



# Precision Microwave Assembly Care and Handling Instructions

## General Instructions

Microwave cable assemblies are precision components that require proper use, routine inspection and periodic cleaning of the connectors to maintain reliable performance. Such care will increase the life the assembly and all associated test equipment as well as ensure more accurate and reliable measurements. Failure to observe these guidelines can result in inaccurate test data or permanent damage to both the assembly and other equipment. In addition to this instruction, an excellent resource for proper care and handling is the archived Hewlett Packard Application Note 326, "Coaxial Systems Principles of microwave connector care".

## Cable Assembly Handling

- Always observe specified cable minimum bend radius, especially at the ends of the connector strain-reliefs where excessive stress may not be obvious. Failure to do so may result in permanent cable performance degradation
- Micro-Coax cables are designed to withstand heavy use, but avoid pinching or crushing the cable and do not drop heavy objects on the cable.
- Never pull the cable when connected or use it to support any additional weight
- Maintain a clean and dry test environment whenever possible. Foreign particles or chemicals can damage interconnects and should be avoided/prevented whenever possible.

## Connector Handling

- Periodically (ideally before every critical test) inspect all connector interfaces. If necessary, clean out the connector interface by first blowing with compressed air. If contamination remains, use a cotton swab slightly moistened with isopropyl alcohol to remove impurities, then allow to dry before testing. If any part of a connector interface becomes damaged, the connector should be replaced to prevent permanent damage to other components.
- Mechanically inspect all connector interfaces using a calibrated gage to ensure the interface is in compliance with its controlling standard.
- Always align connector centerlines before attempting to mate. Take care to perform this step properly as any required play in the coupling nut may allow the threads to mate without proper center contact insertion. This could damage or destroy critical connector components.
- When threading male coupling nuts, ensure the female component remains stationary while threading the male coupling nut onto the threads of the mating interface. Otherwise, unnecessary wear will occur on both connectors causing degradation of measurements.
- Always tighten connectors to the required torque using only the correct and properly calibrated torque wrench. Tighten slowly to ensure that the ratchet mechanism on the wrench engages at the true torque value. For knurled nuts, finger-tighten only.
- When nearing full mate, apply a backing wrench to the connector's wrench flat to prevent any twisting or turning of the connector and/or cable.

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