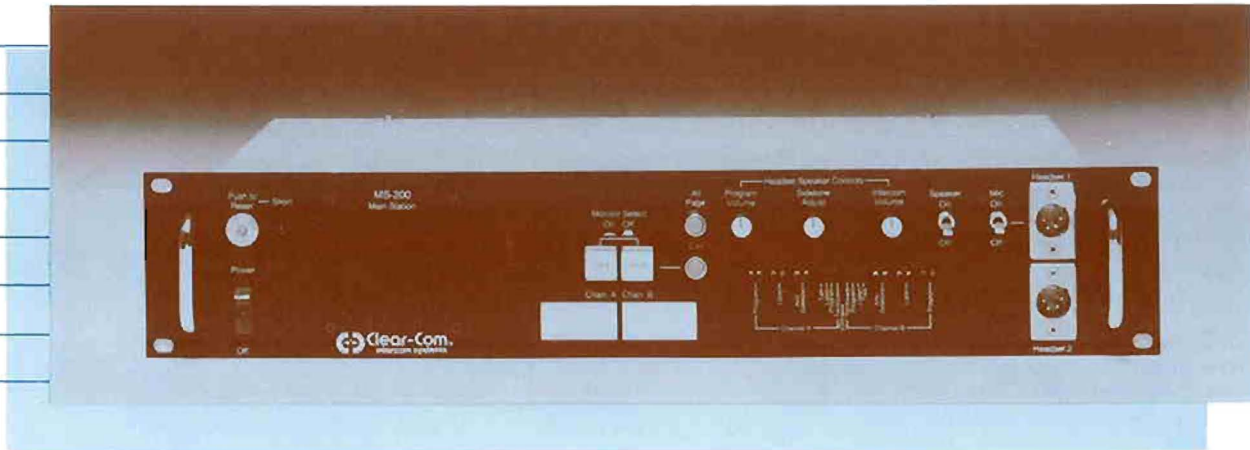


# M A I N   S T A T I O N



## MS-200 TWO-CHANNEL MAIN STATION

### F E A T U R E S

- Supports up to 100 Remote Stations
- Selectable, 2-channel monitoring system
- Programmable talk/listen functions for each channel
- Functions include Visual Signalling and "All Page"
- Balanced program input, assignable to 1 or 2 channels
- Separate intercom, program, and sidetone level controls
- Built-in, wide frequency response speaker and external speaker jack
- Circuit-breaker-protected with short circuit indicator and re-set button
- Available with gooseneck mic, length-adjustable (1"-12")



### D E S C R I P T I O N

The MS-200 is a versatile main station with a regulated power supply and a programmable monitoring system. It features excellent speech intelligibility in high- and low-noise environments. The wide frequency response speaker delivers crisp sound pressure levels, high enough to be heard in the noisiest surroundings.

The MS-200 contains a mic preamp with a limiter and a four-watt power amp, so it can drive two dynamic headsets and the built-in speaker (or an external one). The station drives a standard Clear-Com headset to levels greater than 110 dB SPL.

#### MONITORING SYSTEM

The MS-200 supports two channels for as many as 100 remote headset stations or 20 speaker stations. The operator monitors the intercom activity on the channels with locking "Monitor Select" buttons. These buttons light dimly when engaged. The operator may monitor activity on both channels at the same time, without tying the channels together.

The MS-200 operator pre-sets the monitor functions for each channel. For instance, Channel A may be programmed for talk-only, Channel B for listen-only. The "All Page" button lets the operator address both channels at once (talk only).

#### SIGNALLING

Visual Signalling attracts the attention of operators who've removed their headsets or turned off their speakers. The MS-200 "call" button signals the stations on channels that have been previously chosen with the Monitor Select buttons. When a remote station sends a Call signal, the Monitor Select button associated with that station's channel will light brightly, whether in the "on" or "off" position. (The Visual Signal Circuit is also used to activate the optional remote page feature at other stations.)

#### SIDETONE

Sidetone control allows the operator to vary the level of his/her own voice as heard in the headset; it also suppresses acoustic feedback when using a speaker. The MS-200 provides one sidetone adjustment for each channel, and one for overall sidetone in the headset/speaker.

#### PROGRAM INPUT

The MS-200 accepts a balanced, line-level program input which is heard in the headset/speaker and can be mixed with the intercom audio on one or both channels. Program volume (as well as sidetone level) is individually set for each channel with trimpots located behind a removable plate on the MS-200 front panel (this plate also covers the talk/listen function switches and system termination switches).

continued



## POWER SUPPLY PROTECTION

The MS-200 provides a red lamp to indicate a short circuit in the system, and a circuit-breaker re-set button that enables instant operation once the short is removed. The station's power supply is regulated, current-limited, and provides 28 volts at two amperes from a 115V or 230V AC mains supply. The MS-200 provides the necessary audio termination for the intercom system.

## EASY INTERCONNECTION

The MS-200 connects to the remote stations with standard two-conductor mic cable. The station's rear panel provides six 3-pin, XLR connectors for intercom output, three connectors in parallel for Channel A and the same for Channel B.

## GOOSENECK MIC OPTION

The MS-200 is available with a permanently-attached, noise-cancelling electret mic on a gooseneck with adjustable length (up to 12"). The mic is installed in the top headset connector. When the mic switch is set to momentary "on", the mic activates and the speaker is attenuated by 10 dB to reduce the possibility of feedback.

## SPECIFICATIONS

**AMPLIFIER DESIGN:** IC amplifiers including solid state switching and signalling circuits. Current limited and short circuit protected.

### MICROPHONE PRE-AMP

Microphone Input: 200 $\Omega$  nominal dynamic type  
 Mic Input Level: -55dBv nominal\*  
 Mic Pre-Amp Frequency Response: 250Hz-12kHz with a contoured response to enhance voice intelligibility  
 Headset Mic Input Level: -15dBv max\*

### HEADPHONE AMPLIFIER

Output Impedance Range: 8-2,000 $\Omega$   
 Output Level: 4 watts into 8 $\Omega$   
 Distortion: 0.5% THD at 1kHz  
 Amplifier Gain: 35dB  
 Frequency Response: 150-18kHz ( $\pm$ 2dB)

### PROGRAM AMPLIFIER

Frequency Response: 150-18,000Hz  
 Input: 47-100k $\Omega$  balanced  
 Input Level: -15dBv nominal; +10dBv max

### POWER SUPPLY

Output voltage: 30 volts regulated, output circuit breaker protected  
 Output current: 2 amps maximum

### CHANNEL SEPARATION: <50dB

### SIGNAL TO NOISE: 55dB

### SIDETONE: Adjustable from 25dB null to full on

### CONTROLS BEHIND REMOVABLE FRONT PANEL COVER:

- (2 of each; 1 for CH A and 1 for CH B)
- Listen Level Trim
- Program Level Trim
- Sidetone Balance
- Termination Switch
- Talk Switch
- Listen Switch
- Program Switch

## OPERATING CONDITIONS:

**Channel Monitoring:** Programmable channels A and B with illuminated push on/push off switches  
**Call Light Send:** Follows monitor select switch.  
**Capacity:** Will support up to 100 Remote Headset Stations and 20 Remote Speaker Stations  
**System Impedance:** 200 $\Omega$  switchable  
**System Level:** -15dBv nominal; 0dBv before clipping

## SIGNALLING:

Call Light Sensitivity: 4vdc max  
 Signalling Voltage: 11vdc min

## CONNECTORS:

**Headset Input Connector:** 2 4-pin connectors (D4M)  
**Output Connectors:** 6 (3 for each channel for loop-through convenience)  
**Auxiliary Input:** Switchcraft D3F  
**External Speaker Jack:** Disconnects internal speaker; 1/4" 3-conductor phone jack

**POWER REQUIREMENTS:** 115 or 230 volts AC  
 50-60Hz, 80 VA maximum

**DIMENSIONS:** 19"L x 3.5"H x 9"D  
 483mmL x 89mmH x 229mmD

**ENVIRONMENTAL TEMPERATURE RANGE:** 0 -50  $^{\circ}$  C (32 - 122  $^{\circ}$  F)

Specifications subject to change without notice  
 \*0dBv is referenced to 0.775 volts rms.

## ARCH/ENG SPECS

The main station shall be a 2 channel rack mount intercom station. It shall incorporate a 30 volt regulated power supply capable of delivering 2 amps, circuit breaker-protected against external shorts, and have an LED indicator to indicate a shorted condition. It shall have two illuminating monitor select switches for monitoring either or both channels. The monitor select switches shall be programmable as to their talk and listen functions.

The program select switches and level trim controls shall be accessible from the front panel. These controls shall be protected by a removable cover plate. When monitoring both channels the operator shall be able to communicate with both channels simultaneously without combining the channels into a common or partyline system. It shall have a built-in speaker and a jack for connecting an external speaker. It shall have provisions for accepting a balanced line level auxiliary input signal which shall be selectable to either intercom channel. It shall also have a front panel control for adjusting the program level in the headset. It shall supply the terminating network for each channel. It shall have provisions for connecting two headsets to the station and a level control to adjust the volume to the headphones. It shall also have a front panel sidetone adjustment. The remote stations shall have the ability to visually signal the main station by illuminating the appropriate monitor select switch. The rear panel shall contain three XLR-type, 3-pin connectors for channel A and the same for channel B. The electronics shall be solid-state, IC plug-in printed circuit amplifier modules. It shall be field serviceable and replaceable. The station shall accept a 200 $\Omega$  dynamic microphone with a nominal level of -55dBv. The station frequency response shall be 250Hz-12kHz. It shall be capable of driving the line of either channel to a maximum level of 0dBv. The headphone amplifier shall be able to operate a headset with an impedance of 8 to 2000 $\Omega$  and shall be capable of delivering an output level of 20dBm at 600 $\Omega$ . The distortion shall be less than 0.5% THD at 2kHz. The station shall also incorporate a mic on/off switch on the front panel. The mic preamp shall automatically shut off when the headset is disconnected from the station. The station shall have the capacity to power 100 Headset Stations or 20 Speaker Stations. The auxiliary input shall have a frequency response of 150-18kHz ( $\pm$ 2dB). The power supply shall operate from 105-125 VAC or 210-260 VAC, 50-60Hz, with maximum power consumption of 80 VA. Its dimensions shall be no greater than 19" x 3.5" x 9" deep. It shall be called an MS-200.

## MS-200 BLOCK DIAGRAM

