

# CTF-QUAD

## FEATURES

+ Quadrax form factor embedded fiber optic transmitters and receivers
+ Replace any quadrax pin in receptacle and configure with media conversion copper to fiber and fiber to copper
+ Utilizes standard quadrax receptacle connectors and inserts

## FIBER INTERFACE

+ Industry standard 1.25mm fiber optic ferrules (LC & ARINC-801)
+ Plug/socket side utilizes quadrax socket to ARINC-801 pin adapter for system fiber connection

## COPPER INTERFACE

+ Speed support from DC to 10 Gbps in both transmitter and receiver
+ PCB lead connection to customer circuit board or PCB lead connection to flex with nano

## RUGGEDIZATION

+ Industry standard rugged transmitters and receivers -40°C to +85°C
+ Components epoxy sealed in place
+ Refer to page 3 for additional details

CONTACT US:
Jared Sibrava
E-mail: jsibrava@amphenol-aao.com
Phone: 607-643-1845

## OVERVIEW

Amphenol Aerospace adds CTF-QUAD to the CTF (Copper to Fiber) Media Converter Product Family. This product line utilizes standard quadrax receptacle connectors and inserts.

The CTF-QUAD product line is fiber to copper and copper to fiber media conversion in quadrax form factor pins for standard D38999 quadrax insert arrangements.









# How to Order

Ordering procedure is shown below using part number CTF-5Q90A1-04TN

| 1. Connector Type | 2. Material | 3. Quadrax Contact | 4. Finish | 5. Shell Style | 6. Shell Size-Insert Arrangement | 7. Mode | 8. Device Type | 9. Rotation |
|---|---|---|---|---|---|---|---|---|
| CTF | 5 | Q | Z | 0 | A1 | 04 | T | N |

**Step 1. Connector Type**

| | Designates |
|---|---|
| CTF | Copper to Fiber Product Family |

**Step 2. Select a Material**

| | Designates |
|---|---|
| 5 | Aluminum Shell |
| 6 | Composite Shell |
| 8 | Stainless Steel Shell |

**Step 3. Quadrax Contact**

| | Designates |
|---|---|
| Q | Quadrax Size 8 Contact Active Device |

**Step 4. Select a Finish**

| | Designates |
|---|---|
| T | Aluminum Durmalon |
| Z | Aluminum Black Zinc Nickel |
| F | Aluminum Electroless Nickel |
| M | Composite Electroless Nickel |
| W | Aluminum OD Cad |
| J | Composite OD Cad |
| L | Stainless Steel Electrodeposited Nickel |
| Y | Stainless Steel Pas-sivated* |

*environmental only-not hermetic

Note: There is not a Mil-Spec finish for environmental passivated steel-only hermetic, hence the asterisk.

**Step 5. Select a Shell Style**

| | Designates |
|---|---|
| 0 | Wall Mount |
| N | Wall Mount w/ Clinch Nuts |
| 7 | Jam Nut |

Note: All with Stand-off

**Step 6. Select a Shell Size-Insert Arrangement**

| | Designates |
|---|---|
| A1 | 9-5 |
| E2 | 17-52 |
| F4 | 21-75 |
| H6 | 23-6 |
| J8 | 25-8 |

**Step 7. Select a Mode**

| | Designates |
|---|---|
| 04 | 4 Gb/s multimode |
| 08 | 8 Gb/s multimode |
| 10 | 10 Gb/s multimode |

**Step 8. Device Type**

| | Designates |
|---|---|
| T | Transmit |
| R | Receive |
| X | Transceiver |

**Step 9. Select a Rotation**

| | Designates |
|---|---|
| N | Normal |
| A | |
| B | |
| C | |
| D | |
| E | |

# CTF-QUAD Mating Plug

Ordering procedure is shown below using part number CTF-5P96A1-000N (kit w/ connector and appropriate number of A801 cavity adapters)

| 1. Connector Type | 2. Material | 3. Quadrax Contact | 4. Finish | 5. Shell Style | 6. Shell Size-Insert Arrangement | | 7. Rotation |
|---|---|---|---|---|---|---|---|
| CTF | 5 | P | Z | 6 | A1 | 000 | N |

**Step 1. Connector Type**

| | Designates |
|---|---|
| CTF | Copper to Fiber Product Family |

**Step 2. Select a Material**

| | Designates |
|---|---|
| 5 | Aluminum Shell |
| 6 | Composite Shell |
| 8 | Stainless Steel Shell |

**Step 3. Quadrax Contact**

| | Designates |
|---|---|
| P | Quadrax Size 8 Contact Adapter for ARINC 801 Contact |

**Step 4. Select a Finish**

Note: See Finish Key above

**Step 5. Select a Shell Style**

| | Designates |
|---|---|
| 6 | Straight Plug |

Note: No Stand-off, accessory threads

**Step 6. Select a Shell Size-Insert Arrangement**

| | Designates |
|---|---|
| A1 | 9-5 |
| E2 | 17-52 |
| F4 | 21-75 |
| H6 | 23-6 |
| J8 | 25-8 |

**Step 7. Select a Rotation**

CONTACT US:

Jared Sibrava

E-mail: jsibrava@amphenol-aao.com

Phone: 607-643-1845

# AMPHENOL INTEGRATED ELECTRONIC PRODUCTS RUGGEDIZATION DESIGN

Amphenol Aerospace



## 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

## 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 is 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

## Fluids Susceptibility

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

## Vibration & Shock

- Sine Vibration – 10 g 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 - 0.005@5Hz, 0.1@15Hz, 0.1@2,000Hz
  -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.

## Altitude

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

## Electromagnetic Compatibility

- Designed to comply with MIL-STD-461E

## Printed Circuit Board Assemblies

- Conformal Coat
  -Amphenol performs Conformal Coating to both sides of printed circuit board assemblies using HUMISEAL 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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Jared Sibrava

E-mail: jsibrava@amphenol-aao.com

Phone: 607-643-1845

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