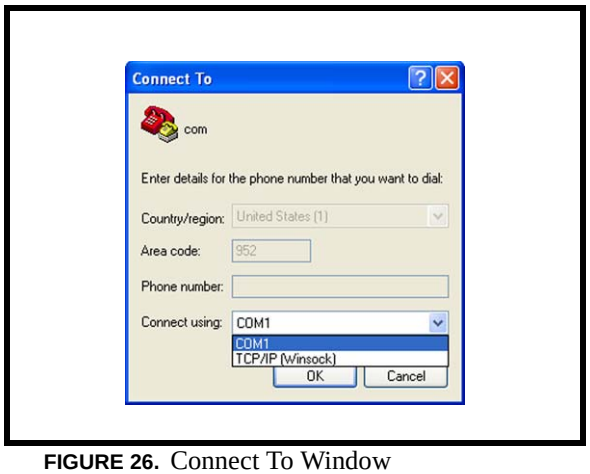


FIGURE 26. Connect To Window

5. From the Connect Using: drop down menu, select **COM1**.

6. Click **OK**.
   The COM1 Properties window appears, see Figure 27

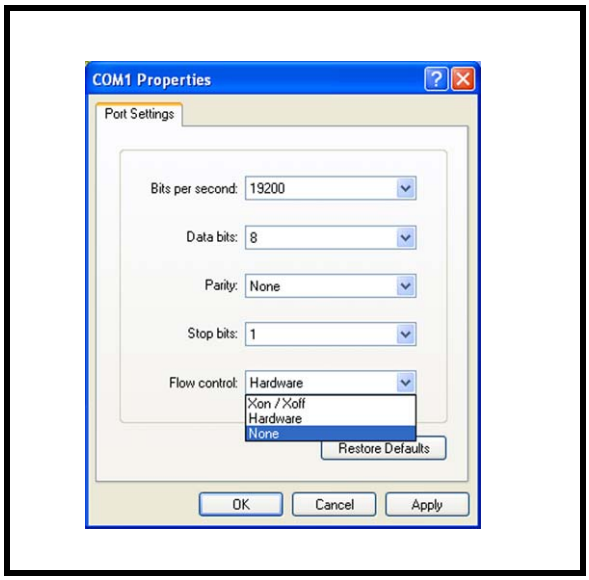


FIGURE 27. COM1 Properties Window

7. From the Bits per second drop down list, select **19200**.
8. From the Data bits drop down menu, select **8.**
9. From the Parity drop down menu, select **None.**
10. From the Stop bits drop down list, select **1.**
11. From the Flow Control drop down menu, select **None**.
12. Click **OK**.
    The Main Hyper Terminal window appears.

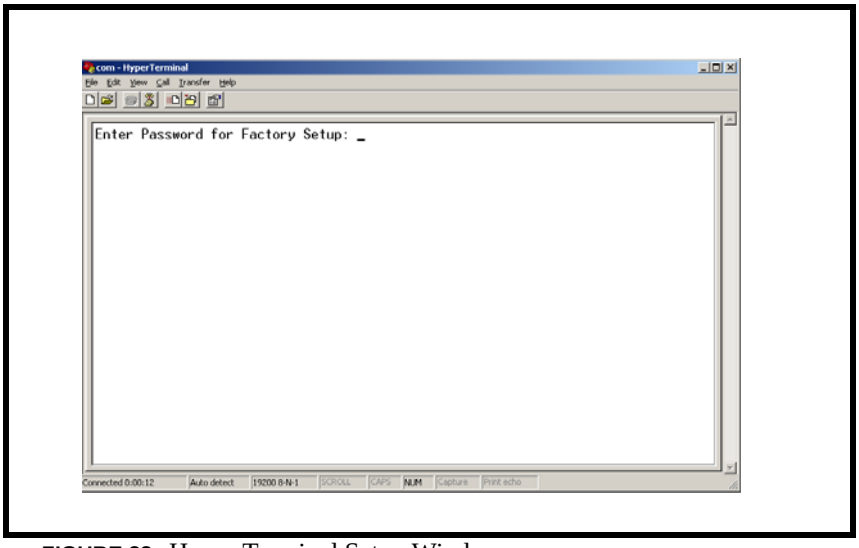


FIGURE 28. Hyper Terminal Setup Window

13. In the Main Hyper Terminal Window, type an uppercase **S**.

NOTE: Toggle your keyboard Scroll Lock OFF.

14. Press **Enter**.
    Enter Password for Factory Setup appears in the window.
15. Enter **technobabble** for the factory password.
16. Press **Enter**.
    The Hyperterminal window shown in Figure 29 appears.

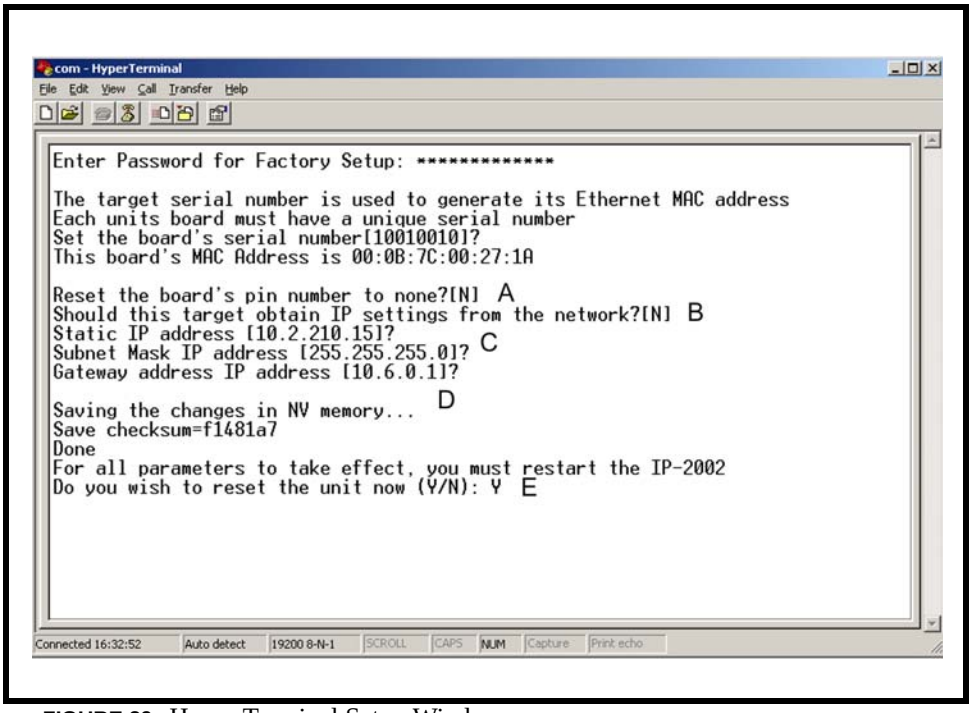


FIGURE 29. Hyper Terminal Setup Window

NOTE: The serial number is fixed and should match the case label. For more information about the MAC Address, see footnote on page 5.

Factory Setup Options:

A =Allows access to the PIN number if it is new or forgotten.

B =Allows the unit to get an IP Address via DHCP or to manually set the IP Address.

C =Allows a Subnet Mask to be manually entered or changed.

D =Allows a Gateway Address to be manually entered or changed.

E =Provides the ability to reset the unit.

17. Reset the **IP-1616**.
The message, shown in Figure 30, indicating our computer can communicate with the IP-1616 appears.

FIGURE 30. Hyper Terminal Setup Window

IP-1616 Web Browser Configuration

The **IP-1616 Web Browser Configuration** is used to setup many of the system and network settings. The following section describes the system configuration and network setting for the IP-1616.

NOTE: A **crossover cable** provides for direct PC to IP-1616 programming through the Ethernet port. This cable should not be used for a direct IP-1616 to Ethernet port connection.

NOTE: To access the IP-1616 via a web browser, the host PC must share the same subnet as the IP-1616. See your network administrator if you need help determining which IP Address to use.

To **begin configuring the IP-1616 console with the web browser**, do the following:

1. Open a **browser** window.
2. Enter the base **IP Address** of the IP-1616 in the address field, shown in Figure 31.

   NOTE: XXX.XXX.XXX.XXX refer to the octet values.

FIGURE 31. IP Address Entry

3. Press **Enter** on the keyboard.
   The Connect [IP Address] window, shown Figure 32, appears.

FIGURE 32. IP-1616 Login Window

4. In the User Name drop down menu, select or enter **admin**.
   If this is the first time you are signing into the IP-1616 Web Configurator you may need to type admin.

5. In the PIN number field, enter the appropriate **PIN Number**.
   If this is the first time the IP-1616 has been started and a PIN has not been assigned to the unit, no entry is required.
6. Click **OK**.
   The Welcome window, shown in Figure 34, appears.

   NOTE: After successful login, save the bookmark feature in your browser to save this page for later use.

IP-1616 Windows Standards

Links

Across the top of each web browser window, shown in Figure 33, there are links are used to access information needed to enter parameters to configure the IP-1616. A brief description of each is provided below.

FIGURE 33. IP-1616 Links

	Displays the “Welcome Window” on page 33.
	Displays the “Basic Ethernet Setup” on page 34.
	Displays the “General Gain Setup” on page 38.

	Displays the “Multicast Address Setup” on page 41.
	Displays the “Per Line Setup” on page 47.
	Display the “Save To EEPROM” on page 55.
Account Setup	Displays the “Account Setup” on page 56.
Clone & PIN	Displays the “Clone & PIN” on page 71.
ID Directory	Displays the “ID Directory” on page 74.
Paging Directory	Displays the “Paging Directory” on page 80.
Paging Setup	Displays the “Paging Setup” on page 85.
System Setup 1	Displays the “System Setup 1” on page 95.
System Setup 2	Displays the “System Setup 2” on page 102.

Configuration

A web browser interface makes IP-1616 console configuration easy. General gain setup, per line setup, ID directory setup, paging and directory setup, as well as supervisory, intercom, monitor, and handset/headset features are configured in the individual windows. PIN and account setup and the ability to copy an existing console's configuration directly to a second console are also available.

To **access a configuration window**, do the following:

> Click the desired **link**.
The setup window for the selected link appears.

Submit Button

The **Submit** button, located at the bottom of each configuration window, is used to upload changes to the IP-1616.

Important: The submit button saves changes in temporary memory only.

To **permanently save changes,** do the following:

1. Click **Submit**. 

The changes are sent to the IP-1616 in temporary storage.

2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.

3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

Welcome Window

The **Welcome Window**, shown in Figure 34, provides a basic description of the IP-1616 functions and features. You can also change the console name from this window.

FIGURE 34. Welcome Window

Console Name Field

The **Console Name** field is used to identify the currently active console setup.

To **name the console**, do the following:

> Enter a **name** for the console, *12 characters* are allowed.
The name appears in the Console Name field.

To **permanently save the console name,** do the following.

1. Click **Submit**. 

The console name appears at the top of the Welcome window.

2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.

3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

NOTE: To navigate back to the Welcome Window, click the **IP-1616 photo** in the upper-left corner of the window.

Basic Ethernet Setup

The **Basic Ethernet Setup** window, shown in Figure 35, is used to configure your network connections by setting the hosting protocol, IP-1616 console IP Address, Subnet Mask, Gateway Address, as well as, setting the network time protocol and packet delay. With the Basic Ethernet Setup window, you can configure up to 15 Telex® Radio Dispatch VoIP consoles on the same network.

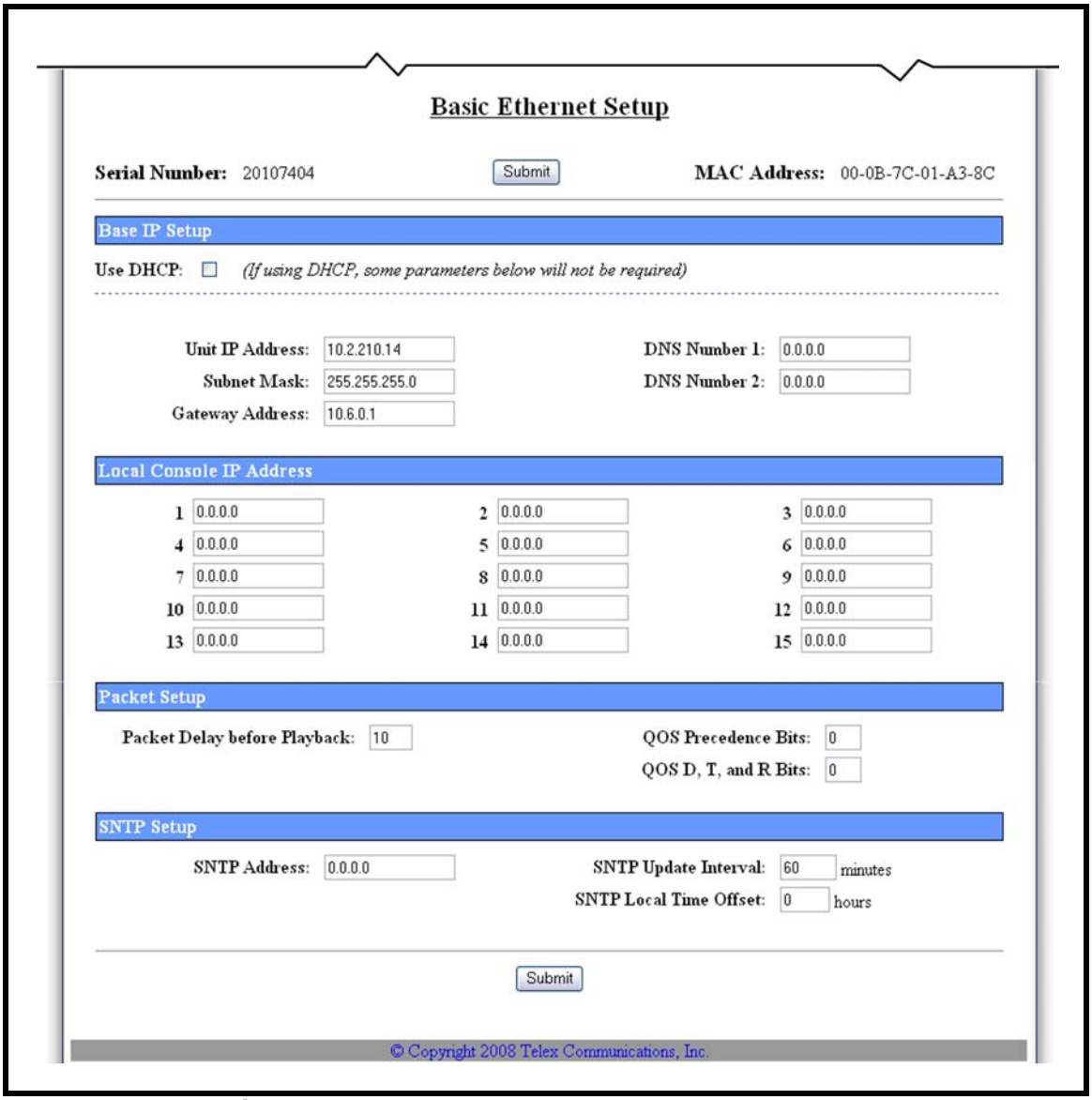


FIGURE 35. Basic Ethernet Setup

Serial Number Display

The **Serial Number** field displays the serial number of your IP-1616. The serial number label located on the back of the console should match the number in this field. See “Back Panel Connections” on page 10 for location.

Submit Button

The **Submit** button, located at the top and bottom of the window, is used to temporarily save changes to the IP-1616.

IMPORTANT: Submit changes before navigating from this window.

MAC Address

The **MAC Address** field displays the MAC Address of the IP-1616. For More information, see footnote on page 5.

Base IP Setup

Use DHCP Server Check Box

The **Use DHCP Server** check box indicates whether or not **DHCP** (Dynamic Host Configuration Protocol) is used. If selected, DHCP allows the IP-1616 to obtain its network address information for operation from the network, bypassing any manual entries.

Important: Telex does not recommend operating with DHCP running. This can cause the base IP Address to change without notice.

Unit IP Address Field

The **Unit IP Address** field is used to enter a unique base IP Address for the IP-1616. The web browser configuration uses the IP Address to identify the IP-1616 for such operations as setup and software upgrades.

Subnet Mask Field

The **Subnet Mask** field is used to enter the Subnet Mask Address. The Subnet Mask is used to distinguish local addresses, from addresses that require the use of a gateway to reach. See your network administrator for this field value.

NOTE: A subnet is a portion of a network that shares a common address component with other nodes on the network. On a TCP/IP network, a subnet is described as all computers or devices whose IP Address have the same prefix.

Gateway Address Field

The **Gateway Address** field is used to enter the Gateway Address. The Gateway Address is the IP Address for the node used to reach other networks. See your network administrator for this field value.

DNS Number 1–2 Fields

The **DNS Number 1–2** fields are currently not supported by version 4.100 and earlier.

Local Console IP Address

Local Console IP Addresses 1–15 Fields

The **Local Console IP Addresses 1–15** fields are used to enter local IP Addresses of other Radio Dispatch VoIP consoles in the same network. This list is used for the Ethernet based crossmute function. The IP-1616 examines the source of the audio, if the source is from another console in this list, the IP-1616 then mutes the parallel transmit audio. This feature is generally used on consoles in the same room.

You can enter up to *15 consoles*.

Packet Setup

Packet Delay Before Playback Field

The **Packet Delay Before Playback** field is used to enter a delay of audio packets before they are sent. Some buffering of these packets must occur before playback, to absorb network jitter and delays.

The typical value for this field is *6*. Larger values may be required for larger networks and smaller values for smaller networks.

Field values range from *4 to 29*.

QOS Precedence Bits Field

The **QOS: Precedence Bits** (Quality of Service) field is used when differentiated services QOS is active on the network. Typically this value is set to *0 for normal traffic or set to 6 for voice traffic.*

QOS D, T, and R Bits Field

The **QOS: D, T, and R Bits** field is used for advanced configuration purposes. These bits are typically set to 0. Contact your network administrator for proper field values.

QOS options include the following:

Delay (D) - an active delay bit tells the router to choose a high speed to minimize delay.

Throughput (T) - an active throughput bit specifies high capacity links should be used.

Routing (R) - an active routing bit, directs routing protocols and network management applications to select fault-tolerant paths.

For information on binary equivalents for delay, throughput, and reliability see “D, T, R Binary Reference Table” on page 145.

This field value ranges from *0 to 7*.

SNTP Setup

SNTP Address Field

The **SNTP Address** (Simple Network Time Protocol) field is used to enter the IP Address of the time server on the network. The time server is used as a standard clock for all devices on the network. It can be a PC, a national atomic clock source available on the internet, or a local GPS or atomic clock-based network resource.

SNTP Update Interval Field

The **SNTP Update Interval** field is used to set, in minutes, the amount of time between queries to the time server for updates. Update this value once per hour, at a maximum.

This field value ranges from *0 to 9999 seconds*.

SNTP Local Time Offset Field

The **SNTP Local Time Offset** field is used to enter the offset time, in hours, from **UTC** (Coordinated Universal Time). The Time Server always displays its time as UTC. See the page 147 for offset values.

This field value ranges from *-12 to 14 hours*.

NOTE: UTC is an atomic time scale that approximates **GMT** (Greenwich Mean Time).

To **permanently save changes,** do the following:

1. Click **Submit**. 

The changes are sent to the IP-1616 in temporary storage.

2. Click **EEPROM**. 

The Save to EEPROM window opens.

3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

General Gain Setup

The **General Gain Setup** window, shown in Figure 36, is used to adjust gain levels, as required. Except for handset sidetone gain, the gains are set to *0 dB*, by default, and can be adjusted up or down.

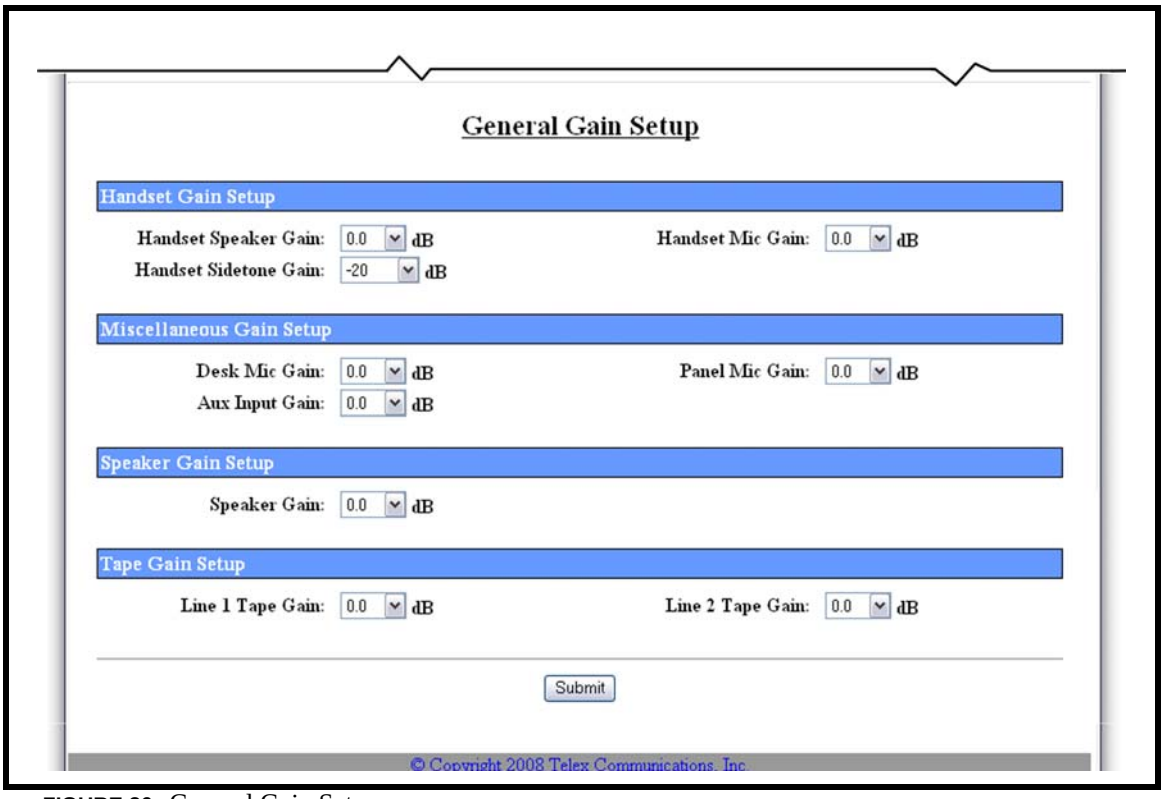


FIGURE 36. General Gain Setup

Handset Gain Setup

Handset Speaker Gain Drop Down Menu

The **Handset Speaker Gain** drop down menu is used to set the gain, in dB, of the handset speaker, see Figure 37.

By default, this field is set at *0.0dB*.

Available selections for this field are: *12, 10, 8, 6, 4, 2, 0 (default), -2, -4, -6, -8, -10, -12*.

Handset Sidetone Gain Drop Down Menu

The **Handset Sidetone Gain** drop down menu is used to set the volume, in dB, of sidetone you hear in the handset. By default, this field is set at *-20dB*.

Available selections for this field are: *-12, -14, -16, -18, -20 (default), -22, -24, and MUTE*.

NOTE: Sidetone is an adjustable amount of your voice signal sent back through the handset, so you can hear yourself talk.

Handset Mic Gain Drop Down Menu

The **Handset Mic Gain** drop down menu is used to set the gain level, in dB, for the handset mic. The location of the handset mic is shown in Figure 37. By default, this field is set at *0.0dB*.

Available selections for this field are: *12.0, 10.5, 9.0, 7.5, 6.0, 4.5, 3.0, 1.5, 0.0 (default), -1.5, -3.0, -4.5, -10.5, -16.5, -22.5, -28.5, -34.5*.

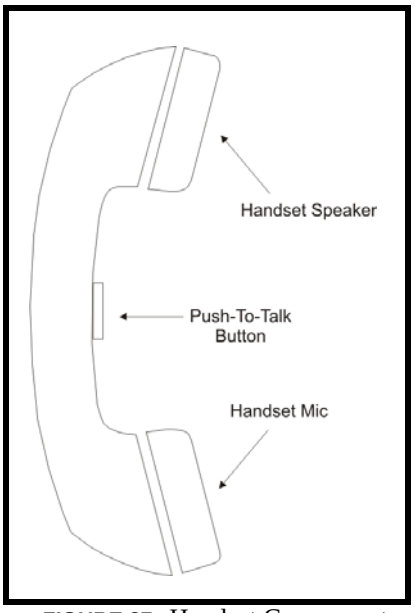


FIGURE 37. Handset Components

Miscellaneous Gain Setup

Desk Mic Gain Drop Down Menu

The **Desk Mic Gain** drop down menu is used to set the gain level, in dB, for an external deskmic, where applicable. By default, this field is set at *0.0dB*.

Available selections for this field are: *12.0, 10.5, 9.0, 7.5, 6.0, 4.5, 3.0, 1.5, 0.0 (default), -1.5, -3.0, -4.5, -10.5, -16.5, -22.5, -28.5, -34.5*.

Aux Input Gain Drop Down Menu

The **Aux Input Gain** drop down menu is used to set the gain level, in dB, for the auxiliary input audio. The auxiliary port takes audio output from an external device to pass over the network. By default, this field is set at *0.0dB*.

Available selections for this field are: *12.0, 10.5, 9.0, 7.5, 6.0, 4.5, 3.0, 1.5, 0.0 (default), -1.5, -3.0, -4.5, -10.5, -16.5, -22.5, -28.5, -34.5*.

Gooseneck Mic Gain Drop Down Menu

The **Gooseneck Mic Gain** drop down menu is used to set the gain, in dB, of a gooseneck mic. By default, this field is set at *0.0dB*.

Available selections for this field are: *12.0, 10.5, 9.0, 7.5, 6.0, 4.5, 3.0, 1.5, 0.0 (default), -1.5, -3.0, -4.5, -10.5, -16.5, -22.5, -28.5, -34.5*.

Speaker Gain Setup

Select Speaker Gain Drop Down Menu

The **Select Speaker Gain** drop down menu is used to set the gain, in dB, of the console's select speaker. By default, this field is set at *0.0dB*.

Available selections for this field are: *12, 10, 8, 6, 4, 2, 0 (default), -2, -4, -6, -8, -10, -12*.

Unselect Speaker Gain

The **Unselect Speaker Gain** drop down menu is used to set the gain, in dB, of the console's unselect speaker. By default this fields is set at *0dB*.

Available selections for this field are: *12, 10, 8, 6, 4, 2, 0 (default), -2, -4, -6, -8, -10, -12*.

Tape Gain Setup

Select Tape Gain Drop Down Menu

The **Select Tape Gain** drop down menu is used to set the gain, in dB, of the tape output audio. By default, this field is set at *0.0dB*.

Available selections for this field are: *12.0, 10.5, 9.0, 7.5, 6.0, 4.5, 3.0, 1.5, 0.0 (default), -1.5, -3.0, -4.5, -10.5, -16.5, -22.5, -28.5, -34.5*.

Submit Button

The **Submit** button is used to temporarily save changes to the IP-1616. **Submit** changes before navigating from this window.

To **permanently save changes,** do the following:

1. Click **Submit**. 

The changes are sent to the IP-1616 in temporary storage.
2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

Multicast Address Setup

The **Multicast Address Setup** window, shown in Figure 38, is used to determine which ports the IP-1616 uses to communicate information across various lines. The fields for Multicast Address Setup are described on the following pages.

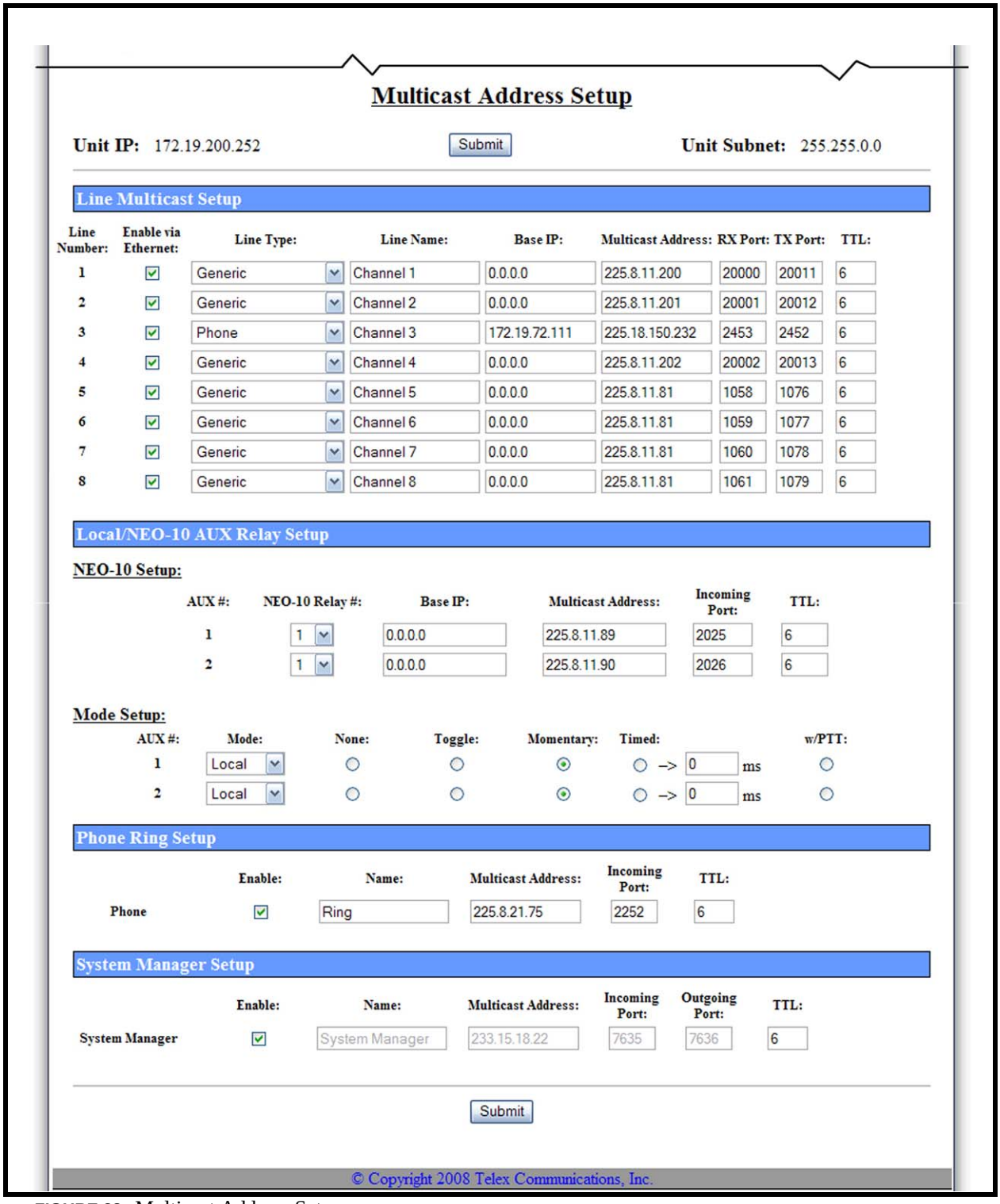


FIGURE 38. Multicast Address Setup

Unit IP and Subnet Display

The **Unit IP** field displays the console's Unit Subnet.

The **Subnet** fields display the console's IP Address.

Line Multicast Setup

Line Number (1–8)

The **Line Number (1–8)** is used to label the multicast address setup rows.

Enable via Ethernet Check Box

The **Enable via Ethernet** check box is used to turn the Ethernet connectivity ON/OFF for the specified line. Line activation requires the Enable via Ethernet check box be selected for the line.

Line Type Drop Down Menu

The **Line Type** drop down menu identifies the type of device assigned to each line. The selected type also defines the configuration options available for the line.

NOTE: To ensure the ID from the call list appears on the console display, the **Disable Call List** check box on "System Setup 1" on page 95 must unselected.

Available selections for this field are:

Generic
Phone
Radio Phone
iDEN
Kenwood FleetSync

NOTE: To enable both Radio and Phone, see "Phone Setup" on page 50.

Line Name Field

The **Line Name** field is used to enter an alphanumeric label to a particular line.

This filed can contain up to *12 characters*.

Base IP Address Field

The **Base IP Address** field is used to enter the base IP Address of the IP-223 controlling the radio or phone asset.

Multicast Address Field

The **Multicast Address** field is used to enter the broadcast address for all audio traffic. This number must be between 224.0.0.2 and 239.255.255.255. With the exception of phone operation, all lines must have the same multicast address to allow for communication between consoles.

NOTE: Each phone line must be assigned to the static IP Address of a C-6200 with phone cards installed or an IP-223 with a TDI or PIB attached.

NOTE: Port number exception for phone operation requires the multicast address port have a unique port number entered into any line assigned phone operation.

RX and TX Port Fields

The **RX and TX Port** fields identify the RX and TX port numbers.

This field value must be unique and ranges from *1024* and *65535*.

If you want all consoles to monitor a specific channel for receive or transmit audio, you must have their base multicast address set the same, as well as the same RX and/or TX port number.

NOTE: Port number exception for phone operation requires the multicast address port have a unique port number entered for any line assigned phone operation.

TTL Field

The **TTL** (Time To Live) field identifies the number of routers the multicast audio packets pass through before being discarded. Network design dictates this value. See your network administrator for further information.

This field value ranges from *0–128, the* default value is *6*.

Local/NEO-10 AUX Relay Setup

NEO-10 Setup Section

NEO-10 Relay # Drop Down Menu

The **NEO-10 Relay #** drop down menu is used to select which relay you want to control on the NEO-10.

Available selections for this field are: *1–10*

Base IP Field

The **Base IP** field is used to indicate the IP address of the controlled NEO-10.

Multicast Address Field

The **Multicast Address** field is used to send/receive control packets on the NEO-10.

Incoming Port Field

The **Incoming Port** field is used to indicate which ports the data is coming from. This number must be unique per channel and be between *1024* and *65535*.

TTL Field

The **TTL** field is used to indicate the number of routers the multicast audio packets pass through before being discarded. Network design dictates this value. See your network administrator for further information.

Mode Setup Section

Mode Drop Down Menu

The **Mode** drop down menu is used to select the desired mode for the auxiliary relay you are configuring.

Available selections for this field are:

Local - The selected Aux relay operates in local mode.

NEO-10 - The selected Aux relay operates through the NEO-10.

None Radio Button

The **None** radio button indicates no relay is used.

Toggle Radio Button

The **Toggle** radio button indicates the operator can toggle the relay ON/OFF. The auxiliary device remains active until the operator presses the lighted button again.

Momentary Radio Button

The **Momentary** radio button indicates the relay is open when the button is pressed by the console operator. Once the AUX (1–2) button is released, the aux device is disconnected.

Timed Radio Button

The **Timed** radio button indicates that once an AUX (1–2) button is pressed, it remains active for the amount of time configured in the Timed field. Once the radio button is selected, you must configure a time in the Timed field..

Timed Field

The **Timed** field indicates the amount of time, in ms, the selected auxiliary device is active after the button is pressed. The auxiliary relay disconnects once the indicated time has lapsed.

This field value ranges from *0 to 9999ms.*

wPTT Radio Button

The **wPTT** radio button is used to send a packet to switch ON the NEO-10 relay when any PTT button is pressed..

Phone Ring Setup

Phone Section

Enable Check Box

The **Phone Enable** check box line is used to configure the line for a phone ring when phone calls are received.

Name Field

The **Name** field is used to enter an alphanumeric label for the phone ring setup.

This field can contain up to *12 characters*.

Multicast Address Field

The **Multicast Address** field is used to enter the broadcast address for the ring. Enter the ring multicast address of the C-6200 with phone cards installed or an IP-223 with a TDI or PIB attached.

This field value ranges from *224.0.0.2 to 239.255.255.255*.

NOTE: The Multicast Address must match the sending unit (an IP-223 with either TDI or PIB, or a C-6200 with phone line cards installed) for proper operation

Incoming Port Field

The **Incoming** port field identifies the port number where the ring is received.

This field value ranges from *1024* to *65535*.

NOTE: The port number must match the sending unit (a IP-223 with either TDI or PIB, or a C-6200 with phone line cards installed) for proper operation.

TTL Field

The **TTL** (Time To Live) field identifies the number of routers the multicast audio packets pass through before being discarded. Network design dictates this value. See your network administrator for further information.

This field value ranges from *0–128,* the default value is 6.

System Manager Setup

System Manager Setup Section

See the TSM technical manual for installation and firmware update instructions.

Enable Check Box

The **Enable** check box is used to enable communication with **TSM** (Telex System Manager). If unselected, TSM can not detect the IP-1616. By default, the check box is selected.

Name Field

The **Name** field is, by default, *System Manager.* This field is not editable.

Multicast Address Field

The **Multicast Address** field is automatically populated. This field is not editable.

NOTE: To avoid network problems, do not use the Multicast Address in this field in any other Multicast Address field.

Incoming Port Field

The **Incoming Port** field identifies the port used to communicate with TSM. TSM requests data from the console through this port. This field is automatically populated and is not editable.

Outgoing Port Field

The **Outgoing Port** field identifies the port used to communicate with TSM. The console sends data back to TSM from this port. This field is automatically populated and is not editable.

TTL Field

The **TTL** (Time To Live) field identifies the number of routers the multicast audio packets pass through before being discarded. Network design dictates this value. See your network administrator for further information.

This filed value ranges from *0–128*, the default value is *6*.

Submit Button

To **permanently save changes,** do the following:

1. Click **Submit**. 

The changes are sent to the IP-1616 in temporary storage.
2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

Per Line Setup

The **Per Line Setup** window, shown in Figure 39, Figure 40, Figure 41, and Figure 42, is used to view and set the parameters specific to each line on the IP-1616. The parameters for each line can be viewed and modified by clicking one of the **Line 1–8** buttons at the top of the page. The fields on this page are described below.

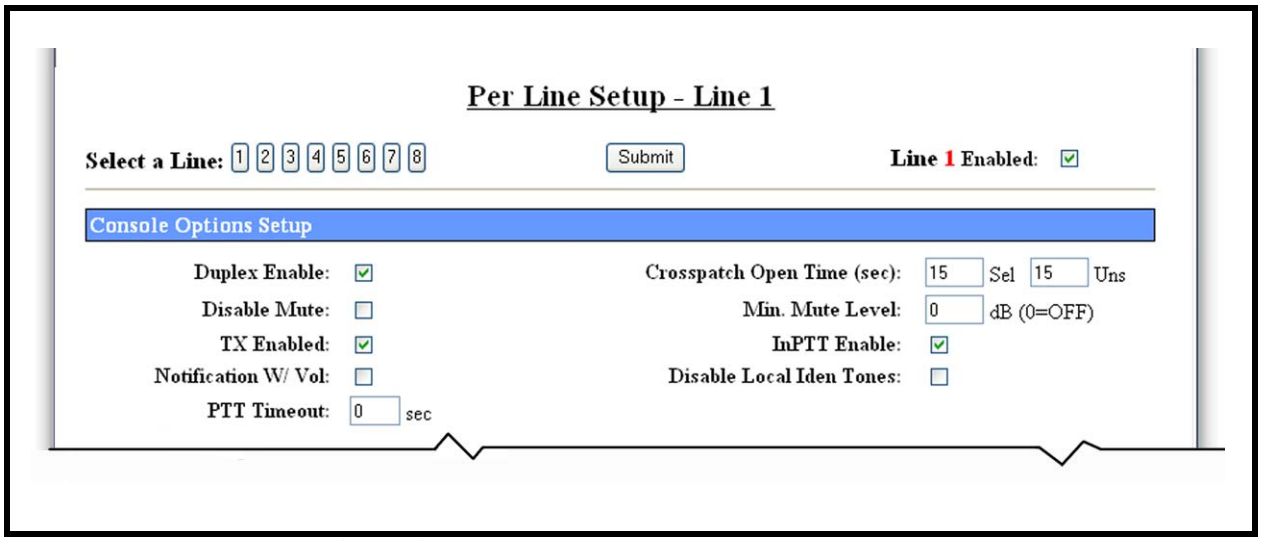


FIGURE 39. Per Line Setup (View 1)

Select a Line Buttons (1–8)

The **Line Select (1–8)** buttons display the IP-1616 parameters for the selected line.

Submit Button

The **Submit** button, located at the top and bottom of the window, is used to temporarily save changes to the IP-1616.

IMPORTANT: Always submit changes before navigating between windows.

Enabled Check Box

The **Enabled** check box is used to indicate if the line is enabled. When selected, the line is enabled. If the line is disabled, selection for transmission to play or receive audio is not allowed.

Console Options Setup

Duplex Enable Check Box

The **Duplex Enable** check box is used to make the selected line full-duplex (audio travels in two directions). If selected, the line is in full-duplex mode. In full-duplex mode the console operator can both receive and transmit audio at the same time.

In half-duplex mode the operator must wait for received audio to clear before transmitting. To learn more about full- and half-duplex modes, see “Network Requirements” on page 13.

Disable Mute Check Box

The **Disable Mute** check box is used to disable the mute function on the line. When selected, the operator cannot mute the line. This forces the operator to monitor the line.

TX Enabled Check Box

The **TX Enable** check box is used to enable the line for transmit operations. If selected, the line is able to perform transmit operations. Otherwise, the console operator is only allowed to monitor the line.

Notification W/ Vol Check Box

The **Notification W/Vol** check box is used to override volume control of phone ring, Nextel go-ahead and busy beep, paging sidetone, and paging talk-time beeps. When the line is muted, and the Notification W/Vol check box is selected, the rings, tones and beeps are heard.

NOTE: Emergency alerts are heard regardless of the Notification W/ Volume check box status.

PTT Timeout Field

The **PTT Timeout** field is used to set the transmit timeout period. Once the transmit timeout period has lapsed and you have not released the PTT button, the IP-1616 automatically releases the PTT.

This field value ranges from *0 (0=OFF) to 60 seconds*.

Crosspatch Open Time (sec) Sel Field

The **Crosspatch Open Time (sec) Sel** field is used to set the amount of time, in seconds, the console continues to play audio while receiving audio, on the selected line, above the squelch threshold. This parameter is also used by the Ethernet to determine how long to transmit audio.

The field value ranges from *0 (0=OFF) to 60 seconds.*

Crosspatch Open Time (sec) Uns Field

The **Crosspatch Open Time Uns** field is used to set the amount of time, in seconds, the console continues to play audio while receiving audio, on the unselected line, above the squelch threshold. This parameter is also used by the Ethernet to determine how long to transmit audio.

The field value ranges from *0 (0=OFF) to 60 seconds.*

Min. Mute Level Field

The **Min. Mute Level** field is used to set the minimum level, in dB, of audio heard when the mute key is selected. Setting a minimum level prevents the operator from setting the level to *0 (OFF).*

The field value ranges from *-60dB to 0 (0 = OFF).*

To **set the Min Mute level**, do the following:

> In the Min Mute Level field, **enter a value**, in dB, for the lowest acceptable audio level while in mute condition. *When the console operator mutes the line, audio is received at the configured level.*

InPTT Enable Check Box

The **InPTT Enable** check box indicates the console operator can use the InPTT buttons per line to instantly connect and respond to an incoming call. During group calls, when the transmit button is pressed, the active line's InPTT button lights.

NOTE: InPTT does not work on phone lines.

Disable Local iDEN Tones Check Box

The **Disable Local iDEN Tones** check box indicates the iDEN tones are generated only at the radio end point are not created by the console, based on serial information for the iDEN radio.

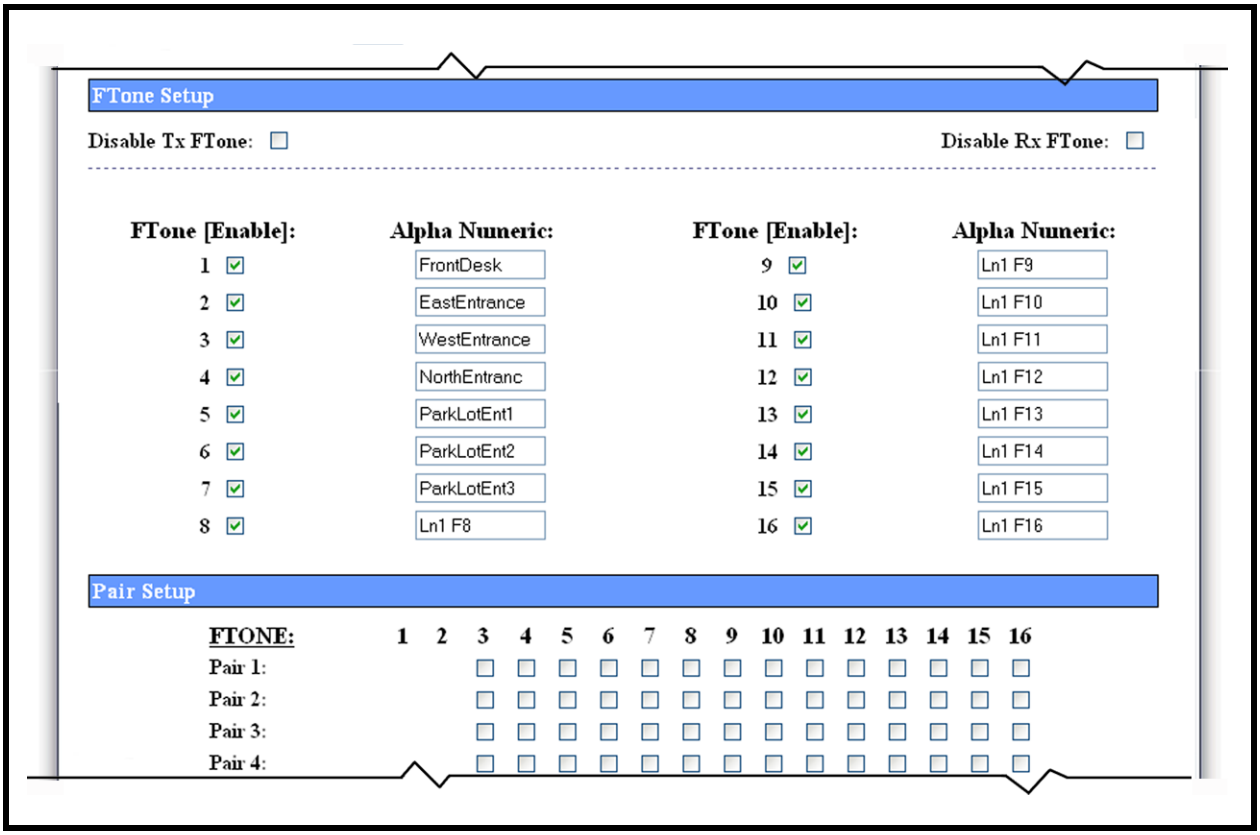


FIGURE 40. Per Line Setup (View 2)

FTone Setup

Disable TX FTone Check Box

The **Disable TX FTone** check box is used to control changing FTones transmitted on parallel consoles. When one of the parallel console operators change FTones, the FTones on the parallel console may or may not change depending on the setting.

- If the Disable TX FTone check box is selected for console X, then console X does not change FTones when parallel console change FTones.
- If the Disable TX FTone check box is unselected for console X, then console X changes to the FTone selected by the parallel console.

Disable RX FTone Check Box

The **Disable RX FTone** check box is used to control changing received FTones.

Example: Console line is configured for FTone 1. Radio is configured for FTone 3.

- If the Disable RX FTone check box is selected, the console remains on FTone 1 when the radio is keyed up.
- If the Disable RX FTone check box is unselected, the console changes to FTone 3 when the radio is keyed up.

FTone [Enable] Check Box

The **FTone Enable** check box is used to enable the FTone number for the line you are configuring.

NOTE: At least one FTone must be enabled for proper operation.

FTone Alphanumeric Field

The **FTone Alphanumeric** field is used to label the FTone and appears on the console display when selected by the operator. You can assign *up to 16 FTones* per line.

Example: FTone 16 could be named BOB. So, when FTone 16 is called on the IP-1616, the name BOB appears on the console display.

Up to *12 characters* are allowed in this field.

Pair Setup

Pair (1–4) Check Boxes

The **Pair (1–4)** check boxes are used to allow FTones to have function control, but are not used for actual frequency control. Only functions 3 through 16 are available as pair mode control groups.

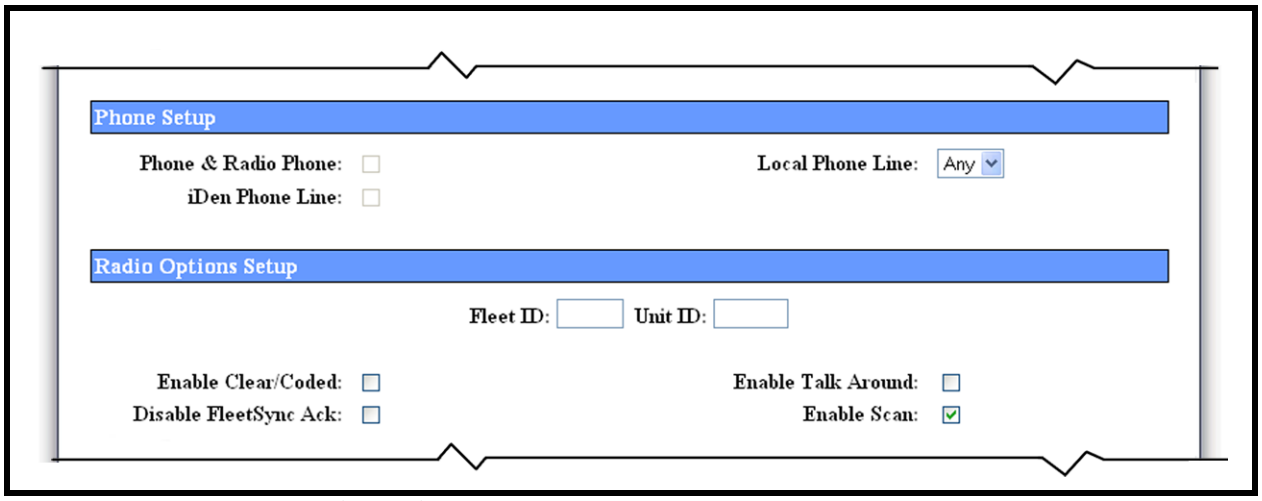


FIGURE 41. Per Line Setup (View 3)

Phone Setup

Phone & Radio Phone Check Box

The **Phone & Radio Phone** check box is used to enable the line for both standard phone and radio phone. If selected, the line is available for both phone and radio operation.

NOTE: Before this option can be selected, the line must be configured for **Radio Phone** or **Phone Line Type** on the Multicast Address Setup page, see page 41.

iDEN Phone Line Check Box

The **iDEN Phone Line** check box is used to setup the line for a iDEN phone to control a remote IP-223 with an iDEN interface.

NOTE: Before this option can be selected, the line must be configured for phone, see the “Multicast Address Setup” on page 41.

Local Phone Line Drop Down Menu

The **Local Phone Line** drop down menu is used to assign the console’s line to a standard phone line installed within the network.

This field value ranges from *1* through *18*. The value should be the line number of the end point device with PSTN line attached or, use *ANY* for pool operation.

NOTE: Before this option can be selected, the line must be configured for Phone on the “Multicast Address Setup” on page 41.

To **configure the line for phone line selection** do the following:

> From the Local Phone Line drop down menu, select a **phone line** or **ANY**.
The phone line or pool is now assigned to the line.

NOTE: When configured for pool operations (ANY), any available normal phone may be seized by the console.

Radio Options Setup

Fleet ID Field (Kenwood FleetSync Only)

The **Fleet ID** field is used to assign a 3-digit Fleet ID number to the line. The Fleet ID is a 3-digit prefix used to identify a group of IDs for members of a fleet. When a Fleet ID is entered and the console operator places a call to a member of that fleet they need only enter four (4) digits, representing the unit ID, to place a call. The Fleet ID is automatically applied to the front of the ID to form the entire 7-digit FleetSync ID number.

Example: Fleet ID is 123. When the console operator enters the unit ID (4567), a call is made or status is sent to ID 1234567.

NOTE: Kenwood FleetSync must be selected for the line on the Multicast Address Setup window.

Unit ID Field (Kenwood FleetSync Only)

The **Unit ID** field is used to identify the line’s Unit ID to FleetSync radios. When a call is placed from the line, the Unit ID as well as the Fleet ID, displays on the receiving radio if the IP-223 transmission mode is set to Over-the-Air Protocol.

NOTE: The unit ID does not appear on radios connected with the serial port

The FleetSync radio must be connected to an IP-223 through the Radio 1 or Radio 2 port.

The unit ID is *4 digits* long.

NOTE: Kenwood FleetSync must be selected for the line type on the Multicast Address Setup window, see “Line Type Drop Down Menu” on page 42.

Enable Clear/Coded Check Box (EF Johnson 5300 and Kenwood TK5x10 series)

The **Enable Clear/Coded** check box is used to secure (encrypt) TX audio. If selected, the console operator can choose to encrypt the transmitted audio. This feature is available only on radios that support encryption.

Disable FleetSync Ack Check Box (Kenwood FleetSync feature)

The **Disable FleetSync Ack** check box is used to change the acknowledgment message to the console operator.

- If the FleetSync Ack Disable check box is selected, the console operator does not receive a message acknowledging a FleetSync status was sent to the field, although, the status is sent immediately.
- If the FleetSync Ack Disable check box is unselected, there is a momentary delay, and the console operator receives a message that the FleetSync status was sent or not sent successfully.

NOTE: Before this option can be selected, the line must be configured for **Kenwood FleetSync** on the “Multicast Address Setup” on page 41.

Enable Talk Around Check Box (Kenwood FleetSync only)

The **Enable Talk Around** check box is used to toggle the Talk Around feature ON/OFF. Talk Around is used to bypass a radio repeater system, permitting direct radio-to-radio communications.

NOTE: Before this option can be selected, the line must be configured for **Kenwood FleetSync** on the “Multicast Address Setup” on page 41.

Enable Scan Check Box

The **Enable Scan** check box is used to indicate the console operator can enable scan mode directly from the console. By default, the Enable Scan check box is selected.

When the **Scan** softkey is pressed, an *S* appears in the upper right corner of the console display, indicating the line is being scanned. Press the **Scan** softkey again to disengage from scan mode. The *S* disappears from the display.

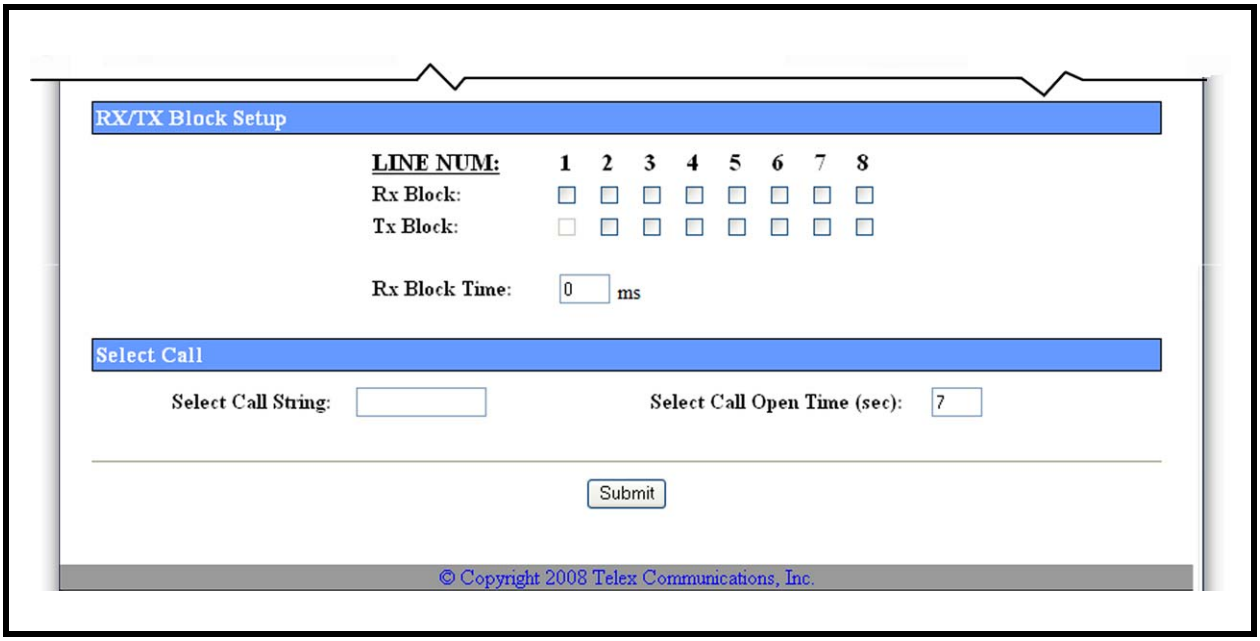


FIGURE 42. Per Line Setup (View 4)

RX/TX Block Setup

RX Block (1–8) Check Boxes

The **RX Block (1–8)** check boxes indicate that all lines with check boxes selected have their RX audio blocked when the line is selected. If checked, audio from that line(s) is not received.

Example: Configuration: Per Line Setup - Line 1 is configured with RX check boxes selected for lines 7 & 8.

Console Operation: When the console operator selects line 1, then audio is not received from line 7 or 8.

TX Block (1–8) Check Box

The **TX Block (1–8)** check boxes indicate that all lines with check boxes selected lines have their TX audio blocked when the line is selected. If selected, audio is not transmitted on the line(s).

Example: Configuration: Per Line Setup - Line 1 is configured with TX check boxes selected for lines 7 & 8.

Console Operation: When the console operator selects line 1, then audio is not transmitted from line 7 or line 8.

NOTE: Lines that are TX blocked for a given line cannot be grouped.

Example: Configuration: Per Line Setup - Line 1 is configured with TX check boxes selected for lines 7 & 8

Console Operation: When the console operator selects line 1 it cannot be grouped with line 7 or line 8.

NOTE: The TX check box for the line you are configuring is grayed out and can not be selected.

RX Block Time Field

The **RX Block Time** field is used to set the amount of time, in *ms*, to block/mute RX traffic to the specified line.

The values for this field can range from *0 to 9999ms*.

Select Call

Select Call String Field

The **Select Call String** field identifies the string or code sent by the radio and decoded by the console to signal an incoming call. The string is a sequence of DTMF digits that open the mute gate to allow received audio to play through the IP-1616 speakers.

Up to *12 characters* can be entered into this field.

Select Call Open Time (sec) Field

The **Select Call Open Time (sec)** field indicates the amount of time, in seconds, the mute gate remains open to receive audio. When the Select Call String is received, the mute gate is left open to receive audio for the amount of time configured. After this time has expired, the selected line blinks and an audible tone notifies the console operator which channel the audio was received on. This continues until the console operator performs a PTT operation on the channel.

The field value ranges from *0* to *60 seconds*.

To **permanently save changes,** do the following:

1. Click **Submit**. 

The changes are sent to the IP-1616 in temporary storage.
2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

Save To EEPROM

The **Save to EEPROM** window, shown in Figure 43, is used to save parameters to non-volatile memory or reset the parameters to the last saved version in the IP-1616 console. The available functions are described below.

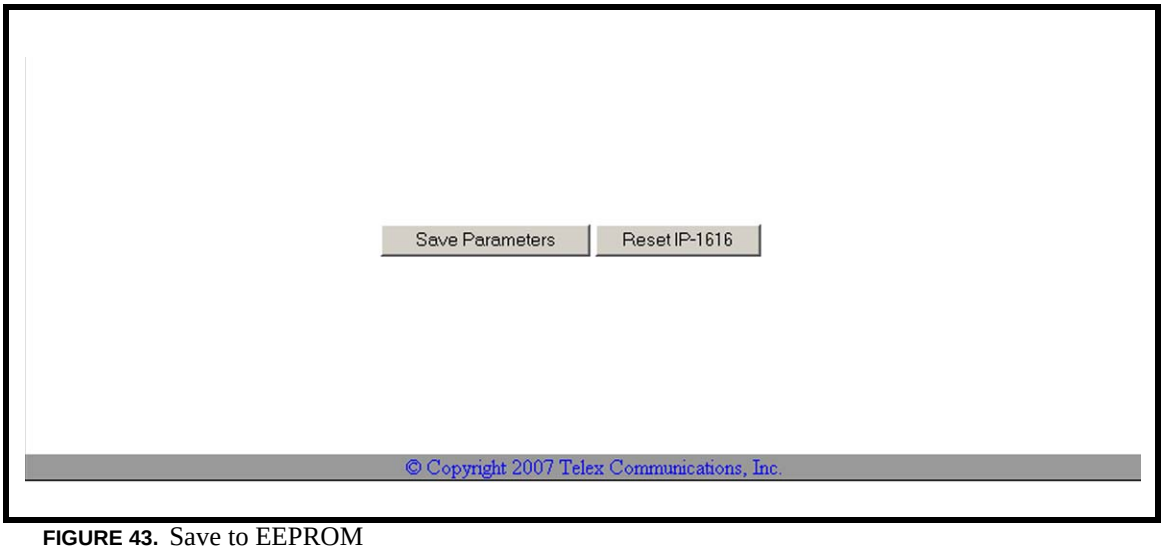


FIGURE 43. Save to EEPROM

Save Parameters Button

The **Save Parameters** button is used to store all parameters to the IP-1616's non-volatile memory for permanent storage. This also resets the DSP so it can reload its configuration data in a controlled manner.

Reset IP-1616 Button

The **Reset IP-1616** button is used to reset parameters in the IP-1616 console to its previous configuration. The previous configuration is the last configuration saved with the Save Parameters button.

The Reset IP-1616 button is also used to reset PIN numbers and new permissions in the console.

To **discard changes that have been submitted, but parameters have not been saved**, do the following:

> Click **Reset IP-1616.**
OR
Cycle **power** to the IP-1616 unit ON/OFF.

Account Setup

The **Account Setup** window, shown in Figure 44, is used to create or modify system and created accounts in the web browser configuration.

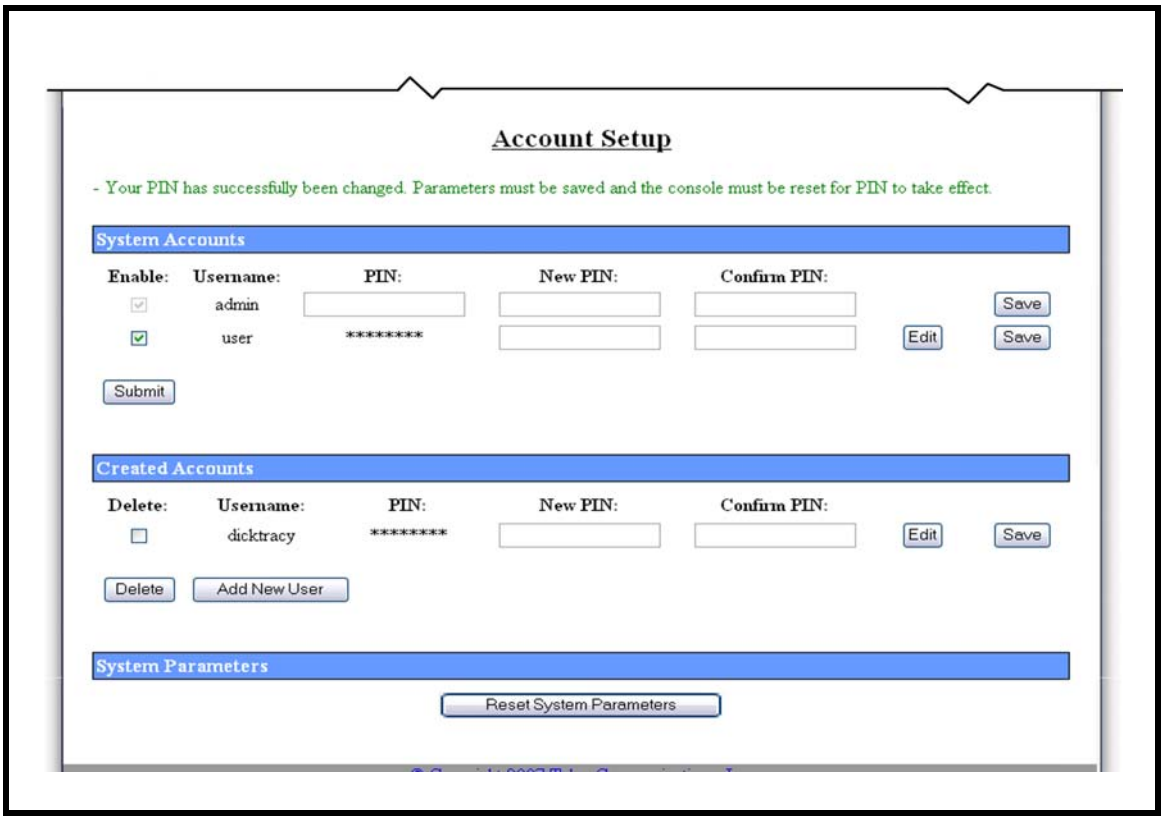


FIGURE 44. Account Setup

System Accounts

By default, the IP-1616 console is setup with two **System Accounts** created: *system admin* and *system user.* The system admin account is, by default, granted permission to change any of the web browser configurations for the IP-1616 console. The system user account has permission to change only the General Gain Setup, ID Directory, PIN Change, and Save to EEPROM configuration windows. The PIN is the only modifiable feature for both accounts.

NOTE: To setup configurations granting more permissions to users, see “Created Account - Add New User Window” on page 67.

Enable Check Box

The **Enable** check box indicates the system user account is enabled.

NOTE: The admin system account is always enabled.

Username Column

The **Username** column displays the username of the system account. This field is not configurable in the System Account section of the window.

PIN Field

The **PIN** field displays the PIN number for the system admin or system user account. The PIN is shown in asterisks (********).

NOTE: The admin PIN field is always blank, whether or not an admin PIN number is assigned.

New PIN Field

The **New PIN** field is used to enter a new PIN number for the system account.

The PIN number must be a *4–16 digit* number.

NOTE: To set the admin system account PIN number for the first time, leave the PIN field blank (by default there is no PIN number)

To **set a new PIN**, do the following:

1. In the PIN field enter the **current PIN**.
   Asterisks representing the characters appear in the field.
   OR
   If no PIN is required, leave this field **blank**.
2. In the New PIN field, enter the **new PIN**.
   Asterisks representing the characters appear in the field.
3. In the Confirm PIN field, reenter the **new PIN**.
   Asterisks representing the characters appear in the field.
4. Click **Save**.
   The success message, shown in Figure 45, appears.

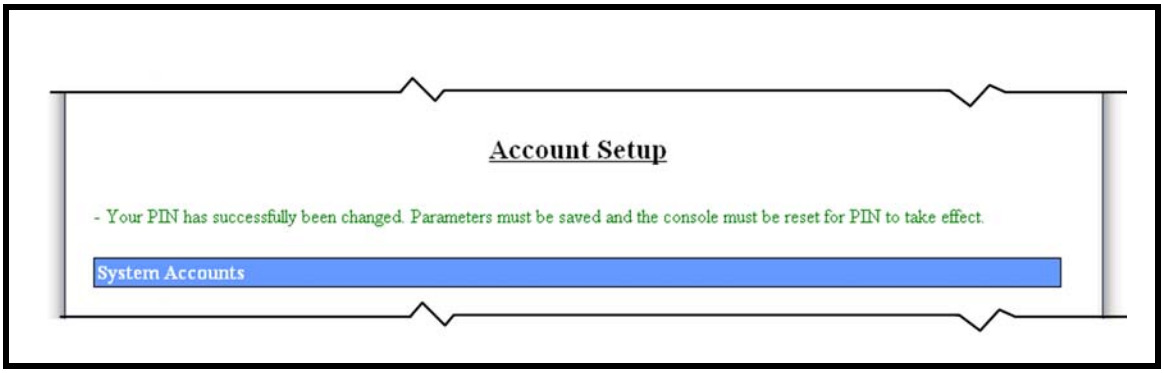


FIGURE 45. Success Message

5. Click **Save to EEPROM**. 
   The Save to EEPROM window opens.
6. Click **Save Parameters**. 
   Changes are now permanently saved to the IP-1616 console.
7. Click **Reset IP-1616**. 
   The new PIN has been reset in the IP-1616 console.

   NOTE: The PIN can also be reset, see “Clone & PIN” on page 71.

Confirm PIN

The **Confirm PIN** field is used to confirm the PIN number you entered in the New PIN field. This PIN must match the PIN entered in the New PIN field. Asterisks representing characters appear in the field.

Save Button

The **Save** button is used to temporarily save the PIN number, if a new one has been created.

Edit Button

The **Edit** button is used to navigate to the system user account window in edit mode to configure permissions.See “System User Account - Edit Window” on page 59.

NOTE: The admin account can not be modified.

To **navigate to the System User account edit window**, see “System User Account - Edit Window” on page 59.

Submit Button

The **Submit** button is used to activate the system user account. Once the system user account is active, a new PIN number can be configured for the account.

To **activate the System User Account**, do the following:

1. Select the **Enable** check box for the user account.
2. Click **Submit**.
   The Edit and Save buttons on the system user account are active.

System User Account - Edit Window

The **System User Account** edit window, shown in Figure 46, is used to manage the system user account PIN number. The system user account is in edit mode when the username field is highlighted yellow.

By default, the System User Account has access to only the default admin pages General Gain Setup, ID Directory, and Save to EEPROM.

To **activate edit mode for the system user account**, do the following:

> In the System Accounts section, click **Edit**.
The System User Account window appears.

NOTE: You can only change the PIN numbers or select Set No PIN for the user account in the System Accounts edit window.

NOTE: To navigate back to the Account setup window, click **Save** to save changes or click the **Cancel** button

Save Button

The **Save** button is used to save the new PIN.

Cancel Button

The **Cancel** button is used to cancel the transaction.

To **change the PIN number for the System User Account**, do the following:

1. In the New PIN field, enter the **new PIN number**
Asterisks appear for each character.
2. In the Confirm PIN field, enter the **new PIN number**.
Asterisks appear for each character.
3. Click **Save**.
The Account Setup window appears.

NOTE: Click **Cancel** to discard changes.

Set No PIN Check Box

The **Set No PIN** check box is used to configure the system user account with no PIN required.

To **set no PIN for the system user account**, do the following:

1. Under the New PIN Column, select the **Set No PIN** check box.
2. To save the changes, click **Save**, otherwise click **Cancel**.

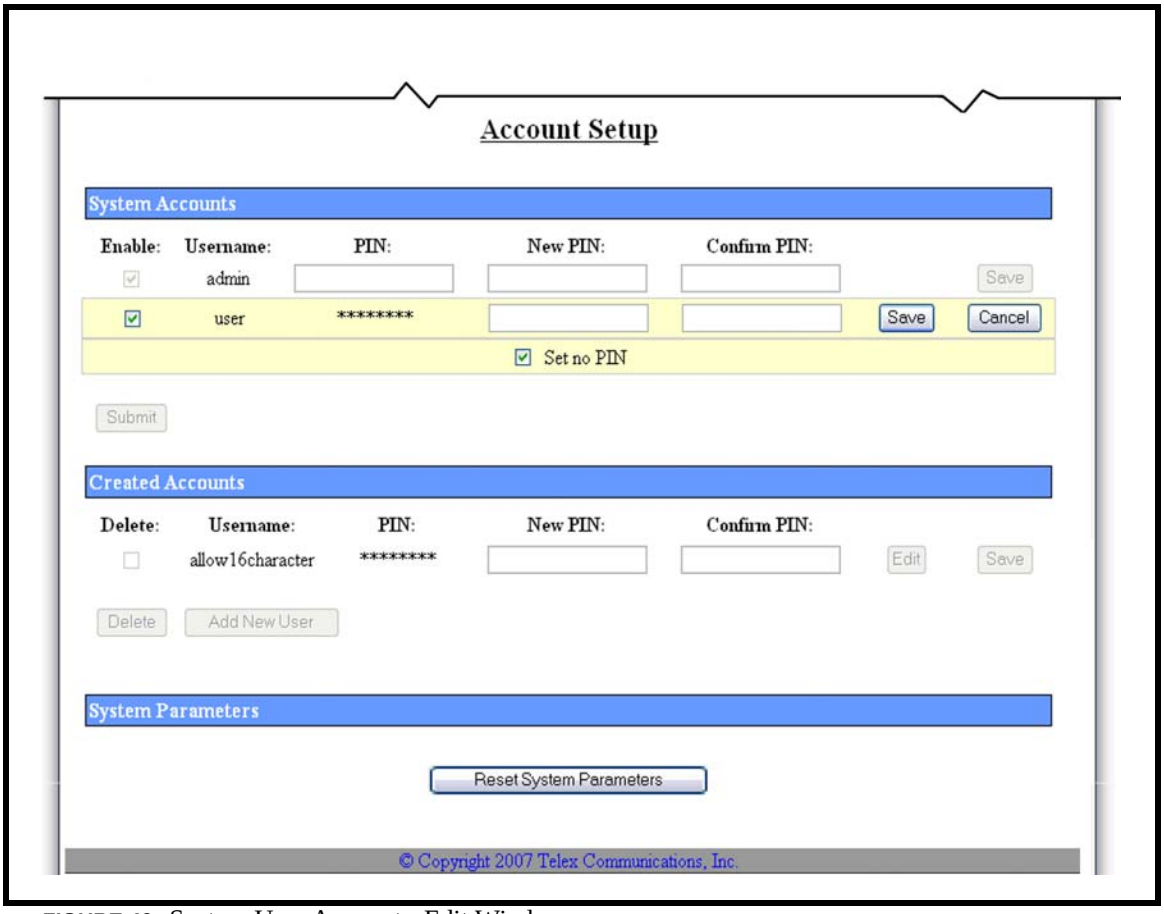


FIGURE 46. System User Account - Edit Window

Once you have made the changes to the system user account and your changes have been accepted, the message shown in Figure 47, appears at the top of the Account Setup window.

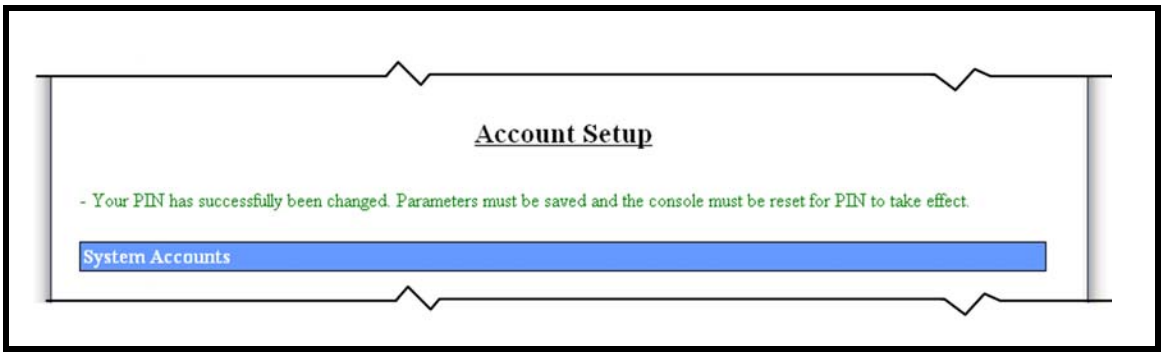


FIGURE 47. Account Setup Message

To **permanently save the new PIN to the IP-1616,** do the following:

1. Click **Save**. 

The changes are sent to the IP-1616 in temporary storage.

   NOTE: Click **Cancel** to navigate back to the Account Setup page without making changes

2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.
4. Click **Reset IP-1616**. 

The new PIN is reset in the IP-1616 console.

Account Setup (continued)

Created Accounts

The **Created Accounts** section, shown in Figure 46, is used to configure permissions and set PIN numbers for up to five (5) users. By default there are no accounts created.

Delete Check Box

The **Delete** check box is used to delete unwanted user accounts.

To **delete an unwanted user account**, do the following:

1. Select the **Delete** check box next to the account you want to delete.
2. Click **Delete**.
The user account is deleted.

Username Field

The **Username** field displays the assigned username for the created account.

PIN Field

The **PIN** field displays the PIN number for the created account. The PIN is shown in asterisks (********).

New PIN Field

The **New PIN** field is used to enter a new PIN number for a created account.

The PIN number must be a *4–16 digit* number.

To **set a new PIN**, do the following:

1. In the PIN field, enter the **current PIN** (4–16 digits allowed), if required.
   Asterisks representing the characters appear in the field.
2. In the New PIN field, enter the **new PIN**.
   Asterisks representing the characters appear in the field.
3. In the Confirm PIN field, reenter the **new PIN**.
   Asterisks representing the characters appear in the field.
4. Click **Save**.
   Changes are saved to temporary memory and a success message appears, see Figure 48 on page 62.
5. Click **Save to EEPROM**. 

   The Save to EEPROM window opens.
6. Click **Save Parameters**. 

   Changes are now permanently saved to the IP-1616 console.
7. Click **Reset IP-1616**. 

   The new PIN is reset in the IP-1616 console.

Confirm PIN Field

The **Confirm PIN** field is used to confirm the PIN number you entered in the new PIN field. This PIN must match the PIN entered in the New PIN field. The success message, shown in Figure 48, appears.

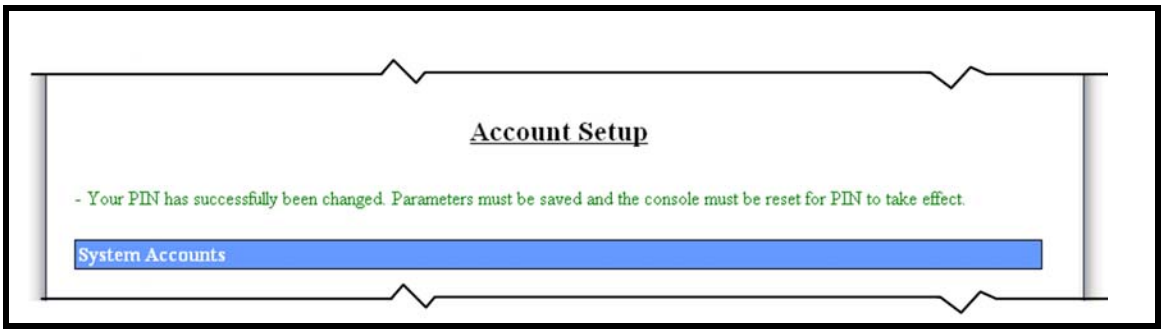


FIGURE 48. New PIN Success

Edit Button

The **Edit** button is used to navigate to the created accounts setup window where you can configure permissions and change the PIN on created accounts. Editing a created account is described in “Created Account - Edit Window” on page 64.

To **navigate to the created user account edit window,** do the following:

> Click the **Edit** button**.**
The window, shown in Figure 46, appears. The yellow highlight indicates the window is in edit mode.

NOTE: See “Created Account - Edit Window” on page 64, for more information on how to configure created user accounts.

Save Button

The **Save** button is used to temporarily save the PIN number, if a new one has been created.

Delete Button

The **Delete** button is used to delete user accounts that have the **Delete** check box selected.

Add New User Button

The **Add New User** button is used to navigate to the Choose a Username and Set Permissions windows where you create a new user account. For more information, see “Created Account - Add New User Window” on page 67.

To **permanently save the new PIN number to the IP-1616,** do the following:

1. Click **Save**. 

The changes are sent to the IP-1616 temporary storage.

2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.

3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

4. Click **Reset IP-1616**. 

The new PIN has been reset in the IP-1616 console.

Created Account - Edit Window

The **Created Account** edit window, shown in Figure 49, is used to edit permissions and PIN numbers on an existing created account. The Created Account window is in edit mode for created accounts when the lower half of the window is highlighted yellow, see Figure 49.

To **activate Created Account edit mode**, do the following:

> From the Account Setup Window in the Created Accounts section, click **Edit**.
An edit window for the created account opens.

NOTE: By default, each created account has permission to change the General Gain Setup, ID Directory, and to Save to EEPROM configuration windows.t

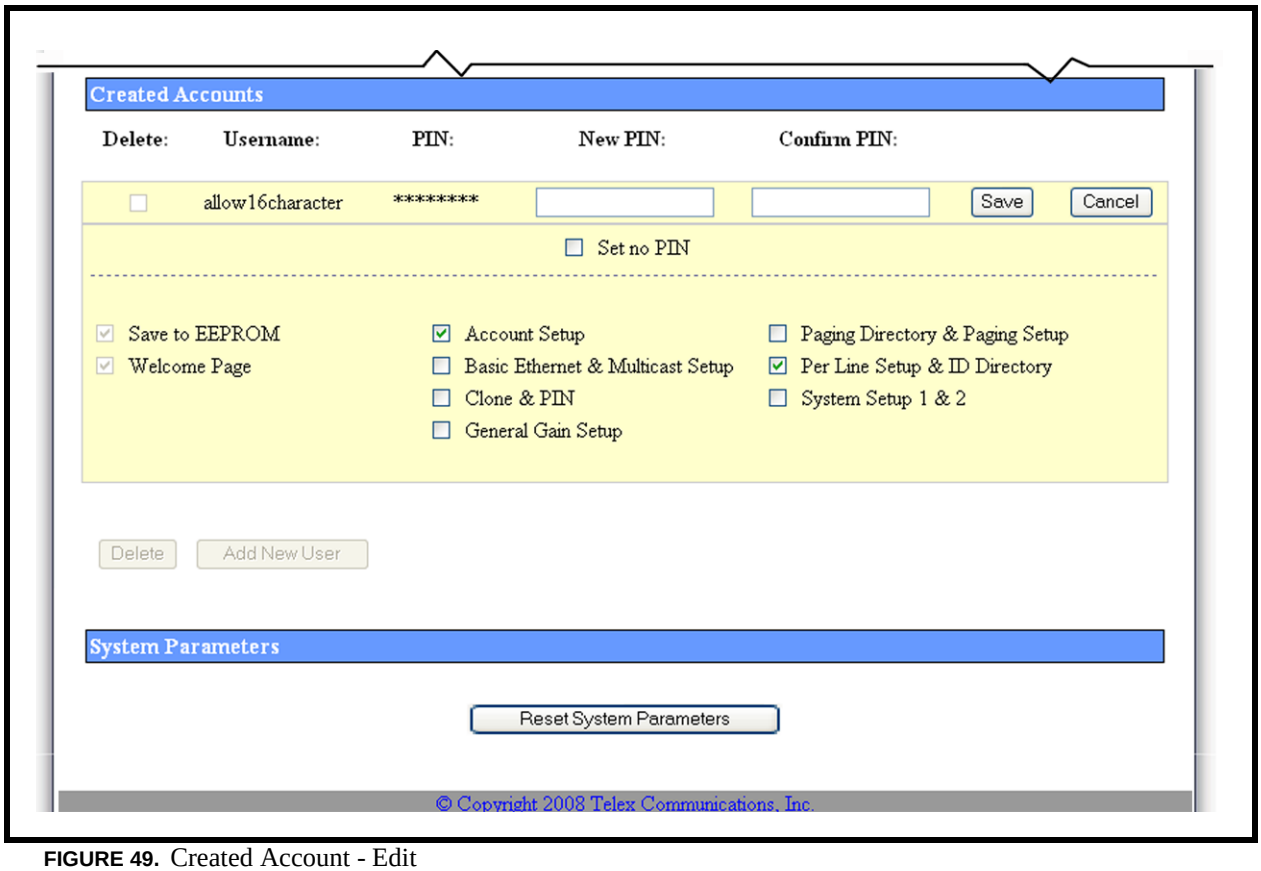


FIGURE 49. Created Account - Edit

To **change a created account while in edit mode**, do the following:

1. From the Created Accounts - Edit Window, select or unselect **check boxes** to grant or remove permissions.
Permissions change based on selections.
2. Click **Save**.
The message, shown in Figure 50, appears.

NOTE: Click **Cancel**, to discard the changes.

FIGURE 50. New PIN and New Permissions Successful

Delete Button

The **Delete** button indicates the account is deleted once the configuration is saved.

Username Field

The **Username** field is used to enter a new username.

The username can contain up to *16 characters*, must be lowercase, and no spaces are allowed.

NOTE: Once you have created the username, you cannot change it. You must delete the whole account.

PIN Field

The **PIN** field is used to enter a PIN number for the user account.

The PIN number must be a *4–16 digit* number.

New PIN Field

The **New PIN** field is used to enter a new PIN number for a created account.

The PIN number must be a *4–16 digit* number.

Confirm PIN Field

The **Confirm PIN** field is used to confirm the PIN number you entered in the PIN field. This PIN must match the PIN entered in the New PIN field.

Save Button

The **Save** button is used to save the changes to temporary memory.

To **permanently save changes,** do the following:

1. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
2. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.
3. Click **Reset IP-1616**. 

The new PIN has been reset in the IP-1616 console.

Cancel Button

The **Cancel** button is used to cancel the modification and return to the Account Setup window.

Set No PIN Check Box

The **Set No PIN** check box is used to configure the created user account with no PIN required.

To **set no PIN for the system user account**, do the following:

1. Select the **Set No PIN check box**.
2. Click **Save**.
   The account does not require a PIN number.

   NOTE: Click **Cancel** to discard changes.

Permission Check Boxes

The **Permission** check boxes indicate which permissions are granted to the current account. If selected, the current account has access to the configuration window. By default, all created accounts have access to the *General Gain*, *ID Directory*, and *Save to EEPROM* windows. See “Set Permissions” on page 68, for more information.

Created Account - Add New User Window

NAVIGATION: Selecting the **Add New User** button from the Account Setup window opens the Created Account—Add New User, see Figure 51.

The **Created Account—Add New User** window is used to create a new account.

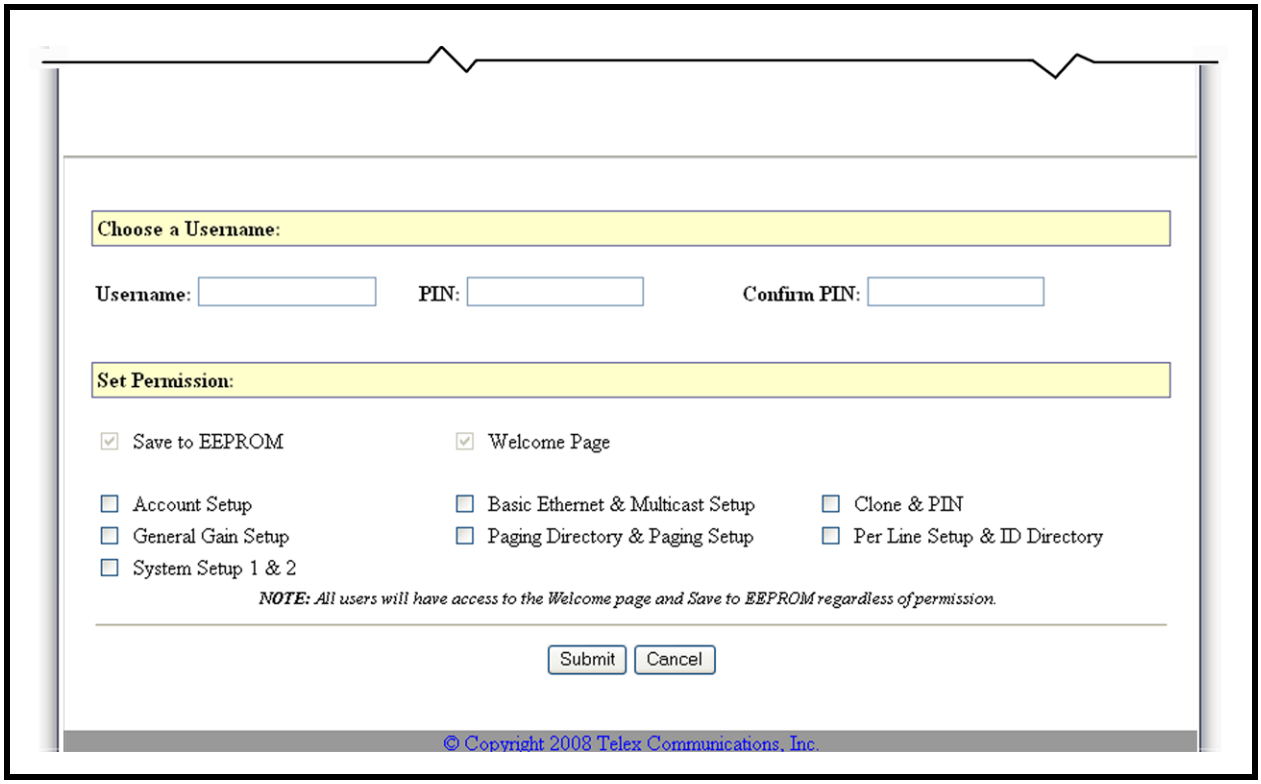


FIGURE 51. Created Account—Add New User

Choose a Username

The **Choose a Username** section is used to configure the Username and PIN for the new user account you are adding.

Username Field

The **Username** field is used to enter a username for the account.

There is a *16 character* limit, all lowercase, and no spaces allowed.

PIN Field

The **PIN** field is used to configure a PIN number for the account you are adding.

The PIN number must be a *4–16 digit* number.

Confirm PIN Field

The **Confirm PIN** field is used to confirm the PIN number entered in the PIN field.

Set Permissions

The **Set Permissions** section is used to configure permissions for the created account. By default, permission to access the Welcome, and Save to EEPROM windows are granted for every user.

Save to EEPROM Check Box

The **Save to EEPROM** check box indicates permission is granted to use the Save to EEPROM page. By default, permission to change configurations in this window is granted on every created account. See “Save To EEPROM” on page 55, for more information.

Welcome Page Check Box

The **Welcome Page** check box indicates permission is granted to change the name of the console’s welcome window. By default, permission to change the name of this window is granted on every created account. See “Welcome Window” on page 33, for more information.

Account Setup Check Box

The **Account Setup** check box indicates permission is granted to make changes to the Account Setup window. See “Account Setup” on page 56, for more information.

Basic Ethernet & Multicast Setup Check Box

The **Basic Ethernet Setup** check box indicates permission is granted to the Basic Ethernet Setup and Multicast Address Setup windows where changes can be made by the user. See “Basic Ethernet Setup” on page 34, and “Multicast Address Setup” on page 41 for more information.

Clone & PIN

The **Clone & PIN** check box indicates permission is granted to the Clone & PIN window where the user is able to clone parallel IP-1616 consoles or change PIN numbers for any username in the system. See “Clone & PIN” on page 71, for more information.

General Gain Setup Check Box

The **General Gain** check box indicates permission is granted to make changes to the General Gain window. Permission to change this window is granted on every created account. See “General Gain Setup” on page 38, for more information.

Paging Directory & Paging Setup Check Box

The **Paging Dir. & Setup** check box indicates permission is granted to both the Paging Directory window and the Paging Setup window where changes can be made by the user. See “Paging Directory” on page 80, and “Paging Setup” on page 85 for more information.

Per Line Setup & ID Directory Check Box

The **Per Line Setup** check box indicates permission is granted to the Per Line Setup and ID Directory windows where changes can be made by the user. See “Per Line Setup” on page 47, for more information.

System Setup 1 & 2 Check Box

The **System Setup 1 & 2** check box indicates permission is granted to make changes to System Setup 1 and System Setup 2 windows. See “System Setup 1” on page 95, or “System Setup 2” on page 102, for more information.

Cancel Button

The **Cancel** button is used to discard changes and return to the Account Setup window.

Submit Button

The **Submit** button is used to store the new username, PIN number, and permissions. Once you submit your new account the message in Figure 52 appears.

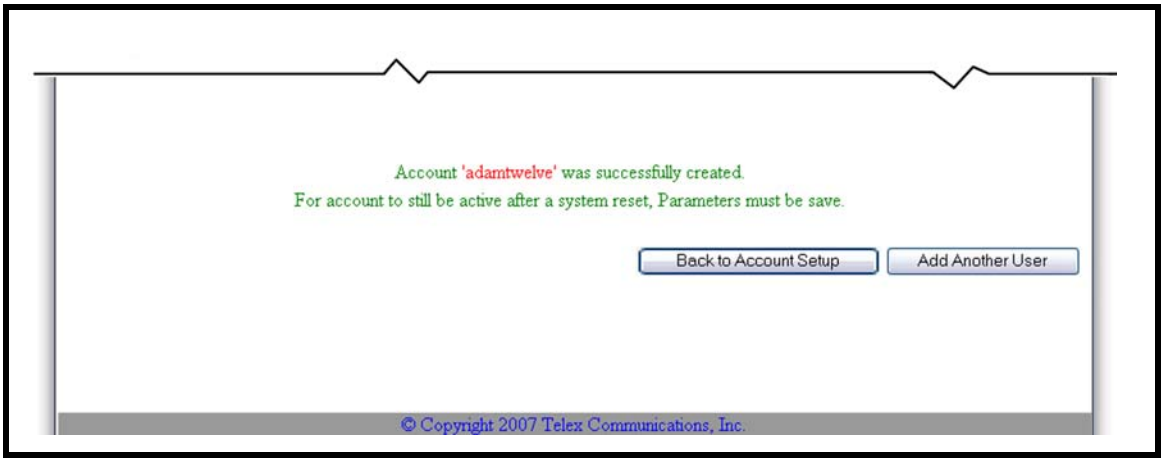


FIGURE 52. Create New User Success Message

To **permanently save changes,** do the following:

1. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
2. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.
3. Click **Reset IP-1616**. 

The new PIN has been reset in the IP-1616 console.

Back to Account Setup Button

The **Back to Account Setup** button is used to navigate back to the Account Setup window.

To **return to the Account Setup window**, do the following:

> Click **Back to Account Setup**.
The Account Setup window appears.

Add Another User Button

The **Add Another User** button is used to navigate back to the Account Setup - Add New User window.

To **add another user**, do the following:

> Click **Add Another User**.
The Account Setup Add New User window appears. For more information, see "Created Account - Add New User Window" on page 67.

Cancel Button

The **Cancel** button is used to exit the created account edit window.

> Click **Cancel**, to exit without making changes.
You are now back at the Account Setup window.

Account Setup (continued)

System Parameters

Reset System Parameters Button

The **Reset System Parameters** button is used to reset to factory default and remove all parameters in the ID Directory, Paging Directory, and Paging Setup windows.

To **reset system parameters** do the following:

1. Click **Reset System Parameters**. 

2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

NOTE: If you Reset System Parameters and do not want to permanently save the changes, you can restore the ID Directory, Paging Directory, and Paging Setup configurations.

To **restore system parameters**, do the following:

1. Click **EEPROM**. 

The Save to EEPROM window opens.

2. Click **Reset IP-1616**. 

The ID Directory, Paging Directory and Paging Setup configurations have been restored.

Clone & PIN

The **Clone & PIN** window (Clone Console/PIN Change), shown in Figure 53, is used to copy the configuration settings from another, specified console. In this case, both consoles must be connected to the Ethernet network. The fields for this screen are described below.

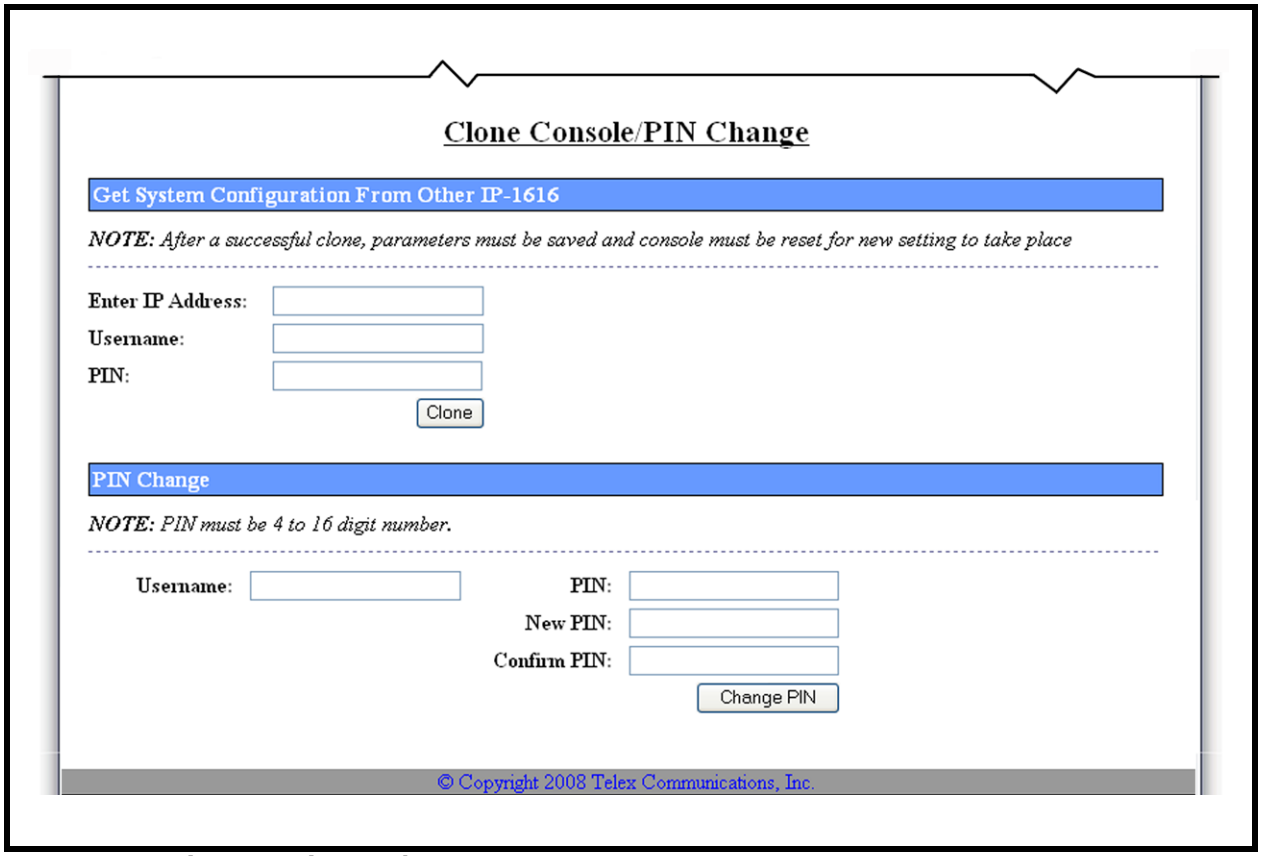


FIGURE 53. Clone Console/PIN Change

Get System Configuration From Other IP-1616

Enter IP Address Field

The **Enter IP Address** field is used to identify the IP Address of the IP-1616 console from which you are cloning.

Username Field

The **Username** field is used to identify the account username of the IP-1616 console from which you are cloning.

There is a *16 character* limit, all lowercase, and no spaces allowed.

PIN Field

The **PIN** field is used to identify the admin account PIN number of the IP-1616 console from which you are cloning.

The PIN number must be a *4–16 digit* number

Clone Button

The **Clone** button is used to pull the configuration settings from the IP-1616 you want to clone from.

To **temporarily save the configuration settings**, do the following:

> Click **Clone**.
The configuration is temporarily saved to the console

To **permanently save changes,** do the following:

1. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
2. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.
3. Click **Reset IP-1616**. 

The new PIN has been reset in the IP-1616 console.

PIN Change

Username Field

The **Username** field indicates the user name for which you want to change the PIN number.

There is a *16 character* limit, all lowercase, and no spaces allowed.

PIN Field

The **PIN** field indicates the current PIN number used to access the IP-1616 configuration options.

The PIN number must be a *4–16 digit* number

New PIN Field

The **New PIN** field indicates the New PIN number entered for this user.

The PIN number must be a *4–16 digit* number.

Confirm PIN Field

The **Confirm PIN** field is used to a re-enter the new PIN number.

Change PIN Button

The **Change PIN** button is used to temporarily save PIN changes.

To **change a PIN number**, do the following:

1. In the Username field, enter the **username**.
   Asterisks appear for each character you enter.
2. In the PIN field, enter the ***4–16 digit*** **PIN**.
   Asterisks appear for each character you enter.
3. In the New PIN field, enter the **new PIN**.
   Asterisks appear for each character you enter.
4. In the Confirm PIN field, re-enter the **new PIN**.
   Asterisks appear for each character you enter.
5. Click **Change PIN**.
   The new PIN is temporarily saved.

To **permanently save changes,** do the following:

1. Click **Save to EEPROM**. 

   The Save to EEPROM window opens.
2. Click **Save Parameters**. 

   Changes are now permanently saved to the IP-1616 console.
3. Click **Reset IP-1616**. 

   The new PIN has been reset in the IP-1616 console.

ID Directory

The **ID Directory** window, shown in Figure 54, in used to map ANI numbers to general alphanumeric names. This feature works in conjunction with the IP-223. The fields on this page are described below.

A total of 100 ID entries are allowed in the IP-1616 ID Directory.

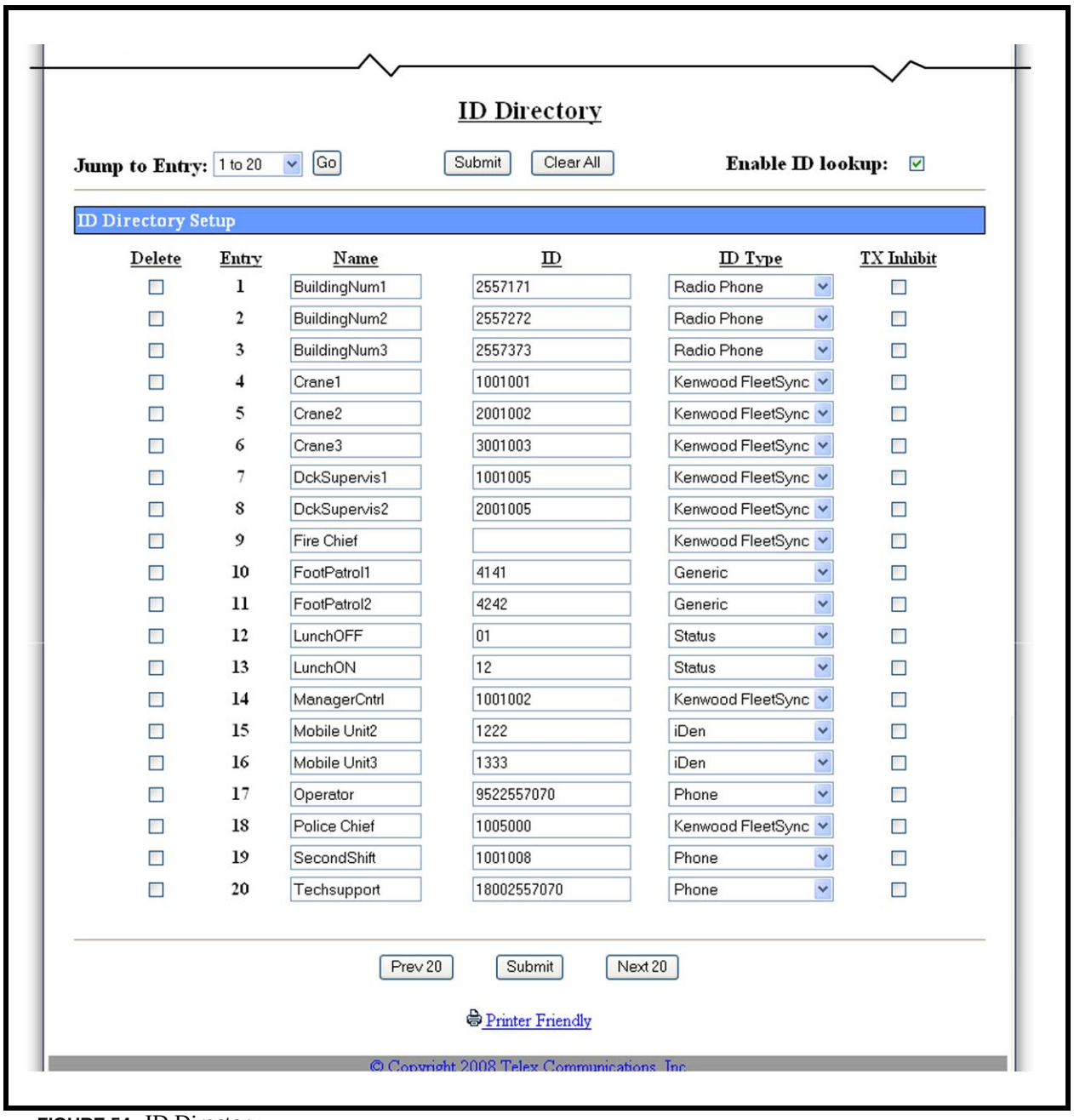


FIGURE 54. ID Directory

NOTE 1: You cannot leave empty rows between filled-in rows in the ID Directory. If you leave empty rows the software forces the filled-in rows up into the empty rows after clicking the submit button.

NOTE 2: After submitting settings, the name list is arranged in alphabetical order

NOTE 3: If any field is left empty, the console operator is not be able to see the ID on the console display.

Jump to Entry Drop Down Menu

The **Jump to Entry** drop down menu is used to select an ID directory page to navigate to. The ID Directory window displays 20 IDs per page. Once you have chosen the range of pages you want to display, click **GO**.

Submit Button

The **Submit** button, located at the top and bottom of the window, is used to temporarily save changes to the IP-1616. Submit changes before navigating from this window.

Clear All Button

The **Clear All** button is used to clear all the ID entries on the ID Directory list.

IMPORTANT! The Clear All button clears all pages (*pages 1–100)* with one click no matter which page you are currently viewing. You are be given the chance to cancel the Clear All action, see Figure 55.

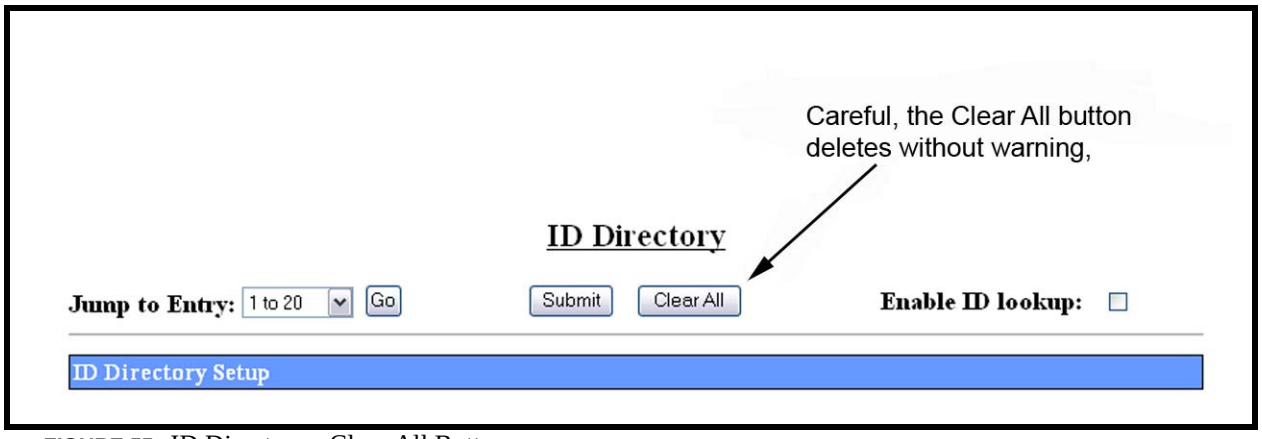


FIGURE 55. ID Directory - Clear All Button

Enable ID Look Up Check Box

The **Enable ID Look Up** check box is used to enable the use of the ID Directory. If selected, the IP-1616 displays the name when a call is received. Otherwise, the IP-1616 displays the ID when a call is received.

ID Directory Setup

Delete Check Box

The **Delete** check box is used to delete the selected ID.

To **delete the ID**, do the following:

1. From the ID Directory window, select the **Delete** check box**.**
2. Click **Submit**.
   The ID is deleted from the directory.

Name Field

The **Name** field is used to assign an easily recognizable alphanumeric name to the ID. The name appears on the IP-1616 console.

The Name field is also used to label the Status ID (maximum *2 characters*) if Status (Kenwood FleetSync only) is chosen in the ID Type drop down menu. It is important the name given to any status line type describe the Status ID function entered in the Status field because this is the only field is visible to the console operator is some cases.

The field value can contain up to *12 characters*.

Important: If this field is left blank, the entire line in the ID Directory is invalid and not available for selection.

Example: If you enter the Status ID for an emergency you can enter EMERGENCY in the Name field. The IP-1616 console displays *EMERGENCY* as well as the Status ID number.

ID Field

The **ID** field indicates the identification number (for example; 2131111) of the unit you want to associate with the ID type. See below for character length allowed.

The ID field is also used to enter a Status ID code for Kenwood FleetSync radios. See the manufacturer's technical data for Status ID code numbers. *Status* must be chosen from the drop down menu in the ID Type field.

Important: If this field is left blank, the entire line in the ID Directory is invalid and not be available for selection.

ID number format:

- No spaces or special characters (except for iDEN ID and group numbers, see below) are allowed.
- Character limits for each device are as follows:
  - **Generic** - Up to *17 Characters* allowed
  - **Phone** - Up to *11 characters* allowed within the US. Other countries vary. Maximum *17 character* field.
  - **Radio Phone** - Up to *11 characters* allowed within the US. Other countries vary. Maximum *17 character* field.
  - **iDEN** - Up to *17 characters* allowed.
  - **Motorola MDC1200** - Maximum *4 characters* allowed
  - **Kenwood FleetSync** - Maximum *7 characters* allowed.
  - **Status** - Maximum *2 characters* allowed. See manufacturer's technical data for Status ID code numbers.

ID Type Drop Down Menu

The **ID Type** drop down menu indicates the device option configured for the line.

The following ID type options are discussed in detail below.

Generic
Phone
Radio Phone
iDEN
Motorola MDC1200
Kenwood FleetSync
Status

Generic Option

The **Generic** option is used to configure the line for any other ID Type device.

Phone Option

The **Phone** option is used to configure the line for placing standard phone calls.

Radio Phone Option

The **Radio Phone** option is used to configure the line for placing radio phone calls.

iDEN Option

The **iDEN** option is used to configure the line for placing iDEN phone calls.

To **configure the iDEN ID for an individual,** do the following:

> In the ID field, enter the **ID number**.

To **configure the iDEN ID for a group**, do the following:

> In the ID field, enter # for the first character followed by the **group number**.

Motorola MDC 1200 Field

The **Motorola MDC1200** field is used to configure calls for Motorola MDC1200 devices. When the console receives audio the ID displays.

NOTE: 4.100 and earlier versions of the firmware do not support special MDC1200 features such as select call and sending status, etc.

Kenwood FleetSync Field

The **Kenwood FleetSync** field is used to configure the line for placing calls to Kenwood FleetSync radios.

Status Field

The **Status** field is used to store a FleetSync Status ID code number. See the manufacturer's technical data for Status ID code numbers.

TX Inhibit Check Box

The **TX Inhibit** check box indicates an ID number cannot be selected for placing a call, but appears on the console display when receiving calls from the ID number.

Previous 20 Button

The **Previous 20** button displays the previous page of 20 IDs, if applicable.

Submit Button

The **Submit** button is used to temporarily save changes to the IP-1616. Submit changes before navigating from this window.

Next 20 Button

The **Next 20** button displays the next page of 20 IDs, if applicable.

To **permanently save changes,** do the following:

1. Click **Submit**. 

The changes are sent to the IP-1616 in temporary storage.
2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

Printer Friendly Link

The **Printer Friendly** link is used to navigate to the Print ID List window.

Print ID List Window (Directory)

The **Print ID List** window, shown in Figure 56, is used to select, display, and print a list of ID numbers for a particular device. The list consists of an index number, name (alias) and ID number. Once an ID list is displayed it can be printed or copied.

Select A List Drop Down Menu

The **Select A List** drop down menu is used to select a device for the ID list. Available list options are *All List, Generic, Phone, Radio Phone, iDEN, MotorolaMDC1200, Kenwood FleetSync, Status, and Paging.*

Submit Button

The **Submit** button is used to submit the request and generate a report to display in the window. The list is now ready for printing.

To **recall and print a list of ID numbers for a device**, do the following:

1. Select A List drop down menu, select a **device**.
2. Click **Submit**.
The ID List appears.
3. From the File menu, select **Print**.
A Print window appears.
4. From the Name drop down menu, select a **printer** and click **Print**.
The list is sent to the printer.

NOTE: Once the list appears in the Print ID List window, the data can be highlighted, copied, and pasted into a spreadsheet.

ID List

The **ID List** displays all IDs assigned to the selected device, see Figure 56. The list displays the ID List Title, Index, Name, and ID # columns.

ID List Title

The **ID List Title** appears at the top of the window and identifies the type of IDs in the list

Index Column

The **Index** column identifies an index number for each entry. The index number is used to select IDs on the console and saves the operator from tedious scrolling.

Name Column

The **Name** column identifies the alias assigned to the ID.

ID Column

The **ID** column identifies the ID number used to place calls.

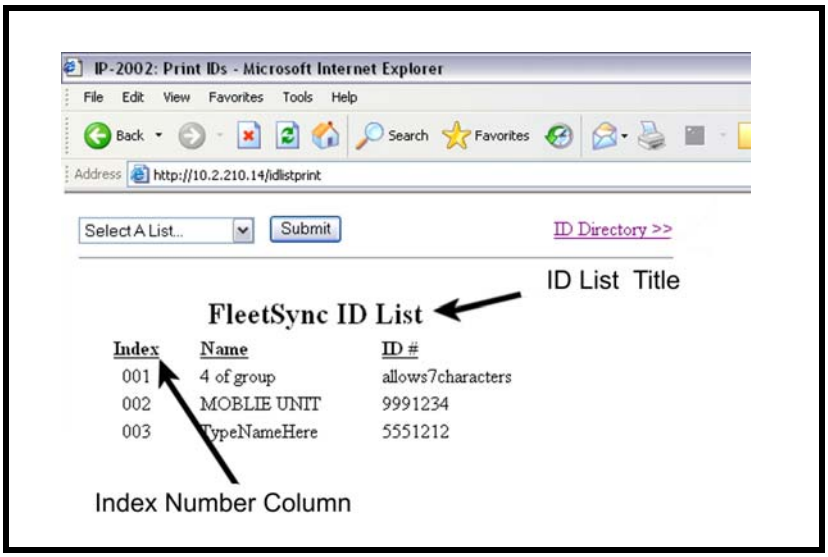


FIGURE 56. Print ID List

ID Directory >> Link

The **ID Directory** >> link is used to navigate back to the ID Directory window. Or you can use the browser window's Back button.

Paging Directory

The **Paging Directory** window, shown in Figure 57, is used to configure the lines for paging. There can be a total of 100 page entries, 20 entries per window, created in the IP-1616 Paging Directory. The fields in this window are described below.

NOTE: Pages must be configured on the Page Setup window, see page 85, before configuring the Paging Directory.

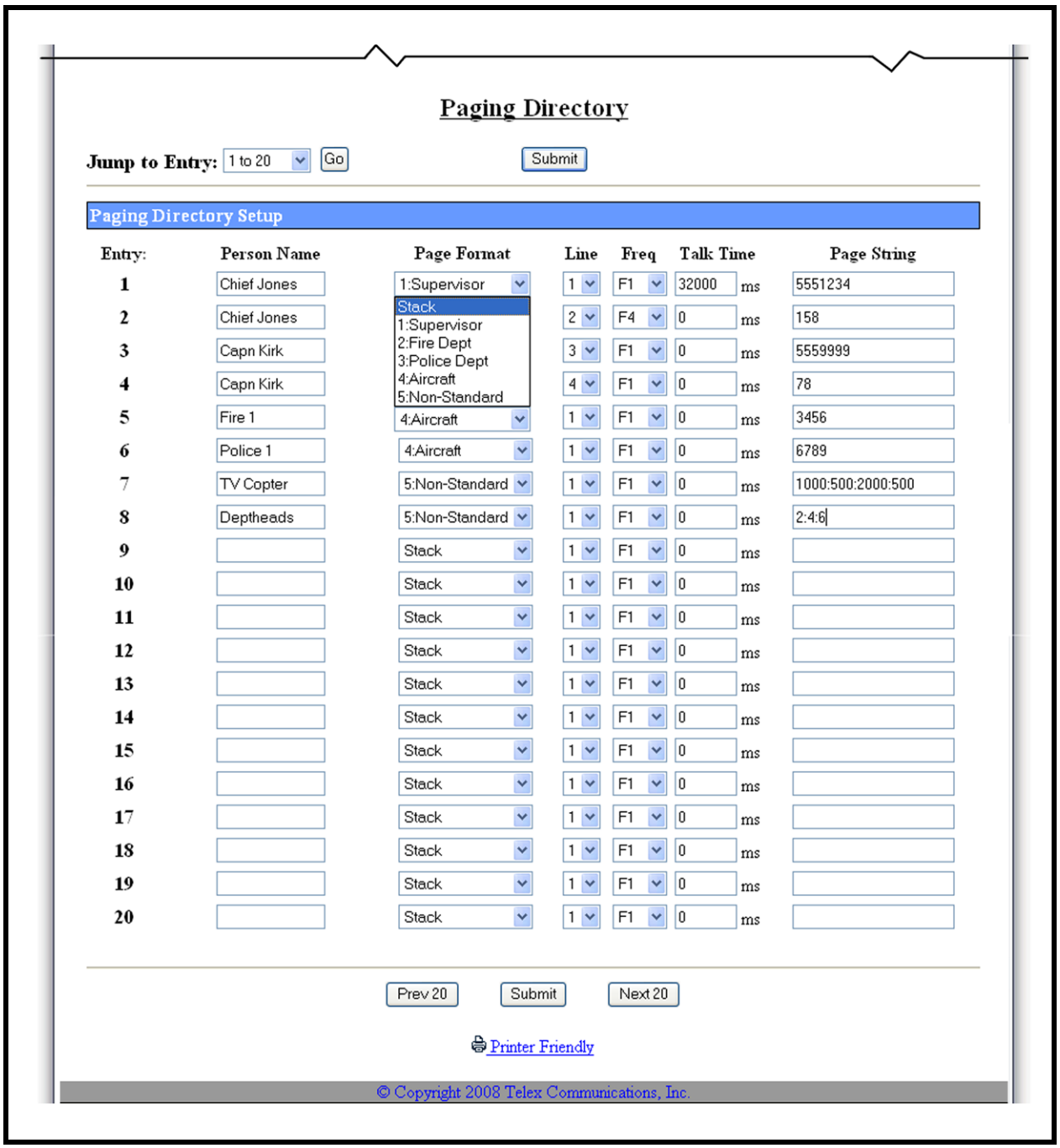


FIGURE 57. Paging Directory

Jump to Entry Drop Down Menu

The **Jump to Entry** drop down menu is used to select a Paging Directory window to navigate to. Once you have chosen the range of pages you want to display, click **GO**.

Submit Button

The **Submit** button is used to temporarily save changes to the IP-1616. Submit changes before navigating from this window.

Paging Directory Setup

Entry Field

The **Entry** field labels the configured page. Use the entry number to configure stacked page strings, see “Stack Menu Option” on page 81 and to configure console softkeys for paging, see “BMenu - Quick Page Setup” on page 106.

Person Name Field

The **Person Name** field is used to enter the person’s name or a description of the associated page. The name displays on the console when the page is available for selection.

Up to *12 characters* can be entered in this field.

Page Format Drop Down Menu

The **Page Format** drop down menu indicates the format of the page being entered into the directory. The Stack menu option is the default page format in the menu. Once page formats are created in “Paging Setup” on page 85, their name appears in the Page Format drop down menu for selection. The number corresponds to the row number on the paging setup window.

Stack Menu Option

The **Stack** menu option is used to stack several pages to send at one time.

To **stack pages**, do the following:

1. In the Person Name field, enter a **description**.
2. From the Page Format drop down menu, select **Stack**.

   NOTE: When stacking a page, the Line and Frequency drop down menus have no effect.
3. In the Talk Time field, enter a value between *0 and 32000ms*.
4. In the Page String field, enter each **page entry number** separated by a colon (:).

   Example: To stack page entries 2, 4 and 6, enter 2:4:6 in the Page Stack field. See Figure 57.

   NOTE: Stacked pages are sent to each page’s respective line. Stacked lines remain active until all pages have been sent.

Line Drop Down Menu

The **Line** drop down menu indicates which line the page is sent on.

Field values are *line 1–8*.

Freq Drop Down Menu

The **Freq** drop down menu indicates the frequency the page is sent on.

Field values are *F1 to F16*.

Talk Time Field

The **Talk Time** field indicates the amount of audio transmission time, in ms, the console operator has to talk to the field after the tone is sent to the radio.

NOTE: When the page format is set to a phone line, the talk time has no effect and should be set to zero (0).

The field value ranges from *0 to 32000ms*.

Page String

The **Page String** field indicates the required string or code to send the page to. Page string formats vary depending on the page type (*2 Tone 100, 2 Tone 1000, DTMF, or Manual*). The page type is assigned to the Page Format (called *Name* on the Paging Setup window) during the paging setup process. The name you enter on the setup page displays in the Page Format drop down menu. You must know the page type for the selected page format when entering the page string.

Available page string formats for this field are:

2 Tone 100 Setup - Requires *2 digits*, “Tone Group Frequencies 1–7” on page 149.

2 Tone 1000 Setup - Requires *3 digits*, see “Standard Paging Plans” on page 150.

DTMF - Up to *20 characters* are allowed. The entry is restricted to the Number of Page Digits configured on the Paging Setup window. For example, entry 1, shown in Figure 57, represents a 7-digit phone number.

Manual - Up to *20 characters* are allowed. Configure the tone and duration in the Page String field. This field is limited to 2 tones with each entry separated by a colon (:). For example, entry 7, shown in Figure 57, represents a 1000Hz tone for 500ms followed by a 200Hz tone for 500ms (1000:500:2000:500).

Previous 20 Button

The **Previous 20** button displays the previously viewed page, if applicable.

Submit Button

The **Submit** button is used to temporarily save changes to the IP-1616. Submit changes before navigating from this webpage.

Next 20 Button

The **Next 20** button displays the next page, if applicable.

To **permanently save changes,** do the following:

1. Click **Submit**. 

The changes are sent to the IP-1616 in temporary storage.
2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

Printer Friendly Link

The **Printer Friendly** link is used to navigate to the Print ID List window.

Print ID List Window (Paging)

The **Print ID List** window, shown in Figure 58, is used to select, display, and print a list of Paging IDs. The list consists of an index number, name (alias) and page string. Once a Paging ID list is displayed it can be printed or copied.

Select A List Drop Down Menu

The **Select A List** drop down menu is used to select Paging for the ID list.

Submit Button

The **Submit** button is used to submit the request and generate a report to display in the window. The list is now ready for printing.

To **recall and print a list of paging IDs**, do the following:

1. From the Select A List drop down menu, select **Paging ID**.
2. Click **Submit**.
The Paging ID List appears.
3. From the File menu, click **Print**.
A Print window appears.
4. From the Print window, select a **printer** and click **Print**.
The list is sent to the printer.

NOTE: Once the list appears in the Print ID List window, the data can be highlighted, copied, and pasted into a spreadsheet.

ID List

The **ID List** displays all Paging IDs assigned to the page string, see Figure 56. The list displays the ID List Title, Index, Name, and Page String columns.

ID List Title

The **ID List Title** appears at the top of the window and identifies the type of IDs in the list

Index Column

The **Index** column identifies an index number for each entry. The index number is used to select paging IDs on the console and saves the operator from tedious scrolling.

Name Column

The **Name** column identifies the name of the paging ID.

Page String Column

The **Page String** column identifies the page string used for paging.

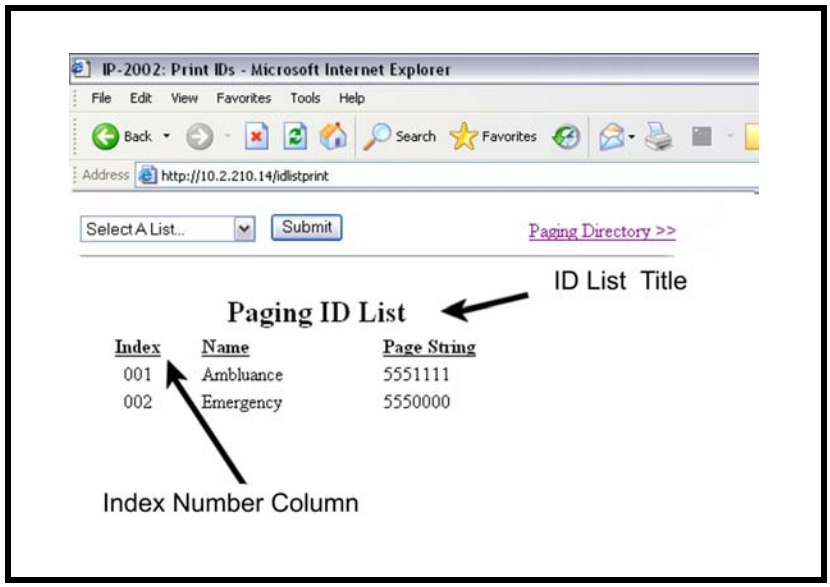


FIGURE 58. Print Paging ID List

Paging Directory >> Link

The **Paging Directory** >> link is used to navigate back to the ID Directory window. Or you can use the browser window's Back button.

Paging Setup

The **Paging Setup** window, shown in Figure 59, is used to configure up to ten (10) paging option groups and to navigate to the Paging Parameter Setup window for the paging option group configuration. Each of the page (encoder) types are detailed in the following pages.

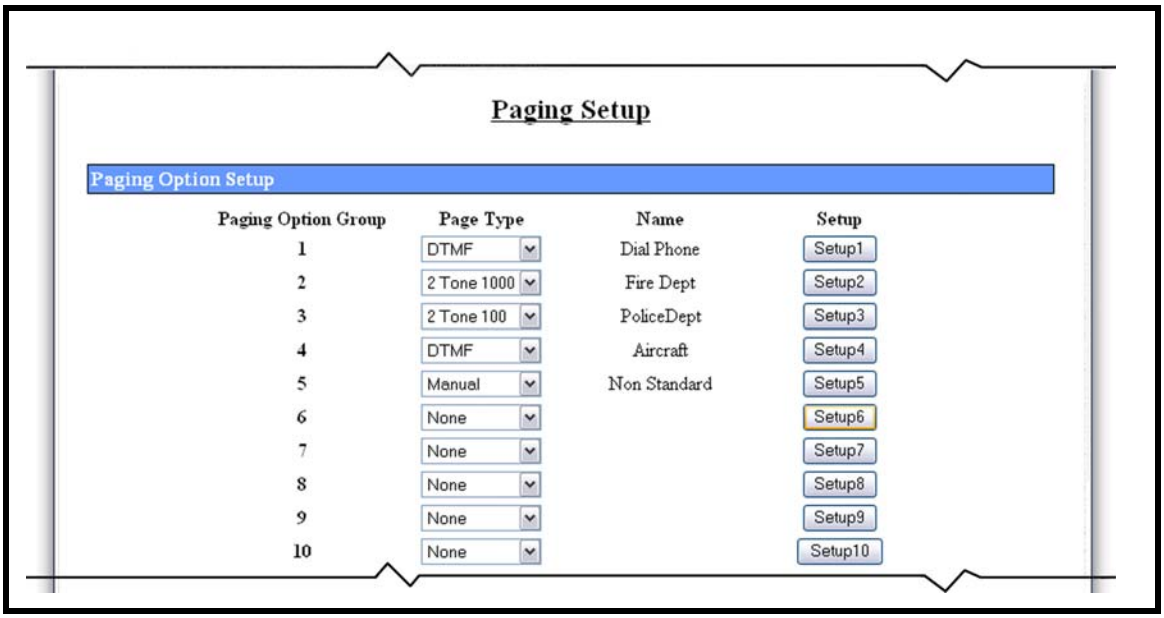


FIGURE 59. Paging Setup

Paging Encoder Setups

Paging Option Group Number

The **Paging Option Group** number indicates the group number for the paging setup.

Page Type Drop Down Menu

The **Page Type** drop down menu is used to select the paging encoder type you want to configure for the page group.

The following page types are supported:

2 Tone 100 (Quickcall II 100)
2 Tone 1000 (Quickcall II 1000)
DTMF
Manual

Name Field

The **Name** field is used to display the name of the Paging Option Group you configured in the Setup (1–10) window for the group. Once configured, the name appears in the Page Format drop down menu on “Paging Directory” on page 80.

Setup (1–10) Button

The **Setup (1–10)** button is used to navigate to the configuration window for the type selected in the Page Type drop down menu.

To **setup each of the 10 page types**, do the following:

1. From the Line 1 Page Type drop down menu, select the **page type** you want to set up.
2. Click **Setup**.
   The Paging Parameters window for the paging encoder appears.

2 Tone 100 Setup Parameters

The **2 Tone 100 Setup Parameters** window, shown in Figure 60, is used to setup paging sequence parameters. This format requires a two-digit code to generate a group paging sequence. The top two (2) lines of the window give the page (encoder) type being configured, and the table entry number.

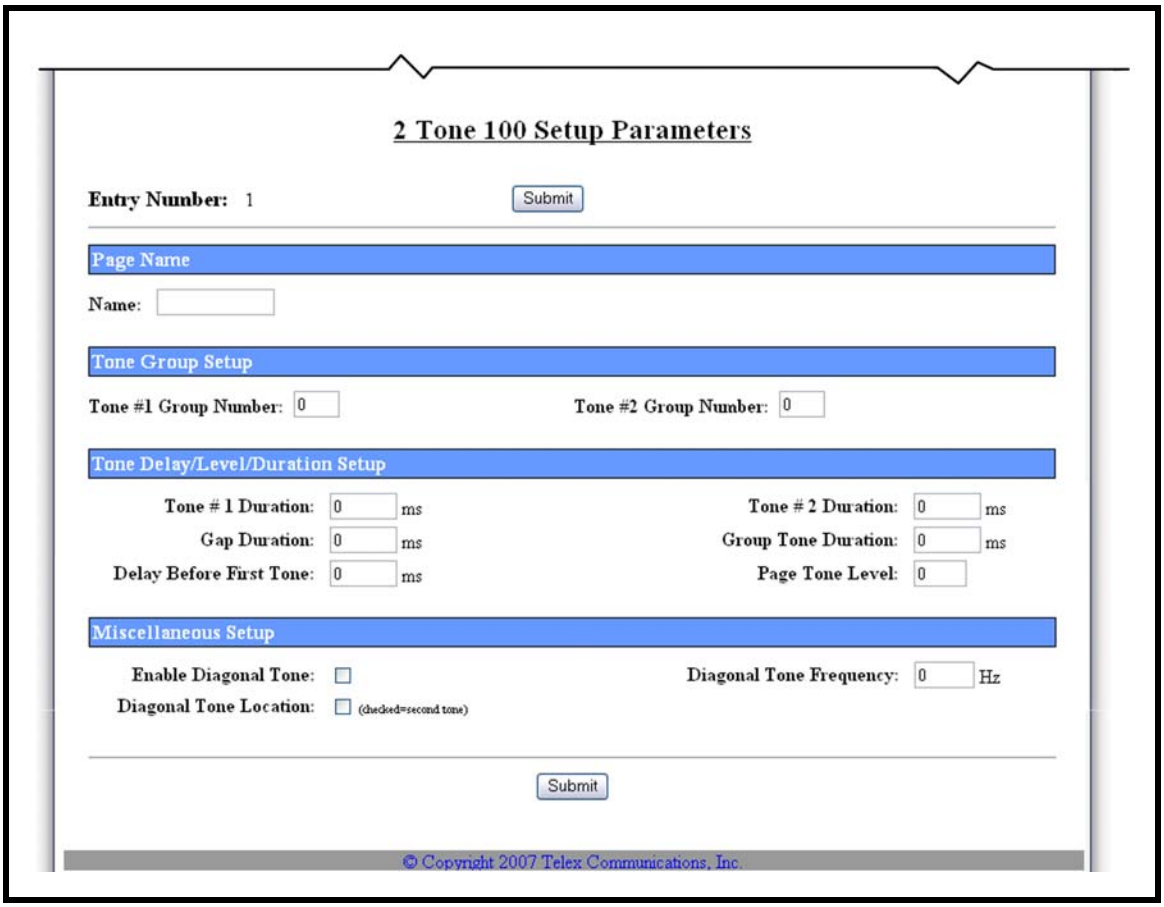


FIGURE 60. 2 Tone 100 Setup

Submit Button

The **Submit** button, located at the top and bottom of the window, is used to temporarily save changes to the IP-1616. Submit changes before navigating from this window.

Page Name

Name Field

The **Name** field indicates the name associated with a particular setup for this encoder.

Names can be up to *12 characters* long.

Tone Group Setup

Tone #1 and #2 Group Number Fields

The **Tone #1 and #2 Group Number** fields are used to configure the first and second page tone signals. See the “Tone Group Frequencies 1–7” and “Tone Group Frequencies 8–16” in page 149, for tone group numbers.

These field values range from *1 to 14*.

To **designate a tone group for Tone #1 and #2**, do the following:

> In each Tone #1 and Tone #2 fields, enter a **number from 1–14**.
When paging, Tone #1 then Tone #2 are played in sequence.

Tone Delay/Level /Duration Setup

Tone #1 Duration Field

The **Tone #1 Duration** field indicates the duration, in ms, the first tone is played.

This field value ranges from *0 to 32000ms*.

Gap Duration Field

The **Gap Duration** field indicates the duration, in ms, between tones.

This field value ranges from *0 to 32000ms*.

Delay Before First Tone Field

The **Delay Before First Tone** field indicates the amount of time, in ms, allowed from PTT until the first tone is played.

This field value ranges from *0 to 32000ms*

Tone #2 Duration Field

The **Tone #2 Duration** field indicates the duration, in ms, the second tone is played.

This field value ranges from *0 to 32000ms.*

Group Tone Duration Field

The **Group Tone Duration** field indicates the duration, in ms, the group tone is played. Generally, group tones conform to standard paging plans as listed in “Standard Paging Plans” on page 149.

This field value ranges from *0 to 32000ms*.

Page Tone Level Field

The **Page Tone Level** field indicates the level, in dB, of page tone.

This field value ranges from *-60dB to 12dB*.

Miscellaneous Setup

Enable Diagonal Tone Check Box

The **Enable Diagonal Tone** check box is used to determine if the diagonal tone of a group is used or not used. When selected, the diagonal tone frequency is used in place of either the first or second tone depending on the configuration of the Diagonal Tone Location check box.

Diagonal Tone Location Check Box

The **Diagonal Tone Location** check box indicates whether or not the diagonal tone is used in place of the second tone. If selected, the diagonal tone overrides the second tone. Otherwise, group tone is used.

Diagonal Tone Frequency Field

The **Diagonal Tone Frequency** field indicates the frequency, in Hz, at which the tone is sent.

This field value ranges from *0 to 3000Hz*.

To **permanently save changes,** do the following:

1. Click **Submit**. 

The changes are sent to the IP-1616 in temporary storage.
2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

2 Tone 1000 Setup Parameters

The **2 Tone 1000 Setup Parameters** window, shown in Figure 61, is used to setup paging sequence parameters. This format requires a three-digit code to generate a group paging sequence. The top lines of the window give the page (encoder) type being configured, and the table entry number.

FIGURE 61. 2 Tone 1000 Setup Parameters

Submit Button

The **Submit** button, located at the top and bottom of the window, is used to temporarily save changes to the IP-1616. Submit changes before navigating from this window.

Page Name

Name Field

The **Name** field indicates the name associated with a particular setup for this encoder.

Names can be up to *12 characters* long.

Tone Plan Setup

Tone Plan Number Field

The **Tone Plan Number** field is used to configure the first and second page tones. See “” on page 153 and “” on page 149 for tone group numbers and frequencies.

Example: If the pager to be reached is N349, the Telex Code Plan Number would be set to 12 which corresponds to group Mot N. All pagers using the N group would then reference the encoder setup in the listing of all persons. The 2 corresponds to the line, in Group N, from which the tone groups are selected. In this case, there are 3 ways to take both the first and second tone from group number 3 (3+3). So, for N349, the first tone sent would be 313.0 for 1 second, followed by 1063.1 for 3 seconds. See Table 1, for a full explanation.

TABLE 1. Example Tone Plan Number Locator

DIGIT	IDENTIFIES	DESCRIPTION	LOCATION
N	Pager	Locate the **Mot N group pagers** in “” on page 153. Enter the **Telex Codeplan #** from the top row in the Tone Plan Number (12). *This digit also identifies the entries for the Tone 1 Time, Gap Duration, Tone 2 Time and Group Tone Time fields, (see “Standard Paging Plans” on page 150).*	Where the Telex Codeplan # (12) and the Pager Capcode (3xx) intersect in the table to identify the Telex Group No. (3+3). This identifies the frequencies for Tone 1 and Tone 2.
3	Pager Capcode	Locate the **Pager Capcode (3xx)** in “” on page 153.	In the table’s left column.
4	Tone 1 Frequency	Using the first number identified above (3), locate the **Telex Group No. 3** and **Tone Group 4** (second digit in pager number) from “” on page 149.	Where these two items intersect in the table identifies the frequency of tone 1 (313.0).
9	Tone 2 Frequency	Using the second number identified above (3), locate the **Telex Group No. 3** and **Tone Group 9** (third digit in pager number) from “” on page 149.	Where these two items intersect in the table identifies the frequency of tone 2 (1063.2).

Tone/Delay/Level/Duration Setup

Tone #1 Duration Field

The **Tone #1 Duration** field indicates the duration, in ms, the first tone is played.

This field value ranges from *0 to 32000ms*.

Gap Duration Field

The **Gap Duration** field indicates the duration, in ms, between tones.

This field value ranges from *0 to 32000ms.*

Delay Before First Tone Field

The **Delay Before First Tone** field indicates the amount of time, in ms, allowed from PTT until the first tone is played.

This field value ranges from *0 to 32000ms*.

Tone #2 Duration Field

The **Tone #2 Duration** field indicates the duration, in ms, the second tone is played.

This field value ranges from *0 to 32000ms*.

Group Tone Duration Field

The **Group Tone Duration** field indicates the duration, in ms, the group tone is played. Generally, group tones conform to standard paging plans as listed in “Standard Paging Plans” in page 149.

This field value ranges from *0 to 32000ms*.

Page Tone Level Field

The **Page Tone Level** field indicates the level, in dB, of tone for paging.

This field value ranges from *-60dB to 12dB.*

Miscellaneous Setup

Enable Diagonal Tone Check Box

The **Enable Diagonal Tone** check box indicates whether the diagonal tone of a group is used or not used. When selected, the diagonal tone frequency is used in place of either the first or second tone depending on the configuration of the Diagonal Tone Location check box.

Diagonal Tone Location Check Box

The **Diagonal Tone Location** check box indicates whether the diagonal tone is used in place of the first or second tone. If selected, the diagonal tone overrides either the first or second group tone. Otherwise, the diagonal tone is used.

Diagonal Tone Frequency Field

The **Diagonal Tone Frequency** field indicates the frequency, in Hz, at which the tone is sent.

This field value ranges from *0 to 3000Hz*.

To **permanently save changes,** do the following:

1. Click **Submit**. 

The changes are sent to the IP-1616 in temporary storage.
2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

DTMF Setup Parameters

The **DTMF Setup Parameters** window, shown in Figure 62, is used to setup DTMF paging. The standard DTMF digits are allowed in any length. The DTMF (Paging) Setup fields are described in detail below. The top two lines of the window give the following information: the page (encoder) type being configured, and the table entry number.

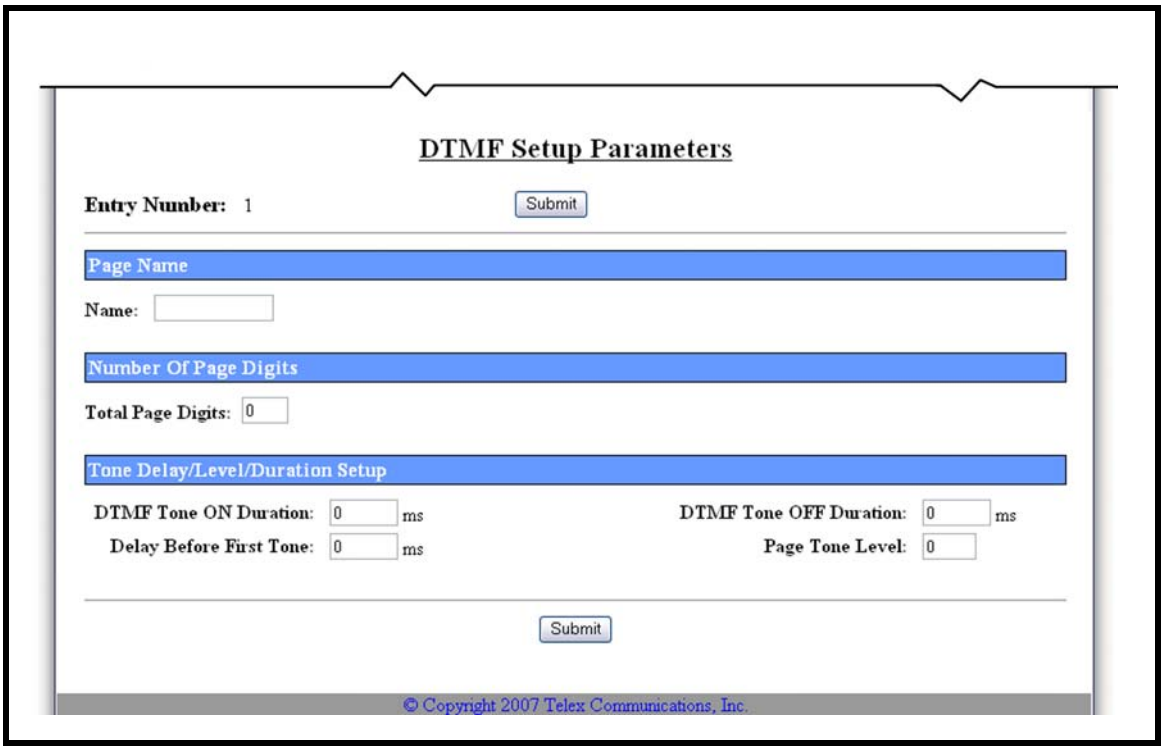


FIGURE 62. DTMF Setup Parameters

Submit Button

The **Submit** button, located at the top and bottom of the window, is used to temporarily save changes to the IP-1616. Submit changes before navigating from this window.

Page Name

Name Field

The **Name** field indicates the name associated with a particular setup for this encoder.

Names can be up to *12 characters* long.

Number of Page Digits

Total Page Digits Field

The **Total Page Digits** field indicates the number of digits in a standard page. All pages that utilize this option expect this number of digits when paged.

This field value ranges from *0 to 20 digits*.

Tone Delay/Level/Duration Setup

DTMF Tone ON Duration Field

The **DTMF Tone ON Duration** field indicates the amount of time, in ms, the DTMF tone is played.

This field value ranges from *0 to 500ms*.

Delay Before First Tone Field

The **Delay Before First Tone** field indicates the amount of time, in ms, allowed from PTT until the first tone is played.

This field value ranges from *0 to 32000ms*.

DTMF Tone OFF Duration Field

The **DTMF Tone OFF Duration** field indicates the amount of time, in ms, allowed between the DTMF tones.

This field value ranges from *0 to 500ms*.

Page Tone Level Field

The **Page Tone Level** field indicates the level, in dB, of tone for paging.

The field value ranges from *-60dB to 12dB.*

To **permanently save changes,** do the following:

1. Click **Submit**. 

The changes are sent to the IP-1616 in temporary storage.
2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

Manual Paging Setup Parameters

The **Manual Paging Setup Parameters** window, see Figure 63, is used to create tone pages using tones not included in the tone chart. The top two lines of the window give the page (encoder) type being configured, and the table entry number.

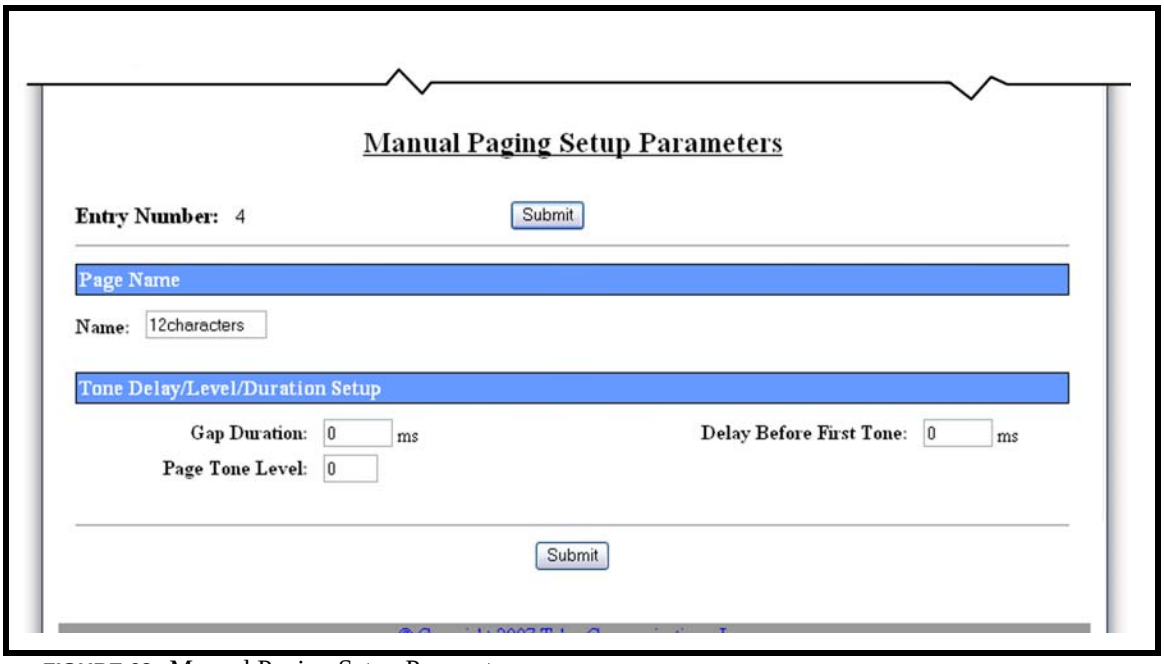


FIGURE 63. Manual Paging Setup Parameters

Submit Button

The **Submit** button, located at the top and bottom of the window, is used to temporarily save changes to the IP-1616. Submit changes before navigating from this window.

Page Name

Name Field

The **Name** field indicates the name associated with a particular setup for this encoder.

Names can be up to *12 characters* long.

Tone Delay/Level/Duration Setup

Gap Duration Field

The **Gap Duration** field indicates the amount of time, in ms, between tones.

This field value ranges from *0 to 50ms*.

Page Tone Level Field

The **Page Tone Level** field indicates the tone level, in dB, for paging.

This field value ranges from *-60dB to 12dB.*

Delay Before First Tone Field

The **Delay Before First Tone** field indicates the amount of time, in ms, allowed from PTT until the first tone is played.

This field value ranges from *0 to 32000ms*.

To **permanently save changes,** do the following:

1. Click **Submit**. 

The changes are sent to the IP-1616 in temporary storage.
2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

System Setup 1

The **System Setup 1** window, shown in Figure 64, is used to configure all functions not specific to a line. Each option on this window is discussed below.

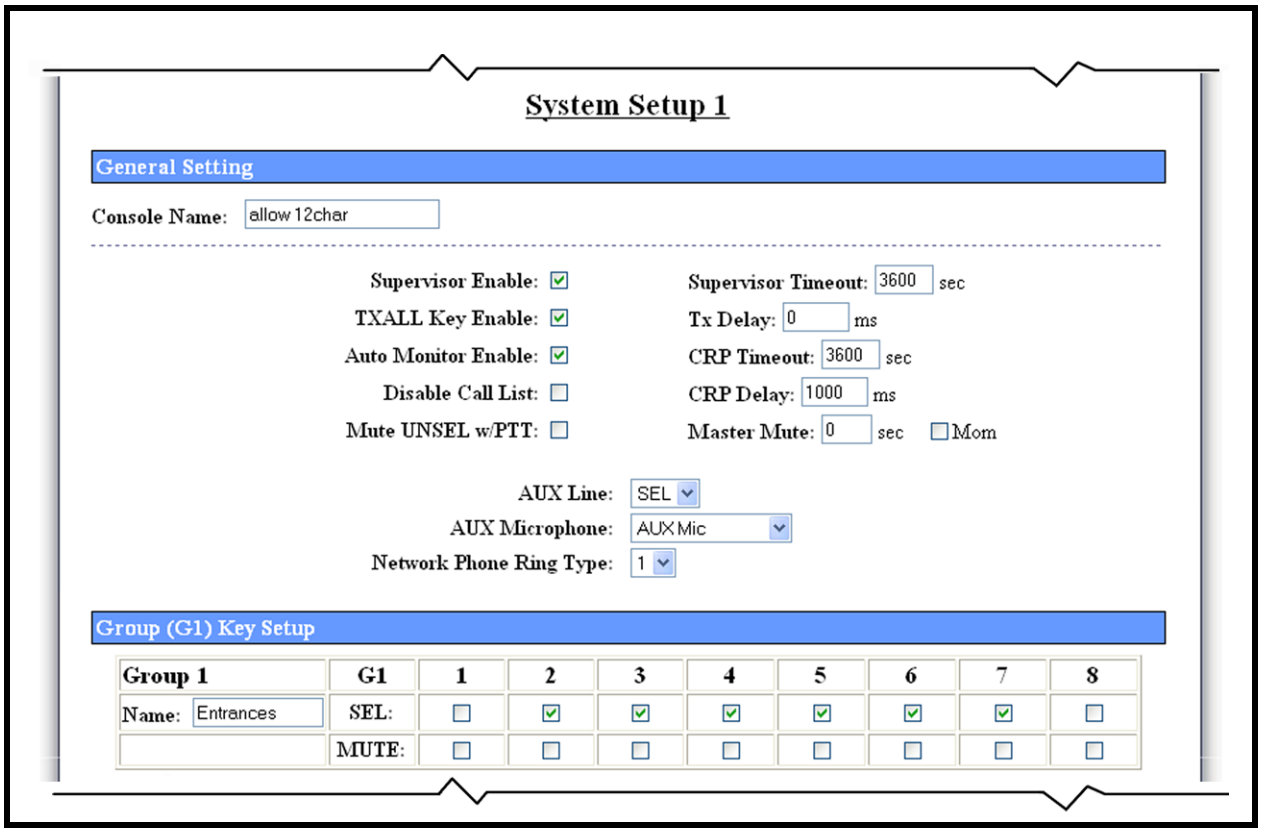


FIGURE 64. System Setup 1 (View 1)

General Setting

Console Name Field

The **Console Name** field, shown in Figure 34, displays the name assigned to the console and is displayed in the web browser configuration header.

This field value ranges from *0 to 12 characters*.

Supervisor Enable Check Box

The **Supervisor Enable** check box indicates the console operator can take control of any selected line. If selected, the console SUP button lights red. The console sends a SUP packet so other consoles are not able to transmit or monitor receive audio on the line. Otherwise, the console can be supervised at any time, but cannot be the supervisor.

TXALL Key Enable Check Box

The **TXALL Key Enable** check box is used to enable the TxALL button on the console. Once pressed the TxALL button lights and the SEL button for all lines not configured for standard phone use light and become active.

Auto Monitor Enable Check Box

The **Auto Monitor Enable** check box indicates the handset or headset has been taken offhook. This function is used with the handset/headset option. If selected, a monitor packet is sent.

Disable Call List Check Box

The **Disable Call List** check box is used to disable the CLST feature on the console. The CLST option is used by the console operator to access the directory list of ID numbers.

NOTE: If the check box is not selected, the console operator can select the CLST softkey on the display and access the ID directory. For more information on setting up a call list see “Line Type Drop Down Menu” on page 42.

Mute UNSEL w/PTT Check Box

The **Mute UNSEL w/PTT** check box indicates received audio from any channel not selected during a PTT is muted. When selected, the audio received from an unselected line during PTT is muted.

Supervisor Timeout Field

The **Supervisor Timeout** field indicates the amount of time, in seconds, the supervisor button is active. If the field value is set to *0*, the supervisor function can be toggled ON/OFF.

This field value ranges from *0 to 3600 seconds*.

TX Delay Field

The **TX Delay** field indicates the amount of delay, in ms, for microphone audio. By setting this value greater than the radio system channel acquisition time, the console operator can begin speaking after the PTT button is pressed and the audio is delayed until the system is able to transmit.

This field value ranges from *0 to 1000ms*.

CRP Timeout Field

The **CRP Timeout** field indicates the amount of time, in seconds, a crosspatch is allowed to be inactive before it is automatically dropped.

This field value ranges from *0 to 3600 seconds*.

CRP Delay Field

The **CRP Delay** field indicates the delay, in ms, for the crosspatch audio. By setting this value greater than the radio system channel acquisition time, the crosspatch audio is delayed until the system is able to transmit.

This field value ranges from *0 to 1000ms*.

Master Mute Field

The **Master Mute** field is used to indicate the length of time all lines remain muted after the operator presses the Mute button. If left blank and the master mute button is pressed, all lines remain muted until the Mute button is pressed again. By default, the field is set at blank.

This field value ranges from *1 to 60 seconds*.

NOTE: The Master Mute Mom check box must be selected to indicate the master mute function is momentary.

Master Mute Mom Check Box

The **Master Mute Mom** check box is used to indicate the Mute button is used to momentarily mute all lines regardless if phone or radio phone line. The check box must be selected

AUX Line Drop Down Menu

The **AUX Line** drop down menu is used to route the rear panel AUX input through the selected line.

The following auxiliary routing options are available:

SEL - The auxiliary rear input is routed to the selected line.

Lines 1–8 - The rear auxiliary input is routed to the selected line.

AUX Microphone Drop Down Menu

The **AUX Microphone** drop down field is used to indicate which mic is used on the selected auxiliary line.

The following auxiliary microphone options are available:

AUX Mic - The AUX microphone is the default for the selected line.

Gooseneck Mic - The panel microphone is active when the console PTT button is pressed.

Desk Mic - The desk microphone is active when the console PTT button is pressed.

Handset Mic- The handset mic is the active source, if offhook.

Network Phone Ring Type Drop Down Menu

The **Network Phone Ring Type** drop down menu is used to select the type of annunciation (ring) the console plays when a call is received. There are eight (8) different rings to select from. Possible rings are from lowest to highest: A=440Hz, B=494Hz, C=523Hz, D=587Hz, E=659Hz, F=698Hz, G=784Hz, 2A= 880Hz. Use Table 2 to make your ring selection.

TABLE 2. Annunciation Types

Setup Option	Note One	Note Two	Note Three	Note Four
1	E	A	E	A
2	A	E	C	G
3	F	G	A	C
4	G	D	A	D
5	A	C	E	G
6	G	E	C	A
7	G	G	C	C
8	G	2A	G	2A

Group (G1) Key Setup

The **Group (G1) Key Setup** section is used to configure the G1 button on the console. One predetermined group is allowed per console. The configured group is static and allows the console operator to quickly select a default group.

Group 1 Name Field

The **Group 1 Name** field is used to configure a name label for the group. The label displays once the G1 button is pressed.

G1 Column

The G1 column indicates the row label.

SEL (1–8) Check Boxes

The **SEL (1–8)** check boxes indicate which lines are selected when the G1 button is pressed.

MUTE (1–8) Check Boxes

The **MUTE (1–8)** check boxes indicate which lines are muted when the G1 button is pressed.

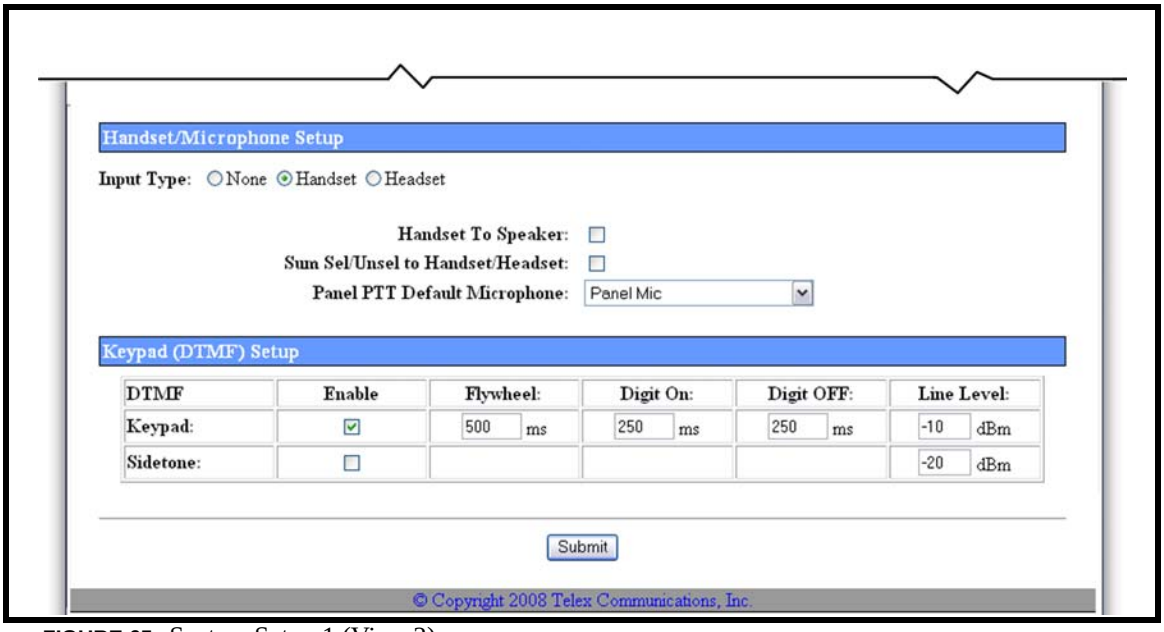


FIGURE 65. System Setup 1 (View 2)

Handset/Microphone Setup

Input Type Radio Buttons

The **Input Type** radio buttons are used to select the input source to route receive audio based on hookswitch position.

Available Input Type options are:

None - received audio is not routed to any input source.

Handset - received audio is routed to the handset.

Headset - received audio is routed to the headset.

Handset to Speaker Check Box

The **Handset to Speaker** check box indicates to play audio, when the handset is offhook, from the selected line through the speaker and handset at the same time.

Sum Sel/Unsel to Handset/Headset Check Box

The **Sum Sel/Unsel to Handset/Headset** check box indicates select and unselect audio is summed to the handset and headset earpiece.

Panel PTT Default Microphone Drop Down Menu

The **Panel PTT Default Microphone** drop down menu is used to select the microphone source when the front panel PTT button is pushed.

The following Microphone options are available:

Gooseneck Mic - The panel microphone is active when the front panel PTT is pressed.

Desk Mic - The desk microphone is active when the front panel PTT is pressed.

Handset/Headset-Panel - The handset/headset is the active source, if offhook. Otherwise, the panel microphone is active (onhook).

Handset/Headset-Deskmic - The handset/headset is the active source, if offhook. Otherwise, the desk microphone is active (onhook).

NOTE: If the handset and/or desk microphone are installed, they still operate normally.

Keypad (DTMF) Setup

DTMF Keypad Enable Check Box

The **DTMF Keypad Enable** check box indicates the DTMF keys on the IP-1616 are enabled or disabled. If selected, the DTMF keys on the unit are enabled.

DTMF Keypad Flywheel Field

The **DTMF Keypad Flywheel** field is used to set the time, in ms, between key presses without the unit de-keying.

This field value ranges from *0 to 2000 ms*.

DTMF Keypad Digit ON Field

The **DTMF Keypad Digit ON** field is used to set the minimum amount of time, in ms, a DTMF digit is active.

This field value ranges from *0 to 500ms*.

DTMF Keypad Digit OFF Field

The **DTMF Keypad Digit OFF** field is used to set the minimum amount of time, in ms, between DTMF digits.

This field value ranges from *0 to 500ms*.

DTMF Keypad Line Level Field

The **DTMF Keypad Line Level** field is used to set the approximate level of the DTMF digits for the lines.

This field value ranges from *-60dB to12dB*.

DTMF Sidetone Enable Check Box

The **DTMF Sidetone Enable** check box is used to enable the DTMF sidetone to play over the speaker. If the handset/headset is enabled and offhook, the sidetone is played to the earpiece.

DTMF Sidetone Line Level Field

The **DTMF Sidetone Line Level** field is used to set the approximate relative DTMF sidetone level played on the speaker. If the handset/headset is enabled and off, the sidetone is played to the earpiece.

This field value ranges from *-60dBm to 12dBm*.

Tape Mix Setup

The **Tape Mix Setup** section is used to directly connect and record the selected audio source using the TAPE connection on the back of the IP-1616.

SEL Check Box

The **SEL** check box indicates TX and RX audio is recorded from the selected line.

UNSEL Check Box

The **UNSEL** check box indicates TX and RX audio is recorded from the unselected line.

CRP Check Box

The **CRP** check box indicates audio can be recorded from the crosspatch.

Tape With Volume Check Box

The **Tape With Volume** check box indicates the console operator is able to adjust the volume of the recording.

When audio from a handheld radio is received on the IP-1616, and Tape with Volume is enabled, the operator can adjust the volume for the line on which the call was received, either Line 1 or Line 2.

Submit Button

To **permanently save changes,** do the following:

1. Click **Submit**. 

The changes are sent to the IP-1616 in temporary storage.
2. Click **Save to EEPROM**. 

The Save to EEPROM window opens.
3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

System Setup 2

The **System Setup 2** window, shown in Figure 66, and Figure 67, is used to configure the four (4) alert tones and eight (8) softkey commands for the console. Each of the options on this window are discussed below.

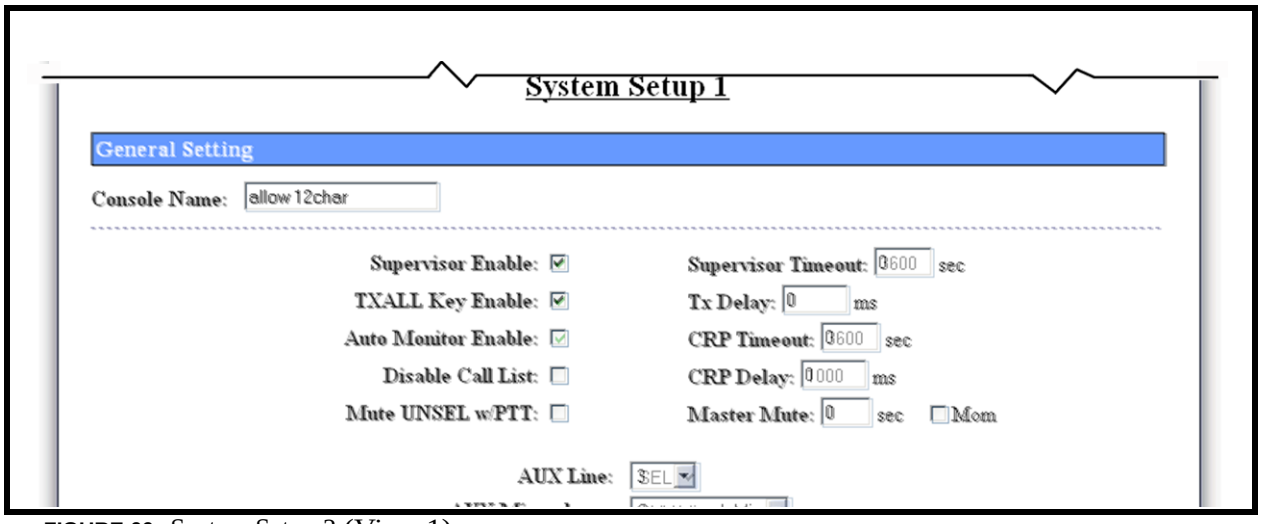


FIGURE 66. System Setup 2 (View 1)

Alert Tone Button Setup

The **Alert Tone** button setup section is used to configure tones generated by the console's Alert (1–4) buttons.

Alert 1–4 Enable Check Box

The **Alert 1–4 Enable** check box is used to indicate which alert you want to make active. If selected, the alert is active.

Alert 1–4 Mode Radio Buttons

The **Alert 1–4 Mode** radio buttons are used to indicate what mode you want the alert to use. *(Single) Tone, Pulse Tone, and Hi-Lo warble* are all supported. The (Single) Tone and Pulsed Tone use the Low Freq setting only.

Alert 1–4 Low Freq Field

The **Alert 1–4 Low Freq** field is used to set the low frequency used by (Single) Tone and Pulsed Tone mode.

This field value ranges from *0 to 3000Hz.*

Alert 1–4 High Freq Field

The **Alert 1–4 High Freq** field is used to set the high frequency used by Hi-Lo warble mode.

This field value ranges from *0 to 3000Hz.*

Alert 1–4 Level Field

The **Alert 1–4 Level** field is used to set the approximate relative audio level, in dB, for the Alert tones.

This field value ranges from *-60dB to 12dB*.

Alert 1–4 Delay Time Field

The **Alert 1–4 Delay Time** field is used to indicate the time, in seconds, for the alert tone duration.

This field value ranges from *0 to 60 sec*.

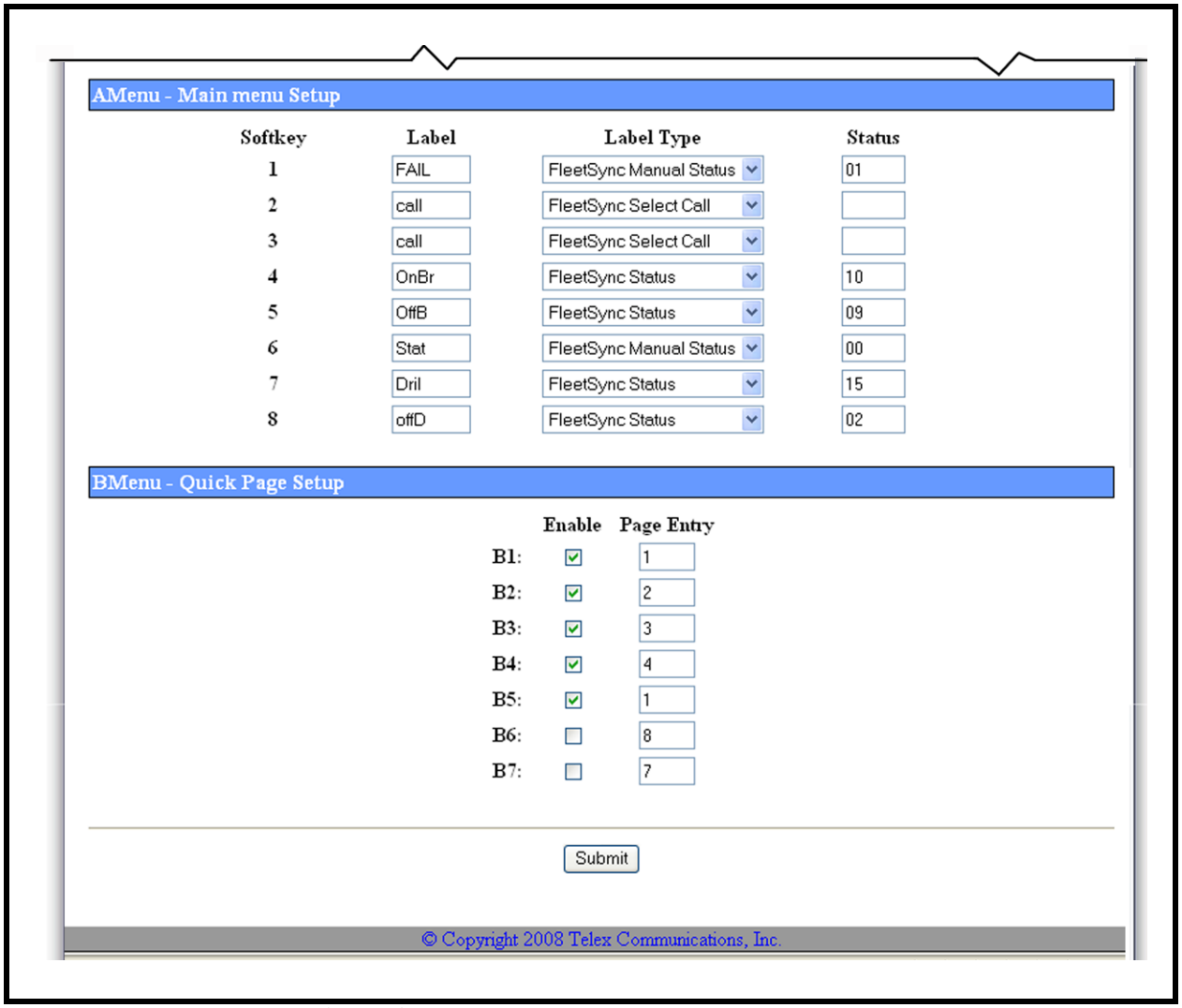


FIGURE 67. System Setup 2 (View 2)

AMenu - Main menu Setup

The **AMenu,** shown in Figure 67, is used to assign a set of up to eight (8) menus to each of the console softkeys.

Softkeys 1–8 Label

The **Softkeys 1–8** label indicates the softkey you are configuring. Once an AMENU has been selected, the operator chooses a command by pressing the softkey (1–8) below the label on the display.

Label Field

The **Label** field is used to assign a four letter description of the command configured in the Label Type menu and Status field. The label displays on the console above softkey (1–8). This is the (XXXX) label often referred to in this manual.

Customized label for FleetSync Menu: Enter a four (4) character label that adequately describes the status code or call type you setup for the softkey. See “Status Field (Kenwood FleetSync only)” on page 106.

Example: If you setup softkey 1 for FleetSync Status with Status ID code 99 (emergency) you might enter *EMER* in the label field, see Figure 68, to indicate the status ID code is an emergency.

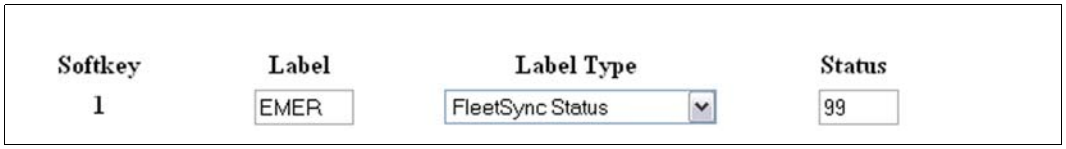


FIGURE 68. FleetSync Status Label Example

Once configured, when the operator selects the AMENU, the *EMER* label appears on the console display, above softkey 1, shown in Figure 69.

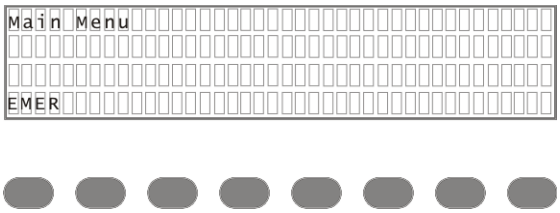


FIGURE 69. FleetSync Display Example

Label Type Drop Down Menu

The **Label Type** drop down menu is used to configure the menu you want to assign to the softkey. Select one of the following options from the drop down menu.

The following Label Type options are discussed in detail below:

NONE
FleetSync Status
FleetSync Manual Status
FleetSync Select Call

FleetSync Status Label Type Option (Kenwood FleetSync only)

The **FleetSync Status Label Type** option configures the softkey to allow sending the assigned default status ID code to a Kenwood FleetSync radio. The operator scrolls and selects a FleetSync ID from the directory or enters an index number and then sends the status ID to the selected ID. The operator cannot override the default status ID code from this menu. Entering the ID manually with the DTMF keypad is also an option.

To **configure the softkey for FleetSync**, do the following:

1. In the Label field, type a **four character label *[XXXX]*** to describe the softkey's purpose. See example on page 104.
2. From the label type drop down menu, select **Fleetsync**.
3. In the Status field**,** type a **two-digit Status ID code**. See the manufacturer's technical data for Status ID code numbers.
   The Status ID code chosen is the default Status ID code for the softkey and cannot be changed by the operator.

FleetSync Manual Status Label Type Option (Kenwood FleetSync only)

The **FleetSync Manual Status Label Type** option configures the softkey to allow sending a Status ID code to a Kenwood FleetSync radio. The operator manually enters a FleetSync ID number, or scrolls and selects from the FleetSync ID directory, or enters an index number and then sends the call. Additionally, the operator can scroll and select either the default or choose an alternative Status ID code from the directory, to send to the field.

To **configure the softkey for FleetSync manual status**, do the following:

1. In the Label field, type a **four character label *[XXXX]*** to describe the softkey's purpose. See example on page 104.
2. From the label type drop down menu, select **Fleetsync Manual Status**.
3. In the Status field**,** type a **two-digit Status ID code**. See the manufacturer's technical data for Status ID code numbers.
   The Status ID code chosen is the default Status ID code for the softkey and can be changed by the operator.

   NOTE: Compare FleetSync with FleetSync Manual Status:

   FleetSync: the Status ID is predetermined by the configuration and cannot be changed by the operator. The FleetSync ID number can be changed by the operator.

   FleetSync Manual Status: the Status ID code and the FleetSync ID number can both be changed by the operator.

FleetSync Select Call Label Type Option (Kenwood FleetSync only)

The **FleetSync Select Call Label Type** option configures the softkey for placing a call to a Kenwood FleetSync radio. The operator manually enters a FleetSync ID number, or scrolls and selects from the FleetSync ID directory, or enters an index number and then sends the call.

To **configure the softkey for FleetSync select call**, do the following:

1. In the Label field**,** type a **four character label *[XXXX]*** to describe the softkey's purpose. See Figure 70.
2. From the label type drop down menu, select **Fleetsync Select Call**.

   NOTE: Leave the Status field blank.

Example: If you setup softkey 1 for FleetSync Select Call you might enter LIST in the label field, see Figure 70, to indicate the softkey opens the directory (list) of FleetSync IDs.

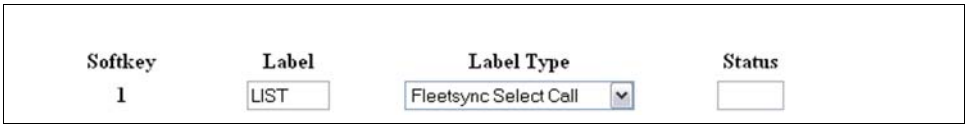


FIGURE 70. FleetSync Call Label Example

When the operator presses the AMENU button, LIST appears on the console display, above softkey 1, shown in Figure 71.

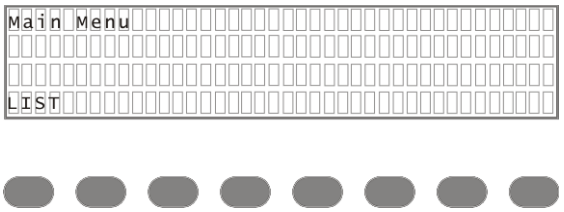


FIGURE 71. FleetSync Call Display Example

NOTE: For more on FleetSync configuration and operation, see the following:
To **configure the line for FleetSync**, see “Multicast Address Setup” on page 41.
To **configure fleet ID numbers,** see “Per Line Setup” on page 47.
To **create a list of Kenwood FleetSync ID numbers,** see “ID Directory” on page 74.
For operation**,** see “AMENU Button (Kenwood FleetSync only)” on page 137.

Status Field (Kenwood FleetSync only)

The **Status** field is used to assign a default status ID code to the softkey. The status ID applies when FleetSync Status or FleetSync Manual Status is selected as the Label Type. See the manufacturer’s technical data for Status ID code numbers.

To create a list of Status ID codes, see “ID Directory” on page 74.

To **configure a Status ID code for the softkey**, do the following:

> In the Status field, enter a **two-digit Status ID** code.
See the manufacturer’s technical data for Status ID code numbers.

NOTE: Additionally, you can configure a list of Status ID codes in the ID directory. See “ID Directory” on page 74.

BMenu - Quick Page Setup

The **BMenu - Quick Page Setup** section is used to configure up to seven (7) softkey pages. Before you setup the BMENU you must already have the “Paging Setup” and “Paging Directory” windows configured for paging.

Enable (B1–B7) Check Boxes

The **Enable (B1–B7)** check boxes are used to indicate the selected softkey, once pressed, sends a page string.

Page Entry Field

The **Page Entry** field is used to identify the page entry number assigned to the page configured in the “Paging Directory” window, see page 80 for more information.

Submit Button

The **Submit** button is used to temporarily save changes to the IP-1616. Submit changes before navigating from this window.

To **permanently save changes,** do the following:

1. Click **Submit**. 

The changes are sent to the IP-1616 in temporary storage.

2. Click **Save to EEPROM**. 

The Save to EEPROM page opens.

3. Click **Save Parameters**. 

Changes are now permanently saved to the IP-1616 console.

CHAPTER 4

Update Firmware

Update Firmware

Telex VoIP Hardware firmware can be updated using **TSM** (Telex System Manager). A copy of TSM is available on the CD included in the shipment with the VoIP hardware or can be downloaded from the Telex website at www.telex.com/RadioDispatch/.

NOTE: VoIP hardware includes the following Telex devices: IP-223, IP-2002, IP-1616, C-6200 and NEO-10.

NOTE: TSM uses .tfb (Telex Firmware Binary) files to update VoIP firmware.

Install TSM

To **install TSM**, do the following:

1. Locate the **setup.exe file** on the Telex CD.
   OR
   Download **TSM** from www.telex.com/Downloads/, see “Download Telex Firmware” on page 111.
2. Double-click **setup.exe**.
   The Telex System Manager install window appears.
3. Click **Next**.
   The Select Installation Folder window appears, see Figure 72.

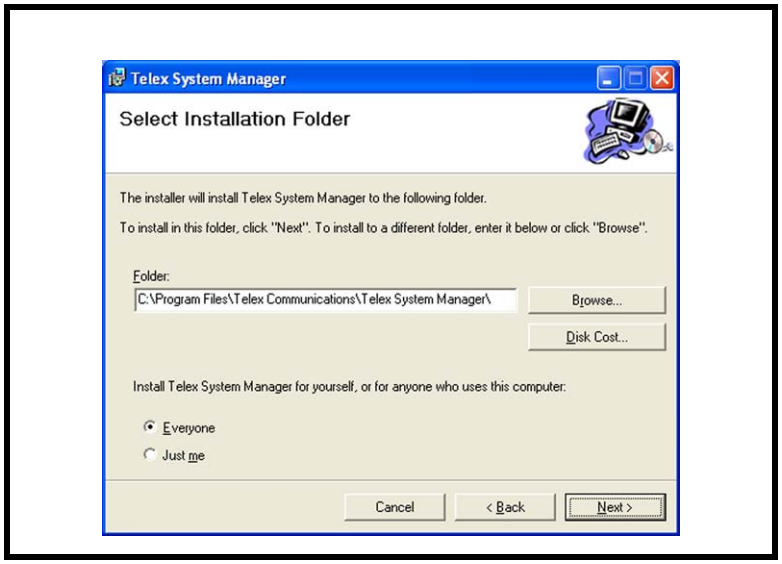


FIGURE 72. Select Installation Folder

4. To specify an installation path for TSM, click **Browse**.
   OR
   To accept the default folder location, leave the **path** entered in the Folder field
   By default, TSM is installed at **C:\Program Files\Telex Communications\Telex System Manager**.
5. To allow any user to access TSM, select **Everyone**.
   OR
   To allow only one user to access TSM, select **Just Me**.
6. Click **Next**.
   The Confirm Installation window appears, see Figure 73.
7. Click **Next**.
   A Please Wait message appears. Once TSM is installed, a success message appears on the Confirm Installation window.
8. Click **Close**.

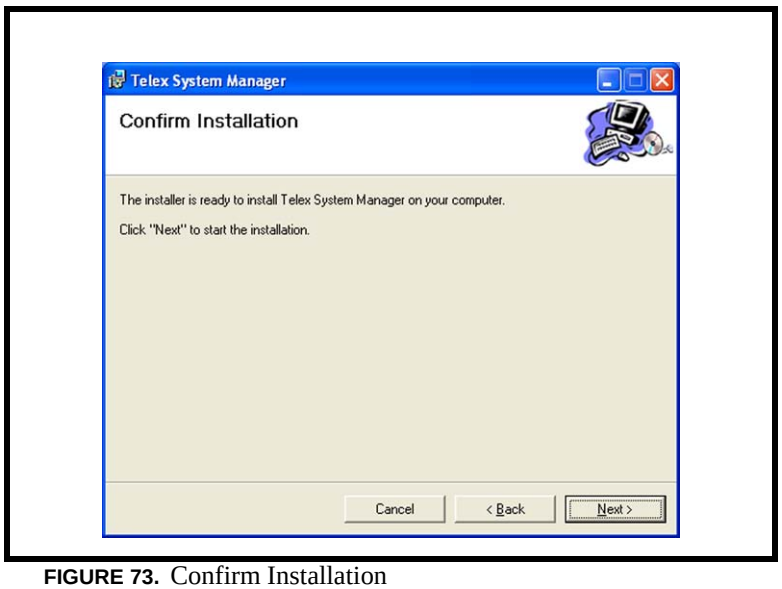


FIGURE 73. Confirm Installation

Download Telex Firmware

When new firmware becomes available it is posted to our website. It can be downloaded at www.telex.com/Downloads/. Check the website periodically for updated firmware.

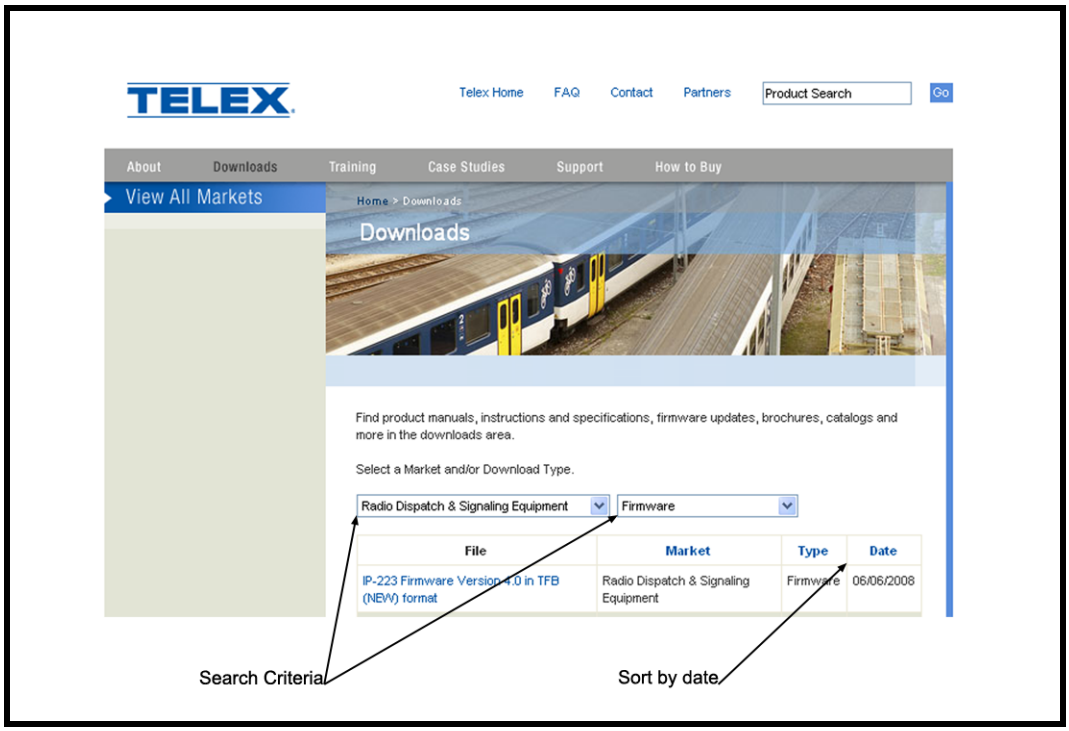


FIGURE 74. Telex Website Firmware Downloads.

To **download updated firmware**, do the following:

1. Set the search criteria to **Radio Dispatch & Signaling Equipment** and **Firmware,** see Figure 74.
2. To sort the files by date, click the **Date column heading**.
3. Locate the **updated firmware file** for your device.
4. Click the **filename**.
   The File Download window opens.
5. Save the **file** to your computer.

Update Firmware Tool Window

NAVIGATION: Selecting *Firmware Update Tool* from the Tools menu opens the Firmware Update Tool window shown in Figure 75.

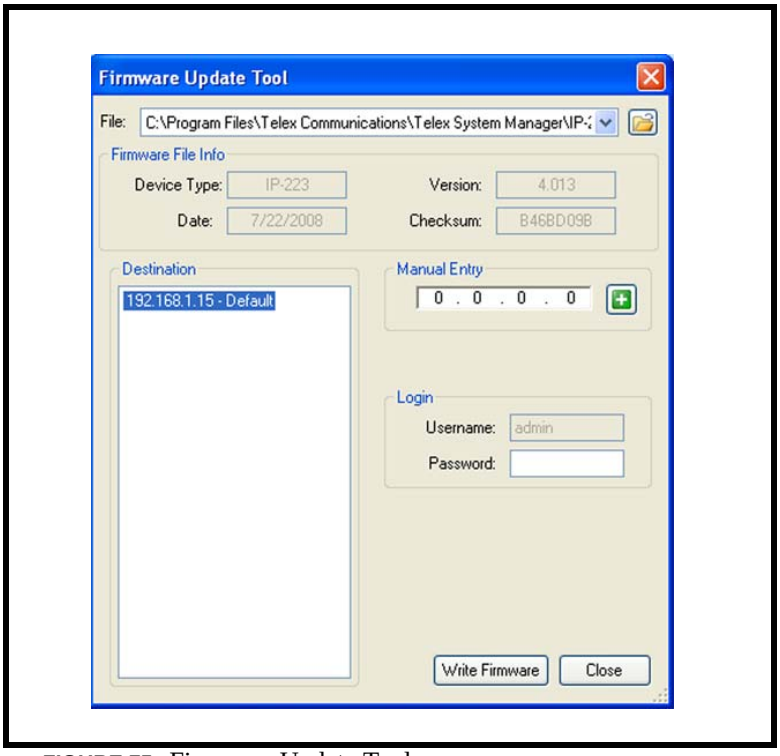


FIGURE 75. Firmware Update Tool

File Field

The **File** field is used to select a firmware file to upload to the VoIP hardware.

Firmware File Info Group Box

Device Type Field

The **Device Type** field displays the type of device supported by the currently selected file in the File field.

Firmware Version Field

The **Firmware Version** field displays the currently selected file's firmware version.

Left Navigation Pane

The **Left Navigation Pane** displays all detected devices from the main dialog's Device list with device types that match the currently selected firmware files. Manually entered IP Addresses also appear in the navigation pane. Once the device is added, it appears in the left navigation pane and is available for selection.

NOTE: If the device you are updating does not automatically appear in the navigation pane, manually enter the IP Address in the Manual Entry field.

Manual Entry Field

The **Manual Entry** field is used to enter the VoIP hardware's IP Address to add to the left navigation pane.

Login Group Box

Username Field

The **Username** field is used to enter the administrator's username.

NOTE: When updating firmware, *admin* is the only administrator's username.

Password Field

The **Password** field is used to enter the administrator's password, if one is required.

Write Firmware Button

The **Write Firmware** button is used to begin the upload process. Once the button is selected, the file specified in the File field is uploaded to the VoIP hardware.

Close Button

The **Close** button is used to close the window.

Upload VoIP Hardware Firmware

Once TSM is installed and your new .tfb file is downloaded, you are ready to upload the VoIP hardware's firmware.

To **upload the VoIP hardware's firmware**, do the following:

1. Click the **TSM shortcut** on your desktop.
   OR
   From your taskbar, click **Start|Programs|Telex Communications|Telex System Manager**.
   The Telex System Manager window opens.
2. Click **Tools|Firmware Update**
   The Firmware Update Tool opens.
3. To locate the .tfb file for upload, click the **folder icon**  .
   The Open window appears.
4. Select the.**tfb file** you want to upload.
   The file is highlighted.
5. Click **Open**.
   The selected file appears in the File field.

   NOTE: If the device does not appear in the list, enter the **VoIP hardware's IP Address** in the Manual Entry field and click the **Add** button  . *The IP Address appears in the left navigation pane.*
6. In the left navigation pane, select the device's **IP Address**.
   The Write Firmware button is active.
7. Click the **Write Firmware** button.
   Firmware update messages are shown in the Status column which provides feedback on the firmware update progress. Once the progress reaches 100%, the firmware is updated.

   NOTE: If an error occurs, the Progress column is reset and an error message appears in the Status column.

NOTE: Once the firmware is uploaded, the device resets.

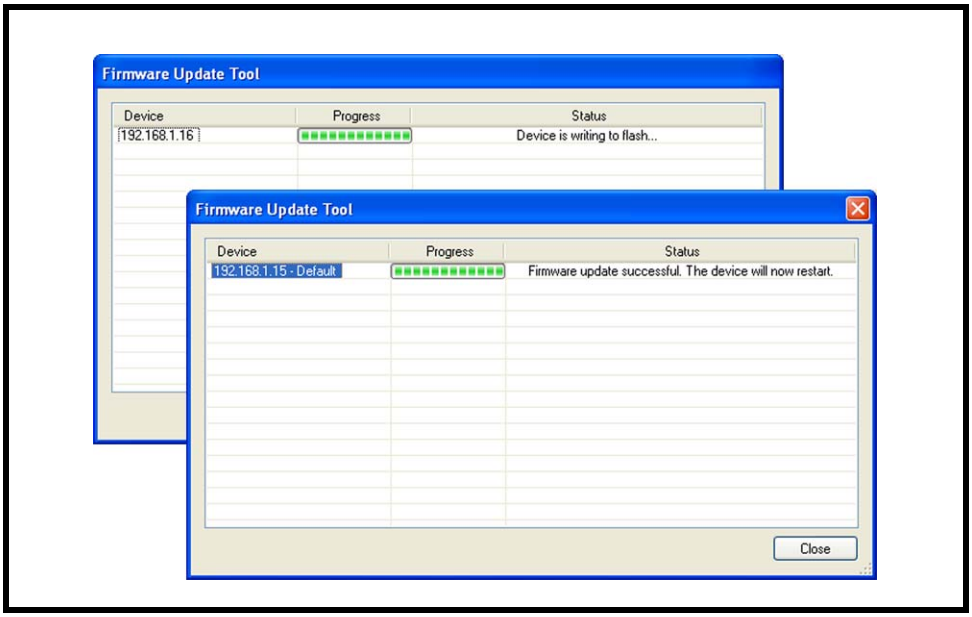


FIGURE 76. Firmware Update Tool— Success Messages

8. Click **Close**.
   The dialog window closes.
9. Click **Close**.

To **access the webpage directly from the Firmware Update Tool window**, do the following:

1. Right-click the device's **entry**.
   The Flyout menu appears.
2. From the context menu, click **Webpage**.
   The Connect To window opens.
3. In the User Name field, enter a **user name**.
4. In the Password field, enter a **password**.
5. Click **OK**.
   The Web Browser's Configuration Welcome window opens.

CHAPTER 5

IP-1616 Console Operation

Console Display

General Display Indications

The IP-1616 **displays general indication** events per line such as FTone number or FTone ID, clock, VU meter, softkey labels, and ANI. These indications appear as text in the top row of the IP-1616 console display. For example, when audio is received on a line, the corresponding RLS button flashes red. When the call is answered, the VU indication for receive audio is shown in the console display as well.

Volume Control Knobs (Select and Unselect)

The **Volume Control** knobs are used to dial the volume up (clockwise) or down (counterclockwise). Each knob controls the speaker next to it.

Speaker (Select and Unselect)

Each **Speaker's** label indicates the audio received is on the selected or unselected line.

Microphone Options

Microphones are connected to the console in a number of ways. A gooseneck microphone can be connected to the microphone jack located above the unselected speaker's knob. Connect desk, headset, handset, or auxiliary microphone to the back panel. See "Back Panel Connections" on page 10 for port locations. Press any PTT button to open the microphone for audio transmission.

DTMF Keypad

The **DTMF Keypad** is a standard 16-key alphanumeric keypad. The 12-digit keypad allows direct digit/alpha entry of phone number, ID, or index numbers. The keypad buttons do not light.

Index Number

The **Index Number** is used to recall a specific ID from the ID directory or specific page entry from the Paging directory for paging while in the CLST menu. You can enter the index number to directly access an ID without having to scroll the list to save time.

To get a list of index numbers and their assigned IDs, see “Printer Friendly Link” on page 83. To get a list of paging IDs, see “Printer Friendly Link” on page 83.

For more information on how to use the index number, see “CLST Menu” on page 116 or “FLTS Call List Menu (Kenwood FleetSync only)” on page 117.

Call History

The **Call History** list is used to view up to 50 of the previous caller IDs. By default, the current caller’s ID appears on the display. To view previously received ID numbers, scroll the list with the **UP** or **DOWN** softkey.

Call Lists

CLST Menu

The **CLST** (call list) menu is used to navigate to and view a list of IDs setup in the ID directory. Select an option from the menu and then scroll the list of IDs or enter an index number. Options available from the CLST menu are: *GENE, FLTS, IDEN, MDC, PHN, RPHN, STAT.* Details for each type are given below.

The CLST menu is configured, by your system admin, to be either enable or disabled. When the CLST menu is enable, *CLST* appears above softkey 8, see Figure 77.

NOTE: The GENE, FLTS, MDC, and STAT call lists are for reference only. The iDEN, PHN, and RPHN call lists can be used to place a call to the ID on the display.

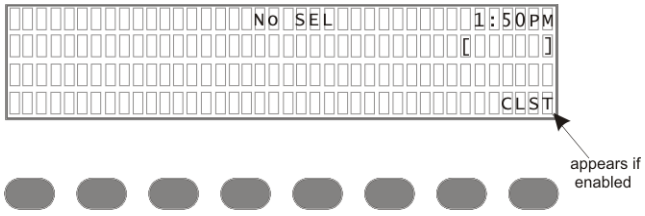


FIGURE 77. CLST Enabled

Enter the CLST Menu

To **enter the CLST menu,** do the following:

> Press the **CLST** softkey.
The call list types appear on the display.

NOTE: To exit the CLST call list menu, press the **EXIT** softkey.

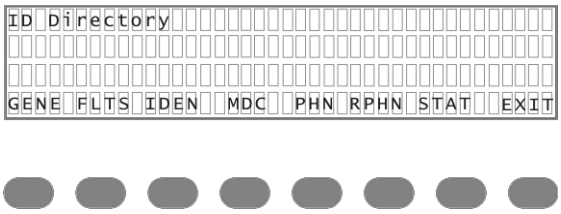


FIGURE 78. Call List Menu

GENE Call List Menu

The **GENE** (generic) call list menu is used to view a list of generic IDs. This list is used for reference only.

To **view the Generic call list**, do the following:

1. Press the **CLST** softkey.
   One of the CLST options is GENE.
2. Press the **GENE** softkey.
   The first generic ID name appears on the console display.
3. Using the UP or DOWN softkey, scroll the list of **generic IDs**.
   Each generic ID and its index number appear as you scroll.
   OR
   Using the DTMF keypad, enter a **three-digit index number**.
   Once the entire index number is entered, the index number and assigned ID appear on the console display.

To **exit the GENE call list menu**, do the following:

1. Press the **softkey 8**.
   The CLST menu appears.
2. Press the **EXIT** softkey.

FLTS Call List Menu (Kenwood FleetSync only)

The **FLTS** (Kenwood FleetSync only) call list menu is used to view the list of Kenwood FleetSync IDs. This list is used for reference only.

To **view the Kenwood FleetSync call list**, do the following:

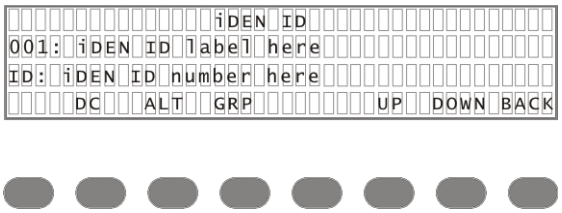
1. Press the **CLST** softkey.
   One of the call list options is FLTS.
2. Press the **FLST** softkey.
   The first FleetSync ID appears on the display.
3. Using the UP or DOWN softkey, scroll the list of **Kenwood FleetSync IDs**.
   A FleetSync ID and its index number appear as you scroll.
   OR
   Using the DTMF keypad, enter an **index number**.
   Once the entire index number is entered, the index number and assigned ID appear on the console display.

   NOTE: To exit the FLTS call list menu, press the **BACK** button and then press the **EXIT** button.

iDEN Call List Menu

The **iDEN** call list menu is used to view and select an ID from a directory of iDEN IDs. From this menu, the console operator can place a Direct Connect or Group Connect call, or send an alert.

iDEN Direct Connect ID Menu



iDEN Group Connect ID Menu

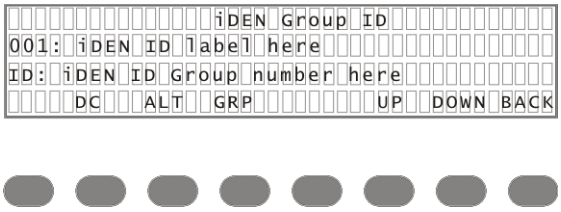


FIGURE 79. iDEN ID Call List Menus

To **place a Direct Connect call to an iDEN phone**, do the following:

1. Press the **CLST** softkey.
   One of the call list options is iDEN.
2. Press the **iDEN** softkey.
   The first iDEN ID in the directory appears on the top line of the console display. See example in Figure 79.
3. Using the UP or DOWN softkey, scroll the list of **iDEN IDs**.
   An iDEN ID and its index number appear on the top line as you scroll the directory. One of two menu options, depending on the type of iDEN ID, appear on the bottom line. See Figure 79 on page 118.
   OR
   Using the DTMF keypad, enter an **index number**.
   Once the entire index number is entered, the index number and assigned ID appear on the console display. One of two menu options, depending on the type of iDEN ID, appear on the bottom line. See Figure 79.

   NOTE: If your directory is set up for both individual and group calling, then, as you scroll the directory, the bottom line of the console display, shown in Figure 79, changes.
4. Choose from the following commands:
   - To place a direct call to the iDEN ID on the console display, press the **DC** softkey.
     A call is placed to the iDEN Direct Connect ID shown on the console display.
   - To send an alert to an individual phone, press the **ALT** softkey.
     An alert is sent to the iDEN Direct Connect ID shown on the console display.
   - To place a call to the iDEN group ID on the console display, press the **GRP** softkey.
     A call is placed to the iDEN Group Connect ID shown on the console display.

To **exit the iDEN call list menu**, do the following:

1. Press the **softkey 8**.
   The CLST menu appears.
2. Press the **EXIT** softkey.

MDC Call List Menu

The **MDC Call List** menu is used to view the list of MDC IDs. This list is used for reference only.

To **view the MDC call list**, do the following:

1. Press the **CLST** softkey.
   One of the call list options is FLTS.
2. Press the **MDC** softkey.
   The first MDC ID in the list appears on the display.
3. Using the UP or DOWN softkey, scroll the list of **Kenwood FleetSync IDs**.
   A FleetSync ID and its index number appear as you scroll.
   OR
   Using the DTMF keypad, enter an **index number**.
   Once the entire index number is entered, the index number and assigned ID appear on the console display.

   NOTE: To exit the FLTS call list menu, press the **BACK** button and then press the **EXIT** button.

PHN Call List Menu

The **PHN** (phone) call list menu is used to select and place a phone call to a phone ID from the directory, see Figure 81.

To **place a phone call,** do the following:

1. Press the **SEL** button for the desired phone line.
   The SEL button lights.
2. Press the **CLST** softkey.
   One of the call list options is PHN.
3. Press the **PHN** softkey.
   The first phone ID in the directory appears on the top line of the console display. DIAL and REDIAL commands appear on the bottom line.
4. Using the **UP** or **DOWN** softkey, scroll the list of phone IDs**.**
   A phone ID and its index number appear as you scroll.
   OR
   Using the DTMF keypad, enter an **index number**.
   Once the entire index number is entered, the index number and assigned ID appear on the console display.
5. Press the **DIAL** softkey.
   The phone call is placed.

   NOTE: To call the last phone ID dialed on the line, press the **REDIAL** softkey.

To **exit the PHN call list menu**, do the following:

1. Press the **softkey 8**.
   The CLST menu appears.
2. Press the **EXIT** softkey.

RPHN Call List Menu

The **RPHN** (radio phone) call list menu is used to place a call to a radio phone ID selected from the directory.

To **place a radio phone call,** do the following:

1. Press the **SEL** button for the desired line.
   The SEL button lights red.
2. Press the **CLST** softkey.
   One of the call list options is RPHN.
3. Press the **RPHN** softkey.
   The first Radio Phone ID appears on the console display. DIAL and REDIAL options appear on the bottom line.
4. Using the UP or DOWN softkey, scroll the list of **radio phone IDs.**
   A radio phone ID and its index number appear as you scroll.
   OR
   Using the DTMF keypad, enter an **index number**.
   Once the entire index number is entered, the index number and assigned ID appear on the console display.
5. Press the **DIAL** softkey to call the radio phone ID on the console display.
6. Press the **REDIAL** softkey to call the last radio phone ID dialed on the line.

NOTE: To exit the RPHN call list menu without sending a call, press the **MENU** button.

STAT Call List Menu (Kenwood FleetSync only)

The **STAT (Status)** call list menu is used to view the FleetSync status codes in the ID Directory. The status call list is used for reference only. You can also lookup status codes using the index number of the status code you want to view. If you enter an index number that is not assigned to a status code, *ERROR, Invalid Index Number* appears on the display.

Emergency Calls

Emergency Calls

When the IP-1616 receives an **emergency call**, an audible hi-lo warble is emitted from the speaker. The console display, shown in Figure 80 “Emergency Display” appears.

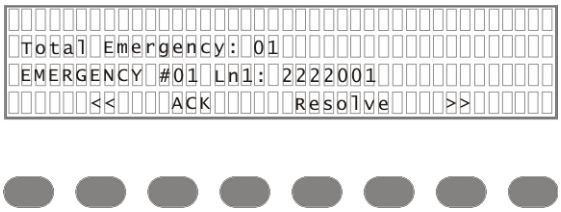


FIGURE 80. Emergency Display

To **acknowledge or resolve the emergency**, do the following:

> Press the **ACK** softkey to acknowledge the emergency.
OR
Press the **RSLV** softkey to resolve the emergency,

To **view the previous emergency calls**, do the following:

> Press the << softkey.
The previous emergency call displays.

The **view the next emergency call**, do the following:

> Press the << softkey to navigate to the previous emergency.
OR
Press the >> softkey to navigate to the next emergency.
The previous or next emergency call appears.

Phone Lines

Phone Lines can be configured for use on the IP-1616. Additionally, a line can be configured for both radio and normal phone calling. Use the NP/RP softkey toggle to switch from normal phone to radio phone. See “NP/RP Softkey” on page 126 for more information.

NOTE: PTT does not work when using a phone line.

Keypad A-D Buttons

The **Keypad A–D** buttons are used to navigate the console menu.

A - The A button is used to move up the list of phone numbers in the ID directory.
B - The B button is used to move down the list of phone numbers in the ID directory.
C - The C button is used to redial the previous phone number.
D - The D button is used to dial the phone number in the display.

Placing a Phone Call

Placing a call is accomplished in one of two ways, manually from the DTMF keypad or from a preprogrammed directory accessed from the call list menu, see Figure 81.

To **manually place a phone call**, do the following:

1. Select the **line** you want to use to place a call.
2. Using the DTMF keypad, enter the **phone number** you want to call.
   The numbers entered appear on the console display.
   OR
   To clear unwanted digits, press the line's **RLS** softkey.
   The digits disappear from the display and The phone call is terminated.

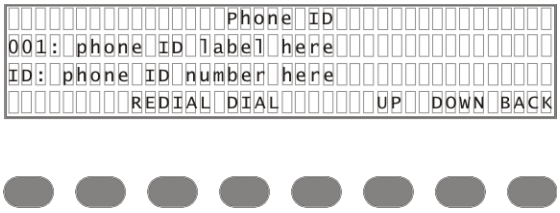


FIGURE 81. Phone ID Call List Menu

To **place a phone call using the Phone ID call list menu**, do the following:

1. On the IP-1616 console, select the **phone line** you want to place a call from.
   PHONE appears on the display.
2. Press the **CLST** softkey and then press the **PHN** softkey.
3. Using the **UP** and **DOWN** softkeys, scroll the ID directory until you see the phone number you want to call.
   OR
   Using the DTMF keypad, enter the **index number** of the phone number you want to call.
4. When the phone number you want to call appears in the display, press the **DIAL** softkey.
   The selected phone number is called.

   NOTE: To call the last phone ID dialed on the line, press the **REDIAL** softkey.

To **exit the PHN call list menu**, do the following:

1. Press the **softkey 8**.
   The CLST menu appears.
2. Press the **EXIT** softkey.

Answering a Phone Call

When **answering a phone call**, the phone line goes offhook and the received audio is then routed to the handset or headset earpiece. A call coming into the console can be configured to have an audible ring and/or a blinking LED. Any selected line's audio is now routed into the select speaker, handset, or headset. If you are speaking on another selected phone line it is automatically put on hold.

To **answer an incoming phone call**, do the following:

> Press the **SEL** button for the phone line that is ringing.
  The phone call is answered.

Putting a Phone Line On Hold

To **put a phone line on hold**, do the following:

> After the call is initiated, press the **SEL** button.
The phone line's SEL button blinks and the phone line audio is routed to the unselect speaker.

- To talk on a phone line already on hold, press the **SEL** button for the desired line to release the hold.
- To put the phone line on hold, press any other select button.

Muting a Phone Line

The **MUTE** button is used on phone lines to mute audio received through the speaker. Mute is most often used to set the audio level to *0dBm*, however, mute can be set by the console admin to allow a small amount of audio to play while muted.

NOTE: Phone lines on hold are, by default, play through the console's unselect speaker.

To **mute undesired audio**, do the following:

> Press the **MUTE** button for the line you want to mute.
The MUTE button lights red to indicate the muted condition.

Sending a Hook-Flash

Hook Flash simulates a quick offhook/onhook/offhook cycle. It is most commonly used in the call-waiting function on a standard phone. Hook-flash is also used to transfer calls.

To **switch from an engaged line to a caller waiting on the same line**, do the following:

1. Press and quickly release the **RLS** button.
The incoming call is received.
2. Press the **RLS** button to switch back to the first call.

Releasing a Phone Line

To **release a phone line when the call is done**, do the following:

> Press and hold for one second and release the **RLS** button.
The line is released.

Per Line Selection

SEL button

The **SEL** (Select) button is used to select a specific line. Once the desired line's select button is pressed, the audio received on the line is placed on the select speaker and the previously selected line is disengaged. If the handset or headset is taken offhook, the audio is transferred to the earpiece.

If the default label is associated to the line's selected line's selected function tone, see Figure 82, it appears on the top line of the display.

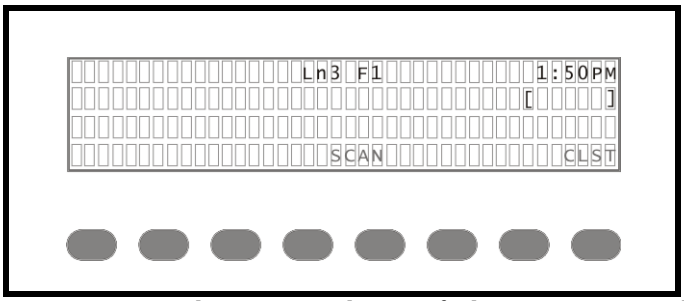


FIGURE 82. Select Line Display—Default Function Tone Label

If a customized label is associated to the line's selected function tone, see Figure 83, it appears on the top line of the display.

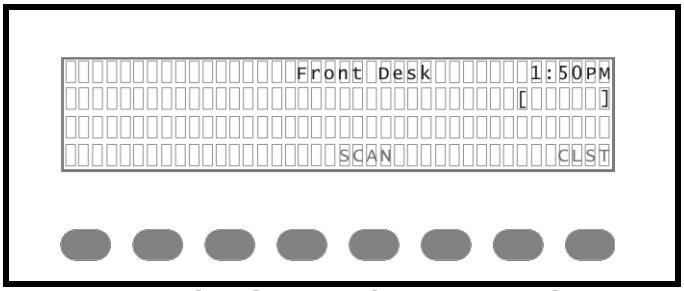


FIGURE 83. Selected Line Display—Customized Function Tone Label

RLS button

The **RLS** (release) button is used to release a line from select mode. Once pressed, the Release button deselects the line.

- A blinking Release button indicates the line is being monitored for activity through the line activity monitor. The line can be configured to monitor for up to one (1) minute.
- A steady lighted Release button indicates TX block is occurring. The button is available only when the line is currently selected, unselected, or offhook. When no line is currently selected *NO SEL* appears in the display, see Figure 84.

NOTE: To generate a flash-hook on a phone line, quickly press and release the **RLS** button. See “Phone Lines” on page 121 for more information.

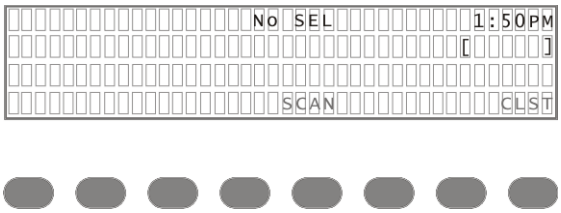


FIGURE 84. No Line Selected Display

MUTE Button

The **MUTE** button is used to mute unselected lines. Once pressed, the Mute button lights and the volume meter, shown in Figure 85, momentarily displays to indicate the predefined volume level in muted/unmuted mode. A minimum volume level is configured by your console admin if a minimum volume of unselected audio is desired.

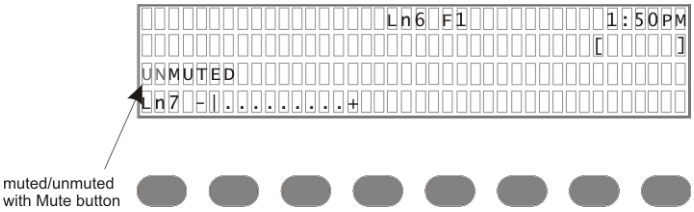


FIGURE 85. Mute Button Display

To **mute an unselected line**, do the following:

> On an unselected line, press the **Mute** button.
The Mute button lights and the volume meter (UNMUTED) momentarily appears on the display.

To **deselect mute mode**, do the following:

> On an unselected line, press the lighted **Mute** button.
The volume meter (UNMUTED) momentarily appears on the display.

NOTE: Once the line is unmuted, the volume is adjustable with the volume ▼ and ▲ buttons.

▼ and ▲ Buttons

The ▼ and ▲ (volume control) buttons are used to increase ▲ or decrease ▼ the volume of the selected line. Once pressed, the volume meter appears and the indicator moves left to indicate decreasing volume or right to indicate increasing volume.

InPTT Button

The **InPTT** button is used to open the microphone for the selected line. Other selected lines are ignored. This allows you to be able to respond to a single line without have to reset a group, if one is selected. Once pressed and held down, the InPTT button lights and audio is transmitted through the microphone. When the button is released the microphone is disengaged.

NOTE: The InPTT button can be disabled per line by your console administrator.

Scan Softkey

The **Scan** softkey is used to scan the frequencies on the selected line. If the scan feature is enabled for the selected line, *SCAN* appears on the console above softkey 5, see Figure 86.

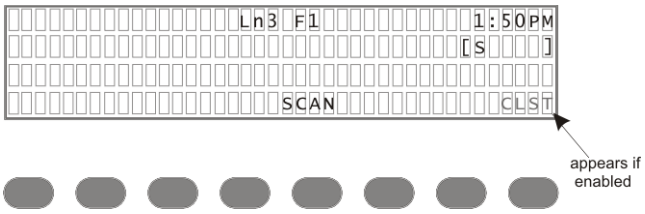


FIGURE 86. Scan Display

To **scan the line**, do the following:

1. Select the **line** you want to scan.
   The SEL button lights. An S appears in the brackets on the upper right corner of the display.
2. Press the **SCAN** softkey.
   The line is scanning as indicated by the S in the brackets.
3. Press the **SCAN** softkey to end scanning.
   The line is no longer being scanned and the S in the bracket on the upper right corner of the display disappears.

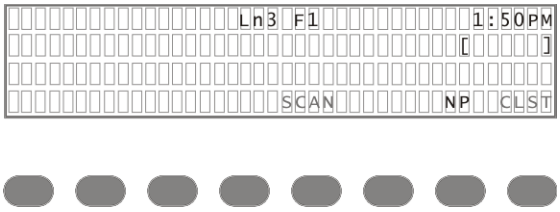
NP/RP Softkey

The **NP/RP** (normal phone/radio phone) softkey is used to toggle between a radio or phone if the line has been configured to be both.

To **toggle between radio phone and normal phone**, do the following:

1. Press the **NP (or RP)** softkey until the device you want to call appears on the display
2. Select a **phone line**.

Normal Phone Selected



Radio Phone Selected

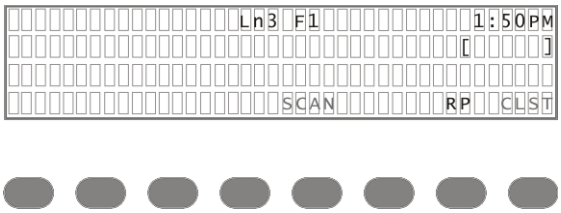


FIGURE 87. NP/RP Display

Group Selection

GRP button

The **GRP** button is used to manually select a group of lines. Once pressed, the GRP button lights and lines can be selected to add to the group. The GRP console display is shown in Figure 88.

NOTE: Normal phones and radio phones can not be selected as part of a group.

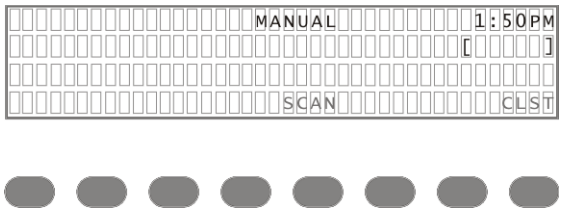


FIGURE 88. Group Select Display

To **manually select a group**, do the following:

1. Press the **GRP** button.
   The GRP button lights and MANUAL appears on the display.
2. Press the **SEL** buttons for lines you want to add to the group.
   Each selected line's select button lights.
3. To deselect unwanted entries press the **RLS** button.
   The selected line is deselected
4. Press the line's **SEL** button, to add more lines to the group.
5. Press and hold the **Transmit** button to talk on all lines in the group.
   The transmit button led lights, all selected line's InPTT buttons lights, and the microphone is open for transmission.
   OR
   Press the line's **InPTT** button to talk on one selected line while in group mode.
   The line's InPTT button light and the microphone is open for transmission.
6. Press the **GRP** button and then press one of the selected line's **RLS** buttons to disengage the group,
   All selected lines are disengaged

G1 Button

The **G1** button is used when a predetermined group is known and used frequently. Once pressed, the G1 button lights and the line's buttons for members of the group light.

NOTE: Normal phones or radio phones can not be selected as part of a group.

NOTE: When a PTT is selected, the function tone that corresponds to the line is sent on that line. Before you select the group, verify the function tone for the line is the one you want to send.

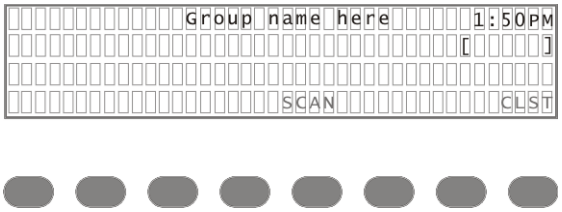


FIGURE 89. Group (G1) Display

To **call the predefined group**, do the following:

1. Press the **G1** button.
   Select buttons for each line in the group lights and the name of the group appears on the display.
2. Press and hold the **Transmit** button to talk on all lines in the group.
   The transmit button LED lights, all selected line's InPTT buttons light, and the microphone is open for transmission.
   OR
   Press the line's **InPTT** button to talk on one selected line while in group mode,
   The line's InPTT button light and the microphone is open for transmission.

   NOTE: If a InPTT button does not light when pressed, it is disabled for the line.
3. Press one of the selected line's **REL** buttons to disengage the group,
   All selected lines are disengaged

Transmit

Function (F1–F16) Tone Buttons

The **Function (F1–16) Tone** buttons are used to select from up to 16 different function tones that are assigned to each line. Once a line is selected, the last-used function tone button is selected as indicated by the lighted function tone button(s). The line must be selected to change the function tone. A function tone label appears on the top line of the display represented by the default *Ln (1–8) F(1–16)* label, see Figure 82, or an alphanumeric name assigned by your console admin, see Figure 83.

If a group PTT is sent, the function tone corresponding to each line is sent on that line. Verify the function tone for the line is the one you want to send with the group before you select the group.

To **change the function tone**, do the following:

1. Press the **SEL** button.
2. Press a function tone button **F1–F16**.
   The selected function (1–8) button lights and a function tone label, see Figure 82 and Figure 83 appears on the console display.

Transmit Button

The **Transmit** button is used as PTT. Once pressed and held, the LED above the Transmit button lights, indicating the microphone is open for sending audio to the selected line(s).

To **transmit audio on selected line(s)**, do the following:

1. Press the **SEL** button for the desired line.
   OR
   To select all lines, press the **TxALL** button.
   TxALL appears on the display.
   OR
   Select a group with the **G1** button.
   The assigned group name appears on the display.
   OR
   Press the **GRP** button and **SEL** button for each desired line.
   MANUAL appears on the display.
2. Press the **Transmit** button.
   The selected line's InPTT button lights and audio is transmitted to the selected line(s).
3. **Speak** into the microphone.
   The VU meter appears in the IP-1616 console display as you talk.
4. To receive audio, release the **Transmit** button.
   Audio is received through the console's select speaker.
5. When the call is finished, press the **REL** button.
   The line is disengaged.

Alert (1–4) buttons

The **Alert (1–4)** buttons are used to send an alert to a selected line. Once a line has been selected, an alert can be sent with one of the Alert (1–4) buttons.

To **send an alert tone,** do the following:

1. Press the **SEL** button.
   The SEL button lights and the selected line is activated.
2. Press an **Alert (1–4)** button.
   The InPTT button lights and the alert is sent to the selected line.

Intercom Button

Intercom is considered a non-PTT based audio stream. Once the intercom button is pressed and held down, the console transmits audio without activating the radio push-to-talk. The intercom button is used for communication between parallel consoles.

Intercom to Parallel Console

To **intercom to a parallel console**, do the following:

1. Select the desired **line**.
   The select button lights.
2. Press the **INTERCOM** button.
   The intercom button lights. You are now in parallel with the selected console.

MON Button

The **MON** (Monitor) button is used to send a packet burst, similar to a frequency change, to a remote radio, instructing the radio to open squelch or ignore **CTCSS** (Continuous Tone-Coded Squelch System) for monitoring line activity.

To **monitor a call**, do the following:

> Press the **MON** button.
  The MON button lights and the selected line is monitored.

Page Button

The **Page** button opens the paging options configured by your console admin. Once pressed, the Page button lights and the Page menu, see Figure 90, appears on the display. The softkeys are used to select the person(s) or group to send a page. You can choose to STK (stack), CLR (clear), SEND, or discard the page.

The talk time allowed after a page is sent, up to *32 seconds*, is configured by your console admin. If no talk time is configured, you must press the Transmit button to open the microphone to send audio.

Available following page commands are discussed in detail below:

LAST - recalls the last page sent

STACK (Stack) - stacks the page to send to multiple users

CLR - clears the currently stacked pages.

SEND - sends a page to the selected page entry

Last Command

To **recall and send the last page sent**, do the following:

1. Press the **PAGE** button.
   The PAGE button light and the page menu with the first three pages in the paging directory appear.
2. Press the **LAST** softkey.
   A page is sent. A confirmation, see Figure 93, appears on the display.

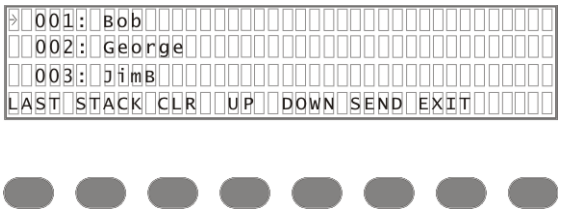


FIGURE 90. Page Menu

Send Command

To **select and send a page**, do the following:

1. Press the **PAGE** button.
   The PAGE button light and the page menu, with the first three pages in the paging directory appear.
2. Press the **UP** or **DOWN** softkey to scroll the list of page entire.
   The first three page entries (up to 100 total) appear as you scroll. An arrow to the left of the page entry indicates the selected page.
   OR
   Enter the **index number** with the DTMF keypad to directly access a specific page entry.
   The page entry for the index number you enter is selected as indicated by the arrow to the left of the page entry.

   NOTE: To exit the page menu without sending a page, press the **EXIT** button.
3. Press the **SEND** softkey to send the page.
   The page is sent.
   OR
   If talk time is setup for the page, the microphone is open for a predefined amount of talk time. A confirmation, shown in Figure 93 appears on the display. A beep indicates when the talk time begins.

   NOTE: Once a Page is sent it must complete the send tones and transmit audio cycle before the page menu is available for selection again. After the page menu appears on the display you can send another page or press the **EXIT** button.

   NOTE: If the selected line is a phone line an error message, shown in Figure 91, appears. To discard the line selection and return to the Page menu, press the **STOP** softkey.

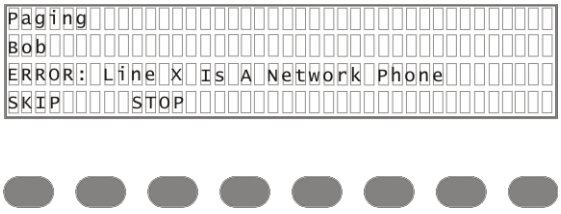


FIGURE 91. Paging Error

Stack Command

To **stack and send a individual page**, do the following:

1. Press the **PAGE** button.
   The PAGE button lights and the page menu with the first three pages in the paging directory appear.
2. Press the **UP** or **DOWN** softkey to scroll the list of page entries.
   The page entries (up to 100) appear as you scroll. An arrow to the left of the page entry indicates the selected page.
   OR
   Enter the **index number** with the DTMF keypad to directly access a specific page entry.
   Once all digits have been entered, the page entry for the index number you enter is selected as indicated by the arrow to the left of the page entry.
3. Press the **STK** softkey, to add the page entry to the stack.
   An asterisk appears between the left arrow and page entry, see Figure 90.
   OR
   Press the **CLR** softkey to delete a page entry from the stack.
   The asterisk disappears.
4. Repeat **steps 3** until all page entries you want to stack are included.

   NOTE: To exit without sending a page, press the **EXIT** softkey.
5. Once the stack is established, press the **SEND** softkey.
   A page is sent to the members of the stack.
   OR
   If talk time is setup for the page, the microphone is open for a predefined amount of talk time. A confirmation, shown in Figure 93 appears on the display. A beep indicates when the talk time begins..

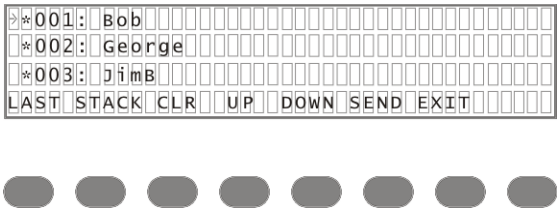


FIGURE 92. Stacked Page

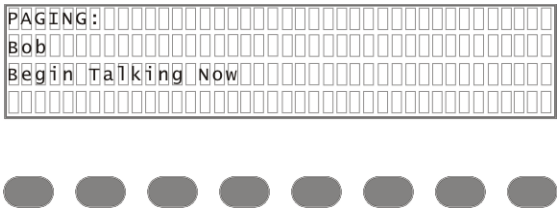


FIGURE 93. Send Page

Important: Once a Page is sent, it must complete the send and transmit cycle before the page menu is available for selection. After the page menu reappears on the display you can send another page or press the **EXIT** button.

6. Press the **LAST** softkey to recall and send the last page entry.
   A page is sent.
   OR
   If talk time is setup for the page, the microphone is open for a predefined amount of talk time. A confirmation, shown in Figure 93 appears on the display. A beep indicates when the talk time begins.
7. Once you are done paging, press the **EXIT** softkey.

NOTE: If the selected line is a phone line an error message, *ERROR: Line X Is A Network Phone*, appears. See Figure 91. To remove the selected line from the stack, press the **SKIP** softkey. Pressing the STOP softkey removes all pages from the stack.

Global Functions

RX ALL Button

The **RX ALL** button is used to put all selected and muted lines into unselected mode. The audio is routed to the unselect speaker.

TX All Button

The **TxALL** (Transmit All) button is used to select all lines, with one button press, to transmit audio. Once selected, the TxALL button and all selected line's buttons light. To disengage the selection, press any one of the selected line's **release** buttons.

NOTE: Any lines that are currently in crosspatch mode can not be selected for transmit all.

NOTE: Phone lines can not be included in the TxALL command.

MUTE Master Button

The **MUTE Master** button is used to mute all unselected lines. The mute mode is ideal when monitored lines need to be silenced to concentrate on a selected call. Once pressed the unselected line's Mute buttons light. Mute mode is active for either a predefined period of time, up to one (1) minute, configured by your console admin, or until the master mute button is pressed again. Upon power-up, all lines are unmuted.

NOTE: The volume control meter does not appear when using the master mute button.

NOTE: Selected lines can not be muted.

IRR Button

The **IRR** button is used to playback audio received/transmitted. Once the IRR button is selected, the IRR buttons lights and the IRR menu appears on the display. You can listen to up to the last four (4) minutes of recorded audio. You can choose whether to listen to select or unselect audio as well as the time frame from which to begin or end playing.

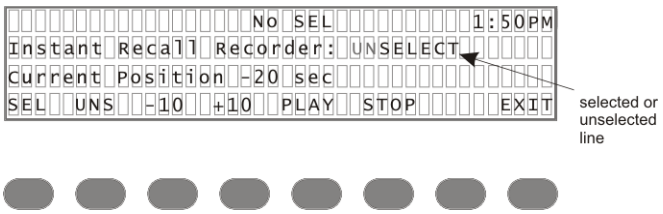


FIGURE 94. IRR Menu

IRR Menu

To **playback audio using the IRR menu option**, do the following:

1. Press the **IRR** button.
   The IRR menu appears on the display.
2. Press the **SEL** or **UNS** softkey to change the audio source for playback to select.
   The playback audio changes to SEL.

   NOTE: *SEL* recalls the selected line's audio for playback.
   UNS recalls the unselected line's audio for playback.
3. Press **PLAY**.
   STOP appears in the console display and the last 10 seconds (default) of audio is played from the audio source selected. The audio is continuously looped until either STOP is pressed or the menu is exited.

   NOTE: If you want to stop the audio before the audio plays through, press **STOP**.
   PLAY appears in the console display and the audio is stopped. Press **PLAY** to resume the playback.
4. Once you are finished listening to the audio playback, press the **IRR** button to exit.
   OR
   Press the **UNS** softkey to change the audio source.
5. Press the **Exit** softkey or press the **IRR** button again to exit.

To **change the amount of playback time and listen to a recording**, do the following:

1. Press the **IRR** button.
   The IRR menu appears on the display. By default, the current position time is -20.
2. Press the **-10 or +10** softkey.
   The current position time (in seconds) changes, up or down, as you press the buttons.
3. Press the **Play** softkey to listen to the recording.
   The current position time begins to count down, and audio is played through the speaker.

XP (Crosspatch) Button

The **XP** (crosspatch) menu is used to crosspatch one or more lines. Only one crosspatch is allowed per console. Only one line can have PTT control within the crosspatch at a time.

Once the crosspatch is established it remains active until the crosspatched lines are disengaged or the DRPALL softkey is pressed. When the crosspatch is engaged and no audio is transmitted, the crosspatch function is disengaged after the predefined amount of time, up to one (1) minute, configured by your console admin.

NOTE: Phone lines can only be added to crosspatch groups once the phone call is received or placed.

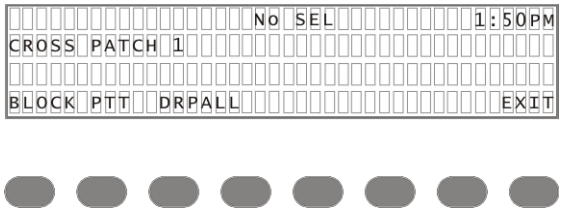


FIGURE 95. Crosspatch Menu

To **crosspatch lines**, do the following:

1. Press the **XP** button.
   The XP button lights.
2. Press the **SEL** button for each line you want to crosspatch.
   The Select buttons light.
   OR
   Press the **RLS** button to release unwanted selected lines.
   The select button for the line is dark.
3. Press the **EXIT** button.
4. Press the **XP** button again to return to the crosspatch group and participate or for make more selections.
   The XP button no longer blinks. The crosspatch menu displays and audio is played through the unselect speaker.

BLOCK Softkey

The **BLOCK** softkey is used to disengage the line that currently has control of the PTT operation. This allows another line to take control of the crosspatch. The dropped line cannot select PTT until another line takes control. first. Use the crosspatch block to rid noise or terminate an offending user's line.

To **block a crosspatched line, while in the XP menu**, do the following:

> Press the **BLOCK** softkey.
  Audio from the blocked line is no longer received.

PTT Softkey

The **PTT** softkey opens the microphone to transmit audio from the console to all lines selected in the crosspatch.

To **talk on a crosspatch group**, do the following:

> Press and hold the **PTT** softkey while speaking into the microphone or headset.
  The InPTT buttons for each crosspatched line lights and the microphone is open to transmit audio.

DRPALL Softkey

The **DRPALL** softkey is used to disengage a crosspatch group. Once the DRPALL softkey is selected, all lines in the crosspatch are disengaged. The crosspatch menu is still available for a new crosspatch group. To continue crosspatching, select desired lines. To exit the crosspatch menu, press the **EXIT** softkey.

SUP Button

The **SUP** button is used to disable all parallel IP-1616 consoles on a particular line. On the consoles being supervised, the SUP button blinks.

NOTE: Supervisor control can be configured by your console administrator to timeout, up to 3 1/2 minutes, after it is initiated. If not configured to time out supervisor control must be manually disengaged.

NOTE: If the console does not have supervisor capability, the message: *Supervisor button is disabled* appears on the display when the SUP button is pressed.

To **supervise a line**, do the following:

1. Select the **line** you want to supervise.
   The line's SEL button lights.
2. Press the **SUP** button.
   The SUP button lights.
3. Press and hold the **Transmit** button to talk on the supervised line(s).
   The Transmit button's LED and the selected line's InPTT button lights. The microphone is open for sending audio.
4. Press the line's **RLS** button to disengage a line.
   The line is released or the individual line is released from the group.
5. Press the **SUP** button to deactivate supervisor control.
   The SUP button is dark, the line is still selected, and supervisor control is disengaged.

To **supervise a group**, do the following:

1. Press the **GRP** button.
   The selected line's SEL buttons light.
2. Select the **lines** for the group.
   The line's select buttons light.
3. Press the **SUP** button.
   The SUP button lights red and the selected line's audio is heard through the supervisor's console speaker.
4. Press the **Transmit** button to talk on the supervised line(s).
5. Press the line's **RLS** button to disengage an individual line from the group.
   The line is released or the individual line is released from the group.
6. Press the **SUP** button to deactivate supervisor control.
   The SUP button is dark, the line is still selected, and supervisor control is disengaged.
7. Press the **GRP** button to release the selected lines.
   The GRP button is dark.
8. Press a line's **RLS** button.
   All lines in the group are deselected.

Custom Menus

AMENU Button (Kenwood FleetSync only)

The **AMENU** button is used to access a menu that is configured, by your console admin, for Kenwood FleetSync commands and options.

Important: The A**MENU** softkeys labels are predefined by your console admin with a four letter description of the configured command and are referred to as (*XXXX*) in the following descriptions.

(XXXX) Softkey

The **(*XXXX*)** softkey is used to select a FleetSync menu. Once a softkey is pressed, the FleetSync Status, FleetSync Manual Status, or FleetSync Select Call menu appear.

Example: **Admin programs the console:** The softkey is labeled STUN. FleetSync IDs for RADIO 101 through RADIO 110 are configured. The default Status ID code is set to 91 (disables the radio from further use in case of loss or theft).
Console operator decides to send stun status to radio 109: The STUN softkey is pressed and the FleetSync Status menu appears. The first FleetSync ID to appear on the console is RADIO 101. The operator scrolls the list of IDs until RADIO 109 appears on the console display. The operator presses the SEND softkey.
Result: RADIO 109 is disabled with the Status ID code sent by the console operator.

Main Menu - FleetSync Status (Kenwood FleetSync only)

The **FleetSync Status** menu, shown in Figure 96, is used to send the default Status ID code, assigned to the softkey, to the FleetSync ID you select from the directory or recall using the FleetSync ID's index number. Once a FleetSync Status softkey is pressed, *Main Menu - FleetSync Status* appears on the top row of the display. The first FleetSync ID in the directory appears next to the index number for the ID. Menu commands *UP, DOWN, SEND,* and *BACK* are available for selection and discussed below.

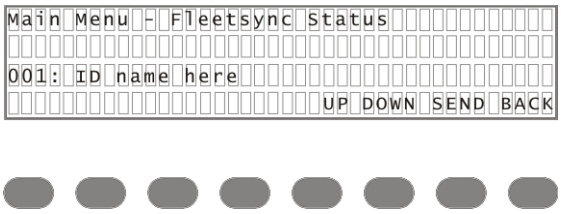


FIGURE 96. FleetSync Status Menu

To **send a FleetSync Status ID code, while in the FleetSync Status menu,** do the following:

1. Using the **UP** and **DOWN** softkeys, scroll the list of FleetSync ID numbers.
   A FleetSync ID and its index number appear as you scroll.
   OR
   Using the DTMF keypad, enter an **index number**.
   Once the entire index number is entered, the index number and assigned ID appear on the console display.
2. Once the ID you want to send the Status ID to appears, press the **SEND** softkey.
   Sending Status... appears on the display. The status ID code is sent and the Fleetsync Status menu appears.

   NOTE: To return to the main menu, press the **BACK** button.

   NOTE: To exit the menu without sending a status ID code, press the **AMENU** button.

Main Menu - FleetSync Manual Status (Kenwood FleetSync only)

The **FleetSync Manual Status** menu, shown in Figure 97, is used to manually select a Status ID code and FleetSync ID. Once a FleetSync Manual Status softkey is pressed, *Main Menu - FleetSync Manual Status* appears on the top row of the display. The ID field is blank and the default status code is selected. Menu commands and options *LIST, STAT, MSTAT, DEL, CLEAR, SEND,* and *BACK* are available for selection and discussed below.

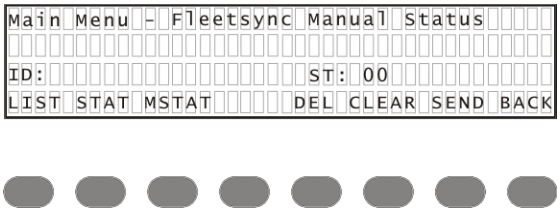


FIGURE 97. FleetSync Manual Status Menu

To **manually enter an ID number to send default status to, while in the FleetSync Manual Status menu,** do the following:

1. Using the **DTMF keypad**, enter the ID numbers.
   The entered numbers appear in the ID field. The default status ID appears in the ST field.

   NOTE: To delete the last character entered, press the **DEL** softkey.

   NOTE: To delete the entire entry, press the **CLEAR** softkey.
2. Press the **SEND** softkey.
   Sending Status appears in the display.

   NOTE: To select a FleetSync ID from the directory, see “LIST Menu” on page 138.

LIST Menu

The **LIST** menu is used to view and select from the list of FleetSync ID numbers and their alias names. Initially, the ID field is blank. The status ID code can be changed manually or selected from the ID directory.

To **select an ID number from the list**, **while in the FleetSync Manual Status menu,** do the following:

1. Press the **LIST** softkey**.**
   The ID's index number, alias, and ID number appear on the display.
2. Using the **UP** or **DOWN** softkeys, scroll the list of FleetSync numbers.
   A FleetSync ID and its index number appear as you scroll.
   OR
   Using the DTMF keypad, enter an **index number**.
   Once the entire index number is entered, the index number and assigned ID appear on the console display.
3. Press the **OK** softkey to select the ID number on the console display.
   Main Menu - FleetSync Manual Status appears and the ST field contains the status ID code you selected.

   NOTE: Press the **AMENU** button to exit the main menu.

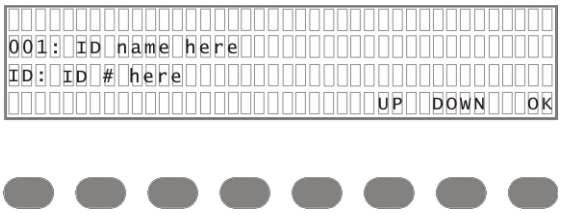


FIGURE 98. FleetSync List Menu

STAT Menu

The **STAT** (status) menu is used to select a status ID code from the directory. The ST:XX field displays the status ID code being sent. Initially, the *ST* field displays the softkey's default status ID code. The status ID code can be manually entered or selected from a list of predefined status IDs.

To **select a Status ID code from the directory, while in the FleetSync Manual Status menu**, do the following:

1. Press the **STAT** softkey**.**
   The console displays the first Status ID code and label name from the ID directory.
2. Using the **UP** or **DOWN** softkeys, scroll the list of Status ID codes.
   A FleetSync ID and its index number appear as you scroll.
   OR
   Enter the index number.
3. Press the **OK** softkey.
   The Status ID code you just selected, overwrites the default Status ID code and appears in the top right corner on the display. You are back at the FleetSync Manual Status menu.

   NOTE: The Status ID code label is visible only while in the STAT menu.

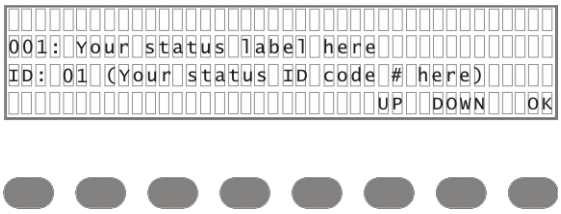


FIGURE 99. FleetSync Status List Menu

MSTAT Menu

The **MSTAT** menu is used to manually enter a status ID code. The ST:XX field displays the status ID code being sent. Initially, the ST field displays the softkey's default status ID code. The status ID code can be changed manually or selected from a list of predefined status IDs.

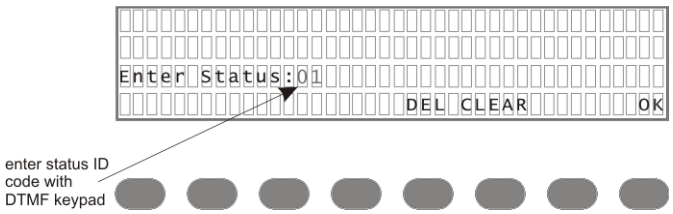


FIGURE 100. FleetSync Manual Status Menu

NOTE: For more information about status ID codes, see Kenwood's Fleetsync technical data.

To **manually change the Status ID code**, do the following:

1. Press the **MSTAT** softkey.
   Enter Status: appears.
2. Enter a **two-digit status ID code**.
   The status code you enter displays.

   NOTE: To delete the last character entered, press the **DEL** softkey.

   NOTE: To delete the entire entry, press the **CLEAR** softkey.

   NOTE: For more information about status ID codes, see Kenwood's Fleetsync technical data.
3. Press the **OK** softkey.
   Main Menu - FleetSync Manual Status appears and the ST field contains the status ID code you selected.

DEL Command

The **DEL** command is used to delete unwanted digits.

CLEAR Command

The **CLEAR** command is used to clear the entire entry from the display.

To **clear ID numbers from the console display,** do the following:

> Press the **CLEAR** softkey.
  The ID number is cleared from the console display.

SEND Command

The **SEND** command is used to send the Status ID code to the ID shown on the display.

To **send a Status ID code**, do the following:

> Press the **SEND** softkey.
The status ID code is sent to the ID listed on the console display.

NOTE: If *ERROR: Invalid Entry* appears on the console display, then you have left the ID field blank. Enter an ID Number in the **ID field** manually or press the **LIST** softkey to scroll through the ID directory list.

NOTE: If *Sending Status...* appears on the console display, your Status ID code has been successfully sent to the ID number shown on the console display.

BACK Command

The **BACK** command is used to navigate back to the main menu.

Main Menu - FleetSync Select Call (Kenwood FleetSync only)

The **FleetSync Select Call** menu shown in, Figure 102, is used to place a call to a FleetSync radio by manually entering an ID or by selecting an ID from the directory. Once a FleetSync Select Call softkey is pressed, *Main Menu - FleetSync Select Call* appears on the top row of the display. Initially, the ID field is blank. Menu commands *LIST, DEL, CLEAR, SEND,* and *BACK* are available for selection and discussed below.

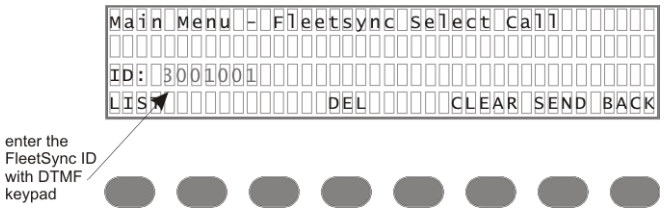


FIGURE 101. FleetSync Select Call Menu

ID Field

The **ID** field is used to display the FleetSync ID number to send the call to. Initially this field is blank and an ID can be entered manually.

To **manually enter an ID number to call, while in the FleetSync Select Call Menu,** do the following:

1. Using the DTMF keypad, enter the **FleetSync ID number**.
The numbers you enter appear on the console display.
2. Press the **SEND** softkey.
Sending Select Call... appears on the display.

NOTE: To delete the last character entered, press the **DEL** button.

NOTE: To delete the entire entry, press the **CLEAR** softkey.

NOTE: To return to the main menu, press the **BACK** softkey.

LIST Menu

The **LIST** menu, see Figure 102, is used to view and select an ID from the FleetSync directory. The alias and index number also appear.

To **choose an ID number from the directory and send a call**, **while in the FleetSync Select Call menu,** do the following:

1. Press the **LIST** softkey**.**
   The ID's index number, alias, and ID number appear on the display.
2. Using the **UP** and **DOWN** softkeys, scroll the list of **FleetSync ID numbers**.
   A FleetSync ID and its index number appear as you scroll.
   OR
   Using the DTMF keypad, enter an **index number**.
   Once the entire index number is entered, the index number and assigned ID appear on the console display.
3. Press the **OK** softkey to select the ID number on the console display.
   The ID number you chose appears on the top line on the console display and you are back at the FleetSync Select Call menu.
4. Press the **SEND** softkey to place a call to the ID listed on the console display.
   Sending Sel Call... appears on the console display and you call has been sent.

   NOTE: If you selected the wrong ID number, press the **LIST** softkey to reenter the directory.
5. Press the **AMENU** button to exit the main menu without sending a call.

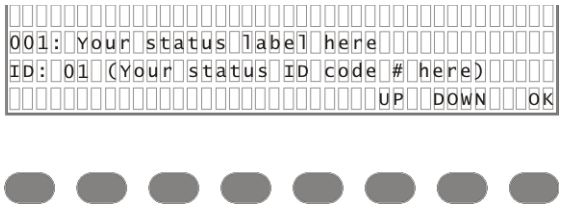


FIGURE 102. FleetSync List Menu

CLEAR Command

The **CLEAR** command is used to clear the Fleetsync ID number from the console display.

To **clear ID numbers from the console display**, do the following:

> Press the **CLEAR** softkey.
  The ID field is now blank.

SEND Command

The **SEND** command is used to place a call to the FleetSync ID listed on the console display.

To **send a Status ID code to the field,** do the following:

> Press the **SEND** softkey.
  A call is placed to the FleetSync ID listed on the console display.

BMENU Button

The **BMENU** button is used to enter the Quick Page menu and select from seven (7) predefined pages. Once the BMENU button is pressed, the quick page menu displays softkeys (B1–B7). Press a softkey (B1–B7) to select a page. See “Page Button” on page 130 for paging details.

NOTE: If no page entry is associated with a softkey (B1–B7), *The Quick Page Key Is Disabled* appears when the softkey is pressed.

NOTE: If the page is improperly configured, *Invalid Page Number Please Enter New Page Number* appears when the softkey is pressed.

See “Page Button” on page 130, for paging menu commands and confirmations.

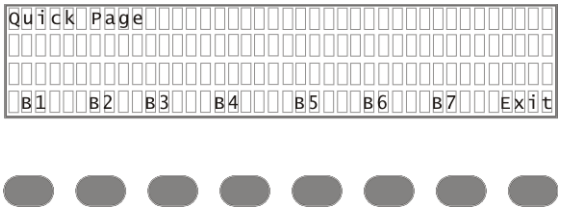


FIGURE 103. Quick Page Menu

Auxiliary Relays

AUX 1 and AUX 2 Buttons

The **AUX 1and 2** buttons are used to switch the local relays on the back of the IP-1616 and NEO-10 ON/OFF when configured for relay use. Once the equipment is installed, your console administrator configures local relay selection to *toggle*, *momentary*, *timed*, or *w/PTT.*

Toggle - If toggle is enabled, pressing the AUX (1 or 2) button toggles the relay ON/OFF. Once pressed, the AUX 1or 2 button lights and the relay remains ON state until the AUX (1 or 2) button is pressed again.

Momentary - If momentary is enabled, pressing and holding the AUX (1or 2) button activates the relay to ON State. Once pressed, the AUX 1or 2 button lights and the relay remains active until the button is released.

Timed - If timed is enabled, pressing the AUX (1or 2) button activates the relay to ON state. Once the button is pressed, the AUX 1 or 2 button lights and remains active for the predefined time configured by the console admin.

W/PTT - If W/PTT is enabled, pressing the AUX (1or 2) button activates the relay to ON state and PTT. Once pressed the AUX 1or 2 button and the transmit button light. The microphone is open for transmitting audio. Once the PTT button is pressed, the relay is deactivated.

D, T, R Binary Reference Table

TABLE 3. D, T, R Binary Reference

Precedence Field					D, T, and R bits				
Binary				Traffic Type	Binary				
0	0	0	(0)	Best Effort	D	T	R		
0	0	1	(1)	Background	0	0	0	(0)	Normal (Best Effort), minimal cost
0	1	0	(2)	Standard	0	0	1	(1)	Maximize Reliability
0	1	1	(3)	Excellent Load	0	1	0	(2)	Maximize Throughput
1	0	0	(4)	Controlled Load	1	0	0	(4)	Minimize Delay
1	0	1	(5)	Video					
1	1	0	(6)	Voice					
1	1	1	(7)	Network Control					

UTC Offset Table

UTC Offset Tables

TABLE 4. Summer Time UTC Offset Values

Time/Location:	Offset:	Time/Location:	Offset:
		Kiribati	14
		Phoenix Islands, Tonga	12.5
		Chatham Islands	12.75
Baker Islands, Howland Islands, Marshall Islands, (International Date Line)	-12	Norfolk Island Time NFT, Fuji, Kiribati, Marshall Islands, Nauru, New Zealand, Russia (zone 11), Tuvalu, Wake Island, Wallis and Futuna	12
	-11.5		11.5
American Samoa, Jarvis Island, Kingman Reef, Midway Islands, Niue, Palmyra Atoll, Samoa	-11	Eastern Daylight Time EDT (Eastern Australia), Micronesia, New Caledonia, Russia (zone 10), Solomon Islands, Vanuatu	11
	-10.5	Central Daylight Time CDT (Central Australia)	10.5
Cook Islands, French Polynesia, Johnston Atoll, Tokelau	-10	Guam, Micronesia, Northern Mariana Islands, Papua New Guinea, Russia (zone 9)	10
French Polynesia (Marquesas Islands)	-9.5		9.5
Hawaii-Aleutian Daylight Time HADT, French Polynesia (Gambier Islands)	-9	Western Daylight Time WDT (Western Australia), East Timor, Indonesia, Japan, N. Korea, S. Korea, Palau, Russia (zone 8)	9
Alaska Daylight Time AKDT (Alaska), Mexico	-8	China (Beijing, Shanghai), Hong Kong, Indonesia, Macau, Malaysia, Mongolia, Philippines, Russia (zone 7), Singapore, Taiwan	8
Pacific Daylight Time PDT (US, Canada), Mexico	-7	Christmas Island Time CXT	7
Mountain Daylight Time MDT (US-Canada), Mexico	-6		6
Central Daylight Time CDT (US-Canada),	-5		5
Eastern Daylight Time EDT (US, Canada), Caribbean, Argentina, Brazil, Uruguay	-4		4
	-3.5		3.5
Atlantic Daylight Time ASDT (Canada), Greenland	-3	Eastern European Summer Time EEST	3
Newfoundland Daylight Time NST	-2.5		2.5
Brazil, South Sandwich Islands	-2	Central European Summer Time CEST	2
	-1	Western European Summer Time WEST, Irish Summer Time IST, British Summer Time BST (United Kingdom)	1
Coordinated Universal Time, UTC Greenwich Meantime, GMT (United Kingdom and Ireland), Canary Islands, Ghana, Iceland, Liberia, Morocco, Portugal, Senegal, Sierra Leone, Western Sahara	0		0

TABLE 5. Winter Time UTC Offset Values

Time/Location:	Offset:	Time/Location:	Offset:
Baker Islands, Howland Islands, Marshall Islands, (International Date Line)	-12	Norfolk Island Time, NFT	12
American Samoa, Jarvis Island, Kingman Reef, Midway Islands, Niue, Palmyra Atoll, Samoa	-11	Micronesia, New Caledonia, Russia (zone 10), Solomon Islands, Vanuatu	11
	-10.5		10.5
Hawaii-Aleutian Standard Time, HASK, Cook Islands, French Polynesia, Johnston Atoll, Tokelau	-10	Eastern Standard Time, AEST (Eastern Australia)	10
	-9.5	Central Standard Time, CST (Central Australia)	9.5
Alaska Standard Time, AKST	-9	East Timor, Indonesia, Japan, N. Korea, S. Korea, Palau, Russia (zone 8)	9
Pacific Standard Time, PST (US, Canada,) Mexico	-8	Western Standard Time, WST (Western Australia) China (Beijing, Shanghai), Hong Kong, Indonesia, Macau, Malaysia, Mongolia, Philippines, Russia (zone 7), Singapore, Taiwan	8
Mountain Standard Time, MST (US, Canada)	-7	Cambodia, Christmas Island Time, Indonesia, Laos, Russia (zone 6), Thailand, Vietnam	7
		Cocos, Burma	6.5
Central Standard Time, CDT (US, Canada)	-6	Bangladesh, Bhutan, Kazakhstan, Russia (zone 5)	6
		India, Sri Lanka, Nepal (+5.75)	5.5
Eastern Standard Time, EST (US, Canada)	-5	Kazakhstan, Maldives, Pakistan, Russia (zone 4), Tajikistan, Turkmenistan, Uzbekistan	5
	-4.5	Afghanistan	4.5
Atlantic Standard Time, AST, (US-Canada) Puerto Rico	-4	Armenia, Azerbaijan, Georgia, Mauritius, Oman, Reunion, Russia (zone 3), Seychelles, UAE	4
Newfoundland Standard Time, NST	-.3.5	Iran	3.5
Atlantic Daylight Time Argentina, Brazil, Uruguay, Greenland	-3	Bahrain, Comoros, Djibouti, Ethiopia, Eritrea, Iraq, Kenya, Kuwait, Madagascar, Mayotte, Katar, Russia, Saudi Arabia Somalia, Sudan, Tanzania, Uganda, Yemen	3
	-2.5		2.5
Brazil, South Sandwich Islands	-2	Eastern European Time, EET	2
Cape Verde, Greenland, Azores	-1	Central European Time, CET	1
Coordinated Universal Time, UTC Western European Time, WET Greenwich meantime, GMT (United Kingdom and Ireland) Canary Islands, Ghana, Iceland, Liberia, Morocco, Portugal, Senegal, Sierra Leone, Western Sahara	0		0

TABLE 6. Tone Group Frequencies 1–7

Tone Groups No.	1	2	3	4	5	6	7
Tone Group	**Mot 1**	**Mot 2**	**Mot 3**	**Mot 4**	**Mot 5**	**Mot 6**	**Mot 7**
0	330.5	569.31	1092.4	321.7	553.9	122.5	358.9
1	349.0	600.9	288.5	339.6	584.8	1153.4	398.1
2	368.5	634.5	296.5	358.6	617.4	1185.2	441.6
3	389.0	669.9	304.7	378.6	651.9	1217.8	489.8
4	410.8	707.3	313.0	399.8	688.3	1251.4	543.3
5	433.7	746.8	953.7	422.1	726.8	1285.8	602.6
6	457.9	788.5	979.9	445.7	767.4	1321.2	668.3
7	483.5	832.5	1006.9	470.5	810.2	1357.6	741.3
8	510.5	879.0	1034.7	496.8	855.5	1395.0	822.2
9	539.0	928.1	1063.2	524.6	903.2	1433.4	912.0
Diagonal	569.1	979.9	569.1	569.1	979.9	979.9	979.9

TABLE 7. Tone Group Frequencies 8–16

Tone Group No.	8	9	10	11	12	13	14
Tone Groups	**Mot B**	**Mot Z**	**GE A'**	**GE B'**	**GE C'**	**Mot 10**	**Mot 11**
0	371.5	346.7	682.5	652.5	667.5	1472.9	1930.2
1	412.1	384.6	592.5	607.5	712.5	1513.5	1989.0
2	457.1	426.6	757.5	787.5	772.5	1555.2	2043.8
3	507.0	473.2	802.5	832.5	817.5	1598.0	2094.5
4	562.3	524.8	847.5	877.5	862.5	1642.0	2155.6
5	623.7	582.1	892.5	922.5	907.5	1687.2	2212.2
6	691.8	645.7	937.5	967.5	952.5	1733.7	2271.7
7	767.4	716.1	547.5	517.5	532.5	1781.5	2334.6
8	851.1	794.3	727.5	562.5	577.5	1830.5	2401.0
9	944.1	881.0	637.5	697.5	622.5	1881.0	2468.2
Diagonal	979.9	979.9	742.5	742.5	742.5	None	None

TABLE 8. Standard Paging Plans

Tone #1 (ms)	Gap (ms)	Tone #2 (ms)	Group Call (ms)	Type
1000	-	3000	8000	GE std, Mot std Tone and Voice
400	0	800	8000	Mot Tone Only
1000	0	3000	6000	NEC-B
1000	300	3000	6000	NEC-A
1000	0	1000	4000	NEC-C
400	0	800	4000	NEC-M
500	0	500	3000	NEC-L
400	0	400	3000	NEC-D

TABLE 9. Telex Group Numbers (1–9)

Telex Code Plan #	1	2	3	4	5	6	7	8	9
Pager Capcodes	**Mot A**	**Mot C**	**Mot D**	**Mot E**	**Mot F**	**Mot G**	**Mot H**	**Mot J**	**Mot K**
0xx	2+4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1xx	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
2xx	2+2	2+2	2+2	2+2	1+3	1+3	1+3	1+4	1+4
3xx	3+3	1+2	1+2	1+2	3+3	3+3	3+3	4+1	4+1
4xx	1+2	4+4	1+5	2+1	4+4	3+1	3+1	4+4	4+4
5xx	1+3	1+4	5+5	1+6	3+1	5+5	1+6	5+5	1+6
6xx	2+1	2+1	2+1	6+6	1+4	1+5	6+6	1+5	6+6
7xx	3+1	4+1	5+1	6+1	4+1	5+1	6+1	4+5	6+1
8xx	2+3	2+4	2+5	2+6	3+4	3+5	3+6	5+4	4+6
9xx	3+2	4+2	5+2	6+2	4+3	5+3	6+3	5+1	6+4

TABLE 10. Telex Group Numbers (10–17)

Telex Code Plan #	10	11	12	13	14	15	16	17
Pager Capcodes	**Mot L**	**Mot M**	**Mot N**	**Mot P**	**Mot Q**	**Mot R**	**Mot S**	**Mot T**
0xx	N/A	4+2	4+2	4+2	4+2	4+2	4+2	4+2
1xx	1+1	2+3	2+3	2+3	2+4	2+4	2+5	3+4
2xx	1+5	2+2	2+2	2+2	2+2	2+2	2+2	4+3
3xx	5+1	3+3	3+3	3+3	4+2	4+2	5+2	3+3
4xx	1+6	4+4	3+2	3+2	4+4	4+4	2+6	4+4
5xx	5+5	3+2	5+5	2+6	5+5	2+6	5+5	5+5
6xx	6+6	2+4	2+5	6+6	2+5	6+6	6+6	3+5
7xx	6+1	4+2	5+2	6+2	4+5	6+2	6+2	4+5
8xx	5+6	3+4	3+5	3+6	5+4	4+6	5+6	5+4
9xx	6+5	4+3	5+3	6+3	5+2	6+4	6+5	5+3

TABLE 11. Telex Group Numbers (18–25)

Telex Code Plan #	18	19	20	21	22	23 GE X	24 GE Y	25 GE Z*
Pager Capcodes	**Mot U**	**Mot V**	**Mot W**	**Mot Y**	**Mot MT**	**GE X**	**GE Y**	**GE Z**
0xx	4+2	4+2	4+2	N/A	4+2	10+10	11+11	10+10
1xx	3+4	3+5	4+6	7+7	1+1	11+10	12+11	12+10
2xx	4+3	5+3	6+4	8+8	2+2	11+11	12+12	12+12
3xx	3+3	3+3	5+6	9+9	1+2	10+11	11+12	10+12
4xx	4+4	3+6	4+4	7+8	4+4	12+12	N/A	N/A
5xx	3+6	5+5	5+5	7+9	5+5	12+10	N/A	N/A
6xx	6+6	6+6	6+6	8+7	2+1	12+11	N/A	N/A
7xx	6+3	6+3	4+5	9+7	4+5	10+12	N/A	N/A
8xx	4+6	5+6	5+4	8+9	5+4	11+12	N/A	N/A
9xx	6+4	6+5	6+5	9+8	2+4	N/A	N/A	N/A