



## AE-AN-TR-003-TR Multicoax Series Interface Removal and Replacement

### Purpose:

This application note provides detailed instructions on how to remove and replace a TR Multicoax interface.

### Interface Removal and Replacement:

**CAUTION:** Handle the interface **extremely carefully** throughout the process. Avoid contact with the interface and embedded contacts/springs, as failure to do so could result in reduced performance or even failure of the TR device.

1. Carefully remove the (2) M1 Flat Head Phillips screws that mount the interface to the ground block using #000 series Phillips screwdriver. Use McMaster-Carr part number 52985A31 or equivalent (See Figure 12).
2. Remove interface from the block by gently grabbing the edges of the stand-alone interface and proceed to pull it away from TR Assembly. Carefully set the interface in a controlled area with the milled channel side facing down. (See Figures 1 to 4).

**NOTE:** The screws are very small. Be careful not to lose them.



Figure 1: Removing the M1 Screws

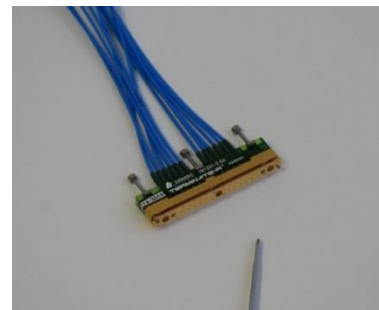


Figure 2: Sliding the Interface Off

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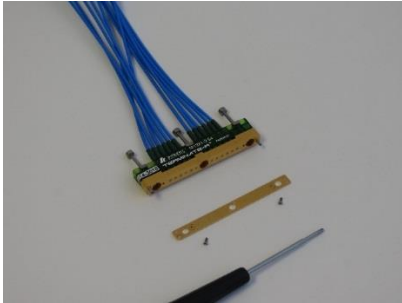


Figure 3: The Interface Removed



Figure 4: The Interface Resting with the Milled Channel Facing the Surface

3. Before the new interface is installed, it's a good practice to do a careful inspection of the block face now that it is exposed. Wipe down the TR block with a clean cloth and  $\geq 90\%$  isopropyl alcohol.
4. Standalone interfaces are shipped from the factory on plastic shipping covers with (2) M1 Phillips head screws. These screws are the same length as the ones used to mount the interface on the TR, so they can be used as replacements in case some were lost in earlier steps. Remove the screws using the #000 Phillips driver. Turn the shipping cover upside down onto the palm of your hand. Pick the interface up with your other hand, being careful to handle only by the edges.

**NOTE:** It is critical to handle the interface by the edges and do not touch or set the interface down on any surface which may damage the compliant contacts.

5. When installing the interface, make sure the flat machined surface of the interface is being installed to the face of the TR Assembly, and that the channeled machined surface is facing out for fixing to the PCB.
6. Holding the interface carefully by its edges, align the dowel clearance holes of the interface with the corresponding dowels of the same diameter protruding from the face of TR Assembly (1.5mm dowel to 1.5mm clearance hole; 1mm dowel to 1mm clearance hole).
7. Proceed to slip the interface onto the TR Assembly dowels until the faces mate.

**CAUTION:** Interface may bind slightly on dowels. Care should be taken not to separate the interface plates from each other.

8. Install the M1 Flat Head Phillips screws. Put the first M1 screw in position in one of the two counterbored holes. Use fine tipped tweezers for best results.
9. Use the #000 Phillips driver to tighten the mounting screw.

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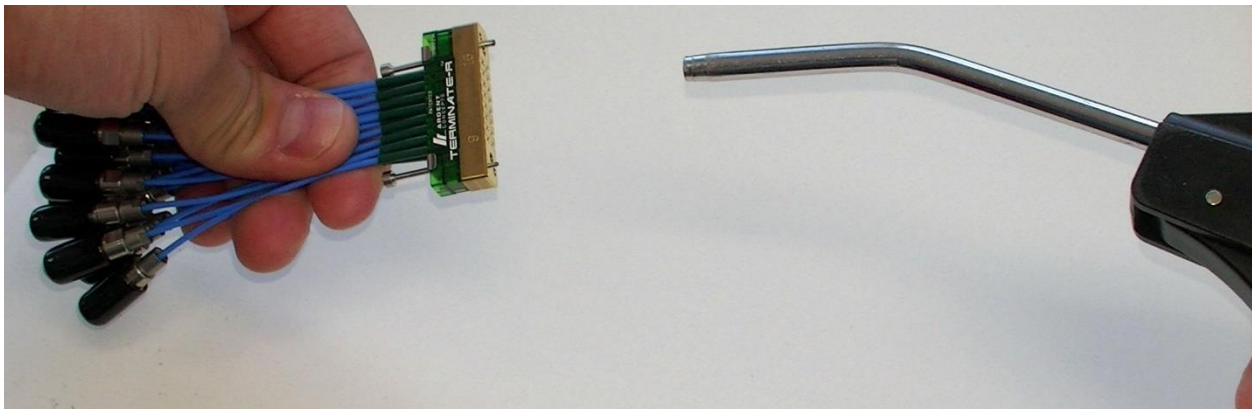
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*NOTE:* The interface mounting screws are M1 screws and have part number M10PHCS03. The screws should be torqued to a maximum of 2.8 in-oz. [0.020 N-m].

10. Repeat process above for the second screw, completing the installation of the interface and completing the TR Assembly.
11. During installation and handling, it is possible the interface may have foreign object debris on it. To remove any foreign object debris, use clean dry pressurized air (30 PSI) to apply a stream perpendicular to the front face.



*CAUTION:* When applying compressed air, aim directly at the face of interface. Aiming compressed air from the sides can cause the interface plates to separate.

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## Replacing M2 Captive Hex Screws:

1. Verify that the screws are not engaged by unscrewing them until they slide freely within the Ground Block.
2. Fully extend an M2 screw by applying an outward pull force.
3. While applying the outward pull force, rotate the M2 screw by hand counter clockwise to engage the threaded part of the screw with the captivating threads in the strain relief.
4. Once the M2 screw thread is engaged with the strain relief, it can be backed out completely and replaced by turning it counter clockwise further.
5. Once the M2 is removed, screw a replacement into the strain relief.

## Application Note Summary:

- Handle the interface **extremely carefully** throughout the process.
- To remove the interface, remove the two M1, 3mm screws.
- Store interface with milled channel side facing down.
- To install the interface, align the interface with the dowels and insert it onto the dowels carefully with the channeled surface facing outward.
- Be careful not to separate interface plates when removing or installing the interface.
- M2 socket head screws are captive.

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## Who Is Amphenol Ardent Concepts?

Amphenol Ardent Concepts is a leading designer and manufacturer of high performance multicoax and coaxial assemblies, connectors, and sockets used in the development of next generation semiconductors and electronics systems. Our core technology is the smallest, fastest, most electrically efficient compression mount connector technology worldwide. As data rate requirements increase and devices and systems shrink, Ardent's products deliver superior signal integrity in a dense footprint that can be reusable across programs to maximize cost savings.

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