

# Clear-Com Encore™

## MS-702 Two-Channel Main Station



MS-702 Front Panel

The **MS-702** is a one-rack-space, two-channel main station with a regulated 1.2-amp "fail-safe" power supply, individual channel short-circuit protection, and a versatile intercom monitoring system. It supports two intercom channels with up to 40 beltpacks or 10 speaker stations. It features Clear-Com's excellent speech intelligibility in both high- and low-noise environments.

### Monitoring System

The MS-702 can monitor intercom activity on one or both channels with individual listen-level controls. Monitoring intercom activity is possible through a headset or the internal loudspeaker. The high-sensitivity internal speaker provides intelligible communication in the typical active production environment.

### Talk Selection

The MS-702 contains mic preamps with limiters, and speech-shaping circuits for enhanced intelligibility. An individual electronic momentary/latching talk button is provided for each channel. These buttons light dimly when latched - blue-color LED while in stand-by and amber-color LED when latched. The channels may be accessed separately or simultaneously without tying them together. An optional gooseneck mic is available.

### Announce Output

For paging applications, the MS-702 provides a balanced, line-level output signal to a 1/4-inch TRS connector on the rear panel. The front panel "Announce" button activates the output and the Announce relay. The relay circuit, on a separate 1/4-inch TRS connector, is typically used to mute control-room monitors during live announcements.

### Visual And Audible Signaling

Visual "call" signaling attracts the attention of operators who have removed their headsets or turned off their speakers. Call buttons for each channel signal all stations on that party line by flashing brightly. Along with the visual signal, the station's speaker will emit an audible signal if the remote station operator holds the Call button for more than 2 seconds.

### Remote Mic Kill (RMK)

The MS-702 is equipped with a global RMK button. It will turn off the microphone talk circuits of all Clear-Com beltpacks in the system, eliminating extraneous noise from the "open" headset microphones.

### Program Input

The MS-702 accepts a line-level external program input for monitoring in the headset and speaker, and/or mixing with intercom audio on either or both channels. When Interrupt is selected, the program signal is interrupted when the Talk button is pressed.

### Power Supply & System Protection

The MS-702 provides visual indication of power supply conditions. In the event of a short circuit or current overload on a channel, that channel will shut down while the other one continues to operate. As soon as the fault condition is removed, the "auto-reset" circuitry will restore power to that channel - even under full load conditions.

### Simple Set-Up

The MS-702 connects to remote stations with standard, two-conductor shielded mic cable. User-selectable setup dip switches are provided on the rear panel.

### Features:

- Supports up to 40 beltpacks or 10 speaker stations on two channels and 12 headsets
- Separate short-circuit protection for each channel
- Dual-action electronic momentary/latching "talk" buttons
- Program feed to both channels, with selectable "Program Interrupt" (IFB)
- "Call" signal buttons for each channel
- Global "Remote Mic Kill"
- Announce output with relay
- Microphone limiting
- Volume controls for each channel
- Visual and audible "Tone Alert" signaling
- Channels A & B "Link" switch
- Built-in speaker
- Optional gooseneck mic
- External switchable line termination on each channel
- Universal voltage power supply for 100-240 VAC operation

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### Technical Specifications:

dBu is an absolute measurement. 0 dBu is referenced to 0.775 volts RMS

#### Panel Microphone Input

Input Type: Electret  
 Input Impedance:  $\geq 2K\Omega$   
 Mic Limiter Threshold: 0 dBu  $\pm 3$  dB  
 Mic Limiter Range:  $\geq 20$  dB

#### Headset Microphone Input

Input Type: Dynamic  
 Input Impedance:  $\geq 1K\Omega$   
 Mic Limiter Threshold: 0 dBu  $\pm 3$  dB  
 Mic Limiter Range:  $\geq 15$  dB

#### Program Line Input

Maximum Level before Clipping:  $\geq 20$  dBu  
 Input Impedance:  $\geq 5K\Omega$

#### Headset Output

Load Impedance:  $\geq 8\Omega$   
 Output Impedance:  $\leq 25\Omega$   
 Output Limiter Threshold: +5 dBu  $\pm 3$  dB  
 Maximum Output Level before Distortion:  $\geq 17$  dBu

#### Speaker Output

Load Impedance:  $\geq 4\Omega$   
 Max Output Level before 1% Distortion: 20 dBu  $\pm 2$  dBu

#### Party Line Output

Off Noise:  $< -74$  dBu  
 Output Impedance:  $> 10 K\Omega$

#### Party Line Input

Crosstalk:  $< -60$  dB  
 Max level before Clipping:  $\geq 12$  dBu  
 Sidetone Null Capability:  $> 25$  dB

#### Stage Announce/Balanced Line Out

Type: Balanced  
 Output Impedance:  $\geq 200\Omega$   
 Load Impedance:  $\geq 600\Omega$

#### IFB/Hot Mic

Type: Unbalanced  
 Output Impedance: 180 $\Omega$   
 Load Impedance:  $\geq 600\Omega$

#### Frequency Response

Panel Mic - Party Line: 600 - 10KHz  $\pm 3$  dB  
 Headset Mic - Party Line: 200 - 12KHz  $\pm 3$  dB  
 Headset Mic - Line Out: 200 - 12KHz  $\pm 3$  dB  
 Program Input - Party Line: 100 17KHz  $\pm 3$  dB  
 Program Input - Headset Out: 200 - 10KHz  $\pm 3$  dB  
 Program Input - Speaker Out: 300 - 10KHz  $\pm 3$  dB  
 Party Line - Headset Out: 200 - 10KHz  $\pm 3$  dB  
 Party Line - Speaker Out: 300 - 10KHz  $\pm 3$  dB



MS-702 Back Panel

#### Max Distortion

Panel Mic - Party Line:  $\leq 0.5\%$   
 Headset Mic - Party Line:  $\leq 0.5\%$   
 Headset Mic - Line Out:  $\leq 0.5\%$   
 Program Input - Party Line:  $\leq 0.2\%$   
 Program Input - Headset Out:  $\leq 0.2\%$   
 Program Input - Speaker Out:  $\leq 0.5\%$   
 Party Line - Headset Out:  $\leq 0.2\%$   
 Party Line - Speaker Out:  $\leq 0.5\%$

#### Noise

Panel Mic - Party Line:  $< -65$  dBu  
 Headset Mic - Party Line:  $< -70$  dBu  
 Headset Mic - Line Out:  $< -55$  dBu  
 Program Input - Party Line:  $< -85$  dBu  
 Program Input - Headset Out:  $< -60$  dBu  
 Program Input - Speaker Out:  $< -60$  dBu  
 Party Line - Headset Out:  $< -50$  dBu  
 Party Line - Speaker Out:  $< -50$  dBu

#### Max Gain

Panel Mic - Party Line:  $\geq 37$  dB  
 Headset Mic - Party Line: 41 dB  $\pm 2$  dB  
 Headset Mic - Hot Mic Out: 55 dB  $\pm 3$  dB  
 Headset Mic - Announce Out: 55 dB  $\pm 3$  dB  
 Program Input - Party Line:  $\geq -16$  dB  
 Program Input - Headset Out:  $\geq 18$  dB  
 Program Input - Speaker Out:  $\geq 24$  dB  
 Party Line - Headset Out:  $\geq 34$  dB  
 Party Line - Speaker Out:  $\geq 40$  dB

#### Min Gain

Panel Mic - Party Line"  $\leq 25$  dB

#### Mains Power

Input Voltage Range: 100 - 240 VAC  
 Input Frequency Range: 50 - 60 Hz  
 Input Power:  $\leq 60$  VAC  
 Output Voltage: 30 VDC  $\pm 0.5V$   
 Output Current per Channel (Continuous): 1.2 A  
 Output Current per Channel (Peak): 2 A (Do not exceed the 1.2A rating for more than 2 seconds per 1 minute period)

Short Circuit Recovery Time (1st short):  $\leq 0.5$  sec  
 Short Circuit Recovery Time  $\geq 20$  shorts in 20sec:  $\leq 20$  sec

#### Station Capacity

Up to 40 RS-601 beltpacks or 10 speaker stations or 12 headset stations distributed over both channels

#### Rear Panel Connectors

Intercom: (6) XLR-3M (3 per channel)  
 Announce Out: (1) XLR-3M (audio)  
 Announce Relay: (1) 1/4 in. (0.64 cm) phone jack (relay)  
 Program: (1) XLR-3F  
 Hot Mic / IFB Interface: (1) 1/4 in. (0.64 cm) phone jack  
 AC Power: IEC 320 connector

#### Rear Panel Controls

(2) Termination On-Off switches  
 (8) Option switches  
 (1) Power switch  
 (1) Tone alert volume control

#### Front Panel Connectors

Panel Mic: (1) 1/4 in. (0.64 cm) panel mounting jack  
 Headset: (1) XLR-4M

#### Front Panel Controls & Indicators

(1) Panel / headset mic switch  
 (1) Announce button  
 (1) Party line link button  
 (2) Program ON-OFF-INTERRUPT switches  
 (3) Program level controls  
 (2) Listen controls  
 (2) Sidetone null controls  
 (2) Talk buttons  
 (2) Call buttons  
 (1) Tone alert button  
 (1) RMK button  
 (1) Speaker ON-OFF switch  
 (2) Short LEDs

#### Environmental

32 - 122°F (0 - 50°C)

#### Dimensions

19 in. W x 1.75 in. H x 6.5 in. D  
 (483 mm x 44 mm x 165 mm)

#### Weight

6.06 lbs. (2.75 kg)

#### Notice About Specifications

While Clear-Com makes every attempt to maintain the accuracy of the information contained in its product manuals, that information is subject to change without notice. Performance specifications included in this manual are design-center specifications and are included for customer guidance and to facilitate system installation. Actual operating performance may vary.

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