

SERIES 151 MIL-DTL-55116 QPL
MIL-DTL-55116 QPL
Audio Frequency Connectors



**TACTICAL
INTERCONNECT
SOLUTIONS**

Performance Specifications

Series 151 Performance Specifications		
Test Description	Performance Requirements/Specifications	Procedure Per MIL-DTL-55116 Or Other Standard
Dielectric withstanding voltage	No arcing or dielectric breakdown. Sea level: 500 V RMS between each contact, remaining contacts connected together, and to the shell. One minute dwell. High altitude: barometric pressure 3.4 in of mercury, 300 V RMS applied as described above.	4.7.1
Insulation resistance	Not less than 1000 megohms (not less than 100 megohms for unmated connectors following the immersion test). Measured between each contact, remaining contacts connected together, and to the shell.	4.7.2
Contact resistance	Terminal-to-terminal resistance of mated connector contacts shall not exceed 0.050 ohms.	4.7.3
Contact depression	Force required to depress contacts .080 inches from the normal plane of the contact face: Individual contacts: 1.25 lbs. – 1.75 lbs. 5 contacts: 6.25 lbs. – 8.75 lbs. 6 contacts: 7.5 lbs. – 10.5 lbs.	4.8.1
Air pressure	No evidence of leakage through the connector under 2.5 psi applied to contact face and rear of the plug or receptacle	4.8.2
Mating durability	3000 cycles with no mechanical damage. Dielectric, contact resistance and air pressure requirements as described above shall be met after 3000 mating cycles.	4.8.3
Contact retention	Individual contacts capable of withstanding at least 10 pounds axial load applied uniformly at one pound per second.	4.8.4
Compression	No distortion or damage that would affect form, fit, or function at 500 pounds applied to axis.	4.8.6
Pull test	Connectors shall withstand an abrupt axial force of 40 lbs. applied to the shell, and 25 lbs. applied to the cable with no visible damage, and lock and unlock without difficulty.	4.8.7
Bounce	Test on package testing table, operating at 284±2 rpm for 3 hours, circular-synchronous motion in a vertical plane with a one in dia. orbital displacement. Connectors show no evidence of cracking, breaking, or loosening. Connectors will meet electrical and leakage requirements following test.	4.9.1
Vibration	Plugs and receptacles mounted to vibration table, subjected to a simple harmonic motion with amplitude of 0.03 inch (0.06 maximum), frequency varied uniformly from 10-55 Hz., entire range traversed in approximately one minute, for two hours in each of three perpendicular directions. No evidence of cracking, breaking or loosening of parts, and the plug shall not become disengaged from the receptacle.	4.9.2 and MIL-STD-202G, method 201A
Drop	Connectors dropped six times at random from a height of six feet to two inch fir floor backed with concrete or rigid steel frame shall show no degradation in performance, no physical damage that would affect mateability, and no loose parts. Following the test, connectors shall meet electrical and air leakage requirements described above.	4.9.3
Temperature cycling	-55°C to +85°C, 5 cycles. Connectors are capable of mating and unmating during fifth cycle, and meet electrical and air leakage requirements described above.	MIL-STD-202, method 107, test condition A
Salt spray	48 hours, 5% solution, 35°C ± 3°C. No evidence of base metal corrosion.	MIL-STD-202, method 101E, test condition B
Humidity	50% mated and 50% unmated, cycled between 25°C at 80% – 98% relative humidity to 65°C at 90% – 98% relative humidity. Ramp time = 2.5 hrs. Dwell time = 3 hrs., 10 cycles, 240 hrs. total. Following test, connectors meet electrical and air leakage requirements described above.	4.9.6 and EIA-364-31, method IV (step 7a not required)
Water immersion	Plugs assembled to test cables and each other, and to receptacles, immersed in tap water to a depth of six feet for 48 hours. No evidence of leakage into the body of unmated connectors or into the body or contact-face area of mated connectors.	4.9.7