TRAFFIC PRODUCTS CATALOG
EVERYTHING YOU NEED IN THE INTERSECTION... AND MORE

Multicom’s select manufacturers strive to incorporate American manufacturing, leading-edge USA technology & materials, and sustain their local communities.

www.multicominc.com  800-423-2594  407-331-7779  ISSUE 3
Multicom is a full-line Stocking Distributor of Traffic Signal Cable and Equipment based in central Florida for over 40 years

At Multicom, we are keenly mindful of local APL and DOT regulations. We only represent manufacturers that produce the highest quality local, state and federally approved and compliant products, made from materials that will stand the test of time. This is our commitment to you, and we stand behind it everyday.

Same-day shipping or delivery is provided from our two local warehouses which stock over 20,000 products from more than 380+ of the world’s major manufacturers including a full line of Traffic Signal Hardware and Equipment as well as building wire and fiber optic, coax and composite camera cable - and all of the associated accessories.

Our goal has always been to create and distribute reliable, high-quality and innovative products for the best prices - and keeping customer service our #1 priority.

That said, we have Big News!

Dear Valued Customer,

I’m excited to announce that USTC Corp, a leading value-added distributor and one-stop-shop for all materials, distribution, and supply chain management solutions supporting the broadband and telecommunications industry, has acquired Multicom. Both organizations have the same inclusive, respectful values and steadfast commitment to customer satisfaction and reliability and are committed to ensuring you are met with the level of service you expect and deserve. Thank you for trusting us with your business.

Sherman Miller, Multicom Founder, President and CEO

Valued Partner: What Does This Mean to You?

Moving forward, the Multicom Traffic Team’s goals and vision remain unchanged. We’re going to grow and extend our one-stop-shop offerings and solutions throughout Multicom’s footprint and beyond. Multicom has always put the customer first with the highest quality products and services. The great news is, now we have access to many more high-end manufacturers with a bountiful supply of new products. And now that we are bigger, our pricing will be better than ever. As well, we will have warehouses spanning the country so our footprint will expand in the hopes of expanding yours.

For the Multicom Traffic Division, this brings a whole new world of opportunity to us, and to you, so we are very excited!

We will continue to provide best-in-class supply chain technical expertise, outstanding customer service, and state-of-the-art products and services to our customers because our future is brighter than ever. We’re looking forward to working together and are very excited about the future we can build together.
In addition to the above, Multicom is also a sustaining member and/or affiliated with multiple associations and communities in the industry including these, and more:

- **Satellite Broadcasting and Communications Association**
- **National Systems Contractors Association (NSCA)**
- **National Cable Television Cooperative (NCTC)**
- **Society of Cable Telecommunication Engineers (SCTE)**
- **Satellite Broadcasting and Communications Association (SBCA)**

**A word from Multicom’s Vice President, Ray Shedden:**

Our passion at Multicom is collaborating with our customers to satisfy, delight, and empower the growth of their business with their own customers. No excuses, constant innovation, accountability, dependability, follow-through, and outstanding results are our hallmarks while striving personally to actively make our communities and the world a better place than we found it.

**When you call us a real person answers the phone!** You will be then be transferred to a qualified sales or application engineer with the experience and expertise to provide the products and service you need, or answer your questions. We have been an industry and resource leader for 40+ years and we value the relationships we have built over that time.

Multicom is the Proud to be a Sustaining Member of the IMSA Since 2001

The International Municipal Signal Association (IMSA) is dedicated to providing quality certification programs for the safe installation, operation and maintenance of public safety systems.

Multicom is the Proud Recipient of the President’s ‘E’ Award for Outstanding Contributions to the Export Expansion Program of the U.S.A.

The President’s ‘E’ Award was created by Executive Order of the President on December 5, 1961, to afford suitable recognition to persons, firms, or organizations which contribute significantly in the effort to increase United States exports.

Sherman Miller is a sustaining member of the U.S. District Export Council. The District Export Council encourages and supports the export of goods and services that strengthen individual companies, stimulate U.S. economic growth and create jobs.
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THIS CATALOG, AND THE MULTICOM MANUFACTURED PRODUCTS CATALOG, CAN BE DOWNLOADED FROM THE MULTICOM WEBSITE AT: WWW.MULTICOMINC.COM/CATALOG
Trusted by agencies across the nation to safely connect people and places everyday. Multicom is your reliable source for Traffic Signal Wire & Cable - In Stock and Made in the USA.

Multicom stocks a wide range of Traffic Signal Wire & Cable for nearly every application in our warehouses in central Florida. All configurations of Traffic Signal Wire & Cable among the manufacturers’ products we carry have jackets rated to 90°C for both wet and dry locations. In addition, these cables are resistant to the effects of being outdoors, including fading and degradation that occurs because of moisture and sunlight. These Traffic Signal Wire & Cable products are compliant with UL Standards for overall cable construction and cold bend capabilities.

Disaster Recovery: Multicom is proud to be the go-to cable stocking distributor for government agencies, municipalities, system operators and cable companies - providing instant access to our huge inventory of cable where it’s needed, when it’s needed, in times of natural disaster. When hurricanes hit, we are open for business 24/7, ready to assist in any way possible.

Most variations of Traffic Signal Wire & Cable that Multicom stocks can be custom-cut to any length depending on your unique application needs.

www.multicominc.com  800-423-2594  407-331-7779
Multicom is a proud Sustaining Member of the IMSA Since 2001. We offer a wide range of products for various municipal transportation applications: Traffic Communication, Inductive Loop Detection and Traffic Signal Control.

Manufactured in ISO-certified facilities, Multicom stocks state-specific cable of unsurpassed quality and reliability to ensure product consistency for every specification.

### Signal Cable

<table>
<thead>
<tr>
<th>Spec 19-1 and 20-1 Signal Cable</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Conductors</td>
<td>Solid or Stranded, bare copper</td>
</tr>
<tr>
<td>Insulation</td>
<td>Polyethylene</td>
</tr>
<tr>
<td>Color code</td>
<td>Per specification</td>
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<tr>
<td>Conductor configuration</td>
<td>Cabled conductors</td>
</tr>
<tr>
<td>Shield</td>
<td>None</td>
</tr>
<tr>
<td>Jacket</td>
<td>Spec 19-1 - PVC</td>
</tr>
<tr>
<td></td>
<td>Spec 20-1 - Black PE</td>
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<tr>
<td>Operation mode</td>
<td>Full auto, semi-auto, manual</td>
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### Loop Detector Wire

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<th>Spec 51-1 / 51-3</th>
<th>Specification</th>
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<td>Conductors</td>
<td>Solid or Stranded, bare copper</td>
</tr>
<tr>
<td>Insulation</td>
<td>Spec 51-1 - PVC / Nylon</td>
</tr>
<tr>
<td></td>
<td>Spec 51-3 - Black cross-linked polyethylene</td>
</tr>
<tr>
<td>Conductor configuration</td>
<td>Single conductor</td>
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<th>Spec 51-5 / 51-7</th>
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<tr>
<td>Conductors</td>
<td>Stranded, bare copper</td>
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<tr>
<td>Insulation</td>
<td>Spec 51-5 - PVC / Nylon</td>
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<td></td>
<td>Spec 51-7 - Black cross-linked polyethylene</td>
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<tr>
<td>Conductor configuration</td>
<td>Single conductor</td>
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<tr>
<td>Outer jacket</td>
<td>Black PVC or polyethylene tube</td>
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<table>
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<tr>
<th>Spec 50-2</th>
<th>Specification</th>
</tr>
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<tr>
<td>Conductors</td>
<td>Solid or Stranded, tinned copper</td>
</tr>
<tr>
<td>Insulation</td>
<td>Polyethylene</td>
</tr>
<tr>
<td>Color code</td>
<td>Black / Natural</td>
</tr>
<tr>
<td>Conductor configuration</td>
<td>Twisted pair</td>
</tr>
<tr>
<td>Shield</td>
<td>Aluminum / Mylar tape</td>
</tr>
<tr>
<td>Outer jacket</td>
<td>Black low-density polyethylene</td>
</tr>
</tbody>
</table>
Multicom is a leader in custom designed cable manufacturing and special wire construction. If a standard cable won't work for your application, we can design a cable customized to match your exact specifications. Whether you need a custom coaxial cable, special power cables or a completely new cable designed from scratch, we can provide a custom cable to fit your needs.

### Composite Camera Cable

<table>
<thead>
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<th>Specification - Element 1</th>
<th>Specification - Element 2</th>
</tr>
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<tbody>
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<td><strong>One Component 23 AWG 4 UTP Cat 6</strong></td>
<td><strong>14 / 16 AWG 3C Shielded Cable</strong></td>
</tr>
<tr>
<td>Conductor - 20 AWG Solid BC</td>
<td>Component 1 - 14 / 16 AWG 19 Strands Class C</td>
</tr>
<tr>
<td>Braid - 2 x 98% TC</td>
<td>Material - Annealed BC</td>
</tr>
<tr>
<td>Diameter - 0.23”</td>
<td>Conductor Count - 3 Conductors</td>
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<tr>
<td>Ripcord - Nylon</td>
<td>Color Code - Black, White, Red</td>
</tr>
<tr>
<td>Color - Blue with standard UL print</td>
<td>Color Code - Black, White, Green</td>
</tr>
</tbody>
</table>

### Features:
- Save Time and Money: Pull only one cable to camera locations
- Power Options: Use the CAT6 (POE) or the shielded power cable
- Capable of volume control, audio/video, data transfer, networking
- Sunlight resistant and riser rated
- For security cameras and other applications
- Made in the USA

### Multi-Conductor Camera Cable

<table>
<thead>
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<th>Specification - Coax</th>
<th>Specification - Multi-Conductors</th>
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<tbody>
<tr>
<td>Conductor - 20 AWG Solid BC</td>
<td>Component 1 - 16 AWG BC</td>
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<tr>
<td>Braid - 95% BC</td>
<td>Insulation - PVC .030 Nominal</td>
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<tr>
<td>Jacket - LDPE .304 Nominal</td>
<td>Jacket - PVC .030 Nominal</td>
</tr>
<tr>
<td>Color Code - Black, White, Green</td>
<td></td>
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</table>

### Composite Camera Cable

<table>
<thead>
<tr>
<th>Specification - Coax</th>
<th>Specification - Multi-Conductors</th>
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<tbody>
<tr>
<td>Conductor - 20 AWG Solid BC .032</td>
<td>Component 1 - 16 AWG BC</td>
</tr>
<tr>
<td>Braid - 95% BC</td>
<td>Insulation - PVC</td>
</tr>
<tr>
<td>Jacket - PVC .224 Nominal</td>
<td>Jacket - PVC .030 Nominal</td>
</tr>
<tr>
<td>Color Code - Black, White, Red, Brown, Blue</td>
<td></td>
</tr>
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### Precision Video Cable

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<th>Specification - Coax</th>
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<td>Conductor - 20AWG Solid Bare Copper</td>
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<tr>
<td>Braid - 2 x 98% TC</td>
</tr>
<tr>
<td>Jacket - PE</td>
</tr>
<tr>
<td>Color Code - Black</td>
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</tbody>
</table>
BUILDING WIRE

RHH/RHW-2 - XLP USE-2

Description: Single conductor, 90°C Wet/Dry. Insulated with chemically cross-linked polyethylene insulation.

Applications: Appropriate for use in general purpose wiring for lighting and power - residential, commercial, and industrial buildings. Suitable for applications that require superior flame retardance.


- 600 Volt, Copper conductor
- High-heat, moisture, and sunlight resistant
- All size variations available

XHHW / XHHW-2

Description: Single conductor, 90°C Wet/Dry. Insulated with chemically cross-linked polyethylene insulation.

Applications: Appropriate for use in general purpose wiring for lighting and power - residential, commercial, and industrial buildings. Suitable for use in low leakage circuits requiring a dielectric constant of 3.5 or less.


- 600 Volt, Copper conductor
- High-heat, moisture, and sunlight resistant
- All size variations available

THHN / THWN-2

Description: Single conductor stranded bare copper, with a PVC insulation and Nylon Jacket

Applications: Appropriate for use in general purpose wiring for lighting and power - residential, commercial, and industrial buildings. Suitable for use with machine tool and appliance wiring.


- Construction, machine tools & control circuits
- 600 Volts, Copper Conductor
- Heat, moisture, gasoline, and oil resistant

PE-39 INTERCONNECT

General Cable is one of three levels of the Prysmian Group, which has a multi-brand architecture.

PE-39 Interconnect Cable is manufactured for direct burial communication system applications in accordance with the National Electric Code.

Features:

- Intended for duct and direct buried installations where protection against water and moisture entry is required and may also be installed aerially
- Conductors: Solid, annealed copper; sizes 19, 22, and 24 AWG
- Insulation: Solid, high density polyethylene, colorcoded in accordance with telephone industry standards
- Twisted Pairs: Insulated conductors are twisted into pairs with varying lay lengths to minimize crosstalk
STRAND WIRE

National Strand has built an unbeatable reputation. The superior qualities of National Strand’s products provide exceptional reliability and long life for guy wires, overhead ground wires and messenger cables.

Guying, Static/Grounding applications in Power Utility, Messenger/Telecommunications/CATV for years by the most demanding North American IOU's, Muni's, Co-ops, MSO's and others. All Strand products are expertly produced to ASTM A475, A363, A855, A925, A111, A586, CSA. Multicom can arrange for custom specifications as required for your quality critical application.

Product Offerings:
- Galvanized Steel Strand
- Structural Bridge Strand
- Stainless Steel Strand
- Galfan Coated Steel Strand
- Guard Rail Cable
- Barrier Strand

National Strand was the first in the industry to devise color coded end caps for easy grade identification.

| Galvanized and Galfan Coated Guy & Static Wire
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# TRAFFIC CAMERA / SENSOR CABLE

**CAT5E Direct Burial STP (Waterproof) CMX**

**Description:** Category-5E Direct Burial, STP w/Drain Wire, 8-Conductor, Waterproof Outdoor Jacket, 24AWG Solid-Bare Copper. This cable is rated for direct burial applications and is designed to be buried directly beneath the ground without any additional protection, piping, or sheathing. Direct burial cable is built to tolerate heat, moisture, and other hazards that present themselves when cable is buried underground.

### Features:
- High-Performance Data Communications Cable
- 350MHz Bandwidth for Data Applications, Fast Ethernet and 155Mbps TP-PMD/CDDI
- Category-5E Shielded Twisted Pair
- Easily Identified Color-Striped Pairs
- 24AWG Solid Copper Conductors
- Exceeds TIA/EIA-568B.2, ISO/IEC 11801
- CAN/CSA -C22.2 No. 214
- Direct Burial (Waterproof)
- ETL Listed

## Parameter Specification

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<tr>
<td>Rated Temperature</td>
<td>75°C (167°F)</td>
</tr>
<tr>
<td>Rated Voltage</td>
<td>300V</td>
</tr>
<tr>
<td>Flammability Test</td>
<td>IEC-332-1</td>
</tr>
<tr>
<td>Product Standard Certification</td>
<td>CMX</td>
</tr>
</tbody>
</table>

### Conductor
- **Solid Bare Copper**
  - Size: 24 AWG (0.51mm)
  - Insulation: PE
  - Average Thickness (mm): 0.208
  - Min. Point Thickness (mm): 0.176
  - Outer Diameter (±0.1mm): 1.60

### Outer Jacket (Black)
- **LSZH (UV)**
  - Average Thickness (mm): 0.60
  - Min. Point Thickness (mm): 0.54
  - Outer Diameter (±0.1mm): 4.00

### Inner Jacket (Gray)
- **PVC**
  - Average Thickness (mm): 0.20
  - Min. Point Thickness (mm): 0.18
  - Outer Diameter (±0.1mm): 1.90

### Aluminum Foil
- Yes

### Drain Wire (Tinned Copper)
- Yes

### Rip Cord
- Yes

### Color of Pairs
- Pair 1: Blue, White-Blue
- Pair 2: Orange, White-Orange
- Pair 3: Green, White-Green
- Pair 4: Brown, White-Brown

## Electrical Characteristics

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<th>Freq.</th>
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<th>Att Max (db/100m)</th>
<th>Next (ns/100m)</th>
<th>PSNext (Min dB)</th>
<th>ELFEXT Min (db/100m)</th>
<th>PSELFEXT Min (db/100m)</th>
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<td>48.8</td>
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<td>16.3</td>
<td>44.9</td>
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## Mechanical Characteristics

<table>
<thead>
<tr>
<th>Test Object</th>
<th>Jacket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Material</td>
<td>LSZH (UV)</td>
</tr>
<tr>
<td>Before - Tensile Strength (Mpa)</td>
<td>&gt;=13.8</td>
</tr>
<tr>
<td>Aging - Elongation (%)</td>
<td>&gt;=100</td>
</tr>
<tr>
<td>Aging Condition (<strong>Cxhrs</strong>)</td>
<td>100 x 168</td>
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<tr>
<td>After - Tensile Strength (Mpa)</td>
<td>&gt;=85% of unaged</td>
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<tr>
<td>Aging - Elongation (%)</td>
<td>&gt;=50% of unaged</td>
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<tr>
<td>Cold Bend (-20±2° Cx4hrs)</td>
<td>No Crack</td>
</tr>
</tbody>
</table>

---

**www.multicominc.com     800-423-2594     407-331-7779**
It is our mission to **Stock**. Let us know what we can stock for you.

At Multicom, our people, our philosophy and our commitment to customer service is the difference that allows us to provide our customers with comprehensive solutions to their traffic equipment needs.

For over 40 years, we've served municipalities and contractors throughout the country - providing a comprehensive range of products from underground to overhead. We offer same-day-shipping and delivery on your urgent requests, along with the expertise to ensure that you receive exactly what you need when you need it - first time, every time. Our manufacturers and the products they produce, have earned a strong reputation for quality and reliability.
TRAFFIC & PEDESTRIAN SIGNALS, HOUSINGS & ACCESSORIES

Traffic Signals Housings
Built to last in any environment, McCain offers an extensive signal portfolio for most applications. The full line of solutions includes traffic signals, pedestrian signals, and signal accessories.

Traffic Signal Housings provide a durable and low-maintenance housing for standard LED modules as well as incandescent optical assemblies. Housings are compliant with the Institute of Transportation Engineers (ITE), Caltrans, and most state Departments of Transportation.

McCain Traffic Signal Housing Features:
- Poly and Aluminum
- Increase product durability in extreme or high-wind conditions
- Corrosion resistant and low maintenance
- Modular sections, one-piece, injection molded or cast
- 72-tooth serrated boss and reinforcing ribs, top and bottom
- Housings have a cast boss for mounting a 5 or 6-position terminal block; one side of terminal block with fast-on terminals, the other side with screw terminals

Pedestrian Signal Housings
- Poly and Aluminum
- Superior strength and durability
- Increase visibility and impact protection
- Use in any environment
- Remove, reverse or permanently attach door-hinge hardware
- Stainless steel hardware
- Terminal block

Multicom stocks a wide range of McCain products
- Advanced transportation solutions, trusted by agencies across the nation to safely connect people and places everyday.

Multicom Stocks McCain Products, Including:
- Pedestrian Signal Housings
- Traffic Signal Housings
- Backplates
- Tunnel Visors
- and more...

Econolite Products also include:
- Traffic Signal Housings
- Backplates
- Tunnel Visors
- and more...

Econolite Traffic Signal Housing Features:
- Poly & Aluminum
- Tested to ITE required wind loading on single-point attachment
- Reversible door - left side standard, right side optional
- Doors equipped with two latches
- Provisions for one five-position and one six-position terminal block in each housing

At the front line of any signalized intersection, Econolite’s products increase safety for all roadway users, and are designed to meet or exceed the Institute of Transportation Engineers (ITE) standards. Econolite’s Intelligent Transportation System (ITS) solutions ease traffic congestion, provide safer mobility and improves quality of life.
Duralight and GE have been manufacturing traffic signals and commercial traffic products almost since their invention. These manufacturer’s LED signal modules not only meet the specifications of ITE and many states/local government agencies, but also are certified by ISO9001 Quality Control System. LED traffic signal modules exceed the highest level of specifications set forth by federal, state, and local government agencies.

**LED Traffic Signals**
- Compliance with latest ITE specifications
- Low power consumption & long operating lifetime LEDs
- Retrofit design & UV stabilized lens
- Full compatibility with NEMA controllers/conflict monitors
- Uniform incandescent appearance

**Pedestrian Countdown Lamps**
- Compliant with the latest ITE specifications
- Retrofit design & UV stabilized lens
- Fully compatible with NEMA controllers/conflict monitors
- Conforms to standards specified in ITE LED Pedestrian Signal Modules

Pelco / Engineered Castings Products also Include:
- Astro-Brac Signal Mountings
- Free-Swinging Signal Mountings
- Rigid Side-of-Pole
- Rigid Post Top
- Sign Mountings
- Pedestrian Push Buttons
- Cabinets
- Backplates
- Poles & Bases
- Poles
- Traffic Accessories
- Lighting & Pole Solutions

Multicom Stocks Engineered Casting by Pelco - Adding Engineered Castings products to its extensive product line, Pelco Products has expanded to encompass all types of mounting hardware, including rigid and free-swinging signal and sign mounts, traffic parts, sign brackets, lighting, flasher cabinets, push buttons, copper theft deterrent products, and much more.

**Pelco / Engineered Castings**

```
Pipe Clamp - Serrated
Cable Clamp
Angle Adjuster - Serrated
Cable & Thread Fittings
Wire Entrance Bracket
Solid Light Bracket
Mounting Bracket
Signal Housing
LED
Saddle Bracket
Adjustable Span Mounts
Extra High Strength (EHS) Span Wire
Disconnect
```
EVERYTHING YOU NEED IN THE INTERSECTION

- STOCKS
- PRE-ASSEMBLES
- CUSTOM CUTS
- SAME DAY SHIPPING
- DISASTER RECOVERY
- 380+ MANUFACTURERS - AND GROWING!
- 20,000+ PRODUCTS

Signal Hardware in Stock

- Cable Suspension Bolt
- Square Curved Washer
- Square Nut
- HDPE Pipe
- Guy Guard
- Oval Eye Bolt
- Cable Marker
- Manhole Cap
- EHS Galvanized Guy Strand Wire
- Pedestrian Signage
- Thimbleye Bolt
- Side of Pole Kit
- Thimbleye Nut
- Push Button
- Pedestal Base
- Anchor Bolt Set
MacLean Power Systems is a leading manufacturer of Pole Line Hardware and connection products, as well as insulation and protection products. Multicom stocks a wide range of MPS products, including:

**POLE LINE HARDWARE**

---

**Strandvise®**

For deadend applications with overhead or down guy wire. Rated to hold a minimum of 90% of RBS of the strand used.

- REL5202 3/8" Strand Vise
- J7902B 5/8" Clamp Bolt Diameter

**Cable Suspension Clamps**

Cable suspension clamp with curved ends to prevent damage to the messenger.

- J8225 Crosby Forged Wire Rope Clip

**Crosby Clamps**

A strong economical means of securing down guys and wire ropes. The steel U-bolt and malleable iron base are both hot dipped galvanized.

- J8563 5/8" Square Nut

---

**Bolts, Oval Eye**

Double Arming Eyebolts are forged in a one piece design and are fully threaded the entire bolt length except for 2 inches under the eye. Permanent intersection Oval Eyebolts available.

- J9420 5/8" x 20" Oval Eye Bolt
- J6528WCA 8" Helix 66" Shaft Screw

**No-wrench Screw Anchors**

An integral forged eye anchor with a helix welded to the shaft and for manual or machine installation.

- GCC26-120R 10' 36K Rod

---

**Eyennuts**

HotDip Galvanized, the Thimbleye, Twineye and Tripleye are all used with PH-style anchor rods.

- J1093 3/4" Oval Eye Nut

---

**Cable Rings & Cable Ring Saddles**

Designed to support heavy cables. Available in various materials and sizes depending on application.

- WRIN2X14 2" x 1/4" Cable Ring

---

**Guy Strain Insulators**

Can be installed anywhere on the guy wire. Helps protect against stray current.

- J8563 5/8" Square Nut

---

**Square Nuts & Washers**

Hot-dip galvanized, locks securely into place with little effort, making removal or displacement difficult.

---

Pulling Grips from Lewis Manufacturing are Wire Mesh Grips that have been a popular and effective means of pulling power cables, fiber optics cables, and ropes overhead or underground and stress free suspension of power and data cables.

- LSR-250-SE

**Lewis Split Grip Model LSR** - Designed for all phases of suspension or pulling, where neither end of the conductor is available and ‘middle of the run’ application of the grip is desired. Available in 3/4” to 5”.

---
Multicom provides Traffic Signal and Pedestrian Crossing Hardware that meets the needs of the traffic industry by providing the highest quality products from the industry’s most respected manufacturers. Innovative designs lead the way with products that withstand the dynamic effects of nature, while adding value to any project. Multicom is dedicated to meeting the needs of our customers while adhering to regulatory requirements based on quality management principles.

**Side of Pole Kit**
Side-of-Pole assemblies are designed to mount traffic and pedestrian signals on the side of traffic signal poles with an upper and lower arm. Available in black.

**Slip Fitter Assembly**
Post Top Slip Fitters are available in aluminum, 1-1/2” NPS, tri-bolt or tri-stud.

**Push Button**
State-of-the-art, impact and vandal-resistant with high strength die cast construction.

**Stud Closure**
Mono Stud Close-out for pedestrian and signal housings.

**Collar Assembly**
Reinforcement collar to stabilize pedestal pole.

**Pole Cap Assembly**
Close-out for top of pole.

**Pedestrian Signage**
Provide advisory information for pedestrians using full-color text, symbols and pictures.
Pelco’s Mast-arm mounting systems are used for signs, cameras, sensors and virtually any size or combination of signals, to mast arms and poles. The Mast-arm bracket is fitted with cables or bands and can rotate 360 degrees. Post Top, Side-of-Pole, Span Wire, or Mast Arm mounts in aluminum, iron, or bronze can provide the solution to any traffic mounting application while meeting municipalities standard specifications.

**Mast-arm Bracket Assembly**
- 1-way stainless cable mount
- Aluminum

**Mast-arm Clamp Kit**
- Stainless cable mount
- Aluminum

**Mast-arm EZ Attachment**
- Adapter
- Aluminum

**Retro Reflective Backplates**
Backplates with Retroreflective Borders are more visible in daytime and nighttime conditions than standard backplates, particularly for older and colorblind drivers. The Federal Highway Administration approved the use of retroreflective tape after a seven-year safety study showed that the use of retroreflective backplate borders reduced total crashes at intersections by 15% to 24%.

**Features:**
- Improve safety at signalized intersections
- Boost signal visibility in daytime & nighttime conditions
- Reduce crashes
- Use on most standard signals

**Camera Brackets**
Multicom stocks adjustable brackets for cameras, sensors and antennas that can mount a variety of traffic industry devices. Video Detection camera brackets are available for mast arm, post top, span wire or side-of-pole applications.

**Free Swinging Mast-arm Sign Brackets**
Sign brackets in rigid and free-swinging mounts for both flat and internally illuminated signs. Most sign-bracs are available with a cable, band, or tenon mount clamp kit.
TRAFFIC ACCESSORIES

Condux International the premier manufacturer of underground and overhead cable installation tools and equipment for the telecoms and electric power markets. Condux machines allow safe, quick and easy installation of fiber optic cable and power cables.

**CONDUX**

The Condux Gulfstream™ 400 **Fiber Optic Cable Blower** is designed for the installation of fiber optic cables with diameters from 0.23” to 1.13” into microduct. The Condux Gulfstream™ 400 Fiber Optic Cable Blower is ideal for “Last Mile” Fiber Installations.

The Condux **Fiber Optic Cable Puller** sets new standards for safe, accurate pulling of fiber optic cables. Only the Condux puller can offer load cell torque input for the most accurate tension measuring available.

**Duct Rodders** combine ease of operation and reliable performance to help increase the efficiency of your rodding operations. Cages have been designed to be lighter weight for easy handling in the field.

The **Power Dart Blower** provides a method to install Pull String or Pull Tape into longer duct runs without the need for an air compressor. Utilizing three independent, high volume blower motors, this unit delivers enough to blow 1/2” pull string or pull tape 2000’ into conduit up to 6” in diameter.

The **TurboSlitter** and **Turbo Splitter Pneumatic** from Condux can easily split HDPE pipe with wall thicknesses ranging from 0.097 to 0.216 inches. Available in two styles, pneumatic and cordless drill attachment. The cordless drill attachment quickly adjusts to fit almost any rechargeable drill, 14-volt and larger.

**Champion Swivels** are designed for underground and overhead cable pulling applications. Clevis pin is easily replaceable. Versatile clevis provides efficient link for several applications. Stainless steel construction with 10,000 lbs. (44,480 N) load capacity.
TRAFFIC ACCESSORIES

The Condux **Winch Line Blower** is a tool for installing winch line, rope, or pull tape into the conduit. It turns the job of placing winch line into one easy step, eliminating the need to blow a string and pull back a rope.

**Features:**
- No special tools are required
- Seamless installation
- Condenses air, reducing the number of tools needed
- Premium conduit for steel winch line, tape, and rope

Using compressed air, 90 psi (6.2 bar) and 100 cfm (2.8 cmm), the winch line blower can propel steel winch line, rope, or tape into conduit from 1” to 6” in diameter. Installation is easy. No special tools are required.

The Condux **Blue Ox™ Cable Puller** combines years of experience, field research and end user feedback - and designed to excel in the most demanding utility applications. Featuring 8,500 lbs of continuous pull force, a heavy duty steel frame and hydraulically controlled boom and outriggers, The Blue Ox does not require the arm to be supported during pulling operations. The extendable - up to 90” - steel boom arm boasts 150° of lateral adjustment, providing easy access in even the most confined areas.

**Features:**
- Hydraulic boom arm extension
- Adjustable outriggers
- Easy to access maintenance components
- Traffic cone holder

**Advantages:**
- Wireless remote provides maximum flexibility for operator
- Easy Set-Up
- Rugged design to withstand harshest conditions
- Easy layout for maintenance and service
- Hydraulically controlled arm and outriggers
- Superior factory service and support

www.multicominc.com  800-423-2594  407-331-7779
TRAFFIC ACCESSORIES

PRO-MARK
Cable and Pipeline Markers

A leading manufacturer of Pipeline Markers, Utility Signs and Marker Posts with over 25 years of experience in identifying and marking buried utilities. Products are made from formulated engineered resins to perform in harsh weather conditions to identify, prevent damage and dangerous accidents.

ETCO Specialty Products, Inc.

ETCO is a manufacturer of specialty fittings for the traffic and utility industries

SCHONSTEDT

Schonstedt stands apart as manufacturer of rugged and dependable underground locators. Schonstedt’s Heliflux® magnetic sensor technology is unsurpassed for its environmental stability and ability to detect ferrous objects to extreme depths.

The ‘Maggie’ combines the best features of two flagship Schonstedt products: the sensitivity and precision of the GA-52Cx, and the single-handed operation of the GA-92XT.

Features:
- Ergonomic & Durable
- Dust & Water Resistant (Rated IP54)
- Easy access battery removal
- HeliFlux® sensors
- 7-year warranty

I am most thankful for my customers. Sometimes the questions are complicated but the answers are simple. My customers motivate me to be on the top of my game, so they are on the top of theirs.

Rob Ricks - Multicom Sales Executive

From the moment I walk through the doors, to the time the doors swing behind me, it’s always full-speed ahead! My warehouse hums and my forklift is my best friend. If you enter, look both ways!

John Nashburn - Warehouse Supervisor and Expert Forklift Driver

www.multicominc.com  800-423-2594  407-331-7779
WL Plastics is the ideal producer of polyethylene pipe in North America. HDPE pipe provides durability to avoid the high cost of replacement or rehabilitation. WL Plastics best-in-class manufacturing processes and experienced production personnel help make WL one of the most efficient producers of HDPE pressure pipe in the industry.

Introducing OptiCell: The first-in-class flexible Fabric innerduct system, purpose-built to provide network installers, like you, with the premium power, protection and precision you need for the job site.

Milliken’s industry-leading OptiCell technology expands your network and optimizes your operational capabilities. With OptiCell, organizations can minimize the cost of their network construction by maximizing cable capacity. Fitting more cables into one conduit allows OptiCell to reduce installation times, minimize material costs and eliminate the need for new network construction.

The OptiCell was purpose-built for simplicity and easy set-up. It’s been outfitted with today’s most cutting-edge technology and designed to help deliver quick, reliable connection speeds.

**Pull Tape**

Pull Tape for cable technology, made of low friction, high tenacity – abrasion resistant yarns is a powerful new pull tape that offers unmatched levels of accuracy, legibility, softness and durability. Pull tape improves productivity and reduces total cost by eliminating rework and scrap. The unique Mprint process increases print durability and ensures print length accuracy while our production process ensures a softer feel.

Available in 1250/1800/2500 lb. options and in Standard, Detectable, and Color-coded options.

**Features:**

- Extraordinary print legibility and durability
- 99% print length accuracy
- Increased softness for easier knotting
- Specialty tape offered with a colored thread for easy identification when pulling cable into multiple cells
- Specialty tape offered with a 22AWG detectable wire
- Packaging: UV resistant white plastic wrap
- Detectable wire is a 22AWG solid tinned copper conductor, 23 ohms per mile resistance
- Color coded threads for easy identification -Available colors: blue or orange

**Specifications:**

- Tensile Strength 1250/1800/2500 lb. (Min)
- Working Load 1250/1800/2500 lb.
- Color White
- Print Color Black
- Pre-lubricated with silicone
- Printed with sequential foot markings
SEALANT & LOOP ACCESSORIES

STAT-A-FLEX® is a two part polyester resin loop sealant formulated for encapsulating and sealing traffic signal wire in road surfaces. STAT-A-FLEX® product can be made to resemble cement coloring as well as black for the desired circumstances. STAT-A-FLEX® is easily mixed and applied. It cures quickly and produces a tough weather and chemical resistant seal. STAT-A-FLEX® provides maximum protection of all embedded signal wire. STAT-A-FLEX is approved for use in most state DOT’s for public roadway applications.

Bondo® Traffic, P-606 Flexible Loop Sealer with Hardener is highly durable and remains permanently flexible. This loop sealant can withstand the corrosive effect of road salts, automotive fluids, jet fuel, gasoline and extreme weather conditions. Bondo has been engineering and manufacturing professional products for the traffic control industry for over 37 years. During this time Bondo has remained committed to understanding customers' needs and then developing products that meet and exceed those needs.

3M™ DBR/Y-6 Series Direct Bury Splice Kit electrically connects 2 or more pre-stripped copper wires and moisture seals the connection for direct-burial applications. The flame-retardant kit seals the wiring that is rated up to 600V. It is suitable for water-intensive applications such as golf courses, irrigation controls and outdoor lighting. The kit consists of a 3M™ Spring Connector R/Y+ and a high impact, UV-resistant tube prefilled with moisture-resistant grease. UL-listed for direct bury and rated for 600V.
Compliant Graphics for Harsh Environments™

Uticom Systems, Inc. has been assisting our clients for more than 30 years in the development, manufacturing and monitoring of their hazard alerting and utility graphics standards, procedures and products.

Our mission of Compliant and Durable graphics is accomplished through the Uticom Compliance Monitoring Program.

Bashlin Industries, Inc. manufactures quality tool belts, pole straps, and climbers for the professional lineworker. These products are designed for comfort and durability. We offer a complete assortment of climbing products for workers ranging from apprentice to journeyman.

88FFX4D Series

Bashlin’s new 88FFX4D 4 D-Ring Climbing Belt is the only belt currently on the market that allows the worker to easily adjust both upper and lower sets of D-rings for a custom fit.

This unique dual semi-float design allows both the upper and lower set of D-rings to move freely to improve comfort. The innovative design allows this belt to be adjusted to fit three different D-sizes to maintain proper fit without sacrificing comfort. This adjustability lets the user quickly adjust the belt to accommodate heavier clothing in inclement weather or for changes in the user’s weight over time.

Pocket Linemen’s Holster for pliers, rule, screwdriver, Channellock®, ratchet driver, and knife or wrench. These holsters are available with 3, 4 and 5 pockets, in black or tan, and with or without a knife sheath.

I am proud to be a part of our great team and the success that Multicom is. Eager to see what the future holds and glad to have made the choice to make this my lifelong career.

Emily Cimino - Multicom Sales Executive
Strength, performance and quality have been hallmarks of all Hubbell underground enclosure brands for more than 40 years. The industry leader for applications in non-deliberate traffic areas, these enclosures provide rugged and cost-effective protection for a variety of electric utility, commercial & industrial, communications, water and gas equipment while meeting the specific demands of our industry.

**Hubbell Quazite Pull Boxes** employ a Polymer concrete made from select-grade aggregates in combination with a polymer resin system. When combined through a process of mixing, molding, and curing, an extremely powerful cross-linked bond is formed. Precast polymer concrete is reinforced with fiberglass to give it additional strength and rigidity.

**Pencell Pull Boxes** use structural foam molded High Density Polyethelyne (HDPE), a **light weight**, high strength plastic molding process that provides outstanding structural integrity and durability. HDPE enclosures are mated with covers made from a variety of materials: HDPE, polymer concrete or steel. This combination creates a highly versatile choice for underground utility enclosures where low weight and high strength are necessary.

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**Do it right the first time. Always quality over quantity.**

Lou Mennella - Multicom Warehouse Manager (and man of few words)

---

I have worn many hats at Multicom over the course of the years. With each job I have learned something new, and that's what makes the job enjoyable. The warehouses are the heart of the operation in my book, and I keep it pumping! Danny Oakes - Multicom Warehouse Associate & Headend Assembly Guru

---

I strive for perfection on everything that I'm working on, whether it's small or big. I get great satisfaction when I can look at a job that I have done and know that it is done right, and the customer will be satisfied.

Gabriel Rodriguez - Multicom Warehouse Associate
Today’s ultra-high tech networks provide the foundation necessary for delivering a wide spectrum of advanced interactive services to consumers. Multicom’s fiber optic products offer flexibility, scalability and manageability, giving them timeless value and cost-effectiveness to adapt to an ever-evolving market.

Public networks for video, data and voice are using more and more optical fiber. Fiber-based communications networks have clear advantages over other media in cost, reliability, and capacity, spurring increased deployment on high-density, high capacity networks. Smart public network applications are making wide-spread and growing use of fiber optics. This growth means that millions of fibers are terminating in Central Offices (COs) and cable-TV operation centers. Multicom stocks a full line of fiber optic networking and termination products for every application - large or small.
FIBER OPTIC CABLE - ADSS

Future-proof Fiber Optic Cable Engineered for Today’s Super High-speed and High-performance Networks

Easy Cable Entry & Preparation
• 12 fibers per tube construction up to 144 fiber designs allow easy termination and mid-span fiber access
• Flexible buffer tubes enhance mid-entry

Versatile Installation & Use
• Various span distances
• Easy mid-entry is ideal for FTTH distribution applications

Flexible Routing & Customization
• Flexible buffer tubes simplify routing, storage and prep
• Available in Singlemode loose tube

Reliable Lifetime Performance
• Custom engineered for operation under full load
• Guaranteed standards-based performance
• Immune to electromagnetic fields

Multicom’s All-Dielectric Self-Supporting (ADSS) Loose Tube Fiber Optic Cable is designed for outside plant aerial applications and is the best choice for aerial cable spans. This cable’s low-cost installation, compact size and specialized design make it the ideal, cost-effective cabling solution for FTTH and self-supporting aerial applications.

MADSS012SM-XXX

Length: 350/600 Foot Span
100/200 Meter Span

SM: Single Mode, MM: Multimode
Fiber Count: 12, 24, 48, 96, 144
FIBER OPTIC CABLE - ARMORED

Highly durable and reliable for underground and lashed aerial installations as well as general outside plant installations, including direct buried in harsh environments.

Multicom's armored fiber optic cable has a build-in metal armor inside the outer jacket, armored cable provides extra protection for fiber optic cable, without sacrificing flexibility or functionality within fiber networks. Armored fiber cable is more robust and reliable when encountered with rodent, moisture and other issues that may cause damage. The superior features make armored fiber cable a perfect fit for applications that require high flexibility and durability when used in harsh environments or limited space.

Features:
- Loose tube
- Singlemode and Multi-mode
- Fiber counts from 12 to 144
- Smaller, more flexible tubes for easier installation and routing
- PE coated armor offers additional crush resistance and protection from rodent attack

MARMLT012SM
SM: Single Mode
Fiber Count: 12, 24, 48, 96, 144

FIBER OPTIC DROP CABLE

Multicom's Fiber Optic Drop Cable uses special low-bend-sensitivity G.657A1 fiber, providing greater bandwidth and excellent communication transmission properties. Two parallel strength members (non-metallic FRP), ensures the optical fibers are protected. The low smoke zero halogen (LSZH) flame-retardant jacket allows for safety and environmental protection. The cable is lightweight with a flute design which can be easily stripped and spliced, simplifying installation and maintenance. The messenger enhances the overall tensile strength of the cable.

Features:
- Figure-eight construction for use with standard messenger clamping and support hardware
- FRP strength members
- LSZH outer cable jacket for excellent UV and weather resistance
- Tight-buffered fiber optic cables meet all functional requirements

MFTTX-A-2-SMA-B-M
M=Messenger/Tone Wire
Sheath Color: B-Black, W-White, G-Gray, U-Blue
Quality Designation
Type: SM: G.657A1 Singlemode, MM: Multi-mode
Number of Fibers (1-6)
Cfg A: Fiber(s) center, 2 FRP strength members (1@side, 0.5mm diameter)
Cfg B: Fiber(s) center, 2 Steel strength members (1@side)
Cfg C: Fiber(s) center, Armored
DID YOU KNOW?
Multicom uses only Corning fiber-based fiber optic jumpers

Features:
- Corning fiber used in all jumpers and pigtails
- LSZH jacket on all fiber varieties
- G.657.A2 Certified
- 2mm jacket for more flexibility and capacity in tight spaces
- Custom lengths and colors
- Meets all standard panel interfaces
- All cables serialized and test results are recorded
- High bandwidth, high tensile strength, small bend radius

FOJ3-xM-SM-xx/yyy-S-xx/yyy-AL
1 - FOJ = Fiber Optic Jumper, 3mm Jacket Outside Diameter
   FOj = Fiber Optic Jumper, 2mm Jacket Outside Diameter
2 - xM = Length in Meters
3 - SM = Singlemode
4 - First Connector Type - xx=SC, FC, LC / yyy=UPC, APC
5 - S = Simplex
6 - Second Connector Type - xx=SC, FC, LC / yyy=UPC, APC
7 - Fiber Grade - A=G.652D, B=G.657A2
8 - Jacket Material - L=LSZH, P=PVC, O=OFNP

Singlemode fiber optic jumpers, or patch cables, come with a 9 micron diameter glass core. With the cladding layer, they are 125 micron, and with the buffer layer they are 250 micron.

Singlemode cables have a smaller glass core than multimode cables and because there is less dispersion of the light signal in the fiber, they can transmit the signal a greater distance.

Multicom’s Fiber Optic Jumpers have a Low Smoke Zero Halogen (LSZH) jacket, and are manufactured using either singlemode or multi-mode fiber and terminated with a range of connectors including SC/UPC, SC/APC, LC/UPC, LC/APC, FC/UPC, FC/APC, and ST/UPC. Other connector types are also available upon request.
Multicom’s Fiber Optic Pigtails are manufactured using either Corning singlemode or multi-mode fiber and terminated with a range of single connectors including SC/UPC, SC/APC, LC/UPC, LC/APC, FC/UPC, FC/APC, and ST/UPC. Other connector types are also available upon request.

Features:
- Machine polishing ensures highest quality connector terminations and performance
- LSZH Jacket on all fiber varieties
- Bundled with jacketed connector ends as required
- Low insertion and return loss
- Traceable, standards-based testing procedures
- Geometry compliant connector endfaces that are defect and contamination free

Applications:
- Termination of optical networks via fusion or mechanical splicing
- Testing of optical devices
- Cable acceptance testing

Parameter | Specification
---|---
Connector | SC/FC/LC to SC/FC/LC, and as required
Fiber Mode | Singlemode: G.652D, G.657A2, OS1, OS2
Multi-Mode: 62.5/125μm OM1, OM2, OM3
Polish | APC, UPC
Fiber Type | Simplex, Duplex
Insertion Loss | Singlemode: ≤0.2dB
Multi-mode: ≤0.3dB
Return Loss | Singlemode: ≥50dB UPC, ≥60dB APC
Multi-mode: ≥35
Wavelength | Singlemode: 1310 - 1550nm
Multi-mode: 850 - 1310nm
Jacket Material | LSZH - IEC60332-3, IEC60754-2, IEC61034-2 Compliant
Jacket Outside Diameter | 2.0mm, 3.0mm
Operating, Storage Temp | -40 ~ 75°C, -45 ~ 85°C
Compliance | Telcordia GR-20-CORE, GR-326 and TIA/EIA 568C, RoHS

Multi-mode

Singlemode

Jacketed & Unjacketed
The Multicom Variable Attenuators are designed to give the accurate attenuation required by the connected device and are available in a wide range from 0dB to 60dB of attenuation levels by turning the thumb screw.

With excellent characteristics, variable fiber optic in-line attenuators can be used in fiber optical telecommunication system and optical transmission systems. These attenuators can be applied in FTTH, CATV, LAN, fiber optical sensor and subscriber loops.

### Variable Attenuators

**Connector Type**
- SM - Singlemode
- MM - Multi-mode

**FOVATT-SM-XX/UPC**
- Connector Type
  - SM - Singlemode, MM - Multi-mode

**Features:**
- High precision attenuation value
- Wide attenuation range 0 to 60dB
- Low insertion loss
- High environmental stability and reliability
- Easy installation
- RoHS compliant

**Parameter**

<table>
<thead>
<tr>
<th>Specification</th>
<th>SM</th>
<th>MM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer Mode</td>
<td>Singlemode (SM) &amp; Multi-Mode (MM)</td>
<td></td>
</tr>
<tr>
<td>Operating Wavelength(nm)</td>
<td>1310<del>1550 (SM), 850</del>1300(MM)</td>
<td></td>
</tr>
<tr>
<td>Fiber Connector</td>
<td>LC/SC/FC/ST</td>
<td></td>
</tr>
<tr>
<td>Attenuation</td>
<td>0~60dB</td>
<td></td>
</tr>
<tr>
<td>Attenuation Accuracy</td>
<td>±0.8dB</td>
<td></td>
</tr>
<tr>
<td>Polarization Dependent Loss</td>
<td>≤0.2dB</td>
<td></td>
</tr>
<tr>
<td>Minimal Insertion Loss</td>
<td>&lt;2.5dB</td>
<td></td>
</tr>
<tr>
<td>Maximum Optical Input Power</td>
<td>200mW</td>
<td></td>
</tr>
<tr>
<td>Ferrule Type</td>
<td>Zirconia Ceramic</td>
<td></td>
</tr>
<tr>
<td>Cable Lengths</td>
<td>2 Meters</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40~80°C</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40~85°C</td>
<td></td>
</tr>
<tr>
<td>Humidity</td>
<td>95% RH</td>
<td></td>
</tr>
</tbody>
</table>

### Mating Sleeves

**SC/UPC to SC/UPC**
- **SC/APC to SC/APC**
- **LC/UPC to LC/UPC**
- **FC/UPC to SC/APC**
- **LC Female to SC Male**
- **FC/UPC to FC/UPC**
- **E2000/APC to E2000/APC**

**FOVATT-SM-XX/UPC**
- **Connectors:**
  - SC/UPC to SC/UPC
  - SC/APC to SC/APC
  - LC/UPC to LC/UPC
  - FC/UPC to SC/APC
  - LC Female to SC Male
  - FC/UPC to FC/UPC
- **Ferrule Type:** Zirconia Ceramic
- **Cable Lengths:** 2 Meters
- **Operating Temperature:** -40~80°C
- **Storage Temperature:** -40~85°C
- **Humidity:** 95% RH

**Features:**
- Use in Singlemode applications
- Free-hanging or panel-mount design
- Dust caps protect against debris and contamination
- RoHS Compliant

**Functions:**
- A cable to cable fiber optic connection
- Cable to equipment fiber optic connection

**FOMS-XX/YYYY-XX/YYYY**
- **Connectors:**
  - Second Connector Type
  - First Connector Type
- **Compliance:**
  - Telcordia GR-20-CORE, GR-326 and TIA/EIA 568C, RoHS
The Multicom fiber optic line of PLC Splitters include Tube, Box, LGX Cassette and Rack Mount configurations. They offer superior performance and field-proven reliability in harsh environments.

Our Planar Lightwave Circuit (PLC) splitters are fabricated using silica optical waveguide technology. Features include small size, high reliability and a wide operating wavelength. The PLC splitter is widely used in all fiber optic networks to perform optical signal power splitting. All products are GR-1221-CORE compliant.

**Features:**
- Low insertion loss
- Even or various splitting ratios
- 1x2 through 1x64 configurations
- Bidirectional, compact
- Environmentally stable
- Wide wavelength range
- High uniformity
- Telcordia GR-1221-CORE compliant

**Applications:**
- Long-haul tele/data communications
- Fiber optic equipment and systems
- CATV systems
- Local Area Network, PON, and FTTH
- Fiber sensors
- DWDM networks

### PLC OPTICAL SPLITTERS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>1x2</th>
<th>1x4</th>
<th>1x8</th>
<th>1x16</th>
<th>1x32</th>
<th>1x64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Wavelength (nm)</td>
<td></td>
<td></td>
<td>1260-1650</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insertion Loss Typical/Max (dB)</td>
<td>&lt;4.0/4.2</td>
<td>&lt;7.2/7.5</td>
<td>&lt;10.5/11</td>
<td>&lt;13.5/14</td>
<td>&lt;16.5/17.5</td>
<td>&lt;19.5/21</td>
</tr>
<tr>
<td>Return Loss (dB)</td>
<td>&lt;0.4</td>
<td>&lt;0.6</td>
<td>&lt;0.8</td>
<td>&lt;1.2</td>
<td>&lt;1.7</td>
<td>&lt;2.0</td>
</tr>
<tr>
<td>Polarization Dependent Loss (dB)</td>
<td>&lt;0.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Directivity (dB)</td>
<td>&gt;55</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wavelength Dependent Loss (dB)</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Operating/Storage Temperature (°C)</td>
<td>-40 to 85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FOSPLF-C-1/8-60/40-SM-SC/APC**

- Connector Type
  - S=Singlemode, M=Multi-mode
  - 60%/40% of Split, or E=Even
  - Number of Splits (1x2, 1x4, 1x8, etc.)
  - T=Tube, B=Box, C=Cassette, RM=Rack Mount

**ATTENUATORS**

Fixed-value Attenuators reduce the signal level without appreciably distorting the waveform. Available in 1dB increments. All connector types available.
Today's FTTH systems demand innovative products for a variety of applications. The Multicom WDM (Wavelength Division Multiplexor), supports any 2-way RFOG/PON services operating with a 1550/1490nm Forward Path and 1310/1590/1610nm Return Path - over a single fiber - for seamless integration of video, voice, and data services.

Wavelength Division Multiplexing (WDM) is a fiber-optic transmission technique that enables multiple light wavelengths to travel on one fiber at differing wavelengths or frequencies on the optical spectrum.

**Features:**
- Standard LGX form factor
- Mounts in a standard LGX chassis
- Low insertion loss
- Ultra-high isolation
- Wide operating temperature range
- Telcordia GR-1221-Core compliant
- Front-located ports for easy access
- All connectors are SC/APC design for optimal power and reliability

**Applications:**
The WDM is ideally suited for use in two-way and high density MDU, CATV, PON, FTTH and RFOG applications, as well as in many other fiber optic-based data, video, and voice networks.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength Range - 1310nm (nm max/min)</td>
<td>1270/1350</td>
</tr>
<tr>
<td>Wavelength Range - 1490nm (nm max/min)</td>
<td>1480/1500</td>
</tr>
<tr>
<td>Wavelength Range - 1550nm (nm max/min)</td>
<td>1550/1560</td>
</tr>
<tr>
<td>Wavelength Range - 1590/1610nm (nm max/min)</td>
<td>1580/1620</td>
</tr>
<tr>
<td>Insertion Loss (dB - typical/max)</td>
<td>17.5/18.0</td>
</tr>
<tr>
<td>Insertion Loss Uniformity (dB - max)</td>
<td>2.0</td>
</tr>
<tr>
<td>Band Isolation (dB)</td>
<td>30</td>
</tr>
<tr>
<td>Directivity (dB)</td>
<td>50</td>
</tr>
<tr>
<td>Return Loss (dB)</td>
<td>50</td>
</tr>
<tr>
<td>Optical Power Handling (mW)</td>
<td>300</td>
</tr>
</tbody>
</table>

**MUL-WDM-F-S-1310/1550-SC/APC**

- Connector Type
- Wavelength/s, or Application (PON, FTTH, RFOG)
- S=Single, D=Dual Port

**Capacity:**
- 12 - Single wide LGX cassettes
- 6 - Double wide LGX cassettes
- 4 - Triple wide LGX cassettes

Multicom's Rack-Mounted LGX Cassette Chassis is designed for use with any standard plug-and-play single, double and triple wide LGX 2 to 32 port cassette splitter modules in FTTX networks.

These chassis are ideal for use in mid-rise and high-rise Multiple Dwelling Unit (MDU) equipment rooms suited for centralized Optical Network Terminal (ONT) applications.

**Features:**
- Complies with all LGX Form Factor Cassette Splitter Modules
- 4 RU
- Transparent dust cover on front hinge

**Applications:**
Optical Access Network, WAN, LAN, CATV Systems

**MUL-FOCH-CASS**
Optical fiber enclosures provide cross- and interconnections in fiber optic cabling systems between optical fiber distribution cables, connecting hardware and active equipment, and for mechanical protection of these connections.

Multicom’s industrial grade Premium Patch & Splice Enclosures provide professional cable management and easy fiber termination availability using a ball bearing telescopic rail structure. The internal tray is installed on telescopic rails to provide easy access to the internal fiber tray and ports.

**Features:**

- Available in 1, 2, and 4 RU configurations
- Telescopic ball bearing rail system easily allows the entire assembly to slide out for easy access to internal hardware and splice fibers
- Easy installation and access
- Fiber guidance tubes to protect and direct the fiber cables to the splice cassettes
- 35mm fiber bending bracket control
- Compliant with all types of adapters
- Splice tray, cable management, and all mounting and fiber accessories included
- Provides higher patch field density in fewer rack units saving valuable rack space
- Standard connectors and optional premium angled connectors for minimal cable bending inside the enclosure

### Compliance:

- ISO 9001
- ROHS
- TELCORDIA GR-326-CORE
- TELCORDIA GR-449
- IEC 61300-3-4
- IEC 61300-3-6
- TIA/EIA 598-C

### Parameter Specification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rack Units</td>
<td>1RU 2RU 3RU</td>
</tr>
<tr>
<td>Capacity Ports</td>
<td>12 / 24 24 / 48 48 / 72</td>
</tr>
<tr>
<td>Max Ports</td>
<td>48 48 144</td>
</tr>
<tr>
<td>Dimensions</td>
<td>19” (48.26cm)</td>
</tr>
<tr>
<td>Material</td>
<td>Carbon steel</td>
</tr>
<tr>
<td>Weight</td>
<td>7.7lbs (3.5Kgs) 8.8lbs (4Kgs) 13.6lbs (6.2Kgs)</td>
</tr>
</tbody>
</table>

Hinged interior splice trays for easy access to all stacked fiber trays

Telescopic ball-bearing rail system slides out for easy access and sturdy work area

The Multicom Premium Patch & Splice Enclosures incorporates unique dual cable retention glans and fiber management system that guides the fibers entering and exiting the enclosure, protecting the fiber from harsh bends and sharp edges.

**Connector Type**

- X=C-Color coated, N=Non-color coated pigtails
- S=Simplex, D=Duplex Connectors
- XXF=12, 24, 48, 72 Fibers
- Deluxe S=Straight, A=45° Angle

**Part Number:**

- MUL-PS-DLXA-S-XXF-S-XX/XXX-LDX

www.multicominc.com  800-423-2594  407-331-7779
The Multicom 1 RU Patch & Splice Enclosure is designed to accept up to 3 LGX Adapter Panels with the ability to use a full array of connector types. This enclosure offers a flexible solution, enabling the incorporation of a multi-functional chassis that allows easy access during installation or re-work with no disturbance of the existing fiber cable - making this one of the most flexible enclosures on the market.

This Patch & Splice Enclosure can be custom loaded with the exact Adapter Panels and Pigtails needed for your specific application, or the chassis can be purchased empty.

**Features:**
- Custom loaded to your specific configuration
- 1.5M Pigtails included in loaded enclosures
- Splice tray and cable management spools included
- Hinged front and rear Plexiglass doors
- Side patch and exit ports
- Fully removable sliding-out tray for easy access
- Assorted strain relief and fiber accessories included
- Provides higher patch field density in fewer rack units saving valuable rack space

### PATCH & SPLICE ENCLOSURE

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suitable for module type</td>
<td>LGX Adapter Panels</td>
</tr>
<tr>
<td>Number of Adapter Panel positions</td>
<td>3 - can be simplex or duplex</td>
</tr>
<tr>
<td>Material</td>
<td>16 gauge, cold-rolled steel</td>
</tr>
<tr>
<td>Material finish</td>
<td>Black, powder coated</td>
</tr>
</tbody>
</table>

**MUL-RM-XF-PS** Chassis only

**MUL-RM-8F-PS-SC/APC-S**

- S = Simplex, D = Duplex
- F/O Connector Type
- PS = Patch and Splice, PO = Patch Only
- xF - x = Number of Fibers
- RM = Rack Mount, WM = Wall Mount

Multicom’s Fiber Optic Adapter Panels are compatible with all LGX style rack and wall fiber distribution units. Panels are available in Simplex and Duplex adapter formats.

**Features:**
- LGX form factor compatible with Multilink, AFL, Wirewerks, FIS, and other rack and wall fiber distribution units
- RoHS Compliant
- Loaded with TIA/EIA-604 FOCIS-3/10 compliant adapters
- Built with ceramic split sleeves to fit specific network requirements
- 18-gauge cold rolled, electrostatic polyester powder coated steel
- All panels are pre-loaded for quick deployment

**FOAP-6-SC/APC**

- Connector Type
- SM - Singlemode, MM - Multi-mode
- Number of Adapters - 6, 8
Features:
- Quick and easy fiber termination in less than two minutes
- No epoxy, fiber polishing, special tools or fusion splicer required
- Precision mechanical alignment insures low insertion loss
- High optical performance
- Uses proven, molded v-groove technologies

Easy install in less than 2 minutes by a technician with any level of expertise!

The Multicom Field-installable Fiber Optic Connectors feature a pre-polished ferrule (UPC/APC), that couples to the fiber being terminated by precision mechanical alignment, insuring low loss with a proprietary gel.

Offering convenience and stability, the assembly of the connector requires only normal fiber preparation tools and minimal space, making them easy to prepare in the field in minutes. Just strip the buffer, cleave and clean the fiber, and then insert the fixed-length fiber through the ferrule of the connector.

Installation Example:
1. Insert the retention cap on to the end of the cable and slide yellow locking slider to the unlock (left-most) position before inserting fiber.

The yellow locking slider serves two functions. In the left-most position (towards the fiber), it allows the fiber to be put into the proper position in the connector. In the right-most position it securely locks the fiber into place.

2. Insert the fiber along the fiber guide on the connector until it stops and arches up slightly.

3. Push the yellow locking slider into the locked position to lock fiber into position, push down the jacket clamp.

4. Screw on the retention cap and add the connector housing. Clean the fiber connector end surface.

Parameter Specification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector Type</td>
<td>SC/LC/FC, Simplex</td>
</tr>
<tr>
<td>Cable Diameters (mm)</td>
<td>0.9, 2.0, 3.0</td>
</tr>
<tr>
<td>Fiber Mode</td>
<td>Singlemode / Multi-Mode</td>
</tr>
<tr>
<td>Polish</td>
<td>UPC / APC</td>
</tr>
<tr>
<td>Insertion Loss (dB)</td>
<td>UPC: ≤0.35dB, APC: ≤0.35</td>
</tr>
<tr>
<td>Return Loss (dB)</td>
<td>UPC: ≥45dB, APC: ≥50</td>
</tr>
<tr>
<td>Tension Test (N)</td>
<td>≥50</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C ~ +75°C</td>
</tr>
<tr>
<td>Compliance</td>
<td>Designed to Telcordia GR-20-CORE, GR-326 and TIA/EIA 568C, RoHS</td>
</tr>
</tbody>
</table>

M-FOCON-FI-SM-XX/YYYY-F

Fiber Diameter (mm) - 0.9, 2.0, 3.0
Connector Type - XX=SC, FC, LC / YYYY=UPC, APC
SM=Singlemode, MM=Multi-Mode
Low loss fusion spliced connectors are easy to prepare, splice and install in the field, making them the convenient choice for network technicians.

Once the heat shrink splice sleeve is installed on the fiber optic cable and cable housing, it forms a permanent protective bond that helps to ensure excellent network performance.

The Multicom Splice-on Fiber Optic Connectors are fusion-spliced, field-installable connectors uniquely designed for ease of use and minimal loss. The factory pre-polished zirconia ferrule eliminates the need for polishing, adhesives, and crimping in the field, decreasing the potential for operator error. These connectors utilize the Multicom MUL-FSPLICE-300 Fusion Splicer and are compatible with many other fusion splicer platforms to terminate the connector in the field, addressing return loss concerns present in optical networks. This advanced process is compliant to GR-326-CORE.

Features:
- Quickest pre-cleaved, factory terminated pigtail to prepare, splice, and install
- Splice sleeve protects your splice
- Custom strain relief retention cap holds fiber firmly in proper alignment
- Precision machined connector holders
- Available in APC and UPC versions
- Meets or exceeds industry standards for return loss
- Ferrules are made of zirconia
- Heat shrink sleeve and connector housing included

Parameter Specification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector Type</td>
<td>SC</td>
</tr>
<tr>
<td>Fiber Mode</td>
<td>Singlemode</td>
</tr>
<tr>
<td>Polish</td>
<td>UPC / APC</td>
</tr>
<tr>
<td>Insertion Loss (dB)</td>
<td>≤0.1</td>
</tr>
<tr>
<td>Return Loss (dB)</td>
<td>UPC: ≥55dB, APC: ≥65dB</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C ~ +75°C</td>
</tr>
</tbody>
</table>

M-FOCON-SO-SC/XXX-EK
Connector Type - UPC, APC

I’ve been working at Multicom for nearly 20 years, and to be honest, no two days are the same. I mean, imagine the products I was marketing two decades ago! As products evolve, I evolve - sink or swim!
Dominic Ruggiero - Multicom Sales Executive and Certified Fiber to the Home Professional (CFHP)
The tough and rugged Multicom MUL-FSPLICE-300 Core-to-Core Alignment Fiber Optic Fusion Splicer is drop/impact, dirt/dust and water resistant. Multicom is proud to provide a 3 Year USA Warranty, and all USA Service and Support.

The Fusion Splicer employs high-speed image processing and special positioning technology allowing the fusion splicing to be completed in as little as a FAST 7 seconds and can heat shrink in as little as an ULTRA-FAST 9 seconds. The splicer is compact in size, lightweight, and is ideal to work just about anywhere including harsh outdoor environments, dark and remote worksites.

**Additional Features:**

- Handy, easy-to-carry, solid and durable with shock-resistant design
- Enhanced windproof fusion area cover
- Color HD 5” LCD display and graphical interface
- English, Spanish and French languages, user-selectable
- Single X or Y view, or X and Y simultaneously - up to 400x magnification
- High quality electrodes with up to 3,500+ splicing cycles
- Easy user-replaceable electrodes design (set of spares is included)
- Wide range of fusion and heating parameter defaults and options
- Built-in temperature, humidity, air pressure sensors and automatic arc correction
- Intelligent power indicator, auto power-off and quick-change battery
- Built-in heat shrink heater: Easy to use, quick, customizable parameters
- Data reports can be downloaded to PC and system upgrades can be uploaded via USB port and cable
- Built-in work lights make optical-fiber placement easier and more accurate, even at night or in dark work areas

**Features:**

- FAST 7 Second Splicing (optional)
- ULTRA-FAST 9 Second Heat Shrinking (optional)
- Drop/Impact, Dirt/Dust and Water Resistant
- 6 Motor Precision Mechanism
- 5-direction Anti-shock
- Core-to-Core, State-of-the-Art Fiber Profile Alignment System (PAS)
- 3 Year Domestic Warranty - USA Service and Support
- Quick-change Rechargeable Lithium Battery
- German Design, USA & Japanese Technology
- Titanium Alloy Body/Frame
- High Performance Processor Board

Multicom’s MUL-FSPLICE-300 uses 6 Motor Technology:

- 2 Driving Motors
- 2 Aligning Motors
- 2 Focusing Motors – These critical motors are not included in 4 Motor Fusion Splicers
# FIBER OPTICS

## FUSION SPICER KIT

**Fiber Optic Fusion Splicer Kit Includes:**

- Heavy Duty Carrying Case
- MUL-FSPLICE-300 Fiber Optic Fusion Splicer with Universal Fiber Holder
- Quick-change Rechargeable Lithium Battery
- Precision Optical Fiber Cleaver
- Splice-on Connector Adapter
- Power Cord
- Operating Manual
- Cleaning Alcohol Dispenser
- AC Adapter
- Cleaning Bulb
- Heat Shrink Cooling Tray
- Work Shelf
- Nonconductive Tweezers
- Sheathing Stripper
- Spare Electrodes
- 3-Hole Fiber Stripper
- USB with Operating Manual

## Parameter Specification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable Optical Fiber Types</td>
<td>SM (G.652/G.657), MM (G.651), DS (G.653), NZD S (G.655), EDF,BIF/UBIF</td>
</tr>
<tr>
<td>Applicable Optical Fiber Core Number</td>
<td>Single Core</td>
</tr>
<tr>
<td>Applicable Optical Fiber Diameter</td>
<td>Cladding Diameter: 80-150μm, Coating Diameter: 125-1000μm</td>
</tr>
<tr>
<td>Fusion Splice Model</td>
<td>Factory: 40 Groups, User Defined: 80 Groups</td>
</tr>
<tr>
<td>Average Fusion Splice Loss</td>
<td>0.02dB (SM), 0.01dB (MM), 0.04dB (DS), 0.04dB (NZDS)</td>
</tr>
<tr>
<td>Return Loss</td>
<td>Better than 60dB</td>
</tr>
<tr>
<td>Fusion Splice Time</td>
<td>10 Sec (Typical Mode), 7 Sec (Fast Mode)</td>
</tr>
<tr>
<td>Fusion Splice Loss Estimate</td>
<td>Displayed at completion of splice process</td>
</tr>
<tr>
<td>Heat Shrinking Time</td>
<td>2mm Heating Sleeve (9-15s Adjustable)</td>
</tr>
<tr>
<td></td>
<td>4mm Heating Sleeve (14-19s Adjustable )</td>
</tr>
<tr>
<td></td>
<td>6mm Heating Sleeve (17-23s Adjustable )</td>
</tr>
<tr>
<td>Heating Temperature</td>
<td>Below 230°C (446°F, customizable)</td>
</tr>
<tr>
<td>Automatic Heating Mode</td>
<td>Automatic fiber identification &amp; heat shrinking when cover is closed</td>
</tr>
<tr>
<td>Alignment Modes</td>
<td>Core alignment, Cladding alignment, Manual alignment</td>
</tr>
<tr>
<td>Applicable Optical Fiber Cable Diameter</td>
<td>2mm, 3mm, 4mm, 6mm</td>
</tr>
<tr>
<td>Applicable Sleeve Length</td>
<td>60mm, 45mm, 40mm (FP-03)</td>
</tr>
<tr>
<td>Tension Test</td>
<td>≥2N</td>
</tr>
<tr>
<td>General</td>
<td>5 Inch Color LCD - with English, Spanish, French (user selectale)</td>
</tr>
<tr>
<td></td>
<td>X/Y: 200 times, X or Y: 400 times</td>
</tr>
<tr>
<td>Data Storage</td>
<td>10,000 Records</td>
</tr>
<tr>
<td>Image Storage</td>
<td>10 Images</td>
</tr>
<tr>
<td>Data Interface</td>
<td>USB 2.0</td>
</tr>
<tr>
<td>Power Supply</td>
<td>11.1V Lithium Battery, 13.5V/5A AC Power Adapter</td>
</tr>
<tr>
<td>Battery</td>
<td>Typically 260+ Cycles (Splicing / Heating), Full charge: 3 Hours Recharge Cycle: 500 Times, Quick-change, Plug-in, 6800mA Li-battery</td>
</tr>
<tr>
<td>Operating Environment</td>
<td>Elevation: 0 ~ 5000m, Relative humidity: 0 ~ 95% Temperature: -20°C ~ 55°C, Maximum wind speed: 15m/s</td>
</tr>
<tr>
<td>Weight</td>
<td>1.51kg / 3.3lb (without battery), 1.81kg / 4.0lb (with battery)</td>
</tr>
<tr>
<td>Corrosion Resistance</td>
<td>Equipment components, parts and materials meet composite anti-corrosion requirements, liquid/spill resistance</td>
</tr>
<tr>
<td>Size</td>
<td>145L x 143W x 158H (mm), 5.7L x 5.6W x 6.2H (in)</td>
</tr>
<tr>
<td>Warranty</td>
<td>3 Year - Domestic, 1 Year - International</td>
</tr>
</tbody>
</table>

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OPTICAL TIME DOMAIN REFLECTOMETER WITH LIVE NETWORK TESTING

Features:
- **MUL-OTDR-2100:** Live network testing on 1625nm
- Auto/manual testing
- Integrated design with long battery life
- Outdoor enhanced, smart and rugged
- 7” anti-reflection LCD touch screen
- Support multi-language display and input
- The MUL-OTDR-1100 includes a VFL, Light Source, Power Meter & Smart Network Analysis

The **MUL-FVSCOPE-400 Kit** is a handheld video fiber inspection microscope tool that provides a 400x magnification. See details on page 41 this section.

Multicom’s 2100 Series Optical Time Domain Reflectometer (OTDR) is an enhanced model of the Multicom Series of OTDRs that includes the 1625nm wavelength that allows for live network testing. The OTDR is designed for tough outdoor jobs. Lightweight, easy operation, low-reflection TFT LCD and 12 hours of battery life make it perfect for testing fiber optic cable in the field.

**MUL-OTDR-2100**

The hand-held MUL-OTDR-1100 OTDR is a new generation of intelligent 1310/1550nm singlemode optical-fiber test equipment. OTDRs are widely used in the construction, maintenance, measurement, and emergency repair of optical-fiber communication networks as well as the development, manufacturing and measurement of optical fibers and optical cables.

Multicom’s OTDRs are specially designed for tough outdoor jobs. Lightweight, easy operation, low-reflection LCD and 12 hours of battery life make it perfect for testing fiber optic cable in the field.

**MUL-OTDR-1100**

<table>
<thead>
<tr>
<th>Specification</th>
<th>MUL-OTDR-2100</th>
<th>MUL-OTDR-1100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelengths</td>
<td>1310 / 1550 / <strong>1625nm</strong> Singlemode</td>
<td>1310 / 1550nm Singlemode</td>
</tr>
<tr>
<td>Dynamic Range</td>
<td>43 / 41 / 41dB</td>
<td>35 / 33 dB</td>
</tr>
<tr>
<td>Event Dead Zone</td>
<td>1m (Typical)</td>
<td>0.8m/1.5m (Typical)</td>
</tr>
<tr>
<td>Attenuation Dead Zone</td>
<td>4m</td>
<td>4m</td>
</tr>
<tr>
<td>Distance Resolution</td>
<td>0.01m / 0.001dB</td>
<td>0.01m</td>
</tr>
<tr>
<td>Testing Distance</td>
<td>4m, 100m, 500m, 2km, 5km, 10km, 20km, 40km, 80km, 120km, 160km, 170km</td>
<td>100m, 500m, 2km, 5km, 10km, 20km, 40km, 80km, 120km, 160km, 200km</td>
</tr>
<tr>
<td>Pulse Width</td>
<td>3, 5, 10, 20, 50, 100, 200, 500ns -59, -58, -55, -50, -40dBmV</td>
<td>3, 5, 10, 20, 50, 100, 200, 500ns -59, -58, -55, -50, -40dBmV</td>
</tr>
<tr>
<td>Sampling Points (max)</td>
<td>128,000</td>
<td>128,000</td>
</tr>
<tr>
<td>Distance Accuracy</td>
<td>± (1m + measuring distance x 3 x 10 ^ 6 + sampling resolution)M</td>
<td>± (1m + measuring distance x 3 x 10 ^ 6 + sampling resolution)M</td>
</tr>
<tr>
<td>Visual Fault Locator</td>
<td>Included, 650nm, 10mW, Class III B</td>
<td>Included, 650nm, 10mW, Class III B</td>
</tr>
<tr>
<td>Optical Light Source</td>
<td>1310nm, 1550nm, <strong>1625nm</strong></td>
<td>1310nm, 1550nm</td>
</tr>
<tr>
<td>Optical Power Meter</td>
<td>850, 1300, 1310, 1490, 1550, 1625, and 1650nm Input: -60dBm to +5dBm</td>
<td>850, 1300, 1310, 1490, 1550, 1625, and 1650nm Input: -60dBm to +5dBm</td>
</tr>
<tr>
<td>Smart Network Analysis</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>Fiber Inspection</td>
<td>Software included, probe purchase required</td>
<td>Software included, probe purchase required</td>
</tr>
<tr>
<td>Display</td>
<td>7” TFT LCD Touch Screen</td>
<td>7” TFT LCD Touch Screen</td>
</tr>
<tr>
<td>Languages</td>
<td>User-selectable English / Spanish / Portuguese / Others</td>
<td>User-selectable English / Spanish / Portuguese / Others</td>
</tr>
<tr>
<td>Bellcore SOR File Output</td>
<td>Yes (Issue 2, SR-4731)</td>
<td>Yes (Issue 2, SR-4731)</td>
</tr>
<tr>
<td>Data Storage</td>
<td>Internal memory: 4GB (about 40,000 test traces)</td>
<td>Internal memory: 4GB (about 40,000 test traces)</td>
</tr>
<tr>
<td>Battery Life</td>
<td>~ 12 Hours</td>
<td>~ 12 Hours</td>
</tr>
</tbody>
</table>
MINI OPTICAL TIME DOMAIN REFLECTOMETER
WITH VFL, OPM, OLS & NETWORK CABLE TESTER

The MUL-OTDR-500 is a handheld Optical Time Domain Reflectometer (OTDR) with an ergonomic design that uses the latest technology in the optic fiber field. The Multicom OTDR provides outstanding functionality and durability with high precision, high sensitivity, easy operation and very light weight.

The MUL-OTDR-500 includes multiple functions all in one instrument making it the ultimate tool for fiber network construction and maintenance. The Multicom OTDR is perfect for technicians working with FTTX testing in PON networks, CATV and access network testing, and fiber system troubleshooting. The OTDR function supports real, average, and auto mode test with 1310 & 1550nm wavelengths, while allowing the user to save the results in an SOR file format. There is also an event map function to show the length and information for each link in the system.

The MUL-OTDR-500 Comes Equipped with an Array of Additional Features:

- **Optical Power Meter (OPM):** -50dBm to +26dBm range for 850, 980, 1300, 1310, 1490, 1550 & 1625nm wavelengths
- **Visual Fault Locator (VFL):** 10mW output power to help the user visually find fiber faults like breaks & bad splices
- **Optical Light Source (OLS):** 1310 & 1550nm wavelengths with CW, 270 & 330 Hz, 1 & 2 kHz modulation frequencies
- **RJ-45 cable line sequence measurement, line length, and wire/cable tracing/tracking MUL-OTDR-500-WT Receiver**
- **LED Flashlight** to help technicians in locations with low lighting conditions

### OTDR Parameter Specification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibrated Wavelengths</td>
<td>1310nm / 1550nm ±20nm</td>
</tr>
<tr>
<td>Fiber Type</td>
<td>G.652 SM Fiber</td>
</tr>
<tr>
<td>Dynamic Range</td>
<td>26dB / 24dB</td>
</tr>
<tr>
<td>Test Range</td>
<td>500m ~ 128km (0.3 ~ 80 miles)</td>
</tr>
<tr>
<td>Event Blind Zone</td>
<td>2.5m (8ft)</td>
</tr>
<tr>
<td>Attenuation Blind Zone</td>
<td>8m (26ft)</td>
</tr>
<tr>
<td>Pulse Width</td>
<td>3ns ~ 10us</td>
</tr>
<tr>
<td>Ranging Accuracy</td>
<td>± (1m + Sampling Interval + 0.005% * Test Distance)</td>
</tr>
<tr>
<td>Loss Accuracy</td>
<td>± 0.2dB/dB</td>
</tr>
<tr>
<td>Sampling Points</td>
<td>16k ~ 128k</td>
</tr>
<tr>
<td>Sampling Resolution</td>
<td>0.05m~8m (0.16 ~ 26ft)</td>
</tr>
<tr>
<td>Reflection Accuracy</td>
<td>± 3dB</td>
</tr>
<tr>
<td>Laser Safety Level</td>
<td>Class II level</td>
</tr>
<tr>
<td>File Format</td>
<td>TELCORDIA SOR Standard File Format</td>
</tr>
<tr>
<td>Connector</td>
<td>FC/UPC/APC (Interchangeable SC, ST)</td>
</tr>
<tr>
<td>Display</td>
<td>3.5-inch Color LCD</td>
</tr>
<tr>
<td>Data Interface / Storage</td>
<td>Micro USB</td>
</tr>
<tr>
<td>External Storage</td>
<td>Internal: ≥600, External: TF Card (user supplied)</td>
</tr>
<tr>
<td>Power Supply / Adapter</td>
<td>Polymer Li-battery: 3.7V, 4000mAh / 5VDC, 2A (connect to Micro USB to recharge)</td>
</tr>
<tr>
<td>Battery Life</td>
<td>Standby &gt;20h, Measuring Time &gt;12h</td>
</tr>
<tr>
<td>Temperature</td>
<td>Operating: -10° ~ +50°C (-14° ~ +122°F), Storage: -40° ~ +70°C (-40° ~ +158°F)</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>0 ~ 95% Non-condensing</td>
</tr>
<tr>
<td>Dimensions / Weight</td>
<td>173 x 82 x 37mm (6.81” x 3.23” x 1.46”) / ≤0.78lb (≤350g)</td>
</tr>
</tbody>
</table>
3-in-1 10GHz XGPON Optical Power Meter:
• 10 GHz XGPON Power Meter - Test between OLT & ONT at up to 10GHz
• Fiber End-face Inspection Microscope with Image Capture Ready
• Optical Power Meter - Test Six Wavelengths

Features:
• 10GHz XGPON Meter: Simultaneous realtime measurements of 5 wavelengths in OLT - ONT XGPON networks at up to 10GHz: 1270, 1310, 1490, 1550, 1577nm
• Fiber End-Face inspection Microscope option with image capture for onsite documentation & certification purposes
• Power Meter is capable of testing 850, 1300, 1310, 1490, 1550, 1625nm
• 10mW Visual Fault Locator
• Tests the burst mode RFoG upstream wavelength signal of 1310nm
• Stores 10 groups of threshold values for automatic analyzing and display of pass / fail status
• Save and upload 1,000 records through USB to management software
• Set the threshold value, upload data, and calibrate wavelength through management software

The Multicom MUL-OPM-XGPON-VFL-400 10GHz XGPON Optical Power Meter is connected between the OLT and ONT, and is especially designed for XGPON network construction and maintenance. The voice, data, video signal (1270/1310/1490/1550/1577nm), can be measured synchronously and the corresponding optical power value can be displayed with this meter. The meter is also capable of measuring and storing test results for downloading to a PC. The meter will also complete an automatic pass / fail analysis using user settable thresholds for every wavelength.

<table>
<thead>
<tr>
<th>10GHz XGPON Technical Parameters</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simultaneous Measuring Wavelengths (nm)</td>
<td>1270</td>
</tr>
<tr>
<td>Measuring Range (dB)</td>
<td>-40 ~ +13</td>
</tr>
<tr>
<td>Wavelength Passband</td>
<td>±10</td>
</tr>
<tr>
<td>Insertion Loss (dB)</td>
<td>≤1.5</td>
</tr>
<tr>
<td>Uncertainty (dB)</td>
<td>≤0.5</td>
</tr>
<tr>
<td>Display Resolution (dB)</td>
<td>0.01</td>
</tr>
<tr>
<td>Fiber Connector Port</td>
<td>SC/APC</td>
</tr>
</tbody>
</table>

FIBER END-FACE INSPECTION MICROSCOPE

The Multicom 10GHz XGPON Meter includes an imbedded Fiber Inspection Module that provides a critical view of the fiber end-face, eliminating problems in network traffic. (Multicom Fiber Microscope MUL-OPM-XGPON-FVSCOPE sold separately).

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnification</td>
<td>400X</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.75µ</td>
</tr>
<tr>
<td>Light Source</td>
<td>Coaxial blue LED</td>
</tr>
<tr>
<td>Controls</td>
<td>Fine Focus Control</td>
</tr>
<tr>
<td>Size / Weight</td>
<td>4.3 x 1.6 x 1.6in (110 x 40 x 40mm) / .35 lbs (158g)</td>
</tr>
</tbody>
</table>
3-in-1 PON Optical Power Meter:
- PON Power Meter - Test between OLT and ONT
- Optical Power Meter - Test Six Wavelengths
- 10mW Visual Fault Locator

Features:
- Tests 3 PON wavelengths simultaneously: 1490nm, 1550nm & 1310nm, and stores the results for downloading
- Power Meter is capable of testing 850nm, 1300nm, 1310nm, 1490nm, 1550nm, 1625nm
- 10mW Visual Fault Locator
- Tests the burst mode RFOG upstream wavelength signal of 1310nm
- Handheld, easy to operate
- 32-bit CPU with 480 x 800 True Color screen with 65,000 colors
- Stores 10 groups of threshold values for automatic analyzing and display of pass / fail status
- Relative value choice and edit function
- USB Flashdrive with Management Software
- Save and upload 1,000 records through USB to management software
- Set the threshold value, upload data, and calibrate wavelength through management software
- Auto shut off (according to set value)
- Auto backlit off (according to set value)
- 3.7V, 6600mAh rechargeable Lithium battery
- Power saving design (low voltage self check and power off)
- Real-time clock display

The Multicom MUL-OPM-PON-VFL-300 PON Optical Power Meter is connected between the OLT and ONT, and is especially designed for PON network construction and maintenance. The voice, data, video signal (1310nm/1490nm/1550nm), can be measured synchronously and the corresponding optical power value can be displayed with this meter. The meter is also capable of measuring and storing test results for downloading to a PC.

The PON Power Meter includes a special burst mode RFOG measurement function to allow accurate burst optical power measurements to the upstream PON signal at 1310nm. The meter will also complete an automatic pass / fail analysis using user settable thresholds for every wavelength.

<table>
<thead>
<tr>
<th>PON Technical Parameters</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibration Wavelengths</td>
<td></td>
</tr>
<tr>
<td>1310nm Upstream Test</td>
<td>1260 ~ 1360</td>
</tr>
<tr>
<td>1490nm Downstream Test</td>
<td>1470 ~ 1505</td>
</tr>
<tr>
<td>1550nm Downstream Test</td>
<td>1535 ~ 1570</td>
</tr>
<tr>
<td>Pass Zone (nm)</td>
<td></td>
</tr>
<tr>
<td>Range (dBm)</td>
<td>-40 ~ +10</td>
</tr>
<tr>
<td>Isolation @ 1310nm (dB)</td>
<td>&gt;40</td>
</tr>
<tr>
<td>Isolation @ 1490nm (dB)</td>
<td>&gt;40</td>
</tr>
<tr>
<td>Isolation @ 1550nm (dB)</td>
<td>&gt;40</td>
</tr>
</tbody>
</table>

Includes:
- PON Power Meter
- USB Flash Drive with Management Software
- Carrying Case
- Battery Charger
- Packet of Cotton Swabs
- USB Cable

MUL-OPM-PON-VFL-300

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**OPTICAL POWER METER**

The MUL-OPM-100 is a handheld Optical Power Meter with an ergonomic design that uses the latest technology in the Optic Fiber field. The Multicom Optical Power Meter provides outstanding functionality and durability with a broad power measurement range, high precision, and high sensitivity.

The OPM is feature rich with a very user friendly interface. The OPM can be used to measure the absolute power of CATV, telecom single mode or a LAN multi-mode fiber system, also the Multicom Optical Power Meter has the capability to measure relative power by displaying absolute and relative power simultaneously, as well as optic fiber link loss.

**Features:**
- For use with a wide variety of wavelengths from 850 to 1550nm
- Simultaneously display of Absolute & Relative power
- SC, FC, 2.5mm Universal Connector
- 200 hours of operation (typical)
- Standard AA alkaline batteries (provided)
- Rugged and weather resistant
- Auto-shutoff
- Backlight

**Parameter** | **Specification**
--- | ---
Standard Wavelength | 850, 980, 1300, 1310, 1490, 1550nm
Measurement Range | -50dBm ~ +26dBm
Detector Type | InGaAs
Uncertainty | ±0.15dB
Linear Accuracy | 0.1%
Nonlinear Accuracy | 0.01dBm
Automatic Shutoff | 10 min (this option can be turned off)
Operating Temperature | -10°C ~ +60°C
Storage Temperature | -25°C ~ +70°C
Operating Time | ≥200h
Power Supply | 3AA 1.5V (provided with the meter)

**OPTICAL LIGHT SOURCE**

The MUL-OLS-100/200/300 is a handheld Optical Light Source with an ergonomic design that uses the latest technology in the Optic Fiber field. The Multicom Optical light source provides outstanding functionality, durability and is suitable for field use.

The OLS is feature rich with a user-friendly interface. The Multicom OLS is the perfect match for every technician in performing high precision and sensitive insertion loss measurement and link loss of installed cables. It’s continuous wave and the four different modulated modes will help in identifying loss in the system.

**Features:**
- High stability of the output power and stable output wavelength
- Support 1 to 4 output wavelengths to meet specific requirement
- CW, 270Hz, 1KHz, 2KHz modulation output at 1310/1550nm wavelengths
- Dustproof Button Design
- Membrane touch buttons prevent dust from entering the device
- Durable shatter-resistant bumper sleeve protects the OLS from falls, shocks and wear

**Parameter** | **Specification**
--- | ---
Singlemode Wavelength | MUL-OLS-100: 1310/1550 nm
Multi-Mode Wavelength | MUL-OLS-200: 850/1300 nm
Single/Multi-mode Wavelength | MUL-OLS-300: 850, 1300, 1310, 1550nm
Emitter Type | Fabry-Perot Laser Diode
Typical Power Output | -7 dBm
Spectral Width | ≤10 nm
Modulation | 0 Hz (continuous wave) / 270 Hz / 1000 Hz / 2000 Hz
Output Stability | ±0.05dB / 15 mins or ±0.1dB / 8 hours
Automatic Shutoff | 10 min (this option can be turned off)
Operating Temperature | -10°C ~ +60°C
Storage Temperature | -25°C ~ +70°C
Operating Time | ≥60h
Power Supply | 3AA 1.5V (provided with the OLS)
Dimensions | 152 x 74 x 25 mm
Weight | 180g
**OPTICAL FIBER IDENTIFIER & VISUAL FAULT LOCATOR**

Ideal for online testing, the Multicom MUL-OFI-VFL-1MW Optical Fiber Identifier is used for nondestructive fiber identification. It is capable of detecting signal presence and direction in any location of both Singlemode and Multi-mode fiber. It also incorporates a Visual Fault Locator module with fault location function.

**Features:**
- Indicates the signal direction and power in optical fiber
- Indicates signal presence or absence (live or dark fiber)
- Efficiently identifies the traffic direction and frequency tone (270Hz, 1KHz, 2KHz) with audible warning
- Displays the relative core power
- Lower power indication
- Build in VFL function

**Parameter Specification**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identified Wavelength Range</td>
<td>750-1700nm</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>1.0 dB</td>
</tr>
<tr>
<td>Fiber Type</td>
<td>&lt;3mm fiber</td>
</tr>
<tr>
<td>Identified Signal Type</td>
<td>270Hz / 1KHz / 2KHz</td>
</tr>
<tr>
<td>Display Type</td>
<td>LED</td>
</tr>
<tr>
<td>Detector Type</td>
<td>1mm InGaAs</td>
</tr>
<tr>
<td>Minimum detection power</td>
<td>-35dBm (1550nm)</td>
</tr>
<tr>
<td></td>
<td>-30dBm (1310nm)</td>
</tr>
<tr>
<td>Center Wavelength</td>
<td>650nm</td>
</tr>
<tr>
<td>Output Power</td>
<td>10 mW</td>
</tr>
<tr>
<td>Alkaline Battery</td>
<td>2 x AA</td>
</tr>
<tr>
<td>Battery Life</td>
<td>&gt; 60H</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0 ~ +50°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-20 ~ +60°C</td>
</tr>
<tr>
<td>Weight</td>
<td>200g</td>
</tr>
<tr>
<td>Dimension (mm)</td>
<td>230 x 43 x 36</td>
</tr>
</tbody>
</table>

**VFL Specifications**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength</td>
<td>650±10nm</td>
</tr>
<tr>
<td>Output Power</td>
<td>10mW</td>
</tr>
<tr>
<td>Fiber Port</td>
<td>FC/PC</td>
</tr>
</tbody>
</table>

**NEW!**

**HANDHELD FIBER INSPECTION MICROSCOPE**

The Multicom MUL-FSCOPE-400 Handheld Fiber Microscope is a low cost and high quality fiber inspection tool for inspecting fiber terminations in the field.

With 400X magnification, excellent optical performance and integrated laser safety filters, it provides the most critical view of fiber end faces. The white LED light provides coaxial illumination to connector end-faces. This illumination method produces high-resolution detail of end-face scratches, defects and contamination.

**Features:**
- Portable and easy to use, ideal for field use
- 400X magnification
- For inspection of singlemode and multi-mode fibers
- Optical Connector: 1.25 & 2.5mm universal adapter
- Color: Black
- Power Supply: 3 x AAA batteries
- Battery Life: 40 hours
- Specialized eyepiece design
HANDHELD VIDEO FIBER INSPECTION MICROSCOPE

The MUL-FVSCOPE-400 Kit is a handheld video fiber inspection microscope that provides a critical and detailed view up to 400x magnification detecting any trace of contamination. It offers a live clear digital image of the fiber end-faces that are viewable, and can be captured and recorded on an OTDR or PC/laptop. This handheld video fiber inspection microscope also works with the Multicom MUL-OTDR-1000/1100/2100, as well as a selection of compatible OTDRs.

Included in Kit:
- MUL-FVSCOPE-400
- 5 adapter tips
- USB cable
- User Manual
- USB Drive with Fiber End-Face Viewer App
- Carrying bag

Features:
- Fine focus control for easy inspection of any fiber connector
- 5 interchangeable precision stainless-steel adapters
- USB connection to an OTDR or PC/laptop to display, capture and record the fiber end faces
- Image capture for recording, reports, and quality assurance

VISUAL FAULT LOCATOR

The Multicom MUL-VFL is the easiest way to identify fibers from end to end and locate polished connector endfaces. The red laser shines through most yellow-jacketed fibers to help you precisely identify breaks, bends, faulty connectors, splices and other causes of signal loss. The MUL-VFL locates faults visually by creating a bright red glow at the exact location of the fault on both singlemode or multi-mode fibers.

Robust design: Due to its small size and durable yet lightweight design, this handy tool can accompany you to the most demanding environments. To ensure ruggedness, it features rubber seals, a fully enclosed laser head and a long-lasting operations switch. It has been tested to provide reliable operation under intensive use and harsh conditions.

Features:
- Bright red laser at 650 ±10nm
- Continuous Wave (CW)/Pulse operation
- Batteries last 50 hours (typical)
- Standard AAA alkaline batteries
- Rugged and weatherproof
- 2.5mm universal connector
- 1mW, 10mW, 30mW or 50mW

Parameter | Specification
--- | ---
Operation | Continuous Wave or 2Hz
Wavelength | 650 ±10nm
Power output | 0.6mW typical
Distance range | 5Km
Operation modes | Continuous Wave (CW)/Off/Pulse
Laser class | 1

MUL-VFL-10MW
LMW: 1, 10, 30, 50
HIGH PRECISION FIBER OPTIC CLEAVERS

The High Precision MUL-FO-CLEAV-200 is ideal for single fiber and ribbon fiber FTTx applications. The 16-position blade yields 48,000 single-fiber cleaves, or 4,000 12-fiber ribbon cleaves before requiring replacement. The easy-to-use precision cleaver provides reliable, repeatable results and includes safety features to protect the operator and extend the life of the tool.

Features:
- Compact body and high precision design
- Applicable for single fiber and up to 12-count fiber ribbon
- For use on Singlemode and Multi-mode fiber
- 48,000 fiber cleaves life (1,000 cleaves x 3 heights x 16 positions)
- Includes carrying case, fiber guide, hex tool, and fiber refuse collection bin

The MUL-FO-CLEAV-150 is ideal for single fiber FTTx applications. The 16-position blade yields 48,000 single-fiber cleaves before requiring replacement. The easy-to-use precision cleaver provides reliable, repeatable results and includes safety features to protect the operator and extend the life of the tool.

Features:
- Compact body and high precision design
- Applicable for single fiber
- For use on Singlemode and Multi-mode fiber
- 48,000 fiber cleaves life (1,000 cleaves x 3 heights x 16 positions)
- Includes carrying case, fiber guide, hex tool, and fiber refuse collection bin

The economical MUL-FO-CLEAV-100 is ideal for single fiber FTTx applications. The 12-position blade yields 36,000 single-fiber cleaves before requiring replacement. This easy-to-use precision cleaver provides reliable, repeatable results.

Features:
- Compact body and high precision design
- Applicable for single fiber
- For use on Singlemode and Multi-mode fiber
- 36,000 fiber cleaves life (1,000 cleaves x 3 heights x 12 positions)
- Includes soft carrying case and fiber guide tool

<table>
<thead>
<tr>
<th>Parameter</th>
<th>MUL-FO-CLEAV-200 Specifications</th>
<th>MUL-FO-CLEAV-150 Specifications</th>
<th>MUL-FO-CLEAV-100 Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber count</td>
<td>Single fiber, up to 12 ribbon fiber</td>
<td>Single fiber</td>
<td>Single fiber</td>
</tr>
<tr>
<td>Cleaving length</td>
<td>10-16mm</td>
<td>10-16mm</td>
<td>10-16mm</td>
</tr>
<tr>
<td>Fiber holder</td>
<td>Universal, interchangeable</td>
<td>Universal, interchangeable</td>
<td>Universal, interchangeable</td>
</tr>
<tr>
<td>Application fibers</td>
<td>Singlemode, Multi-mode</td>
<td>Singlemode, Multi-mode</td>
<td>Singlemode, Multi-mode</td>
</tr>
<tr>
<td>Bare fiber diameter</td>
<td>125μ (250-900mm coating)</td>
<td>125μ (250-900mm coating)</td>
<td>125μ (250-900mm coating)</td>
</tr>
<tr>
<td>Cleaving angle</td>
<td>0.5° with single fiber</td>
<td>0.5° with single fiber</td>
<td>0.5° with single fiber</td>
</tr>
<tr>
<td>Blade life</td>
<td>48,000 fiber cleaves</td>
<td>48,000 fiber cleaves</td>
<td>36,000 fiber cleaves</td>
</tr>
<tr>
<td>Blade positions</td>
<td>3 heights, 16 rotating positions</td>
<td>3 heights, 16 rotating positions</td>
<td>3 heights, 16 rotating positions</td>
</tr>
</tbody>
</table>
FIBER OPTIC CLEANER - CASSETTE

The MUL-FO-CLEAN-CASS Fiber Optic Cleaner Cassette is the most effective high-end cleaning solution available. This cassette cleaner features a 25 foot densely-woven dry cloth reel which provides superior cleaning performance while minimizing static charge. This long-life fiber optic cleaner cassette can be used for over 500 cleaning cycles.

Features:
- Minimizes static attraction
- Ultra clean micro-fiber cloth captures debris and other contamination
- The cloth is robust, it does not fray or leave any fibrous materials behind

FIBER SHEARS

The MUL-FO-SHEAR-K Fiber Optic Kevlar Cutters, or Shears, are specifically designed for cutting fiber optic kevlar. The cutting blades are micro-serrated, especially designed to avoid sliding or slipping when cutting kevlar. The handle is made from molded and durable plastic making these shears easy to grip and operate.

Features:
- Made of carbon steel
- Ergonomic handle

SPLICE SLEEVES

The 60mm translucent plastic tube and stainless steel rod Fiber Optic Splice Sleeves are designed to prevent stress and protect fusion fiber optic splices in both field and factory operations.

Features:
- Provide protection and increased stability to splices
- 60mm, heat activated, translucent
Because Multicom has been acquired by USTC Corp. (see page 2), our Line Card has increased dramatically. We are proud to represent Multicom Products, and the following manufacturers:

**FEATURED MANUFACTURERS:**

- Prysmian Group
- CORNING
- Hubbell
- Quazite
- CONDUX
- General Cable
- COMMSCOPE
- ADC
- AFL
- BEKAERT
- DIAMOND PRODUCTS
- DRAKA
- DURALIGHT
- ENGINEERED CASTINGS
- ECONOLITE
- DURANT
- ETCO Specialty Products, Inc.
- FALCON FINE WIRE
- COMPONENT PRODUCTS, INC.
- GE
- LAKE CABLE
- Lewis Wire & Cable Manufacturing Co.
- Ken Forging
- NATIONAL STRAND
- MacLean™
- McCain
- Multilink™
- Pelco Products, Inc.
- OFS
- Nexans
- PRO-MARK
- PLP
- Plencell
- Southwire®
- ServiceWireCo.
- SCHONSTEDT Instrument Company
- Superior Essex®
- TFC Amphenol
- UBIQUITY
- WL Plastics
- And many more!

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