

MS 2002

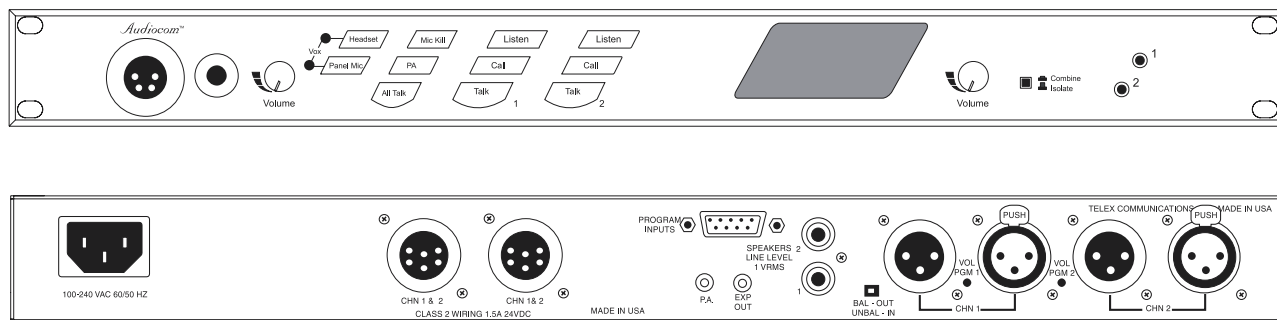
MASTER STATION



The MS2002 is a complete 2-channel master station and system power supply in a single unit. You simply plug it into any AC power outlet from 100 to 240 volts, add a microphone or headset, connect intercom stations to the back panel, and you're ready to communicate. It even has both 1-channel and 2-channel connectors, so you don't have to add a separate breakout box if you want to mix 1-channel and 2-channel intercom stations. The MS2002 fits in a standard 19-inch equipment rack and is 1 rack unit high.

Features

- **Speaker Station or Headset Station** - Use the built-in speaker for listening and add an optional Telex MCP-90 series Gooseneck Panel Microphone for talk-back. Or, turn off the speaker volume, and plug in any of a variety of Telex headsets for private communication.
- **Voice Activated Microphone (VOX)** - Separate controls adjust the voice activation level for the headset microphone and panel microphone inputs.
- **Public Address (PA) Output, with PA key** - Use your intercom microphone to talk over a PA system.
- **Back-lit Keys** - Improves visibility in low-light.
- **Incoming Call Indications** - Red flashing call light, with beep tone if desired.
- **Mic Kill Key** - You can turn off all microphones on a channel to quickly clear the channel.
- **Program Input for Each Channel** - Connect any line-level audio source for monitoring in the speaker or headset, or for routing to the intercom channel. The program audio to the channel can be set to interrupt while the MS2002 operator is talking on the channel.
- **Binaural (Stereo) Listening with External Powered Speakers** - You can connect external powered speakers and then monitor channel 1 and 2 as separate right and left audio.
- **Expandable** - Add more channels by connecting optional EMS4001 Expansion Stations. Each EMS4001 adds four additional powered channels (up to eighteen channels).
- **Clear-Com® Compatible**



MS2002 Specifications

General

Power Requirement:	AC Input: 100-240 VAC, 50/60 Hz Channel Power: 24 VDC nominal
Dimensions:	1.75" (44.5 mm) high × 19" (483 mm) wide × 10.31" (261.9 mm) deep
Weight:	approximately 4.5lb (2 kg)
Environmental Requirements:	Storage: -20°C to 80°C; 0% to 95% humidity, non-condensing Operating: -15°C to 60°C; 0% to 95% humidity, non-condensing

Dynamic-mic Headset

Microphone:	50 to 200 ohm, dynamic (balanced or unbalanced)
Headphones:	150 to 600 ohm, monaural
Connector Type:	XLR-4M connector

Panel Microphone Input

Microphone Type:	Electret condenser
Power:	Phantom (+5 VDC)
Nominal Level:	-42 dBu
Maximum Level:	-25 dBu
Connector Type:	MCP-90, 1/4" stereo plug with threaded shaft

Program Input

Input Level:	100mV maximum
Voltage Gain:	25 ±3 dB
Output Level (to intercom channel):	1.0 Vrms nominal, 2.3 Vrms maximum
Input Impedance:	75 kohm
Common Mode Rejection:	Greater than 50 dB
Connector Type:	9-pin female D-sub (DE9S) • Pin 1 Ground • Pin 2 Program 1 input low • Pin 3 Program 2 input low • Pin 4 NC • Pin 5 NC • Pin 6 Program 1 input high • Pin 7 Program 2 input high • Pin 8 NC • Pin 9 NC

Intercom Channels, Balanced Mode (Back panel switch set to BAL)

Output Level:	1 Vrms nominal
Input Impedance:	300 ohms
Bridging Impedance:	Greater than 10,000 ohms
Sidetone:	-40 dB, 35 dB adjustable range
Call Signaling:	Send: 20 kHz ±100 Hz, 0.5 Vrms ±10% Receive: 20 kHz ±800 Hz, 100 mVrms
Mic-Kill Frequency:	Send: 24 kHz ±300 Hz, 0.5 Vrms ±10% Detect: 24 kHz ±800 Hz, 100 mVrms
Noise Contribution:	Less than -70 dB
Common Mode Rejection Ratio:	Greater than 50 dB
Connector Type:	One XLR-3M and XLR-3F pair, wired in parallel, for each channel (permits "loop-thru" connection). Two XLR-6M (Neutrik) connectors for 2-channel connection. • Pin 1 Common • Pin 2 Intercom audio low and +24 VDC input • Pin 3 Intercom audio high and +24 VDC input
XLR-6 Balanced Configuration Pinout:	• Pin 1 Audio and CD Common • Pin 2 Local power (12 to 15 VDC, 65 to 150 mA) • Pin 3 Intercom channel 1 audio low and +24 VDC phantom power • Pin 4 Intercom channel 1 audio high and +24 VDC phantom power • Pin 5 Intercom channel 2 audio low and +24 VDC phantom power • Pin 6 Intercom channel 2 audio high and +24 VDC phantom power

MS2002 Specifications *continued***Intercom Channel, Unbalanced Mode (UNBAL position)**

Output Level:	.750 Vrms ±10%
Input Impedance:	200 ohms
Bridging Impedance:	Greater than 10,000 ohms
Call Signaling:	Send: 11 ±3 VDC Receive: 4 VDC minimum
Input Impedance:	200 ohms
Connector Type:	Uses same connectors as for balanced mode, above, but with pinout modified by BAL/UNBAL switch on back panel as follows: XLR-3 Unbalanced Configuration Pinout • Pin 1 Common • Pin 2 +30 VDC input • Pin 3 Intercom audio high XLR-6 Unbalanced Configuration Pinout • Pin 1 Common • Pin 2 Local power (15 VDC, 65 to 150 mA) • Pin 3 Channel 1 +30 VDC input • Pin 4 Channel 1 Intercom audio high and DC call • Pin 5 Channel 2 +30 VDC input • Pin 6 Channel 2 Intercom audio high and DC call

PA Output

Output Level:	235 mVrms nominal
Connector Type:	1/8-inch Stereo Phone Jack Tip: PA output high Ring: Not used Sleeve: Common

Speaker Output

Output Level:	0 dB nominal (1.0 Vrms max)
Output Impedance:	1000 ohms nominal
Frequency Response:	200 Hz to 8 kHz +1/-3dB
Connector Type:	RCA Phono Jack Tip: Speaker output high Sleeve: Common

Expansion Input/Output

Type:	2.0 mm stereo phone jack Tip: Talk output Ring: Listen input Sleeve: Common
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Headphone Amplifier

Voltage Gain:	30 ±3 dB
Maximum Output:	250 mW ±10% into 150 ohms, 65 mW±10% into 600 ohms
Frequency Response:	200 Hz to 8 kHz +1/-3db
Incoming Call Beep Tone:	2 kHz, at the headphones
Total Harmonic Distortion:	Less than 0.2% at 200 mW
Sidetone:	18 ±2 dB, adjustable

Panel Microphone Amplifier

Voltage Gains:	Mic to CHN; 25±3 dB, before limiting Mic to Headphone; adjustable, 45 dB ±10% maximum, into 150 ohms Mic to PA; 15 ±3 dB, 235 mVrms ±10%
Frequency Response:	200 Hz to 8 kHz +1/-3dB
Total Harmonic Distortion:	Less than 0.2% at CHN output
VOX Range:	-75 to -30 dB, -60 dB factory set

Ordering Information

Model No.	Description	Order by Cat.
MS-2002	2 channel, user/main station with 2.0 amp power supply	90007749000

Distributed by:

All specifications are subject to change without notice.

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