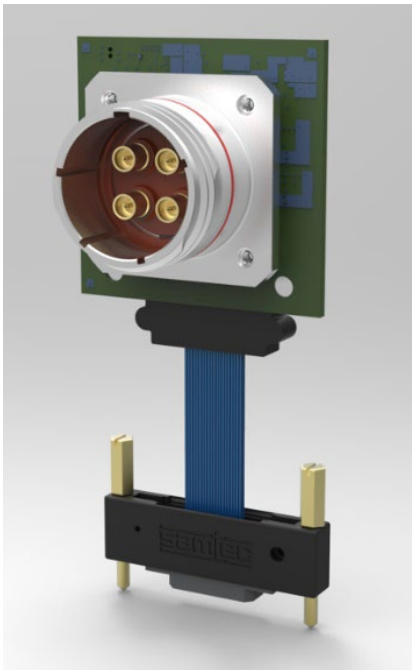
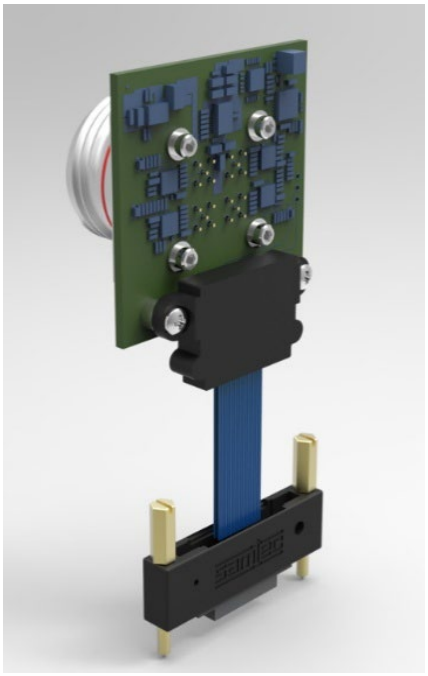
# SDI Quad Channel Transmitter or Receiver

Quad Channel Cable up to 12G





PDS - 494

## DESCRIPTION

Amphenol's cutting-edge up to 12G *SDI Quad Channel Cable Transmitter or Receiver* is designed to deliver exceptional performance for professional broadcast and high-speed video applications. Engineered with precision and reliability, it supports ultra-high-definition video signals with unparalleled clarity. The product transmits or receives up to 4x channels on 75-ohm cable and then interfaces to 100-ohm AC coupled embedded components. This product weighs 83.6 grams in total.

## FEATURES & BENEFITS

- **Up to 12G SDI Inputs (75 Ohm):** Seamlessly connect to four 12G (or less) SDI sources, ensuring robust signal integrity and compatibility with industry-standard devices.
- **12G SDI Inputs or Outputs (100 Ohm Differential Pair):** Inputs or outputs utilize AC-coupled CML drivers for high-speed signal transmission with minimal interference.
- **Embedded Power Supply:** Built-in power supply for enhanced reliability and streamlined integration, eliminating the need for external power adapters.
- **+5V/Ground Power Configuration:** Simplified power connectivity ensures quick and hassle-free setup.
- **Integrated 12G Cable Transmitters & Receivers:** Equipped with four high-performance 12G cable receivers paired with 100-ohm drivers for optimal signal delivery.

| PART NUMBER | DESCRIPTION |
|---|---|
| CF-020012-087X | Receiver |
| CF-020012-089X | Transmitter |
| TBD | Contact Amphenol for other RX & TX combinations |

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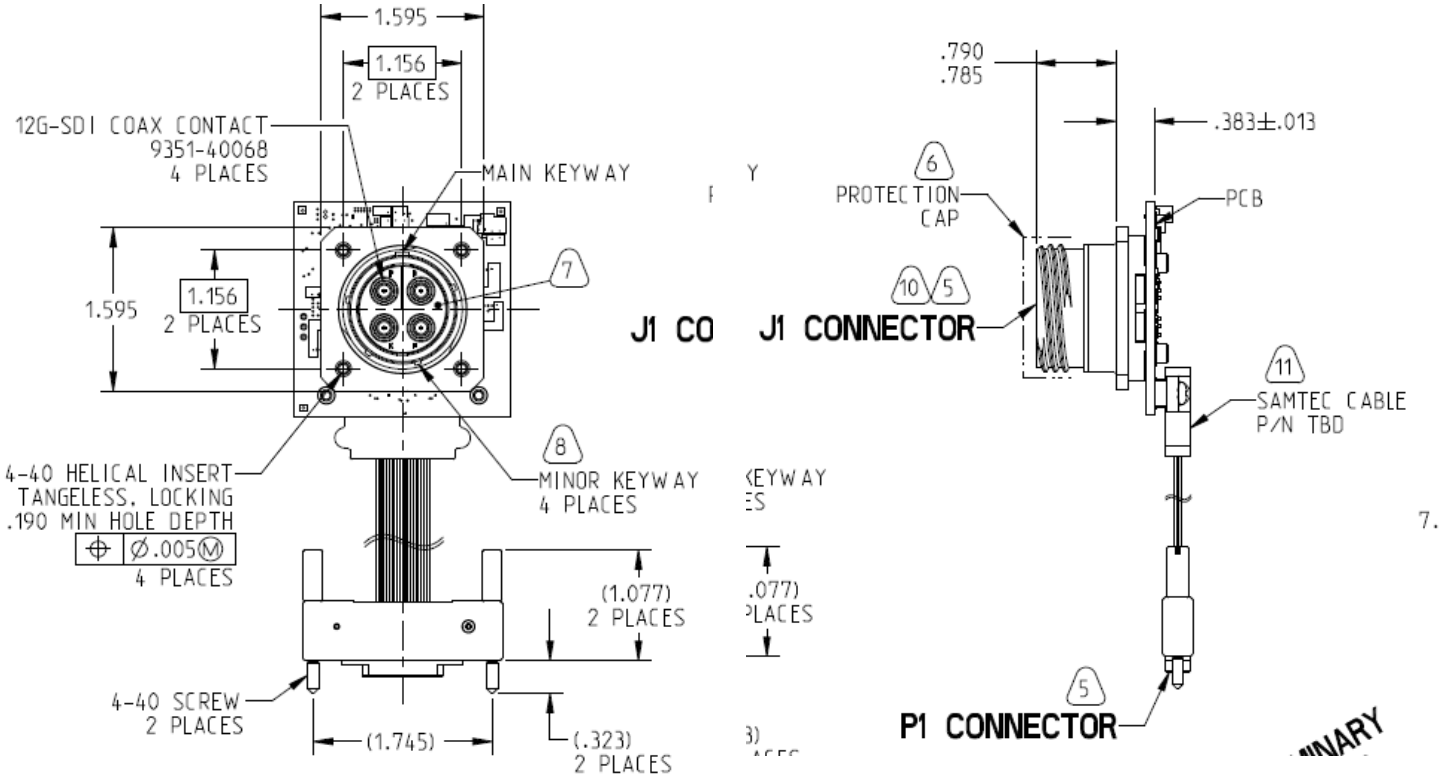
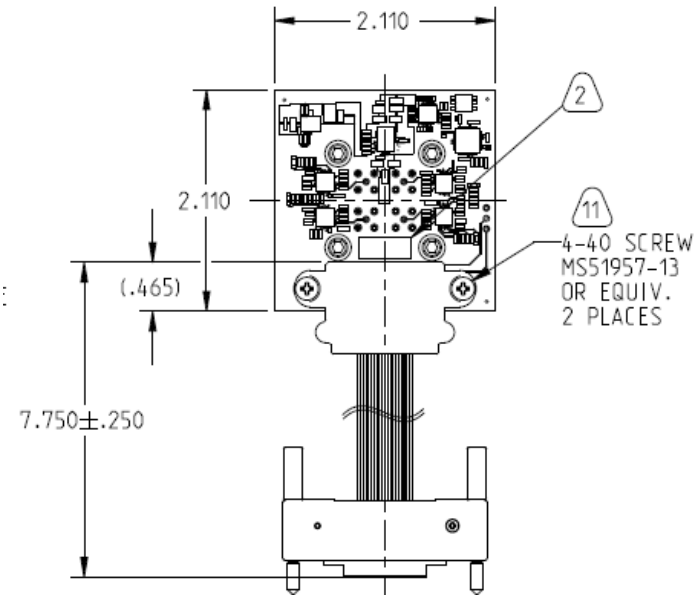
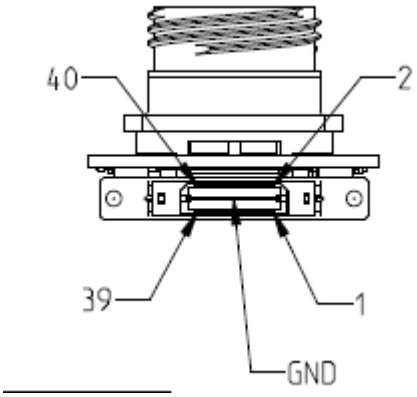
## DIMENSIONAL INFORMATION

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## I/O CHARTS

| J1 I/O CHART (12) (13) (14) | |
|---|---|
| **PIN ID** | **DESCRIPTION** |
| B-CENTER | CH1_12G-SDI_IN |
| B-OUTER | GND |
| F-CENTER | CH2_12G-SDI_IN |
| F-OUTER | GND |
| K-CENTER | CH3_12G-SDI_IN |
| K-OUTER | GND |
| P-CENTER | CH4_12G-SDI_IN |
| P-OUTER | GND |

| P1 I/O CHART (12) (13) (14) | | | |
|---|---|---|---|
| **PIN ID** | **DESCRIPTION** | **PIN ID** | **DESCRIPTION** |
| 1 | CH1_12G-SDI_OUT_P | 2 | CH2_12G-SDI_OUT_P |
| 3 | CH1_12G-SDI_OUT_N | 4 | CH2_12G-SDI_OUT_N |
| 5 | N/C | 6 | N/C |
| 7 | N/C | 8 | N/C |
| 9 | N/C | 10 | N/C |
| 11 | N/C | 12 | N/C |
| 13 | N/C | 14 | N/C |
| 15 | N/C | 16 | N/C |
| 17 | PWR_12VDC | 18 | PWR_12VDC |
| 19 | PWR_RTN | 20 | PWR_12VDC |
| 21 | PWR_RTN | 22 | SDA |
| 23 | PWR_RTN | 24 | SCL |
| 25 | N/C | 26 | N/C |
| 27 | N/C | 28 | N/C |
| 29 | N/C | 30 | N/C |
| 31 | N/C | 32 | N/C |
| 33 | N/C | 34 | N/C |
| 35 | N/C | 36 | N/C |
| 37 | CH3_12G-SDI_OUT_P | 38 | CH4_12G-SDI_OUT_P |
| 39 | CH3_12G-SDI_OUT_N | 40 | CH4_12G-SDI_OUT_N |
| GND | GND | -- | -- |

# Amphenol Ruggedization Design

## OVERVIEW:

Amphenol integrated electronic products are designed and manufactured to our Ruggedization guidelines listed below. These guidelines ensure years of reliable operation in harsh environment applications where extreme operating temperatures, shock, vibration, and corrosive atmospheres are regularly experienced. Unless otherwise noted, the parts conform to the below specifications

## TEMPERATURE:

- Operating Temperature- Thermal Cycles between -40°C and 85°C while device is operating
- Temperature is measured at chassis housing or card edge
- Storage Temperature- Thermal Cycles between -55°C and 125°C

## HUMIDITY:

- Operating Humidity- Humidity cycle between 0-100% non-condensing humidity while device operating
- Storage Humidity- Humidity cycle between 0-100% condensing humidity

## SEALING:

- Sealing can be optionally provided at the MIL-DTL-38999 interface with up to 10-5 cc/sec performance

## SHOCK AND VIBRATION:

- Sine Vibration - 10g Peak, 5-2,000Hz
  - Based on a sine sweep duration of 10 minutes per axis in each of three mutually perpendicular axes. May be displacement limited from 5 to 44 Hz, depending on specific test.
- Random Vibration - 0.0005 @ 5Hz, 0.1 @ 15 Hz, 0.1 @ 2,000 Hz
  - 60 minutes per axis, in each of three mutually perpendicular axes.
- 40 G Peak Shock Cycle
  - Three hits in each axis, both directions, ½ sine and terminal-peak saw tooth, Total 36 hits.

## FLUIDS SUSEPTABILITY:

- MIL-DTL-38999 receptacle interface per EIA-364-10E

## ALTITUDE:

- -1,500 to 60,000 ft Altitude Testing w/ Rapid Depressurization

## ELECTRONMAGNETIC COMPATIBILITY:

- Designed to comply with MIL-STD-461E

## PRINTED CIRCUIT BOARD ASSEMBLIES:

- Conformal Coat
- Amphenol performs Conformal Coting to both sides of printed circuit board assemblies using HUSMISEAL IB31 in accordance with IPC-610, Class 3.
- Printed Circuit Board Rigidity
- Amphenol printed circuit boards are fabricated in accordance with IPC-6012, Class 3.
- Printed Circuit Board Fabrication
- Amphenol printed circuit boards acceptance criteria is in accordance with IPC-610, Class 3.

## RELIABILITY PREDICTIONS (MTBF):

Amphenol can perform Mean Time Between Failure (MTBF) reliability analysis in full compliance with MIL-HDBK-217F-1 Parts Count Prediction and MIL- HDBK-217F-1 Parts Stress Analysis Prediction. We can also perform reliability analyses in full compliance of ANSI/VITA 51.1 if it is required or preferred over the later method

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