MULTICOM PRODUCT CATALOG

MULTICOM®
SINCE 1982

USA TECHNOLOGY

Multicom Manufactured Products Incorporate Leading Edge USA Technology:

- USA Lasers
- USA IC Chipsets
- USA Amplifiers
- USA Fiber Optic Technology
- USA Engineering & Designs
- USA Service & Warranty

www.multicominc.com 800-423-2594 407-331-7779 ISSUE 6

This is the Sixth Issue of the Multicom Products Catalog in five years. Why so many editions?

Simple. Multicom is a manufacturer and distributor in an extremely volatile industry where products evolve literally, 'at the speed of light'. It's not long before the 'the latest and greatest cutting-edge technology' is replaced with an even better product. To be an industry leader, we have to continuously set the pace by manufacturing the industries most trusted products - this is Multicom's goal.

From our three warehouses, Multicom also stocks and distributes 20,000 products from 300+ of the industry's leading of manufacturers. See a partial Line Card of our partners at the back of this catalog.

"After spending decades with Fortune 500 companies, I decided to become an entrepreneur. It started in my garage in the fall of 1982. Over the years Multicom has matured into a multi-faceted corporation bringing the latest technology to diversified geographic and vertical markets. Global locations and markets served include the United States, its territories and 34 foreign countries. The future is exciting. The ability to add new communication products from our multiple manufacturing facilities has received enthusiastic acceptance. Hundreds of new state-of-the-art SKUs have recently been added to our over 20,000 products in stock, and more are in process. We are proud to display our current family of products with this product catalog."

Sherman Miller, Multicom Founder, President and CEO

1982 was a significant year for Sherman Miller, Multicom's founder and president. It was that year that he started Multicom, Inc. – an event marked by the opening of the garage door of his home.

Entrepreneurs understand that unless you know your clients' problems, unless you identify their pain, you can't provide viable, desirable solutions.

Multicom now reaches around the world providing innovative solutions since 1982. In 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 decades.

This experience and industry savy enables us to facilitate data, video and voice transmission over fiber optics, coax, ethernet and WiFi - to every conceiveable mode of reception, as well as traffic control systems that enable your commute to and from work.

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.

Meet more of the Multicom Staff as you read through this catalog

At Multicom, we strive to not only provide you with the highest-quality products needed for the end-to-end integration of fiber optic, coax and Ethernet distribution systems. But most importantly, we stress 'personal service' in order to understand your goals and implement the most efficient solution.

40 YEARS ANNIVERSARY

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 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.

U.S. COMMERCIAL SERVICE
United States of America
Department of Commerce

DEC
NATIONAL ASSOCIATION OF
DISTRICT EXPORT COUNCILS
Working for America's Exporters

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.

WORLD TRADE CENTER®
ORLANDO

Sherman Miller is a board member of World Trade Center Orlando. World Trade Centers (WTCs) bring together business and government agencies involved in international trade by providing essential trade services. WTCs is a not-for-profit, private, membership organization that is affiliated worldwide with the World Trade Centers Association with offices in over 300 cities in 100 countries and having over one million member companies worldwide.

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

NCTC
National Cable Television Cooperative

SCTE Society of Cable Telecommunication Engineers

IMSA
International Municipal Signal Association

FTTH
FIBER TO THE HOME
COUNCIL

EXPO ANDINA LINK

Fiber Broadband ASSOCIATION

SBCA
Satellite Broadcasting and Communications Association

CCTA
CARIBBEAN CABLE & TELECOMMUNICATIONS ASSOCIATION

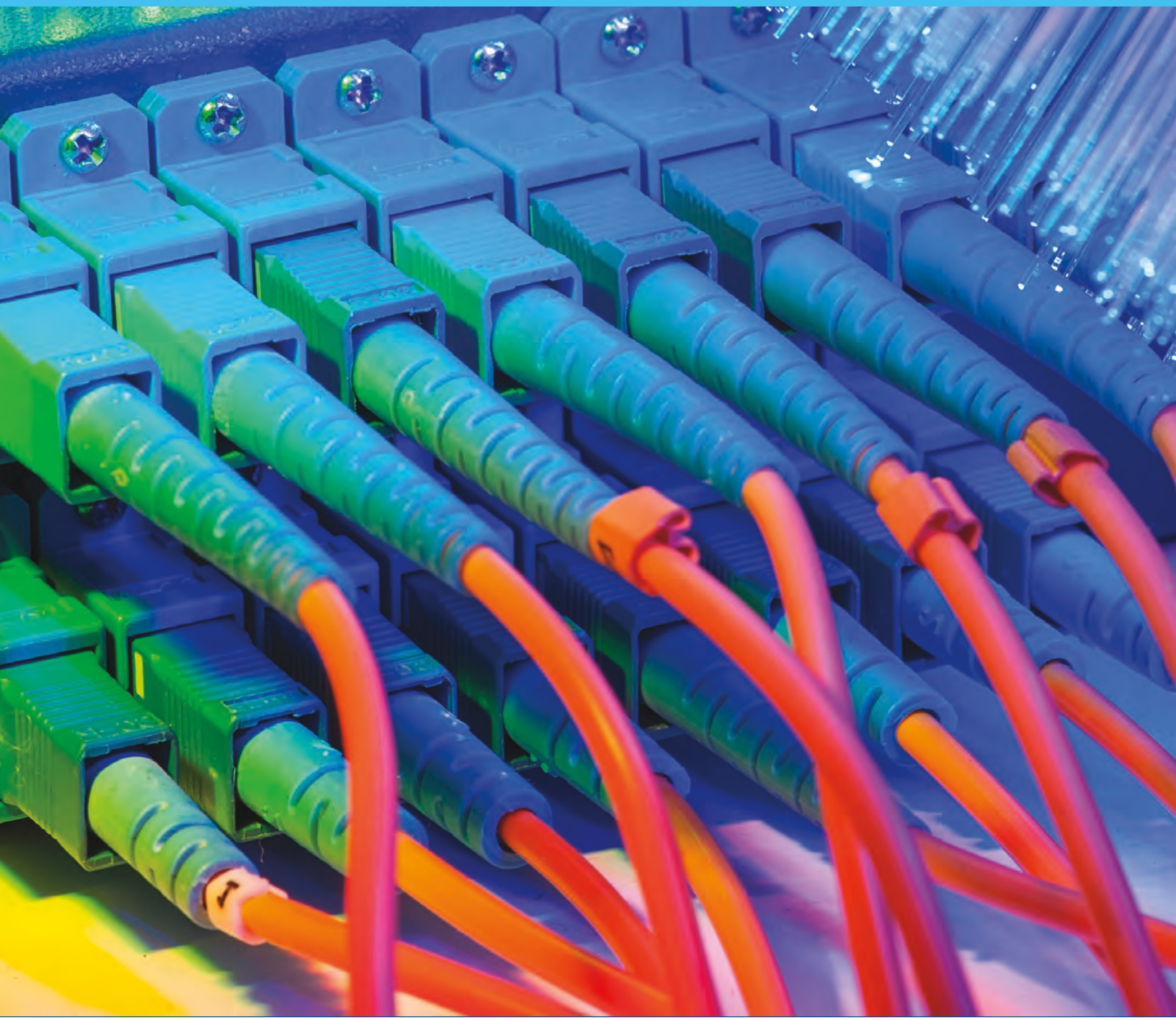
NSCA
YOUR VOICE • RESOURCE • ADVISOR
National Systems Contractors Association

TABLE OF CONTENTS

FIBER DISTRIBUTION

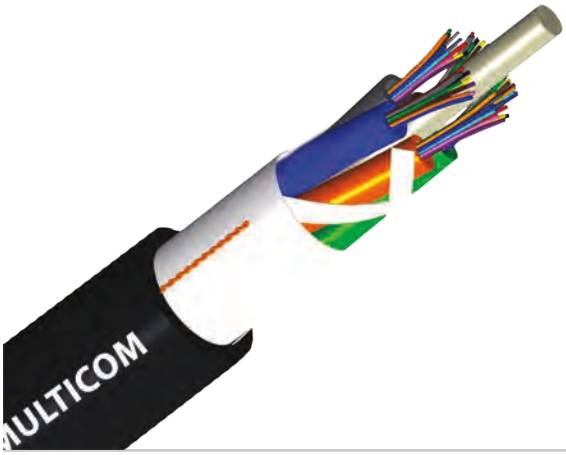
Multicom fiber optic systems meet today's requirements and provide a migration path for tomorrow's applications

Multicom provides the comprehensive high bandwidth physical infrastructure needed for fiber optic networks that deliver high performance, reliability and scalability. Our secret? We leverage our experience with innovative design and cable management expertise. These critical components provide complete solutions for today's high data rate fiber networks and Ethernet applications, and support future readiness for PON, GPON, XGPON and beyond, maximizing physical infrastructure performance, modularity, and scalability.



FIBER OPTIC CABLE - ADSS

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

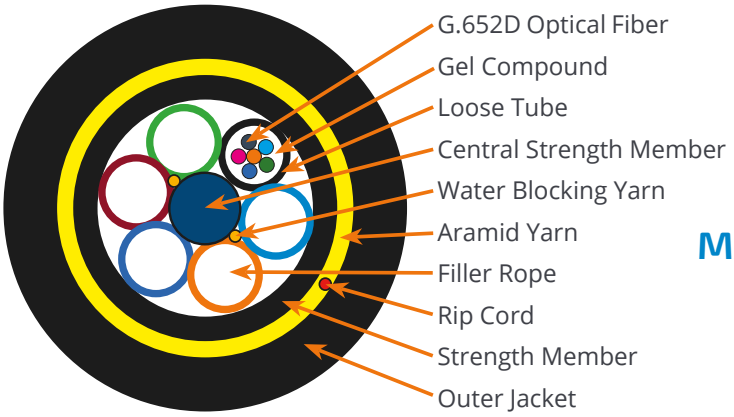


Easy Cable Entry & Preparation
- 12 fibers per tube construction up to 144 fiber designs allow easy termination and mid-span fiber access
- Flexible buffer tubes enhance mid-entry

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.

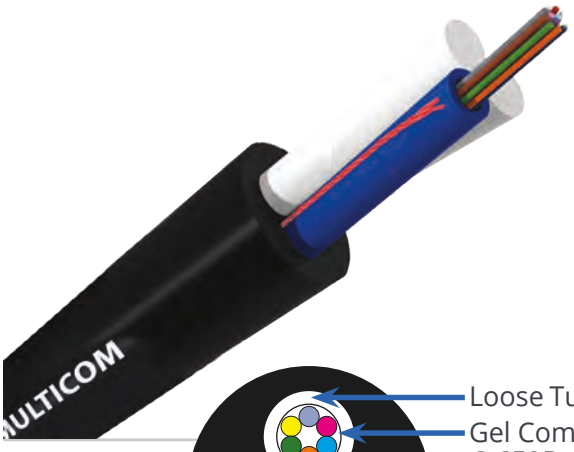
MADSS012SM-XXX

- XXX — Length: 350/600 Foot Span, 100/200 Meter Span
- SM — SM: Single Mode, MM: Multimode
- 012 — Fiber Count: 12, 24, 48, 96, 144

NEW!

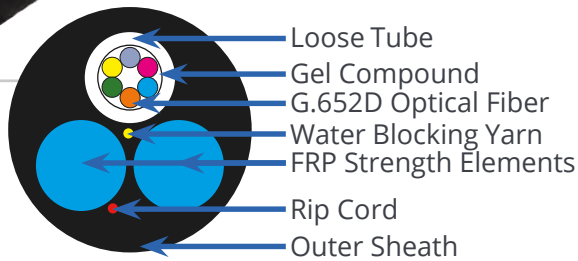
FIBER OPTIC CABLE - ADSS-ASU

Aerial Self-Supported ASU Fiber Optic Cable - Light Wind Load



Multicom's Light Wind Load Aerial Self-Supported ASU Fiber Optic Cable has a loose tube structure and water-resistant gel compound to provide crucial protection for the fiber. Over the tube, water-blocking material is applied to keep the cable watertight. Two parallel fiber reinforced plastic (FRP) elements are placed on the two sides. The cable is covered with a single PE outer sheath. It is especially suitable for installation in aerial for long-distance communication.

Features:
- Proven all-dielectric loose tube construction
- Immune to electromagnetic fields
- Fast, one-step installation
- Integrated FRP strength elements
- Round cable profiles minimize wind and ice loading



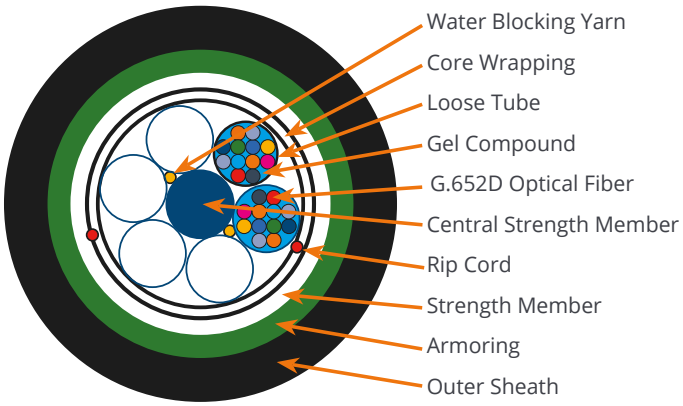
MADSS-ASU-24-80M

- 24 — Fiber Count: 1-12, 24
- 80M — Span: 80M, 120M

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.



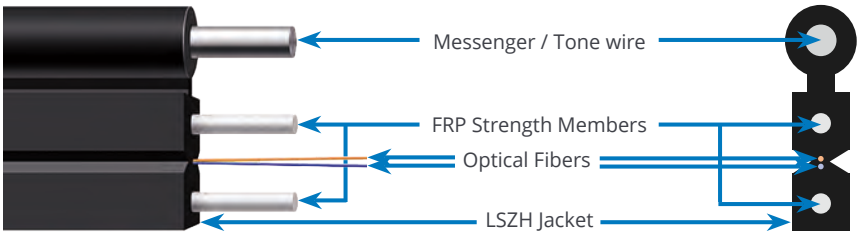
Features:

- 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 light weight 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

FIBER OPTIC NETWORK ACCESS POINT (FNAP)

The rugged Multicom Fiber Optic Network Access Point (FNAP) Series is designed for flexibility and ease of use when splicing in aerial, pole, or wall mount applications. The FNAP is constructed of a durable and impact resistant material specifically formulated for reliability and performance in outside plant environments. The FNAP can accommodate express cabling as well as the addition of branch or lateral cabling.

The FNAP supports a variety of drop designs and environmental sealing and strain relief. The enclosure is supplied with all of the hardware required to seal and secure the feeder and distribution cables, back-to-back fiber splice trays, and the desired splitter type and configuration.

Mounting flexibility is essential - The Multicom FNAP Series provides for multiple mounting configurations:

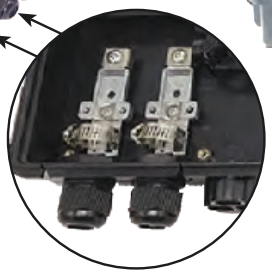
Aerial mount assembly includes all of the brackets, nuts/screws, tie-wraps, and fiber accessories needed for aerial applications

Pole Mount assembly includes everything needed to mount to a pole

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

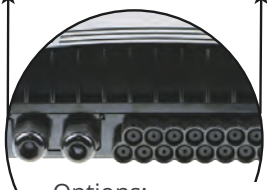
Front & rear fiber or splice storage

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

Shown above:
M-FNAP-A-B/P-16T-SC/APC
(See Part# configurator, next page)

NEW!

Shown above:
M-FNAP-C-B/P-16T-SC/APC-HC
(See Part# configurator, next page)

The FNAP is environmentally sealed, provides strain relief, and can be used as a termination point for the feeder cable to connect with drop cable in FTTx communication networks.

The enclosure supports a variety of drop designs and is supplied with all of the hardware to seal and secure the feeder and drop cables, back-to-back fiber splice trays, and the desired splitter type and configuration.

These FNAPS include pole mount, aerial mount, and wall mount options.

FIBER OPTIC NETWORK ACCESS POINT (FNAP)

Fiber Optic splice closures are used to splice the outdoor optical cables that enter and exit from the ends of the optical fiber cable enclosure. Multicom offers IP68 Closures that allows our product to withstand environmental hazards including dust, dirt, sand, rain.

Made from polycarbonate (PC), they can be used with both aerial cable and armored cable. The waterproof horizontal 2-In 2-Out ABS Fiber Optic Splice Closure has several fiber cable in-out round or oval ports for cable ingress and egress. The fastening components are made of the high-quality steel allowing for secure sealing and protecting the interior of the enclosure.

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

NEW!

FTTH TERMINAL BOX

Multicom's wall mount M-FTERM Fiber Optic FTTH Terminal Box come in a variety of port and mounting configurations. They are used for the distribution and terminal connection of various types of optical fiber systems. They are suitable for mini-network terminal distribution, in which the optical cables - patch cords or pigtails are connected.

- Custom configuration design
- Easily mounts to the wall with included mounting hardware
- Strong ABS housing protects the internal connections

Example Part#:
M-FTERM-B-W/P-1/2B-SC/APC

M-TYPE-SPCONFIG-COLORMTL-PORTS-EQUIPPED-CONN (-AM)

TYPE- FNAP=outdoor network access point, FILC=inline closure, FDOME=dome closure, FTERM="rosetta"

SPCONFIG- A to Z, specific config to each design, including: cable entrance/exit config, latching/locking, splice trays, IP65/66/68,etc.

COLORMTL- B/P=Black Plastic, G/P=Gray Plastic, W/P=White Plastic, B/M=Black Metal, G/M=Gray Metal, W/M=White Metal

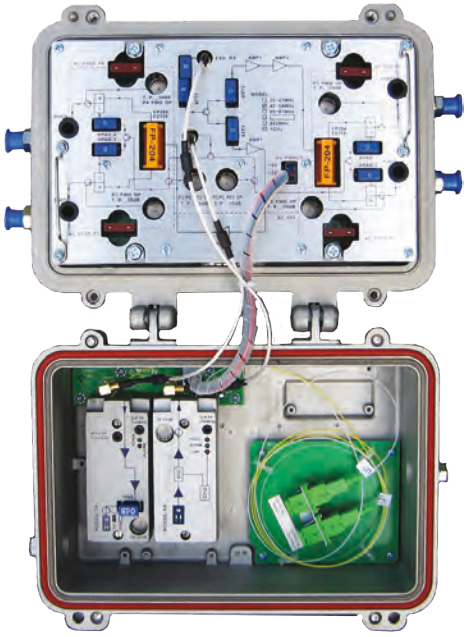
PORTS- 02/04/08/12/16/24/36/48/72/96/144/etc Ports. If subequipped then use "/" to specify equipped

EQUIPPED- B=Not loaded, C= Cassette splitter, T=Tube splitter, P=Pigtails

CONN- Connectors: SC/APC, SC/UPC, LC/APC, LC/UPC, or NA=not applicable, etc.

(-AM)- "-AM" option is used when the package kit includes aerial brackets and mounting hardware

OUTDOOR 4-PORT NODE



This Outdoor 4-Port Optical Node uses a modular architecture allowing fast, easy servicing, a variety of configurations, and easy upgrading. The RF amplifier section and the switching power supply module are in one modular unit in the bottom cover. The top cover can be populated with 1 forward optical receiver module, 1 reverse optical transmitter module and 1optional Ethernet transponder/Network Management module.

The Multicom MUL-OFN-V-M-FP-4-M 4-Port Outdoor Optical Node is a two-output bi-directional node specifically developed for HFC broadband networks. It accommodates the fiber backbone to the node, while addressing the issues of CATV bi-directional return channel noise and high reliability network security transmission requirements of modern CATV networks.

Forward Optical Receiver	Specification
Optical Receive Power (dBm)	-6 ~ +2
Optical Return Loss (dB)	> 45
Optical RX Wavelength (nm)	1100 ~ 1600
Forward RF Parameters	**Specification**
Frequency Range (MHz)	54 ~ 1003
Rated Output Level (dBmV)	≥ +46 (≥ 106 dBµV)
Output Return Loss (dB)	≥ 16
Return Optical Transmitter	**Specification**
Optical TX Wavelength (nm)	1310 ±10
Laser Type	FP (DFB optional)
Optical Output Power (mW)	1
Return RF Parameters	**Specification**
Frequency Range (MHz)	5 ~ 42
Rated Input Level (dBmV)	+15 ~ +25 (75 ~ 85 dBµV)
Input Return Loss (dB)	≥ 16

MUL-OFN-V-M-FP-4-M

NODE SERVICE CABLE

Multicom Node Service Cable utilizes a specialized 5/8"-24 feed-through adapter, featuring an anti-twist coupling. The anti-twist feature allows the coupling body of the service cable to be secured to the housing of the outdoor fiber node, without twisting the cable.

Assemblies come standard in 16.5' (5m) lengths with six fibers and six SC/APC connectors, but can be custom built to specifications with all variation of lengths and connector options available.

Parameter	Specification
Insertion Loss	<= 0.30dB
Return Loss	>= 60dB
Max Attenuation	1310nm <= 0.4dB/km
	1550nm <=0.3dB/km

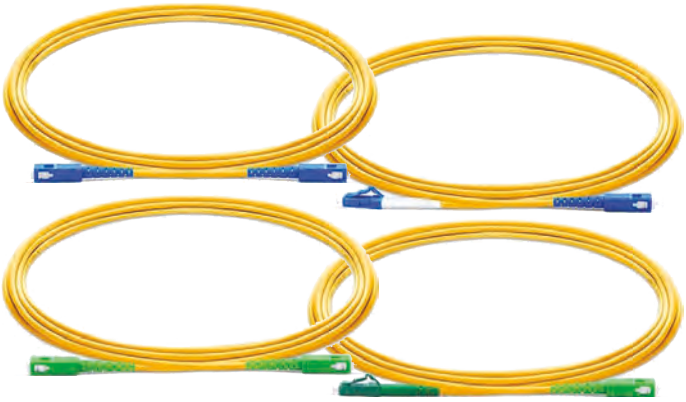
Features:

- Customizable
- Loose tube
- Armored
- Fully water blocked

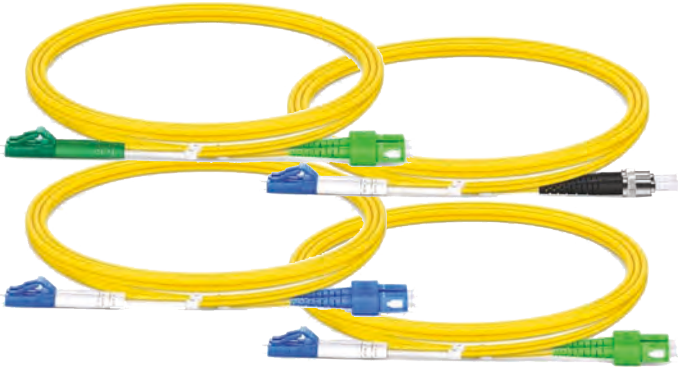
MNSC-xM-xF-xC-xx/xxx

- xC – Connector Type
- xF – # of Connectors
- xM – # of Fibers
- xx/xxx – Length in Meters

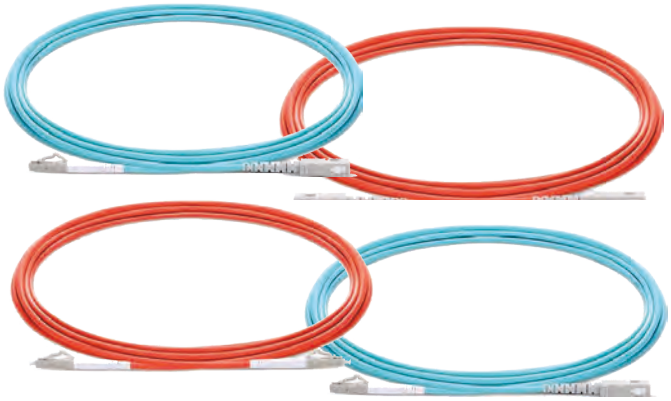
JUMPER CABLES



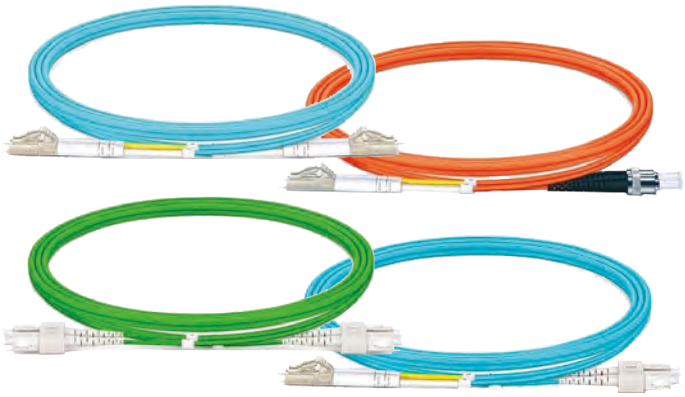
Singlemode Simplex



Singlemode Duplex



Multi-mode Simplex



Multi-mode Duplex

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.

DID YOU KNOW?

CORNING

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 2 3 4 5 6 7 8

1- FOJ3 = 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

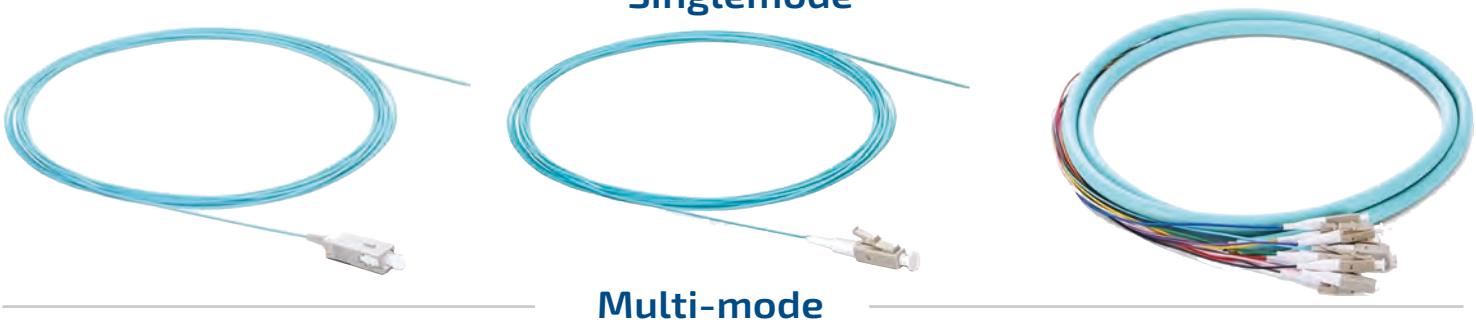
6 - Second Connector Type - xx=SC, FC, LC / yyy=UPC, APC

7 - Fiber Grade - A=G.652D, B=G.657A2

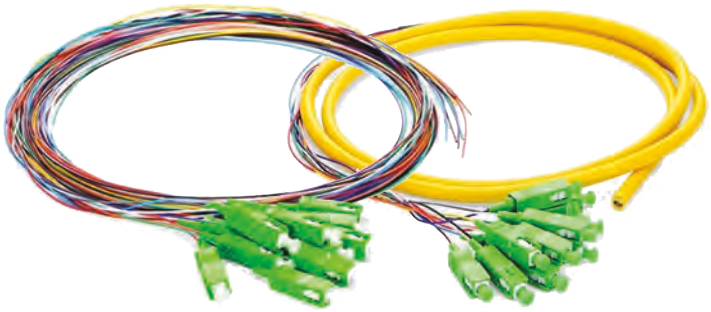
8 - Jacket Material - L=LSZH, P=PVC, O=OFNP

PIGTAILS

Singlemode



Multi-mode



Jacketed & Unjacketed

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, ≥60d 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

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.

FOJ-2M-SM-SC/APC-S-SC/APC

- Second Connector Type
- S = Simplex, D = Duplex
- First Connector Type
- SM = Singlemode, MM = Multi-Mode
- xM = Length in Meters, xFT = Length in Feet
- FOJ = Fiber Optic Jumper, FOPF = Fiber Optic Pigtail

VARIABLE ATTENUATORS

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.

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

Features:

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

FOVATT-SM-XX/UPC

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

MATING SLEEVES

SC/UPC to SC/UPC

SC/APC to SC/APC

LC/UPC to LC/UPC

FC/APC to SC/APC

LC Female to SC Male

FC/UPC to FC/UPC

E2000/APC to E2000/APC

Multicom Fiber Optic Mating Sleeves, also known as Adapters or Couplers, are used to provide a cable to cable or cable to equipment fiber optic connection. We supply a wide range of mating sleeves and hybrid adapters, including special male to female hybrid fiber optic mating sleeves.

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

Compliance	Telcordia GR-20-CORE, GR-326 and TIA/EIA 568C, RoHS

FOMS-XX/YYY-XX/YYY

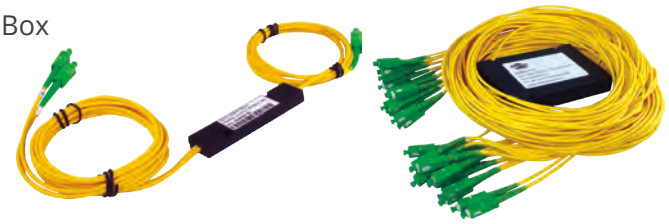
- Second Connector Type
- First Connector Type

From the moment I walk through the doors, to the time the doors swing behind me, it's always full-speed ahead! My warehouse humms and my forklift is my best friend. If you enter, look both ways!
John Nashburn - Warehouse Supervisor and Expert Forklift Driver

PLC OPTICAL SPLITTERS

Tube

Box



LGX Cassette

1x2 1x32

Rack Mount

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

Parameter	1x2	1x4	1x8	1x16	1x32	1x64
Operating Wavelength (nm)	1260-1650					
Insertion Loss Typical/Max (dB)	<4.0/4.2	<7.2/7.5	<10.5/11	<13.5/14	<16.5/17.5	<19.5/21
Loss rmity (dB)	<0.4	<0.6	<0.8	<1.2	<1.7	<2.0
Return Loss (dB)	>50Z					
Polarization Dependent Loss (dB)	<0.3					
Directivity (dB)	>55					
Wavelength Dependent Loss (dB)	0.3	0.3	0.3	0.5	0.5	0.5
Operating/Storage Temperature (°C)	-40 to 85					

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

SC

FC

LC

Fixed-value Attenuators reduce the signal level without appreciably distorting the waveform. Available in 1dB increments. All connector types available.

FOATT-XX/XXX-XDB

- Decibels (dB)
- Connector Type

WDM

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

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

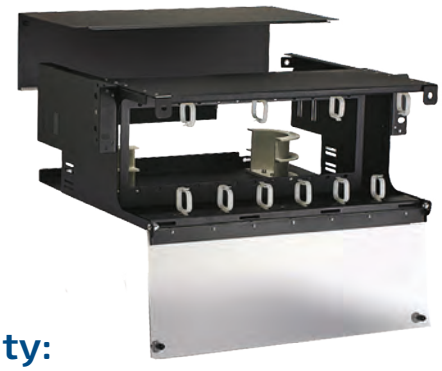
Applications:

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.

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

- SC/APC = Connector Type
- 1310/1550 = Wavelength/s, or Application (PON, FTTH, RFOG)
- S = S=Single, D=Dual Port

LGX CASSETTE CHASSIS



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

Yes, that's me answering the phone. Unlike most companies these days, when you call Multicom, you'll get me, a real live person. I'm proud of that, and I'm proud that Multicom understands that speaking to a real human being is meaningful. Amberlynne - Multicom Receptionist and Mega-Multitasker

PREMIUM PATCH & SPLICE ENCLOSURES

Parameter	Specification		
Rack Units	1RU	2RU	3RU
Capacity Ports	12 / 24	24 / 48	48 / 72
Max Ports	48	48	144
Dimensions	19" (48.26cm)		
Material	Carbon steel		
Weight	7.7lbs (3.5Kgs)	8.8lbs (4Kgs)	13.6lbs (6.2Kgs)

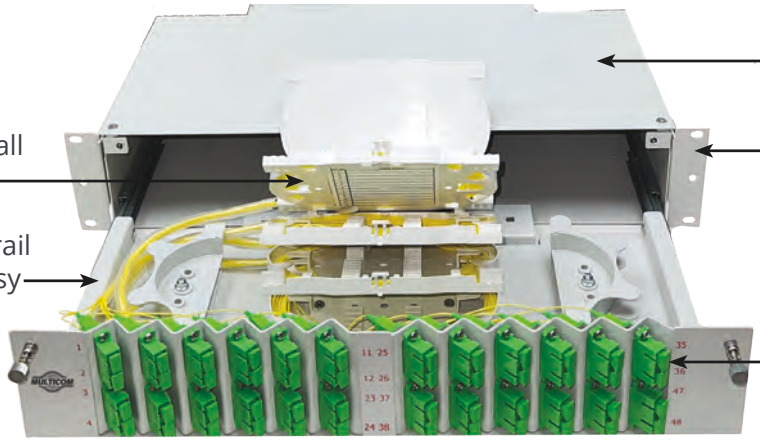
Provide Higher Patch Field Density in Fewer Rack Units Saving Valuable Rack Space

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



Heavy duty industrial grade carbon steel for superior protection

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

Customizable rack mounting system can be installed on rack from front or rear of unit

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

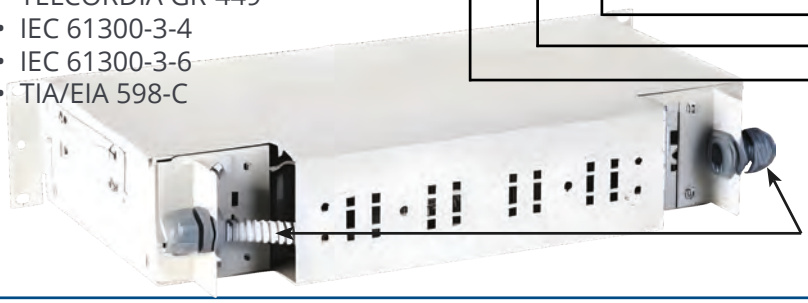
Optional angled simplex or duplex ports for positioning variable fiber routing, minimize attenuation, ease fiber turn radius, and eye protection from the laser

Compliance:

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

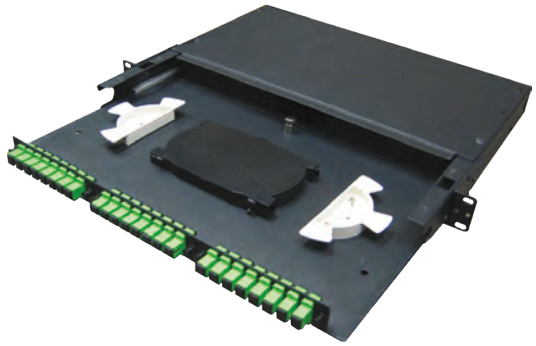
MUL-PS-DLXA-S-XXF-S-XX/XXX-LDX

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



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.

PATCH & SPLICE ENCLOSURE



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.

Parameter	Specification
Suitable for module type	LGX Adapter Panels
Number of Adapter Panel positions	3 - can be simplex or duplex
Material	16 gauge, cold-rolled steel
Material finish	Black, powder coated

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

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

ADAPTER PANELS

SC/APC Simplex

SC/UPC Simplex

LC/APC Duplex

SC/APC Duplex

SC/UPC Duplex

LC/UPC Duplex

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

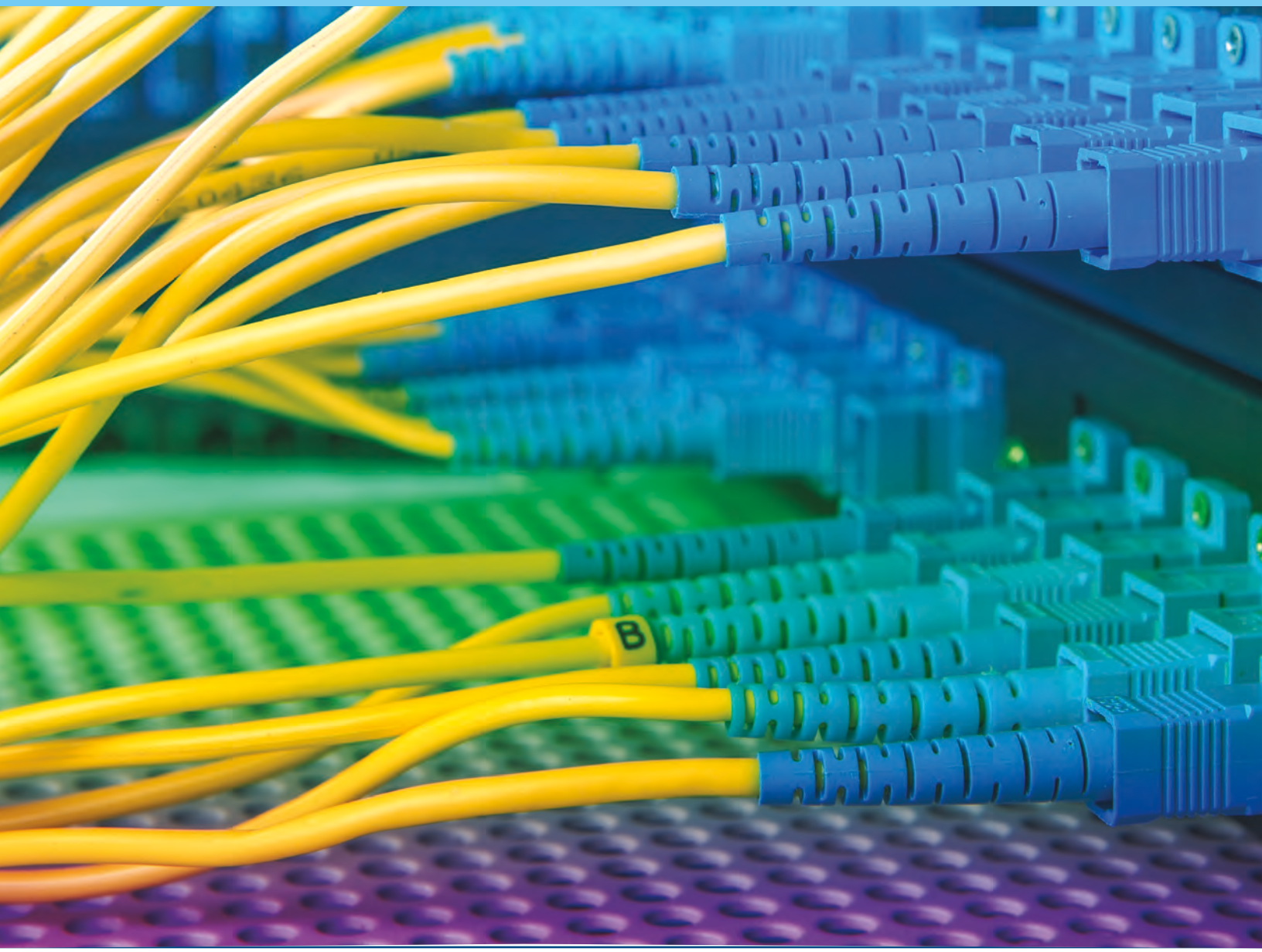
FOAP-6-SM-SC/APC

- Connector Type
- SM - Singlemode, MM - Multi-mode
- Number of Adapters - 6, 8

FIBER OPTIC HEADEND & TERMINATION

Today's ultra-high tech headends provide the foundation necessary for delivering a wide spectrum of advanced interactive services to consumers. Multicom's USA Core Technology fiber optic headend products offer flexibility, scalability and manageability, making them cost-effective to adapt to an evolving market.

Multicom provides all of the components for industry-leading, flexible headend platforms that deliver fiber optic and HFC-based signal transport solutions to increase subscriber bandwidth in the network. At the headend/hub/CO, service providers increasingly demand high density, powering efficiency, scalability, flexibility, reliability and operational simplicity for cost-effective solutions to facilitate new builds, upgrades and extensions. Multicom has a complete portfolio of optical transmitters, receivers, EDFAs, and optical passives - as well as an Optical Transport Chassis with universal CATV applications, high density, and powerful functionality and flexibility.



NEW! 1.2 GHz DOCSIS 3.1 USA LASERS

1310nm DIRECT MODULATED TRANSMITTER

USA TECHNOLOGY

The MUL-1310TX-V-1-X intelligent directly modulated optical transmitter is used in 1310nm optical fiber transmission systems. It uses a U.S. EMCORE ORTEL DFB laser with optional optical output powers of 7.7, 10, 12, 14 and 14.9 dBm, and advanced intelligent electronic predistortion compensation technology.

Optical Parameter	Unit	Specification
Optical output power	dBm	7.7, 10, 12 ,14, 14.9
Optical wavelength	nm	1310 ±20
Laser type		EMCORE ORTEL DFB
Optical modulation type		Direct
Frequency range	MHz	47-750/862/1003/1200
RF input level	dBmV	+12 - +28

Features:

- High linearity, optically isolated, distributed AM feedback EMCORE ORTEL DFB laser
- DOCSIS 3.1
- Transmits NTSC, PAL, ATSC, and related digital information for CATV and/or telephony applications
- 47-1200MHz RF input bandwidth
- Front panel RF test point
- Automatic Gain Control (AGC) and Manual Gain Control (MGC) override
- Integrated SNMP network interface
- Dual hot-pluggable redundant power supplies

MUL-1310TX-V-1-10

└ Output Power (dBm) - 7.7, 10, 12, 14, 14.9

NEW! 1.2 GHz DOCSIS 3.1 USA LASERS

1550nm 6dB DIRECT MODULATED TRANSMITTER

USA TECHNOLOGY

The MUL-1550TX-V-1-6 intelligent directly modulated optical transmitter is used in 1550nm optical fiber transmission systems. It uses a U.S. EMCORE ORTEL DFB laser with an optical output power of 6dBm, and advanced intelligent electronic predistortion compensation technology.

Optical Parameter	Unit	Specification
Optical output power	dBm	6
Optical wavelength	nm	1550 ±10
Laser type		EMCORE ORTEL DFB
Optical modulation type		Direct
Frequency range	MHz	47-750/862/1003/1200
RF input level	dBmV	+12 - +28

Features:

- High linearity, optically isolated, distributed AM feedback EMCORE ORTEL DFB laser with an optical output power of 6dBm
- DOCSIS 3.1
- Transmits NTSC, PAL, ATSC, and related digital information for CATV and/or telephony applications
- 47-1200 MHz RF input bandwidth
- Front panel RF test point
- Automatic Gain Control (AGC) and Manual Gain Control (MGC) override
- Integrated SNMP network interface
- Dual hot-pluggable redundant power supplies

DID YOU KNOW?

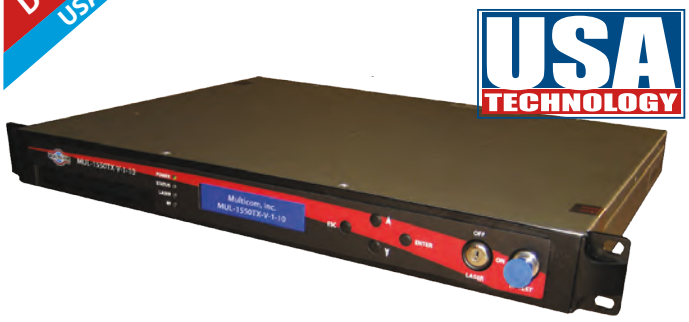
CORNING

Multicom uses only Corning fiber-based fiber optic jumpers

MUL-1550TX-V-1-6

NEW! 1.2 GHz DOCSIS 3.1 USA LASERS

1550nm 10dB DIRECT MODULATED TRANSMITTER



Optical Parameter	Unit	Specification
Optical output power	dBm	10
Optical wavelength	nm	1550 ±10
Laser type		EMCORE ORTEL DFB
Dispersion compensation distance	Km	≤50
Optical modulation type		Direct
Frequency range	MHz	47-862/1003/1200
RF input level	dBmV	+15 - +25

The MUL-1550TX-V-1-10 intelligent directly modulated optical transmitter is used in 1550nm optical fiber transmission systems. It uses a U.S. EMCORE ORTEL DFB laser with an optical output power of 10dBm, and advanced intelligent electronic predistortion compensation technology (adjustable up to 50km in 1km steps).

Features:

- High linearity, optically isolated, distributed AM feedback EMCORE ORTEL DFB laser with an optical output power of 10dBm
- DOCSIS 3.1
- Transmits NTSC, PAL, ATSC, and related digital information for CATV and/or telephony applications
- 47-1200 MHz RF input bandwidth
- Front panel RF test point
- Automatic Gain Control (AGC) and Manual Gain Control (MGC) override
- Integrated SNMP network interface
- Dual hot-pluggable redundant power supplies

MUL-1550TX-V-1-10

NEW! 1.2 GHz DOCSIS 3.1 USA LASERS

1550nm EXTERNALLY MODULATED TRANSMITTER

Optical Parameter	Unit	Specification
Optical output power	dBm	2 x (7, 8, 9, 10)
Optical wavelength	nm	1545 ~ 1560
Laser type		2 Port, EMCORE ORTEL DFB
Optical modulation type		External
Wavelength adjustment range	GHz	± -50
Relative intensity noise	dB/Hz	< -160
Frequency range	MHz	47 ~1200
RF input level	dBmV	+20

The MUL-1550TXEM-V-2 Externally Modulated Optical Transmitter is a state-of-the-art high-performance fiber optic transmitter specially developed for CATV signal distribution in HFC networks, and the long-distance transmission of cable phone and cable data. Optimized for a variety of network applications, this two-port EMCORE ORTEL DFB laser transmitter couples the optical output powers of 2 x 7, 8, 9 or 10dBm each, with low optical linewidth resulting in unmatched performance.

Features:

- Two port high linearity, optically isolated, distributed AM feedback EMCORE ORTEL DFB lasers
- DOCSIS 3.1
- Transmits NTSC, PAL, ATSC, and related digital information for CATV and/or telephony applications
- 47-1200 MHz RF input bandwidth
- Front panel RF test point
- Integrated SNMP network interface
- Dual hot-pluggable redundant power supplies

MUL-1550TXEM-V-2-10

- Output Power (dBm) - 7, 8, 9, 10
- Output Ports

USA LASERS

1550nm EDFA

Optical Parameter	Unit	Specification
Operating bandwidth	nm	1535 - 1565
Optical input power	dBm	-5 ~ +10
Optical output power	dBm	18 or 24
Output power stability	dBm	± 0.2
Return loss - Input port	dB	≥ 45
Return loss - Output port	dB	≥ 45

The MUL-EDFA-V-1 1550nm Erbium Doped Fiber Amplifier (EDFA) is a low noise 1550nm optical amplifier, designed using advanced optical principles. The hot pluggable, redundant power EDFA is flexible enough to perform in numerous upstream and downstream applications, including supertrunk transmission, hub interconnects and 1550nm overlays.

Features:

- JDSU laser
- Automatic control of the output optical power
- Output optical power attentuation is adjustable
- High-performance erbium doped fiber amplifier, high efficiency energy conversion
- Advanced 32 bit processor, with automatic monitoring circuitry. Accurately monitors and controls the optical output power and various parameters of the pump laser, ensures stable optical output power and can effectively extend the working life of the pump laser.

MUL-EDFA-V-1-18(-48VDC) - Optional
- Output Power (dBm) - 18, 24
- Output Port

USA LASERS

8 PORT HIGH POWER 1550nm EDFA

Model #	Total Output Power (dBm)	Output Ports	Output Power/ Port (dBm)
MUL-EDFA-V-4-25	25	4	18
MUL-EDFA-V-4-26	26	4	19
MUL-EDFA-V-4-27	27	4	20
MUL-EDFA-V-4-28	28	4	21
MUL-EDFA-V-4-29	29	4	22
MUL-EDFA-V-4-30	30	4	23
MUL-EDFA-V-4-31	31	4	24
MUL-EDFA-V-8-26	26	8	15
MUL-EDFA-V-8-27	27	8	16
MUL-EDFA-V-8-28	28	8	17
MUL-EDFA-V-8-29	29	8	18
MUL-EDFA-V-8-30	30	8	19
MUL-EDFA-V-8-31	31	8	20
MUL-EDFA-V-8-32	32	8	21
MUL-EDFA-V-8-33	33	8	22
MUL-EDFA-V-8-34	34	8	23
MUL-EDFA-V-8-35	35	8	24

The Multicom High Power 1550nm Erbium Doped Fiber Amplifier (EDFA) is equipped with up to eight output ports, and with low noise and high linearity, this High Power EDFA can be used in the transmission of video, voice and data signals making it the ideal optical amplification solutions for long links, redundant rings, blast and split, and other applications. It offers a flexible and low-cost solution for CATV large area coverage of metropolitan and medium-sized cities.

Features:

- JDSU laser
- Uses Er Yb co-doped double-clad fiber technology
- Output ports: 8 (1 to 8, optionally)
- Optional: Internal WDM port configurations for GPON
- Total Output Power from 25 to 35dBm
- Output Power/Port from 18 to 24dBm
- Advanced 32 bit processor, with automatic monitoring circuit. Accurately monitors and controls the optical output power and various parameters of the laser, ensures stable optical output power and can effectively extend the working life of the laser
- **See Specs - Next page**

MUL-EDFA-V-X-XX
- Output Power/Port (dBm) - chart
- Output Ports - 1-8

16/32 PORT HIGH POWER 1550nm EDFA

8 Port & 16/32 Port Optical Parameter	Unit	Specification
Operating bandwidth	nm	1545 - 1565
Optical input power	dBm	-5 ~ +10
Optical output power	dBm	See chart below
Output power stability	dBm	± 0.5
Return loss - Input port	dB	≥ 45
Return loss - Output port	dB	≥ 45

Model #	Total Output Power (dBm)	Output Ports	Output Power/ Port (dBm)
MUL-EDFA-V-16-29	29	16	15
MUL-EDFA-V-16-30	30	16	16
MUL-EDFA-V-16-31	31	16	17
MUL-EDFA-V-16-32	32	16	18
MUL-EDFA-V-16-33	33	16	19
MUL-EDFA-V-16-34	34	16	20
MUL-EDFA-V-16-35	35	16	21
MUL-EDFA-V-16-36	36	16	22
MUL-EDFA-V-32-33	33	32	16
MUL-EDFA-V-32-34	34	32	17
MUL-EDFA-V-32-35	35	32	18
MUL-EDFA-V-32-36	36	32	19
MUL-EDFA-V-32-37	37	32	20

The Multicom 16/32 Port High Power 1550nm Erbium Doped EDFA is a low noise 1550nm optical amplifier designed to amplify 1550nm optical signals to increase the optical transmission distance over fiber, and can be used in conjunction with the Multicom 1550nm optical transmitters.

Equipped with up to 32 output ports and the option of internal GPON WDM ports, this EDFA provides low noise and high linearity. The MUL-EDFA-V-XX-XX can be used in the transmission of video, voice and data signals making it the ideal optical amplification solutions for long links, redundant rings, blast and split, and other applications. It offers a flexible and low-cost solution for CATV large area coverage of metropolitan and medium-sized cities.

Features:

- JDSU laser
- Uses Er Yb co-doped double-clad fiber technology
- Output ports: 16/32
- Total Output Power from 29 to 37dBm
- Output Power/Port from 15 to 20dBm
- Available with optional internal GPON WDM ports
- Low noise figure: <5dB when input is 0dBm
- Advanced 32 bit processor, with automatic monitoring circuit. Accurately monitors and controls the optical output power and various parameters of the laser, ensures stable optical output power and can effectively extend the working life of the laser.
- Front panel LCD Status Display shows all status parameters and provides ability to set parameters on the EDFA
- 2RU standard 19" rackmount cabinet, equipped with standard IEEE802.3 10Base-T Ethernet interface and RS232 interface, for network management monitoring and control console

16/32 PORT HIGH POWER 1550nm EDFA (WDM OPTION)

The Multicom High Power 1550nm EDFA with built-in CWDM is a low noise high-performance Er Yb co-doped fiber amplifier. Each output includes a built-in CWDM (1310/1490/1550) wavelength division multiplexer. It multiplexes the data stream of the OLT and ONUs to the fiber amplifier output using 1310nm and 1490nm optical connectors. This configuration reduces the equipment and connections needed, improving the system loss budget and reliability. It is ideal for FTTx networks, providing a flexible and low cost solution for the integration of these networks and FTTH.

Perfect for GPON Applications

MUL-EDFA-V-XX-XX (-WDM) - Optional
- Output Power/Port (dBm) - see chart
- Output Ports - 12, 16, 32

HEADEND RETURN PATH RECEIVER - HFC & RFOG

Parameter		Specification
Optical	Wavelength (nm)	1100 - 1600
	Input power level (dBm)	-10 ~ 0
	Optical AGC range	-10 ~ 0
	Return loss (dB)	> 45
	Output fiber connector	SC/APC
RF	RF Bandwidth (MHz)	5 - 200
	RF output level (dBmV)	≥45
	RF gain adjustment range (dB)	10 - Normal mode
	Flatness (dB)	± 1
	Return loss (dB)	≥ 16
	RF connector (Main input)	F type
	NPR (dB)	≥15 DFB, ≥10FP laser

The Multicom MUL-HRPR-V-4 Optical Return Path Receiver is ideally suited for use in optical headends and many other fiber optic-based data, video, and voice networks. With dual redundant power supplies, SNMP, excellent AGC characterisics and a unique Burst Mode, this return path receiver provides a cost effective solution for HFC, RFoG and FTTH networks.

The HRPR's state-of-the-art features include an industry-leading 4 port, 45dBmV individually adjustable RF outputs, 5 - 200MHz return bandwidth, wide optical input range down to -10dBm, and a unique backlit front panel control display.

Features:

- Four receivers in 1RU unit with Dual Redundant Power Supplies and SNMP
- Wide optical Input Range 1100 - 1600nm
- 45dBmV typical RF output for each of the 4 individually adjustable ports
- Normal and RFoG modes
- 5 - 200MHz return bandwidth
- Wide optical input range and low noise design allows error free detection down to -10dBm
- Configuration and status monitoring on the easy-to-view backlit front panel display

MUL-HRPR-V-4(-48V)

OPTICAL TRANSPORT CHASSIS

The MUL-OTC-CH-V is an Optical Transport Chassis with universal CATV applications, high density, and powerful functionality and flexibility.

The 4RU module shelf, CMM Display and Control Module, and Plug-in Power Modules are the backbone of this product. The standard 19 inch shelf has 16 universal slots and fan cooling. The plug-in CMM Status Display and Control Module has a LCD status display and front panel pushbutton operation. Installing the Plug-in Application Modules into the shelf and putting the shelf into the cabinet creates an entire HFC headend in very little space.

Plug-in Application Modules

Depending on optical fiber network design requirements, users can select the following optional Application Modules:

- MUL-OTC-1310TX-V-X - 1310nm Optical Transmitter Module
- MUL-OTC-1550TX-V-X - 1550nm Optical Transmitter Module
- MUL-OTC-EDFA-V-X - EDFA Optical Amplifier Module
- MUL-OTC-RPR4-V - 4 Channel Return Path Optical Receiver Module

MUL-OTC-CH-V

1310nm OPTICAL TRANSMITTER MODULE

The MUL-OTC-1310TX-V Intelligent Directly Modulated Optical Transmitter Module is designed to be used in the Multicom Optical Transport Chassis MUL-OTC-CH-V, and is mainly used in 1310nm optical fiber transmission systems. This 1310nm Module uses an EMCORE ORTEL DFB laser with an optical output power options of 3, 6, 7.8, 10, 12 and 14.2dBm, and advanced intelligent electronic predistortion compensation technology.

MUL-OTC-1310TX-V-X

└ Output Power (dBm) - 3, 6, 7.8, 10, 12, 14.2

1550nm OPTICAL TRANSMITTER MODULE

The MUL-OTC-1550TX-V Intelligent Directly Modulated Optical Transmitter Module is designed to be used in the Multicom Optical Transport Chassis MUL-OTC-CH-V, and is mainly used in 1550nm optical fiber transmission systems. This 1550nm Module uses an EMCORE ORTEL DFB laser with optical output power options of 3, 6, 7.8, 10, 12 and 14.2dBm, and advanced intelligent electronic predistortion compensation technology.

MUL-OTC-1550TX-V-X

└ Output Power (dBm) - 3, 6, 7. 8, 10, 12, 14.2

EDFA OPTICAL AMPLIFIER MODULE

The MUL-OTC-EDFA-V-X 1550nm Erbium Doped Fiber Amplifier (EDFA) Module is a low noise 1550nm optical amplifier designed to be used in the Multicom Optical Transport Chassis MUL-OTC-CH-V. Available optical output levels range from 13 to 24dBm.

The EDFA Module includes input and output optical power detection to adjust the JDSU laser pump automatically and keep the output optical power of the EDFA module constant. Internal control circuitry accurately maintains the output power and temperature of the laser.

MUL-OTC-EDFA-V-X

└ Output Power (dBm) - 13 - 24

4-CHANNEL RETURN PATH OPTICAL RECEIVER MODULE

The MUL-OTC-RPR4-V Four-channel Return Path Optical Receiver Module uses E-O optical receiving devices and the signal amplifier incorporates a low noise GaAs module to ensure a high quality signal output. Each RPR4 Module includes four optical receivers to receive four optical inputs and convert them into CATV RF, and then pre-amplify them independently.

MUL-OTC-RPR4-V

NEW!

OPTICAL SWITCH

The Multicom MUL-OS-V Optical Switch ensures continuous operation using 2 optical inputs. This switch monitors and automatically switches to a backup input with any detection of optical signal loss.

In addition to the function and features of the MUL-OS-V, the enhanced MUL-OS-V-RF Optical Switch performs the same functions using the RF signal, with the ability to monitor and detect RF loss and automatically switch to a backup input.

Features

- Real-time status monitoring and detection for optical and RF signal loss with automatic switching
- Switch status control can be set to automatic or manual
- LCD monitor on the front panel displays all working parameters and alarms
- 19" 1RU height standard rack mount
- Supports online and SNMP network management

Parameter	Specification
Wavelength	1200-1600nm
Insertion loss	≤1.3 dB @1310, 1490, 1550nm
Switching time	≤500 ms
Return loss	≥ 55dB
Max input optical power	500 mW
Input optical power operating range	-15 - +24dBm
RF detection optical signal range	-2 - +24dBm (MUL-OS-RF-V version only)
Switching life	≥ 10 million
Optical connector	SC/APC, Optional: FC/APC
Supply voltage	110 - 250VAC, 50/60 Hz (48VDC Optional)
Power consumption	≤ 2W
Operating temperature range	-5 - +55°C (23 - 131°F)
Storage temperature range	-30 - +70°C (-22 - 158°F)
Max operating/storage relative humidity	95%, no condensation
Dimensions (L x W x H)	483 x 270 x 44mm (19 x 10.6 x 1.7in)

MUL-OS-V - with Optical Detection
MUL-OS-V-RF - with Optical & RF Detection

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

NEW!

RFOG OPTICAL MICRO-NODE WITH PON PASS THROUGH PORT

Features:

- Provides PON/GPON/XPON bidirectional passthrough and RF/CATV bidirectional functionality
- The laser control circuit uses advanced circuit design, insuring reliable and stable operation
- Optimized circuit design, SMT production process, optimizing the entire signal path, makes the optical signal transmission more stable, RF linear indicators higher
- Professional RF attenuator circuit, with good linear attenuation and high precision
- GaAs amplifier device, with good index, low distortion, and high reliability
- Aluminum die casting for efficient cooling, and reliable, stable performance

The Multicom RFOG Optical Micro Node with available PON Pass Through Port option provides PON/GPON/XPON bidirectional passthrough and RF/CATV bidirectional functionality. It is specially developed for HFC broadband networks while accommodating all FTTH (Fiber to the Home) network topologies. This unit also addresses the issues of CATV bi-directional return channel noise and the high reliability network security transmission requirements of modern CATV networks.

	Parameter	Specification	Notes
Optical	Receive Wavelength	1540 ~ 1565nm or Optional	
	Return Wavelength	1310nm or Optional	
	PON Wavelength	1310 / 1490nm or Optional	
	Return Loss	>45dB	
	Insertion Loss	≤0.7dB	WDM
	Fiber Type	Singlemode	
	Connector	SC/APC or SC/UPC	
Forward Path	RF Bandwidth	54 / 85 / 105 / 258 ~1218MHz	
	RF Flatness	±1dB	
	RF Output Slope	3 ±1dB	
	RF Return Loss	≥18dB @40MHz (-1.5dB/octave)	
	AGC Range	-8 ~ 0dBm	
	Equivalent Input Noise Current	≤5 pA/√Hz	
	CSO	>64dB	CENELEC 42 1218MHz. 3.5% OMI / CH, -8dBm receive
	CTB	>62dB	
	RF Output Level	≥20 dBmV	
	Output Test Point	-20±1dB	
Return Path	Laser Type	DFB	
	Laser On Output Power	3 ±0.5dBm	
	Laser Off Output Power	<-30dBm	
	RF Bandwidth	5 ~ 42 / 65 / 85 / 204MHz	
	RF Flatness	±1dB	
	RF Return Loss	≥18dB	
	Laser Rise/Fall Time	<1 / <1 ms	SCTE_174_2010
	Laser Turn On RF Level	7 dBmV	
	Laser Turn Off RF Level	-2 dBmV	
	NPR / Dynamic range	≥15dB @35dB	-10dBm receive
	OMI	35% @ single channel 33 dBmV input	

MUL-MN-V-RFOG-XXXX-PON — Optional PON Pass Through Port
1310, 1610nm

HIGH-POWER MICRO-NODE

Features:

- Uses an advanced optical AGC circuit design, with an optical AGC control range of: +2dBm ~ -9/-8/-7/-6/-5/-4dBm adjustable
- Features the high quality, high reliability DFB laser
- Forward operating frequency up to 1GHz, RF amplifier uses a high performance low power consumption GaAs amplifier, maximum output level up to 52dBmV
- EQ and ATT both use an advanced electric control circuit for setting the operating parameters, making the setup easier and more accurate
- Internal power supply

The MUL-MN-V-TR-HP-AC optical receiver is a bi-directional receiver specifically developed for HFC broadband networks. It accommodates the FTTH network topology, while addressing the issues of CATV bidirectional return channel noise and the high reliability network security transmission requirements of modern CATV networks.

Forward Optical Receiver Parameters	Unit	Technical Parameter
Optical Receiving Power	dBm	-9 ~ +2
Optical AGC Range	dBm	+2 ~ -9/-8/-7/-6/-5/-4 (adjustable)
Optical Return Loss	dB	> 45
Optical Receiving Wavelength	nm	1260 ~ 1620
Optical Connector Type		SC/APC
Fiber Type		Single Mode
Link Performance		
C/N, C/CTB, C/CSO	dB	≥ 51, ≥ 60, ≥ 60
RF Parameters		
Frequency Range	MHz	54 ~ 1000
Flatness in Band	dB	± 0.75
Test Port	dB	-20
Rated Output Level	dBmV	≥ 108 dBμV (≥ +48 dBmV)
Max Output Level	dBmV	+49 (≥ 109 dBμV) (when input optical power -9 ~ +2dBm)
		+52 (≥ 112 dBμV) (when input optical power -7 ~ +2dBm)
Output Return Loss	dB	≥ 16
Output Impedance	Ω	75
Electrical Control EQ Range, ATT Range	dB	0 ~ 15
Return Optical Transmitter Parameters	**Unit**	**Technical Parameter**
Optical Transmit Wavelength	nm	1310 ±10
Laser Type		DFB
Optical Output Power	mW	1 ± 0.5
Optical Connector Type		SC/APC
RF Parameters		
Frequency Range	MHz	5 ~ 42
Flatness in Band	dB	±1
Input Level	dBmV	+15 ~ +25 (75 ~ 85 dBμV)
Output Impedance	Ω	75
NPR Dynamic Range	dB	≥15 (NPR ≥30 dB) Using DFB Laser

MUL-MN-V-TR-HP-AC

TR = Transmit and Receive, R = Receive Only

NEW!

RFOG MICRO-NODE

c UL us LISTED

Features:

- The laser control circuit uses advanced circuit design, insuring reliable and stable operation
- Provides excellent AGC characteristics, when the input optical power range is within -7 ~ +2dBm, the RF output level remains unchanged, CTB and CSO basically remain unchanged
- High quality and efficient RF attenuator circuit with excellent linear attenuation and high precision
- GaAs amplifier device, with good index, low distortion, and high reliability

The Multicom MUL-MN-V-RFOG-1310/1610 RFoG Optical Network Unit is bi-directional and specially developed for HFC broadband networks while accommodating all FTTH (Fiber to the Home) network topologies. This RFoG Micro-Node addresses the issues of return channel noise and high reliability network security transmission requirements of modern CATV networks.

Forward Optical Receiver	Unit	Specification
Optical Receiving Power	dBm	-7 ~ +2
Optical Return Loss	dB	>45
Optical Receiving Wavelength	nm	1100 ~ 1600
Forward RF Parameters		
Frequency Range	MHz	54 ~ 1003
Flatness in Band	dB	±0.75
Rated Output Level	dBmV	≥32
Output Return Loss	dB	≥16

Return Optical Transmitter	Unit	Specification
Optical Transmit Wavelength	nm	1310 ±10, 1610 ±10
Optical Output Power	mW	0.5 ~ 2
Laser		DFB
Optical Connector Type		SC/APC
Return RF Parameters		
Frequency Range	MHz	5 ~ 42
Flatness in Band	dB	±0.75
Input Level	dBmV	+15 ~ +25
Input Return Loss	dB	≥16

MUL-MN-V-RFOG-XXXX — Upstream Wavelength - 1310nm, 1610nm

NEW!

MICRO-NODE

c UL us LISTED

Features:

- The laser control circuit uses advanced circuit design, insuring reliable and stable operation
- Provides excellent AGC characteristics, when the input optical power range is within -7 ~ +2dBm, the RF output level remains unchanged, CTB and CSO basically remain unchanged
- High quality and efficient RF attenuator circuit with excellent linear attenuation and high precision
- GaAs amplifier device, with good index, low distortion, and high reliability

The MUL-MN-V-TR optical node was specially developed for HFC broadband networks, accommodates FTTH (Fiber to the Home) network topology, and while addressing the issues of return channel noise and high reliability network security transmission requirements of modern CATV networks.

Forward Optical Receiver	Unit	Specification
Optical Receiving Power	dBm	-7 ~ +2
Optical Return Loss	dB	> 45
Optical Receiving Wavelength	nm	1260 ~ 1620
Forward RF Parameters		
Frequency Range	MHz	54 ~ 1000
Flatness in Band	dB	± 0.75
Rated Output Level	dBmV	≥ +32
Output Return Loss	dB	≥ 16
Return Optical Transmitter	**Unit**	**Specification**
Optical Transmit Wavelength	nm	1310 ±10
Laser Type		FP
Optical Output Power	mW	1 ± 0.5
Return RF Parameters		
Frequency Range	MHz	5 ~ 42
Flatness in Band	dB	±0.75
Input Level	dBmV	+15 ~ +25

MUL-MN-V-TR

NEW!

MICRO-NODE WITH PON PASS THROUGH

The MUL-MN-V-RPON Fiber Optic Micro-Node with PON Pass Through provides PON/GPON/XPON bidirectional passthrough while providing RF/CATV receiving functionality. It has been specially designed for HFC broadband networks, accommodating FTTH (Fiber to the Home) network topology.

Features:

- PON/GPON/XPON bidirectional passthrough
- Optical receiving power up to 0dBm
- Output can be adjusted manually
- GaAs amplification
- Three-color status LED shows optical power receiving status
- Efficient power consumption <3W

Optical Parameter	Specification	
Optical receiving power (dBm)	-10 ~ 0	
Return loss (dB)	>45	
Optical Receiving Wavelength (nm)	1100 ~ 1600 or 1530 ~ 1620	
Optical interface	Input: SC/APC, PON: SC/UPC	
Optical type	Singlemode	
Link Performance		
C/N (dB)	≥46	@ Pin= -6dBm
C/CTB (dB)	≥62	
C/CSO (dB)	≥62	
RF Parameter		
Frequency Range (MHz)	45 ~ 1003	
Flatness in band (dB)	±0.75	
Output level (dBmV)	18	
Output return loss (dB)	≥14	
Output impedence (Ohm)	75	
Consumption (W)	<3	
Operating temperature	-4 ~ 131°F (-20 ~ +55°C)	
Dimensions (LxWxH)	4.3"x 3.1" x 1" (109 x 80 x 26mm)	
Optical power indicators	Green: Optical input power high ≥-6dBm Yellow: Optical input power -6 ~ 10dBm Red: Optical input low <-10dBm	

MUL-MN-V-R-PON

NEW!

MICRO-NODE RECEIVERS

MUL-MN-V-R

MUL-MN-T-R

Features:

- Receive only
- Mini-size, easy to install
- Operating frequency up to 1GHz
- RF amplifier uses a high performance low power consumption GaAs amplifier
- 12VDC power supply

The Multicom Optical Micro-Node Receivers are equipment that was specially developed for HFC broadband networks, accommodating FTTH (Fiber to the Home) network topology.

Optical Parameters	Specification
Optical Receiving Power (dBm)	-15 ~ +2
AGC Range (dBm)	-7 ~ +2
Optical Return Loss (dB)	> 45
Optical Receiving Wavelength (nm)	1100 ~ 1600
RF Parameters	
Frequency Range (MHz)	45 ~ 1003
Flatness in Band (dB)	± 0.75
Rated Output Level (dBmV)	≥ +28 (≤88 dBμV)
Output Return Loss (dB)	≥ 16

MUL-MN-V-R

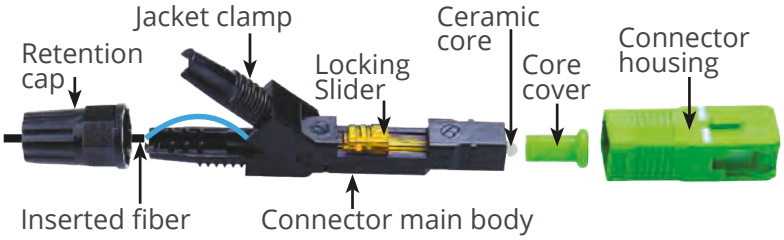
Optical Parameter	Specification
Optical Receiving Power (dBm)	-18~+3 (-15~+2 optimal)
AGC Range(dBm)	-8~+2
Optical Return Loss (dB)	> 45
Optical Receiving Wavelength (nm)	1100~1600
RF Parameter	**Specification**
Frequency Range (MHz)	47~1000
Flatness in Band (dB)	≤ ±1.5
Rated Output Level (dBmV)	≥20±1
Output Return Loss (dB)	≥14

MUL-MN-T-R

FIELD-INSTALLABLE FIBER OPTIC CONNECTORS

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



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

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

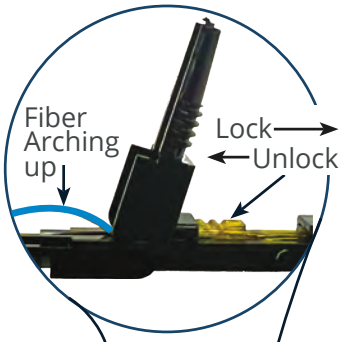
The Multicom Field-installable Fiber Optic Connectors feature a pre-polished ferrule (UPC/APC), that couples to the fiber being terminated by precision mechanical alignment, insuring low loss with a proprietary gel.

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.

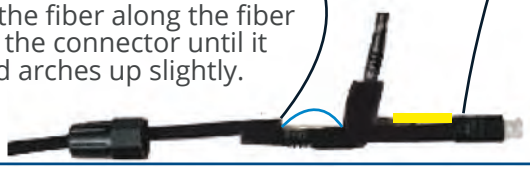
Installation Example:

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.

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

- Fiber Diameter (mm) - 0.9, 2.0, 3.0
- Connector Type - XX=SC, FC, LC / YYY=UPC, APC
- SM=Singlemode, MM=Multi-Mode

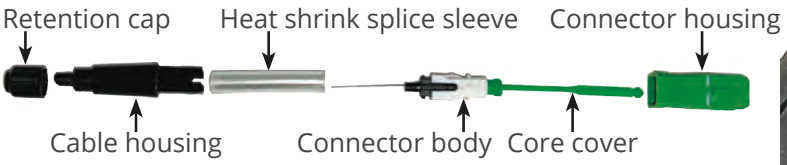
SPLICE-ON FIBER OPTIC CONNECTORS

SC/UPC

SC/APC

Low loss fusion spliced connectors are easy to prepare, splice and install in the field, making them the convenient choice for network technicians.

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.



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.

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
Connector Type	SC
Fiber Mode	Singlemode
Polish	UPC / APC
Insertion Loss (dB)	≤0.1
Return Loss (dB)	UPC: ≥55dB, APC: ≥65dB
Operating Temperature	-40°C ~ +75°C

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)

TOOLS & TEST EQUIPMENT

Fiber optic installers in the field need a complete set of high quality fiber optic tools and reliable test equipment which give them both the ability to splice and terminate fiber optic cables, and to test and troubleshoot the installation.

For decades, fiber optics have been inspected and cleaned to ensure the proper passage of light. While this process is not new, it is growing in importance as our dependence on the capacity and other benefits of fiber optics surge.

Multicom manufactures and stocks only the highest-quality and most cost-effective products. Whether you're working on a local area network (LAN), in a data center, in the office or in the field, we've got the tools you need to clean, cut, inspect, measure, strip and terminate your fiber cables.

NEW!

FUSION SPLICER KIT

WITH 3 YEAR DOMESTIC WARRANTY - USA SUPPORT & SERVICE

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.

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, 1 Year International Warranty - USA Service and Support**
- **Quick-change Rechargeable Lithium Battery**
- **German Design, USA & Japanese Technology**
- **Titanium Alloy Body/Frame**
- **High Performance Processor Board**

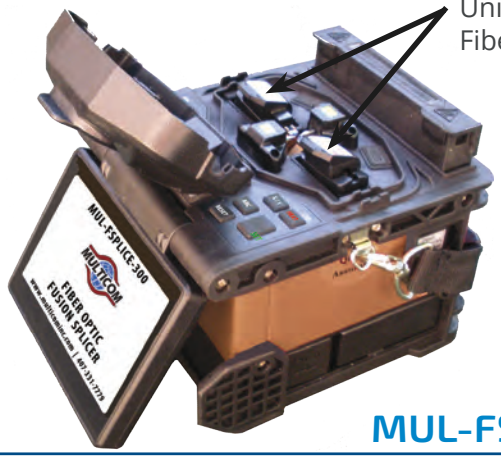
Multicom's MUL-FSPLICE-300 uses 6 Motor Technology:

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

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

Quick-change Rechargable Lithium Battery



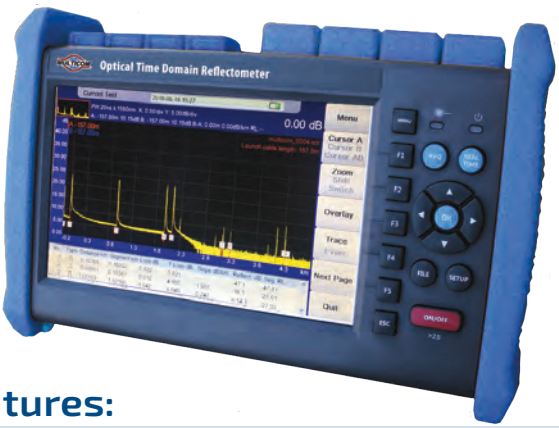
MUL-FSPLICE-300

FUSION SPLICER KIT

Fiber Optic Fusion Splicer Kit Includes:

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

OPTICAL TIME DOMAIN REFLECTOMETER WITH LIVE NETWORK TESTING



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

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.

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

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

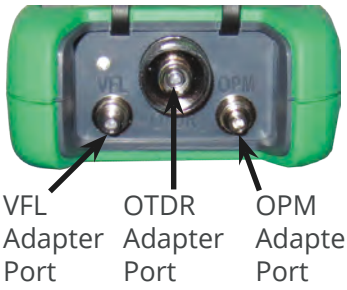
NEW!

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

MUL-OTDR-500

OPTICAL POWER METER

MUL-OPM-100

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

MUL-OLS-100
For Singlemode
MUL-OLS-200
For Multi-mode
MUL-OLS-300
For Singlemode & Multi-mode

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

NEW!

10GHZ XGPON POWER METER & END-FACE INSPECTOR

OPTICAL POWER METER, VISUAL FAULT LOCATOR

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.

Simultaneous realtime measurements of 5 wavelengths in XGPON networks at 10GHz

10GHz XGPON Technical Parameters	Specification				
Simultaneous Measuring Wavelengths (nm)	1270	1310	1490	1550	1577
Measuring Range (dB)	-40 ~ +13	-40 ~ +13	-50 ~ +13	-50 ~ +25	-50 ~ +10
Wavelength Passband	±10	±20	±10	±10	±6
Insertion Loss (dB)	≤1.5				
Uncertainty (dB)	≤0.5				
Display Resolution (dB)	0.01				
Fiber Connector Port	SC/APC				

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).

Parameters	Specifications
Magnification	400X
Resolution	0.75μ
Light Source	Coaxial blue LED
Controls	Fine Focus Control
Size / Weight	4.3 x 1.6 x 1.6in (110 x 40 x 40mm) / .35 lbs (158g)

Fiber End-Face inspection Microscope with recording for onsite documentation & certification

MUL-OPM-XGPON-VFL-400 - XGPON Meter
MUL-OPM-XGPON-FVSCOPE - Fiber Microscope

NEW!

PON OPTICAL POWER METER

OPTICAL POWER METER, VISUAL FAULT LOCATOR

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 rechargable Lithium battery
- Power saving design (low voltage self check and power off)
- Real-time clock display

PON Power Meter

Connected between OLT and ONT, this PON meter is capable of testing three PON wavelengths simultaneously: 1490nm, 1550nm and 1310nm. It can also can test the burst mode RFoG signal of 1310nm.

Optical Power Meter

Capable of testing:

- 850nm
- 1300nm
- 1310nm
- 1490nm
- 1550nm
- 1625nm

Visual Fault Locator

- 10mW

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.

PON Technical Parameters	Specification		
Calibration Wavelengths	1310nm Upstream Test	1490nm Downstream Test	1550nm Downstream Test
Pass Zone (nm)	1260 ~ 1360	1470 ~ 1505	1535 ~ 1570
Range (dBm)	-40 ~ +10	-45 ~ +10	-45 ~ +23
Isolation @ 1310nm (dB)	-	>40	>40
Isolation @ 1490nm (dB)	>40	-	>40
Isolation @ 1550nm (dB)	>40	>40	-

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

NEW!

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

MUL-OFI-VFL-10MW

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

NEW!

HANDHELD FIBER INSPECTION MICROSCOPE

Focal Adjustment Dial

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

MUL-FSCOPE-400

NEW! HANDHELD VIDEO FIBER INSPECTION MICROSCOPE

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

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.

Description	Technical Parameter
Magnification	400x
Resolution	0.75µm
Field of View	0.68 x 0.51mm
Light Source	Blue high-intensity LED
Focus	Manual
Alignment	>98%
Adapter Tips	1.25mm PC-M, 2.5mm PC-M, LC-PC-F, FC-PC-F, SC-PC-F
Dimensions	180 x 22 x 56mm (7" x .86" x 2.2")
Weight	.35 lbs (158g)
Controls	Fine Focus Control Wheel, Image capture, Brightness wheel

VISUAL FAULT LOCATOR

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
└MW: 1, 10, 30, 50

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

HIGH PRECISION FIBER OPTIC CLEAVERS

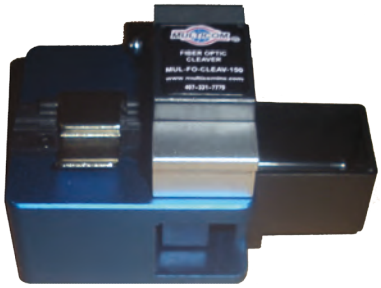
MUL-FO-CLEAV-200

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 hard carrying case and additional fiber holder

NEW!



MUL-FO-CLEAV-150

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

MUL-FO-CLEAV-100

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

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

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

MUL-FO-CLEAN-CASS

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

MUL-FO-SHEAR-K

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

MUL-FO-SP-SLEEVE

Multicom never stops in our quest to add value to our product line. In my position, the quest to keep information, products, processes, and procedures flowing as efficiently as possible both internally and externally never stops either. Matt Conrad - Manager of Marketing & Technology

IT / DATA PRODUCTS

Fiber carries critical traffic. As speeds and multiplexing increase, the value of the traffic on each fiber multiplies. The interruption of signal on just one fiber can cost a carrier's customer thousands of dollars, and can cost the carrier that customer.

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-capacity networks. Whether you are working with long-haul trunking or local distribution networks, Multicom manufactures and stocks the highest-quality and most cost-effective IT/Data products for every application.

NEW!

GIGABIT ETHERNET MEDIA CONVERTER - MANAGED

Features:

- Offers a cost-effective method for integrating fiber-optic cabling into a 10/100/1000 UTP environment
- Provides a smaller-sized space-saving alternative that allows enterprises to connect 1000Mbps copper networks to 1000Mbps fiber networks {Mini Converters)
- Auto-adaptation rate and full/half-duplex mode supported at twisted pair port
- Auto MDI /MDIX supported without need of cable selection
- Extends distance of up to 2km {6,600 feet) multimode fiber and 120km (393,701feet) long-haul single mode fiber
- Easy-to-view LED indicators provide status to monitor network activity easily
- Suitable as stand-alone or in 19" rackmount converter chassis
- Can be installed on a desktop: easy to install and does not require any software configuration, options are set using DIP switches

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.

Parameter	Specification
Standard Protocol	IEEE802.3U IEEE802.3z 1000Base-Tx
Connector	1x RJ-45 connector, 1x SFP connectors
Operation Mode	Full duplex or half duplex mode
Power Supply	AC 100V-240V 50/60 Hz
Operating Temperature	0°C to 40°C
Storage Temperature	-20°C to +85°C
Humidity	90% max, non-condensing
Dimensions	60 x 90 x 20 mm

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

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.

Features:

- Extends traditional Ethernet networks over long distances via fiber optics
- 10/100/1000Mb Ethernet speeds
- LED status display
- Power supply included
- Dual and single fiber available
- Protocols: IEEE802.3, IEEE802.3u, IEEE802.3x

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 deployments in any networking environment.

Features:

- Industry's smallest 10G form factor for greatest density per chassis
- Hot-swappable input/output device that plugs into an SFP port of any compatible switch (no need to power down if installing or replacing)
- Digital optical monitoring capability for strong diagnostic capabilities
- Optical interoperability with 10GBASE XENPAK, 10GBASE X2, and 10GBASE XFP interfaces on the same link

M-SFP-S-SLC-15-20

- Transmission Distance - 550M, 10KM, 20KM
- Wavelength (nm) - 850, 1310, 1550
- Connector Type - Single LC, Dual LC
- Fiber Mode - SM=Single Mode, MM=Multimode
- Transceiver Type - SFP, SFP+, XFP

The **Part#** represents the majority of SFP/SFP+/XFP configurations. However, additional variations are available including connector type, transmission distance and manufacturer-specific transceiver modules.

MEDIA CONVERTER CHASSIS

MUL-F-MC-12-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.

Parameter	Specification
Number of Slots	12
Input Voltage	AC 100V~240V / DC36V~72V
Output Voltage	DC +5V
Power output	36W Max
Case Material	Steel
Dimensions	485 (W) x 270 (D) x 44.5 (H)
Weight	3.2Kgs
Relative humidity	5%~95%
Operating temperature	0°C~+50°C

I have been with Multicom for more than 15 years now and most of my office colleagues also have been here for quite some time. That alone says a lot about working at Multicom. We have a great team and together we look forward to achieving new goals. Sandhya Ramaswamy - Chief Accounts Assistant

VIDEO 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.

Multicom's constantly growing line of high-quality Modulators and Encoders has been a primary focus recently. Whether it's one channel, eight channels, or more - we have the products you need at the price you want.

Instead of having a rack full of fixed-channel modulators, you can now have the efficiency, economy and redundancy of agile modulators. Agile modulators give the ability to simply change the output channel whenever needed.

NEW! CH 2-135

FIXED CHANNEL PLL SAW FILTERED AUDIO / VIDEO MODULATOR

The Multicom MUL-FMOD860 is a high bandwidth, commercial-grade, Phase-lock Looped (PLL), SAW filtered, fixed channel analog modulator. It provides system operators the engineering ease and flexibility required with new headend deployments, upgrades, and system maintenance.

The modulator is used to convert a single composite AV input from any of a variety of sources into an RF output. The Multicom MUL-FMOD860 features a front panel digital channel display, is user friendly, and is easy to use for both residential and commercial applications. The engineers behind the technology of this modulator made sure that the design will perform with long term stable operation, reliability, and high quality video output.

The Multicom MUL-FMOD860 can be used for composite Audio/Video sources such as Satellite Receivers, DVD players, Digital Signage Media Players, Security Cameras, computers, and more.

Features:

- SAW filtered for maintenance/interference-free adjacent channel placement
- 55dBmV RF output level, typical
- Phase-lock loop frequency control
- Front panel controls and a convenient -20 ± 10 dbMv output test point
- Three-digit red LED display and controls for convenient monitoring and operation
- The MUL-FMOD860 is designed to fit in a standard 19" rack
- Auxiliary AC outlet for convenience

Item	Parameter	Specification
Audio/Video Input	Video Connector	Yellow RCA
	Video Input Level	0.6-1.5Vp-p
	Video Signal to Noise Ratio	50dBmV
	Video Input Impedence	75 Ohms
	Video Frequency Response	±1dB (25Hz~5.8 MHz)
	Audio Connector	White RCA
	Audio Input Level	-10~10dBm
	Audio Input Impedence	10K Ohm mimimum
RF Ouput	Connector	'F' Female
	Frequency Range	134 Channels, frequency range 54 MHz to 870 MHz 2~13, A-1(99)~A-5(95), A(14)~ZZZ (88), 89~135
	Channel Type	CATV
	Output Level	55dBmV (115dBμV) Typical
	Out of Band Rejection	≥ 60dBmV
	Test Point	-20 ± 10 dBmV
	A / V Ratio	-10 ~ -20dB (adjustable)
	Frequency Stability	±10KHz
	Impedence	75 Ohms
General	Power Supply	110 VAC (±10%)
	Power Consumption	5 Watts
	Operating Temperature	-25 ~ 55°C
	Storage Temperature	-40 ~ 70°C
	Humidity Operation/Storage	40-70% / 40-95%
	Dimensions (L x W x H)	200 x 127 x 51mm (19" x 1.75" x 6.6")
	Weight	1.6 Kgs / 3.5lbs.

MUL-FMOD860-XXX
└ Channel Select (2-135)

NEW! CH 2-135

HIGH BANDWIDTH AGILE MODULATOR

The Multicom MUL-AMOD860-WS is a commercial-grade, SAW filtered, frequency agile analog modulator that offers the same high quality as fixed analog modulators but with the freedom and flexibility of changing the output channel from CH 2 through 135. It provides system operators the engineering ease and flexibility required with new headend deployments, upgrades, and system maintenance.

The modulator is used to convert a single AV input from any of a variety of sources into an RF output. The Multicom MUL-AMOD860-WS is flexible, user friendly, and is easy to use for both Residential and Commercial applications. The engineers behind the technology of this Modulator made sure that the design will perform with long term stable operation, reliability, and high quality video output. The Modulator can be used for A/V sources such as Satellite Receivers, DVD players, Digital Signage Media Players, Security Cameras, computers, and more.

Features:

- SAW filtered for accurate side band response and high adjacent rejection
- 60dBmV RF output level, typical
- 2 Phase lock loop synthesized frequency control
- Meets FCC Offset and Accuracy Requirement
- Non-volatile memory maintains channel selection in event of power loss
- Three-digit LED display and controls for convenient monitoring and operation
- Switching power supply for installation flexibility and precise voltage regulation
- The MUL-AMOD860-WS is designed to fit in a standard 19" rack

Item	Parameter	Specification
Audio/Video Input	Video Connector	F Connector (RCA to F-connector included)
	Video Input Level	1.0 Vp-p (0-90% Modulation)
	Video Frequency Response	± 2dB
	Audio Connector	F Connector (RCA to F-connector included)
	Audio Input Level	1.0 Vp-p (±30KHz Peak Deviation)
	Audio Intercarrier Stability	NTSC: 4.5MHz ±5KHz above Video Carrier
	Audio Frequency Response	± 1dB
RF Output (NTSC)	Connector	F Connector
	Frequency Range	47 – 860 MHz (Select Ch2 to Ch135)
	Output Level	60dBmV Typical (adjustable)
	Test Point	-20dB (±3dB)
	A / V Ratio	15 or 20dB (±2dB, adjustable)
	Frequency Stability	± 5KHz
	Impedence	75 Ohms
	Spurious Harmonics	60dB Typical
	C/N In Channel	63dB
	C/N Out of Channel	75dB
General	Power Supply	90 ~ 260 VAC, 50/60Hz
	Power Consumption	10 Watts
	Operating Temperature	32 ~ 122°F (0 ~ 50°C)
	Storage Temperature	-4 ~ 158°F (-20 ~ 70°C)
	Humidity	<95%
	Dimensions	19" x 2.25" x 1.75" (48.3 x 5.7 x 4.4cm)
	Weight	3.5lbs (1.6 Kgs)

MUL-AMOD860-WS

NEW!

HD ENCODER - 1 CHANNEL

Broadcast HD Content to an Unlimited Number of TVs

Features:

- FCC Compliant
- HDMI input, RF QAM output
- Adjustable Attenuation
- RJ-45 port for web configuration
- Video resolution up to 1080p
- Perfect, high resolution video on fast sports action, state-of-the-art CGI videos, text crawls/rolls, etc.
- Front panel LCD for easy setup
- Cool and silent operation

USA TECHNOLOGY

FC CERTIFIED

Multicom's MUL-HDENC-C-100 delivers crystal-clear digital HD video distribution over your existing coax cabling from your unencrypted HDMI sources.

This single channel QAM, MPEG2, Encoder/Modulator unit allows you to easily distribute customized SD and Full HDTV content, up to 1080p resolution, on any of 134 channels – to an unlimited number of displays, using the TV's built in QAM tuner, eliminating the need for cumbersome, expensive set-top-boxes or media players at each display.

This Encoder/Modulator is perfect for multi-video distribution in the commercial and institutional markets, and existing networks can easily and inexpensively include Full HDTV content. Regardless if you are moving HD content around a hotel, sports bar, senior living facility, convention center, student-housing complex, apartment building, stadium, or arena, the compact and economical Multicom MUL-HDENC-C-100 HD Digital Encoder has the powerful features you need.

MUL-HDENC-C-100-NA

NA = USA: QAM
MX = Mexico: ATSC

Parameter	Specification
Inputs	
HDMI	1.4v
Audio Inputs	
Audio Input	HDMI Embedded
Video Encoder	
Video Codecs	MPEG-2 VBR
Video Resolutions	1080p,1080i, 720p, 480p, 480i
Audio Encoder	
Audio Compression	MPEG-1 Layer II, MPEG-4 AAC, AC-3 Pass Through
RF QAM Support	
Frequency	**J.83B:** 57-861 MHz (CH 2-CH 135) **ATSC:** 57- 803 MHz (CH2 - CH 69)
RF Channel Output (Programs / QAM)	1 Program / 1 QAM
Constellation	**J.83B:** 64 QAM/ 256 QAM (STC/HRC/IRC) **ATSC:** 8-VSB
Bandwidth	6 MHz
RF Level Output	+38dBmV Typical
MER	>37dB (38 dB Typical)
Interleaver	Supported (12 presets)
Channel Type	STD, HRC, IRC / ATSC
VCN	Auto, Manual 1-Part, Manual 2-Part
Attenuation	0 – 20dB (manual)
RF Output	"F"- Female 75Ω
Management / Control	
GUI Supported	IE9, FireFox, Chrome, Safari
GUI Control	RJ45 10/100
Password Protected	Front Panel, Web Interface
General	
Dimensions	7.5" x 5.25" x 1.75"
Front Panel	LCD Front Panel Control/Status
Power Supply	12VDC, 1.5Amp

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

NEW!

HD ENCODER - DELUXE - 1 CHANNEL

Output QAM, ATSC, ISDB-Tb, or DVB-T to an Unlimited Number of Tvs

USA TECHNOLOGY

FC CERTIFIED

Multicom's MUL-HDENC-C-200 delivers crystal-clear digital HD video distribution over your existing coax cabling from your HDMI, component, and composite video sources. User may select output as QAM, ATSC, ISDB-Tb, or DVB-T.

This single channel QAM, MPEG2, Encoder/Modulator unit allows you to easily distribute customized SD and Full HDTV content, up to 1080p resolution, on any of 134 channels – to an unlimited number of displays, using the TV's built in tuner, eliminating the need for cumbersome, expensive set-top-boxes or media players at each display.

This Encoder/Modulator is perfect for multi-video distribution in the commercial and institutional markets, and existing networks can easily and inexpensively include Full HDTV content. Regardless if you are moving HD content around a hotel, sports bar, senior living facility, convention center, student-housing complex, apartment building, stadium, or arena, the compact and economical Multicom MUL-HDENC-C-200 HD Digital Encoder has the powerful features you need.

Features:

- FCC Compliant
- HDMI, component, and composite input, RF QAM, ATSC, ISDB-Tb, and DVB-T user selectable output
- Closed captioning on ATSC and QAM
- Adjustable Attenuation
- RJ-45 port for web configuration
- Video resolution up to 1080p
- Perfect, high resolution video on fast sports action, state-of-the-art CGI videos, text crawls/rolls, etc.
- Front panel LCD for easy setup
- Cool and silent operation

Inputs	Specifications
HDMI, Component, Composite	HDMI 1.4
EAS	RCA 3.5mm, 5-12VDC & Dry Contact Closure
Audio Inputs	
Audio Input	HDMI Embedded, Analog
Video Encoder	
Video Codecs	MPEG-2 VBR
Video Resolutions	1080p, 1080i, 720p, 480p, 480i
Audio Encoder	
Audio Compression	MPEG-1 Layer II, MPEG-4 AAC, AC-3 Pass Through
RF QAM Support	
Frequency	**J.83B:** 57-861 MHz (CH 2-CH 135) **ATSC:** 57- 803 MHz (CH2 - CH 69) **ISDB-Tb:** 177-803 Mhz (CH7 - CH 69) **DVB-T:** 6MHz: CH: 2-69, 57~803MHz 7MHz: CH: 6-9, 9A, 10-12, S11-S45, 21-69 8MHz: CH: E2-E4, X-Z, Z1, Z2, S1-S10, E5-E12, S11-S41, E21-E69
RF CH Out(Programs / QAM)	1 Program / 1 QAM
Constellation	**J.83B:** 64 QAM/ 256 QAM (STD/HRC/IRC) **ATSC:** 8-VSB **ISDB-Tb:** 16 QAM/64 QAM **DVB-T:** 16 QAM/64 QAM
RF Level Output	+35dBmV Typical
MER	>37dB (38dB Typical)
Interleaver	Supported
Modulator Modes	**J.83B, ATSC, ISDB-Tb, DVB-T**, user selectable
VCN	Auto, Manual 1-Part, Manual 2-Part
Attenuation	0 – 20dB (manual)
RF Output	"F"- Female 75Ω
Management / Control	
GUI Supported	FireFox, Chrome, Safari, EDGE
Languages	English, Spanish (Web GUI)
Closed Caption (J.38B & ATSC)	EIS-608
Password Protected	Front Panel, Web Interface
General	
Dimensions	9.3" x 5.75" x 1.3"
Front Panel	LCD Front Panel Control/Status
Power Supply	12VDC, 1.5Amp, 100-240VAC 50/60Hz, US Plug

19" Rack Mount Bracket Kit
& Wall Mount Accessories Included

MUL-HDENC-C-200-NA

NA = Default USA: QAM
MX = Default Mexico: ATSC
CO = Default Columbia: DVB-T
LA = Default Latin America: ISDB-Tb

NEW!

HD ENCODER RACK SHELF KIT

The Multicom MUL-HDENC-SHELFKIT-10 is used for rack-mounting Multicom Encoders into a 19" rack. The kit includes one 4RU Shelf (minimum), and all of the screws, washers necessary for mounting. The Rack Shelf Kit can accomodate up to ten MUL-HDENC-C-100 and/or MUL-HDENC-C-200 HD Digital Encoder Deluxe units.

The kit includes the top and bottom shelving units, cross bar for securing the encoders, and 10 protective pads.

MUL-HDENC-SHELFKIT-10

The MUL-HDENC-SHELFKIT-PWR is a single AC adapter that feeds up to 10 HD Encoders. This octopus cable saves space and eliminates cable clutter.

MUL-HDENC-SHELFKIT-PWR

FREE SPACE

See all of the white space on this page? It's my fault. I design these catalogs and I'm at a loss as to what to do with this space. So, I'm going to put me here - and Gil. That said, I really enjoy designing these catalogs and hope you find them a useful resource from a company that gives 100% every day. Todd Schaffer - Marketing & Graphics

Multicom has been in business for 40 years. This didn't happen by chance. It is because at Multicom we always strive to do what is in the best interest of our customers. Just like an old fashion big family, communication is paramount. When customers see Multicom cares business flows naturally. I started working 22 years ago at Multicom our family of customers keeps growing while I still service my customer base for decades. They are my pride and joy! Gilberto Caicedo - Director of International Sales

NEW!

HIGH DEFINITION DIGITAL ENCODER - DVB-T - 4 CH

The Multicom MUL-HDENC-C-400-DVB-T is a quad input, High Definition Agile Digital Encoder/ Modulator used to convert up to four HDMI video-audio input of up to 1080i/1080p into a DVB-T QAM64 RF output. Its feature rich, high quality, high performance makes it suitable for Commercial and Residential use in Colombia and other countries using the DVB-T standard.

The MUL-HDENC-C-400-DVBT is a 1RU DVB-T HD Encoder making it ideal for any Commercial RF Network integration. The high-quality HD design allows for watching action packed movies and sports channels on any HDTV. The space saving design enables up to 4 High Quality HD/SD DVB-T channels in a single 1RU space.

Features:

- USA technology for high performance, high quality, high reliability
- High Resolution output
- HD/SD Video Bitrate Control
- 4 HDMI inputs / H.264 CBR Output
- Intuitive GUI for fast installation and deployment
- Advanced System Parameters with external SMTP Server functionality Support
- Dual Language (English/Spanish) GUI
- LCN Channel Control
- MP2 / AAC Audio
- PID Control: PMT | Video | Audio | PCR
- Rack mountable 1RU height

General	
Local Monitoring	LCD
SMTP Alarms	Embedded
Web GUI Supported	Firefox, Chrome, Safari, Edge
Password Protected	GUI: User Settable
Redundant PSU	Yes, 2 Power Supplies (Main & Standby)
Power Supply	12 VDC 4A
Consumption	26 Watts
Operational Temperature	0°C - +55°C
Storage Temperature	-20°C - +70°C
Dimensions	438mm x 206mm x 44mm
Weight	2.5 KG
Language	English
Firmware Version	20191101, or later
Net Version	2.1.10, or later
Output	
COFDM	
Standard	DVB-T
Connector	1 x "F" Female
Frequency Range	177.000 MHz to 803.000 MHz (Channel 7 to Channel 69) Independent RF Frequencies
Output Level	85 dBµV Typical
Flatness Across Full Band	± 2 dB
MER	38 dB Minimum, 39 dB Typical
Carrier (OFDM Mode)	2k, 8k
Guard Interval	1/32
Code Rate (FEC)	7/8
Constellation	64-QAM (23.751Mbps)
Output Impedance	75 Ohm
RF Output Return Loss	10dB Typical
LCN	Colombia Standard
Video / Audio Input	
HDMI 1.4	
Connectors	Quad
Audio	Embedded PCM
Video	
Video Codecs	H.264
Resolution Output	1080p/ 1080i/ 720p/ 576p/ 576i/ 480p/ 480i
Audio	
Audio Codecs	MPEG1 Layer II / MPEG4 AAC

MUL-HDENC-C-400-DVB-T

NEW!

ENCODER / MODULATOR WITH IP STREAMING - 8CH

USA TECHNOLOGY

The Multicom MUL-HDENC-IP-C-8000 outputs 8 video streams in either MPEG-2 or MPEG-4 / H.264. Integrators can tailor each channel for the most demanding applications by utilizing the full bandwidth, while still providing the highest quality video resolution.

Features:

- 4x QAM • 8x IP • 1 ASI
- Remote Monitoring and Control
- High Density Headend Installations
- System Control of Encoder(s) via GUI
- IPTV System Capable
- EAS Functionality
- Compact 1RU Design for Encoder
- MPEG-2/H.264

Video / Audio Inputs	
HDMI 1.4v	8
Component & Composite Video / Audio Input (Combined) with Closed Captioning Support	8 via DIN Connectors, cables included
EAS Input	1
Outputs	
ASI	Single Output (1 MPTS Stream Carrying 8 Programs)
IP (GigE)	RTP / UDP Multicasting, RTP / UDP Unicasting
Video Formats	
Resolution	1080p (H.264 Only), 1080i, 720p, 480p, 576i, 480i
Video / Audio Compression	
Video Codecs	MPEG-2, MP@HL/H.264
Audio Codecs	MPEG-1 Layer II / AAC / AC-3 Pass Through AC-3 Encode (Optional)
RF Output	
Channel Plan	57-861 MHz (Channels #2-135)
Output Level	+45 dBmV
Output Impedance	75 ohm
Level Adjustment	1-20 dB
Modulation Modes	QAM 256
QAM Type	J.83B
VCN	3 Modes Available
MER	42dB Minimum, 43dB Typical
Closed Caption	Supported
General	
GUI Supported	IE, Firefox, Chrome, Safari
Password Protected	Default Setting (Changeable Setting)
Firmware Upgradeable	Contact Multicom
Fan Cooled	Internal
Power Supply	12VDC 6.66 Amp
Consumption	4050mA
Language	English

MUL-HDENC-IP-C-8000

Do it right the first time. Always quality over quantity.
Lou Mennella - Multicom Warehouse Manager (and man of few words)

NEW!

SD STREAMING ENCODER - 8 CHANNEL

USA TECHNOLOGY

The economical Multicom MUL-SDENC-IP-C-800 outputs high quality SD QAM or IP streams from 8 composite inputs, all in a 1RU unit. Provides virtual channel mapping for flexibility and a front panel display and buttons for quick and easy setup.

Features:

- 8 Composite A/V Inputs
- IP/QAM Output
- Virtual Channel Mapping
- Remote Monitoring and Control
- System Control of Encoder(s) via GUI
- IPTV System Capable
- Compact 1RU Design for Encoder

Video / Audio Inputs	
Composite Video / Audio	8 inputs
Outputs	
IP (GigE)	RTP/UDP Multicasting, RTP/UDP Unicasting (Optional)
Video Formats	
Resolution	NTSC 720x480 @30fps
Video / Audio Compression	
Video Codecs	MPEG-2, MP@ML
Audio Codecs	MPEG-1 Layer II
RF Output	
Channel Plan	Varies by Country
Output Level	+47 dBmV Typical
Output Impedance	75 ohm
Level Adjustment	1-20 dB
Modulation Modes	QAM 64/256
QAM Type	ATSC / DVB-T / DVB-C / J.83B
LCN	Embedded
MER	42dB Minimum, 43dB Typical
General	
IP Management Port 10Mbps	Single
LCD Front Panel	Dual line, Scrolling display
GUI Supported	IE, Firefox, Chrome, Safari
Password Protected	Default Setting (Changeable Setting)
Firmware Upgradeable	Contact Multicom
Fan Cooled	Internal
Power Supply	12VDC 4 Amp
Consumption	2050mA (24.6W)
Language	English

MUL-SDENC-IP-C-800

Numbers. As the Multicom Controller I have eight million numbers rolling around in my head at any given time. Luck for me, I love numbers, that's probably why I've chosen this profession and enjoy my job so much.
Paul Lindstrom - Multicom Controller

OUTSIDE PLANT

Bring your network on-line quickly and efficiently while protecting your investments against the elements

Our outside plant portfolio is a perfect example of an extended family of CATV and fiber-rich solutions for every environment. These new solutions, including our expanded line of Pole Line Hardware, exceed industry standards for aerial, underground, commercial and side-of-home applications, and delivers rapid deployment and operational efficiency, superior mechanical and RF/optical performance, even in the harshest environments. With a broad and deep portfolio that includes high-capacity fiber and hybrid fiber coaxial systems — plus the networking expertise to help support all your applications.

DROP COAX CABLE

High-performance coaxial cable engineered for today's high-performance, high speed networks

Multicom has been a leader in the development and manufacturing of the coaxial cable that keeps residential and commercial structures connected to today's advanced communications networks - whether they are suspended in the air or buried underground.

Every foot of cable we produce is manufactured to our strictest specifications and quality-control tested every step of the way. The result is a cable that can reliably carry more bandwidth over longer distances, with unsurpassed signal clarity.

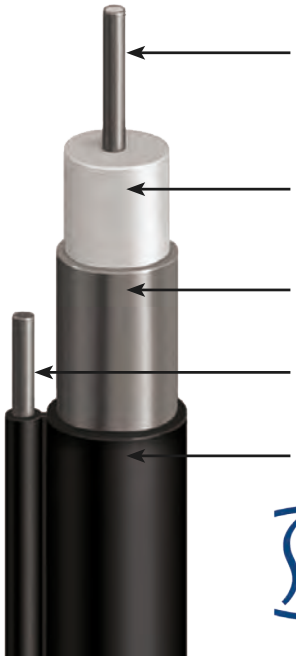
DID YOU KNOW?

SCTE Society of Cable Telecommunications Engineers

Multicom's Premium Coaxial product line meets or surpasses the latest SCTE requirements. These products have successfully passed extensive SCTE 15 and 74 evaluation testing in an independent US laboratory.

Cable Type	Part #	Braid %	Color / Description
RG-59	M5960-BV	60%	Black
RG-59	M5960-BVV	60%	Black, CATV UL Listed
RG-59	M5995C-BVRS	95%	Black, CMR UL. Solid Copper Center Conductor
RG-59	M5995C-BVRDS 18/2	95%	Black, CMR UL. Solid Copper Center Conductor, Two 18 Gauge Copper Wires, 500' Reel
RG-6	M660-BV	60%	Black
RG-6	M660-BVW	60%	White
RG-6	M660-BVV	60%	Black, CATV UL Listed
RG-6	M660-BVVW	60%	White, CATV UL Listed
RG-6	M660-BVM	60%	Black, Messenger
RG-6	M660-BEF	60%	Black, Flooded
RG-6	M6Q-BVV	60%	Quad Shield, CATV UL Listed
RG-6	M690-BV	90%	Black
RG-6	M690-BVW	90%	White
RG-6	M690-BVV	90%	Black, CATV UL Listed
RG-6	M690-BVVW	90%	White, CATV UL Listed
RG-6	M690-BVM	90%	Black, Messenger
RG-6	**M660T-BVS**	**90%**	**SCTE Compliant / Tri-shield, Premium**
RG-6	M660-BVXS	60%	CMX UL, Solid Copper Center Conductor
RG-6	M660-BVXDS	60%	CMX UL, Black, Dual Solid Copper Center Conductor, 500' Reel
RG-11	M1160-BV	60%	Black
RG-11	M1160-BVV	60%	Black, CATV UL Listed
RG-11	M1160-BVM	60%	Black, Messenger
RG-11	M1160-BVF	60%	Black, Flooded
RG-11	M1190-BV	90%	Black
RG-11	M1190-BVV	90%	Black, CATV UL Listed
RG-11	M1190-BVM	90%	Black, Messenger
RG-11	**M1160T-BVS**	**90%**	**SCTE Compliant / Tri-shield, Premium**

.500 & .540 TRUNK CABLE



Society of Cable Telecommunications Engineers

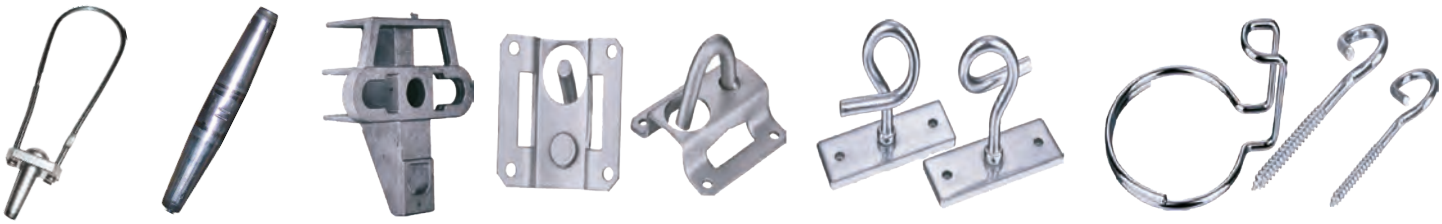
Multicom Premium Trunk Cable

The .500 trunk cable, M500-JCAM109-S, provides the exceptional performance of premium SCTE 15 - compliant product also at Multicom's popular pricing.

Part #	Description
M500-JCAM109	.500 / Extruded
M500-JCAM109W	.500 / Argon Welded
M500-JCAM109S	**.500 / SCTE Compliant, Premium**
M540-JCAM109	.540 / Argon Welded
M540-JCA-W	.540 (no messenger)

Multicom's Extruded and Welded .500, and .540 Messenger Trunk Cable are manufactured in an ISO 9001 Certified facility and has specifications that exceed industry standards - with low attenuation and inherent strength. Its proven performance and reliability make it the right choice for distribution applications.

Multicom stocks a variety of proven, high-reliability Messenger Trunk cable for above ground cabling as well as the **essential supporting products:**



Quickvise | Quicksplice | Pole Brackets | Wall Brackets | Cable Brackets & Hooks

HEAT SHRINK TUBING

Multicom's heavy-duty heat shrinkable tubing is ideal for mechanical and environmental protection of CATV cable and is designed for aerial and direct burial connections. It is a medium-wall tubing with a halogen-free, radiation cross-linked polyolefin outer layer and heat-melt adhesive inner layer.

When heating the tubing with either a heat gun or torch, the tubing can shrink down from 40mm (1.5in) to 12mm (.47in), and the lining of adhesive sealant will flow for easy sealing and bonding.

Features:

- Moisture/waterproof
- High resistance to impact, abrasion and UV
- Flame retardant
- Fungus resistant
- Halogen free, environmentally friendly
- Meets ASTM standards

Min. inner dia. before shrink	Max inner dia. after shrink	Min. thickness after shrink	Normal length/pc
40 mm (1.5 inch)	**12 mm (.47 inch)**	**2 mm (.08 inch)**	**1.22 M (48 inch)**
75 mm (3 inch)	22mm (.86 inch)	4 mm (.16 inch)	1.22 M (48 inch)
95 mm (3.74 inch)	29mm (1.14 inch)	4.1 mm (.161 inch)	1.22 M (48 inch)

M-HST-1500
M-HST-3000
M-HST-3740

TRUNK CONNECTORS

FEED THRU

M500B-T10

The 500 Feed Thru Connector seizes the outer and center conductor of the coaxial cable. The cable center conductor extends thru this type of connector and is retained within the equipment housing.

SPLICE

M500-SP-T10
M540-SP-T10
M625-SP-T10
M750-SP-T10
M875-SP-T10

The 500 Splice Connector is used to join together two cables. It also seizes the outer and center conductors of the cable.

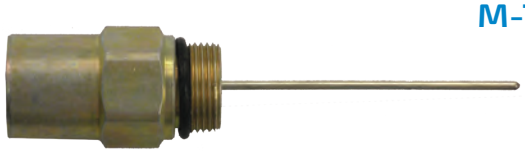
KS MALE TO F-FEMALE

MF-625-CH

The KS Male to F-Female adapter is used to change from Housing to F-Female Connector.

HOUSING TERMINATOR

M-TRM



The Housing Terminator Connector is used in cable systems where it becomes necessary to terminate the RF signal.

- Aluminum Alloy with Chromate Finish
- High RF performance in pedestal or straight through configurations • "O" Ring Seals

PIN

M500-CH3-T10
M540-CH3-T10
M625-CH3-T10
M750-CH3-T10
M875-CH3-T10

The three-piece Pin Type Connector seizes the outer and center conductor of the coaxial cable. A solid brass pin seizes and retains the cable center conductor. The pin then extends thru the body and is retained within the equipment housing.

RG-11 PIN

M-11-CH3-T10

Multicom's 3-piece RG-11 Pin Type Connector seizes the outer and center conductor of the coaxial cable. It has an additional feature not found in the feed thru type consisting of a solid brass pin which seizes and retains the cable center conductor. The pin then extends thru the body and is retained within the equipment housing.

HOUSING TO HOUSING

M-HSG-HSG

The Housing to Housing Connector eliminates the need for jumpers and allows the connection of equipment without cable.

90° ADAPTER

M-90

The 90° Adaptor is designed for pedestal type installations where space restrictions require a right-angle connection between equipment and coaxial cables.

HOUSING TERMINATOR-6KV

M-TRM6KV

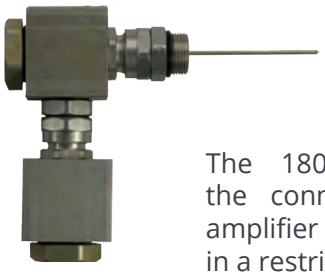
Multicom's Housing Terminator is used in cable systems where it becomes necessary to terminate RF signal power. It seizes the outer and center conductors of the cable.

Features:

- **Can accommodate 6KV surge**
- Aluminum alloy with chromate finish
- "O" Ring seals
- Bandwidth: 5 MHz to 1 GHz
- Nominal impedance: 75 ohms

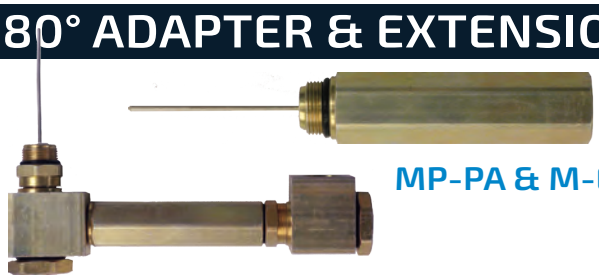
180° ADAPTER

M-180



The 180° Adaptor provides the connection between the amplifier and cable connector in a restricted space.

180° ADAPTER & EXTENSION



MP-PA & M-EXT

Multicom's 180° Adapter designed for applications where space limitations require a 180 degree connection between cable and equipment.

Part #	Description
MP-PA-3.0-T	180° with 3" Extension
MP-PA-4.5-T	180° with 4.5" Extension
MP-PA-6-T	180° with 6" Extension
M-EXT-3	3" Extension
M-EXT-4.5	4.5" Extension
M-EXT-6	6" Extension

RG-11 FEED-THRU

Multicom's Housing to RG-11 Feed-Thru Connector

MCON-11

- Aluminum Alloy with Chromate Finish
- "O" Ring Seals
- Bandwidth: 5 MHz to 1 GHz
- Nominal Impedance: 75 ohms

SPLICE BLOCK

M-SPB

The Multicom Splice Block has been designed with superior electrical performance characteristics. The one-piece body is machined from a aluminum alloy. This product is designed to give high RF performance in pedestal configurations.

Part #	Description
M-SPB-2	2" Splice Block
M-SPB-3	2.75" Splice Block

500 TO F-FEMALE

M500-BAFF-T10
M540-BAFF-T10
M625-BAFF-T10
M750-BAFF-T10
M875-BAFF-T10
M750-BAFF-T10
M875-BAFF-T10

The 500 to F-Female Connector is used when an F-Female port is required at the end of a cable. It also seizes the outer and center conductors of the cable.

LOCKING TERMINATOR

MLT-1

Multicom's Theft Deterrent Locking Terminators are designed to provide optimal performance in typical field installations. They provide a weather-resistant, high performance termination when installed in less than optimal environments.

LOCKING TERMINATOR TOOL

LTL-7

Universal Install Removing Theft Proof Termination Security Tool for use with the LTL-7. It features solid spring steel ears with a length of the plunger diameter is .245". It is durable, long lasting and easy to use.

OUTDOOR POWER PASSING TAPS - 1 GHZ

Multicom features a complete line of quality outdoor taps with frequency coverage to 1 GHz. Available in two, four and eight port models that are capable of both strand and pedestal mounting.

These taps are constructed with the circuitry on a removable faceplate for ease in changing tap values. Separate gaskets are used to provide weatherproofing and RFI integrity.

All taps feature nickel-plated brass F connectors on the tap ports, and 5/8" entry fittings on input and output ports. The housings are made with powder-coated 360 aluminum alloy with a polyurethane coating to ensure maximum corrosion resistance.

Features:

- 1GHz
- Power Passing - Uninterrupted service when faceplate is removed
- Nickel-plated brass F connectors
- 120 dB RFI shielding
- Epoxy sealed with weather-proof gaskets
- Swivel-entry blocks for easy installation of connectors
- Frequency range 5-1,000 MHz
- 15 amp current capacity, 60-90VAC
- Powder-coated 360 aluminum alloy die-cast housing
- Aerial or pedestal mounting
- Printed circuit board
- Blocking capacitors on the F ports for surge resistance

Common Specifications:

Tap Loss Tolerance (dB)	
5-10 MHz	±1.5
10-550 MHz	±1.0
550-1000 MHz	±1.5
Tap to Tap Isolation (dB)	
5-10 MHz	24
10-550 MHz	27
550-600 MHz	24
600-1000 MHz	23
Return Loss (dB)	
@5-10 MHz	16
@10-400 MHz	26
@400-550 MHz	18
@550-870 MHz	16
@870-1000	17
Impedance	
All Ports	75 Ohm
Power	
Power Passing (AC/DC)	6A

2-Port Outdoor Power Passing Tap

Insertion Loss (dB)	4	8	11	14	17	20	23	26	29	32	35
5-10 MHz	T	3.6	1.8	1.3	1.0	0.8	0.8	0.8	0.8	0.8	0.8
10-450 MHz	T	3.8	1.8	1.5	1.4	1.0	1.0	1.0	1.0	0.8	0.8
450-550 MHz	T	4.2	2.2	1.7	1.5	1.2	1.2	1.2	1.2	1.2	1.2
550-750 MHz	T	4.5	2.8	1.8	1.8	1.4	1.4	1.4	1.4	1.4	1.4
750-1000 MHz	T	4.8	3.8	2.4	2.2	1.7	1.7	1.5	1.5	1.5	1.5
Isolation Between Tap-Port & Thru-Port	**4**	**8**	**11**	**14**	**17**	**20**	**23**	**26**	**29**	**32**	**35**
5-10 MHz	-	21	21	22	25	26	29	32	32	32	33
10-450 MHz	-	26	26	26	31	33	35	36	40	42	46
450-550 MHz	-	32	25	25	30	33	35	38	40	42	45
550-750 MHz	-	22	23	25	28	30	32	36	37	40	42
750-1000 MHz	-	22	23	25	28	30	32	36	37	40	42

They say that if you love your job, you'll never have to work a day in your life. Untrue! I love my job, but I work my butt off! It never stops, days whizz by, but I'm not complaining. I really enjoy what I'm doing. Richard Henry - Multicom Sales Executive

OUTDOOR POWER PASSING TAPS - 1 GHZ

4-Port Outdoor Power Passing Tap

Insertion Loss (dB)	8	11	14	17	20	23	26	29	32	35
5-10 MHz	T	3.2	1.8	1.3	1.0	0.8	0.8	0.8	0.8	0.8
10-450 MHz	T	3.5	1.8	1.4	1.2	0.8	0.8	0.8	0.8	0.8
450-550 MHz	T	4.0	2.3	1.6	1.4	1.2	1.0	1.0	1.0	1.0
550-750 MHz	T	4.4	3.0	1.8	1.6	1.4	1.2	1.2	1.2	1.2
750-1000 MHz	T	4.8	3.7	2.2	2.0	1.8	1.5	1.5	1.5	1.5
Isolation Between Tap-Port & Thru-Port	**8**	**11**	**14**	**17**	**20**	**23**	**26**	**29**	**32**	**35**
5-10 MHz	-	22	22	25	30	30	30	32	32	33
10-450 MHz	-	26	27	30	36	36	38	40	42	44
450-550 MHz	-	24	28	30	35	35	35	40	42	42
550-750 MHz	-	23	24	27	32	32	34	35	38	40
750-1000 MHz	-	23	24	27	32	32	34	35	38	40

8-Port Outdoor Power Passing Tap

Insertion Loss (dB)	11	14	17	20	23	26	29	32	35
5-10 MHz	T	3.6	1.8	1.4	1.0	1.0	1.0	1.0	1.0
10-450 MHz	T	4.2	2.2	1.6	1.1	1.1	1.1	1.1	1.1
450-550 MHz	T	4.5	2.5	2.0	1.5	1.2	1.2	1.2	1.2
550-750 MHz	T	4.6	3.0	2.2	1.8	1.3	1.3	1.3	1.3
750-1000 MHz	T	4.9	3.2	2.6	2.2	1.5	1.5	1.5	1.5
Isolation Between Tap-Port & Thru-Port	**11**	**14**	**17**	**20**	**23**	**26**	**29**	**32**	**35**
5-10 MHz	-	23	24	27	28	30	32	34	36
10-450 MHz	-	24	25	28	30	32	34	35	38
450-550 MHz	-	27	27	30	34	38	40	42	42
550-750 MHz	-	25	27	30	33	33	35	38	40
750-1000 MHz	-	25	27	30	33	33	35	38	40

MTSAG-204P

- Tap Value (8, 11, 14, 17, 20, 23, 26, 29, 32, 35)
- # of Ports (2, 4, 8)

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 satisfed.
Gabriel Rodriguez - Multicom Warehouse Associate

OUTDOOR POWER PASSING TAPS - 1.2 GHZ

Multicom stocks a complete line of quality outdoor taps with frequency coverage to 1.2 GHz. Available in two, four and eight port models that are capable of both strand and pedestal mounting. These taps are constructed with the circuitry on a removable faceplate for ease in changing tap values. Separate gaskets are used to provide weatherproofing and RFI integrity.

All taps feature nickel-plated brass F connectors on the tap ports, and 5/8" entry fittings on input and output ports. The housings are made with powder-coated 360 aluminum alloy with a polyurethane coating to ensure maximum corrosion resistance.

Features:

- Frequency range 5-1,218 MHz (1.2GHz)
- Power Passing - Uninterrupted service when faceplate is removed
- Nickel-plated brass F connectors
- 120 dB RFI shielding
- Epoxy sealed with weather-proof gaskets
- Swivel-entry blocks for easy installation of connectors
- 15 amp current capacity, 60-90VAC
- Powder-coated 360 aluminum alloy die-cast housing
- Aerial or pedestal mounting
- Printed circuit board
- Blocking capacitors on the F ports for surge resistance

Common Specifications:

Return Loss (dB)	
5-950	18
950-1218	10
Impedence	75 Ohm
Power	60-90 VAC 50/60MHz

2-Port Outdoor Power Passing Tap

Insertion Loss	4	8	11	14	17	20	23	26	29	32	35
5-10	T	3.6	2.0	1.1	1.0	0.7	0.7	0.7	0.7	0.7	0.7
10-65	T	3.6	1.9	1.1	1.0	0.7	0.7	0.7	0.7	0.7	0.7
65-300	T	4.2	2.0	1.3	1.1	0.9	0.9	0.9	0.8	0.8	0.8
300-550	T	4.7	2.7	1.8	1.6	1.3	1.3	1.3	1.2	1.2	1.2
550-750	T	5.0	2.9	2.0	1.7	1.5	1.5	1.4	1.4	1.4	1.4
750-862	T	5.0	3.0	2.2	1.9	1.7	1.7	1.7	1.5	1.5	1.5
862-1000	T	5.1	3.1	2.3	2.0	1.8	1.8	1.8	1.6	1.6	1.6
1000-1218	T	5.2	3.4	2.5	2.2	2.1	1.9	1.9	1.7	1.7	1.7
Isolation Between Tap-Port & Thru-Port	**4**	**8**	**11**	**14**	**17**	**20**	**23**	**26**	**29**	**32**	**35**
5-10	T	26	26	27	31	33	35	36	38	40	43
10-65	T	26	27	30	32	33	35	36	38	40	45
65-300	T	25	28	32	35	35	37	37	40	45	48
300-550	T	22	28	30	32	32	35	36	39	42	46
550-750	T	22	28	28	30	32	35	35	38	40	44
750-862	T	22	27	28	30	31	33	34	37	38	42
862-1000	T	22	25	26	28	29	31	33	35	36	38
1000-1218	T	22	24	25	26	27	28	30	31	33	35
Tap-to-Tap Isolation	**4**	**8**	**11**	**14**	**17**	**20**	**23**	**26**	**29**	**32**	**35**
5-65	26	26	26	26	26	26	26	26	26	26	26
65-300	27	27	28	28	28	28	30	30	30	30	30
300-550	25	25	25	25	25	25	26	26	26	26	26
550-862	24	24	24	24	24	24	24	24	24	24	24
862-1218	22	22	22	22	22	22	22	22	22	22	22

OUTDOOR POWER PASSING TAPS - 1.2 GHZ

4-Port Outdoor Power Passing Tap

Insertion Loss (dB)	8	11	14	17	20	23	26	29	32	35
5-10	T	3.6	2.0	1.1	0.9	0.8	0.8	0.7	0.7	0.7
10-65	T	3.6	1.8	1.1	0.9	0.8	0.8	0.7	0.7	0.7
65-300	T	4.0	2.0	1.3	1.0	0.9	0.9	0.9	0.8	0.8
300-550	T	4.7	2.7	1.8	1.5	1.3	1.3	1.3	1.2	1.2
550-750	T	5.0	2.8	2.0	1.8	1.5	1.5	1.5	1.5	1.5
750-862	T	5.0	3.0	2.1	1.8	1.7	1.7	1.7	1.6	1.6
862-1000	T	5.1	3.1	2.2	2.0	1.8	1.8	1.8	1.6	1.6
1000-1218	T	5.3	3.3	2.5	2.1	2.0	2.0	1.9	1.7	1.7
Isolation Between Tap-Port & Thru-Port	**8**	**11**	**14**	**17**	**20**	**23**	**26**	**29**	**32**	**35**
5-10	T	29	30	32	33	35	38	40	42	44
10-65	T	26	30	32	35	35	38	45	47	49
65-300	T	30	30	32	40	38	40	42	44	46
300-550	T	27	28	30	36	36	38	40	42	44
550-750	T	27	28	30	32	35	36	38	40	42
750-862	T	26	28	30	31	33	35	36	38	40
862-1000	T	25	26	28	29	31	33	34	36	38
1000-1218	T	23	24	24	25	28	31	31	32	35
Tap-to-Tap Isolation	**8**	**11**	**14**	**17**	**20**	**23**	**26**	**29**	**32**	**35**
5-65	26	26	26	26	26	26	26	26	26	26
65-300	30	30	30	30	30	30	30	30	30	30
300-550	26	26	26	26	26	26	26	26	26	26
550-862	24	24	24	24	24	24	24	24	24	24
862-1218	22	22	22	22	22	22	22	22	22	22

8-Port Outdoor Power Passing Tap

Insertion Loss (dB)	11	14	17	20	23	26	29	32	35
5-10	T	3.5	2.0	1.1	1.0	0.7	0.7	0.7	0.7
10-65	T	3.5	1.8	1.1	1.0	0.7	0.7	0.7	0.7
65-300	T	4.0	2.0	1.3	1.1	0.9	0.9	0.9	0.8
300-550	T	4.5	2.7	1.8	1.5	1.3	1.3	1.3	1.2
550-750	T	5.0	2.8	2.0	1.7	1.4	1.4	1.4	1.3
750-862	T	5.0	3.0	2.2	2.0	1.7	1.6	1.6	1.4
862-1000	T	5.1	3.4	2.5	2.1	1.8	1.8	1.8	1.7
1000-1218	T	5.2	3.8	2.7	2.6	2.0	2.0	2.0	2.0
Isolation Between Tap-Port & Thru-Port	**11**	**14**	**17**	**20**	**23**	**26**	**29**	**32**	**35**
5-10	T	30	32	33	35	38	40	43	50
10-65	T	30	32	33	35	38	40	43	50
65-300	T	32	32	35	38	35	38	40	45
300-550	T	28	32	35	38	35	38	40	43
550-750	T	26	32	35	35	35	38	40	41
750-862	T	26	32	35	35	35	38	40	40
862-1000	T	26	30	31	31	33	35	40	40
1000-1218	T	26	27	27	28	32	32	38	39
Tap-to-Tap Isolation	**Same Specifications as 4-Port Tap (above)**								

MTSAG-204P-1.2

- 1.2 Ghz
- Tap Value (4, 8, 11, 14, 17, 20, 23, 26, 29, 32, 35)
- # of Ports (2, 4, 8)

OUTDOOR PASSIVES–SPLITTERS, POWER INSERTERS & DIRECTIONAL COUPLERS

Multicom's line of trunk line Splitters are available in 2 and 3 way versions as well as single port Directional Coupler models with values of 8, 12 and 16dB. A Power Inserter model rounds out the series. All Splitter, Directional Coupler and Power Inserter housings have 5/8-24 entry fittings on all ports and are made with the same corrosion resistant powder coated 360 aluminum alloy die-cast casting materials as the outdoor taps.

Features:

- 1 and 1.2 GHz versions
- 120 dB RFI shielding
- Weather-proof gaskets
- Powder-coated 360 aluminum alloy die-cast housing
- 5/8" Entry fittings and are available in 2 and 3 Way
- Splitters and 8, 12 and 16dB Directional Coupler

Part#	MPISAG	MDCSA8G	MDCSA12G	MDCSA16G	MSSA2G	MSSA3G	MSSA3UG
Product	**Power Inserter**	**8dB Directional Coupler**	**12dB Directional Coupler**	**16dB Directional Coupler**	**2-Way Splitter**	**3-Way Splitter**	**3-Way Splitter Unbalanced**
Tap Loss							
5-300 MHz	-	±1.0	±1.0	±1.0	-	-	-
300-500 MHz	-	±1.0	±1.0	±1.0	-	-	-
500-1000 MHz	-	±1.5	±1.5	±1.5	-	-	-
Insertion Loss							
5-300 MHz	1.0	2.4	1.0	1.0	4.2	7.0	4.0 / 7.4
300-500 MHz	1.2	3.0	1.2	1.2	4.6	8.5	4.1 / 7.7
500-1000 MHz	1.4	3.2	2.2	2.2	5.2	9.0	4.2 / 8.8
Isolation Loss							
5-300 MHz	-	22	25	27	25	20	23 / 26
300-500 MHz	-	25	28	25	25	19	26
500-1000 MHz	-	22	20	22	20	18	26 / 23
Return Loss							
5-300 MHz	19	19	19	19	18	18	17 - 20
300-500 MHz	19	19	18	19	18	17	17 - 20
500-1000 MHz	17	17	17	17	17	17	17 - 20
Power Passing	10A	10A	10A	10A	10A	10A	10A

I often ask myself, "What have I gotten myself into?!" From day one I was working on the backend of the website, making instructional videos, and designng Tshirts. So much valuable knowledge and so interesting.
Amaya Jackson - Marketing and Graphics Intern

HIGH-PASS FILTER

M-HPF-54M
M-HPF-54S
M-HPF-50S

The Multicom High-Pass Filter prevents TV interference from cable-modem output signals. For indoor and outdoor use, the High-Pass Filter has an internal O-ring and is made with nickel-plated precision machined brass for rugged weather-proof construction.

Features:

- Prevents TV interference from cable-modem output signals
- Blocks ingress into upstream low-frequency (5~40MHz) path
- Frequency range 1~1218MHz
- High sub-band rejection >-40dB
- High return loss
- Insertion loss ≤0.3dB
- Rugged weather proof construction
- Nickel plated precision machined brass

Parameter		Specification							
Bandwidth (MHz)		5-15	5-40	54-100	101-550	551-750	751-860	861-1000	1001-1218
Insertion Loss (MHz)									
M-HPF-54M	Band Pass	NA	NA	54-100MHz - 1.2	0.3	0.3	0.3	0.3	0.3
	Band Stop	5-37MHz - 43	38-40MHz - 40	NA	NA	NA	NA	NA	NA
M-HPF-54S	Band Pass	NA	NA	54-100MHz - 1.2	0.3	0.3	0.3	0.3	0.3
	Band Stop	5-37MHz - 45	38-40MHz - 40	NA	NA	NA	NA	NA	NA
M-HPF-50S	Band Pass	NA	NA	50-100MHz - 1.2	0.3	0.3	0.3	0.3	0.3
	Band Stop	5-30MHz - 55	31-40MHz - 47	NA	NA	NA	NA	NA	NA
Return Loss (dB)									
M-HPF-54M	Band Pass	NA	NA	16	20	20	20	20	16
M-HPF-54S	Band Pass	NA	NA	18	20	20	20	20	18
M-HPF-50S	Band Pass	NA	NA	50-100MHz - 18	20	20	20	20	18

F-PORT TERMINATOR

MUL-F59T

Features:

- Used to terminate unused ports reducing reflections
- Versions available to meet every requirement
- Prevents signal ingress and egress
- Reduces the possibility of water migration into open port

Parameter	Specification
Bandwidth	DC to 1GHz
Insertion Loss	0.5 dB
Return Loss	30 dB
Impedence	75 Ohms
Material	Zinc / Nickel Plated

OUTDOOR BALUN

MUL-OB-1

Features:

- Connector 1: F-Type Female
- Connector 2: Two Spade Terminals - Male
- AC/DC Blocking
- Shielded and Balanced
- Minimal Direct Pick-up

Multicom's MUL-OB-1 is an Outdoor Balun or Outdoor Matching Transformer. It is used to convert 300 Ohm connections into 75 Ohm connections. This two-piece Outdoor Balun comes with a protective boot and is made with plastic molded construction making it completely weather-proof.

NEW!

QUICKVISE & QUICKSPLICE FOR MESSENGER

The Multicom **QUICKVISE** is used to deadend galvanized steel messenger mid-span of a service drop. The QuickVise is designed to support both ends of self supporting multi-pair drop wire that uses a solid galvanized steel messenger wire.

Features:

- Rated to hold a minimum of 90% of Rated Breaking Strength (RBS) of the messenger wire
- Recommended for use with coaxial cable with messenger wire
- Used for deadend or mid-span applications
- Also known as an Automatic Deadend

QUICKVISE MESSENGER

QUICKSPLICE MESSENGER

The double-sided Multicom **QUICKSPLICE** is used to splice galvanized steel messenger mid-span of a service drop. It will also support both ends of self supporting messenger wire that is integrated into the jacket in a figure 8 configuration.

Features:

- Rated to hold a minimum of 90% of Rated Breaking Strength (RBS) of the messenger wire
- Recommended for use with RG-11, RG-6 and .500 coaxial cable with messenger wire

MUL-QUICKVISE-STRAND-XXX

- XXX — Wire Range
- STRAND for Strand
- VISE or SPLICE

Part Number	Wire Range		Tensile Strength	
	Inches	MM	Kgs	Lbs
MUL-QUICKVISE-043	0.043-0.059	1.1-1.5	300	660
MUL-QUICKVISE-062	0.055-0.078	1.3-1.9	400	880
MUL-QUICKVISE-094	0.071-0.100	1.8-2.5	700	1545
MUL-QUICKVISE-109	0.102-0.114	2.3-3.0	700	1545
MUL-QUICKVISE-125	0.102-0.125	2.6-3.2	700	1545
MUL-QUICKSPLICE-043	0.043-0.059	1.1-1.5	300	660
MUL-QUICKSPLICE-062	0.055-0.078	1.3-1.9	400	880
MUL-QUICKSPLICE-094	0.071-0.100	1.8-2.5	700	1545
MUL-QUICKSPLICE-109	0.102-0.114	2.3-3.0	700	1545
MUL-QUICKSPLICE-125	0.102-0.125	2.6-3.2	700	1545

NEW!

QUICKVISE & QUICKSPLICE FOR STRAND

The Multicom QUICKVISE for STRAND WIRE is for deadend applications with down guy wire, not for overhead strand.

Features:

- Rated to hold a minimum of 90% of Rated Breaking Strength (RBS) of the strand wire
- Recommended for use with common grade, high strength utility grade, aluminized and galvanized steel strand
- Used for deadend or mid-span applications

Features:

The double-sided Multicom **QUICK SPLICE for STRAND WIRE** is used for splicing applications with down guy wire.

- Rated to hold a minimum of 90% of Rated Breaking Strength (RBS) of the strand wire
- Recommended for use with common grade, high strength utility grade, aluminized and galvanized steel strand

QUICKVISE STRAND

QUICKSPLICE STRAND

Part Number	Typical Strand Cable Size	Bail Dia. (mm)	Dimensions (mm)			Wire Range		Tensile Strength		Weight (g)
			X	Y	Z	inches	mm	kgs	lbs	
MUL-QUICKVISE-STRAND-187	3/16"	4.1	244	121	20.5	.138-.217	3.5-5.5	2000	4400	166
MUL-QUICKVISE-STRAND-250	1/4"	5.2	233	101	26	.240-.272	6.1-6.9	2700	6000	162
MUL-QUICKVISE-STRAND-312	5/16"	6.8	234	113	37.2	.307-.343	7.8-8.7	4500	10080	305
MUL-QUICKVISE-STRAND-375	3/8"	8	294	132	42	.360-.378	9.1-9.6	6300	13860	481
MUL-QUICKVISE-STRAND-437	7/16"	10	375	170	54	.413-.449	10.5-11.4	8600	18720	874
MUL-QUICKSPLICE-STRAND-187	3/16"	-	197	26	-	.138-.217	3.5-5.5	2000	4400	183
MUL-QUICKSPLICE-STRAND-250	1/4"	-	163	23.2	-	.240-.272	6.1-6.9	2700	6000	132
MUL-QUICKSPLICE-STRAND-312	5/16"	-	187	28.1	-	.307-.343	7.8-8.7	4500	10080	237
MUL-QUICKSPLICE-STRAND-375	3/8"	-	210	32.8	-	.360-.378	9.1-9.6	6300	13860	354
MUL-QUICKSPLICE-STRAND-437	7/16"	-	275	40.5	-	.413-.449	10.5-11.4	8600	18720	670

NEW!

FORMED WIRE DEAD-END FOR ADSS

The Multicom Formed Wire Dead-end is a dielectric Dead-end designed to terminate short span, low tension ADSS fiber optic cables in low voltage environments.

This Dead-end is a single component that offers an economical solution for very light loads. The product effectively transfers the low axial load on the cable at the end of the Dead-end legs to low uniform radial compression near the Dead-end loop.

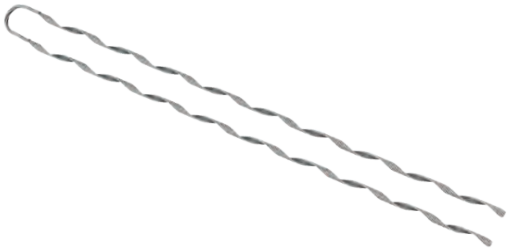
Part Number	Supported Round Cable Diameters		Length		Color Code Marking
	Max / Min (inch)	Max / Min (mm)	Inch	M	
MUL-ADSSDE-8.9/9.1	0.351 / 0.36	8.9 / 9.1	24	0.61	Black
MUL-ADSSDE-9.5/10.5	0.375 / 0.414	9.5 / 10.5	28	0.71	Red
MUL-ADSSDE-10.6/11.6	0.415 / 0.459	10.6 / 11.6	31	0.79	Orange
MUL-ADSSDE-11.7/12.8	0.46 / 0.505	11.7 / 12.8	33	.084	Green
MUL-ADSSDE-12.9/14.1	0.507 / 0.555	12.9 / 14.1	37	0.94	Pink
MUL-ADSSDE-14.2/15.6	0.559 / 0.614	14.2 / 15.6	42	1.07	Yellow
MUL-ADSSDE-15.7/17.3	0.616 / 0.68	5.7 / 17.3	45	1.14	Blue
MUL-ADSSDE-17.4/19.1	0.685 / 0.751	17.4 / 19.1	49	1.24	Brown

Features:

- Standard design parameters
- Broad cable OD ranges, listed on ID tags
- Economical single component design
- Optimized compact length
- Fast easy installation
- Accepts standard pole line fittings
- Latex coated with flared ends
- Uniform pressure design
- Superior fatigue strength wire design

NEW!

GUY WIRE DEAD-END FOR STRAND



The Multicom Guy Wire Dead-end is made of galvanized steel wire with B class Coating for use with high strength Class A strands. The Dead-end is made with the same material as the strand to which it will be applied.

Can be used to retain, anchor and connect the end of a steel cable for Telecomm, CATV and Energy Industries. Use with down guy wire, not for overhead strands.

Features:

- Color Coded to easily identify the part needed for each job
- Cross Over marks to indicate the starting point for small and large diameter fittings
- Identification Tag Catalog Number & Guy size
- Offset Tips for easy application of the strand start with the short leg

Part Number	Strand			Diameter (Inches)	Length (Inches)	Color Code
	Size	Construction	Weight (Lbs)			
MUL-GWDE-3/16	3/16	4W	0.176	0.070	20	Red
MUL-GWDE-7/32	7/32	5W	0.265	0.070	24	Green
MUL-GWDE-1/4	1/4	5W	0.463	0.086	25	Yellow
MUL-GWDE-9/32	9/32	5W	0.683	0.086	28	Blue
MUL-GWDE-5/16	5/16	5W	0.772	0.100	31	Black
MUL-GWDE-3/8	3/8	5W	1.213	0.119	35	Orange
MUL-GWDE-7/16	7/16	5W	1.940	0.138	38	Green

Continuing to adapt to the constant industry advances and passing the information to the customer. Looking forward to another 45 years in the industry.
Mike Brach - Senior Account Executive

NEW!

PLASTIC SUSPENSION CLAMP FOR ADSS

The Multicom MUL-FOSCLAMP-ADSS1 is a high quality UV resistant High-Strength Plastic Clamp to support ADSS cable on the pole. The design of this clamp makes installation fast and easy while providing bolt and strap mounting options. Ideal for use with short spans.

Features:

- Made from UV resistant, high-strength plastic
- UV resistant neoprene sleeve inserts
- Small, compact design
- Includes stainless steel bolt and locking washer to lock the clamp
- No special tools needed

Part Number	ADSS Cable Range	
	Min (in/mm)	Max (in/mm)
MUL-FOSCLAMP-ADSS1-.315/.394	0.315/8.00	0.394/10.00
MUL-FOSCLAMP-ADSS1-.394/.433	0.394/10.00	0.433/11.00
MUL-FOSCLAMP-ADSS1-.433/.512	0.433/11.00	0.512/13.00
MUL-FOSCLAMP-ADSS1-.512/.591	0.512/13.00	0.591/15.00
MUL-FOSCLAMP-ADSS1-.591/.669	0.591/15.00	0.669/17.00
MUL-FOSCLAMP-ADSS1-.669/.748	0.669/17.00	0.748/19.00

NEW!

ALUMINUM SUSPENSION CLAMP FOR ADSS

The high-quality Multicom MUL-FOSCLAMP-ADSS2 aluminum Suspension Clamp is used to gently, but firmly support ADSS fiber securely onto the side of a pole or vertical surface. The special design includes an integrated bolt or band mount design, hinged keeper and base with single-bolt clamping, making installation fast and easy while providing several mounting options to choose from.

Features:

- Base is connected by a rear hinge to provide quick and easy installation of ADSS cable
- Cushion Inserts made of UV resistant neoprene sleeve insert to gently hold the ADSS cable in place
- Includes stainless steel bolt and locking washer to lock the clamp

Part Number	ADSS Cable Range	
	Min (in/mm)	Max (in/mm)
MUL-FOSCLAMP-ADSS2-.356/.460	0.356/9.05	0.460/11.68
MUL-FOSCLAMP-ADSS2-.459/.555	0.459/11.66	0.555/14.10
MUL-FOSCLAMP-ADSS2-.551/.650	0.551/14.00	0.650/16.50
MUL-FOSCLAMP-ADSS2-.650/.748	0.650/16.50	0.748/19.00

NEW!

HEAVY DUTY SUSPENSION CLAMP FOR ADSS

The heavy-duty Multicom MUL-FOSCLAMP-ADSS3 suspension clamp is a versatile, and reliable solution for securing and suspending ADSS cable up to 150 meters. The versatility of the clamp allows the installer to either fix the clamp to the pole using a through bolt or band.

Features:

- Galvanized steel clamp
- UV resistant neoprene sleeve insert
- For suspension spans up to 150 meters
- Versatile with multiple installation options
- No special tools needed

Part Number	ADSS Cable Range	
	Min (in/mm)	Max (in/mm)
MUL-FOSCLAMP-ADSS3-.394/.591	0.394/10.00	0.591/15.00
MUL-FOSCLAMP-ADSS3-.591/.787	0.591/15.00	0.787/20.00

NEW!

MINI-SUSPENSION CLAMP FOR ADSS

The heavy-duty Multicom MUL-FOSCLAMP-ADSS4 mini-suspension clamp is a versatile, and reliable solution for securing and suspending short and medium span ADSS cable. The versatility of the clamp allows the installer to either fix the clamp to the pole using a through bolt or band.

Features:

- Aluminum clamp
- UV resistant neoprene sleeve insert
- For suspension spans up to 150 meters
- Versatile with multiple installation options
- No special tools needed
- Additional cable ranges available

Part Number	ADSS Cable Range	
	Min (in/mm)	Max (in/mm)
MUL-FOSCLAMP-ADSS4-.315/.394	0.315/8.00	0.394/10.00
MUL-FOSCLAMP-ADSS4-.394/.472	0.394/10.00	0.472/12.00
MUL-FOSCLAMP-ADSS4-.472/.551	0.472/12.00	0.551/14.00
MUL-FOSCLAMP-ADSS4-.472/.551	0.551/14.00	0.630/16.00
MUL-FOSCLAMP-ADSS4-.630/.709	0.630/16.00	0.709/18.00
MUL-FOSCLAMP-ADSS4-.709/.787	0.709/18.00	0.787/20.00

NEW!

ALUMINUM DEAD-END CLAMP FOR ADSS

The Multicom MUL-ADSSDE-WEDGE1 Wedge-style Deadend is designed for fast, easy, and reliable installation of ADSS aerial fiber optic cable from 8 to 20mm. The aluminum deadends are designed for higher load applications. The conical body contains a pair of sliding wedges that mechanically couple to the cable without causing damage to the sheath or fibers, providing a secure grip without fear of signal loss.

Features:

- Galvanized steel cable
- Tool free installation with sliding wedges inside the body
- Easy-open bail permits fixing to brackets and pigtails
- Quick and easy adjustable bail length
- Versatile with multiple installation options

Part Number	ADSS Cable Range	
	Min (in/mm)	Max (in/mm)
MUL-ADSSDE-WEDGE1-.354/.472	0.354/9.00	0.472/12.00

NEW!

THERMO-PLASTIC DEAD-END CLAMP FOR ADSS

The Multicom MUL-ADSSDE-WEDGE2 Wedge-style Deadend is designed for fast, easy, and reliable installation of ADSS aerial fiber optic cable from 8 to 20mm. The deadends are designed with a thermo-plastic material that provides UV protection without the extra weight. The conical body contains a pair of sliding wedges that mechanically couple to the cable without causing damage to the sheath or fibers, providing a secure grip without fear of signal loss.

Features:

- Galvanized steel cable
- UV resistant neoprene sleeve insert
- For suspension spans up to 600 feet
- Versatile with multiple installation options
- No special tool needed

Part Number	ADSS Cable Range	
	Min (in/mm)	Max (in/mm)
MUL-ADSSDE-WEDGE2-.315/.394	0.315/8.00	0.394/10.00
MUL-ADSSDE-WEDGE2-.394/.472	0.394/10.00	0.472/12.00
MUL-ADSSDE-WEDGE2-.472/.551	0.472/12.00	0.551/14.00
MUL-ADSSDE-WEDGE2-.472/.551	0.551/14.00	0.630/16.00
MUL-ADSSDE-WEDGE2-.630/.709	0.630/16.00	0.709/18.00
MUL-ADSSDE-WEDGE2-.709/.787	0.709/18.00	0.787/20.00

NEW!

POLE LINE HARDWARE

Drop Clamps for FTTH Flat Drop Cable are used to support both ends of an aerial service drop span at the messenger strand and building.

MUL-DROPCLAMP-FLAT-A

MUL-DROPCLAMP-FLAT-B

MUL-DROPCLAMP-FLAT-C

MUL-DROPCLAMP-FLAT-D

MUL-DROPCLAMP-FLAT-E

MUL-DROPCLAMP-FLAT-F

Part Number	Description	Shell	Shim	Wedge	Loop
MUL-DROPCLAMP-FLAT-A	FTTH Flat Drop Clamp	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
MUL-DROPCLAMP-FLAT-B	FTTH Flat Drop Clamp	Stainless Steel	UV Resistant Plastic	Stainless Steel	Stainless Steel
MUL-DROPCLAMP-FLAT-C	FTTH Flat Drop Clamp	Stainless Steel	Stainless Steel	UV Resistant Plastic	UV Resistant Plastic
MUL-DROPCLAMP-FLAT-D	FTTH Flat Drop Clamp	UV Resistant Plastic	UV Resistant Plastic	UV Resistant Plastic	UV Resistant Plastic
MUL-DROPCLAMP-FLAT-E	FTTH Flat Drop Clamp	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
MUL-DROPCLAMP-FLAT-F	FTTH Flat Drop Clamp	Galvanized Steel	-	Galvanized Steel	Locking Ring Stainless Steel

Drop Clamps for FTTH Round Drop Cable are used to support both ends of an aerial service drop span at the messenger strand and building.

MUL-DROPCLAMP-RND-A

MUL-DROPCLAMP-RND-B

MUL-DROPCLAMP-RND-C

MUL-DROPCLAMP-RND-D

MUL-DROPCLAMP-RND-E

MUL-DROPCLAMP-RND-F

MUL-DROPCLAMP-RND-G

Part Number	Description	Clamp	Loop / Bracket
MUL-DROPCLAMP-RND-A	FTTH Round Drop Wire Clamp	UV Resistant Plastic	Stainless Steel
MUL-DROPCLAMP-RND-B	FTTH Round Drop Wire Clamp	UV Resistant Plastic	Stainless Steel
MUL-DROPCLAMP-RND-C	FTTH Round Drop Wire Clamp	UV Resistant Plastic	Stainless Steel
MUL-DROPCLAMP-RND-D	Single Layer Round Drop Wire Clamp	UV Resistant Plastic	Stainless Steel
MUL-DROPCLAMP-RND-E	Double Layer Round Drop Wire Clamp	UV Resistant Plastic	Stainless Steel
MUL-DROPCLAMP-RND-F	Four Layer Round Drop Wire Clamp	UV Resistant Plastic	Stainless Steel
MUL-DROPCLAMP-RND-G	Four Layer Round Drop Wire Clamp	Stainless Steel	Stainless Steel

NEW!

POLE LINE HARDWARE

Multicom offers a full line of Pole Line Hardware that is designed to withstand the test of time. Our choice of material and finish combinations ensures maximum environmental protection, regardless of location.

MUL-POLE-BRACK-A

MUL-POLE-HOOK-A-X

MUL-POLE-BRACK-B

MUL-WALL-BRACK-A

MUL-WALL-BRACK-B

MUL-POLE-BRACK-C

MUL-CABLE-BRACK-A

MUL-STRAND-HOOK-A

Part Number	Description	Clamp
MUL-POLE-BRACK-A	Universal Pole Bracket	Aluminum Alloy
MUL-POLE-HOOK-A-X	Pole Hook	Steel
MUL-POLE-BRACK-B	Pole Bracket	Steel
MUL-WALL-BRACK-A, B	Wall Bracket A, B	Steel
MUL-POLE-BRACK-C	Pole Bracket for Anchoring Clamp	Steel
MUL-CABLE-BRACK-A	Cable Management Pole Bracket	Steel
MUL-STRAND-HOOK-A	Drop Cable Hook Clamp	Aluminum Alloy / Steel

MUL-BAND-TOTE

MUL-BAND-TOOL

MUL-BAND-BUCK

MUL-BAND-POLE-A

MUL-BAND-T201 / T316

MUL-BAND-POLE-B

Part Number	Category	Description
MUL-BAND-TOTE	Bands & Buckles	Adjustable Banding in Tote
MUL-BAND-BUCK	Bands & Buckles	Stainless Steel Buckle
MUL-BAND-T201 -X/ T316-X	Bands & Buckles	Stainless Steel Band - Type T201 or Type T316 - 1/4" to 3/4"
MUL-BAND TOOL	Bands & Buckles	Banding Tool
MUL-BAND-POLE-A	Bands & Buckles	Adjustable Universal Deadend Pole Band
MUL-BAND-POLE-B	Bands & Buckles	Adjustable Pole Band

The Multicom Pole Line Hardware shown in this catalog is just the tip of the iceberg. We have two warehouses stocking Pole Line Hardware with nearly unlimited resources. If you don't see what you're looking for - ask!

INDOOR PRODUCTS

Bring more your network online quickly and efficiently with the highest-quality products backed by a company that prides itself on trusted relationships built over time

Our inside products portfolio combines the perfect marriage of quality products built in ISO 9001 approved facilities, and cost-effective prices - all backed by Multicom's exclusive customer service and over 40 years of experience. Our products have not only exceeded industry standards for quality, but set industry standards for the best pricing. Multicom has an expansive indoor product portfolio that includes everything from amplifiers and adapters, to every imaginable communication cable — plus the networking expertise to help support all your indoor applications needs.

FORWARD & REVERSE DISTRIBUTION AMPLIFIER – 860MHZ

Features:

- Extremely low distortion and harmonic content
- Suitable for HDTV, CATV, Off-air analog and digital RF distribution applications
- Continuously adjustable equalizer and gain control
- Dual output ports featuring both balanced and unbalanced capabilities (plug-in included)

The MCA-30860R has been specifically designed for use in multi-dwelling environments such as hospitals, apartment complexes and hotels. This high-gain unit has a bandwidth of 860MHz, allowing effective transmission of large volumes of data within the CATV network. The built-in equalizer and attenuator allow for increased flexibility and easy adjustment of the signal output.

Parameter	Specification
Frequency - Forward	54-860MHz
Frequency - Reverse	5 - 42MHz
Gain - Forward	30 ±1.5dB
Gain - Reverse	20 ±1.5dB
Max. Output @135 Ch. Loading	2 Outputs @50dBmV
Noise Figure - Forward	<6dB
Noise Figure - Reverse	<8dB

MCA-30860R

NEW!

FORWARD & REVERSE DISTRIBUTION AMPLIFIER - 1000MHZ

Features:

- 30dB gain for optimal carrier-to-noise ratio and superior picture quality
- Employs state-of-the art hybrid push-pull technology for distortion-free audio and video quality
- Adjustable slope and gain controls for easy system balancing

Total # Channels	Input Level (dBmV)	Output Level (dBmV)
12	23	53
24	20	50
36	19	49
48	17	47
72	16	46
96	14	44
144	13	43
158	12	42

The MCA-30/1000R is a high quality push-pull, wall mounted distribution amplifier that produces signals with extremely low noise and harmonic distortion. The amplifier is capable of broadband 158-channel operation over the 54 MHz to 1000 MHz range.

This amplifier makes an excellent distribution system amplifier for heavily loaded MDU and broadband CATV and SMATV systems. Because of its extremely low noise figure and low distortion, the MCA-30/1000R is ideally suited for use in larger networks where amplifier cascading is required.

Parameter	Specification
Bandwidth	54-1000MHz
Gain (Fwd)	30dB
Max. output (158 Ch.)	40dBmV
Flatness	0.5dB
Noise figure (Fwd)	5dB
Composite second order (Fwd)	70dB
Composite triple beat (Fwd)	61dB
Input test point loss	20dB
Power input	24 VDC 1A
Power required	4W
Dimensions (Lx W x H)	8" x 4.5" x 2.75" 203 x 114 x 70mm
Weight	2.3 lbs (1.04 kg)

MCA-30/1000R

NEW!

HIGH GAIN DISTRIBUTION AMPLIFIER

The Multicom MCA-50/550 is a high quality push-pull wall-mounted distribution amplifier producing signals with extremely low-noise and harmonic distortion. This amplifier is capable of 78 channel operation over the 54-550MHz range, and makes an excellent distribution system amplifier in MDU, CATV, and SMATV systems. Because of its extremely low-noise figure and low distortion, the MCA-50/550 is ideally suited for use in larger networks where amplifier cascading is required.

Features:

- 54-550MHz frequency range (CATV 2~PPP)
- 50dB gain designed for low input applications to provide optimum carrier to noise performance
- ±0.75dB flatness per 100MHz provides low distortion and excellent frequency response
- Employs state-of-the-art hybrid push-pull technology for distortion-free audio-video quality
- Adjustable slope and gain controls for easy system balancing

Total # Channels	Input Level (dBmV)	Output Level (dBmV)
6	11	61
12	8	58
24	5	55
36	3	53
48	2	52
72	-1	49

Parameter	Specification
Bandwidth	54-550MHz
Gain (Fwd)	50dB
Max. output (158 Ch.)	49dBmV
Flatness	0.5dB
Noise figure (Fwd)	7dB
Composite second order (Fwd)	70dB
Composite triple beat (Fwd)	58dB
Input test point loss	20dB
Power input	115VAC
Power required	4W
Dimensions (L x W x H)	8" x 4.5" x 2.75" 203 x 114 x 70mm
Weight	2.5 lbs (1.13 kg)

MCA-50/550

NEW!

DISTRIBUTION AMPLIFIER - RACK MOUNT

The MCA-30/1000RK is a high-output professional quality broadband 19" rack mountable amplifier. This high performance amplifiers use push-pull hybrid circuitry design providing extremely low noise and distortion. This rack mount amplifier has a bandwidth of 1000MHz, with front panel adjustable slope and gain controls for quick and easy system balancing.

Features:

- Forward Frequency: 54-1000MHz
- Extremely low distortion
- Suitable for HDTV, CATV, Off-air analog and digital RF distribution applications
- Continuously adjustable gain and tilt control

MCA-30/1000RK

Parameter	Specification
Bandwidth	54-1000MHz
Gain	30dB
Gain Adjustable Range	20dB
Slope	15dB
Flatness	±1dB
Noise Figure	6.5dB
RF Input / Output	F-Connector
Input Return Loss	-16dB
Output Return Loss	-16dB
Test Point	-30dB
Input AC Power Voltage	110 VAC
Power	4 Watts
Power Frequency	60Hz
Dimensions (L x W x H)	19" x 3" x 1.75" (482.6 x 76.2 x 44.4mm)
Weight	4.5 lbs. (2.04Kg)
Cross Modulation (XMOD)	-58dB
Composite Second Order (CSO)	-75dB
Composite Triple Beat (CTB)	-60dB

NEW! HEADEND PASSIVE COMBINER

Performance	Frequency (Mhz)	MUL-HPC-8	MUL-HPC-12	MUL-HPC-24
Insertion IN - OUT	45 - 1000	15 ±2dB	20 ±2dB	24 ±2dB
Isolation OUT - OUT	45-540	30.0dB	30.0dB	30.0dB
	540-1000	25.0dB	30.0dB	30.0dB
Return Loss	45-1000	≥12 dB		
Test Port	45-1000	30 ±2.0dB		

Multicom's rack-mountable RF Passive Headend Passive Combiner is designed for use in a headend to combine the output of up to 24 single-channel devices such as modulators and processors. HPC's are available in 8, 12 and 24 port models.

Features:

- Superior Isolation & Input/Output Return loss performance
- Suitable for digital applications in the 5-1000 MHz range

MUL-HPC-8

└ Ports - 8, 12, 24

NEW! DIGITAL TRANSMODULATOR

Features:

- Receives terrestrial air signal or cable TV signal, and delivers one RF carrier output in QAM/ATSC format
- PMT, Video/Audio PID, Service/Service Provider/ Network programmable
- Supports monitoring and setup/control thru Ethernet/LAN/RJ45
- User friendly for menu/data display and setup by front plate key buttons with LCD
- High MER (Modulation Error Rate) ensures a low bit error rate

The Multicom MUL-TMOD860-WS provides QPSK to QAM transmodulation and RF upconversion functions in a single module.

The MUL-TMOD860-WS accepts L-band RF inputs between 950 and 2150 MHz from the LNB at the satellite dish. The transmodulator then tunes selected satellite transponder and demodulates the QPSK signal.

In RF upconverter, the IF QAM signal is SAW filtered and then upconverted to the desired output channel. Any standard CATV output channel may be selected in the range of 54 to 860 MHz. Because the MPEG2 transport stream information is not modified by the transmodulator, all encryption, authorization, and program guide information are passed on to the CATV set top box, without any changes.

MUL-TMOD860-WS

Specification	Parameter
Terrestrial/Cable RF Input	
Frequency Range	48MHz to 860MHz
Input Level	-70dBm ~ 5dBm
Input Impedance	75 Ohms
Loop-Through Gain	±3.5dB
Connector	F-Female
RF Modulation	
ITU-T J.83 Annex	Annex B
Modulation Format	Cable QAM/8VSB
Mode	8VSB / 64 QAM / 256 QAM
Phase Noise	@1K≥70dBC; @10K≥80dBC; 100K≥90dBC
MER	34dB typical
Spurious	55dB typical
RF Output	
Frequency Range	57 MHz to 999MHz
Bandwidth	6 MHz (NTSC)
QAM Symbol Rate	64 QAM: 5057Mbps 256 QAM: 5360Mbps
Output Level	40dBmV with 30 dB adjustment
Spurious Level	-55 dB typical
Out-of-band Noise	-55dB typical at 40dBm output
Frequency Stability	±10 KHz
Output Impedence	75 Ohms
Connector	F-Female
Remote Control Interface	
Communication Interface	Ethernet
Electrical Interface	IEEE 802.3, 10 Base-T
Data Link	Max 10Mbps
Connector type	RJ 45
General	
Operating Temp. Range	32° ~ 122°F (0°~ 50°C)
Power Requirement	90 ~ 260 VAC, 50/60Hz
Dimension per piece	19"(L) x 2-3/4"(W) x 1-3/4"(H)

MS SERIES 1GHZ PREMIUM DIGITAL CATV SPLITTERS

2-Way

3-Way

4-Way

Features:

- Digital-ready broadband 5 MHz to 1000 MHz frequency range
- High retention, 360° round seizing pins for high reliability, performance and connectivity
- Solder-back cover-plate provides maximum EMI-RFI shielding > 120dB, eliminating signal ingress to guarantee distortion-free pictures
- High-performance printed board circuitry provides low intermodulation distortion > -100dB to ensure excellent digital performance
- High isolation > 30dB at 5 MHz to 45 MHz sub-bands provides for high level upstream signals
- MSxG series features capacitor coupling circuitry at all ports for effective DC voltage blocking
- 1/2″ long precision machined F-connector threads ensure improved port-to-connector interface and accommodate external security devices

The Multicom MSxG Series 1 GHz Premium Digital CATV Splitters are the perfect 2, 3 and 4-port splitters for CATV installations. For improved reliability and connectivity, these high-performance splitters also feature high retention 360° round seizing pins, and capacitor coupling circuitry at all ports for effective DC voltage blocking.

MSxG
└ Ports (2, 3, 4)

Parameter	Frequency	2-Way	3-Way	4-Way
Splitter Loss	5-14 MHz	3.5	3.7/6.9	7.0
	14-40 MHz	3.5	3.7/6.9	7.0
	41-200 MHz	3.7	3.7/7.0	7.0
	200-550 MHz	3.7	3.8/7.5	7.5
	550-750 MHz	3.8	3.9/7.0	7.6
	750-1000 MHZ	3.9	4.0/8.0	8.0
Isolation	5-14 MHz	35	30	30
	14-40 MHz	35	36	38
	41-200 MHz	33	30	30
	200-550 MHz	33	28	28
	550-750 MHz	31	28	28
	750-1000 MHZ	30	25	25
Input Return Loss	5-14 MHz	25	23	25
	14-40 MHz	26	24	26
	41-200 MHz	26	25	26
	200-550 MHz	26	25	25
	550-750 MHz	24	24	24
	750-1000 MHZ	21	21	22
Output Return Loss	5-14 MHz	26	23	22
	14-40 MHz	28	26	26
	41-200 MHz	28	26	28
	200-550 MHz	24	25	25
	550-750 MHz	24	24	24
	750-1000 MHZ	22	22	21

Nothing pleases me more than a deal that is mutually beneficial to both my customer and Multicom. We all have to hustle, while being smart and kind. Good customers rely on me - my expertise and experience.
Hugo Valenzuela - International Sales Director West

NEW!

DIGITAL 1-PORT TAP

Features:

- Digital-Ready Broadband 5~1000 MHz frequency range
- Solder-sealed back cover-plate to provide maximum EMI-RFI shielding >-120dB, eliminating signal ingress and guarantee distortion free pictures
- High tap-to-output isolation provides spurious carrier protection and minimizes undesired channel interaction, reducing picture distortion
- High-performance printed board circuitry provides low intermodulation distortion to ensure excellent digital performance
- Capacitor coupling circuitry at all ports provide effective DC voltage blocking for improved hum modulation and intermodulation
- 1/2″ long precision machined F-connector threads ensure improved port-to-connector interface and accommodate external security devices
- **Available in tap values of 6, 9, 12, 16, 20, 24, 27 & 30**

Taps are used to connect drop cables to a distribution cable. A tap introduces a much higher signal loss to drop cables than is seen in its transmission path along the distribution cable.

Multicom's Digital 1-Port Tap is typically used in schools, business, and anywhere else where multiple receivers are fed from the same signal source. Multicom offers indoor taps and directional couplers in a range of tap values.

MT1G-x
└Tap Value: 6, 9, 12, 16, 20, 24, 27, 30

TAP VALUE	6	9	12	16	20	24	27	30
Insertion Loss (In-Out) Max. dB								
5 MHz	2.4	1.2	1.2	1.0	1.0	1.0	0.8	0.8
54 MHz	2.2	1.2	1.2	1.0	1.0	1.0	0.8	0.8
216 MHz	2.2	1.2	1.2	1.0	1.0	1.0	0.8	0.8
470 MHz	2.4	1.2	1.2	1.0	1.0	1.0	0.8	0.8
860 MHz	2.4	2.0	1.2	1.0	1.0	1.0	0.8	1.0
1 GHz	2.6	2.2	1.4	1.2	1.2	1.2	1.0	1.2
Tap Loss (In-Out) Nominal								
5 MHz	6.4	8.8	12.6	16.2	19.6	24.3	27.8	30.1
54 MHz	6.4	8.8	12.5	16.2	19.8	24.3	27.5	30.0
216 MHz	6.4	8.6	12.4	16.2	19.7	24.1	27.6	29.6
470 MHz	6.4	8.6	12.0	15.8	18.7	23.5	27.9	28.8
860 MHz	6.4	8.8	11.4	15.8	19.8	23.2	27.8	28.4
1 GHz	6.6	9.4	12.6	16.0	20.4	23.3	27.6	29.0
Isolation (Tap-Out) Min. dB								
5 MHz	24	28	28	36	36	40	40	45
54 MHz	30	28	28	38	38	40	45	45
216 MHz	30	30	30	38	38	38	40	40
470 MHz	24	28	28	32	32	34	36	42
860 MHz	20	21	21	30	24	32	34	35
1 GHz	20	20	20	28	24	32	34	35
Input Return Loss Min. dB								
5 MHz	14	18	18	18	18	20	20	20
54 MHz	15	18	20	20	22	24	24	24
216 MHz	18	20	20	22	22	24	26	26
470 MHz	22	26	20	22	18	22	24	24
860 MHz	16	18	22	22	18	21	24	24
1 GHz	16	16	18	18	18	21	22	22
Tap Return Loss Min. dB								
5 MHz	16	18	18	18	18	18	20	20
54 MHz	20	26	24	21	26	18	24	24
216 MHz	24	26	24	22	26	18	26	26
470 MHz	28	30	20	22	25	19	22	22
860 MHz	18	18	18	18	22	21	20	20
1 GHz	18	16	18	18	18	18	18	18
Output Ret. Loss Min. dB								
5 MHz	18	18	18	18	18	18	18	18
54 MHz	26	24	24	24	24	24	24	24
216 MHz	22	24	22	24	22	24	26	26
470 MHz	22	22	19	20	20	20	26	26
860 MHz	24	24	18	22	18	18	20	24
1 GHz	18	18	18	18	18	18	18	18

While Thomas Edison said "I have not failed. I've just found 10,000 ways that won't work." I believe there are 10,000 ways to develop a product, and we at Multicom we love to try all 10,000.
Abanoub Elmalakh - Product Developement Engineer

AC POWER ADAPTERS

Typical Desktop

Typical Wall Mount

Multicom's AC Power Adapters are reliable, compact, and efficient. These regulated 5, 12 and 15 volt DC power supplies provide ample current to run many popular devices. Use them to replace a lost or damaged power supply for cable modems, AV equipment, office devices, battery chargers, and other electronic components. UL listed and FCC approved.

Features:

- UL Listed
- Universal Input: 100-240VAC 50/60Hz
- Highly efficient with low power consumption
- Short-circuit protection
- Over-current protection
- Over-voltage protection
- Lightweight and compact
- Available with various DC connectors, AC plug configurations, and power cord lengths
- Center positive

Customization:

The AC Power Adapters listed have a variety of Output Power Connectors (A-Z). Connectors and power cord length, as well as other characteristics of these adapters can be customized to your needs.

		Output				DC Connector (mm)		
Part Number	Input (Amp)	VDC	Rated Load	Power (W)	Location	OD	ID	Barrel Length
M-CPE-5-150-A-W-US	0.3	5	1.5	7.5	Wall Mount	4	1.7	9.5
M-CPE-5-250-C-W-US	0.4	5	2.5	12.5	Wall Mount	5	2.1	9.5
M-CPE-12-100-B-W-US	0.4	12	1.0	12	Wall Mount	5	2.1	10
M-CPE-12-150-B-W-US	0.5	12	1.5	18	Wall Mount	5	2.1	10
M-CPE-12-150-C-W-US	0.5	12	1.5	18	Wall Mount	5	2.1	9.5
M-CPE-12-200-C-W-US	0.6	12	2.0	24	Wall Mount	5	2.1	9.5
M-CPE-12-200-F-W-US	0.6	12	2.0	24	Wall Mount	5.5	2.5	11
M-CPE-12-200-G-W-US	0.6	12	2.0	24	Wall Mount	5.5	2.1	11
M-CPE-12-050-D-W-US	0.2	12	0.5	6	Wall Mount	5.5	2	9.5
M-CPE-12-100-E-W-US	0.3	12	1.0	12	Wall Mount	5.5	2.1	9.5
M-CPE-12-150-E-W-US	0.5	12	1.5	18	Wall Mount	5.5	2.1	9.5
M-CPE-12-150-D-W-US	0.5	12	1.5	18	Wall Mount	5.5	2	9.5
M-CPE-12-200-E-W-US	0.6	12	2.0	24	Wall Mount	5.5	2.1	9.5
M-CPE-15-150-H-W-US	0.5	15	1.5	22.5	Wall Mount	4.8	1.7	9.5
M-CPE-12-270-E-D-US	0.85	12	2.7	32.4	Desktop	5.5	2.1	9.5
M-CPE-12-300-E-D-US	0.9	12	3.0	36	Desktop	5.5	2.1	9.5
M-CPE-15-130-D-D-US	0.5	15	1.3	19.5	Desktop	5.5	2	8.5
M-CPE-15-150-A-D-US	0.65	15	1.5	22	Desktop	4	1.7	10

c UL US LISTED

M-CPE-12-100-B-W-US-18

- 18 — Power Cord Length - 1=1M, 12=1.2M, 15=1.5M, 18=1.8M
- US — Plug Type - US=US Configuration
- W — Model Type - D=Desktop, W=Wall
- B — Output Power Connector - A-Z (Various)
- 100 — Milliamps Out - 250=2.5A, 200=2.0A, 150=1.5A, 100=1.0A, 08=0.8A
- 12 — Volts DC - 5, 12, 15

HIGH SPEED HDMI CABLES V1.3 & 1.4

Multicom's High Speed HDMI cable provides a reliable, high quality connection between audio and video components. Featuring a durable molded PVC housing, gold plated contacts and corrosion resistant connectors with V3 shielding, this HDMI cable consistently delivers excellent picture and sound quality for today's discriminating A/V enthusiasts.

Features:

- Supports high definition 1080p, Adobe RGB Color, Deep Color, 3D, sYCC601 Color, and Adobe YCC601 to accurately display natural, vivid colors
- Supports Dolby Digital, DTS, Dolby True HD, DTS-HD MasterAudio, Audio Return Channel and Lip Sync to deliver the highest quality and duplication of sound
- Compatible with the lossless compressed digital audio formats
- Available in a variety of configurations, see Part# Matrix

Parameter	Specification
Standard Reference	1.3 & 1.4/High Speed HDMI, with 100Mbps Ethernet
Video Resolution	(4K x 2K Pixels) Full 1080p, 1440p, 1600p, 2160p
Compatibility	3D, 4Kx2K, ARC return audio channel
Audio Format	Sound Environment 7.1 and lossless audio formats (DTS-HD & Dolby Digital TrueHD)
Bandwidth	10.2, 13.8 Gbps (Data transfer)
Ethernet Channel	Yes
Conductors	HQ 99.99% Oxygen Free, Solid Copper
Connector Type	HMDI Male A to HDMI Male A
Wire Guage	30 AWG
Connector Contacts Finish	Gold Plated
Compliance	RoHS, UL Listed, FCC, ISO9001:2008, ISO14001:2004, Simplay 2.0, ATC:1.4

MUL-HDMI 1.4-1.5M-MA-MA-HS-30SC-A

- Version: With Ethernet Channel
- Wire Type: SC=Solid Copper, CC=Copper Clad Steel
- Wire Gauge: AWG
- Speed: STD=Standard, HS=High Speed
- Conn #2: M=Male, F=Female; Type: A,B,C...
- Conn #1: M=Male, F=Female; Type: A,B,C...
- Cable Length: M=Meters, FT=Feet
- Cable Type: HDMI 1.3, 1.4, 2.0

HIGH SPEED HDMI CABLE V2.0

Multicom's v2.0 High Speed HDMI cable with Ethernet provides a reliable, high quality connection between audio and video components. This HDMI cable with Ethernet consistently delivers excellent picture and sound quality for today's discriminating A/V enthusiasts.

Features:

- Supports full-resolution 4K, Adobe RGB Color, Deep Color, 3D, sYCC601 Color, and Adobe YCC601 to accurately display natural, vivid colors
- Supports Dolby Digital, DTS, Dolby True HD, DTS-HD MasterAudio, Audio Return Channel and Lip Sync to deliver the highest quality and duplication of sound
- Compatible with the lossless compressed digital audio formats

Parameter	Specification
Standard Reference	v2.0 High Speed HDMI with 100Mbps Ethernet Channel
Video Resolution	(4K x 2K Pixels) Full 1080p, 1440p, 1600p, 2160p
Compatibility	3D, 4Kx2K, ARC return audio channel
Audio Format	Sound Environment 7.1 and lossless audio formats (DTS-HD & Dolby Digital TrueHD)
Bandwidth	13.8 Gbps (Data transfer)
Ethernet Channel	Yes
Conductors	High Quality 99.99% Oxygen Free
Conductor Resistance	5 Ohm Max.
Contact Resistance	2 Ohm Max.
Connector	19-Pin HMDI Male A to HDMI Male A Black PVC Outer Shell with metal exterior and zinc alloy interior, gold plated
Insulation Resistance	10M Ohm Min.
Wire Guage	30 AWG
Table Speed	120Hz
Depth of Color	12 Bit
Impedence	100 Ohm ±10
Rated Voltage	30V
Hi-Pot	DC 300V 0.01 Sec.
Cable Wrapping	Outer shell: 45P 6mm Black PVC Inner shell: Aluminum for protection against External Electrical Interference (EMI) & Radio Frequency Interference (RFI) Ferrite Filter ends for triple density protection against interference
Cable Length	1.5M (4.92 Feet) ±40mm, Available in custom lengths
Operating Temperature	-25 to 80°C (-13 to 176°F)
Compliance	RoHS, UL Listed, FCC, ISO9001:2008, ISO14001:2004, Simplay 2.0, ATC:1.4

MUL-HDMI 2.0-1.5M-MA-MA-HS-30SC-A

- Version: With Ethernet Channel
- Wire Type: SC=Solid Copper, CC=Copper Clad Steel
- Wire Gauge: AWG
- Speed: STD=Standard, HS=High Speed
- Conn #2: M=Male, F=Female; Type: A,B,C...
- Conn #1: M=Male, F=Female; Type: A,B,C...
- Cable Length: M=Meters, FT=Feet
- Cable Type: HDMI 1.3, 1.4, 2.0

CAT5E PATCH CABLE

RoHS COMPLIANT

Multicom's superior quality CAT5E booted, snagless Unshielded Twisted Pair (UTP) Network Patch Cable is designed for network adapters, hubs, switches, routers, DSL/cable modems, patch panels and other high performance networking applications.

Parameter	Specification
Cable	24 AWG, 4 Pair, PVC Jacket
Connector	RJ45 (8P8C) Male CAT5E Type
Conductor	Stranded Copper
Contacts	Brass, Gold Plated
Certifications	ISO/IEC 11801, EN 50288, TIA/EIA 568B.2
Compliance	RoHS

MUL-CAT5E-1.5M-W-24-STR-UTP

- Twisted Pair Shielding - UTP=Unshielded, STP=Sheilded
- Conductor - STR=Stranded, SOL=Solid
- Wire Gauge - AWG
- Color - W=White, B=Black, BL=Blue, BR=Brown...
- Length - Meter (M), or Feet (FT)

RCA AUDIO/VIDEO PATCHCORDS

Multicom's high quality RCA Audio/Video Patchcords provide a reliable, high quality connection between audio and video components such as cable and satellite set-top boxes, DVD players, A/V receivers, gaming consoles, and much more.

Featuring a durable molded PVC housing and nickel-plated copper corrosion resistant connectors, this RCA patchcord consistently delivers excellent picture and sound quality for today's discriminating A/V enthusiasts.

Parameter	Specification
Connector Type	RCA Male, side A and side B
Connector Finish	Nickel Plated Copper
Conductors	Stranded, 10 x .10mm CCS
Shielding	28 x .10mm CCS
Connector Housing Material	Molded PVC, Red, White, Yellow
Number of Conductors	2, 3, 4, 5, 6
Length	1.5 Meters (5 Feet)
Cable Jacket	PVC, Black
Connector Finish	Nickel Plated Copper
Attenuation (at 10MHz)	0.047 dB/m (max)
Compliance	RoHS, ISO 9001, UL Listed

ISO 9001 RoHS COMPLIANT c UL us LISTED

MUL-RCA-3-1.5M-M-M-2.7-NI

- Conductor Plating NI=Nickel, GD=Gold
- Conductor Dia (mm) - 2.7 or 5.0
- End #2 - M or F
- End #1 - M or F
- Length - Meter (M), or Feet (FT)
- # of Conductors - 2, 3, 4, 5, 6

RJ-11 MODULAR FLAT TELEPHONE CABLE

Multicom's superior quality RJ-11 Unshielded Twisted Pair (UTP) Modular Telephone Patch Cable is constructed from heavy duty 26 AWG wire with a silver satin PVC jacket. This cable has gold-plated connectors for clearer communication. Its 4-wire construction handles dual phone lines while the heavy duty PVC jacket protects the cable's integrity.

This telephone cable is designed for all telephone communications, VoIP applications, modems, and other high performance telephony applications.

Parameter	Specification
Conductors	4 (2 pair), 26 AWG, Solid Copper, 0.51 mm
Connectors	RJ-11 Male, both ends
Outer Diameter, Jacket	5mm, Polyvinyl Chloride (PVC)
Contacts	Brass, Gold Plated
Terminal Resistance	20 Ohm maximum
Insulation Resistance	>1G Ohm

ISO 9001 · RoHS COMPLIANT · c UL us LISTED

MUL-RJ11-1.5M-26

- 26 — Wire Gauge: AWG
- 1.5M — Cable Length: M=Meters, FT=Feet

REFURBISHED CABLE MODEMS

Multicom stocks these premium manufacturers, and many more:

ARRIS

CISCO

ubee

NETGEAR
Connect with Innovation™

Multicom markets a wide variety of refurbished Cable Modems with an enhanced quality selection to meet your needs:

- **FIELD PULLED**
  Sold 'as is' for the best price, and shipped in bulk
- **REFURBISHED & TESTED**
  Tested and certified by Multicom technicians to be in perfect working order, and shipped in bulk
- **REFURBISHED, TESTED & BOXED**
  Tested and certified by Multicom technicians to be in perfect working order, and individually boxed

Features:

- DOCSIS 2.0
- DOCSIS 3.0
- WiFi
- Gateways

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 - Warehouse & Headend Assembly

SATELLITE DISHES & RECEPTION

Over one billion homes on our planet have television and these homes collectively receive over 25,000 TV channels by satellite. Today's high powered satellites have inherent operational and cost advantages that make them superior to other technologies when it comes to video distribution.

Multicom manufactures and stocks all of the products needed for the reception and distribution of satellite audio and video signals for private use or retransmission.

DTH SATELLITE DISHES


MUL-60CM-KU


MUL-75CM-KU


MUL-90CM-KU


MUL-1M-KU


MUL-1.2M-KU

The Direct to Home (DTH) KU band satellite dish provides strong, clear reception. These high quality dishes are designed to withstand high winds, minimize rain fade and improve signal strength. Made with low-weight, high-strength, powder coated galvanized steel, they are simple to assemble and install, making it a excellent choice for cost effective installations.

Parameter	MUL-60CM-KU	MUL-75CM-KU	MUL-90CM-KU	MUL-1M-KU	MUL-1.2CM-KU
Dish Type	Offset-fed, Elliptical	Offset-fed, Elliptical	Offset-fed, Elliptical	Offset-fed, Elliptical	Offset-fed, Elliptical
KU Band Gain (dB)	36.67 @12.5GHz	38.52 @12.5GHz	40.32 @12.5GHz	38.52 @12.5GHz	43 @12.5GHz
Frequency Range (GHz)	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75	10.7 - 12.75
Mount	Universal	Universal	Universal	Universal	Universal

PRIME FOCUS SATELLITE DISHES


MUL-1.8M-C


MUL-2.4M-C

The Multicom Prime Focus Satellite Dishes are powder coated, rugged, reliable antenna systems that will operate at C-band frequencies with high efficiency and at the same time successfully withstand the effects of the environment. They can be installed on the ground or rooftop.

Parameter	Specification
Dish Type	Prime Focus, Center-fed
C Band Gain (dB)	35.89 @4GHz
Frequency Range (GHz)	3.7 - 4.2
Mount	Ground, Non-Penetrating Roof

NON-PENETRATING ROOF MOUNT


MUL-NPRM

The MUL-NPRM is a Non-penetrating Roof Mount for DBS, off air antenna satellite systems. Using standard cinderblocks or sandbags as ballast, this Non-penetrating Roof Mount provides a durable and reliable platform to mount a satellite dish without damaging the roofing surface.

Features:

- Extra-large base
- Angle iron frame
- Powder coated
- Double-strut support
- Uses standard blocks or sandbags as ballast
- Attachment bolts

LNBFs

Parameter	Specification
Ports	1
Noise Figure	0.5dB typical
Conversion Gain	60dB min.

MUL-SINGLE-LNBF

Parameter	Specification
Ports	2
Noise Figure	0.5dB typical
Conversion Gain	60dB min.

MUL-TWIN-LNBF

Parameter	Specification
Ports	4
Noise Figure	0.5dB typical
Conversion Gain	60dB min.

MUL-QUAD-LNBF

Parameter	Specification
Ports	8
Noise Figure	0.5dB typical
Conversion Gain	60dB min.

MUL-OCTO-LNBF

Specifically designed for the KU Band DTH markets. Multicom LNBFs provide optimized reception capabilities. The 1, 2, 4 and 8-Port LNBFs enable the reception of a signal from the satellite and its distribution to one or more set-top boxes. They are ready for HD transmission and provide excellent noise figure performance. These LNBFs are an ideal solution for satellite broadcast reception across Europe and South America.

CABLE IN-LINE ISOLATOR & SURGE PROTECTOR

Features:

- Protects subscriber and CATV equipment
- Prevents high-voltage coax ground faults
- Reduces the energy level of spikes and voltage surges providing lightning protection
- Provides ground loop isolation and prevents ground loop hum
- CPE protection from voltage differences due to floating ground
- Excellent RF performance

The Multicom Cable In-line Isolator and Surge Protector is an outstanding, high-performance indoor safety isolator with surge protection for CATV installations. This product will add an extra layer of protection to help prevent ground loops and dangerous high voltage spikes and damaging currents on CATV coax.

Item	Technical Parameter
Frequency Range	5 - 1200Mhz
Insertion Loss (5 - 1200MHz)	< 1.0 dB
Return Loss (5 - 1200MHz)	> 18dB
RF Shielding (5 - 1200MHz)	Meets or Exceeds IEC Class A
Shield Surge Survival	6 kV/100 KHz Ringwave at subscriber port 6 kV Combo wave 6 kV Unipolar impulse ANSI/IEEE C62.41 at input port
Input Shield to Center Conductor Coupling	3 kV Min.
Leakage Current (Max.) Shield to Shield	8 mA (3000 VAC @ 60Hz)
Connectors	Input (F-Male) to Output (F-Female), 75 Ohm
Size (mm)	45 L x 20 Dia. (1.7" L x 0.8" Dia.)
Material	Copper Body, Nickel Plating, HDPE Insulator, BC Connector Pin
Operating Temperature	-30°C ~ +60°C (-22 ~ 140°F)

MUL-CISP

NEW!

3X4 SATELLITE IF MULTISWITCH

Features:

- Compatible with Direct to Home satellite
- Interface design allows satellite and antenna signals to be combined and routed to 4 outputs
- Wideband input from 40 up to 2150 MHz
- High Performance, surface mount printed-circuit board design ensures high port-to-port isolation for spurious protection to minimize channel interaction and reduce picture distortion
- High output low return loss ports specifically designed to reduce micro-reflections and lower harmonic distortions
- High-performance PIN diode matrix reduces polarity transfer time and digital artifacts providing high quality video output

MUL-MS-3/4-X
- E-Epoxy Back
- S-Solder Back

Parameter	Specification		
Frequency Range	40-1250 MHz		UHF/VHF In
	950-1250 MHz		Satellite In
	40-1250 MHz		Receivers 1 - 4
Insertion Loss	UHF/VHF Antenna Port	-10dB	40 ~ 806 MHz
		-13dB	807 ~ 860 MHz
	Satellite Ports	2dB	980 ~ 1450 MHz
		3dB	1451 ~ 1750 MHz
		0dB	1751 ~ 2150 MHz
Flatness for all Ports	±1.0dB		40 ~ 806 MHz
	±0.5dB		807 ~ 860 MHz
	±2.0dB		980 ~ 1750 MHz
	±2.5dB		1751 ~ 2150 MHz
Stop Band Attenuation	18dB		Antenna Port @ 950 MHz
	18dB		Satellite Port @ 860 MHz
Isolation	LNB 13/14 to LNB 17/18V	-35dB	950 ~ 2150 MHz
	Out-Out	-18dB	40 ~ 860 MHz
		-35dB	950 ~ 1750 MHz
		-30dB	1751 ~ 2150 MHz
Cross Polarization	-26dB		950 ~ 2150 MHz
Return Loss	UHF/VHF Antenna In	-8dB	40 ~ 860 MHz
	Satellite In	-12dB	980 ~ 1450 MHz
		-10dB	1451 ~ 2150 MHz
	Output	-8dB	40 ~ 860 MHz
		-10dB	980 ~ 1450 MHz
		-8dB	1451 ~ 2150 MHz
Max Current	350mA		LNB
Connector Type	'F' Type Female		All Ports
Impedence	75 OHM		All Ports
LHCP/RHCP Switching Port	14.0 ~ 14.7 VDC		
Voltage/Current Bias Fixed LNB Bias Voltage Required	RHCP 13/14V		11.8 ~ 13.8 VDC
	LHCP 17/18V Port DC Drop		0.3 ~ 0.5 VDC
	Low Voltage Operation 13/14V Port		10 VDC Min

ANALOG SATELLITE FINDER

The Multicom MUL-ASF-100 Analog Satellite Finder is used to adjust satellite dish position, feedhorn position and polarization to find the strongest satellite strength to your receiver. Handy and reliable, this Signal Finder has a high sensitively to signal reception and works with most satellite bands.

Specifications:

- Frequency Range: 950-2300MHz
- Power Input: 13-18VDC
- Input max: -10dBm
- Imput level min: -40dBm
- LNB Gain: 52~60dB

Features:

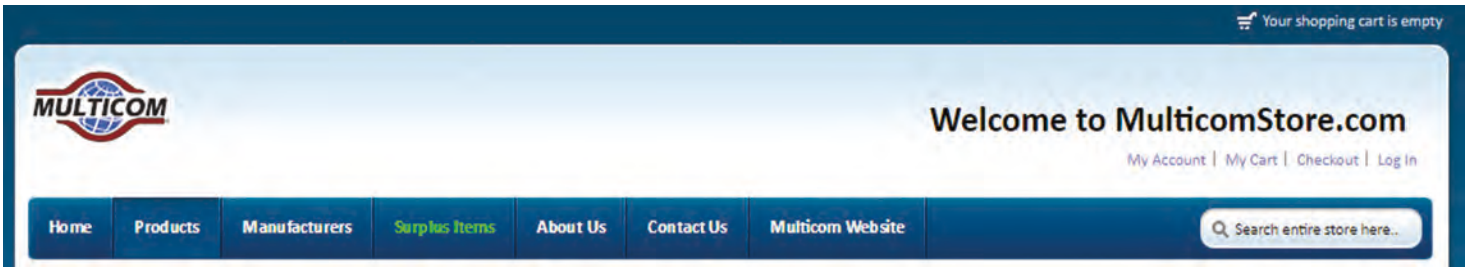
- No batteries required. By attaching receiver, power is provided for:
  - Easy to read backlit display - day and night use
  - Audible tone - assists in precise adjustments
- Pocket size and lightweight
- High sensitivity

Compatible with:

- DirecTV • Dish Network • Sky • Free to Air
- Bell Expressvu • and more...

MUL-ASF-100

MULTICOM'S ONLINE STORE – MULTICOMSTORE.COM



Purchase High Quality Name Brand Products 24/7 from our Online Store

As an accompanyment to www.multicominc.com, our industry leading website with thousands of products and resources for the CATV, Traffic and International markets, we have introduced **www.multicomstore.com.**

New Monthly Specials - Every Month

Every month we add new products to the **Surplus Products** pages with special discounts that usually include Free Shipping.

These products are at or below cost and are featured on the homepage of the website. Looking for great deals? Or an obscure or discontinued product from a major manufacturer? **Check MulticomStore.com first.**

MulticomStore allows you to purchase thousands of products online 24/7, as well as browsing through the hundreds of products listed in the Surplus Products pages which lists both deeply-discounted products as well as high-value discontinued products.

Multicom is a manufacturer and stocking distributor of over 19,000 products from more than 380 manufacturers. We strive to not only develop and deliver the latest technology, but our products are designed to accommodate the constant evolution of new technology - and you will find the latest in cutting-edge technology on MulticomStore.com. However, when this evolution renders products expendible, obsolete or discontinued - MulticomStore.com is your go-to resource.

For more information about premium cutting-edge technologies as well as Monthly Specials, Surplus and Discontinued Products, see the MulticomStore website:

www.multicomstore.com

MCONNECT VOIP SERVICES - MCONNECTINC.COM

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 VoIP offers full feature packages for small office/ home office (SOHO), small business, and entrerprise customers. 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.

Reseller Program

Mconnect was established to meet the needs of resellers enabling them to quickly capitalize on the booming digital phone revolution while adding a new revenue stream to their business.

- **No Investment**
- **No Start Up Costs**
- **No Contracts**
- No technical, logistical or regulatory headaches associated with providing VoIP service on your own
- Monthly residual income per line

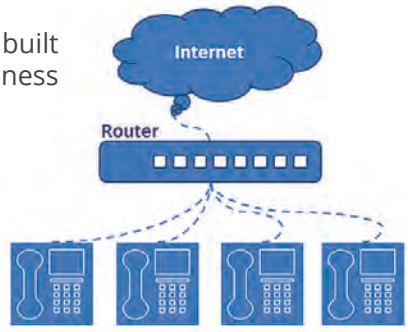
Mconnect makes it simple for you to start making money by implementing a new cutting-edge and fast growing service to your line-up almost immediately.

Business Phone Service

Sound like a Big Business at a Small Business Price

Mconnect is an 'expand with your needs', enterprise-grade phone service built for small businesses with absolutely everything you'd ever need in a business phone system:

- Virtual receptionist - Auto attendant
- Extension dialing
- Conferencing
- Music-on-hold
- Voicemail
- On-line portal
- Call forward
- Call hold
- Call park
- Call transfer
- Hunt group
- and many more



The beauty is in the simplicity

Residential Phone Service

Mconnect Residential Service allows you to replace your landline and use regular phones to make and receive virtually unlimited crystal-clear calls for one low price. You can get a new number or transfer your existing number and it works with the phones ou have now - no computer required.

For more information on the Mconnect Reseller Program, or Business and Residential Services, contact Mconnect at:

www.mconnectinc.com / 877-744-VOIP (8647)

I help your family, friends, and business associates stay in constant communication. Whether it be by providing those people with Mconnect VoIP solutions or technical support for their telecom services, I make sure you are always able to get in touch with the people that matter most. Andrew Arnold - Mconnect Administrator

Multicom stocks over 20,000 products from more than 300+ of the world's leading manufacturers, including these and more:

AFL
Amphenol
Applied Instruments, Inc. Telecommunications Instrumentation
ARRIS
ASKA
ATX
BELDEN
Blonder Tongue
CablePrep
CABLE PRO
CCI
CISCO
COMMSCOPE
CORNING
DZS
Draka
DRAKE
EAGLE COMTRONICS INC.
ECONOLITE
FOXCOM
GAMCO
Gilbert
global skyware completing the picture
ICM CORP
LG
McCain
MERIDIAN TECHNOLOGIES
MFC
Middle Atlantic Products, Inc.
Multilink Broadband
MULTICOM
Norsat International Inc.
ofs
OLSON TECHNOLOGY INC.
pelco PELCO PRODUCTS, INC.
Pencell PLASTICS
PLP
ATX
PICO DIGITAL
PPC
RIPLEY
RMS
Scientific Atlanta A CISCO COMPANY
SONORA design associates
Standard Communications
STEREN
3 Innovation
Televes
TFC
Thomas&Betts
TRIPP·LITE POWER PROTECTION
XFTP TRILITHIC
ZV

J.83B - FREQUENCY ALLOCATION CHART - USA

Lowband	
CH.	Freq.
2	57.0000
3	63.0000
4	69.0000
5	79.0000
6	85.0000

Highband	
CH.	Freq.
7	177.0000
8	183.0000
9	189.0000
10	195.0000
11	201.0000
12	207.0000
13	213.0000

Midband	
CH.	Freq.
14	123.0125
15	129.0125
16	135.0125
17	141.0000
18	147.0000
19	153.0000
20	159.0000
21	165.0000
22	171.0000

Superband	
CH.	Freq.
23	219.0000
24	225.0000
25	231.0125
26	237.0125

Superband	
CH	Freq.
27	243.0125
28	249.0125
29	255.0125
30	261.0125
31	267.0125
32	273.0125
33	279.0125
34	285.0125
35	291.0125
36	297.0125

Hyperband	
CH	Freq.
37	303.0125
38	309.0125
39	315.0125
40	321.0125
41	327.0125
42	333.0250
43	339.0125
44	345.0125
45	351.0125
46	357.0125
47	363.0125
48	369.0125
49	375.0125
50	381.0125
51	387.0125
52	393.0125
53	399.0125
54	405.0000
55	411.0000

Hyperband	
CH.	Freq.
56	417.0000
57	423.0000
58	429.0000
59	435.0000
60	441.0000
61	447.0000
62	453.0000
63	459.0000
64	465.0000

Ultraband	
CH.	Freq.
65	471.0000
66	477.0000
67	483.0000
68	489.0000
69	495.0000
70	501.0000
71	507.0000
72	513.0000
73	519.0000
74	525.0000
75	531.0000
76	537.0000
77	543.0000
78	549.0000
79	555.0000
80	561.0000
81	567.0000
82	573.0000
83	579.0000
84	585.0000
85	591.0000

Ultraband	
CH.	Freq.
86	597.0000
87	603.0000
88	609.0000
89	615.0000
90	621.0000
91	627.0000
92	633.0000
93	639.0000
94	645.0000

Midband	
CH.	Freq.
95	93.0000
96	99.0000
97	105.0000
98	111.0250
99	117.0250

Jumboband	
CH.	Freq.
100	651.0000
101	657.0000
102	663.0000
103	669.0000
104	675.0000
105	681.0000
106	687.0000
107	693.0000
108	699.0000
109	705.0000
110	711.0000
111	717.0000
112	723.0000
113	729.0000

Jumboband	
CH.	Freq.
114	735.0000
115	741.0000
116	747.0000
117	753.0000
118	759.0000
119	765.0000
120	771.0000
121	777.0000
122	783.0000
123	789.0000
124	795.0000
125	801.0000
126	807.0000
127	813.0000
128	819.0000
129	825.0000
130	831.0000
131	837.0000
132	843.0000
133	849.0000
134	855.0000
135	861.0000

ATSC – FREQUENCY ALLOCATION CHART – MEXICO

Channel	Frequency
2	57.0000
3	63.0000
4	69.0000
5	79.0000
6	85.0000
7	177.0000
8	183.0000
9	189.0000
10	195.0000
11	201.0000
12	207.0000
13	213.0000
14	473.0000
15	479.0000
16	485.0000
17	491.0000
18	497.0000
19	503.0000
20	509.0000
21	515.0000
22	521.0000
23	527.0000
24	533.0000
25	539.0000
26	545.0000
27	551.0000
28	557.0000
29	563.0000
30	569.0000
31	575.0000
32	581.0000
33	587.0000
34	593.0000
35	599.0000

Channel	Frequency
36	605.0000
37	611.0000
38	617.0000
39	623.0000
40	629.0000
41	635.0000
42	641.0000
43	647.0000
44	653.0000
45	659.0000
46	665.0000
47	671.0000
48	677.0000
49	683.0000
50	689.0000
51	695.0000
52	701.0000
53	707.0000
54	713.0000
55	719.0000
56	725.0000
57	731.0000
58	737.0000
59	743.0000
60	749.0000
61	755.0000
62	761.0000
63	767.0000
64	773.0000
65	779.0000
66	785.0000
67	791.0000
68	797.0000
69	803.0000

DVB-T (6 MHZ) - FREQUENCY ALLOCATION CHART - COLUMBIA

Channel	Frequency
2	57.0000
3	63.0000
4	69.0000
5	79.0000
6	85.0000
7	177.0000
8	183.0000
9	189.0000
10	195.0000
11	201.0000
12	207.0000
13	213.0000
14	473.0000
15	479.0000
16	485.0000
17	491.0000
18	497.0000
19	503.0000
20	509.0000
21	515.0000
22	521.0000
23	527.0000
24	533.0000
25	539.0000
26	545.0000
27	551.0000
28	557.0000
29	563.0000
30	569.0000
31	575.0000
32	581.0000
33	587.0000
34	593.0000
35	599.0000

Channel	Frequency
36	605.0000
37	611.0000
38	617.0000
39	623.0000
40	629.0000
41	635.0000
42	641.0000
43	647.0000
44	653.0000
45	659.0000
46	665.0000
47	671.0000
48	677.0000
49	683.0000
50	689.0000
51	695.0000
52	701.0000
53	707.0000
54	713.0000
55	719.0000
56	725.0000
57	731.0000
58	737.0000
59	743.0000
60	749.0000
61	755.0000
62	761.0000
63	767.0000
64	773.0000
65	779.0000
66	785.0000
67	791.0000
68	797.0000
69	803.0000

ISDB-T - FREQUENCY ALLOCATION CHART - LATIN AMERICA

Channel	Frequency
7	177.1429
8	183.1429
9	189.1429
10	195.1429
11	201.1429
12	207.1429
13	213.1429
14	473.1429
15	479.1429
16	485.1429
17	491.1429
18	497.1429
19	503.1429
20	509.1429
21	515.1429
22	521.1429
23	527.1429
24	533.1429
25	539.1429
26	545.1429
27	551.1429
28	557.1429
29	563.1429
30	569.1429
31	575.1429
32	581.1429
33	587.1429
34	593.1429
35	599.1429
36	605.1429
37	611.1429
38	617.1429

Channel	Frequency
39	623.1429
40	629.1429
41	635.1429
42	641.1429
43	647.1429
44	653.1429
45	659.1429
46	665.1429
47	671.1429
48	677.1429
49	683.1429
50	689.1429
51	695.1429
52	701.1429
53	707.1429
54	713.1429
55	719.1429
56	725.1429
57	731.1429
58	737.1429
59	743.1429
60	749.1429
61	755.1429
62	761.1429
63	767.1429
64	773.1429
65	779.1429
66	785.1429
67	791.1429
68	797.1429
69	803.1429

LOSS BUDGET CHART FOR SINGLEMODE FIBER

Guidelines/specifications using Excel Spreadsheets and the assumptions shown in the table below are very helpful for contractors performing installations, terminations, and other fiberoptic network work. It provides metrics to quickly identify any fibers which are in or out of specification. The table on this page specifies the basic fiber and splice loss for point-to-point spans up to 80 Kilometers using the G.652 single-mode fibers. The attenuation values are those specified in applicable ITU and TIA standards. Not included in this chart is the use of the optical splitters and the losses introduced by them. Depending on the actual design, the number of connections, splices, and the span distance may all need to be adjusted to be more specific and accurate.

Another quick method to verify the optical loss in the outside plant is to subtract the receiver power level at the ONT from the transmit power level at the OLT (dBm - dBm = dB) at 1490/1550 nm, and the reverse from the ONT transmitter to the OLT receiver at 1310 nm.

Length (Km)	1310 nm (0.4 dB/Km)	# of Splices x 0.1 dB	With Patch Panel	Total	1550 nm (0.25 dB/Km)	# of Splices x 0.1 dB	With Patch Panel	Total
1	0.40	0.20	0.50	1.10	0.25	0.20	0.50	0.95
2	0.80	0.20	0.50	1.50	0.50	0.20	0.50	1.20
3	1.20	0.20	0.50	1.90	0.75	0.20	0.50	1.45
4	1.60	0.20	0.50	2.30	1.00	0.20	0.50	1.70
5	2.00	0.20	0.50	2.70	1.25	0.20	0.50	1.95
10	4.00	0.30	0.50	4.80	2.50	0.30	0.50	3.30
15	6.00	0.40	0.50	6.90	3.75	0.40	0.50	4.65
20	8.00	0.50	0.50	9.00	5.00	0.50	0.50	6.00
25	10.00	0.60	0.50	11.10	6.25	0.60	0.50	7.35
30	12.00	0.60	0.50	13.10	7.50	0.60	0.50	8.60
35	14.00	0.70	0.50	15.20	8.75	0.70	0.50	9.95
40	16.00	0.80	0.50	17.30	10.00	0.80	0.50	11.30
45	18.00	0.90	0.50	19.40	11.25	0.90	0.50	12.65
50	20.00	1.00	0.50	21.50	12.50	1.00	0.50	14.00
55	22.00	1.00	0.50	23.50	13.75	1.00	0.50	15.25
60	24.00	1.10	0.50	25.60	15.00	1.10	0.50	16.60
70	28.00	1.30	0.50	29.80	17.50	1.30	0.50	19.30
80	32.00	1.40	0.50	33.90	20.00	1.40	0.50	21.90
90	36.00	1.50	0.50	38.00	22.50	1.50	0.50	24.50
100	40.00	1.70	0.50	42.20	25.00	1.70	0.50	27.20

Notes:

1. Table calculations are based on the G.652 single-mode fiber attenuation values for 1310 nm (0.4 dB/km) and 1550 nm (0.25 dB/km).
2. The "With Patch Panel" column includes an additional 0.5 dB, as specified in ITU-T G.671 for connection loss.
3. Adjust splice loss to meet your specific requirements. The table is based on 0.1 dB per splice, as specified in TIA-758 OSP standard.
4. The number of splices is based on the inclusion of two pigtail splices and 6-km reel lengths, i.e. two pigtails are always used in each case and the length of the run will determine the number of 6-km reels required.

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