

# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20130325-E81956A  
**Report Reference** E81956-20040402  
**Issue Date** 2013-MARCH-25

**Issued to:** TYCO ELECTRONICS CORP  
2100 PAXTON ST  
HARRISBURG PA 17111

**This is to certify that  
representative samples of**

COMMUNICATIONS-CIRCUIT ACCESSORIES  
See addendum page

Have been investigated by UL in accordance with the  
Standard(s) indicated on this Certificate.

**Standard(s) for Safety:**

UL 1863, the Standard for Communication Circuit Accessories  
CAN/CSA C22.2 No. 182.4, Standard for Plugs, Receptacles and  
Connectors for Communication Systems and CAN/CSA C22.2,  
No. 233-09, Standard for Cords and Cord Sets for  
Communication Systems

**Additional Information:**

See the UL Online Certifications Directory at  
[www.ul.com/database](http://www.ul.com/database) for additional information

Only those products bearing the UL Listing Mark for the US and Canada should be considered as being covered by UL's Listing and Follow-Up Service meeting the appropriate requirements for US and Canada.

The UL Listing Mark for the US and Canada generally includes: the UL in a circle symbol with "C" and

"US" identifiers:  the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product.



William R. Carney, Director, North American Certification Programs  
UL LLC

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This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

USL, CNL Patch Panels, Part Nos. 1435965-1, 1435971-1, 1777029-1, 1777052-1, 1777052-2, 1-1777052-1, 1-1777052-2, 1777098-1, 2153041-1, 2153046-1.

USL, CNL Patch Panels, Part Nos. 1777029-2, 1777041-1, 1777042-1, 1777053-1, 1777105-1, 2153040-1, 2153049-1 (AMPTRAC).

USL, CNL Cassette Panel, Part No. 1479451-1 (accepts MRJ21 Cassette Assemblies).

USL, CNL Cassette Assemblies, Part Nos. 1479452-1, 1479459-1, 1777082-1, 1777086-1.

USL, CNL MRJ21 'Hydra' Cable Assemblies, Part Nos. 1499514, 1499515, 1499518, 1751386, 2111366, 2111367, 2111368, 2111369, 2111370, 2111371, 2111372, 2111373, 2111375, 2111376, 2111377, 2111498, 2111499, 2111521, 2111522, 2111523, 2111696. followed by a suffix denoting length.

USL, CNL MRJ21 Patch Cords, Models TMRJ, followed by 1 or X, followed by S or U, followed by U, followed by R or P, followed by B-, G- or W-, followed by S or A, followed by S, A, H or L, followed by a three-digit number 001 through 324 (representing length), followed by M or F (representing meters or feet).

USL, CNL MRJ21 Patch Cords, Models TMRJ-XSSR, followed by B, G, or W, followed by S or A, followed by S or A, followed by suffixes denoting length and measurement type.

USL, CNL Cable Support Bars, Part Nos. 557548-1, 1933352-1, 1933352-2, 1933352-3, 1933352-4.

USL, CNL Blank Adapter Plate, Part No. 1777046-1. Intended for indoor use on 19 in. rack mount systems.



William R. Carney, Director, North American Certification Programs  
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## DESCRIPTION

## PRODUCT COVERED:

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USL, CNL MRJ21 Patch Cords, Models TMRJ, followed by 1 or X, followed by S or U, followed by U, followed by R or P, followed by B-, G- or W-, followed by S or A, followed by S, A, H or L, followed by a three-digit number 001 through 324 (representing length), followed by M or F (representing meters or feet).

USL, CNL MRJ21 Patch Cords, Models TMRJ-XSSR, followed by B, G, or W, followed by S or A, followed by S or A, followed by suffixes denoting length and measurement type.

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USL, CNL Blank Adapter Plate, Part No. 1777046-1. Intended for indoor use on 19 in. rack mount systems.

## TECHNICAL CONSIDERATIONS:

General - The patch panels, described in this Report are comprised of a metal panel intended to house MRJ21 Cassette Assemblies, which may be constructed of several printed circuit board assemblies in a single metal enclosure and may be either shielded or unshielded. The entire assembly is intended for mounting to a 19 in. rack system.

The 24 and 48 Port MRJ21 AMPTRAC Patch Panels utilize sensor strips. These strips are comprised of either a contact block, printed circuit board or a flexible printed wiring board and terminal connector used for connection to continuity monitoring system, and allows the system to monitor moves, adds and changes to the network. The sensor strips are SELV and the sensing circuit is isolated from telco circuit.

Rating - The units are intended for telephone circuits or data circuits operating at a maximum of 175 mA and a maximum of 56.5 V dc, 150 Vrms ringing voltage.

USL indicates evaluation to UL 1863, The Standard for Communication Accessories, 4<sup>th</sup> Edition dated May 14<sup>th</sup>, 2004 including revisions through August 21<sup>st</sup>, 2008.

CNL indicates evaluation to CAN/CSA-C22.2, No. 182.4-M90, The Canadian Standard for Plugs, Receptacles and Connectors for Communication Systems, 1<sup>st</sup> Edition, Reaffirmed 2010.