

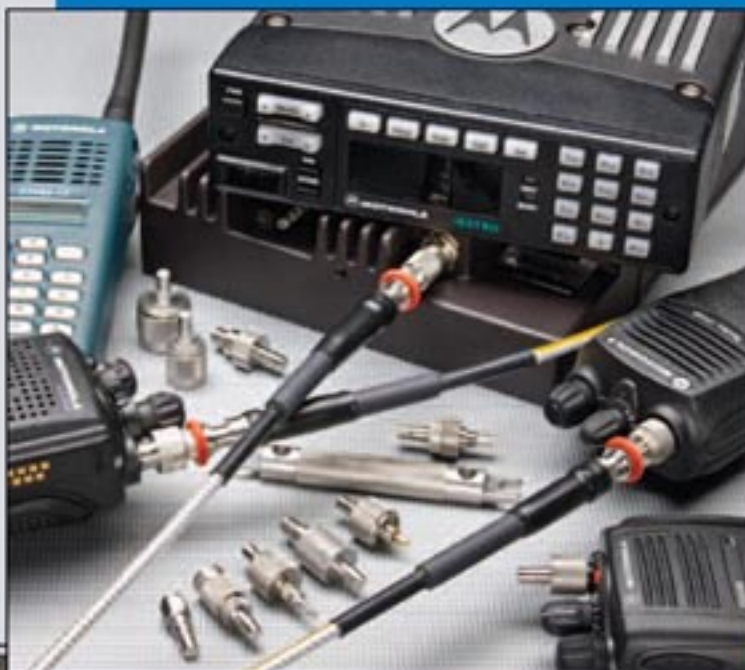
Engineered Products:

SilverLine™ - QMA

Motorola Approved!
ISO 9001 Certified
Professional Grade Test Cables and Adaptors

Fast, reliable, repeatable RF test measurements for hand held and mobile radios.

- Motorola
- Kenwood
- Vertex Standard
- ICOM
- EF Johnson
- M/A COM
- Others



SilverLine™-QMA test cables and adaptors eliminate uncertainties in RF power output and sensitivity measurements associated with BNC adaptors.

The system consists of a high frequency, phase stable, QMA-equipped test cable and various mating adaptors designed to fit most manufacturers' hand held and mobile radios. The "snap-on, pull-off" design is extremely secure when mated. Each half can rotate 360° relative to its mate yet together they exhibit little or no change in RF performance.

SilverLine™ test cables have an extra heavy duty connector attachment system and an unparalleled reputation with the largest radio and RF test equipment manufacturers in the world as a very long life, rugged yet value-priced coax test cable.

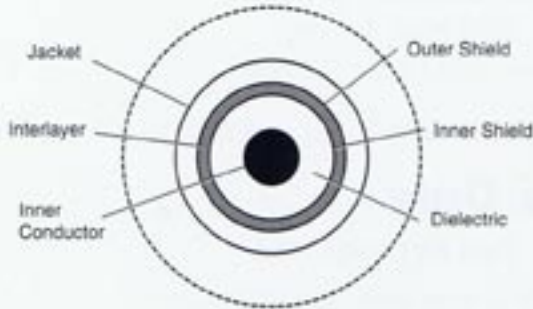
Time's Silverline™ Product Guarantee

Times will repair or replace your SilverLine test cable at its option if the connector attachment fails within four months of shipment. This guarantee excludes cable or connector interface damage from misuse or abuse.

Features & Benefits:

- 2500+ Mating Life Cycle
- High Flex Life, Phase Stable Coax
- Triple Shielded Cable
- Robust Connector Attachment System
- Stainless Steel Connectors and Adaptors
- Rugged, Solder-Clamp Attachment
- ROHS Compliant

SilverLine™ - QMA Specifications:



Cable Construction

- Inner Conductor:** Solid Silver Plated Copper
Clad Steel
- Dielectric:** Solid PTFE
- Shield:** Silver-Plated Copper Flat Ribbon Braid
Aluminum-Polyimide Tape Interlayer
36 GA Silver-Plated Copper Braid (90%k)
- Jacket:** Clear FEP

Connectors

- Passivated stainless steel finish
(QMA coupling nut nickel plated brass)
- QMA SureGrip™ coupling nut design
- Captive contact
- Knurl/hex coupling nut Type N
- PTFE dielectric

Connector Attachment/Strain Relief

- Rugged, solder-clamp to braid. 175 lb pull force
- Redundant triple layer strain relief system

Physical & Mechanical Specifications			
Bend Radius: minimum	1 in	25 mm	
Connector Retention	> 175 lbs		
Mating Life Cycle	Type N: > 5000* QMA: > 2500†		
Length Tolerances	< 2 ft. or 0.75m, -0, +0.50" (12.7mm)		
	> 2 ft. or 0.75m, -0, +2% of length		
Electrical Specifications			
VSWR Max		4 GHz	6 GHz
	BNC	1.20:1	
	Type N, QMA		1.25:1
Impedance	50 ohms		
Velocity of Propagation	70 %		
Shielding Effectiveness	>100 dB		
Capacitance	29.4 pF/ft = 96.4 pF/meter		
Phase Stability <small>(ten, 4" radius, 180° reverse bends)</small>	DC to 6 GHz: +/- 1.1°		
Attenuation Max @ +77°F (+25°C)			
Attenuation (GHz)	dB/100 ft	dB/100 m	
1	12.2	40.0	
2	18.0	59.0	
6	34.2	112	
12	52.5	172	
18	68.4	224	
26.5	88.7	290	
Power Handling @ +77°F (+25°C) (Sea Level) (Cable Only***)			
Power Handling (GHz)	Watts (max.)		
0.4	891		
1	539		
2	363		
6	180		
12	151		
18	120		
26.5	60		

* Type N: Assumes use of calibrated torque wrench, proper size and cleaning of interface and metal connector is within all spec limits.
 † QMA: Assumes proper use, care and cleaning.
 *** Connector configuration may limit cable assembly maximum power handling capability. Specifications subject to change without notice.

Engineered Products:
Ordering Information
Test Cables Only

SLU04-BMQMM-03.00F = BNC male - QMA male, 3 ft long
 SLU06-NMQMM-03.00F = N male - QMA male, 3 ft long
 SLU06-QMMQMM-03.00F = QMA male - QMA male, 3 ft long

Other lengths and connector configurations (including QMA right angle) available upon request

Adaptor Kits Only
Shop Kit pn 66573EA

Adaptors for most manufacturer's hand held and mobile radios including:

3191-133EA (SMA plug)
 3191-136EA (XTS antenna style)
 3191-141EA (Lengthened Mini-UHF plug)
 3191-143EA (Type N plug)
 3191-144EA (CP200 & PR400 antenna style)
 3191-145EA (CT250 antenna style)
 3191-146EA (P1225 antenna style)
 3191-184EA (PL259 plug)
 3191-186EA (ICOM J-Plug)
 3191-191EA (M/A-COM)
 3190-2169EA (Hard carry case)

Field Kit pn 66574EA

Adaptors to meet most field applications including:

3191-133EA (SMA plug)
 3191-134EA (SMA jack)
 3191-141EA (Lengthened Mini-UHF plug)
 3191-143EA (Type N plug)
 3191-148EA (TNC plug)
 3191-182EA (Mini-UHF jack)
 3191-183EA (PL259 jack)
 3191-184EA (PL259 plug)
 3191-187EA (BNC plug)
 3191-188EA (BNC jack)
 3191-189EA (Type N jack)
 3191-190EA (N plug-QMA plug between series)
 3191-192EA (SMB plug, also fits Fakra)
 3191-195EA (SMA plug-QMA plug between series)
 3191-196EA (SMB jack, also fits Fakra)
 3190-584 (Heavy duty, soft suede pouch)

Ordering Notes

1. All kits contain two of each adaptor.
2. All adaptors are QMA jack one side (except between series).
3. Separate order items include: 3191-194EA, 3191-193EA, 3191-197EA, 3191-198EA, 3191-199EA and 3191-202EA.

Operating Instructions

To operate: Grasp cable along strain relief boots with last three fingers. Grasp O-ring between thumb and index finger and pull back on coupling nut before disengaging from adaptor.



Engineered Products:

Separate Order Adaptors, Cases & Tools

All Times QMA adaptors are fabricated from the highest quality stainless steel for superior performance and extra long life.



Field Pouch for Kit 66574EA
(Order pn 3190-584)



Case for Kit 66573EA
(Order pn 3190-2169EA)

Shop case is blow molded, dual walled, high impact, padlockable construction. It is impervious to gas, oil, grease and most chemicals. It features a long life cover and dense foam inserts that securely hold adaptors even during rough handling. UPS and airline approved. Field kit pouches are heavy duty, cut-resistant suede with a sturdy, lockable, wide-mouthed zipper access.