

# MS-704 Four-Channel Main Station

Analog Partyline Solutions

Linking  
People  
Together



MS-704

## Key Features

- Supports up to 55 beltpacks or 10 speaker stations on four channels
- Separate short-circuit protection for each channel
- Dual-action electronic momentary/latching Talk buttons
- Three interruptable IFB channels
- 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
- Channel Linking
- Built-in speaker
- External switchable line termination on each channel
- Universal voltage power supply

Encore™ is a 2-wire analog partyline system with intuitive plug-and-play design and superior “Clear-Com Sound” audio quality.

## Description

The MS-704 is a 2RU four-channel main station with programmable front panel buttons, individual channel short-circuit protection, individual channel volume control, and a regulated fail-safe power supply. The MS-704 supports up to 55 beltpacks or 10 speaker stations, or 12 headset stations.

## Audio Sources and Monitoring

The MS-704 accepts five separate program audio sources: four line-level balanced inputs and one assignable line-level input. The assignable program input accepts a balanced signal and is designed for monitoring external audio. The four balanced program inputs can be used to create individual program feeds on the intercom channels. The MS-704 can monitor intercom activity on one or all four channels with individual volume level controls. Monitoring intercom activity is possible through a headset or the internal high-sensitivity loudspeaker.

## Talk Selection

The MS-704 has mic pre-amps with limiters and speech-shaping circuits. An individual electronic momentary/latching Talk button is available for each channel. Illuminated dual-action Talk buttons light an LED dimly when latched: blue-color while in standby, amber-color when latched. The latching feature can be disabled. The channels can be accessed separately or simultaneously without tying them together. A selector switch toggles between the headset or microphone. The Talk buttons can also be controlled with a footswitch.

## Announce Output

For paging, the MS-704 provides a balanced, line-level output signal to a ¼-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 ¼-inch TRS connector, is typically used to mute monitors.

## Call Signaling

The MS-704 has individual Call buttons with visual call signaling for each channel on the partyline. The visual signal will flash brightly and will emit an audible signal if the remote station operator holds the Call button for more than 2 seconds. The call signaling feature can be programmed to the Talk buttons.

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## Remote Mic Kill (RMK)

The MS-704 has a global Remote Mic Kill button that will turn on the microphone talk circuits of all beltacks on the system, eliminating extraneous noise from the open headset microphones.

## Program Input and Interrupt (IFB)

The MS-704 accepts a line-level external program input for monitoring in the headset and speaker, and/or mixing with intercom audio on up to three of the four channels. When Interrupt is selected, the program signal is interrupted when the Talk button is pressed.

## Configuration Panel

The MS-704 has a removable front panel for easy access to the station's configuration switches and trim pots. Clearly labeled and easy to adjust, these controls allow the MS-704 to be configured quickly. When configuration is complete, the front panel can be reattached so it shows only the needed controls.

## Power

The MS-702 has a 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.

## Technical Specifications

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

### Station Capacity

Up to 55 RS-701 beltacks or 10 speaker stations or 12 headset stations distributed over all channels

### Panel Microphone Input

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

### Headset Microphone Input

**Input Type:** Dynamic  
**Input Impedance:**  $\geq 1K$   
**Mic Limiter Threshold:** 0dBu  $\pm 3dB$   
**Mic Limiter Range:**  $\geq 17dB$

### Program Line Input

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

### Headset Output

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

### Speaker Output

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

### Party Line Output

**Output Noise:**  $< -74dBu$   
**Output Impedance:**  $> 10K$

### Partyline Input

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

### Stage Announce/Balanced Line Out

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

### IFB/Hot Mic

**Type:** Unbalanced  
**Output Impedance:** 150 Load  
**Impedance:**  $\geq 600$

### Frequency Response

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

### Max Distortion

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

### Noise

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

### Max Gain

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

### Min Gain

**Panel Mic - Partyline:**  $\leq 25dB$

### 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

### Environmental

32 - 122°F (0 - 50°C)

### Dimensions

3.5 x 19 x 10.5 in (HxWxD)  
(88 x 483 x 267 mm)

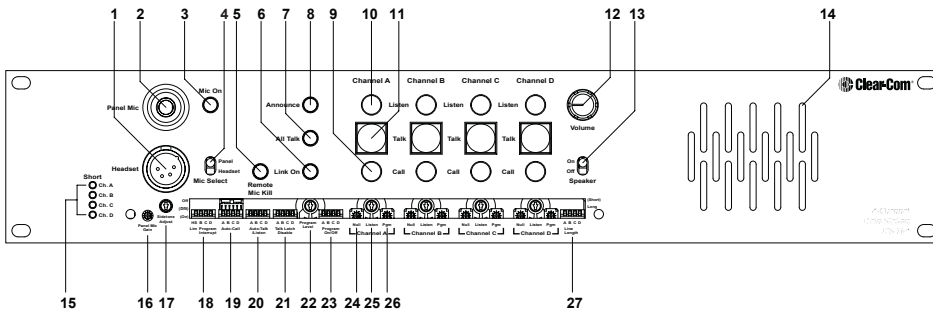
### Weight

10.9 lbs (4.9 kg)

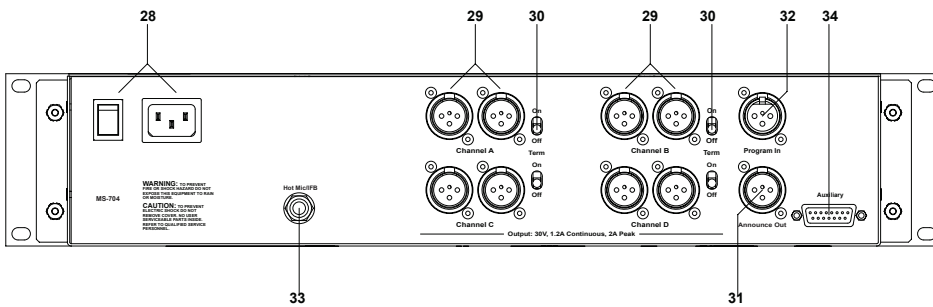
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## MS-704 Front Panel



## MS-704 Back Panel



### Legend

#### Front Panel

1. XLR-4M Headset connector
2. Mic connector
3. Mic On switch
4. Mic Select switch
5. Remote Mic Kill
6. Link button
7. All Talk button
8. Announce button
9. Call button
10. Listen button
11. Talk button
12. Volume control
13. Speaker On/Off switch
14. Loudspeaker
15. Short Indicator
16. Panel Mic Gain
17. Sidetone Adjust

#### Back Panel

1. Power On/Off switch
2. Power connector
3. Hot Mic/IFB Output
4. Channel Intercom connectors
5. Channel Termination switches
6. Program In
7. Announce Out
8. AUX connector

### Order Code

MS-704