



TECHNICAL DESCRIPTION

Model 6095B-3
IRIG Decoder/Video Inserter

Revised
August 9, 2007

**ITS MODEL 6095B-3
IRIG DECODER/INSERTER**

1.0 GENERAL

The ITS Model 6095B-3 IRIG Decoder/Video Inserter is an IRIG B time code decoder and video insertion generator that inserts the decoded IRIG B time in up to three (3) asynchronous RS-170 or NTSC video signals. The time message can be independently positioned in each channel to either the top or bottom of the display as selected by front panel switches. A unique channel identifier can also be inserted in the display. The unit is designed for hard mounting in an aircraft or vehicle and operates on 9 to 36 volts DC, which allows for installation on 12, 24 or 28 volt systems.



2.0 CHARACTERISTICS

2.1 INSERTED VIDEO CHARACTERISTICS

2.1.1 Alphanumeric Characters

The displayed characters are generated on a 5 x 7 dot matrix. A "dot" or pixel is two scan lines high and an equivalent measure in width. The displayed height of the characters therefore is approximately 3% of the height of the total display. The distance between characters horizontally is the equivalent of 3 pixels. The IRIG Time Message is displayed as a seventeen character message formatted as: DDD:HH:MM:SS.SSSS.

Preceding the time message is the channel ID character which may be selected for each channel as "A" through "P" by three, front panel, sixteen position rotary switches.

2.1.2 Video Insertion Method

The generated video is added to the input video as a white character on a black background. The black background fills the 7 x 8 pixel character field so the time message will be displayed on what appears to be a black stripe. This assures readability regardless of the background video.

2.2 IRIG CLOCK

The IRIG clock is controlled by the input of the serial IRIG B signal. Once the time is established a loss of the IRIG signal will cause the 6095B-3 to automatically switch to an internal real time clock which will increment the time display until the IRIG signal is re-acquired. When the IRIG time is not locked, the channel ID character is changed from an upper case value to lower case.

3.0 MECHANICAL CONFIGURATION

The 6095B-3 is housed in a ruggedized 3.75 inch high by 4.5 inch wide by 6 inch deep sheet metal enclosure which is designed to meet aircraft "Safety of Flight" requirements. All circuitry is on printed circuit assemblies. Connections between PC assemblies are via mating connectors. No edge connectors are used.

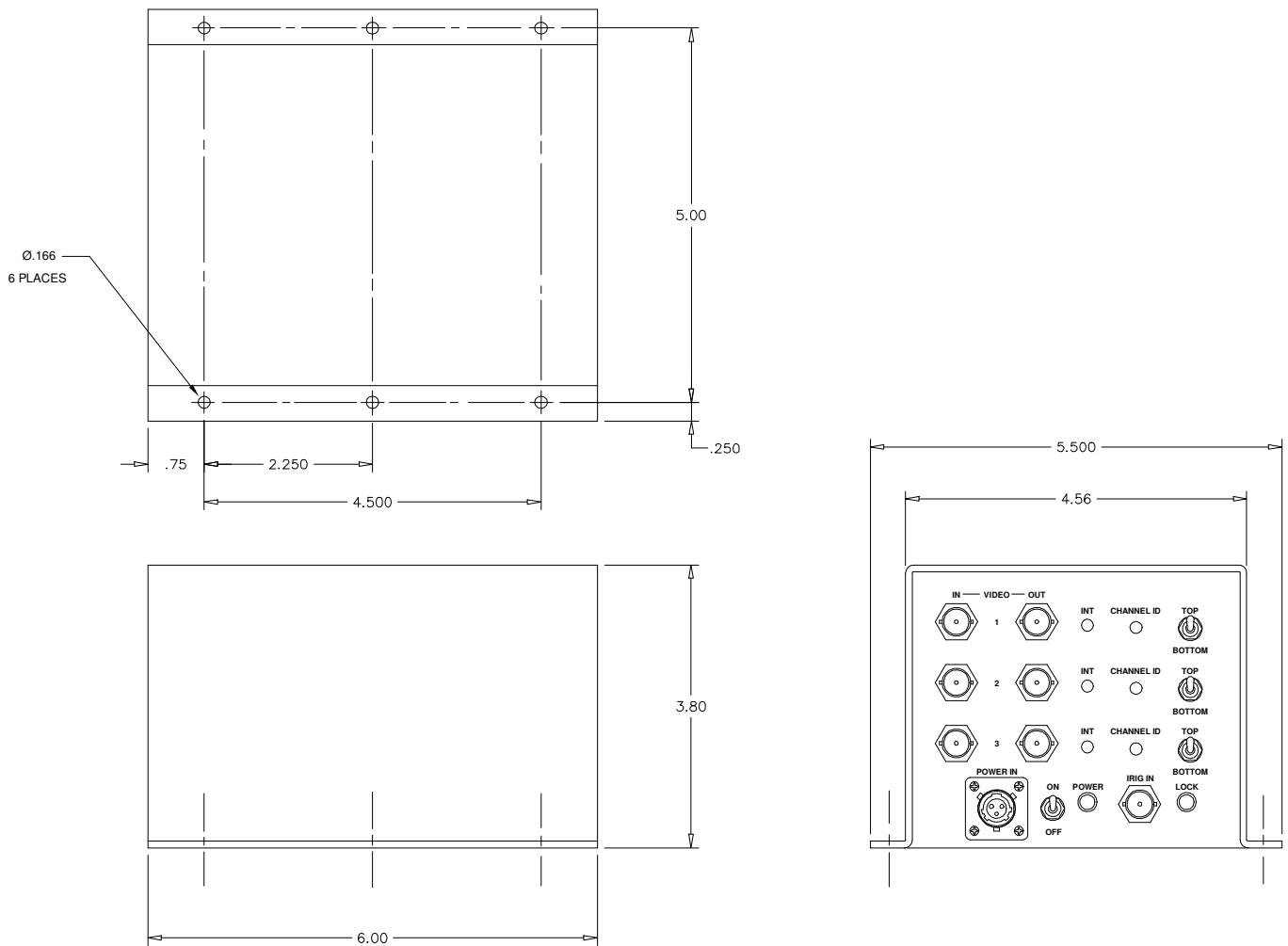


Figure 1
Model 6095B-3 Outline

4.0 CONTROLS, INDICATORS, AND CONNECTORS (See Figure 1)

- 4.1 Power ON/OFF** Toggle Switch -
Controls power input. LED indicator is illuminated when power is on.
- 4.2 Display Intensity** Three, Rotary Potentiometers -
Controls intensity of generated display for each video channel.
- 4.3 ID Select** Three, 16 Position Rotary Switches -
Selects ID character for each channel, (A through P).
- 4.4 Top/Bottom** Three, Two Position Toggle Switches -
Selects position of IRIG Time message as Top of display or Bottom.
- 4.5 IRIG Lock** LED Indicator -
Illuminates when IRIG signal is detected and the clock is synchronized.
- 4.6 IRIG In** BNC Connector -
Receives serial IRIG B time signal.
- 4.7 Video In** Three, BNC Connectors -
Receives 525 line RS-170 or NTSC video.
- 4.8 Video Out** Three, BNC Connectors -
Outputs original video with messages and symbol inserted.
- 4.9 Power** PT02A-8-3P Connector -
Receives DC power input.
- Pin A +9 to +36V
Pin B RETURN
Pin C CHASSIS

5.0 SPECIFICATIONS

- 5.1 Video In** Standard 525/60 composite video 2:1 interlace, black negative per EIA RS-170 or NTSC. 75-ohm input impedance. 1.0 volt peak-to-peak.
- 5.2 Video Out** Identical to video input except with message data added and DC restored, 75-ohm impedance (output as specified when terminated by 75-ohm load).
- 5.3 Video Amplifier Bandwidth** >20MHz \pm 1 db
- 5.4 IRIG Input** IRIG B standard Serial Time Code (IRIG Standard 200-98).
- 5.5 Package and Environment**
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|---------------|--|
| Size: | 3.75 x 4.5 x 6 inches |
| Temperature: | 0°C to 60°C ambient |
| Humidity: | 95% non-condensing |
| Construction: | Designed to meet aircraft "Safety of Flight" requirements. |
- 5.6 Power Input** 9 to 36VDC, under 10 Watts