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› Cable Assemblies Now LMR-240-ULTRAFLEX Jumper Instruction Manual

Cable Assemblies Now LMR-240-ULTRAFLEX Jumper

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Model: LMR-240-ULTRAFLEX Jumper

1. INTRODUCTION AND OVERVIEW

This manual provides essential information for the proper setup, operation, and maintenance of your Cable Assemblies Now LMR-240-ULTRAFLEX Jumper. This high-performance coaxial cable is designed for reliable RF communication applications, ensuring consistent signal integrity over its 75-foot length.

The LMR-240-ULTRAFLEX Jumper features an N-Male connector on one end and a Right Angle Reverse Polarity SMA Male connector on the other, making it suitable for a wide range of devices. Its applications include Wireless Local Loop (WLL), Global Positioning System (GPS), Land Mobile Radio (LMR), Wireless Local Area Network (WLAN), Wireless Internet Service Provider (WISP), Worldwide Interoperability for Microwave Access (WiMax), Supervisory Control and Data Acquisition (SCADA) systems, Ham Radio, CB Radio, Cellular WiFi Signal Boosters, Antenna Installation, Antenna Analyzers, Signal Repeaters, Marine Antennas, Surge Suppressors, Signal Splitters, and Helium Miner connections.



Figure 1: Overview of the LMR-240-ULTRAFLEX Jumper cable.

2. PRODUCT FEATURES

The LMR-240-ULTRAFLEX Jumper is engineered for superior performance and durability:

- **High-Quality Construction:** Manufactured with genuine Times Microwave Systems LMR cable, known for its unique and proprietary dielectric materials, ensuring optimal electrical and mechanical performance.
- **Enhanced Durability:** Features triple wall 3:1 adhesive heat-shrink on each connection, providing extra protection and longevity against environmental factors and wear.
- **Consistent Signal Transfer:** Designed to provide a constant data transfer rate with a standing wave ratio (SWR) plot of 1:1.25 or better at frequencies under 3000 MHz.
- **Robust Connectors:** Connectors are made from brass (not alloy) with nickel body plating, a gold-plated brass contact pin, and a tin-plated contact point, ensuring over 1000 mating lifetimes.
- **Versatile Features:** Offers data transfer capabilities, heat resistance, lightweight design, and weatherproof properties for reliable outdoor and indoor use.



Figure 2: Detail of the LMR 240 cable marking.



Figure 3: Illustration of the triple wall 3:1 adhesive heat-shrink on connections.

3. SETUP INSTRUCTIONS

Follow these steps to properly connect your LMR-240-ULTRAFLEX Jumper:

1. **Power Off Devices:** Before connecting the cable, ensure all devices you intend to connect are powered

off to prevent potential damage or electrical hazards.

2. **Identify Connectors:** Locate the N-Male connector and the Right Angle Reverse Polarity SMA Male connector on your cable. Identify the corresponding ports on your equipment.
3. **Connect N-Male:** Carefully align the N-Male connector with the N-Female port on your first device. Gently screw the connector clockwise until it is finger-tight. Avoid using tools to over-tighten, as this can damage the connector or the device port.
4. **Connect RP SMA Male:** Align the Right Angle Reverse Polarity SMA Male connector with the RP SMA Female port on your second device. Screw it clockwise until finger-tight. The right-angle design helps manage cable routing in tight spaces.
5. **Cable Routing:** Route the cable to avoid sharp bends, kinks, or being pinched by heavy objects. Excessive bending can degrade the cable's internal structure and signal performance.
6. **Power On:** Once both ends are securely connected, you may power on your devices.



LMR®-240-UF
FLEXIBLE LOW LOSS CABLE ASSEMBLIES

Times LMR cable assemblies are high performance broadband, flexible, low-loss RF coaxial cables that can be used virtually anywhere, either indoors or outdoors. As a completely Times manufactured solution, performance and reliability are assured.



FEATURES

- Excellent RF Shielding, better than 90 dB
- UV and weather resistant
- Flexible and easy to use

Mechanical Properties

	Units	
Diameter	in (mm)	0.240 (6.096)
Weight	lb/ft (kg/m)	0.034 (0.05)
Minimum Bend Radius	in(mm)	0.75 (19.05)
Operating Temperature	°F (°C)	-40° to 185°(-40 to 85)
Tensile Strength	lb (kg)	80 (36.3)
Bending Moment	ft lb (N-m)	0.125 (0.17)
Flat Plate Crush	lb/in (kg/mm)	13 (0.23)
Storage Temp	°F (°C)	-94 to 185 (-70 to 85)

Electrical Properties

	Units	
Impedance	Ω	50 +/- 2
Maximum Frequency	GHz	6.0
Capacitance	pF/ft (pF/m)	24.2 (79.4)
Velocity of Propagation		80%
Delay	ns/ft (ns/m)	1.21 (3.97)
Shielding		>90dB minimum
Voltage Withstand	Volts DC	1500
Jacket Spark	Volts RMS	5000
Attenuation	dB/ft	dB/m
900 MHz	0.09	(0.30)
2.5 GHz	0.15	(0.51)
5.8 GHz	0.24	(0.80)

KEY APPLICATIONS

- Antenna feeder runs
- Inter/intra cabinet jumpers
- Internal component equipment wiring
- GPS system wiring



1	Inner Conductor	Stranded BC
2	Dielectric	Foam PE
3	Outer Conductor	Aluminum Tape
4	Overall Braid	Tinned Copper
5	Jacket	TPR

Figure 4: The LMR-240-ULTRAFLEX Jumper with N-Male and Right Angle RP SMA Male connectors.

4. OPERATING INSTRUCTIONS

The LMR-240-ULTRAFLEX Jumper is designed for straightforward operation once properly installed:

- **Signal Transmission:** The cable facilitates efficient radio frequency (RF) signal transmission between your connected devices.
- **Frequency Range:** This cable is optimized for performance at frequencies up to 3000 MHz (3 GHz). Ensure your connected equipment operates within this range for optimal results.
- **Standing Wave Ratio (SWR):** The cable maintains a low SWR of 1.25:1 or better at frequencies under 3000 MHz, indicating minimal signal reflection and maximum power transfer.
- **Environmental Use:** The cable's weatherproof and heat-resistant properties allow for reliable operation in various indoor and outdoor environments.

5. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your LMR-240-ULTRAFLEX Jumper:

- **Regular Inspection:** Periodically inspect the entire length of the cable and its connectors for any signs of physical damage, such as cuts, abrasions, kinks, or corrosion.
- **Connector Care:** Keep the connectors clean and dry. If necessary, gently wipe them with a soft, lint-free cloth. Avoid using harsh chemicals or abrasive materials.
- **Avoid Stress:** Do not pull on the cable by the connectors. Always grasp the connector housing when connecting or disconnecting. Avoid sharp bends, especially near the cable entry points of the connectors.
- **Environmental Protection:** While the cable is weatherproof, prolonged exposure to extreme conditions (e.g., direct sunlight, standing water) can still affect its lifespan. Ensure proper routing and protection where possible.
- **Storage:** When not in use, coil the cable loosely and store it in a clean, dry environment away from direct sunlight and extreme temperatures.

6. TROUBLESHOOTING

If you experience issues with your LMR-240-ULTRAFLEX Jumper, consider the following troubleshooting steps:

- **No Signal or Poor Signal Quality:**
 - **Check Connections:** Ensure both the N-Male and Right Angle RP SMA Male connectors are securely and properly tightened to their respective ports. Loose connections are a common cause of signal loss.
 - **Inspect Cable Integrity:** Visually inspect the entire cable for any visible damage, such as cuts, kinks, or crushed sections that could interrupt the signal path.
 - **Verify Device Functionality:** Confirm that both connected devices (e.g., amplifier, antenna, radio) are powered on and functioning correctly independently of the cable.
 - **Compatibility Check:** Ensure the cable type and connectors are compatible with your specific equipment and application.
- **Intermittent Connection:**
 - **Re-tighten Connectors:** Gently re-tighten the connectors. If the signal stabilizes, the connection may

have been loose.

- **Test with Another Cable:** If possible, test your setup with a known working cable of similar specifications to determine if the issue lies with the LMR-240-ULTRAFLEX Jumper or other components.

If issues persist after performing these troubleshooting steps, please refer to the warranty and support section for further assistance.

7. SPECIFICATIONS

Detailed technical specifications for the LMR-240-ULTRAFLEX Jumper are provided below:



Figure 5: LMR-240-UF Technical Specifications.

LMR-240-ULTRAFLEX Jumper Specifications

Property	Value
Brand	Cable Assemblies Now
Model	LMR-240-ULTRAFLEX Jumper

Property	Value
Cable Type	Coaxial (LMR-240-ULTRAFLEX)
Length	75 feet
Connector 1	N-Male
Connector 2	Right Angle Reverse Polarity SMA Male
Outer Material	Polyvinyl Chloride (PVC)
Item Weight	2.55 pounds (approx.)
Impedance	50 Ω +/- 2
Maximum Frequency	6.0 GHz (Optimal performance up to 3000 MHz)
Velocity of Propagation	80%
Shielding	>90dB minimum
Operating Temperature	-40°F to 185°F (-40°C to 85°C)
Special Features	Data Transfer, Heat Resistant, Lightweight, Weatherproof
UPC	758449828661

8. WARRANTY AND SUPPORT

Cable Assemblies Now stands behind the quality of its products:

- **Limited Warranty:** A 1-year limited warranty is provided for all Cable Assemblies Now jumpers. This covers manufacturing defects and performance malfunctions under normal use.
- **Replacement Policy:** A 60-day replacement policy is offered for any issues encountered within this period.
- **Customer Support:** If you experience any problems or performance malfunctions with your cable assembly, please contact Cable Assemblies Now directly for assistance. Our team is dedicated to providing solutions and support.



Figure 6: Manufacturing origin of Cable Assemblies Now products.