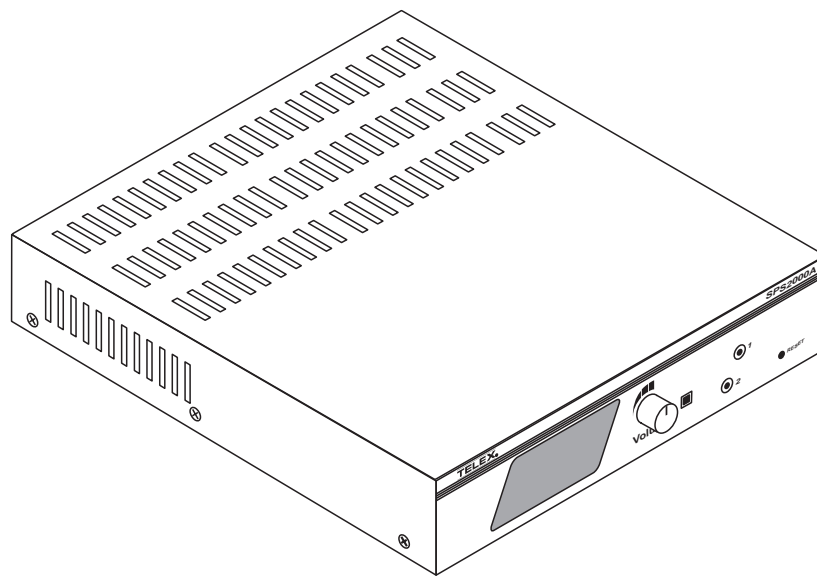# Telex®

User Instructions

Model SPS2000A

Power Supply

Audiocom® Intercom Systems

TELEX®

FCC Statement

This equipment uses, and can radiate radio frequency energy that may cause interference to radio communications if not installed in accordance with this manual. The equipment has been tested and found to comply with the limits of a Class A computing device pursuant to Subpart J, Part 15 of FCC Rules which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area may cause interference which the user (at his own expense) will be required to correct.

CE This product meets Electromagnetic Compatibility Directive 89/336/EEC.

Introduction

Thank you for purchasing the Audiocom® SPS2000A Power Supply. We hope that this power supply, used together with your Audiocom User Stations, will satisfy your intercommunication requirements for many years to come. To get the most out of your new power supply, please take a few moments to look through this booklet before using the SPS2000A for the first time.

Table of Contents

Description

The SPS2000A is a versatile power supply that can be used in a variety of Audiocom® intercom system applications. It is ideal for applications where it is desirable to use a master station with a panel mic / speaker combination. The SPS2000A directly accepts any AC input power from 100 to 240 VAC, 50/60 Hz, and it can be configured to power two separate intercom channels or one large intercom channel with twice the intercom station capacity. Additionally, the SPS2000A can be configured for compatibility with Clear-Com* Intercom Systems. The SPS2000A can be rack mounted or used on a desktop. For rack mounting, optional hardware is required. For desktop use, four non-marring rubber feet are supplied.
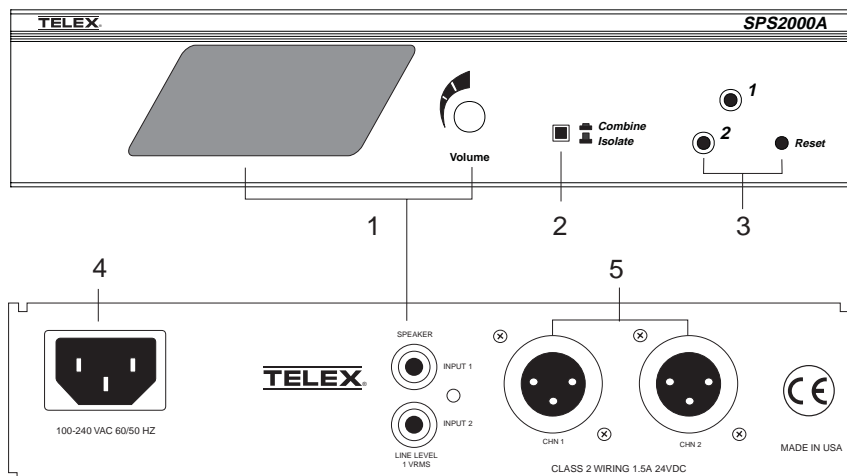

Figure 1. SPS2000A Reference View
(See following numbered descriptions)

1. Speaker, Inputs, and Volume Control: Two audio inputs are provided. The inputs are combined internally and sent as a monaural signal to the internal speaker amplifier. The Volume control adjusts the level to the front panel speaker. Typically, these inputs are used with the speaker outputs of a master station when the master station is set for use with a panel mic and speaker instead of a headset.

* Brand names mentioned are the property of their respective companies.

4

2. Combine / Isolate Switch: This recessed, pushbutton switch lets you combine the audio signals of the two channels to create a single audio channel where all users can intercommunicate. Or, you can isolate each channel to create two groups of completely independent users.

3. Channel Status Indicators and Reset Pushbutton: The indicators are green for normal operation and red when there is an overload or short circuit. The Reset pushbutton restores normal operation after the short-circuit or overload has been located and fixed.

4. Universal AC Power Input: The SPS2000A accepts any input power in the range of 100-240 VAC, 50/60 Hz.

5. Intercom Channel Connectors: When the Combine / Isolate switch is set to the Isolate position, each channel connector is powered separately and has completely separate intercom audio. When the Combine / Isolate switch is set to the Combine position, each channel is still powered separately, but the audio signals are combined so that all users on both channels can intercommunicate.

6. Audiocom / Clear-Com Selector Switch (Figure 2): This selector switch sets the SPS2000A for compatibility with either Audiocom (BALANCED) or Clear-Com (UNBALANCED). Compatibility includes channel connector pin-outs, channel power requirements, and call signaling requirements. The SPS2000A is shipped with this switch in the Audiocom position.

Installation

Unpacking

The package contains the following items. Contact the shipper or your Audiocom dealer immediately if anything is damaged or missing. Detach and fill out the registration card and return it to Telex to properly register your SPS2000A.

Quantity	Description
1	SPS2000A Power Supply
1	Warranty and registration card
1	User Manual
4	Rubber feet (install for desktop use of the SPS2000A)
1	Power cord

Configuration Switches

WARNING

The following instructions are for use by qualified personnel only. To avoid electric shock, do not remove the cover unless you are qualified to do so.

AVERTISSEMENT

Les instructions qui suivent s'adressent uniquement a un techni-cien qualifie. Pour evite des chocs electriques, ne pas ouvrir le boitier, a moins d'y entre habilite.

The Audiocom / Clear-Com switch (S200) is factory set for use with Audiocom intercom stations. Before using the SPS2000A with Clear-Com, remove the top cover and change the setting as shown in Figure 2. The top cover is secured by five screws on the top and three screws on each side.

The Combine / Isolate switch position may be changed at any time by inserting a pen point or other small object through the front panel. When the switch is in the Combine position, all users on both channels may intercommunicate. When the switch is set to the Isolate position, channels 1 and 2 cannot intercommunicate.

Intercom Channel and Program Connections

Channel Capacity: When connecting intercom stations to the SPS2000A, determine the total current for all stations on each channel. The total per channel should not exceed 2A. If you exceed this limit, the SPS2000A will provide an overload indication.
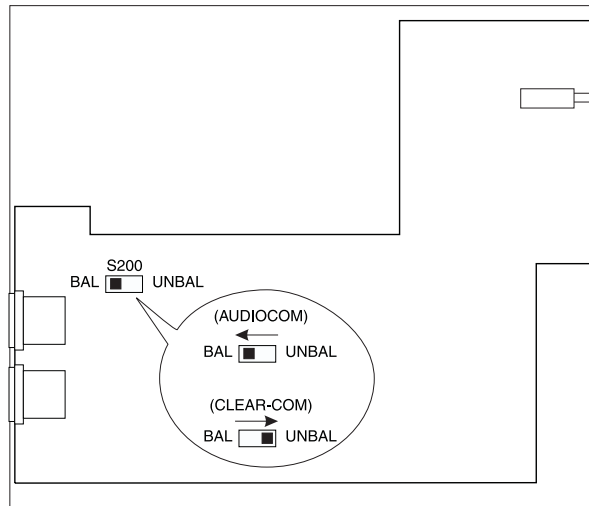
Figure 2. Audiocom / Clear-Com Selector Switch (Top Cover Removed)

Note that if you are using DC wallpacks with some intercom stations, you do not need to add the current consumption of those stations to the total current.

Audiocom Connections: Intercom cable wiring details are shown in Figure 3. Speaker interconnect cables are standard RCA phono types. For program input cable wiring, refer to your master intercom station user manual. Some typical intercom system applications are shown in Figures 4 through 6.

Clear-Com Applications: Refer to your Clear-Com system documentation for intercom cable wiring and connection details.

TYPICAL 1-CHANNEL CABLE WIRING

```
3 ◄─────────── Pair 1 ───────────► 3
2 ◄─────────── Pair 1 ───────────► 2
1 ◄─────────── Pair 2 ───────────► 1 (Both wires)
Shield ◄ · · · · · · · · · · · · · · · · · · · · ► Shield
```
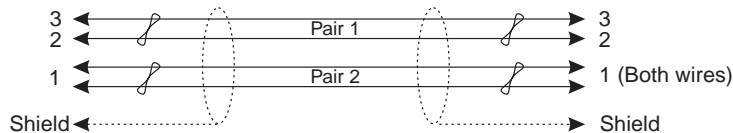
Cable Type: 22AWG Stranded, 2-Pair Twisted-wire, with Shield
Connector Type: 3-Pin XLR Audio (Neutrik or Switchcraft)*
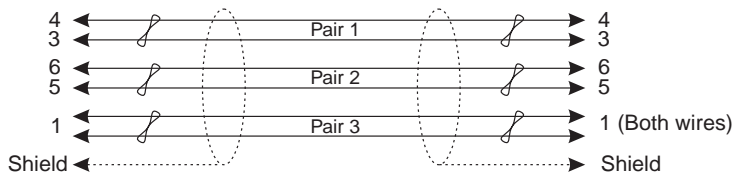Pin 1: Common
Pin 2: Channel Audio / Power   Denotes twisted pair.
Pin 3: Channel Audio / Power
Shield: Earth ground   Denotes shield.

TYPICAL 2-CHANNEL CABLE WIRING

```
4 ◄─────────── Pair 1 ───────────► 4
3 ◄─────────── Pair 1 ───────────► 3
6 ◄─────────── Pair 2 ───────────► 6
5 ◄─────────── Pair 2 ───────────► 5
1 ◄─────────── Pair 3 ───────────► 1 (Both wires)
Shield ◄ · · · · · · · · · · · · · · · · · · · · ► Shield
```

Cable Type: 22AWG Stranded, 3-Pair Twisted-wire, with Shield
Connector Type: 6-Pin XLR Audio (Neutrik only, not compatible with 6-pin Switchcraft)*
Pin 1: Channel 1 & 2 Common
Pin 2: No connection
Pin 3: Channel 1 Audio / Power   Denotes twisted pair.
Pin 4: Channel 1 Audio / Power
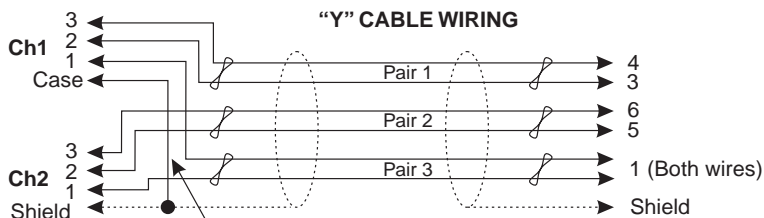Pin 5: Channel 2 Audio / Power   Denotes shield.
Pin 6: Channel 2 Audio / Power
Shield: Earth ground

"Y" CABLE WIRING

```
      3 ◄
Ch1   2 ◄
      1 ◄─────────── Pair 1 ───────────► 4
   Case ◄───────────────────────────────► 3
                 ─────── Pair 2 ───────► 6
                 ─────── Pair 2 ───────► 5
      3 ◄
Ch2   2 ◄──────────── Pair 3 ───────────► 1 (Both wires)
      1 ◄
Shield ◄ · · · · · · · · · · · · · · · · · · · · ► Shield
```

Use second drain wire if available, or add an extra section of wire.

* Standard cables are generally constructed using a male connector at one end and a female connector at the other end. This allows several cables to be interconnected to create longer cable runs. Audiocom master stations, speaker stations and belt packs also typically provide both a male and female Neutrik connector for each intercom channel. This permits loop-through connection of several intercom stations using the standard cables. Audiocom power supplies use a 3-pin male Neutrik connector for each channel. Audiocom wallplates use male Neutrik connectors.

Figure 3. Intercom Cable Wiring Diagrams for Audiocom Applications

SPS2000A
Power Supply
Combine / Isolate Switch
set to Isolate

1 ⁄ 1-channel cable

2 ⁄ 2-channel cable

Y ⁄ "Y" cable

Speaker Inter-
connect cable.

Program Input
cable. From 2
audio sources

US2000A
Master Station

1   1

To all stations
on channel 1

To all stations
on channel 2

BP-1000   1

BP-1000   1

HEADSET   LINES

HEADSET   LINES

BP-1000   1

BP-1000   1

HEADSET   LINES

HEADSET   LINES

Y

BP-2000

HEADSET   LINES

Note: A JB-2 Junction Box may be
used instead of the "Y" cables. The
JB-2 provides a means of combining
two channels, while also allowing the
single channels to be continued
directly from the junction box.

2

BP-2000

HEADSET   LINES

Y

BP-1000

BP-1000

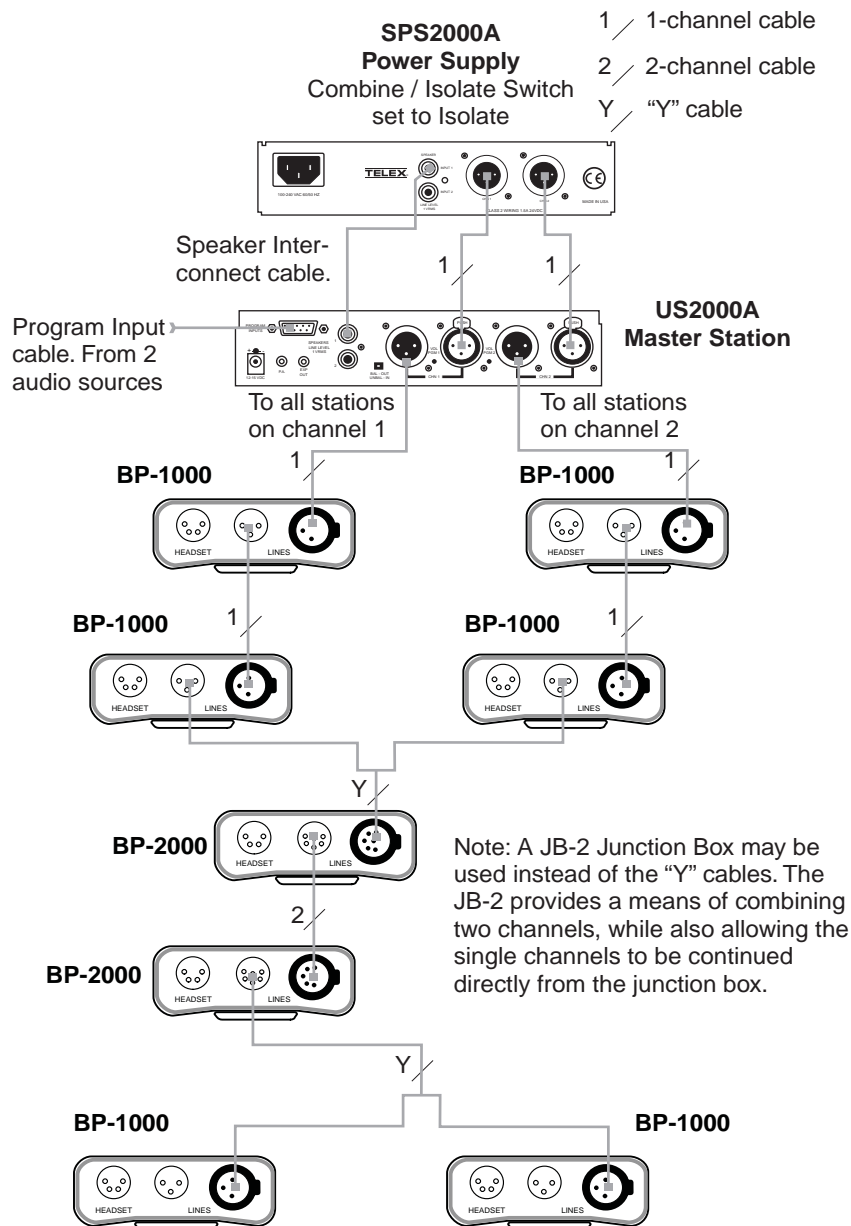HEADSET   LINES

HEADSET   LINES

Figure 4. Typical connections using one SPS2000A Power Supply for two
intercom channels. The two program sources are monitored independently
by the intercom channels. All audio (program and intercom) is monitored as
a monaural mix in the SPS2000A speaker. The US2000A is set for
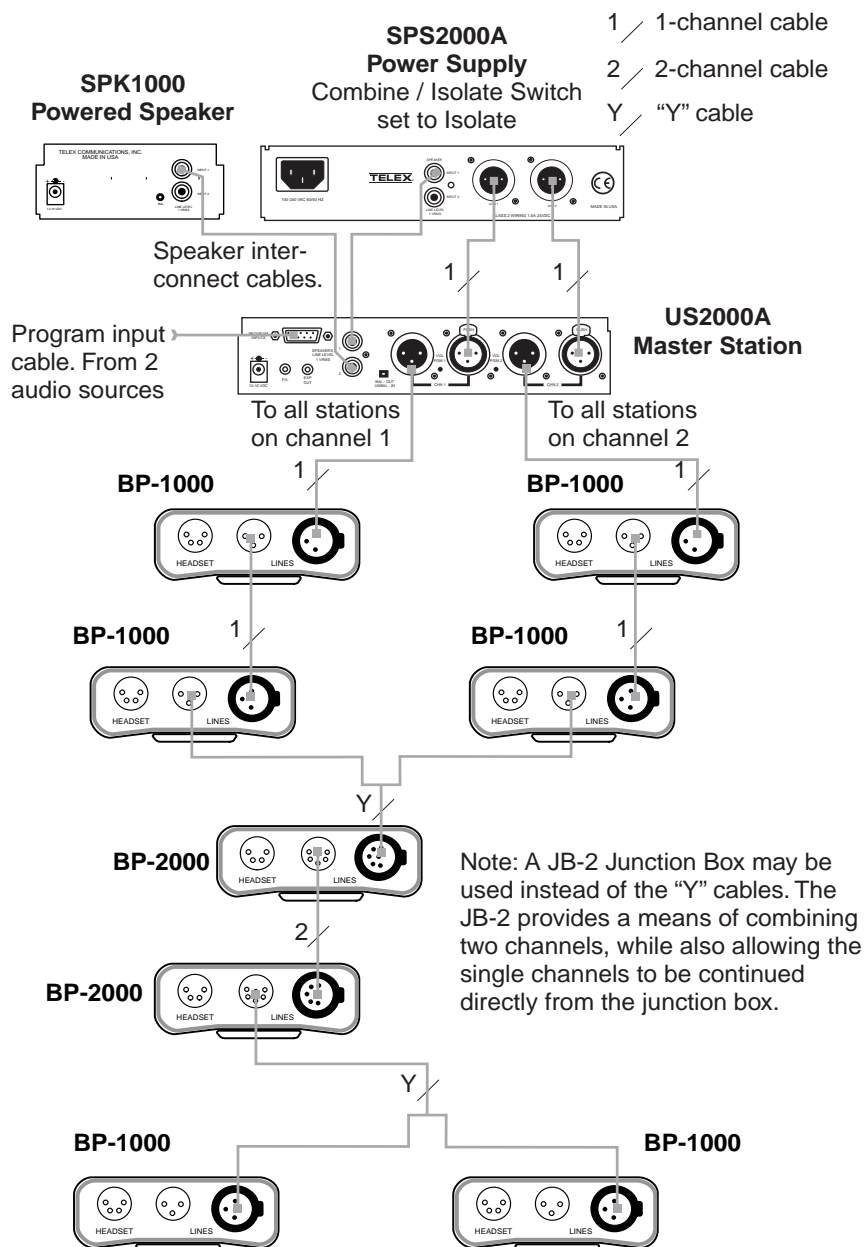monaural speaker output (default).

Figure 5. Adding an SPK1000 to the example in Figure 4. The two program sources are monitored independently by the intercom channels. The SPS2000A monitors intercom channel 1 and program 1. The SPK1000 monitors intercom channel 2 and program 2. The US2000A is set for binaural speaker output as described in the US2000A User Manual.

SPS2000A
Channel 1 Power
Combine / Isolate Switch
set to Combine

SPS2000A
Channel 2 Power
Combine / Isolate Switch
set to Combine

Speaker inter-
connect cables.

Program input
cable. From 2
audio sources

US2000A
Internal DIP
switches set
for binaural
operation

To ½ of stations
on channel 1

To ½ of stations
on channel 1

To ½ of stations
on channel 2

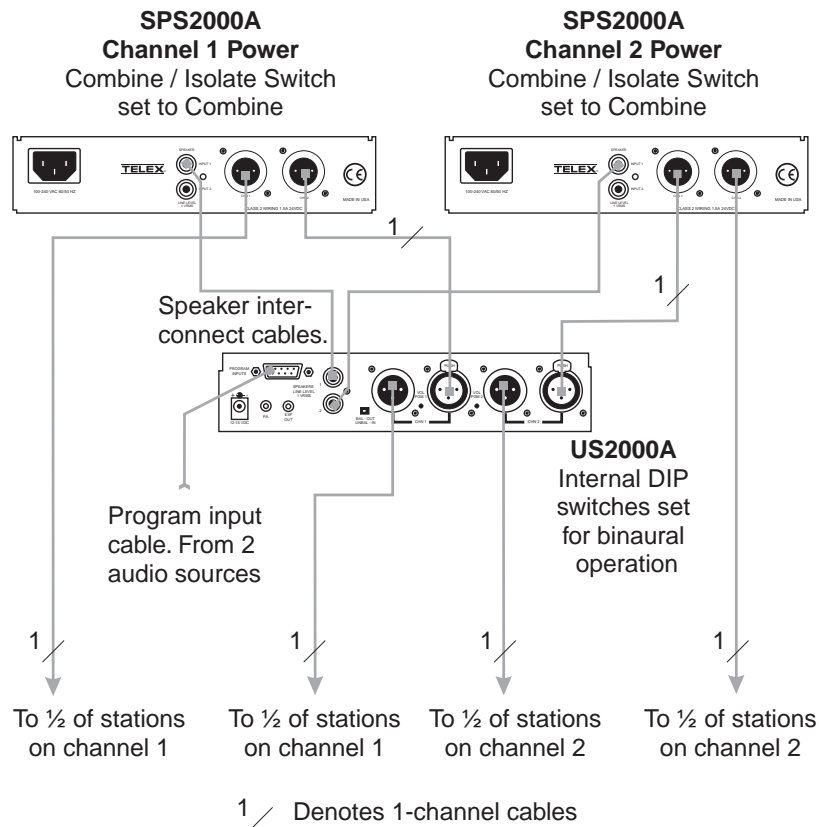To ½ of stations
on channel 2

1 ╱ Denotes 1-channel cables

Figure 6. Using two SPS2000A Power Supplies to provide a greater capacity on each channel. Using two SPS2000A Power Supplies also lets you independently monitor and adjust volume for both intercom channels without the need for a separate powered loudspeaker. In this application, the US2000A should be set for binaural speaker output as described in the US2000A User Manual.

Power-Up Check

1. Plug in any DC wallpacks that are being used with individual intercom stations.

☞ If you plug in DC wallpacks after applying power to the SPS2000A, you may get an overload indication at the SPS2000A. This is because the stations that are being powered by wallpacks will draw current from the SPS2000A until their own DC supplies are connected.

11

2. Plug in the AC power cords for any connected SPS2000A Power Supplies. The channel status indicators should be green.

3. If a channel status indicator turns red during operation, try correcting the problem by pressing the reset button on the front of the SPS2000A. If the problem persists, unplug the SPS2000A and locate the short or overload that is causing the problem.

Specifications

General

Input Power Requirements:
  100 to 240 VAC, 50 / 60 Hz
Output Power (each channel)
  21 ± 1 VDC, 2A
Dimensions: 1.75" (44.5 mm) high x 8.25" (209.5 mm) wide x 10.31" (261.9 mm) deep
Weight: approximately 2.5 lb (1.13 kg)
Environmental Requirements:
  Storage: -20°C to 80°C; 0% to 95% humidity, non-condensing
  Operating: 0°C to 50°C; 0% to 95% humidity, non-condensing

Intercom Channels

General

Connector Type: One XLR-3M audio connector for each channel. Pin-out depends on setting of internal switch S200 for balanced or unbalanced operation as defined below.

Balanced Mode (S200 set to BAL position)

Line Terminating Impedance: 300 ohms ± 10%
Connector Pin-out
  Pin 1   Common (audio and DC return)
  Pin 2   Full-duplex, balanced intercom audio and +24 VDC output
  Pin 3   Full-duplex, balanced intercom audio and +24 VDC output

Unbalanced Mode (S200 set to UNBAL position)

Line Terminating Impedance: 150 ohms ± 5%
Connector Pin-out
  Pin 1   Common (audio and DC return)
  Pin 2   +24 VDC output
  Pin 3   Full-duplex, unbalanced Intercom audio high

Speaker Inputs

Type: RCA Phone Jack
  Tip: Speaker + input
  Sleeve: Speaker - input

Approvals

UL, CUL, CE

Factory Service and Parts Information

When returning equipment for repair include your return address, telephone number and proof of date of purchase, along with a description of the problem.*

The address for Audiocom equipment returns and parts information is:

> Service Department
> Telex Communications, Inc.
> West 1st Street
> Blue Earth, Minnesota 56013 U.S.A.
> Telephone: (507) 526-3205
> (Collect calls not accepted)

Warranty Repairs - If in warranty, no charge will be made for the repairs. Equipment returned for warranty repair must be sent prepaid and will be returned prepaid.

Non-Warranty Repairs - Equipment that is not under warranty must be sent prepaid to Telex. If requested, an estimate of repair costs will be issued prior to service. After your approval and completion of the repairs, the equipment will be returned on a collect basis. Collect charges may be avoided by sending a signed check for payment in full along with your signed estimate approval form (shipping charges are included in the estimate).

* For sales / technical support and system design contact:

> Pro Audio Sales Department
> Telex Communications, Inc.
> 9600 Aldrich Avenue South
> Minneapolis, Minnesota 55420 U.S.A.
> Telephone: (612) 884-4051
> (Collect calls not accepted)

Notes

TELEX®