ANDREA **SYSTEMS** LLC

Product Specification

Communication Control Unit

Model A301-12-1

Model A301-12-1

CURRENT OR PAST USE ON:

- Landing Craft Air Cushion (LCAC)

FACILITIES AND OPERATING CONTROLS

All operating controls are mounted on the front panel.

TALK OPERATION: A seven position rotary switch provides for selection, control, and voice modulations of six transmitters or a public address system. Interphone operation is obtained by activating the ICS keying switch or the HOT MIC switch.

MONITORING: Six combination switch-volume controls provide for individual selection, level setting and mixing of the monitored signals. One fixed level warning input (not controlled by volume) is provided. The stereo operation permits the ICS signals to be heard in one earphone and the radio signals in the other. Warning signals are heard in both earphones.

LEVEL ADJUSTMENT: Dual ganged volume controls permit setting of the earphone levels. In addition, the headset amplifiers contain adjustable self-limiting power output circuits to suit individual maximum loudness requirements.

DESCRIPTION AND USE

The Andrea Model A301-12-1 is an advanced Intercommunication Control System designed to meet current and future requirements of Military Communications. Special emphasis has been placed on Secure Communications. The isolation of the Transmit audio lines exceeds 120 dB. All audio input and output lines are balanced to ground. The A301-12-1 was initially designed and is being used in the U.S. Navy Air Cushion Landing Aircraft.

The A301-12-1 is intended to be the basic control unit for a multi-position, up to 12 stations intercommunications system. The small size, light weight, high reliability, and versatility of the A301-12-1 makes it adaptable to many applications. It is completely solid state with all mechanical relay replaced by electronic switches. It contains dual headset amplifiers to permit stereo operation. The amplifiers and switching circuits are each contained in shielded encapsulated modules.

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140 Finn Court, Farmingdale, New York 11735
www.Andreasystems.com
Phone: (631) 390-3140
Fax: (631) 980-9682

GENERAL CHARACTERISTICS

Mean Time Between Failures	50,000 hrs. calculated Per MIL-HDBK-217C
Input Voltage	27.5 VDC Nominal MIL-STD-704
Weight	4 LBS. Max.
Size	5 3/4" W x 4 1/2" H x 6 1/8" D
Lighting	Electroluminescent Panel
ENVIRONMENTAL	Class I MIL E-5400
Temperature	
Continuous Operation	-54° C to +55° C
Intermittent Operation	+55° C to +71° C
EMI	MIL-STD-461
IMPEDANCE LEVELS	
Microphone Input	150 ohms (Dynamic Mic)
Talk Out	150 ohms load
Receive Input	150 ohms load
Earphones	19 ohms each
POWER LEVELS	
Microphone Input	-80 to -30 dBM
INT. Talk Out	50 mW (2.75 V)
Transmit Talk-Out	0 dBM (.4 V)
Adjustable 53 dB	
Receiver Input	50 mW (2.75 V)
Each Earphone	82 mW Nominal; Adjustable to 150 mW
MICROPHONE AMP PERFORMANCE	
AGC	The AGC maintains constant output for wide variations in Input
Frequency Response	+1 dB, -3 dB, 300 to 6000 Hz
Distortion	3% Max. for -50 dBM input
HEADSET AMP PERFORMANCE	
Distortion	10% Max. for nominal output
Frequency Response	+1 dB, -3 dB, 300 to 6000 Hz
ISOLATION AT 1KHz	
Open Monitor Switch	-60 dB minimum
Audio Input Lines	-60 dB below 50 mW
Transmit Lines	-120 dB below 1 mW (0.4 V)
VOLUME CONTROL RANGE	28 to 37 dB
MONITOR VOL. CONTROL RANGE	18 +/-3 dB

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