ANDREA **SYSTEMS** LLC

Product Specification

Intercommunication System Control

Model A301-6

Model A301-6

THIS UNIT IS USED ON THE FOLLOWING AIRCRAFT:

- **Bell Helicopter 212, 205, 412**

FACILITIES AND OPERATING CONTROLS

All operating controls are mounted on the front panel.

Embedded light plastic panel - red or white illumination.

TALK OPERATION: A seven-position rotary selector switch provides for selection, control and voice modulation of six transmitters. The extreme CCW position of the selector provides intercommunication on the Interphone line.
Note: Intercommunication can be obtained for any selector position when the control is wired for two-button operation.

MONITORING: Ten monitor switches provide for individual selection and mixing of 10 audio input lines. A direct input line for warning signals is also provided.

LEVEL ADJUSTMENT: A master volume control permits adjustment of the headset level.

TRANSMITTER AUDIO LEVEL ADJUSTMENT: Six internal controls permit individual adjustment of the voice modulation level to each of the six associated transmitters.

LINE TERMINATIONS: Seven resistors are included in the A301 for use as audio input line terminations.

Andrea has TSO-C50b, CAT CAAAXX authorizations for the A301-6

Models:

A301-6W	Standard white lighted panel
A301-6WCR	White lighting and Cockpit Voice Recorder output
A301-6R	Night Vision red lighted panel

DESCRIPTION AND USE

The A301-6 is a miniature, lightweight, self contained, solid state Intercommunication System Control of great flexibility. It is designed to be the basic control unit for a multi-position (up to 12) intercommunication system of advanced design. It is a high reliability unit. It employs solid-state relay circuits and modular microphone and headset amplifiers.

The A301-6 was designed to accommodate all the various communication and warning signal components normally employed in commercial aircraft. It will provide specified performance from a 5 ohm Dynamic Microphone or a 100 ohm Carbon Microphone and to an 8 ohm or 600 ohm headset.

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

TSO INFORMATION

FAA TSO-C50b..... CAT CAAAXX

Temperature - Altitude Cat C

Max altitude.....	20,000 ft
Test altitude.....	25,000 ft
Not Operating temp.....	-50° C to +71° C
Short time operation high temp.....	+71° C
Operating temp.....	-40° C to +55° C

Vibration Cat A (rotary wing aircraft)

0.030" displacement from 10 to 55 Hz, max 5 G acceleration
5 G constant acceleration from 55 Hz to 500 Hz

Audio Freq Magnetic field susceptibility Cat A

Equipment exposed to 400 Hz current of 20A 12 inches away

RF Susceptibility Cat A

Radiated and Conducted susceptibility tests, but the levels do not translate to current definitions, require specific antennas.

Emission of spurious RF energy Cat X..... (Not tested)

Explosion Cat X..... (Not tested)

Humidity Test (48 Hour)

Shock Test - Operational and crash safety

Power Input Test

Low Voltage Test

Conducted Voltage Transient Test

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GENERAL CHARACTERISTICS

Connector	50 Pin Cannon DD50P (Male)
Mating Connector	50 Pin M24308/2-5 or equal (Female)
Input Voltage	24 to 29 VDC
INPUT POWER at 28 VDC INPUT	
No. Signal	4.5 Watts Max.
250 mW Headset Output	5.5 Watts Max.
SIZE:	5-3/4" W x 2-5/8" H x 4.75" D
WEIGHT:	1.75 lbs. Max.
LIGHTING:	Embedded 27.5 V
FILTERS:	White or Red
IMPEDANCE LEVELS	
Microphones	5 ohms Dynamic or 100 ohms Carbon
Headset	8 ohms or 600 ohms
Int. Line	600 ohms, internally furnished
Transmitter Output	100 ohms (supplied by aircraft installation)
Receiver Lines	600 ohms, Rec. 1-4 internally furnished
FACILITIES	
Intercommunication	On Int. Line
Transmitters	6
Receivers	10 - Controlled by switches
Receiver	1 - Direct input
Volume Control	40 dB Range from Max. Audio Output
MICROPHONE AMPLIFIER PERFORMANCE	
AGC	Reference 2.8 V output for input variation of 10 to 1
AGC ATTACK TIME	.2 Sec. Max.
AGC SLOPE	3 dB Max. output change for 20 dB input change
DISTORTION	3% Max.
HEADSET AMPLIFIER PERFORMANCE	
Distortion	10% Max.
Frequency Response	+/-6 dB from 300 to 6000 Hz
ISOLATION AT 1000 Hz	
Between Input Lines or Output Lines	60 dB Min
POWER VOLTAGE LEVELS	
5 ohm Microphone	.1 to 1.0 Millivolt
100 ohm Carbon Microphone	.1 to 1.0 Volt
Int. Line	2.8 V
Transmitter Lines	Adjustable .1 to 1 Volt
Receiver Lines	4.5 Volts
Headset Out	250 mW Max.
COCKPIT VOICE RECORDER OUTPUT (MODEL A301-6WCR ONLY)	
Output Level	1.6 Vrms +/- 0.2 V receiver level (varies with volume control) and 0.39 Vrms +/- 5 mV microphone level driving a 5K load

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