REMOTE STATION

RM-120A TWO-CHANNEL SPEAKER STATION

FEATURES

- Allows selectable two-channel communicating
- Uses just one unit of rack space
- Wide frequency response speaker with on/off switch
- Intercom volume control
- Balanced program input with volume control
- Operates with carbon or dynamic headsets
- Mic on/off switch and adjustable sidetone
- Visual Call Signalling
- External speaker jack
- Mic limiter
- Available with optional gooseneck mic

Clear-Com® intercom systems

DESCRIPTION

The RM-120A is a broadcast-standard, remote speaker station that allows selectable talking and/or listening in a Clear-Com System. The operator communicates on one channel or on both at once.

Compatible with all Clear-Com intercoms, the RM-120A 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 RM-120A operates with a carbon headset or a dynamic headset/telephone-style handset. It drives a standard Clear-Com headset to levels greater than 110 dB SPL, and can support two dynamic headsets and an external speaker. The RM-120A's speaker can be turned off when private conversation via the headset is desired; alternately, a mic on/off switch is provided to let the RM-120A function as a "listen-only" or remote page station.

The RM-120A features automatic headset detection, which mutes the mic preamp when the headset is not plugged in. Therefore background noise is not increased by an unused yet on-line station.

The RM-120A accepts a balanced Program input for monitoring external audio in the headset or speaker. The station mixes the Program with the intercom audio, and provides a Program level adjustment.

The RM-120A contains a sidetone control that allows the operator to vary the level of his/her own voice as heard in the headset/speaker. Sidetone control also suppresses acoustic feedback when using the speaker.

The RM-120A features Visual Call Signalling to attract the attention of operators who've removed their headsets or turned off their speakers. The station's Call button activates the signal circuit at all other stations using the same channel(s) as the RM-120A. For receiving Call signals, the RM-120A provides two amber lamps (one per channel) that illuminate when another operator activates the signal on the associated channel. The Visual Signal circuit also activates the optional remote control at other stations.

"Stage Announce" is another RM-120A feature, useful for paging applications. The station provides a balanced, line-level output signal to a rear panel "Stage Announce" connector. A front panel button labelled "S/A" activates the output, giving the operator access to an external speaker/amp system.

The RM-120A installs in a standard 19" equipment rack, using only 1.75" vertically. Standard mic cable connects the RM-120A to the intercom system; wire run in conduit is also suitable. The station provides two 3-pin, XLR connectors for input and loop-through extension of Channel A, and the same for Channel B (four connectors total).

Bidirectional current sourcing and low current drain allow as many as 20 RM-120A stations (powered by the suitable Main

continued

Station/Power Supply) to operate along one mile of wire with no significant loading effects. New circuit design virtually eliminates all hum and noise pick-up from SCR dimmer and AC power sources.

GOOSENECK MIC OPTION

The RM-120A is available with a permanently-attached, noise-cancelling electret mic on a gooseneck with adjustable length (up to 12"). When the mic toggle 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:
Solid-state, integrated circuit amplifiers which include a mic preamp with limiter, headset/speaker power amp, signalling circuitry. Current-limited with short circuit and reverse polarity protection.

MIC PREAMPLIFIER
Frequency Response: 250Hz-12kHz with contoured response to enhance speech intelligibility
Mic Input: 200Ω
Mic Preamp Gain: 37dB
Max Input Before Clipping: −34dBv*

HEADSET/SPEAKER AMPLIFIER
Frequency Response: 100Hz-18kHz, ±2dB
Load Impedance Range: 300-2000Ω (dynamic headset)
Output Level: +20dBm, 26v p-p at 100Ω
Headset Level: +110dB SPL with standard Clear-Com headset
Speaker Level: +98dB SPL at 3 feet
Speaker Type: 16Ω 3" x 1.5" oval
Power Output: 2.5w into 16Ω
Distortion: 0.5% THD at 1kHz
Headphone Amp Gain: 38dB

GENERAL SPECS
Line Level: 0dbv max, −15dBv nominal*
Sidetone Adjust: 35dB null to full on
Signal Voltage: 11v DC on audio line
Call Light Sensitivity: 4 volts
Signal-to-Noise: 75dB
Equivalent Input Noise: − 118dB
Station Bridging Impedance: 12kΩ (200Hz-10kHz)
Voltage Range: 12-32 volts, 28v nominal
Power Required: 25 ma quiescent, 60 ma talk, 60 ma signalling, 200 ma short circuit
Dimensions: 19" x 1.75" x 6.5" deep; 483mm x 44mm x 165mm

CONNECTORS
Dynamic Headset: Male D4M, Switchcraft type (2)
Carbon Headset: 1/4" phone jack (ring/tip/sleeve)
Line: Male D3M (2), Female D3F (2)
Program: Female D3F (1)
External Speaker: 1/4" phone jack (ring/tip/sleeve) (disconnects internal speaker)

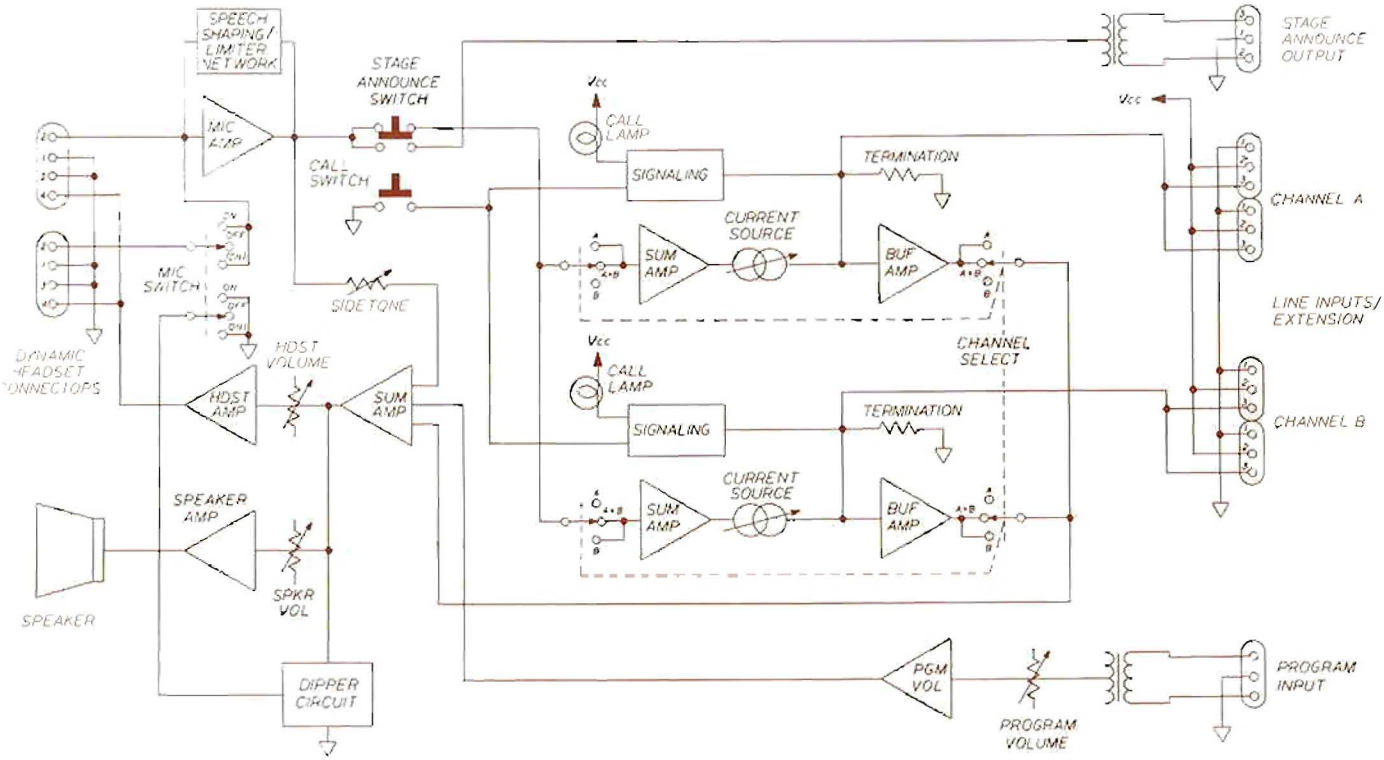
Specifications subject to change without notice
*0 dBv is referenced to 0.775 volts rms.

ARCH/ENG SPECS

The intercom shall be a 2-channel speaker station designed to mount in 1.75" rack space. The station shall have all the necessary controls and connectors to interface to a standard Clear-Com System. It shall accept two discrete intercom channels as well as a balanced line-level program signal that is fed to the speaker and headset. The station shall have volume control for overall intercom level and a volume control for the program. The front panel shall provide two 4-pin, XLR-type male connectors for use with dynamic headsets/handsets, plus a .25" jack for use with a carbon headset. It shall provide a speaker on/off switch. It shall provide a mic on/off/monentary on switch, associated with headset connector #1. The station shall be supplied with one input and one extension connector for each intercom channel (4 connectors total; 3-pin, XLR-type) and an auxiliary connector (3-pin, XLR-type female) for the program input. The program input shall be 50kΩ bridging, and shall have a THD of less than 0.5% at 1kHz. Its electronics shall consist of a mic preamplifier with limiter, a 4 watt power amplifier, and a program amplifier. It shall be current-limited and short-circuit-protected and shall have reverse polarity protection. The station shall contain an adjustable sidetone circuit and visual signal circuitry. The intercom bridging impedance shall be greater than 12kΩ, over a frequency response of 200Hz to 10kHz. The bridging circuit shall use no transformers. The intercom shall have an overall response of 250Hz-12kHz. The mic preamplifier shall accept input from one or two dynamic mics, each of nominal 200Ω impedance at a −55dB level. The signal-to-noise ratio shall be a minimum of 75dB. The station shall operate from a power source of 12-32 volts DC and shall draw no more than 25 ma quiescent. Its dimensions shall not exceed 19" wide by 1.75" high (front panel) by 6.5" deep. It shall be called a Clear-Com RM-120.

The station shall be made available with an electret mic, permanently attached to dynamic headset connector #1 with a field-adjustable gooseneck extension. When this mic is turned on, the station's speaker shall be attenuated by 10dB to reduce the possibility of feedback. The station shall be called a Clear-Com RM-120GM.

RM-120A BLOCK DIAGRAM



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