Founded in 1990, Major Custom Cable is one of the premier manufacturers of Data and Communication cables in the United States. Based in Missouri, we provide cabling solutions for some of the largest distributors and Original Equipment Manufacturer (OEM) companies.

An ISO 9001:2015 registered facility with over 50,000 sq. ft. of world class manufacturing and warehousing space, we offer a wide range of products manufactured to the highest standards to best serve the communications and IT industries. Major Custom Cable ensures high-quality design by employing highly-trained engineers and acquiring the most up-to-date cable assembly equipment. Our skilled staff can provide cost saving solutions for any scope of project, from simple to complex assemblies. We test every single solution for 100% functionality and all of our products are supplied with a Limited Lifetime Warranty.

At Major Custom Cable:

- Real people answer your calls, not automated attendants
- Quotes and orders are processed by professional Account Managers
- Our experienced and knowledgeable Customer Service and Technical Representatives are ready to assist you
- Custom assembly projects are welcome
- Competitive prices
- No minimum or maximum orders
- Most orders ship in three days or less
- Every cable is 100% tested
- Free blind drop shipments
- Modern production facility is ISO 9001:2015 Certified
- Quality and experience since 1990

If you are a MCC customer we sincerely thank you for your business and look forward to working with you again soon. If you are not a MCC customer we encourage you to call today. See for yourself the difference quality products and great service from the professionals at MCC will make for you.

281 Lotus Dr.
Jackson, Missouri 63755

www.MajorCustomCable.com

(800) 455-6224
The ISO 9000 family addresses various aspects of quality management and contains some of ISO’s best known standards. The standards provide guidance and tools for companies and organizations who want to ensure that their products and services consistently meet customer’s requirements, and that quality is consistently improved.

The exclusive Corning Optical Communications CAH Connections™ Program Gold level is reserved for top tier manufacturers known for their commitment to outstanding quality and industry leadership. Having undergone rigorous Corning process training and evaluation, Gold level companies share Corning’s dedication to quality, technology and innovation by consistently manufacturing products of superior performance.

The CCTT course provides expert level training on the Versiv / DSX cable analyzer series. Investing in the Fluke Networks Certified Cabling Test Technician program will not only improve installation skills, but also your effectiveness and productivity on the job – testing, certifying and troubleshooting cabling systems.

Major Custom Cable has successfully completed the Neutrik assembly training for: opticalICON® DUO SM, MM hybrid and non-hybrid fiber optic cables; opticalICON® QUAD SM and MM fiber optic cables; opticalICON® MTP fiber optic cables; opticalICON® breakout solutions; opticalICON® repair center (including drums); opticalICON® measuring and cleaning.
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<td>TERMS</td>
</tr>
<tr>
<td>46</td>
<td>TERMS</td>
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</table>
MULTIMODE PATCH CABLES

Fiber optic patch cables connect fiber optic equipment to optical cross connects, patch panels, and data outlets within the telecommunications closet, equipment rooms and work areas.

Multimode fiber optic cable has a large diameter core that allows multiple modes of light to propagate. Because of this, the number of light reflections created as the light passes through the core increases, creating the ability for more data to pass through at a given time. As a result of the high dispersion and attenuation rate with this type of fiber, the quality of the signal is reduced over long distances. This application is typically used for short distance, data and audio/video applications in LANs. RF broadband signals, such as what cable companies commonly use, cannot be transmitted over multimode fiber.

FEATURES

- Total immunity to electrical interference
- Multimode fiber assemblies are 100% tested
- Can be factory installed in innerduct
- Variety of jacket colors available
- Your choice of name brand or globally sourced components.
OM3 / OM4 PATCH CABLES

Major Custom Cable’s full range of simplex, duplex, and mini round fiber patch cables offer the best transmission performance for your network. Fiber optic patch cables connect fiber optic equipment to optical cross connects, patch panels, and data outlets within the telecommunications closet, equipment rooms, and work areas.

Major Custom Cable’s skilled production staff can manufacture fiber patch cords to your designated specifications.

- Laser Optimized 50/125 is designed to utilize VCSEL lasers in the 850nm window to allow transmission speeds up to 10 Gigabits per second (Gbps) over greater distance.
- Laser Optimized patch cords work with the Laser Optimized horizontal cable to achieve a 10-Gbps up to 550 meters depending on the grade of the horizontal cable.
- It is important to remember that Laser Optimized patch cords are backward compatible and can be factory installed in innerduct.
- Your choice of name brand or globally sourced components.
- 100% tested
- Compatible with Cisco BiDi Transceivers

CHECKLIST

- SIMPLEX OR DUPLEX?
- GRADE (150, 300, or 550)?
- CONNECTOR TYPE?
- JACKET (PVC, PLENUM or LSZH)?
- LENGTH?
- PULLING EYE?
- CUSTOM LABELS (SHRINK or LABEL)?
- JACKET OD (3.0MM, 2.0MM, 1.6MM)?

OM5 PATCH CABLES

THE NEXT GENERATION OF FIBER IS HERE!

- OM4 EMB (Effective Modal Bandwidth) is only specified at 850 nm, while OM5 is specified both at 850 nm and 953 nm. OM5 is also backwards compatible to OM3 and OM4.
- OM5 is the official designation for WBMMF (Wide Band Multimode Fiber) by ISO/IEC 11801. WBMMF is intended for operation using VCSEL (vertical-cavity surface-emitting laser) transceivers across the 846 to 953 nm wavelength range.
- SWDM (Short-Wavelength-Division-Multiplexing) uses 4 wavelengths (850 to 940 nm) to transmit up to 25G per wavelength for a potential of 100G Ethernet using a duplex patch cord. This can help reduce costs over the more expensive MPO options.
SINGLEMODE FIBER OPTIC

Singlemode patch cords are used to connect fiber optic equipment operating at 1310 and 1550 nm wavelengths. Singlemode ultra polish or angle polish patch cords are required in DWDM applications.

FEATURES

- Total immunity to electrical interference
- Tested for insertion and return loss
- Interferometric testing to comply with GR326-Core available
- Variety of jacket colors available

CHECKLIST

- SIMPLEX or DUPLEX?
- POLISH (ULTRA or ANGLE)?
- JACKET (PVC, PLENUM or LSZH)?
- LENGTH?
- PULLING EYE?
- CUSTOM LABELS (SHRINK or LABEL)?
- JACKET OD (3.0MM, 2.0MM, 1.6MM, 1.2MM)?
- CONNECTOR TYPE?
**MODE CONDITIONING PATCH CORDS**

Our mode conditioning patch cords are designed to eliminate DMD effects which can occur when a single mode signal is launched into a multimode fiber. Mode conditioning patch cords are especially suitable for applications where new Gigabit 1000 BASE-LX routers or switches are being deployed into existing multimode plants.

- Adapt to Gigabit Ethernet using existing multimode cable plant
- Simply plug the singlemode connector into the Transmit side of the 1000Base-LX equipment and the multimode connector into the receive side of the equipment
- Mode conditioning patch cords provide the overfill launch condition required by multimode cable plants
- Use mode conditioning patch cords in place of standard equipment-to-patch panel for 1000 Base-LX systems where multimode horizontal cable is used
- IEEE-802.3z compliant

**USES**

Fiber network troubleshooting – Used with an OTDR, (Optical Time Domain Reflectometer) a break in a fiber run can be detected within a few feet. The launch box provides a known length of cable. The events that show on the OTDR screen will indicate every connector, every splice, and any micro bend with the last event being the end of the cable.

- Design your Launch Box your way
- All fiber types and connector types are available

**OTDR LAUNCH BOXES**

20.9” × 12.9” × 8.4”
INSIDE DIMENSIONS

16.9” × 9.9” × 6.5”
INSIDE DIMENSIONS

8.5” × 6” × 3”
INSIDE DIMENSIONS

**CHECKLIST**

- FIBER TYPE (MULTIMODE 62.5/125 or 50/125)?
- CONNECTOR TYPE?
- JACKET (PVC or PLENUM)?
- LENGTH?
- CUSTOM LABELS (SHRINK or LABEL)?
- JACKET OD (3.0MM, 2.0MM, 1.6MM)?

**SAMPLE**

- SC/SC Connectors
- 62.5/125 micron
- Duplex
- PVC

**CHECKLIST**

- FIBER TYPE (SINGLEMODE, MULTIMODE 62.5/125, 50/125, or LASER OPTIMIZED)?
- CONNECTORS?
- BARE GLASS LENGTH?
- NUMBER OF SPOOLS?
- LASER ENGRAVED FACE PLATE?
MTP®/MPO CABLES

The quantity of data transmitted worldwide and the need for ever-greater bandwidth is growing exponentially. The number of network connections in data centers is rising rapidly, and traditional fiber cables can make your data center crammed and difficult to manage.

To meet this demand, Major Custom Cable offers MTP/MPO fiber connectors which increases bandwidth while reducing the footprint. MTPs (Multi-fiber Termination Push-on) and MPOs (Multi-fiber Push-on) are often used interchangeably. Major Custom Cable only uses the best quality Elite ferrules.

MTP/MPO cables play an important role in ultra-high-density cabling. They deliver the extra bandwidth needed for high data transmission applications, and also have the advantages of shorter installation times, tested and guaranteed quality, and greater reliability. Combining to meet the 40GBASE-SR4 and 100GBASE-SR10 standard, the MTP/MPO multi-fiber connector of MTP/MPO cables is about the same size as a SC connector but can accommodate 8, 12, or 24 fibers, thus offering savings in circuit card and rack space.

Major Custom Cable has combined the very best in both standard and lockable MTP based connectors in conjunction with military grade tactical cable. These cords are designed for rapid deployment in optical networks requiring high mechanical performance specifications, extreme environmental exposure, and highly dynamic operating conditions. These cables are able to withstand high tensile loads, severe crushing forces, repeated impacts, and extreme temperatures.

FEATURES

- Composed of MTP/MPO connectors and fiber optic cables
- Available with singlemode or multimode fiber
- Ruggedized MTP solutions available for harsh environmental applications

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<thead>
<tr>
<th>TYPE</th>
<th>ROUND, JACKETED RIBBON, OR BARE RIBBON</th>
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</thead>
<tbody>
<tr>
<td>JACKET</td>
<td>RISER, PLENUM, LSZH, TACTICAL</td>
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<td>LENGTH</td>
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<tr>
<td>ARMORED</td>
<td></td>
</tr>
<tr>
<td>GLASS</td>
<td>SINGLEMODE, 62.5 OM1, 50 OM2, 50 OM3, 50 OM4, OR 50 OM5</td>
</tr>
<tr>
<td>CONNECTORS</td>
<td>MALE MTP WITH PINS, FEMALE MTP WITHOUT PINS, UNIBOOT LC, LC, LC/APC, SC, SC/APC, ST, D4, MU, FC, FC/APC, OR MTRJ</td>
</tr>
<tr>
<td>CUSTOM LABELS</td>
<td></td>
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<tr>
<td>CUSTOM PACKAGING</td>
<td></td>
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<tr>
<td>CUSTOM KITTING</td>
<td></td>
</tr>
<tr>
<td>BREAKOUT CABLE FAN-OUT LENGTHS</td>
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</table>
MTP 12 / MTP 24

Current multi-mode optics standards for 40GbE and 100GbE optics use multiple 10Gbps lasers, simultaneously transmitting across multiple fiber strands to achieve high data rates. Because of the multi-lane nature of these optics, both 40GbE and 100GbE multi-mode optics use a different style of fiber cabling, known as MPO or MTP cabling. An MPO/MTP cable presents 12 separate strands of multi-mode fiber in a single cable. As with 10GbE optics over multi-mode fiber, an OM3 or OM4 grade MMF is needed to be able to cover longer distances (up to 150m).

40GBASE-SR4

40GbE-SR4 optics use a single MTP/MPO cable for both transmit and receive, as SR4 uses four strands for transmit and four strands for receive. Maximum distance depends on the type of multimode fiber used.

REVERSIBLE MPO

POLARITY & GENDER CHANGE MADE EASY WITHOUT OPENING THE HOUSING!

FEATURES

- All the benefit of the MPO Plus and more
- Industries shortest length of Total length of 37mm for 3mm round
- Polarity change in the field without any tool
- Simple gender change without taking off the housing
- Various boot types available
- Complies with MPO IEC and TIA/EIA requirements
MULTIFIBER ASSEMBLIES

MCC fiber optic cables have been designed to allow for a high degree of flexibility and customization. By providing virtually limitless options, we are able to ensure that you receive a fiber optic cable designed for your specific needs. Our development and manufacturing teams work closely together to guarantee the highest level of precision each and every time.

- Can be factory installed in innerduct
- 100% tested, results shipped with multifiber assemblies
- Your choice name brand or globally sourced components
- Available in indoor/outdoor solutions

<table>
<thead>
<tr>
<th>FURCATION TUBING DIAMETERS (1:1 SCALE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>900 micron</td>
</tr>
<tr>
<td>3 mm</td>
</tr>
<tr>
<td>2 mm</td>
</tr>
</tbody>
</table>

- NUMBER OF FIBERS?
- CABLE TYPE?
  - DISTRIBUTION STYLE?
  - BREAKOUT STYLE
  - INDOOR/OUTDOOR
  - LOOSE TUBE
  - DIRECT BURIAL
  - INTERLOCKING ARMOR
  - AERIAL
- CONNECTORS?
- JACKET (PVC or PLENUM)?
- OVERALL LENGTH?
- FIBER TYPE (MM, SM, LASER OPTIMIZED)?
- FURCATION TUBING?
- PULLING EYE?
- CUSTOM LABELS (SHRINK OR LABEL)?
900 MICRON PIGTAIL KIT

FEATURES

- Ideal for fusion splicing with an installer friendly, easy strip buffer.
- New packaging keeps work organized for labor savings.
- Packaged as either a single strand or in color coded 6 and 12 pack versions.
- Available with SC, ST, LC, or FC connectors. PC, UPC, and APC performance options available.

CORNING™ GLASS OPTIONS:

- Singlemode SMF28e™
- 50/125 Infinicor®600
- 62.5/125 Infinicor®300
- 50/125 Infinicor®SX+

NANOTEK FIBER

CRUSH RESISTANT FIBER!

Nanotek Fiber offers OFCP UL-Listed plenum rating with a unique crush resistant jacketing. The interlocking stainless steel inner sheathing provides exceptional durability while maintaining an industry standard 10x overall diameter bend radius. Available with tool-less reversible LC uniboots for patch cords and multifiber cable assemblies with crush resistant trunks and fan-outs.
19" RACK MOUNTABLE 1U SLIDING PATCH PANEL

- Comes with wire management spools to secure loose fiber inside the panel
- Accepts up to 3 LGX style adapter plates or cassettes

WALL MOUNTABLE PATCH PANEL

- Accepts one LGX style adapter plate
- Can be used with fusion splicing or pre-term solutions

DESCRIPTION

MCC offers a wide range of fiber patch panels to the end user. From wall mount to rack mounts, these patch panels accept LGX style adapter plates and cassettes. With the ability to use a full array of adapter types, these enclosures offer a flexible solution to the end user. It enables them to incorporate a multifunctional enclosure that allows easy access during installation or rework with no disturbance of the existing cable or fibers.

FEATURES/BENEFITS

- Data centers, premise installations, telecommunication networks
- Ethernet, Fiber Channel, ATM, LAN, MAN and WAN
- Data communication and telecommunication networks
- Indoor applications.

APPLICATIONS

- Accepts LGX components
- Multiple adapter options available
- Splicing option available.
- Hinged door
- Accepts loose tube and distribution cable
- ROHS, REACH SvHC. compliant

LGX SLOTS

VARIOUS ADAPTER PLATES AVAILABLE
FIBER CASSETTES

DESCRIPTION
MCC’s MTP Cassette Modules provide a secure transition between MTP and LC or SC discreet connectors. They are used to interconnect MTP backbones with LC or SC patching.

Modular system allowing for rapid deployment of high density data center infrastructure as well as improved troubleshooting and reconfiguration during moves, adds, and changes. Cassettes can be mounted in 1U or 3U 19" multi-slot chassis.

MTP Cassettes contain factory controlled and tested MTP-to-LC or SC fanouts to deliver optical performance and reliability. Low Loss MTP Elite and LC or SC Premium versions are offered featuring low insertion loss for demanding power budget high speed networks.

APPLICATION
- Data Center Infrastructure
- Storage Area Network- Fiber Channel
- Parallel Optics

FEATURES
- MTP® (US Conec) brand MPO standard compliant multifiber connector
- LC (SFF Data Centre standard), SC discreet interface
- OS1/2, OM3, OM4 fiber grades (OM1 and OM2 available)
- 12 and 24 fiber versions - 12 LC (Duplex) / SC (Simplex) optical parts
- Polarity A (standard), B or C
- Factory Terminated and Tested
- High performance zirconia sleeve adaptors

BENEFITS
- Rapid Deployment- factory terminated modular system saves installation and reconfiguration time during moves, adds and changes.
- MTP® Interface- MTP® US Conec brand components feature superior optical and mechanical properties.
- Optimized Performance- low loss MTP® Elite, discreet Premium connectors and OM4 fiber assures low insertion losses and power penalties in tight power budget, high speed network environments.
- High Density- 12 or 24 fiber cassettes can be mounted in 1U scaling up to 72 or in 3U scaling up to 336 discreet connectors.
- Reliability- 100% Tested- combination of high quality components and MCC manufacturing quality control guarantees product to the highest standards.

SFP / GIGABIT TRANSCEIVER
MCC provides high quality transceivers for network, server, and storage systems. These transceivers are specifically coded to be 100% compatible with the original manufacturer hardware. Each product is subject to in depth qualification and testing to ensure that it will perform to the exacting demands of high and low bandwidth environments. All items are manufactured using the highest quality components and covered by a Lifetime Warranty.
SCHILL REELS

THE BEST IN THE BUSINESS!

Schill utilizes state of the art manufacturing and quality control process (DIN EN ISO 9001:2008) at their plant in Laichingen/Baden-Wuerttemberg, Germany. The design team is constantly striving to improve every aspect of the product, often relying on direct customer input to deliver the highest quality. The central item is customization, and that’s why they are Major Custom Cable’s partner of choice.

We normally stock open reels and then accessorize the unit based on the customer’s needs. We always keep the most popular reels in stock in our Midwest warehouse, servicing all of the USA and Canada. If a particular reel is not in stock, we can have it shipped from the plant in Germany in as little as 5 working days.

GT PROFESSIONAL SERIES
Unbreakable synthetic rubber and composite plastic, high-quality fittings, spool brake, completely customizable.

HT CLASSIC LINE
Heavy-duty steel constructions, interchangeable disks, high-quality fittings, spool brake, folding crank, completely customizable.

SL SERIES STAGE LINE
Industrial-duty powder coated steel and polycarbonate construction, stackable, high-quality fittings, folding carry handles, spool brake, folding cranks, hinged hub access hatch.

SK SERIES STAGE LINE
Industrial-duty steel frame and spool, stackable, high-quality fitting, tri-flange 3rd disk, spool brake, heavy-duty folding crank.
WALL PLATES

FIBER OPTIC CONNECTORS:
- ST
- SC
- LC
- TOSLINK

COPPER FEED THRU'S INCLUDE:
- 3.5mm mini TRS
- BNC
- RCA
- VGA
- RJ45
- F (CATV)
- S VIDEO
- HDMI (HDCP compliant)
- USB
- Firewire
- D-Subs

CHECKLIST
- Size? Single, dual, or custom?
- Plastic decora or stainless?
- clear anodized or powder coated?
- engraving or screen printing?
- NUMBER AND TYPE OF PORTS?
RUGGEDIZED / ODVA - EXPANDED BEAM

IP SERIES ODVA

- IP67 Water immersion and Dust protection for harsh environment
- Wide range of operational temperature for outside plant -40°C
- Wide range of cables to be used, 5-8mm OD cable with two 2.0mm to 3.0mm jacketed subunits
- Chemical Resistance
- Intermateable to other Industrial LC adaptor per IEC 60603-7
- Durable mechanical mating, minimum of 500 matings

EXPANDED BEAM FIBER OPTIC CABLE ASSEMBLY

Major Custom Cable’s expanded beam fiber optic assemblies have been designed for use in the most demanding harsh environment applications; we only use the highest grades of polyurethane tactical multi-fiber cable. Our expanded beam connectors are hermaphroditic which facilitates daisy-chaining and makes them ideal for tactical deployments such as satcom, military tactical communications, outside broadcast, petrochemical plant, mining, and offshore systems.

Expanded beam connectors are less susceptible to insertion loss due to dust and debris than physical contact connectors. In addition, there is no physical contact of mating termini as in butt-joint fiber optic connectors. Instead, the fiber is sealed behind a precision lens that increases the diameter of the beam by many orders of magnitude. In the mating connector, a second lens collects the light and focuses it into a second optical fiber to complete the connection.

<table>
<thead>
<tr>
<th>TYPE</th>
<th>2 OR 4 POLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHELL SIZE</td>
<td>PROBEAM MINI/TELECAST MX COMPATIBLE OR PROBEAM JR./STRATOS HMA COMPATIBLE</td>
</tr>
<tr>
<td>JACKET</td>
<td>MCC ONLY USES THE HIGHEST GRADES OF POLYURETHANE TACTICAL MULTI-FIBER CABLE</td>
</tr>
<tr>
<td>LENGTH</td>
<td></td>
</tr>
<tr>
<td>COLOR</td>
<td></td>
</tr>
<tr>
<td>GLASS</td>
<td>SINGLEMODE OR 50 OM3</td>
</tr>
<tr>
<td>CONNECTORS</td>
<td>UNIBOOT LC, LC/APC, SC, SC/APC, ST, D4, MU, FC, FC/APC, OR MTRJ</td>
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<tr>
<td>REEL</td>
<td>GENUINE SCHILL GT OR HT SERIES REEL</td>
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<tr>
<td>CUSTOM LABELS</td>
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<td>CUSTOM PACKAGING</td>
<td></td>
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<tr>
<td>CUSTOM KITTING</td>
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</tbody>
</table>
FULL AXIS

**THE NEXT GENERATION X-TTA SOLUTION.**

Next generation WiMAX and Long Term Evolution (LTE) Fiber/Power/Signal To The Antenna (x-TTA) connectivity designs require rugged cable assemblies for outdoor use. For direct connection, these cable assemblies need to plug directly into the optical transceivers or other connector types though a bulkhead construction.

For this specific application, the connector design will need to accommodate for a large tolerance in Z-direction. Furthermore, the connector shell must allow for easy one handed mating. The FULL AXIS connector sealing systems were designed to function with a very large Z-axis tolerance, hence accommodating for the broadest range of transceivers on the market. This unique feature allows end users to pick almost any transceiver they wish.

**APPLICATIONS**
- WiMAX and LTE Base Stations
- Remote Radio Heads (RRH)
- Industrial outdoor applications
- Robotics
- Aerospace & Defense

**KEY FEATURES**
- Open bulkhead for easy access to SFP
- Positive mechanical feedback to operator when fully mated
- One-hand mating
- Duplex LC interface
- Bulkhead cutout allows for removal of transceiver through the bulkhead (no need to open RRH for transceiver replacement)
- Robust bayonet locking for easy, fast, and secure mating
- Multimode and single mode
- Water proof, dust proof and corrosion resistant.
- Expansion to RJ45 and Power possible
- Plug has tolerance free design, fully free floating on Z-axis
- No cable buckling during or after installation.
- Cost effective metal die cast bulkhead
- Field installable version available

**MECHANICAL**
- Designed to meet 150 N cable retention
- Designed to meet IP67
- LC interface
- Single- and Multimode
- Adapter footprint : 36mm x 36mm
- Bayonet style locking
- Duplex LC interconnect MM or SM
- No tools required
- Operating temperature : -40°C to +70°C
- Mating durability min : 100 cycles.

**SPECIFICATIONS**
- Temperature : -40°C to +70°C
- 150 N Pull Force : per IEC61300-2-4
- Protection Class : IP 65 (IP 67 on request)
- 100 Mating Cycles
- Vibration : per IEC 61300-2-1
- Salt mist : per IEC 61300-2-26
- Impact : per IEC 61300-2-12
- Temperature/Humidity : per IEC 61300-2-22
PIERSIDE

The Pierside fiber optic connector is for harsh environment, broadcast, and pierside applications. This connector is available in either singlemode or multimode and uses field-proven MIL-PRF-29504 termini.

The 6 & 12-channel Pierside connector designs provide flexibility for current and future Navy communication requirements both afloat and ashore. This connector is also ideal for high fiber-count tactical broadcast networks.

Removable termini, qualified to MIL-PRF-29504 specifications, enables quick connector reconfiguration and field maintainability.

APPLICATIONS
- Umbilical cables used to interface between shore and ship networks
- Broadcast
- U.S. Army, Navy, Air Force and Marine Corp tactical and strategic deployments
- Oil, gas and geoscience industries
- Industrial

TFOCA-II® CONNECTORS

Second generation TFOCA-II® (TFOCA-II® is a registered trademark of Amphenol Corporation) connectors feature a PC (physical contact) style ceramic-zirconia termini and may include 4, 6, or 12 fibers. These newer designs support 50/125, 62.5/125, singlemode fibers (9/125) or hybrid combinations.

The hermaphroditic TFOCA-II® connector series was designed specifically for use in harsh environments. In fact, the U.S. Army has standardized on the 4-channel TFOCA-II® connector as the next generation fiber optic connector for military tactical deployable network applications.

APPLICATIONS
- Broadcast Industry
- Satellite Ground Station
- Industrial Harsh Environment
- Emergency Fiber Restoration Service
- Tactical Harsh Environment
- Mobile Communications
- Oil/Gas /Geological Industries
- Mining
SEND THEM IN FOR A FREE DIAGNOSTIC!

Our CPR (customer provided refurbishment) team has the equipment and expertise to identify the damaged sections, bad connectors, or whatever the culprit may be, and then do the repairs necessary to get the assembly back into perfect working condition.

Here's how the CPR program works:
1. Contact one of our representatives by calling (800) 455-6224 or emailing us at cpr@majorcustomcable. Be ready to describe the nature of the cable assembly and the suspected issue. You may be asked to send in a few photos as well.
2. Send us the cable assembly or assemblies. Be sure to tag the shipment with the CPR number provided by your representative.
3. Within 5 days of receiving the cable assemblies, our CPR team will perform a complete diagnostic analysis and forward the results back to you via your representative. We will provide a recommendation on a solution and a quote for the repair costs. You will have three options:
   1. Authorize the repair
   2. Request the cables be returned as-is
   3. Request the cables be discarded by MCC
4. MCC will execute whichever option you choose. If the repair is authorized, your representative will provide a ship date.

FAQ

- Do you repair cables built by other assembly houses?
  Yes. We accept cables from any assembly house here in the US or abroad. We fix them all!

- Who pays for the shipping of the cables?
  The customer is responsible for all shipping charges.

- How much does it cost to have a cable repaired?
  This depends entirely on the technology inside the assembly and the complexity of the repair. If the costs of the repair are likely to exceed the cost of replacement, your representative will let you know up front.

- What is the lead time on a cable repair?
  This depends on the nature of the repair and the number of assemblies. However, most of our repairs are completed within 10 business days of an approved PO. Your account rep will give you an exact ship date.
OPTICALCON ADVANCED

The need for rugged fiber optic connections continues to grow rapidly, driven by such technologies as ultra high definition (UHD) 4K or 8K television signals running at data rates of up to 24 Gb/s. To accommodate these higher bandwidth signals, the Society of Motion Picture & Television Engineers (SMPTE) has standardized opticalCON® connectors as the rugged fiber optic interface for mobile high definition television broadcasting where robust and reliable solutions are required. Neutrik's opticalCON system became the fiber optic standard in various markets.

Major Custom Cable is proud to provide the following Neutrik opticalCON® Advanced systems:

**opticalCON® MTP**

Based on conventional and proven MTP® connectivity, protected by a ruggedized and durable all-metal housing. It features a spring-loaded push-pull locking mechanism and excellent cable retention utilizing aramid yarn. The optical connection is exceptionally well protected against dirt and dust by a patented shutter system.

**opticalCON® DUO**

The ideal solution for equipment connections and system integration offering LC compatibility on chassis connector front and rear.

**opticalCON® QUAD**

Based on the proven opticalCON® DUO connection system, but with four channels it is optimized for Point-to-Point interconnections and multi-channel routing applications. The system copes with the increasing need for fiber optic channels.

---

**CHECKLIST**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>DUO, QUAD, OR MTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>JACKET</td>
<td>TACTICAL FIELD CABLE OR XTREME DOUBLE JACKET</td>
</tr>
<tr>
<td>LENGTH</td>
<td></td>
</tr>
<tr>
<td>COLOR</td>
<td>BLACK</td>
</tr>
<tr>
<td>GLASS</td>
<td>SINGLEMODE OR OM3 50 MICRON</td>
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<tr>
<td>FAN-OUT</td>
<td></td>
</tr>
<tr>
<td>CONNECTORS</td>
<td>UNIBOOT LC, LC, LC/APC, SC, SC/APC, ST, ST, MU, FC, FC/APC, OR MTRJ</td>
</tr>
<tr>
<td>NOISE CANCELING CAP</td>
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</tr>
<tr>
<td>COLOR CODED RINGS</td>
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<tr>
<td>GENUINE SCHILL GT OR HT SERIES REELS</td>
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<tr>
<td>CUSTOM LABELS</td>
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<tr>
<td>CUSTOM PACKAGING</td>
<td></td>
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<tr>
<td>CUSTOM KITTING</td>
<td></td>
</tr>
</tbody>
</table>

MCC IS THE ONLY OPTICALCON® MTP CERTIFIED ASSEMBLY HOUSE IN THE USA
Major Custom Cable is a proud provider of Neutrik's OpticalCON LITE, a semi-rugged fiber optic connection used for a wide variety of applications. Its lightweight, compact design, robust housing, and high mating cycles provide a safe and cost-effective connection. Employing a novel fiber structure, the cable used with OpticalCON LITE is designed to meet the extreme conditions of the entertainment industry. The cable offers excellent bending performance, a compact design, and extreme flexibility that far exceed the mechanical strength of conventional patch cables.

We offer the following OpticalCON LITE products:

**opticalCON® DUO LITE**

2 channel fiber system, improved bending performance due to new fiber design, black matte outer jacket, available in multi- and single-mode.

**opticalCON® QUAD LITE**

4 channel fiber system, improved bending performance due to new tactical fiber design, black matte outer jacket, available in multi- and single-mode.

**opticalCON® MTP 12 LITE**

12 channel MTP® based fiber system, improved bending performance due to new tactical fiber design, black matte outer jacket, available in multi- and single-mode (PC or APC).
**SMPTE 304/311 CAMERA CABLES**

The SMPTE 304 and SMPTE 311 standards define a type of connector and cable, respectively, for use in the connection between the camera and the CCU for broadcasting and high definition professional video, combining electrical and optical signals (copper and fiber). Designed for high-definition (HD) cameras, these composite cables can multiplex audio signals and video signals and deliver power. Extremely rugged and reliable, the connectors are comprised of the heaviest gauge stainless steel available on the market. They also feature a low-loss Telcordia® GR-326 fiber-optic end face geometry, perfect for today’s most demanding cinematic and broadcast productions. With industry-standard options such as a quick disconnect push/pull self-latching system and ARIB/EBU and ANSI/SMPTE compliancy, the SMPTE 304 Connectors are among the highest-performance options on the market.

The composition of our SMPTE 304/311 camera cable assemblies make them perfect for use in broadcast trucks and studios and at sports stadiums. The steel construction provides the durability necessary for continuous use in the field, while the fiber optic connectivity interfaces with today’s digital cameras. Both of these features put Major Custom Cable’s SMPTE 304 connectors at the top of their class.

If you do not see a product suitable for your application, please contact us. Our extensive experience with SMPTE 304/311 solutions allows us to offer custom solutions to meet any unique need.

**BENEFITS / FEATURES**

- Quick Disconnect Push / Pull self-latching system
- ARIB (BTA S-1005B), ANSI/SMPTE (304-2009 & 311-2009), and EBU (R100-1999) compatible
- Heaviest gauge stainless steel shell on the market
- Fiber optic endface geometry per Telcordia® GR-326 core.
- Custom reels options available
- Customers can choose from Belden, Furukawa, or MCC brand wire.

---

**CHECKLIST**

| CONNECTORS | FUW, PUW, FMW, PBW, OR PEW |
| CAPS | RUBBER, STAINLESS, OR NONE |
| BOOTS | RUBBER OR NONE |
| TYPE | HYBRID OR FIBER ONLY |
| JACKET | RISER, PLENUM, OR POLYURETHANE |
| FAN-OUT LENGTH | |
| CONNECTORS | UNIBOOT LC, LC, LC/APC, SC, SC/APC, ST, D4, MU, FC, FC/APC, OR MTRJ |
| REEL | GENUINE SCHILL GT OR HT SERIES REEL |
| CUSTOM LABELS | |
| CUSTOM PACKAGING | |
| CUSTOM KITTING | |
TYPICAL BROADCAST CONFIGURATIONS

SMPTE PANEL PIGTAILS

Major Custom Cable’s SMPTE panel pigtails allow for independent fiber contact breakouts for all broadcast applications. A panel pigtail is a single optical fiber that has an optical connector on one end and a length of exposed fiber at the other end. The end without the connector is then stripped and spliced to the fiber used to make a connection with the end equipment. Providing an optical fiber cable with a connector is a delicate job, so using a pigtail and splicing it to the fiber cable is a common solution. All cables are made-to-order and produced to customer specified lengths.

<table>
<thead>
<tr>
<th>CHECKLIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONNECTORS</td>
</tr>
<tr>
<td>CAPS</td>
</tr>
<tr>
<td>FIBER FAN-OUT CONNECTORS</td>
</tr>
<tr>
<td>COPPER FAN-OUT CONNECTORS</td>
</tr>
</tbody>
</table>
**SDI COAX**

Major Custom Cable offers superior pre-terminated, high-definition serial digital interface video coax cables as a convenient, cost-effective, and time-saving assembly solution. Our HD/SDI coax cables are designed to achieve superior electrical performance including faster velocity of propagation, tight impedance tolerance, low attenuation, and low structural return loss across the entire bandwidth. The result of Major Custom Cable's high-quality products is a cable that can transmit high-speed video data more accurately and reliably, even at great distances.

If you do not see a product suitable for your application, please contact us. Our extensive experience with pre-terminated HD/SDI coax cables enables us to offer custom solutions to meet any unique need.

**CHECKLIST**

| TYPE     | 1790T, 1855A, 1505F, 1505A, 1506A, 1694F, 1694A, OR 1695A |
| JACKET   | FLEXIBLE, RISER, OR PLENUM          |
| LENGTH   |                                      |
| NUMBER OF CONDUCTORS | NEUTRIK REAR TWIST BNC, CANARE WECO, OR AMPHENOL HD-BNC |
| CONNECTORS |                                               |
| CUSTOM LABELS |                                           |
| CUSTOM PACKAGING |                                         |
| CUSTOM KITTING |                                        |
| BIT RATE    | HD, 3G, 6G, 12G, 24G                  |

**DT12**

Major Custom Cable offers complete solutions for broadcasters using the DT12 standard. With the needs of the sports broadcast community specifically in mind, our durable products combined with high-quality workmanship satisfy the most demanding professionals.

Our DT12 cabling products provide 12 channels of audio to be routed long distances in sports venues, for example, where they can run from the production truck to the press box or playing field where audio is required for TV. Simply run a DT12 patch snake between the truck and the house cabling, with connectors only required at the end of the snake in order to plug in microphones and other equipment.

All cable is 100% shielded to prevent electrical interference and crosstalk, and all connector shells are heavy duty to assure strength and longevity.
TRIAX

Major Custom Cable offers triaxial cables to meet the needs of customers seeking a cable that provides more bandwidth and rejection of interference than traditional coax. Triaxial cables, often referred to as triax for short, are essentially coaxial cables with an added outer copper braid (or a shield), which is insulated from the signal-carrying conductors. The shield is grounded and passes both ground loop and capacitive field noise currents away from the signal-carrying coax.

Triax cabling can also be used in "driven shield" applications, where the inner conductor and the first braid are driven in parallel at the transmitting end, and work against the outer braid that's insulated above ground. The inner braid is left floating at the receiving end, providing a sort of "Faraday shield" (which protects the internal conductors from electrical noise) between the inner conductor and outer braid.

Our comprehensive offering of triax cables can be used for flexible or permanent installs with multiple jacket options. Major Custom Cable exclusively uses Kings brand connectors to ensure the highest quality. Common applications include analog video cameras in the broadcast and television industry.

<table>
<thead>
<tr>
<th>CHECKLIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>CABLE TYPE</td>
</tr>
<tr>
<td>RG TYPE</td>
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<tr>
<td>CONNECTOR</td>
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<td>JACKET</td>
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<tr>
<td>LENGTH</td>
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<tr>
<td>COLOR</td>
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<tr>
<td>CUSTOM LABELS</td>
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<tr>
<td>CUSTOM PACKAGING</td>
</tr>
<tr>
<td>CUSTOM KITTING</td>
</tr>
</tbody>
</table>

X12

X12 is a durable, IP68 rated MTP based connectivity solution offered by Major Custom Cable. LGX mountable cassettes provide rack mount connectivity between appliances with either LC or SC interfaces with either multimode or singlemode fiber optics. The 12 fiber X12 trunks and cassettes are compatible for rack mount distribution, and the 24 fiber X12 trunks for direct connection of 8k appliance as per ARIB STB-B58 and ITU-R BT.2020.

X12 solutions are custom designed based on your unique needs and specs.
ETHERCON

RUGGED, DURABLE RJ45 CONNECTIONS

CAT 6 ETHERCON
- CAT6 compliant - data rate up to 10 GBit/s
- IP65 Dust and water resistant in mated condition
- Push Pull mating design provides secure locking system
- Shielded system - high noise immunity and EMI protection
- IDC contacts offer gas-tight termination
- Ready made patch cables with rugged diecast cable carrier and unique chuck-type strain relief

CANARE RJC5ES-4P-4C
- S/UTP
- Heavy, rugged jacket (XLPE), Super flexible
- Ethernet tested to 50 meters
- Ethersound to 75 meters*

RAPCO HORIZON DURACAT
- UTP
- Heavy duty, dual jacketed
- Stranded core Ethernet 20 meters/Ethersound 75 meters
- Solid core Ethernet 100 meters/Ethersound 109 meters

CAT 5E ETHERCON
- The RJ45 system for harsh and demanding environments
- Cable carrier has rugged diecast shell and unique chuck type strain relief
- Protects Ethernet connections in a variety of commercial type applications and is designed to prevent breakage of the fragile components of standard RJ45 connectors
DURASHIELD®

Major Custom Cable is proud to offer Durashield®, the next level in deployable category rated patch cables. Durashield®'s continuous flex-cycle, tactical grade industrial jacket withstands harsh environments and is widely known as the best in cut, abrasion, and moisture resistance. These patch cords are double shielded for increased signal isolation to prevent outside interference and offer tighter specifications for eliminating crosstalk and noise.

Major Custom Cable’s thorough testing ensures compatibility with any correctly installed and tested permanent link cable plant. Robust designs ensure fast, repeatable, and reliable connections, and follow the manufacture’s recommended procedures to ensure gigabit performance.

If you do not see a product suitable for your application, please contact us. Our extensive experience with patch cables allows us to offer custom solutions to meet any unique need.

CHECKLIST

| TYPE | CAT 5E SOLID CONDUCTOR OR CAT 6A STRANDED CONDUCTOR |
| CONNECTORS | RJ45, ETHERCON, OR ODVA |
| PIN-OUT | 568B OR CROSSOVER |
| JACKET | ONLY THE BEST IN CUT, ABRASION, AND MOISTURE RESISTANCE |
| SHIELDED | DOUBLE SHIELDED, FOIL + Braid |
| LENGTH | |
| COLOR | BLACK |
| BOOTS | BUBBLE BOOTS OR CLEAR SLIM LINE |
| SPOOLS | AIR SPOOL (HAND COILED), TRI-FLANGE SHIPPING SPOOLS, GENUINE SCHILL GT, OR HT SERIES REELS |
| PULLING BALES | METAL MESH PULL LOOP ONE END OR BOTH |
| CABLE JIMMY | MCC’S GENUINE MESH SLEEVE DESIGNED FOR MAXIMUM PROTECTION OF FAN-OUTS, ONE END OR BOTH |
| CUSTOM LABELS | |
| PACKAGING | |
| CUSTOM KITTING | |

NANOTEK COPPER

38% SMALLER THAN REGULAR CAT6!

Category 6, Class E, slim diameter patch cords are constructed using 28awg, unshielded, twisted pair, stranded patch cable using only the highest performance RJ45 connectors with 50um of gold plating. Cable diameter of .14" (3.2mm nominal). LSOH per IEC 60754-2, 61034-1, 61034-2, UL ETL 300v CM jacketing available in a wide array of colors.

CONVENTIONAL CAT6: 5.1MM

NANOTEK: 3.2MM

1 (800) 455-6224
COPPER / PATCH CORDS

CATEGORY 6 COMPLIANT PATCH CORDS

- All of our Cat 6 patch cords are compliant with TIA/EIA-568B.2-1 standards
- Testing the patch cords ensures channel compliance with applicable standards and compatibility with any correctly installed and tested permanent link cable plant
- Major Custom Cable utilizes the DSX-5000 with path cord test heads to test our Cat 6 patch cords, and test results can be shipped upon request

CATEGORY 6 GUARANTEED GIGABIT ETHERNET PATCH CORDS

- MCC guaranteed gigabit patch cords utilize Category 6 modular plugs and Category 6 cable
- MCC follows the manufacturers recommended procedures to ensure gigabit performance from all patch cords
- Stranded patch cord lengths up to 65ft
- Solid patch cords lengths up to 328ft

CATEGORY 6A


CHECKLIST

- CONNECTORS (RJ45 or BLUNT)?
- WIRE CODE?
- CABLE (STRANDED or SOLID)?
- JACKET (PVC or PLENUM)?
- SHIELDED?
- LENGTH?
- COLOR?
- BOOTS?
- CUSTOM IMPRINTING (SHRINK, LABEL, SEQUENTIALLY NUMBERED)?
COPPER / PATCH CORDS

CATEGORY 5E PATCH CORDS (350 MHZ)

MCC Cat 5E patch cords are made from the highest quality components and are compatible with 10/100/1000BaseT Ethernet, Token Ring, and ATM over twisted pair. Choose from Mohawk, Belden, Berk-Tek, or globally sourced materials.

CONNECTORS (RJ45 or BLUNT)?
WIRE CODE?
CABLE (STRANDED or SOLID)?
JACKET (PVC or PLENUM)?
SHIELDED?
LENGTH?
JACKET COLOR?
BOOTS?
BOOT COLOR?
CUSTOM IMPRINTING (SHRINK, LABEL, SEQUENTIALLY NUMBERED)?

CUSTOM IMPRINT PATCH CORDS WITH YOUR INFORMATION!

CATEGORY 3 PATCH CORDS
RJ45/45 4 PAIR SOLID PVC GREY

GLOBALLY SOURCED RJ45 MOLDED BOOT

GLOBALLY SOURCED RJ45 MOLDED BOOT

SHIELDED RJ45/45 4 PAIR STRANDED PVC GREY WITH BOOTS

RJ45/45 4 PAIR STRANDED PVC RED WITH BOOTS

RJ45/45 4 PAIR STRANDED PVC BLUE WITH BOOTS

SENTINEL CAT 5E

CAT 5E SHIELDED ASSEMBLIES WITH BOOTS

1 (800) 455-6224
LINE CORDS

- Line cords are designed for telephone and other low-speed applications
- Cords are available in either pin-to-pin, reverse wiring, or custom wiring depending on your specifications
- Our line cords come in a large variety of lengths and are available in silver satin and black

T1 ASSEMBLIES

- T1 assemblies are designed and pinned to work with T1 equipment
- T1 circuits can be channelized into 24 voice lines for PABX (Private Automatic Branch Exchange) or 1.544 Mbps data circuits for Internet and Intranet access

110 PATCH CORDS

- 110 patch cord connectors are available in 1, 2, 3 and 4 pair configurations in Category 3 and 5E patch cords
- Available in various lengths and colors
- Robust design to ensure fast, repeatable and reliable connections
Major Custom Cable’s skilled production staff will manufacture your patch cord bundles to your designated specifications. Call now and find out what MCC can do for you!

**CHECK LIST**

- CONNECTORS (RJ45 or RJ11)?
- WIRE CODE?
- CABLE (STRANDED or SOLID)?
- JACKET (PVC or PLENUM)?
- SHIELDED?
- LENGTH?
- BREAKOUT LENGTH?
- JACKET COLORS?
- BOOTS?
- BOOT COLORS?
- CABLE TIES (TECHFLEX, VELCRO, or PLASTIC ZIP)?
- CUSTOM IMPRINTING (SHRINK, LABEL, SEQUENTIALLY NUMBERED)?

**PATCH CORD BUNDLES**

CABLE BUNDLE IN TECHFLEX

CABLE BUNDLE WITH VELCRO TIES

PATCH PANEL ADAPTERS
Telco cable assemblies are used for data and voice applications with punch down blocks, patch panels, and distribution boxes. They can also be used as extension cables. Our high quality starts with the purchase of the best cable, connectors, and components, and continues throughout the manufacturing and testing process.

- **JACKET** (PVC or PLENUM)?
- **SINGLE** or **DOUBLE ENDED**?
- **GENDER**?
- **HOOD DEGREE** (90°, 120°, or 180°)?
- 90° or 120° HOOD (STANDARD or OPPOSITE EXIT)?
- **LATCH TYPE** (SCREW, BAIL LOCK, or INTEGRAL LOCK)?
- **LENGTH**?
- **CUSTOM IMPRINTED SHRINK OR LABELS**?
Mohawk is at the forefront of today’s Datacom market with over fifty years of industry-leading excellence. MCC is proud to represent an industry leader like Mohawk cable. Mohawk employs the latest in manufacturing technology, which enables them to offer superior products for all your Copper and Fiber Cable requirements. Ask your MCC Account Manager for top quality cable assemblies made with Mohawk cable.
I/O CONNECTORS

- For Cisco 7000, 2500, & 4000 NP-4T Series Routers
- For Cisco 2509 through 2512 Series Routers, use Octal Cables
- We make Cisco Router Cable Assemblies for each series listed: 7000 • 4000 • 3800 • 3600 • 2600 • 2500 • 1600 • 1500 • CS500
- Console Cables for all Cisco hardware

CHECKLIST

- ROUTER MODEL?
- ROUTER TYPE (DCE or DTE)?
- STANDARD SUPPORTED (V.35, RS232, ...ETC.)?
- JACKET (PVC or PLENUM)?
- CONNECTOR TYPE (DB25, V.35, ...ETC.)?
- CONNECTOR GENDER (MALE or FEMALE)?
- LENGTH?
- CUSTOM IMPRINTING (SHRINK, LABEL)?

PROVIDING OEM SOLUTIONS FOR HARDWARE MANUFACTURERS SUCH AS: NEXTERNA, 3COM, HP, SEL, IBM
ADAPTERS
Modular adapters eliminate the need for conventional, bulky, data communications cabling in RS232/X.21 environments, relying instead on standard UTP wiring schemes. Perfectly suited for moves, adds, and changes, once attached to your hardware, changing out cables is as simple as plugging, and unplugging an RJ45.

• DB assemblies are used for many different applications in the telecommunication industry
• The data interface for each DB connector:
  • DB9 - RS232
  • DB15 - X.21
  • DB25 - RS530/232
  • DB37 - RS449

CHECKLIST
• CONNECTOR TYPE (DB9, DB15, DB25, etc.)?
• CONNECTOR GENDER (MALE or FEMALE)?
• MODULAR JACK (RJ11 or RJ45)?
• COLOR?
• PIN-OUT?

COPPER / DB CABLE ASSEMBLIES
## COPPER / DS 3/4

### DS 3/4

<table>
<thead>
<tr>
<th>Connector Type</th>
<th>Mini SMB</th>
<th>SMZ</th>
<th>BNC 90</th>
<th>MINI BNC</th>
<th>BNC</th>
<th>MINI WECO 440</th>
<th>WECO 358</th>
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<tbody>
<tr>
<td>ROUND 735</td>
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<td></td>
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<tr>
<td>SIAMESE 735</td>
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<tr>
<td>6 PACK 735</td>
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</tr>
<tr>
<td>12 PACK 735</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

### Checklist

- Connector Type (BNC, SMB, etc.)?
- Number of Coax Cables (1, 2, 3, 6, 12, etc.)?
- Jacket (PVC or Plenum)?
- Length?
- Gender?
- Custom Imprinting (Shrink or Label)?

### Diameter Comparison (1:1 Scale)

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.13 inch</td>
<td>735</td>
</tr>
<tr>
<td>0.24 inch</td>
<td>734</td>
</tr>
</tbody>
</table>

### Checklist

- Circuit Type: Category 3 UTP, Category 5E / 6 UTP
- Maximum Circuit Distances with No Customer DSX Panel

<table>
<thead>
<tr>
<th>Circuit Type</th>
<th>Category 3 UTP</th>
<th>Category 5E / 6 UTP</th>
<th>734 Type Coax</th>
<th>735 Type Coax</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-1</td>
<td>170M (557FT)</td>
<td>206M (677FT)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>CEPT-1 (E-1)</td>
<td>126M (412FT)</td>
<td>158 (517FT)</td>
<td>395M (1297FT)</td>
<td>177M (580FT)</td>
</tr>
<tr>
<td>T-3</td>
<td>N/A</td>
<td>N/A</td>
<td>160M (524FT)</td>
<td>82M (268FT)</td>
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<tr>
<td>CEPT-3 (E-3)</td>
<td>N/A</td>
<td>N/A</td>
<td>175M (574FT)</td>
<td>90M (294FT)</td>
</tr>
</tbody>
</table>

### Contact Information

1 (800) 455-6224
LOW LOSS 50 OHM

APPLICATIONS
- 2 way land communications
- CLEC
- Broadband Wireless
- IEEE 802.11a thru IEEE 802.11g
- Wireless Internet
- Any standard outdoor installation where RG-type 50 ohm coax is required.
- Riser and plenum options are available.

ATTRIBUTES
- Low halogenated, UV and weather resistant PE jacket material.
- Tinned copper braided shield coupled with an aluminum tape ensure maximum shielding from EMI/RFI.
- The foam PE dielectric coupled with copper clad aluminum center conductor ensure maximum flexibility with similar performance attributes to less installer friendly corrugated products.
- Compared to standard RG type cables, these low loss cables offer the best in signal clarity, and better RF Shielding.

CONNECTORS
- 7-16
- BNC
- N
- SMA
- TNC
  Standard and Reverse Polarity Options!

COAX CABLE DIAMETERS (1:1 SCALE)
**ETHERNET ASSEMBLIES**

- MCC’s Ethernet Assemblies are fully IEEE 802.3 compliant
- Boots available upon request
- AUI Assemblies with 90° hoods available upon request

**V.35 ASSEMBLIES**

- V.35 - high speed modem cable assembly used to interconnect controllers (PCs, etc...) to high speed modems
- Available with 19 or 34 pins

**DIN CONNECTORS**

- Standard sized DIN connectors (originated by the Deutsches Institut für Normung of Germany) per IEC 60130-9, IEC 60574-3 are 13.2mm in diameter. These connectors are available in 3, 4, 5, 6, 7, 8, and 9 pin configurations including a 270 degree axial offset version of the 8pin. All are available in either male or female.
- Mini-DIN connectors are 9.5 mm in diameter and come in seven patterns (originated by the Deutsches Institut für Normung of Germany) . 3, 4, 5, 6, 7, 8, and 9 pin configurations available. All are available in either male or female.
USB CABLES

• Designed for connections between electronic devices and personal computers. Mini USB's are now common on digital cameras, MP3 players, and cell phones.
• MCC can offer a wide range of port convertors such as RS232 to USB and Ethernet to USB.
• Ask about our line of active and passive extenders to push the maximum length tolerance past the 5 meter threshold.

SCSI CABLE ASSEMBLIES

• Small Computer System Interface (SCSI) is a parallel interface standard used by Apple Macintosh computers, PCs, and many UNIX systems for attaching peripheral devices to computers.
• SCSI interfaces provide for faster data transmission rates (up to 320 megabytes per second) than standard serial and parallel ports.
• In addition, you can attach many devices to a single SCSI port, so that SCSI is really an I/O bus rather than simply an interface.

TYPE B USB

TYPE A USB

MINI USB

MICRO C USB

MICRO B USB

CENTRONICS 50 MALE

MICRO D68 MALE

MICRO D50 MALE

DB50 MALE

USB = Universal Serial Bus
COPPER / AUDIO CABLES

XLR MICROPHONE CABLES
- 20 gauge, 24 gauge conductors, and quad cable available
- Switchcraft®, Neutrik®, Amphenol®, or Precision® connectors
- Custom lengths available

- 24 gauge RSMCA mic cable
- 95% shielded
- Low impedance
- Metal XLR connectors
- 3 to 100 foot lengths

- 24 gauge conductors
- 95% serve shield
- Heavy-duty jacket
- Black Neutrik® connectors
- 3 to 100 foot lengths

- Black Neutrik® connectors with gold-plated contacts
- 20 gauge cable
- Braided shield
- Professional grade
- 3 to 100 foot lengths

CHECKLIST
- CABLE GAUGE?
- CONNECTORS (AMPHENOL®, NEUTRIK®, SWITCHCRAFT®, or PRECISION®)?
- LENGTH?
- COLOR?
- CUSTOM IMPRINTING (SHRINK, PDL, SEQUENTIALLY NUMBERED)?

SPEAKER CABLES
- Round black matte jacket
- Bare copper inner conductors
- Available with Amphenol®, Neutrik®, Switchcraft®, or Precision connectors
- Custom lengths available

- Professional grade speaker cable
- Round black matte jacket
- Bare copper inner conductors
- Twisted pair inner conductors to reduce inductance
- Available with Amphenol®, Neutrik®, Switchcraft®, or Precision® connectors
- 3 to 100 foot lengths (50 foot maximum for 18 gauge)
- 10, 12, 14, 16, and 18 gauge available

- Heavy-duty, multi-conductor 13 gauge speaker cable
- Rugged, black matte finish
- Neutrik® Speak-On connectors
- Available in 4 or 8 conductors

- One conductor, two conductor, and 18 gauge speaker cable options available
- TRS, XLR, RCA, and banana plug connectors available

INSTRUMENT CABLES
- High Z cables available with Switchcraft®, Neutrik®, or Precision® connectors
- Available in color or cloth covered cables
- Custom lengths available
**AUDIO DEVICES**

**AUDIO/VIDEO INTERFACE**
- Designed to interface lap tops and projectors into low Z inputs
- Includes hi/low attenuation and ground lift
- Constructed of 18 gauge steel with recessed connectors for added durability

**DIRECT BOX**
- Transforms Hi-Z 1/4” input to balanced Lo-Z output
- Heavy-duty steel box
- Superior connectors
- High performance transformer
- Special jack for ground lift eliminates 60 cycle hum
- Parallel 1/4” output jack for on-stage monitoring

**SNAKES**
- Eliminates clutter on stage
- Perfect for drum kits and keyboard rigs

**6 X 6 DUAL BOX SUB-SNAKES**
- Side entry reduces cable clutter
- Heavy-duty metal strain reliefs on boxes
- 2 stage boxes
- Twice as many channels
- Allows input boxes to be placed in independent locations

**6-PACK & 8-PACK SUB-SNAKE**
- Low profile stage box 3-3/4" X 5" X 1-7/8"
- Neutrik® XLR connectors
- Formed steel boxes
- Heavy-duty, flexible PVC cable jacketing
- Heavy-duty wire mesh strain relief at box
- Heavy-duty wire mesh hanger at the fanout

**TDIBLOX**
**CONSUMER TO PRO INTERFACE**
- Converts input from consumer grade equipment (tape decks, CD player) to mic level balanced output
- Gives operator volume control of the outgoing signal
- RCA male inputs, XLR male output

**CVPBLOX**
**VARIABLE PAD WITH MUTE**
- Continuously variable pad via potentiometer on top
- Pull out the knob to mute the outgoings signal “pop” free
- XLR female input, XLR male output

**ISOBLOX**
**1 TO 1 ISOLATION 600OHM**
- Allows signal and ground isolation
- Retains a 600ohm load source impedance
- XLR female input, XLR male output

**DBBLOX**
**DIRECT INJECTION BLOX**
- Converts high impedance source to low impedance load
- 1/4” input, XLR male output

**PADBLOX**
**-10, -20, OR -30DB INLINE PAD**
- Attenuates incoming signals in -10db, -20db, and -30db versions
- Retains impedance
- XLR female input, XLR male output
TERMS AND CONDITIONS

1. Governing Terms.
The terms and conditions set forth herein, as may be changed, amended or modified as provided herein (the "Terms"), shall govern and control the provision of all goods (the "Products") by MAJOR CUSTOM CABLE INC., a Missouri corporation ("Supplier"), to Buyer, and all purchase orders of Buyer shall be subject to these Terms. Supplier agrees to provide the Products to Buyer only in accordance with these Terms. Any language in Buyer’s purchase order, if one exists, or other writing or oral representation previously or hereafter received by Supplier purporting to amend, modify or replace the Terms with any different or additional terms is hereby expressly rejected. SUPPLIER'S AGREEMENT TO PROVIDE THE PRODUCTS IS EXPRESSLY CONDITIONED ON BUYER'S ASSENT TO ALL OF THESE TERMS.

2. Acceptance.
All purchase orders of Buyer shall be subject to the written acceptance of Supplier, which acceptance shall be conditioned upon the receipt of Buyer’s written acknowledgement of these Terms by formal supply agreement or purchase order.

3. Specifications;
Changes. Supplier shall produce the Products in accordance with the specifications and requirements as expressly set forth in Buyer’s purchase order as accepted by Supplier (the “Specifications”). Any changes, modifications or amendments to the Specifications or any purchase order must be agreed to in writing by Supplier. If any change, modification or amendment to the Specifications or any purchase order causes an increase in the price of the Products or affects the delivery schedule, then Supplier shall effect such price increase on the applicable invoice and notify Buyer in writing of the new delivery schedule. In addition, Buyer shall compensate Supplier for all resultant costs of any modification.

4. Delivery.
Upon the acceptance by Supplier of a purchase order, Supplier shall provide Buyer with an approximate date of delivery. All delivery dates provided by Supplier are approximate and not binding upon Supplier; provided, however, that Supplier shall use its reasonable efforts to meet approximate delivery dates. All Products shall be delivered by Supplier F.O.B. Title to and risk of loss of the Products shall pass to Buyer upon delivery in accordance with this Section 4. Supplier shall use its reasonable efforts to utilize a carrier specified by Buyer in writing on the applicable purchase order. Partial deliveries shall be permitted. Supplier shall pack the Products for delivery in its usual and customary manner or as Supplier deems appropriate under the circumstances. If Buyer desires special packaging, Buyer must request the same from Supplier at least five (5) business days prior to the estimated shipping date. Any such special packaging shall be at Buyer’s sole cost, and Buyer agrees to promptly reimburse Supplier for any such costs paid by Supplier on Buyer’s behalf.

5. Price.
All prices for the Products shall be quoted by Supplier to Buyer prior to acceptance of a purchase order by Supplier. All prices shall be in U.S. dollars. Supplier may increase the price of the Products for any increase in raw materials or components costs beyond Supplier’s reasonable control that occurs after quotation and prior to shipping date of the Products. Supplier shall notify Buyer in writing of any such increase as soon as reasonably practicable. Except as specifically stated in Supplier’s price quote, any manufacturer’s tax, retailer’s occupation tax, use tax, sales tax, excise tax, value-added tax, duty, customs agent or broker fees, inspection or testing fee, freight costs, insurance, counselor fees, or any other tax, fee or charge of any nature whatsoever imposed on, in connection with or measured by any transaction between Supplier and the Buyer shall be paid by the Buyer in addition to the prices quoted or invoiced.

6. Invoice and Payment Terms.
All Products shall be invoiced by Supplier on the date of delivery in accordance with Section 4 herein. Payment of all invoices shall be made by Buyer net thirty (30) days from the date of the invoice. Buyer shall be charged interest at the rate of 1. % per month, or the maximum rate allowable by law, for any past due invoices.

7. Security Interest.
Buyer acknowledges and agrees that these Terms shall constitute the Security Agreement of Buyer required by the Uniform Commercial Code ("UCC") of the appropriate state, and Buyer hereby agrees that it grants to Supplier a security interest in the Products, wherever located, and all proceeds thereof, to secure Buyer’s payment in full for the Products. Buyer hereby authorizes Supplier to execute any UCC financing statement, or any other document Supplier deems necessary or appropriate, to protect Supplier’s security interest in the Products.
8. Cancellation. Buyer may not cancel any purchase order, except as may be agreed in writing by Supplier. In the event that Buyer cancels any purchase order, Buyer shall remain liable for payment for all finished Products and any work in process produced pursuant to such order and all raw materials or components purchased for the production of Products pursuant to such order.

9. Delays; Force Majeure. Supplier shall not be liable to Buyer for any loss or damage due to delays in or failure of delivery resulting from causes beyond Supplier's reasonable control, including, without limitation, delays in transportation, equipment breakdowns, delays of suppliers, freight forwarders or customs forwarders, inability to obtain necessary labor, materials or facilities, accidents, actions of governmental or civil authority, energy failure, acts of terrorism, fire, flood, hurricane or other acts of God. Supplier shall immediately notify Buyer of any such occurrence and the estimated duration of delay.

10. Proprietary Information. Any sketches, models, samples or other proprietary information of Supplier disclosed to Buyer shall remain the sole property of Supplier, and Buyer agrees that it shall treat such proprietary information as confidential. No use or disclosure of such sketches, models, samples or other proprietary information, or any design or production techniques revealed thereby, shall be made without express written consent of Supplier. All right, title and interest in and to any information of Supplier and all intellectual property rights, whether or not capable of being patented or copyrighted, relating to the Products, including, but not limited to, any developments, improvements of Products, shall remain with and inure to Supplier. Buyer recognizes Supplier's exclusive ownership of the trademarks, trade names, logos, symbols and other proprietary information related to the Products and agrees not to take any action inconsistent with such ownership.

11. Warranties and Remedy. Supplier warrants that at the time of delivery as provided in Section 4 herein, all Products shall conform to the Specifications. THIS WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES NOT EXPRESSLY SET FORTH HEREIN, WHETHER EXPRESS OR IMPLIED BY LAW, INCLUDING, BUT NOT LIMITED TO, THE WARRANTY OF MERCHANTABILITY OR THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

12. Indemnification. Buyer agrees to indemnify, defend and hold Supplier and its officers, directors, employees, agents and customers harmless from and against any and all liability, damage, cost or expense (including reasonable attorneys' fees and costs of any action or threatened action or costs of collection), resulting from (i) Buyer's breach of these Terms; (ii) any manufacture, sale, promotion, distribution or use of the Products by Buyer, including, without limitation, product liability or strict liability; (iii) Buyer's exercise of control over the manufacturing of the Products, to the extent that Buyer's instructions or directions violate applicable laws or regulations; (iv) any actual or alleged infringement or violation of any patent, trade secret, copyright, trademark or other proprietary rights used by Supplier in the manufacturing of the Products; or (v) Buyer's (or any of Buyer's agents', employees' or subcontractors') negligence or intentionally wrongful acts or omissions.

13. Limitation of Liability. Supplier shall not be liable to Buyer for any claim for lost profits, indirect, incidental or consequential damages, or multiple damages. In addition, Buyer's damages for any action against Supplier shall be capped at the amount of the applicable purchase order.

14. Governing Law; Arbitration. Any controversy or claim arising out of or relating to these Terms shall be determined by binding arbitration by a single arbitrator in accordance with the International Arbitration Rules of the American Arbitration Association. The place of arbitration shall be St. Louis, Missouri. These Terms shall be exclusively construed, applied and performed, according to the internal laws of the State of Missouri, U.S.A. (including, if and when applicable, the Uniform Commercial Code as adopted in the State of Missouri, and not the United Nations Convention on Contracts for the International Sale of Goods), without regard to the conflicts of laws provisions thereof. The language of arbitration shall be English. Judgment on any award rendered by the arbitrator may be entered by any court of competent jurisdiction. Buyer hereby submits to the jurisdiction of any state or federal court located in Missouri. The English version of these Terms shall govern and control any translation of the Terms into any other language.

15. Import Licenses; Compliance with Law. Buyer shall obtain, at its sole cost and expense, any import licenses and governmental approvals that may be necessary to permit the sale and purchase of Products hereunder, comply with all Product and distribution registration requirements in all territories where it sells such Products and comply with any and all applicable laws, regulations, and orders of the Buyer's own jurisdiction or any
jurisdiction of distribution or sale and of the U.S. Without limiting the foregoing, Buyer shall comply with all U.S. export (including the Treasury Departments Assets Control regulations which prohibit U.S. persons transshipping products to foreign corrupt practice laws including, without limitation, the Foreign Corrupt Practices Act, Executive Order No. 13224, the USA Patriot Act and any regulations promulgated pursuant to the foregoing acts. At Supplier’s request, Buyer shall complete any forms or take other action that Supplier deems necessary for the parties to comply with applicable export laws in connection with these Terms. Buyer shall (i) prepare and file at its sole cost and expense all reports required by any governmental body in its territory, and (ii) pay all taxes and other similar charges imposed upon the Products.

Supplier reserves the right to change, amend or modify these Terms at any time and from time to time in its sole and absolute discretion, without notification to Buyer. Invalidity or unenforceability of any Term shall not affect the validity or enforceability of any other Term. Failure of Supplier to insist, in any one or more instances, upon performance of any Term shall not be construed as a waiver or relinquishment of any right granted hereunder or the future performance of such Term. Supplier’s rights under these Terms shall be in addition to any other rights Supplier may have and shall not prejudice any such right.

17. Entire Agreement.
THE TERMS SET FORTH HEREIN TOGETHER WITH ANY FORMAL SALE AGREEMENT AND PURCHASE ORDER CONSTITUTE THE ENTIRE AGREEMENT BETWEEN THE PARTIES AS TO THE SALE(S) OF PRODUCT BETWEEN THE PARTIES AND SUPERSEDES ALL PRIOR AGREEMENTS, CONDITIONS OR COMMUNICATIONS, WRITTEN OR ORAL. IN CASE OF CONFLICT IN TERMS AMONG DOCUMENTS PERTAINING TO THIS TRANSACTION, THE ORDER OF AUTHORITY OF TERMS SHALL BE (1) THE TERMS OF THE PURCHASE ORDER, (2) THE TERMS OF THE SALES OR SUPPLY AGREEMENT, (3) THESE TERMS, AND (4) APPLICABLE STANDARD TERMS OF THE PURCHASER ACCEPTED AS A PART OF THE TRANSACTION.