RTS Audiocom

Technical Data Sheet

Innovating the Future of Global Communications

MS-2002

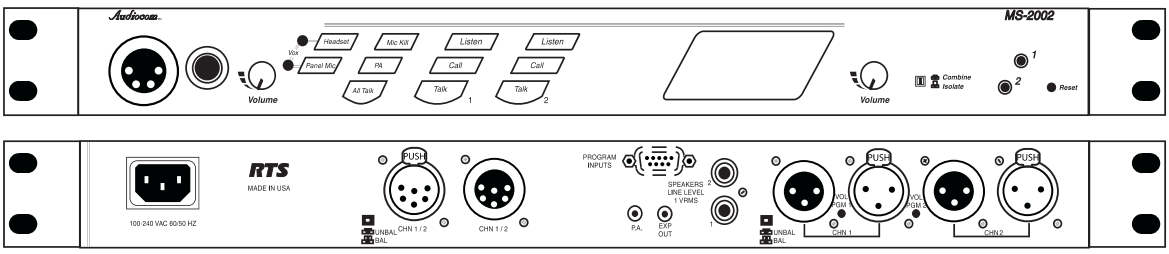
Master Station and Power Supply

The MS-2002 is a complete 2-channel master station and system power supply (24 V DC, 2 Amps total power) 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 has combined 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 MS-2002 fits in a standard 19-inch equipment rack and is one (1) rack unit high. The basic MS-2002 can communicate with two (2) intercom channels. This number can be increased by connecting optional EMS-4001 Expansion Stations. Each EMS-4001 adds four (4) additional channels, and up to four (4) of these expansion stations can be connected for a total of eighteen channels.

Features

- Speaker Station or Headset Station – Use the built-in speaker for listening and add an optional RTS MCP-90 series Gooseneck Panel Microphone for talkback. You can also turn off the speaker volume, and plug in 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.
- Instantaneous Auto-Reset – The newest technology in performance and safety, which uses a revolutionary new circuitry that dynamically monitors line fault conditions. Then, when the fault is removed, automatically brings individual power supply channels up.
- 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 itercom channel. The program audio to the channel can be set to interrupt while the MS-2002 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 EMS-4001 Expansion Stations. Each EMS-4001 adds four additional powered channels (up to eighteen channels).
- Clear-Com Compatible

Line Drawings



Specifications

General

Power Requirements:
AC Input: 100-240 VAC, 50/60 Hz
Channel Power: 24 VDC nominal (18 to 30 VDC), 65 to 150 mA
MS-2002 is capable of supplying 1 amp per channel overall
Dimensions: 1.75" (44.5 mm) high, 19" (483 mm) wide, 10.31" (261.9mm) deep
Weight: approximately 4.5 lb (2 kg)
Environmental Requirements:
Storage: -20°C to 80°C; 0% to 95% humidity, non-condensing
Operating: 0°C to 60°C; 0% to 95% humidity, non-condensing

Dynamic-mic Headset

Microphone: 50 to 200 Ω, dynamic (balanced or unbalanced)
Headphones: 150 to 600 Ω, monaural
Connector Type: XLR-4M
Pin 1 Microphone low
Pin 2 Microphone high
Pin 3 Headphone high
Pin 4 Headphone low

Panel Microphone Input

Microphone Type: Electret condenser
Power: Phantom (+5 VDC)
Nominal Level: -42 dBu
Maximum Level: -25 dBu
Connector Type: IKP12 (MCP-90 series, stereo plug connector)

Program Input

Input Level: 2.3Vrms maximum, 1.0Vrms nominal
Voltage Gain: 25 ±3 dB
Output Level (to intercom channel): 2.3Vrms maximum, 1.0Vrms nominal
Input Impedance: 75 k
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 (Both Back Panel and internal switches (BAL/UNBAL) must be set to same setting)

Output Level: 1 Vrms nominal
Input Impedance: 300 Ω
Bridging Impedance: >10k Ω
Sidetone: 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: <-70 dB
Common Mode Rejection Ratio: >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.

XLR-3 Balanced Confi guration Pinouts
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 Pinouts
Pin 1: Audio and DC 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

Intercom Channel, Unbalanced Mode (Both Back Panel and internal switches (BAL/UNBAL) have to be set to same setting)

Output Level: 1 Vrms ±10%
Input Impedance: 200 Ω
Bridging Impedance: >10k Ω
Call Signaling:
Send: 11 ±3 VDC
Receive: 4 VDC minimum
Connector Type: Uses same connectors as for balanced mode, above, but with pinouts modifi ed by BAL/UNBAL switch on back panel as follows:
XLR-3 Unbalanced Confi guration Pinouts
Pin 1: Common
Pin 2: +24 VDC input
Pin 3: Intercom audio high
XLR-6 Unbalanced Configuration Pinouts
Pin 1: Common
Pin 2: Local power (12 to 15 VDC, 65 to 150 mA)
Pin 3: Channel 1 +24 VDC input
Pin 4: Channel 1 Intercom audio high and DC call
Pin 5: Channel 2 +24 VDC input
Pin 6: Channel 2 Intercom audio high and DC call

PA Output

Output Level: 235 mVrms nominal
Connector Type: 3.5mm Stereo Phone Jack
Tip: PA output high
Ring: Not used
Sleeve: Common

Speaker Output

Output Level: 1.0 Vrms, nominal
Output Impedance: 1000 Ω 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: 3.5mm stereo phone jack
Tip: Talk output
Ring: Listen input
Sleeve: Common

Headphone Amplifier

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

Order Information

- MS-2002 • 2 channel user/main station with 2.0 amp power supply

For ordering information, contact your regional sales representative at:
http://rtsintercoms.com/us/intercom/contact

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