



## AE-AN-TR-002-TR Multicoax Series Care & Maintenance

### Purpose:

This application note provides detailed instructions for the care and maintenance of the TR Multicoax Series solutions. It is in place to help our customers get the most life and uses out of their TR Multicoax Series connectors.

### Storing TR Multicoax Series:

*NOTE:* The TR Multicoax Series interface is rated for 1,000 (mate and de-mate) cycles to the PCB when properly cared for through the following procedures.

When the TR is initially received from the factory, it comes assembled exactly how it should be stored when not in use. It is very important that the Shipping Cover and Board Stiffener be mounted to the TR Assembly for storage. The Shipping Cover will protect the contacts and interposer for repeated use by not allowing them to come directly in contact with anything that could bend or damage the unit and its components. The Board Stiffener acts as the threaded anchor for the M2 socket head screws while not in use on the PCB, allowing for the sandwiching of the Shipping Cover. (Please see Figures 1 and 2).



Figure 1: TR Assembly

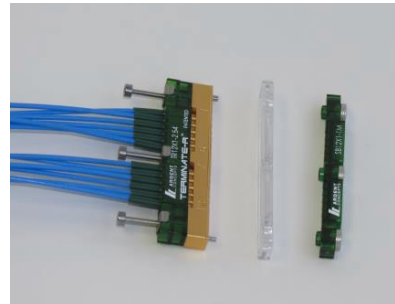


Figure 2: Protective Bottom cover and Stiffener Block Removed from TR Assembly

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## Coax Cable Connector Inspection:

For use after storage or between swapping connections to a new source/testing device, carefully inspect the center of the connector and discontinue use immediately if the following is observed:

- Bent or Non-Concentric Coax Center Conductor Fingers
- Bent or Non-Concentric Center Conductor Plug
- Scratches on the Center Conductor

Inspect the center conductor for foreign object debris (FOD) and instigate the following cleaning procedure if any debris is found on or surrounding the center conductor.

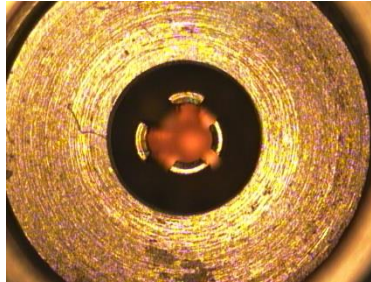


Figure 1: Magnified View of Damaged Coax Connector.

## Troubleshooting and Interface Cleaning Procedure:

If at any time the TR Multicoax Series is showing poor performance as a unit, or within a single channel, attempt to troubleshoot the device to find the root cause of the problem. Below are some suggestions on a path to finding that problem:

1. Inspect all connections between PNA/VNA to TR Multicoax Series connector. Check conductors and connection sites for any damage and/or debris. If necessary, carefully use uncontaminated, thin, electronic-foam-tipped cleaning swabs to clean and wipe the center conductor of the cable ends.

*NOTE:* To avoid damaging the cable connection ends, avoid contact with the outer couplings nut and threads while cleaning.

2. Remove TR Multicoax Series interface end from the PCB. Proceed to clean the PCB using methods outlined in AE-AN-TR-001, Straight Mount Installation, Board Preparation.

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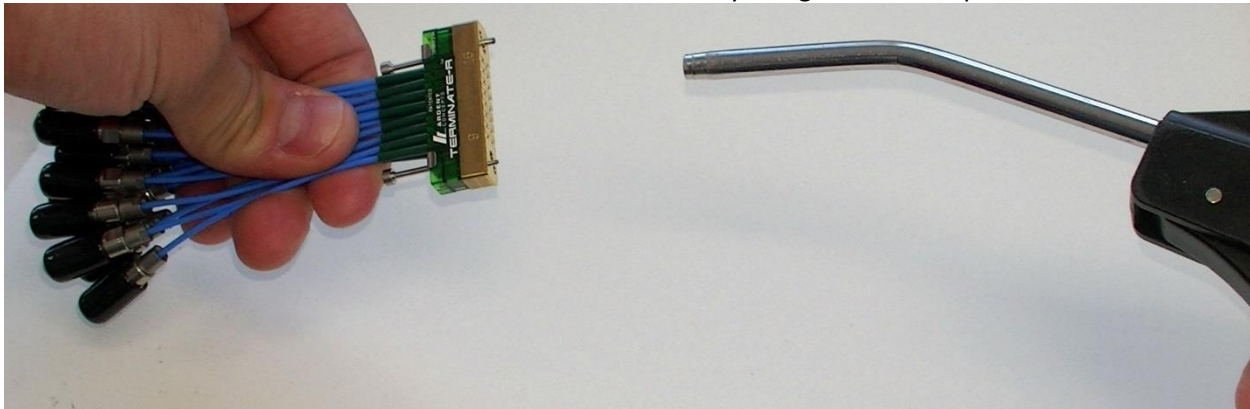
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3. Following completion of steps 1 and 2, re-install the device to both the PNA/VNA and board. Proceed to re-test the device. If the problem remains, continue to step 4.
4. Remove interface. See AE-AN-TR-003 Multicoax Series Interface Removal and Replacement for step by step instructions on how to do this.
5. Once the interface is removed, clean TR Multicoax Series block thoroughly with a lint free cloth containing  $\geq 90\%$  isopropyl alcohol.

*NOTE:* To avoid damage to the contacts do not wipe down or touch the face of removed interface.

6. Re-install the interface back on to the TR Multicoax Series, again see AN-AE-TR-003 Multicoax Series Interface Removal and Replacement.
7. Once interface is re-installed remove dust from final assembly using filtered compressed air.



*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.

8. Reconnect and retest the TR Multicoax Series connector. If the problem remains continue to step 9.
9. At this point replacement or refurbish of the interface may be necessary. To send any products back to Ardent Concepts, it will be necessary to follow the RMA process.

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## Brief Overview of the RMA Process:

- The RMA process allows both Amphenol Ardent Concepts and the customer to track and monitor the shipment progress from the customer, through Ardent's repair process, and finally returning to the customer.
- To initiate an RMA process, email [RMA@ardentconcepts.com](mailto:RMA@ardentconcepts.com) and request an RMA (include a brief description of the problem).
- It may be required that Ardent Technical Support first identifies if the problem/product will require an RMA. If an RMA has been determined to be the best corrective action a RMA # and will assigned and a request for additional product specific information will follow.

## Application Note Summary:

- The TR interface is rated for 1000 (mate and de-mate) cycles to the PCB.
- Store TR with shipping cover on whenever not in use.
- Check connector for FOD and damage to the center conductor, discontinue use if found.
- If necessary carefully use uncontaminated thin electronic foam tipped cleaning swabs to wipe the center conductor.
- Clean TR Multicoax Series ground block with a lint free cloth containing  $\geq 90\%$  isopropyl alcohol with interface removed.
- Finalize cleaning of the full TR Multicoax Series assembly with filtered compressed air.
- If the interface seems to be the cause of failure, contact Amphenol Ardent Concepts to initiate the RMA process.

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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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