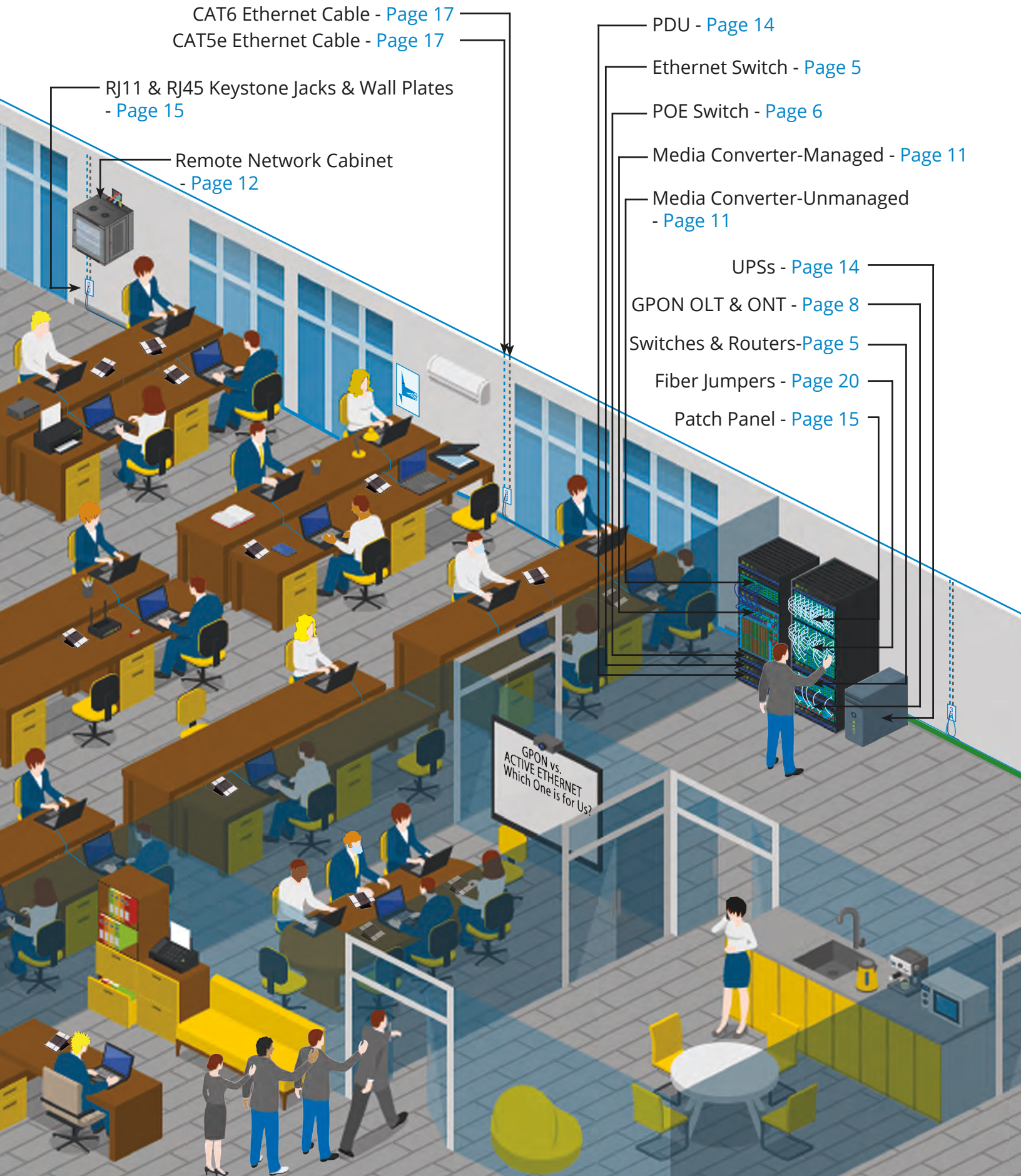


# MULTICOM IT / DATA SOLUTIONS







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Remote Network Cabinet  
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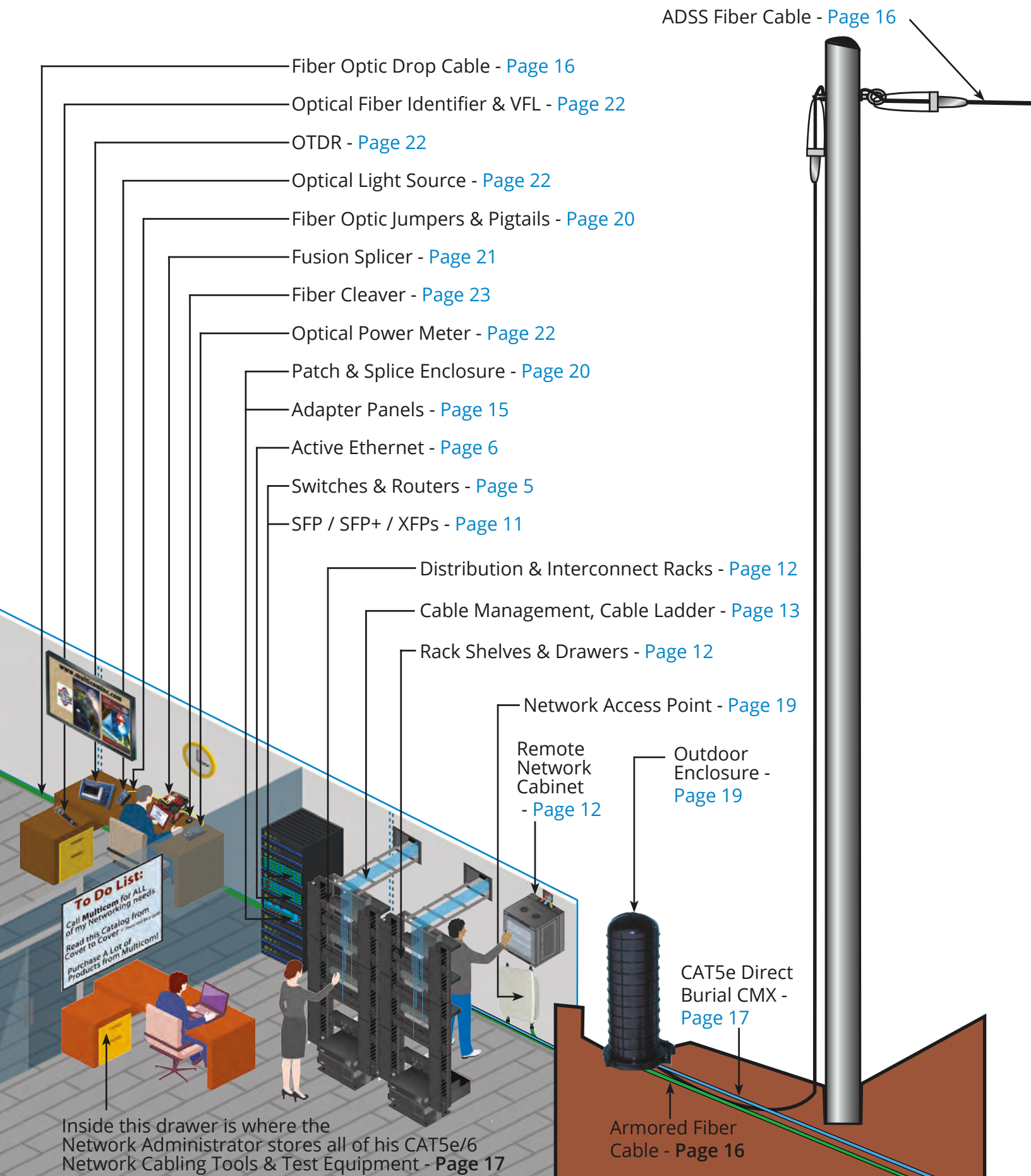
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Inside this drawer is where the Network Administrator stores all of his CAT5e/6 Network Cabling Tools & Test Equipment - Page 17



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Multicom is a sustaining member and/or affiliated with multiple associations and communities in the industry including these, and more:



Society of Cable  
Telecommunication  
Engineers



National Cable  
Television Cooperative





## SWITCHES & ROUTERS

**Solutions and Services Focused on Your Needs - Industry-leading expertise and our customer-centric approach help you design and deploy IT and Data Solutions and services for your unique network and environment.**

**Information Technology and Data Solutions matter.** But what you do with the products involved in each matters the most. The right products - built for your unique applications, environment, and mission - can help you focus on doing what you do best. Let the experts at Multicom listen to your needs, understand your goals, and deliver IT and Data Solutions and services designed around you. Because what you do and how we can help matters to us.



Multicom, a Service-Disabled, Veteran-owned, Small Business (SDVOSB), now reaches around the world providing innovative solutions since 1982. Since that time, Multicom has grown to be a cohesive team of experienced technicians, engineers, administrators, and sales people with decades of experience under their belt – many of our staff today are original hires and have worked at Multicom for more than a two decades.

Multicom strives not only to develop and deliver the latest technology, but our products are designed to accommodate the constant evolution of new technology. Multicom offers from one source, multiple lines of products to completely build and maintain communication systems at cost effective prices. Look to Multicom for your IT and Data Solutions. If you can't find what you're looking for - call us, a real person will answer the phone!

# DZS™

**DZS - V2224G -  
Ethernet Switch/L2 Switch**



DZS's Ethernet switch solutions provide a network environment optimized for data, video and voice services through a variety of interfaces and high performance networking capabilities. Depending on the function and role of each product, it is classified as L2 / L3 carrier product. It is classified into Aggregation switch and Access switch depending on network configuration.

DZS MODEL	V2224-CU	V2224-OP	V5624G	V5648G	V6824XG	V6848XG	M2400
Product Picture							
Product Description	24 RJ45 GIG PORTS	24 SFP GIG PORTS	COMBO RJ45 & SFP	48 RJ45 GIG PORTS	24 SFP+ 1G/10 PORT	48 SFP+ 1G/10 PORT	IP/MPLS MOBILE BACKHAUL ROUTER
WEB SMART							
L2	X	X		X	X	X	X
L3			X	X	X	X	X
L3 FEATURES							
IP-MPLS							X
G.8032							X
VPLS							X
Port Configuration							
10/100/1000Base-T ports (RJ45)	24		24	48			
10/100/1000Base-SFP PORTS		24	24			48	
100M/1G/10G SFP+ Ports					24		4
4-port 40GE (QSFP+) / 100GE (QSFP28)							
24-port 10GE (SFP+) / 25GE (SFP28)							
Uplink Ports Fixed							
RJ45							
SFP							
SFP+			4	4	4		
Uplink modules							
FE/GE	X	X					
RJ45							X
SFP GIG							X
10G SFP+	X	X	X	X	X		X
CWDM: 2 x 8 channel CWDM							X
XG-PON1							
Gbps Switching Capacity	88	88	168	216	480	960	200
IEEE 1588v2 TC							X
POWER							
AC	X	X	X	X	X	X	X
DC	X	X	X	X	X	X	X
TEMPERATURES							
Operating Temperature	-4~148°F (-20~65°C)	-4~148°F (-20~65°C)	-4~140°F (-20~60°C)	-4~140°F (-20~60°C)	0°C ~ 50°C	32~122°F (0~50°C)	-40~65°C
Storage Temperature	-40~158°F (-40~70°C)	-40~158°F (-40~70°C)	-40~176°F (-40~80°C)	-40~176°F (-40~80°C)	-40°C ~ 70°C	-40~158°F (-40~70°C)	

## SWITCHES & ROUTERS

Multicom provides Gigabit Ethernet Switches to support installations from enterprise businesses to small offices.

- Managed
- Unmanaged
- PoE-Capable
- Integrated



**MikroTik – CRS109-8G-1S-2HnD-IN**  
8x Gigabit Smart Switch



**Adtran – 1700570F1 – NetVanta**  
1531 Gigabit Ethernet Switch

**SIGNAMAX®**



**Signamax -C-600 24 Port PoE**  
Lighting Managed Switch

### What is the difference between a Switch and a Router?

Answer: Computers can be connected to each other via a switch or a router. The most basic explanation is that a switch is designed to connect computers within a network, while a router is designed to connect multiple networks together.

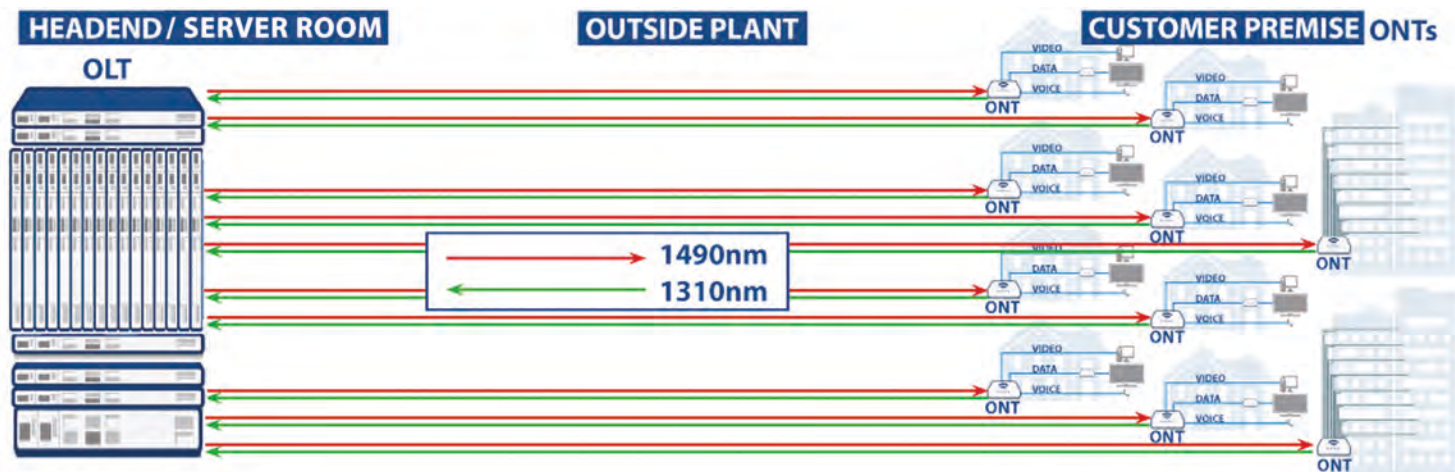
**TP-LINK®**  
The Reliable Choice



**TP-Link TL-SG105 5-Port**  
Gigabit Ethernet Switch

## ACTIVE ETHERNET - WHAT IS IT?

Active Ethernet (known as AE), is very straight-forward and an easy concept to grasp. Simply put, it is a point-to-point fiber access technology for delivering Internet services to residential and business subscribers. Point-to-point offers a dedicated fiber connection – unique to the the residential or business subscriber, with no shared bandwidth – with Fiber to the Home (FTTH) or Fiber to the Business (FTTB) services.





## SWITCHES & ROUTERS

Multicom provides Gigabit Managed Ethernet Switches and Routers from a wide range of manufacturers to support installations from enterprise businesses to small offices.

Our solutions deliver Power over Ethernet, cost-effective network speed, plug & play convenience, and network control capabilities through complete and comprehensive management options.

Solve an extensive array of applications with standard, fast, and gigabit Ethernet options while powering devices over low-voltage cable, reducing labor costs and attain a rapid ROI.



Televes - 831401 - Layer 3 Ethernet Switch  
1000TX 24P + 4 SFP



Commscope - RUCKUS ICX 7150-24  
Entry-Level 24 Ports 1G Switch



Tripplite - 24-Port Gigabit Ethernet  
Switch with 12 Outlet PDU



Mikrotik - hEX PoE lite - 5 x Ethernet  
with PoE output for four ports



Netgear - 6-Stream AX5400 WiFi 6 Router



Ubiquiti - ES-24-250W - Managed  
PoE+ Gigabit Switch with SFP

See more Ubiquiti Networks In/Outdoor  
Access Points and Router products on Page 10

## DZS MXK-F SERIES OF GPON OLTs - DELUXE SERIES


**MXK-F1419**

Serving over 32 thousand GPON subscribers, the MXK F1421 offers growth potential at 128 GPON splits per OLT port and 2 x Terabit switching fabric.

The MXK-F™ Chassis architecture is designed around a dual star design with redundant ultra high-speed links to each subscriber line card slot for future-proof support of today's and tomorrow's bandwidth-hungry fiber-based subscriber services.

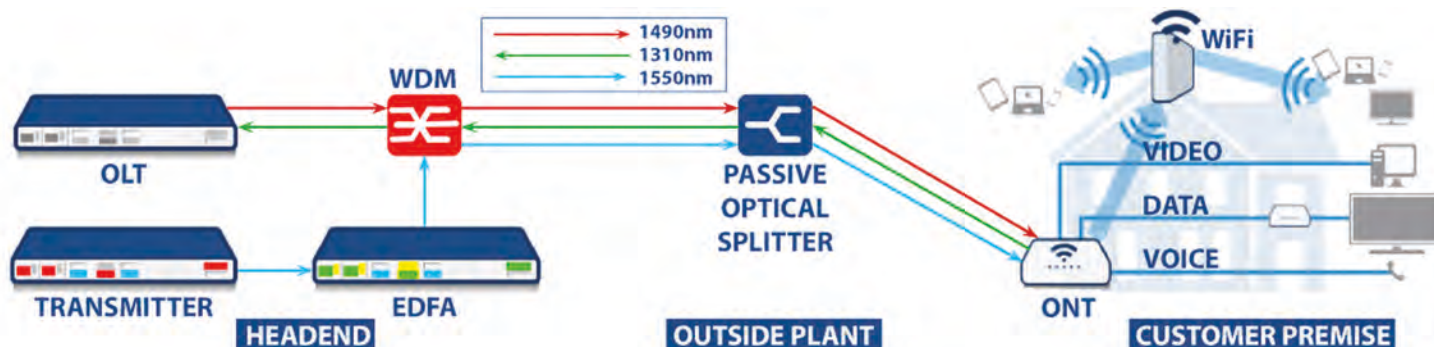

**MXK-F219**

Serving over four thousand subscribers, the MXK F219 2RU OLT offers growth potential up to 4,096 customers at 128 GPON splits per OLT port.


**MXK-F108**

The MXK-F108 high throughput, small form factor OLT serves 512 GPON Customers at 64 Optical Split Per OLT Port.

## DZS ZNID SERIES OF GPON ONTs - DELUXE SERIES


**TYPICAL GPON NETWORK WITH RF OVERLAY**

**ZNID-GPON-2301**

- Indoor Residential HSI Desktop ONT
- Built-in WAN transceiver, 1 RJ45 GE, ships with AC power supply, OMCI management
- Optional wall mount


**ZNID-GPON-2726A1**

- Indoor HSI Voice RF BGNAC WiFi RG GPON ONT
- Built-in WAN transceiver, 4 RJ45 GE, 2 RJ11 POTS, 1 BNC RF coax, 2x2 b/g/n (600mW) 3x3 a/n/ac (400mW), 1 USB, UPS, standup table top with wall mount, ships with AC power supply, ZNID RG software.


**ZNID-GPON-2424A1**

- Indoor HSI Voice RG GPON ONT
- Built-in WAN transceiver, 4 RJ45 GE, 2 RJ11 POTS, 1 USB, UPS, desktop, ships with AC power supply, ZNID RG software
- Optional wall mount, BBU wall mount cradle, desktop dock.


**ZNID-GPON-2425A1**

- Indoor HSI Voice RF RG GPON ONT
- Built-in WAN transceiver, 4 RJ45 GE, 2 RJ11 POTS, 1 BNC RF coax, 1 USB, UPS, ships with AC power supply, ZNID RG software
- Optional desktop, wall mount.



## DZS PREMIUM SERIES OF GPON OLTs

**Advantages of GPON Networks:** The most obvious advantage of PON networks is that a single shared optical fiber can support multiple users through the use of inexpensive passive optical splitters. In GPON networks, up to 64 ONTs can share one fiber connection to the OLT. This makes Gigabit Passive Optical Network an attractive option for service providers wanting to replace copper networks with fiber, particularly in high-density urban areas.

# DZS™



**V-8102**

V8102 is a mid-size OLT for small and medium sized networks. It provides connection of up to 4,096 subscribers with 32 GPON ports (split ratio 1:128) with a 2x 320 Gbps non-blocking switch fabric.



**V-5816**

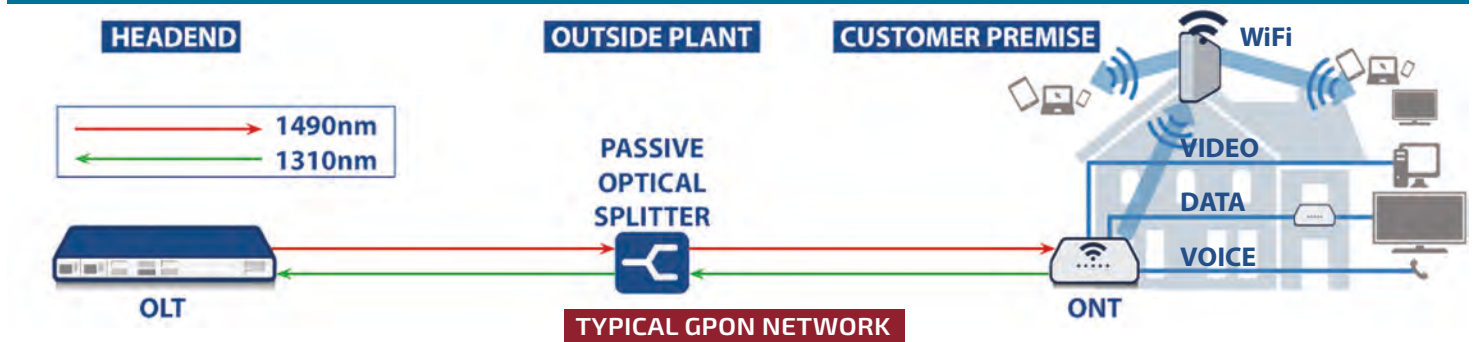
The compact mini V-5816 GPON OLT provides 16 GPON ports and enables network operators to provide optical fiber-based broadband services in low density areas with a minimum of investment.



**V5808**

The V5808 is a compact mini GPON OLT providing 8 GPON ports. It enables network operators to provide optical fiber-based broadband services in low density areas with a minimum of investment.

## DZS PREMIUM SERIES OF GPON ONTs



**H665**

- Supports the ITU-T G.984 standard
- Uplink interface with 2.5 Gbs downstream and 1.25 Gbs upstream
- GbE LAN interfaces
- Supports IGMP snooping for IPTV applications



**H662**

- Fully ITU-T G.984 compliant framing
- Support Multiple T-CONTs mode
- FEC (Forward Error Correction)
- Support for Multicast GEM Port for IPTV services
- Dying gasp



**H660GM**

- Supports the ITU-T G.984 standard
- Uplink interface with 2.5 Gbs downstream and 1.25 Gbs upstream
- 4 GbE LAN interfaces
- High-Speed WLAN according to IEEE802.11b/g/n/ac
- Supports IGMP snooping for IPTV applications

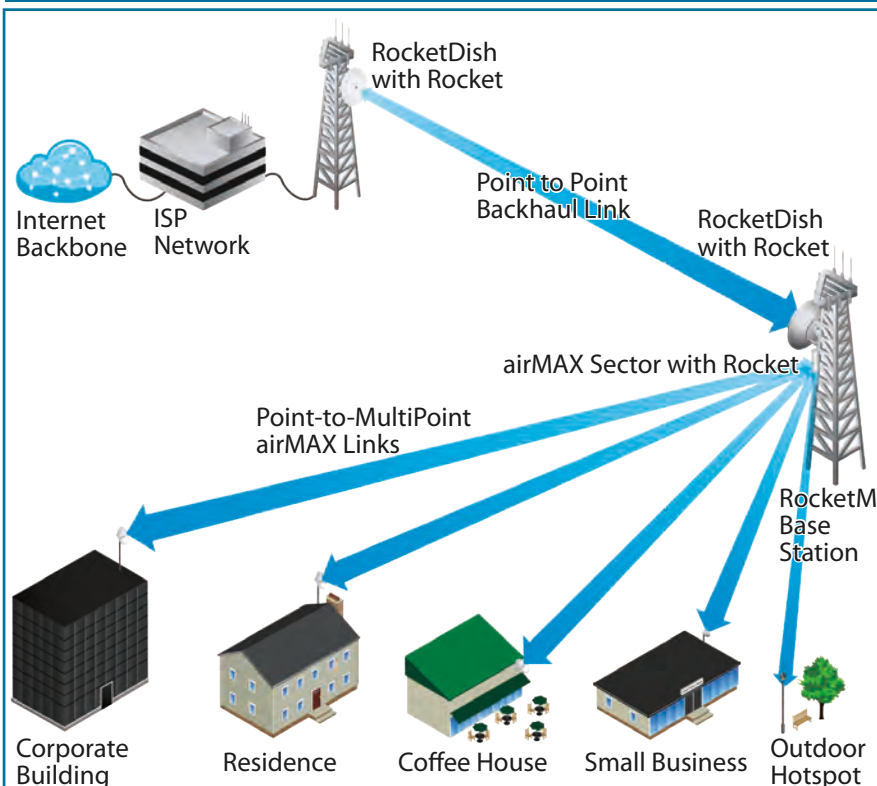


**H660GW**

- ITU-T G.984.x compliant
- 128MB Flash Memory, 128MB SDRAM, USB Interface
- GPON Interface Capacity:
  - Up 1.25Gbps / Down 2.5Gbps
- Bidirectional Optical Sub Assembly (BOSA) type module Receiving optical sensitivity:
  - Better than -28dBm



## WIFI IN/OUTDOOR NETWORKS, ACCESS POINTS & ROUTERS



Pair the RocketDish™ with a Rocket™ BaseStation for Point-to-MultiPoint bridging and network backhauls.

Optimizing wireless performance in outdoor installations, Multicom distributes Ubiquiti Networks and their airMAX® platform, which out-performs traditional WiFi based Point-to-Point and Point-to-MultiPoint, outdoor networks.

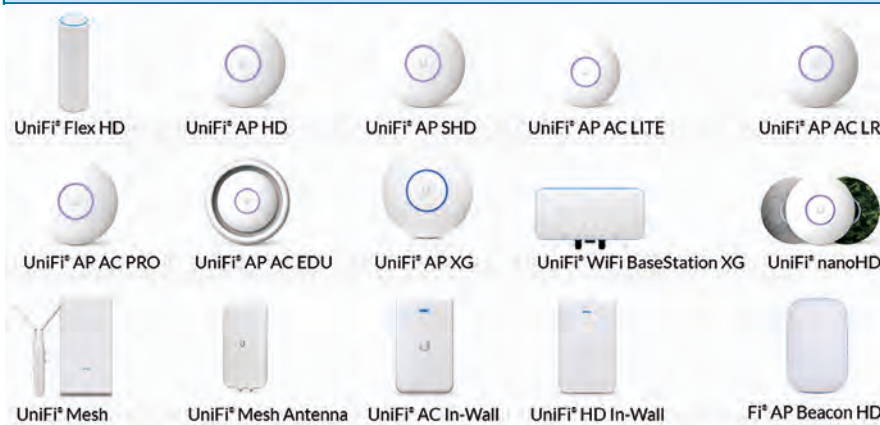


**airMAX**

airMAX® 2x2 PtP Bridge Dish Antenna

The powerful airMAX® RocketDish™ Antennas feature carrier-class construction and 2x2, dual-polarity performance.

Industrial-Strength Construction - airMAX® Antennas are designed with robust mechanical design for outdoor application use.



**UniFi®** Indoor Access Points

Available in a large selection of Wi-Fi 802.11n models, the UniFi® AP is an Access Point ideal for deployment of high-performance wireless networks.

### Features:

- Sleek Industrial Design
- Scalability for Thousands
- Rapid Deployment
- Amazing Long-Range Links
- Simultaneous Dual-Band WiFi

**Enterprise Gateway Router with Gigabit Ethernet** - The UniFi® Security Gateway Pro extends the UniFi Enterprise System to provide cost-effective, reliable routing and advanced security for your network.



**DZS™**

Multicom Stocks a Large Selection of Indoor & Outdoor Networking Products including the DZS - MESH-2100 - Dual Band WiFi Repeater

The MESH-2100 is the ideal solution for building a carrier-class WiFi Network for home users. It allows the end user or the installer to build a WiFi ecosystem at the customer house that is simple to install and maximizes the quality of WiFi experience for the network users.



**NEW!**

## GIGABIT ETHERNET MEDIA CONVERTER - MANAGED

**MMC-SFP-10/100/1000-MINI-MG**

Multicom supplies Gigabit Managed and Unmanaged Media Converters. The MMC-SFP-10/100/1000-MINI-MG is a managed media converter that can be configured using the DIP Switch settings. Multicom also offers options in 1 SFP to 1 RJ45 port and 1 SFP to 2 RJ45 ports and in different sizes, meeting the various needs of extending the life of legacy wiring plants and equipment, connecting a variety of cabling types, or lengthening the distances of the connections in your network.

- Offers a cost-effective method for integrating fiber-optic cabling into a 10/100/1000 UTP environment

## FIBER OPTIC MEDIA CONVERTER - UNMANAGED

**MMC-SFP-10/100/1000**

Multicom supplies a wide range of 10/100/1000Base Ethernet Fiber Media Converters, 1000Base Gigabit Fiber Media Converters and SFP Fiber Media Converters. Options include singlemode dual fiber, multi-mode dual fiber and singlemode single fiber. Instead of costly, across-the-board upgrades, media converters can extend the productive life of the existing cabling as well as the active equipment.

- Extends traditional Ethernet networks over long distances via fiber optics
- 10/100/1000Mb Ethernet speeds

## SFP/SFP+/XFP OPTICAL TRANSCEIVER MODULES



Multicom SFP/SFP+/XFP Optical Transceiver Modules give you a wide variety of Ethernet connectivity options for data center, enterprise wiring closet, and service provider transport applications. Multicom stocks a diverse range of industry-compliant optical transceiver modules in the configuration you need for Ethernet deployments in any networking environment.

- Industry's smallest 10G form factor for greatest density per chassis

**MMC-SFP-10/100/1000**

## MEDIA CONVERTER CHASSIS



Multicom's dual-power redundant Media Converter Chassis is capable of housing up to 12 Media Converters. Each single media converter is hot-swappable and equipped with its own housing and AC power adapter. When requirements grow in size, additional Media Converters can be added to the chassis in your equipment rack. The housing of each media converter can be easily removed, and the media converter PC board can be slid into the chassis.

**MUL-F-MC-12-CHASSIS**



## RACKS, SHELVES & DRAWERS

Multicom's premium-grade floor and wall mount server racks and cabinets organize and secure IT equipment wherever it is located, from high-density data centers to the tightest of spaces at the edge of your network.

Compatible designs, tool-less mounting and an extensive line of rack accessories mean easier planning, faster deployments and more efficient maintenance.



**42U Server Rack Enclosure Cabinet with Doors & Side Panels**

Heavy-duty, locking, 42U Premium Rack Enclosure Cabinet that accommodates all standard 19-inch rackmount equipment. Easily deployed in high-density server and IT networking environments.



**42U Standard-Depth 4-Post Premium Open Frame Rack**

42U Standard-Depth 4-Post Premium Open Frame Rack has NO doors and NO side panels. This enclosure is also compatible with hot-aisle/cold-aisle configurations.



**42U Standard-Depth Premium Distribution Rack**

The high quality 2-post open-frame rack is designed for use in communication data centers and telecommunication rooms for structuring cable.



**10U Low-Profile Wall-Mount Rack Enclosure Cabinet, Hinged Back**

Wall-Mount Rack Enclosure Cabinets protect rack equipment from theft and tampering in remote locations. Locking, ventilated steel cabinets are optimized for patch panels, network switches, UPS systems and servers.

## Shelves & Drawers

Multicom stocks Rack & Cabinet Accessories designed to allow you to customize your floor mount and wall mount racks and cabinets, as well as relay racks, to your own specific requirements.

Multicom specializes in providing quick solutions and a wide range of shelves and drawers for network racks and cabinets, including lockable drawers, adjustable shelves, keyboard shelves, cabinet shelves, cantilever shelves and much more.



**Loaded 42U Standard-Depth Premium Distribution Rack**



**Adjustable Shelf**

1U adjustable shelf for easy installation of single fixed wall and double hinged wall cabinets.



**Locking Drawer**

Add a locking component to your cabinets and racks adds only 2U/3U to your configuration.



**Cantilever Rack Shelf**

The 2U low profile design cantilever shelf offers the ability to add functionality to your racking.



**Sliding Shelf**

1U shelf conveniently slides out of the rack for easy access to non-rack mountable equipment.



**Center Mount Rack Shelf**

2U double-sided rack shelf features center mounting for optimum weight balance of heavy equipment.



**Fixed Shelf**

Designed for network and server cabinets, this fixed shelf is made of high quality steel.



# CABLE MANAGEMENT

Because IT/Data infrastructures often encompass vast networks of cables -- all of which need to be serviced, removed, added, and so on throughout an installation lifecycle -- cable planning, in some fashion, is a necessity. Multicom stocks a large array of Cable Management products from a prime selection of manufacturers, at industry best prices.



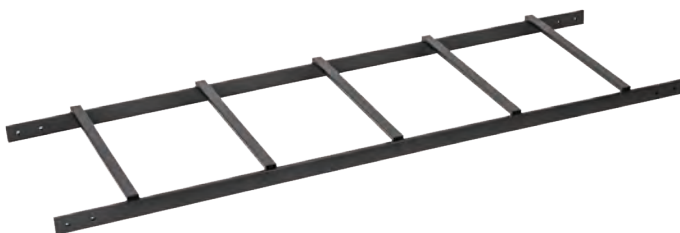
D-Ring Cable Manager

Expand your cabinets and racks with this 1U D-Ring Cable Manager which minimizes clutter and organizes your cables, based upon your individual requirements. Available in 4 & 5 D-Rings.



Plastic D-Ring Cable Manager

Expand your cabinet and racks with this Plastic D-Ring Cable Manager that helps to minimize clutter and organize your cables within your cabinet or rack.



10' x 1' Cable Ladder, 2 sections

Eliminates cable stress by organizing cables outside of the rack enclosure or open frame rack.



Plastic Slotted Finger Duct Cable Manager

The 1 & 2U slotted finger duct cable manager allows you to easily minimize clutter and help organize your cables more efficiently in your cabinet or rack.



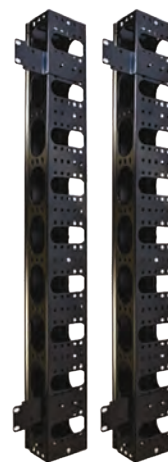
Horizontal Double Finger Duct Cable Manager

2U Horizontal Double Finger Duct Cable Manager makes minimizing clutter easy, and help organize your cables more efficiently in your cabinet or rack.



3 inch Ring Cable Manager

3" Ring Cable Manager is designed to eliminate clutter on racks. It mounts on the sides of the rack and provides high capacity, vertical cable management.



Vertical Cable Manager

Vertical Cable Managers, sold in quantities of 2, for all types of aluminum and steel racks. They are 36U, with each cable manager using 18U.



Vertical Trough Cable Manager

Vertical Trough Cable Managers that offer outstanding flexibility for all types of aluminum and steel racks. These vertical cable managers are available in 42, 45, 48 and 52U.



## PDU<sub>s</sub>

**Ensuring safe and reliable power is supplied to the valuable products on your racks is essential. Multicom stocks PDUs of every conceivable variation:**

**What is a Power Distribution Unit (PDU)?** A PDU is a device with multiple outlets designed to distribute electric power to computers or networking equipment within a rack.

**Why are PDUs necessary?** Growing demand for computing power and constraints on physical space have led to even more densely packed rack enclosures. And as the number of rack-mounted servers, network switches and routers have increased, so has the need for power in the rack. PDUs take the power supplied to the rack and distributing it via multiple outlets to the rack's servers and networking equipment. PDUs come on a variety of types:



Basic PDU

Reliable rackmount power distribution for data centers, server rooms, and network wiring closets.



Metered PDU

Locally monitor load level and avoid potential overloads with a built-in digital current meter.



Monitored PDU

Remotely monitor voltage, frequency, and load levels in real-time via a built-in network connection.

1.44kW Single-Phase 120V Basic PDU

Delivers 120V single-phase AC power to multiple loads from a utility outlet, generator or UPS system in a high-density IT environment. Recommended for data centers, server rooms and network wiring closets.



Switched PDU

Securely control individual outlets at remote locations and reboot unresponsive equipment to minimize downtime and eliminate costly service calls.



Automatic Transfer Switching PDU

Provide redundant power for single-corded network devices with PDUs with Automatic Transfer Switching (ATS).



Hot Swappable PDU

Repair or replace UPS modules without taking your network offline.

## UPS<sub>s</sub>

Uninterruptible Power Supply, also called a UPS system or UPS battery backup, protects connected equipment from power problems and provides battery backup power during outages. Some UPS systems also regulate abnormal voltages.



Standby UPS



Line-Interactive UPS



On-line Single Phase



208V 3-Phase



400V 3-Phase

### Features:

- **Battery Backup:** Emergency backup power for utility power outages
- **Surge Protection:** Protection against power surges and spikes
- **Brownout Protection:** Maintains safe voltage levels without using battery power
- **Overvoltage Protection:** Keeps overvoltages from damaging connected equipment without using battery power
- **Pure Sine Wave Output:** Perfect power for sensitive electronics
- **On-Line, Double-Conversion Operation:** Zero transfer time to battery





## PATCH PANELS & ACCESSORIES

Multicom stocks CAT5e and CAT6 Patch Panels from select manufacturers in a variety of configurations including:



24 and 48-Port 1U Rack-Mount CAT5e & CAT6 110 Patch Panel, 568B, RJ45 Ethernet

CAT5e and CAT6 Patch Panels offer functionality and compatibility. Each panel comes with 110-type termination, while meeting and exceeding EIA/TIA TSB-40 CAT6 connecting hardware specifications. Color-coded for both EIA/TIA 568A & 568B installations. Clear numbering on both the front and back of each panel allows for quick and easy identification of cable runs. The high density 19" panel design saves valuable space in on the rack.

## FIBER OPTIC ADAPTER PANELS



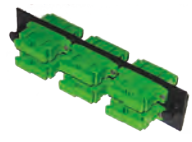
SC/APC Simplex



SC/UPC Simplex



LC/APC Duplex



SC/APC Duplex

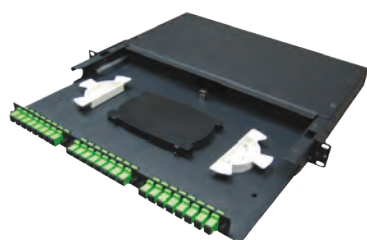


SC/UPC Duplex



LC/UPC Duplex

- 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



**See Multicom's  
Patch & Splice  
Enclosure on  
Page 18**

## KEYSTONE JACKS & PLATES



110 Style Punch Down Keystone Jacks

- Use in CAT6 or CAT5e installations
- Comes in a wide variety of colors
- Compliant with EIA/TIA CAT6 connecting hardware specifications, backward compatible
- Dual-color coded labeling made for both 568A & 568B (258A) wiring schemes
- Compact casing fits into any conventional face plate, outlet box, or panel



With a wide selection of snap-in modules, our Keystone Jacks fit into flush-mount Keystone Wall Plates to fulfill the most complicated station installation requirements. A variety of jacks and connectors will fill the wall plate openings. Write-on designation labels with holders for easy identification are included.

## FIBER OPTIC CABLE

### 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

- Tailored designs span distances
- Easy mid-entry is ideal for FTTx distribution applications



CORNING



AFL



Draka

#### Flexible Routing & Customization

- Flexible buffer tubes simplify routing, storage and prep
- Available in Singlemode & Multi-mode fiber, loose tube

#### Reliable Lifetime Performance

- Custom engineered for operation under full load
- Guaranteed standards-based performance



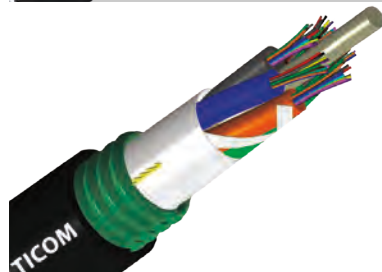
### Fiber Optic Cable - Variations to Suit Your Needs

Multicom stocks a warehouse full of Fiber Optic Cable in an endless variety of characteristics. Loose tube gel-free riser cables, indoor & outdoor cables - with UV-resistant, flame-retardant or waterblocking jackets that are rugged, durable and easy to strip. Our cables are designed for interbuilding and intrabuilding backbones in aerial, duct, riser and underground applications. Available in singlemode and multi-mode and from 2 to 144 fiber counts, Multicom has the fiber optic cable you need - in stock.



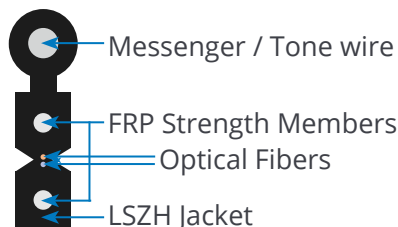
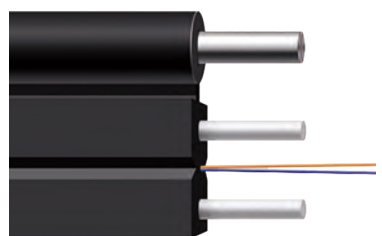
#### ADSS

Multicom's All-Dielectric Self-Supporting (ADSS) Loose Tube Fiber Optic Cable 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 Fiber-to-the-Home (FTTH) and self-supporting aerial applications.



#### Armored

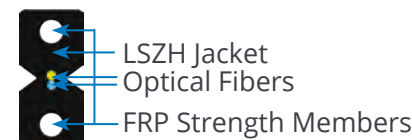
Highly durable and reliable for underground and lashed aerial installations as well as general outside plant installations, including direct buried in harsh environments.



### Fiber Optic Drop Cable - With / Without Messenger

Multicom's Fiber Optic Drop Cable uses special low-bend-sensitivity fiber B6 (G.657A1), 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 light weight with a flute design which can be easily stripped and spliced, simplifying installation and maintenance. **Multicom's Fiber Optic Drop Cable is available both with and without the Messenger**, which enhances the overall tensile strength of the cable.

Available in 1 to 6 centrally located optical fibers.



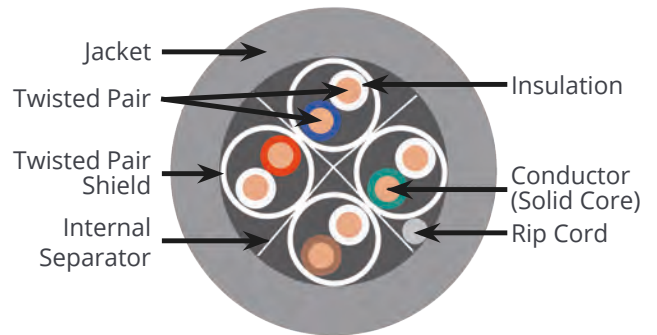




## CAT5E & CAT 6 CABLE

Multicom stocks CAT5e and CAT6 Cable from select manufacturers in a variety of configurations including:

- Indoor Riser Rated
- Indoor Shielded Riser Rated
- Plenum Rated
- Direct Burial with Gel
- Direct Burial with Water Blocking Tape
- All colors
- **Twisted Pair** - Can be Shielded (STP) and Unshielded (UTP). All modern network cable is made from eight color-coded wires that are twisted in pairs. Wires are twisted at unique RPMs to help eliminate crosstalk
- **CM** - Rated for in-wall use in multi-story residential buildings or single-story commercial buildings
- **CMR** - Refers to a "riser" rated cable; can be installed between floors of a multi-story commercial building
- **CMP** - Suitable for installation within a plenum space
- **CMX** - Waterproof, suitable for direct burial
- **Plenum** - Used for air circulation / air return from HVAC. Plenum rated to minimize toxic smoke.



CAT5e & CAT6 Bulk Cable available in reels or in 1,000' boxes



## BEST SELLER - CAT5E DIRECT BURIAL - CMX

CAT5e 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, rodents, 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
- CAT5e 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

## CAT5E & CAT 6 NETWORK CABLING TOOLS & TEST EQUIPMENT

Complimenting our full line of Fiber Optic Tools & Test Equipment (Page 22), Multicom also stocks the Tools & Test Equipment needed for copper networks - both voice and data - ensuring that the backbone of your network is working as efficiently as possible.



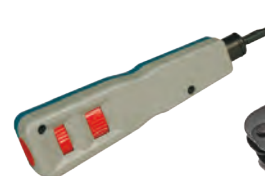
Network Cable Continuity Tester for CAT5/6, Phone & Coax Cable Assemblies



Network and Power over Ethernet (PoE) Signal Tester with Carrying Case



4-Piece Network Installer Tool Kit with Carrying Case



110 / 66 Punch Down Installation Tool



RJ11/RJ12/RJ45 Crimping Tool with Cable Stripper



## FIBER OPTIC HEADEND & TERMINATION

Multicom's USA-made, fiber optic headend products offer flexibility, scalability and manageability, making them cost-effective to adapt to an evolving market.



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-capacity networks. Multicom stocks a full line of fiber optic headend and termination products for every network - large or small.

### TRANSMITTERS



MUL-1310TX-V-1-dB



MUL-1550TX-V-1-6/10  
MUL-1550TXEM-V-2-dB

The Multicom Series of 1310nm and 1550nm Transmitters with multiple output powers, also includes the Externally Modulated Optical Transmitter. Our state-of-the-art high-performance fiber optic transmitters have been specifically developed for CATV signal distribution in HFC networks. All Multicom Transmitters are optimized for a variety of network applications, with EMCORE ORTEL DFB lasers and unsurpassed performance.

### EDFAs



MUL-EDFA-V-1-dBm(-48VDC-Optional)  
MUL-EDFA-V-Ports (1-8)-dBm

The Multicom Series 1 port, and 1 up to 8 output port EDFAs are low noise 1550nm optical amplifiers. With hot-pluggable redundant power, low noise and high linearity, these High Power EDFAs can be used in the transmission of video, voice and data signals.



MUL-EDFA-V-Ports-dBm (-CWDM Optional)

The Multicom 16/32 Port High Power 1550nm EDFAs can be used in conjunction with the Multicom 1550nm optical transmitters. Multicom complements our EDFA Series with a High Power 1550nm EDFA with built-in CWDM. Each output includes a built-in CWDM (1310/1490/1550) wavelength division multiplexer.

### NODES



MUL-MN-V-TR-HP-AC

MUL-MN-V-RFOG

MUL-MN-V-TR



The Multicom Series of optical nodes has been developed for HFC broadband networks, accommodating the FTTH network topology of high reliability network security transmission requirements of modern CATV & data networks.



MUL-MN-V-R



MUL-MN-Y-R

The Optical Micro-Node Receiver was specially developed for HFC broadband networks, accommodating FTTH network topology.

Multicom Optical Nano-Node does the optical to RF conversion using circuitry all powered simply by the incoming optical signal.

## HD ENCODERS & MODULATORS

Encoders and Modulators for Video/Audio Distribution over Coax, IP and Networking Applications



Does your installation require a video modulator or HD Encoder? It does if you need to distribute composite and component or HDMI video sources such as DVD players, Digital Signage Media Players, Security Cameras, computers, and more - live over coax or IP.



MUL-HDENC-C-100

MUL-HDENC-C-200  
Includes 19" Rack Mount Bracket  
Kit & Wall Mount Accessories

Crystal-clear digital HD video distribution over existing coax cabling from your unencrypted HDMI sources



MUL-HDENC-IP-C-8000  
HD Encoder / Modulator with IPTV Streaming

Simultaneously provides QAM, IP, and ASI output streams making it ideal for any Commercial RF or IP Network integration.



MUL-AMOD750 - Channels 2-118, Fully Agile

MUL-AMOD860-K - Channels 2-135 - Fully Agile

Commercial-grade, SAW filtered, frequency agile - with flexibility of changing the output channel

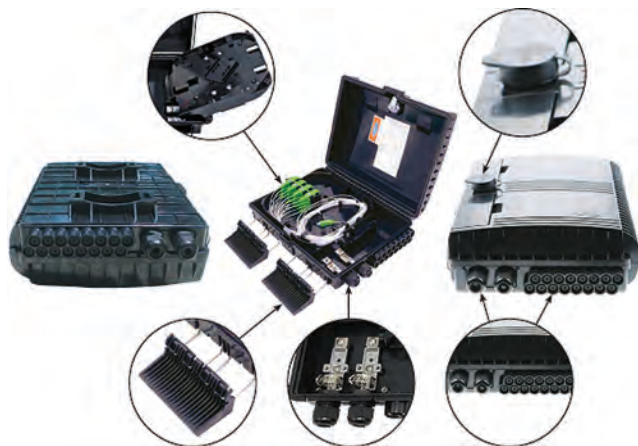




**NEW!**

## FIBER OPTIC NETWORK ENCLOSURES

The rugged Multicom Fiber Optic Network Enclosure Series is designed for flexibility and ease of use when splicing in aerial, pole, or wall mount applications. The Enclosure Product Line is constructed of durable and impact resistant materials specifically formulated for reliability and performance in outside plant environments.



### Fiber Network Access Points (FNAP)

- Back of FNAP provides for multiple mounting configurations
- Front & rear fiber or splice storage
- Environmental Seal - Heavy duty latches, hinges and gaskets
- Mid-span Access and Cable Glands included
- Sealed secure access lock
- Options: 2 In ports, 8, 12, 16 Out ports

Options:

- LGX Cassette
- Tube PLC Splitter
- Mating Sleeves
- Pigtails

Shown:

**M-FNAP-A-B/P-16T-SC/APC**



### Inline Enclosure

- Capacity: Up to 96 single core or ribbon fibers
- Splice Tray: Up to 6 trays
- Housing Material: High Grade PP/PC, with rubber gasket
- Tray Material: ABS
- Ports: 2 In, 2 Out
- Installation: Aerial, Underground, Wall Mount, Pole Mount

Example Part#:

**M-FILC-A-B/P-24-NA**



### Dome Enclosure

- Capacity: Up to 144 single core or ribbon fibers
- Splice Tray: Up to 12 trays
- Housing Material: High Grade PP/PC, with rubber gasket
- Ports: 1 In, 4 Out
- Installation: Aerial, Pole Mount

Example Part#:

**M-FDOME-A-B/P-48-B**



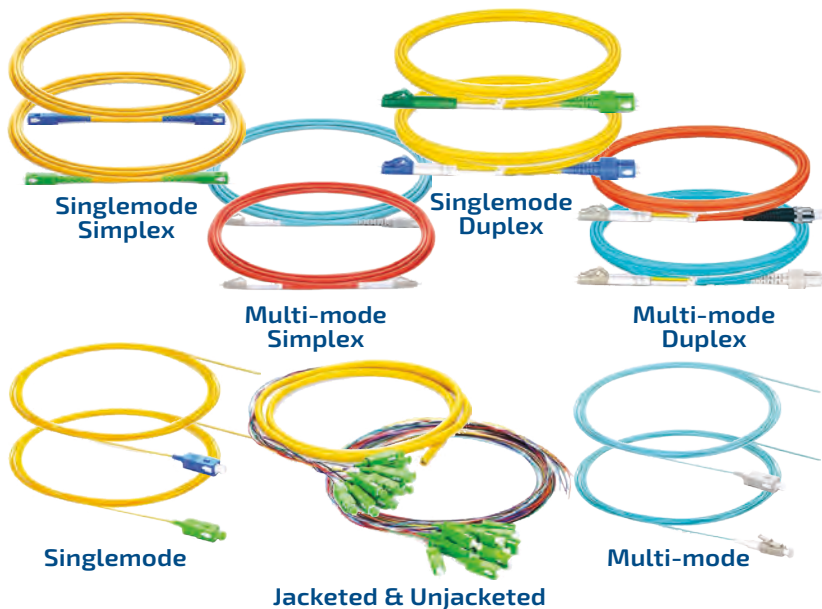
### FTTH TERMINAL BOX

- Capacity: Up to 4 single core or ribbon fibers
- Applicable: Singlemode or Multi-mode fiber
- Housing Material: ABS
- Ports: 1 In, up to 4 Out
- Installation: Wall

Example Part#:

**M-FTERM-B-W/P-1/2B-SC/APC**

## FIBER OPTIC JUMPERS & PIGTAILS



### Features:

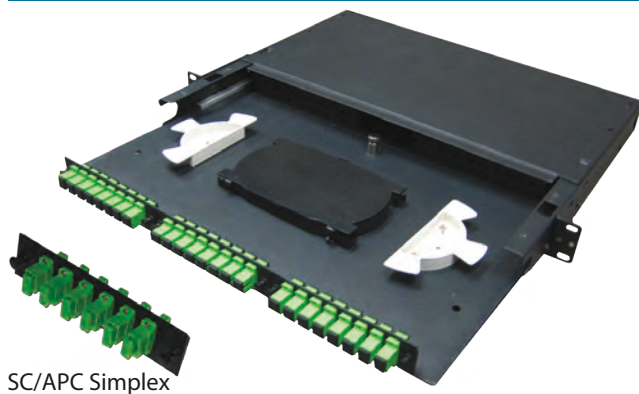
- Corning fiber used in all jumpers and pigtails
- LSZH Jacket on all fiber varieties
- G.657.A2 Certified
- 2mm jacket for more flexibility and capacity in tight spaces
- Custom lengths and colors
- Meets all standard panel interfaces
- All cables serialized and test results are recorded
- High bandwidth,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

DID  
YOU  
KNOW?

**CORNING**

Multicom uses only Corning fiber-based fiber optic passives

## FIBER OPTIC PATCH & SPLICE ENCLOSURE



SC/APC Simplex

See Multicom's Fiber Optic Adapter Panels on Page 15

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. It can be custom loaded with the exact Adapter Panels and Pigtails needed for your specific application, or the chassis can be purchased empty.

### Features:

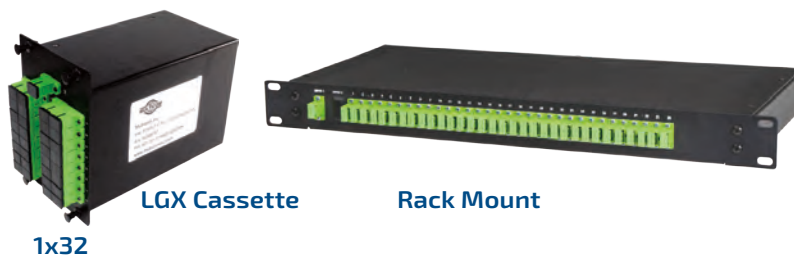
- Custom loaded to your specific configuration
- 1.5M Pigtails included in loaded enclosures
- Splice tray and cable management spools included
- Hinged front and rear Plexiglass doors
- Side patch and exit ports
- Fully removable sliding-out tray for easy access
- Assorted strain relief and fiber accessories included

## FIBER OPTIC PLC SPLITTERS



Tube

Box



LGX Cassette

Rack Mount

1x32

### Features:

- **Corning fiber**
- 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 OPTIC FUSION SPLICER KIT

**USA**  
**TECHNOLOGY**


The tough and rugged Multicom MUL-FSPLICE-200 Core-to-Core Alignment Fiber Optic Fusion Splicer is drop/impact, dirt/dust and water resistant. Multicom is proud to provide a **1 Year International Warranty, and all USA Service and Support.**

**With German design and USA / Japanese technology,** this 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.

## Features:

- **FAST 7 Second Splicing (optional)**
- **ULTRA-FAST 9 Second Heat Shrinking (optional)**
- **Drop/Impact, Dirt/Dust and Water Resistant**
- **3 Year Domestic / 1 Year International Warranty**
- **Quick-change Rechargeable Lithium Battery**
- **State-of-the-Art Core-to-Core fiber Profile Alignment System (PAS)**
- Fully-automatic, semi-automatic and manual operating modes
- Automatic detection of fiber cleaved face quality
- Automatic display of cleaved fiber and the offset angles
- Automatic analysis and estimation of splice loss
- Automatic detection of bad/faulty splice
- Automatic detailed data report record and memory storage for each splice (up to 10,000 splices)
- Automated 2N splice tension test
- Handy, easy-to-carry, solid and durable with shock-resistant design
- Enhanced windproof fusion area cover
- Color HD 5" LCD display and graphical interface

## MUL-FSPLICE-200

- English, Spanish and French languages, user-selectable
- Single X or Y view, or X and Y simultaneously
- 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
- High precision 4 motor drive design





## OPTICAL TIME DOMAIN REFLECTOMETER (OTDR)



The hand-held Optical Time Domain Reflectometer MUL-OTDR-1000 and MUL-OTDR-1100 are a new generation of intelligent optical-fiber test equipment. 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-1000 MUL-OTDR-1100

#### Features:

- 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
- Visual Fault Locator (VFL)
- The MUL-OTDR-1100 includes Light Source, Power Meter & Smart Network Analysis

**NEW!**

### OTDR FIBER OPTIC MICROSCOPE PROBE



#### Features:

- Connects to OTDR, laptop, PC
- Zoomable lens
- High alignment accuracy
- 400X magnification
- Adapters for different kinds of terminal

### MUL-OTDR-PROBE

**NEW!**

## OPTICAL POWER METER



#### 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

### MUL-OPM-100

**NEW!**

## OPTICAL LIGHT SOURCE



#### 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
- Durable shatter-resistant bumper sleeve protects the OLS from falls, shocks and wear

### MUL-OLS-100/200/300

**NEW!**

## OPTICAL FIBER IDENTIFIER



#### 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

### MUL-OFI-VFL-10MW

## VISUAL FAULT LOCATOR



#### Features:

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

### MUL-VFL-10MW

□ mW: 1, 10, 30, 50





**NEW!**

## PON OPTICAL POWER METER WITH VISUAL FAULT LOCATOR



### Features:

- Tests 3 PON wavelengths synchronously: 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

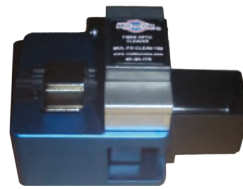
**MUL-OPM-PON-VFL-300**

**NEW!**

## HIGH PRECISION FIBER OPTIC CLEAVERS



**MUL-FO-CLEAV-200-F**



**MUL-FO-CLEAV-150**



**MUL-FO-CLEAV-100-S**

### Features:

- **NOW FEATURING FUJIKURA™ (200-F) & SUMITOMO™ (100-S) BLADES FROM JAPAN**
- Compact body and high precision design
- Applicable for single fiber and up to 12-count fiber ribbon (200-F only)
- For use on Singlemode and Multi-mode fiber
- 36-48,000 fiber cleaves life (1,000 cleaves x 3 heights x 12/16 positions)
- Includes hard carrying case and additional accessories

**NEW!**

## HANDHELD FIBER INSPECTION MICROSCOPE



**MUL-FSCOPE-400**

### 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

**NEW!**

## OTDR LAUNCH CABLE BOX



**MUL-OTDR-LCB**

### Features:

- Ruggedized Case
- Singlemode
- 150 Meters / 500 Meters / 1 KM
- SC/UPC to SC/UPC Connectors (others available on request)
- Robust carabiner clip
- Built-in cable management
- Compound latch with locking feature

**NEW!**

## EXPANDED MULTICOM PRODUCT CATALOG - ISSUE 5



The Expanded Multicom Product Catalog - Issue 5 - includes all of the Multicom Products from Headend to End User. This, and the Traffic Product Catalog, can be found at [www.multicominc.com/catalog](http://www.multicominc.com/catalog), and a hardcopy can be sent to you by filling out the online form. Product Categories include:

- Outside Plant
- Pole Line Hardware
- Fiber Distribution
- Fiber Optic Headend & Termination
- Video Encoders & Modulators
- Tools & Test Equipment
- IT / Data
- Indoor Products
- Satellite Dishes & LNBs
- Additional Resources

[www.multicominc.com/catalog](http://www.multicominc.com/catalog)

## MCONNECT VOIP SERVICES - MCONNECTINC.COM

877-744-8647 | [sales@mconnectinc.com](mailto:sales@mconnectinc.com)

[Customer Login](#)



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Multicom launched its sister company Mconnect VoIP phone service in 2008, to satisfy the needs of cable operators and providers who were looking for a way to add voice services to their growing video and data networks, as well as providing an additional revenue stream for their business. Mconnect is also offering a unique opportunity for select resellers to participate in the growing VoIP industry with flexible options that include private label branding or reselling the Mconnect service direct.

[www.mconnectinc.com](http://www.mconnectinc.com)

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