Telex Legacy™

Operating Manual

Wireless Intercom System

XO-AP
XO-1
Wireless Intercom System

TELEX®

TELEX COMMUNICATIONS, INC.

Table of Contents

Section 1 - Introduction

General Description

The Telex Legacy Series is a full duplex (simultaneous talk and listen), multi-channel, wireless intercom system. Legacy offers a complete solution for 2 to 7 (or more) coaches per sideline, fast and easy set-up, durable beltpacks, 64 bit audio encryption, and professional grade headsets.

The main components of the Legacy series consists of the XO-1 beltpack and the XO-AP base station.

The XO-1 beltpack offers the user two separate audio channels and the ability to communicate on both channels at the same time. The user can talk and listen on these channels or just turn off the talk button and listen only. The beltpack uses an internal rechargeable Li-Ion battery that will provide up to 8 hours of uninterrupted operation.

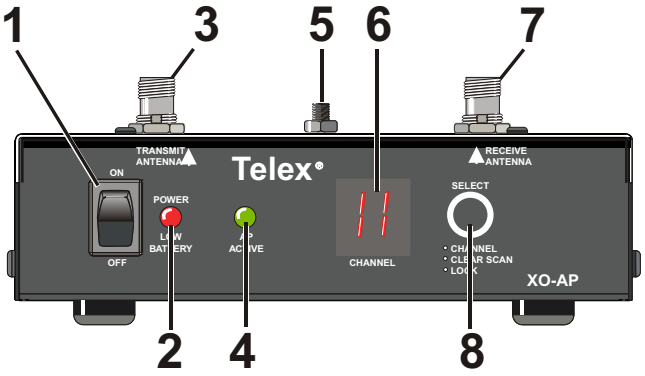
The XO-AP base station can support up to 10 XO-1 beltpacks when the RF spectrum is clear. The base station provides a central relay location which handles the audio traffic between beltpacks. The built-in base station intelligence called ClearScan™ automatically selects the best RF (Radio Frequency) channel for communications on start-up. The base station also uses an internal rechargeable Li-Ion battery that will provide up to 10 hours of uninterrupted operation.

System Features

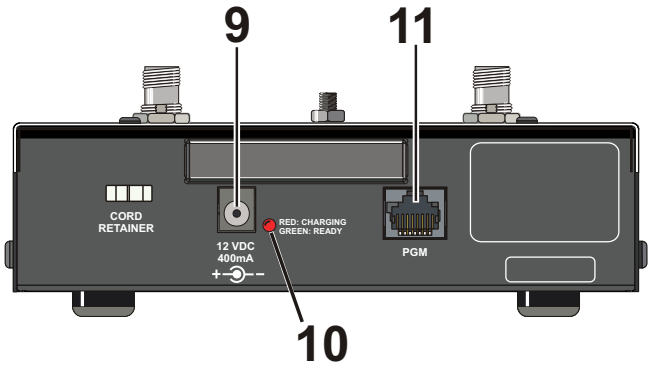
- Easy base station and beltpack setup.
- Uses mature 2.4GHz IEEE 802.11 Wireless LAN Technology.
- Audio in the system is encrypted via a 64 bit DES algorithm.
- Base station automatically selects the clearest RF channel for the system, and sets the system on that channel. No user intervention is needed.
- Easy to read base station LED display to indicate the RF channel of the system.
- If desired, the user can select any one of the eleven standard 802.11 channels for the system to operate via a single button on the XO-AP front panel.
- Durable, water resistant, ABS, beltpack cases.
- Dependable, rechargeable, wide temperature range, Li-Ion batteries.
- Low battery indications on the beltpack and base station.
- Base station can be powered from external AC or internal battery.

Section 2 - XO-AP Base Station

Controls and Connections



Front View



Rear View

1. **On/Off Switch** – Turns the power on/off to the base station.

2. **Power / Low Battery Light** – Indicates the base station has power, either from the internal battery or external power connected to the unit.

   Battery Indication:

   - GREEN - Battery OK
   - RED - Battery Low (needs charged)

3. **Transmit Antenna Jack** – This reverse TNC jack is where the transmit antenna coaxial cable should be connected.

4. **AP Active Light** – This green light flashing indicates that the AP has successfully booted and is operating.

5. **Gooseneck Antenna Mount Lug** - Provides attachment point for the gooseneck antenna mount.

6. **RF Channel Display** – Indicates the RF channel the unit is set on.

7. **Receive Antenna Jack** – This reverse TNC jack is where the receive antenna coaxial cable should be connected.

8. **Select Button** – Press the button to select the desired RF channel for the base station.

   - **ClearScan** – Press and hold the button until the decimal point starts to flash (about 3 seconds) then release. The unit will examine the RF channels available, then select the one with the least activity and set the AP on that channel.
   - **Lock** – Press and hold the button until the decimal point is on solid (about 10 seconds) then release. The AP will be locked on the channel displayed. To unlock, press and hold the button again until the decimal point is off. Lock makes the currently displayed channel difficult for a user to accidentally change.

9. **Charge Jack** – Used to charge the internal battery or power the unit directly off a wall outlet. Accepts a 5.5mm x 2.5mm plug with the center positive. Must be supplied with a 12VDC regulated power supply with at least a 400mA current capacity.

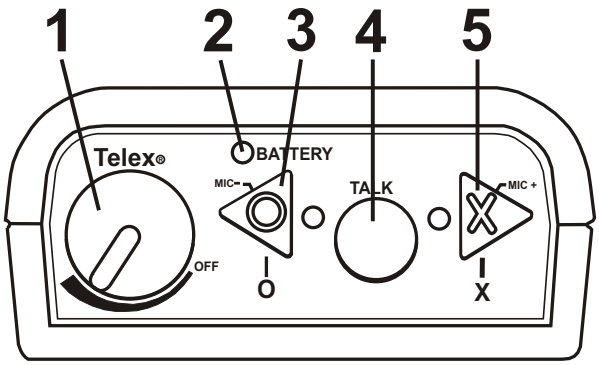
10. **Charge Light.**

    - RED = Battery is charging.
    - GREEN = Battery is charged.

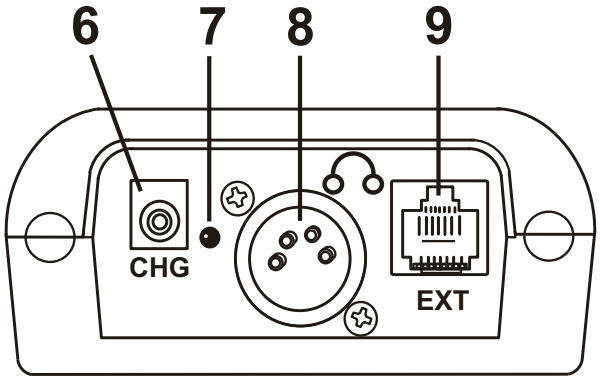
11. **Programming Jack** – This RJ-45 jack is used for programming the unit at the factory.

Section 3 - XO-1 Beltpack

Controls and Connections



Top View



Bottom View

1. **On/Off & Volume Control** – Turns the beltpack power on/off and controls headset volume.

2. **Battery Light** –
   - GREEN - Battery OK
   - RED - Battery Low (needs charged)

3. **"O" Channel Button and Light** – Selects the "Offense" intercom channel. The light next to the button will light when selected. Also controls headset Mic (-) level:
   - Mic (-): Press and hold the talk button and "O" button for 3 seconds. A voice prompt will indicate "MIC ADJUST" mode has been entered. Keep the talk button held down. The "O" button can now be use to reduce the microphone gain. The "X" button will raise the microphone gain. Listen for voice prompts in headset.

4. **Talk Button** – When pressed the microphone path is enabled. This button has two operational modes:
   - Momentary – Pressed and hold for over ½ second.
   - Latch on/off – Tap button and the microphone path is enabled. Tap again to turn off.

5. **"X" Button and Light** – Selects the "Defense" intercom channel. The light next to the button will light when selected. Also controls headset mic (+) level:
   - Mic (+): Press and hold the talk button and "O" button for 3 seconds. A voice prompt will indicate "MIC ADJUST" mode has been entered. Keep the talk button held down. The "O" button can now be use to reduce the microphone gain. The "X" button will raise the microphone gain. Listen for voice prompts in headset.

6. **Charge Jack** – Used to charge the internal battery. Accepts a 5.5mm x 2.5mm plug with the center positive. Must be supplied with a 12VDC regulated power supply with at least a 400mA current capacity.

7. **Charge Light**.
   - RED = Beltpack battery is charging.
   - GREEN = Beltpack battery is charged.

8. **Headset Connector** – Standard 4-pin XLR connector.
   - Pin 1 = Microphone GND
   - Pin 2 = Microphone HOT
   - Pin 3 = Headphone +
   - Pin 4 = Headphone –

9. **Programming Jack** – This RJ-45 jack is used for programming the unit at the factory. It can also be used for changing the user's password and checking or changing the encryption code.

Section 4 - Specifications

Legacy Technical Specifications

RF Technology	IEEE 802.11 (WiFi)
Frequency Band of Operation	2.412 to 2.462 GHz
FCC License	No License Required
Encryption Technology	64 bit (DES) Digital Encryption Standard
Audio Frequency Range	400 Hz to 5500 Hz (+/- 1dB)
Dynamic Range	>75 dB
Beltpack Headset Output	200 mW into 300 Ohms (1% Distortion)
Beltpack Microphone Gain Adjustment	10 Levels with Voice Prompts
Antenna (XO-1)	Internal Dipoles
Antenna (XO-AP)	11dBi Dual Patch Antenna (Transmit vertically Polarized, Receive horizontally polarized)
XO-AP (Base Station) Battery	Lithium-Ion Rechargeable
XO-AP Battery Life	10 Hr (Typical)
XO-AP Recharge Time	8 Hr (Typical)
XO-AP Low Battery Indication	30 minutes of battery life left (Typical)
XO-1 (Beltpack) Battery	Lithium-Ion Rechargeable
XO-1 Battery Life	8 Hr (Typical)
XO-1 Recharge Time	6 Hr (Typical)
XO-1 Low Battery Indication	15 minutes of battery life left (Typical)
XO-AP (Base Station)Size	6.00” L x 6.40” W x 2.00” H (15.24cm x 16.26cm x 5.08cm)
XO-AP Weight	2 lb 3 oz (992g)
XO-1 Size	5.25” L x 3.75” W x 1.68” H (13.33cm x 9.53cm x 4.27cm)
XO-1 Weight	12.5oz (354g)
Carry Case Size	23.50” L x 8.50” W x 20.50” H (59.70cm x 21.60cm x 52.07cm)
Carry Case Weight	(Not Loaded with Equipment)12 lb 8 oz (5.44 kg)

Set-up

Prior to use, the XO-1 beltpacks and the XO-AP base station need to have their battery packs fully charged. Refer to the charging instructions of this section.

1. Place the XO-AP base station in the area of use.
2. Attached the two antenna cables from the antenna to the XO-AP. The cable marked, “Receive” connects to the receive jack on the XO-AP. The cable marked, “Transmit” connects to the transmit jack on the XO-AP. The front label of the XO-AP indicates the RF (Radio Frequency) connector designation.

Figure 5-1
XO-AP and Panel Antenna

3. Aim the directional panel antenna at the area of beltpack use. For example, in Figure 5-2, the XO-AP is used in a football application where the XO-AP is located in the press box and the antenna is pointed toward the near side coach’s box.

NOTE: Make sure the antenna’s path to the area of coverage has clear line-of-sight.

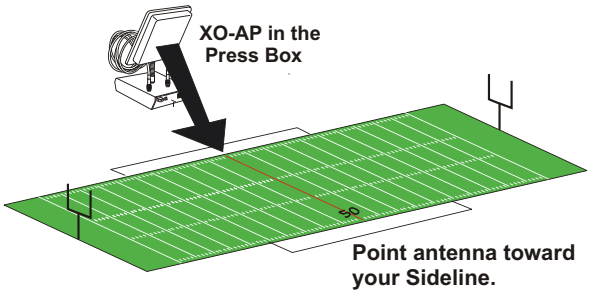


Figure 5-2
XO-AP with Antenna Pointing Toward Near Sideline

4. Plug the XO-AP’s external power supply into an AC outlet if available. If external power is not available then the XO-AP can run off internal battery (if already charged).

Front View

Rear View

Figure 5-3
XO-AP Base Station

System Operation

1. Turn on the XO-AP by pressing the power switch into the On position. The XO-AP must be powered-up before any beltpacks are turned on. The following turn on events should follow:

- The power light on the front panel will activate immediately.
- After 20 seconds the;
  - AP active light will turn on solid.
  - Channel indicator will illuminate all segments of the display.
  - The power light will turn red then back to green.
- The XO-AP will then initiate a clear scan of the 11 RF channels of the 2.4 GHz spectrum (will take about 4 seconds).
- The XO-AP will finally place the unit on the clearest RF channel and indicate it has finished booting by flashing the AP active light.

2. You can now scan for another channel, manually select a channel or lock the current channel by using one of the following procedures:

   - **Clear Scan** – Hold the <SELECT> button until the decimal point starts to blink (about 3 seconds) then release. The XO-AP will scan all available channels and then set itself to the clearest channel available for use.
   - **Manual Set** – Press the button <SELECT> to the XO-AP channel desired. Each press of the button will increment the channel by one. Once the desired channel is displayed the XO-AP will automatically set to that channel.
   - **Lock** – Press and hold the <SELECT> button until the decimal point is on solid (about 10 seconds) then release. The XO-AP is now locked on that RF channel. The only two ways to unlock it are to reboot the XO-AP or hold the <SELECT> button down again until the decimal point turns from solid to off (about 10 seconds).

Top View

Bottom View

Figure 5-4
XO-1 Beltpack

3. With the XO-AP running, turn on the XO-1 beltpacks one at a time. The following turn on events should follow:
   - The battery light will activate immediately.
   - After 20 seconds;
     - A voice in the headphone will say, “wireless” indicating the beltpack is in wireless mode (as opposed to “wired” mode used for changing the encryption code, see section 6).
     - The “O” light will lite and communications will start.
4. Wear the beltpack on the hip. Place them in a position that allows for greatest visibility to the XO-AP antenna in the press box.
5. XO-1 Top Panel Buttons – The XO-1 has three top panel buttons:
   - TALK – This button enables/disables the beltpack’s microphone.

     Enabled - The audio channel light(s) are on solid and sidetone (your own voice heard in your headphones) can be heard.

     Disabled – The audio channel light(s) blink and there is no sidetone.

     Talk has two modes of operation:
     - **Latch** – Tap the button to enable the microphone and talk on the currently selected audio channel(s). Tap again to disable the microphone.
     - **Momentary** – Press and hold the button. The microphone will be enabled immediately and momentary mode will start if it is held over a ½ second. In this mode, the microphone is only active for as long as the button is held down.

   - **"O"** – Tap the button to listen or talk to the offense audio channel. The light next to it will activate when selected.
   - **"X"** – Tap the button to listen or talk to the offense audio channel. The light next to it will activate when selected.
6. The default for the microphone gain is level four, which is adequate for most events, however, the microphone gain can be adjusted up or down if desired.
   - Adjusting the XO-1 Microphone Gain
     - Place the headset on.
     - Once the beltpack has finished booting, press and hold both the <O> and the <TALK> button for 3 seconds. After 3 seconds a voice prompt will indicate "MIC ADJUST" mode has been entered.
     - As holding the <TALK> button, press the and hold the <O> button for less gain, hold the <X> button for more gain.

- There are ten levels of microphone gain. Each indicated by a voice prompt. Level 4 is the default.
- Release the “O” or “X” button, and the <TALK> button when at the desired level.

- The higher the microphone gain the louder that beltpack user’s voice will sound to other users.

Halftime

1. During halftime leave the XO-AP base station “On”.
2. The XO-1 beltpacks may be turned off for halftime to conserve battery life, or left on.
3. If the XO-1 beltpacks are turned off at halftime, turn the beltpacks on, one at a time. Again, the beltpack’s battery light will indicate immediately, but the unit will require up to 20 seconds to complete start-up.

Before the Next Use

(Charging Instructions)

1. Ensure the XO-1 beltpacks are in the “OFF” position.
2. Ensure the XO-AP base station is in the “OFF”” position.
3. **XO-1 Beltpack:** Plug the XO-1 beltpack charger into the charge jack on the bottom of the beltpack. The beltpack should be charged in a room temperature location. The LED on the bottom of the unit indicates the charge status.
   - RED = Charging
   - GREEN = Charging Done

   After an event the XO-1 beltpack will need to charge for at least 6 – 8 hours.

   The beltpacks may be left on charge indefinitely.

4. **XO-AP base station:** Plug the XO-AP battery charger into the charge jack on the bottom of the beltpack. The base station should be charged in a room temperature location. The LED on the bottom of the unit indicates the charge status.
   - RED = Charging
   - GREEN = Charging Done

   After an event the XO-AP base station will need to charge for at least 10 – 14 hours.

   The XO-AP may be left on charge indefinitely.

Long Term Storage

“Long term storage” of the system is defined as no use of the system for 1 month or longer. Due to the internal Li-Ion batteries of the XO-1 and XO-AP, care should be taken in long term storage. Use the following steps to ensure the best performance of the system after it comes out of storage.

1. After the last event or game of the season:

   - If the XO-1 or XO-AP batteries were used for four hours or less then do not recharge the internal XO-1 or XO-AP batteries. (Please see the discussion of “Li-Ion batteries” in the follow part of this section as to why)

   - If the XO-1 or XO-AP batteries were used for more then four hours then recharge the internal XO-1 or XO-AP batteries for two hours then take them off charge (Please see the discussion of Li-Ion batteries in the follow part of this section as to why)

2. Store the XO-1's and XO-AP in a clean, cool, dry location away from heat. The temperature of the storage location **should not** rise above room temperature. The recommended temperature range of the storage location is 32 - 77° F (0 – 25° C).

3. Every 6 months charge the XO-AP and XO-1 for three hours then take off charge. Do not fully charge. This prevents the battery from over-discharging and helps maintain the battery’s performance.

Li-Ion Batteries

The Li-Ion batteries used in the XO-1 and XO-AP are excellent batteries for portable, outdoor applications. They have a high energy density (energy per weight) compare to other rechargeable battery technologies (NiCd, NiMH, Alkaline, Gel Cells), are low maintenance, and offer superior performance at low temperatures.

For best performance after long-term storage, Telex recommends the batteries be charged to 30% - 50% of capacity before being placed in storage. This is the typical battery capacity left after a sporting event, such as a football game. Li-Ion batteries retain nearly all their capacity, after long-term storage, if stored in dry, cool temperatures with only 30% to 50% charge. They can lose up to 20% capacity if stored for long term right after being fully charged.

It is also a good idea to charge the XO-AP and XO-1 batteries once every 6 months for three hours then take off charge. Do not fully charge. This helps to maintain the battery's performance and prevent any over-discharging.

Software Version

The software version of the base station and beltpack may be seen near the top of the screen on the user configuration menu. To get to this screen follow the instructions under "Logging into a Beltpack" in Section 6.

The software version may also be heard via a voice prompt when the beltpack is booted in programming mode.

1. Plug a headset into the beltpack.
2. Press and hold down the "X" button on the beltpack. Keep holding the "X" button and turn on the beltpack.
3. Hold the button down until the voice prompt "Wired" followed a second later by the software version letter is heard.

Section 6 - Encryption Code

Encryption Code

The Legacy system uses a 64 bit DES (Digital Encryption Standard) encryption algorithm to encrypt all audio in the system. The beltpacks in the system have a "key" in the software that the algorithm uses as the basis for the encryption. The same "key" must be used in all beltpacks on the system for communication to occur. The base station only relays the audio, and as such, does not need any encryption code set. The beltpack key can be anything from numbers to sentences to hexadecimal letters. For example the phrase, "The legacy system works great for our coaches", could be the "key" for the encryption. The only criteria is the phrase/numbers/letters be no more than 80 characters long (this includes spaces and punctuation).

This encryption is active on all units from the factory and does not have to be "turned on" by the user. The user may want to change their key to something unique. This may be done by following the steps below:

Logging into a Beltpack (XO-1)

Computer Requirements:

Hardware

- Monitor
- Keyboard & Mouse
- Network card (10 BaseT or 100 BaseT)
- Ethernet straight thru or crossover cable (Use the green cable supplied with the system.)

Operating System

Microsoft® Windows® 95/98, NT, 2000, XP

Software

Telnet or similar application that lets you communicate to a specified IP Address (Most all computers have telnet or a similar program installed on them by default).

The following instructions use Telnet and Windows® 2000 to log into the beltpack. Other applications and operating systems will be similar.

1. Unplug any current RJ-45 network connections from the computer.

2. With the mouse, right click the **My Network Places** con, then select **Properties**.

3. Select **Local Area Connection** and then right click. Select **Properties**.

4. Select **Internet Protocol (TCP/IP)** and click on the **Properties** button.

5. Now select **"Use the following IP address:"** option. Make a note of your current settings on this screen (so you can place them back when done logging into the beltpacks).

   Enter the following:

   a. IP address: 192.168.1.40
   b. Subnet Mask: 255.255.255.0
   c. Default gateway: 192.168.1.1

6. Once the above information is entered, hit the **OK** button. Hit the **OK** button on the next screen out if needed. Depending on your computer, you may need to reboot the computer for the IP address changes to take effect.

7. Plug one end of the supplied green Ethernet cable into the computer.

8. Start a "command prompt" console window by clicking on "Start" then moving the mouse arrow to Programs, then Accessories and finally clicking on "Command Prompt".

9. Press and hold down the “X” button on the beltpack. Keep holding the “X” button and turn-on the beltpack. Hold the beltpack button down until the green LED next to the “X” button lights up (about 20 seconds), then release button (Places the beltpack in programming mode).

10. Plug the other end of the Ethernet cable into the beltpack.

11. Type, telnet 192.168.1.X at the computer’s command prompt, then press <ENTER>. Fill in for X the last digit of the IP address that is on the back label on the XO-1.

12. After about 20 seconds the beltpack will respond with a login request. Enter the following:

    Login: **telex <ENTER>**

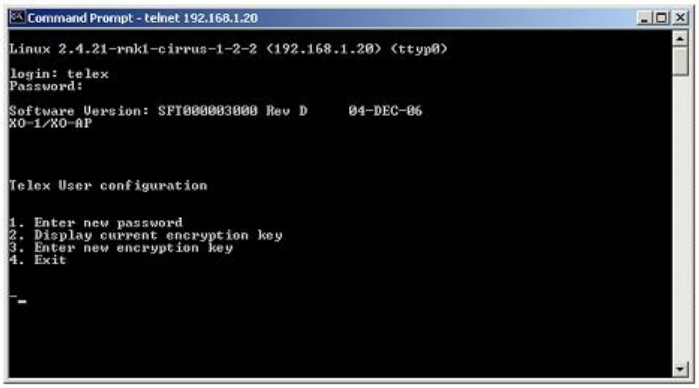
    Password: **legacy <ENTER>**

    NOTE: The password entry does not give user feedback to the screen.

NOTE: If the computer says, “failed to connect”, turn off the XO-1, check computer settings, and go back to step 6.

Beltpack Options

Once successfully logged into the beltpack you will be presented with the following screen:



The four options on this screen are as follows:

1. Enter new password

This option allows the user to change this XO-1’s password. The default from the factory is **legacy**. The user is never allowed to change the login name of **telex**.

2. Display current encryption Key

Displays on the screen the current encryption key of the beltpack.

3. Enter new encryption key

The user must change the encryption key if this option is selected.

1. When “3” is selected the phrase, “Enter new encryption key” appears.

2. Now enter the new encryption key. The maximum length is 80 characters. Any combination of letters/numbers/punctuation may be used. Even a sentence such as, “My offensive is number 1 in the state”, may be used as the key. The key is upper and lower case sensitive.

NOTE: A character is letters, numbers, punctuation, spaces, etc.

NOTE: The “backspace” keyboard button may not work on all computers using Telnet, use the delete button instead if this is the case.

CAUTION: Write down the key or use one that you can remember, because ALL beltpacks must have the same key entered in order for communication.

3. Press <ENTER> after the key is typed. This will place the key in the software. Reboot the beltpack for the new encryption key to take effect.

4. Exit

This exits the login and closes the connection to the beltpack.

Section 7 - Troubleshooting

Please reread the operation and encryption section of this manual to make sure you have completed system set-up properly. The following contains troubleshooting tips that may be helpful in solving the problem.

If you are unable to solve the problem, contact the manufacturer or dealer from whom you purchased the system for assistance.

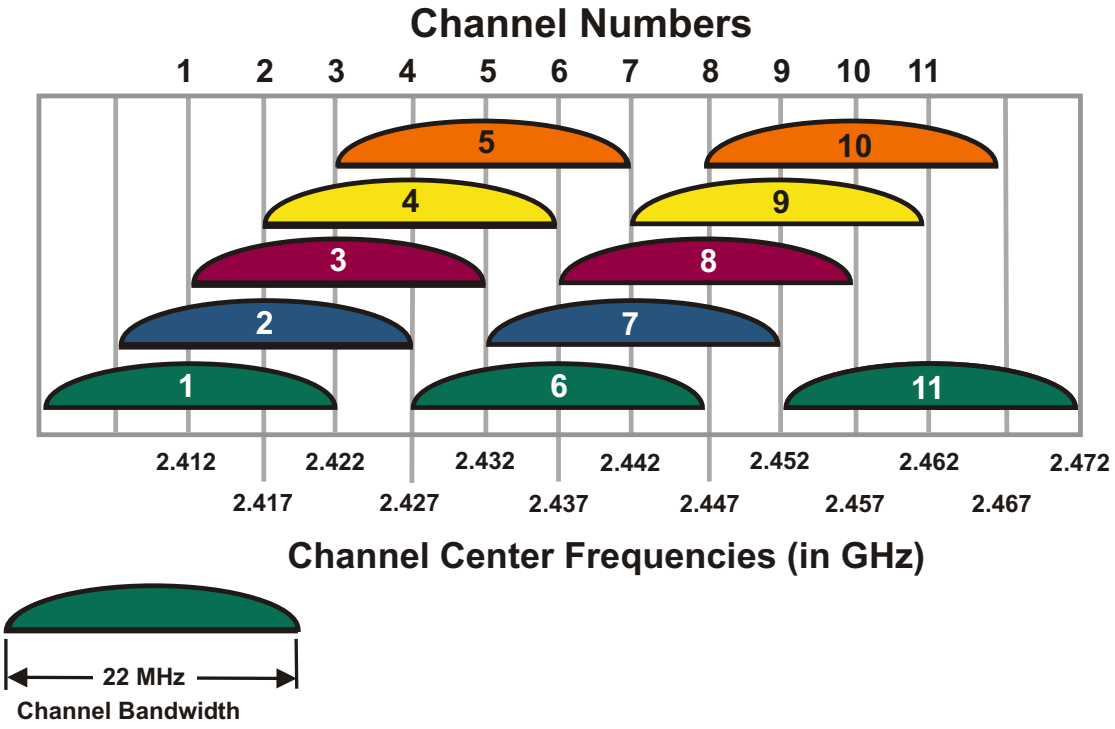
Problem	Possible Cause	Solution
RF range of all the beltpacks is less than normal and/or beltpacks are experiencing "break-up" of audio in an area where they have worked well in the past.	• Antenna is not connected to the XO-AP.	• Connect the antenna to the XO-AP. Make sure the correct cable of the antenna goes to the corresponding connector on the XO-AP. The XO-AP front label indicates the transmit and receive connectors.
	• The two antenna connections are not connected to the right connectors on the XO-AP.	• The XO-AP front label indicates the transmit and receive connectors. The antenna's cables are labeled as to their connection point.
	• WiFi RF interference has occurred.	• Find the source of the interference and shut it down. Sources of WiFi interference could be: Laptop/Desktop computer with its wireless card on or WiFi AP in or near the press box. • If the interference cannot be found or shut off then press and hold the <SELECT> button for 3 seconds (until the decimal point flashes), then release. The unit will do a clear scan and place itself on the clearest channel. The beltpacks do not have to be turned off, they will follow the XO-AP to the new channel within a few seconds after the clear scan is done.
	• Non-WiFi RF Interference has occurred.	• Find the source of the interfernce and shut it down. Sources of interference could be: Microwave oven in pressbox, 2.4GHz courdless phone nearby, using a Bluetooth headset near the XO-AP or beltpack. • If the interfence cannot be found or shut off then manually select a different RF channel by hitting the <SELECT> button. Make sure the new channel is at least several channels away from the old channel for the best chance of avoiding the RF interference. The beltpacks do not have to be turned off, they will follow the XO-AP to the new channel after a few seconds.

Section 7 - Troubleshooting continued

Problem	Possible Cause	Solution
When the XO-AP power switch was turned on nothing happens. The power light does not light.	• Internal battery is completely exhausted.	• Plug the AC power plug into the XO-AP. Allow the unit at least 5 minutes for the internal battery to receive an initial charge. Then turn the unit on and run it off AC power.
When the XO-AP power switch was turned on, the unit's power light came on but the system never booted-up after 25 seconds	• Internal battery is nearly exhausted. • On boot, an error was encountered and the unit could not finish boot-up	• Charge the battery or run off external AC power. • Power down the XO-AP, wait two seconds, then power-up again.
Can't change the RF channel the XO-AP is on.	• The base station may be set to channel lock. This is indicated by a solid decimal point in the bottom right of the display.	• Hold the <SELECT> button down for about 10 seconds. This unlocks the RF channel lock button. A user could also reboot the XO-AP, but the beltpacks would need to be turned off until the XO-AP finished booting, then turned on.
When the XO-1 beltpack power was turned on, the unit's power light came up, but the "O" button light never came up and communication never started.	• Internal battery is nearly exhausted. • On boot, an error was encountered and the unit could not finish boot-up	• Charge the battery. • Power down the XO-1, wait two seconds, then power-up again.
Headphone audio from another beltpack(s) is loud and distorted.	• Microphone gain on the other beltpack(s) is set to high.	• Press and hold the <TALK> button and"O" button until the voice prompt indicates "MIC ADJUST" on the offending beltpack. While holding the <TALK> button, press and hold the "O" button to lower microphone gain. The factory setting is at the voice prompt "four" level.
Headphone audio from another beltpack(s) is too low.	• The headset's microphone on the other beltpack(s) is too far from the user's mouth. • Microphone gain on the other beltpack(s) is set too low.	• Adjust the headset's microphone on the suspected beltpack so it is one index finger width straight out from the user's mouth. • Press and hold the <TALK> button and "O" button until the voice prompt indicates "MIC ADJUST" on the suspected beltpack. While holding the <TALK> button, press and hold the "X" button to raise the microphone gain. The factory setting is at the voice prompt "four" level.

802.11 RF Channels

The Legacy system has the ability to operate on any one of eleven RF channels. Although there are several different frequency channel settings, there is overlap between the channels. There are three non-overlapping channels available in the FCC regulatory domain. When choosing frequency channels for systems in the vicinity of each other, you should choose frequency channels that do not overlap (e.g. Channels 1, 6, and 11).



XO-1 & XO-AP RF Channelization Scheme

Section 9 - Regulatory Information

Regulatory Information

The XO-1 and XO-AP comply with Part 15 of FCC rules and Canada RSS-210. Operation is subject to the following conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

3. Use only the manufacturer or dealer supplied antenna(s), beltclips and/or accessories for this device.

4. The XO-AP base station complies with FCC radiation exposure limits set forth for an uncontrolled environment. The antennas used with this equipment should be installed and operated with a minimum distance of 20cm between the antenna and your body.

5. This device and its antenna(s) must not be co-located or operated in conjunction with any other antenna or transmitter.

To assure continued compliance with FCC regulations, any changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Section 10 - Accessories and Replacement Items

Model Number	Part Number	Description
LP-XO1	**301950002**	XO-1 Beltpack and Battery Charger. **NOTE:** User must provide XO-AP serial number and IP address of all XO-1/XO-APs in system with order.
PH-1	**64438100LG**	Single sided w/flexible dynamic boom mic, 150 ohm earphone, 6" (1.8m) cord and A4F connector
PH-2	**64437100LG**	Dual sided w/flexible dynamic boom mic, 150 ohm earphone, 6' (1.8M) cord and A4F connector
HR-1	**300534007LG**	Single sided w/flexible dynamic boom mic, 150 ohm earphone, 5" (1.5M) cord and A4F connector.
HR-2	**300534000LG**	Dual sided w/flexible dynamic boom mic, 150 ohm earphone, 5" (1.5M) cord and A4F connector.
PH-100	**301581007LG**	Single sided w/flexible dynamic boom mic, 150, ohm earphone, 5" (1.5M) cord, and A4f Connector
PH-200	**301581002LG**	Dual sided w/flexible dynamic boom mic, 150 ohm earphone, 5" (1.5M) cord and A4F connector

Section 10 - Accessories and Replacement Items Continued

Model Number	Part Number	Description
ANT-FP	**302054001**	Dual Diversity, Flat Patch Antenna with Dual Coax, 11dBi
ANT-FPM	**302054000**	Metal Tilt and Swivel Antenna Mounting bracket for ANT-FP Antenna. Use for permanent mount of ANT-FP Flat Panel Antenna.
XOB	**302054002**	Nylon Belt, Adjustable
	550257	Communications Cable, Ethernet CAT. 5e Cable, 3 FT
	532091000	Charger for base and beltpack, 100-240 VAC input, 12VDC, 410mA output 5.5 x 2.5 x 11mm jack

Telex Legacy™

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