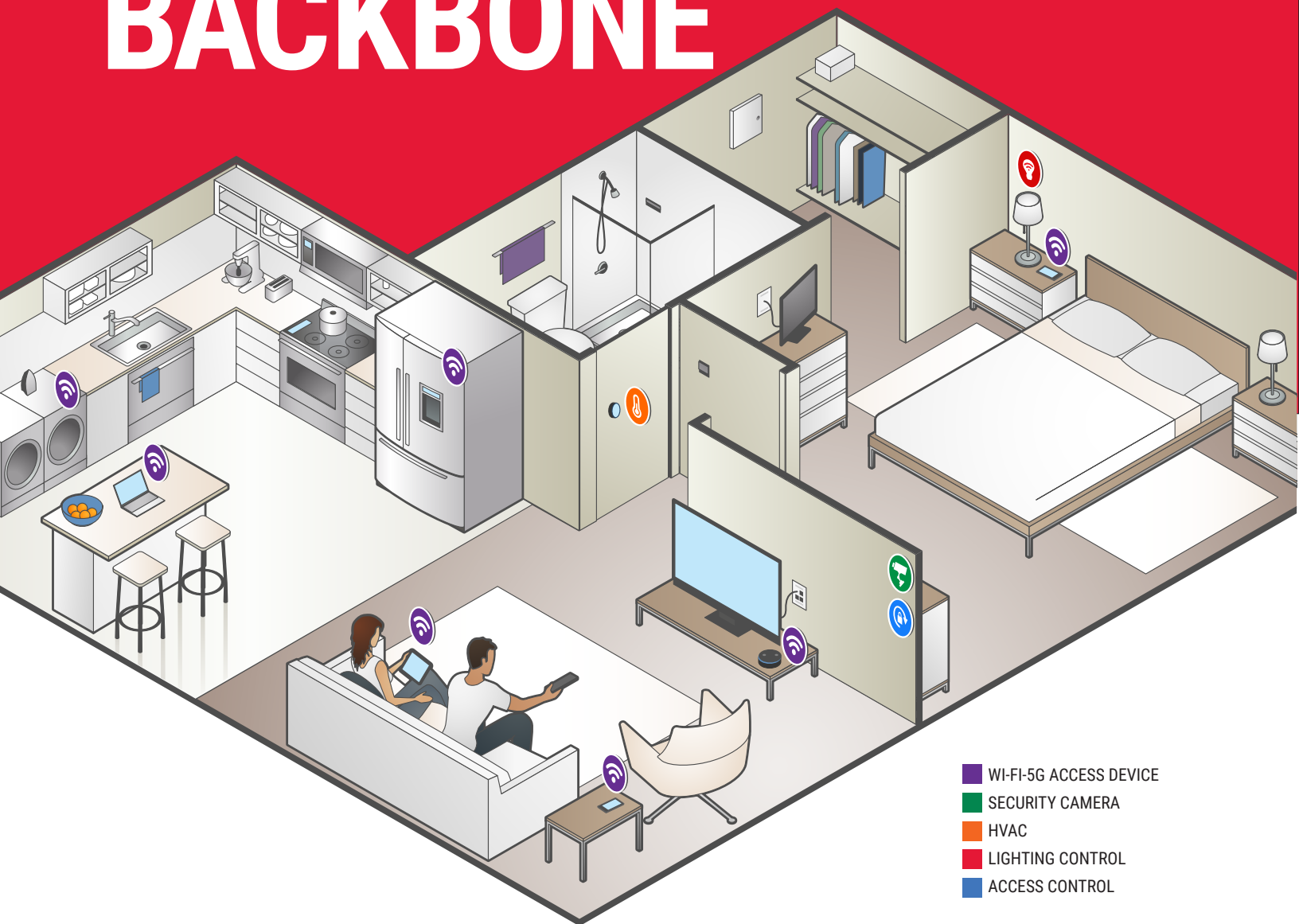# MDU/RESIDENTIAL DISTRIBUTION
SYSTEMS GUIDE

» APARTMENTS/CONDOS
» HOSPITALITY
» SENIOR LIVING/DORMITORIES
» LIGHT COMMERCIAL/RETAIL
» SINGLE FAMILY HOMES

NO BUILDING IS COMPLETE WITHOUT A
WIRED ETHERNET
BACKBONE

- ■ WI-FI-5G ACCESS DEVICE
- ■ SECURITY CAMERA
- ■ HVAC
- ■ LIGHTING CONTROL
- ■ ACCESS CONTROL

CONNECTING SMART COMMUNITIES

Developers and renovators add value to their properties by providing modern homeowners with the smart homes they desire. The devices used to make smart homes come to life require high-speed, and always-on wireless internet access. Additionally, streaming HD video content, automation, and remote monitoring of home security increase demands on the data infrastructure within each residence. Every wireless access point requires a reliable wired Ethernet backbone to connect the smart home's devices to the internet and service providers. In other words, a lot of cable goes into making a smart home – **that's why we designed the OCC MSDE Solution.**
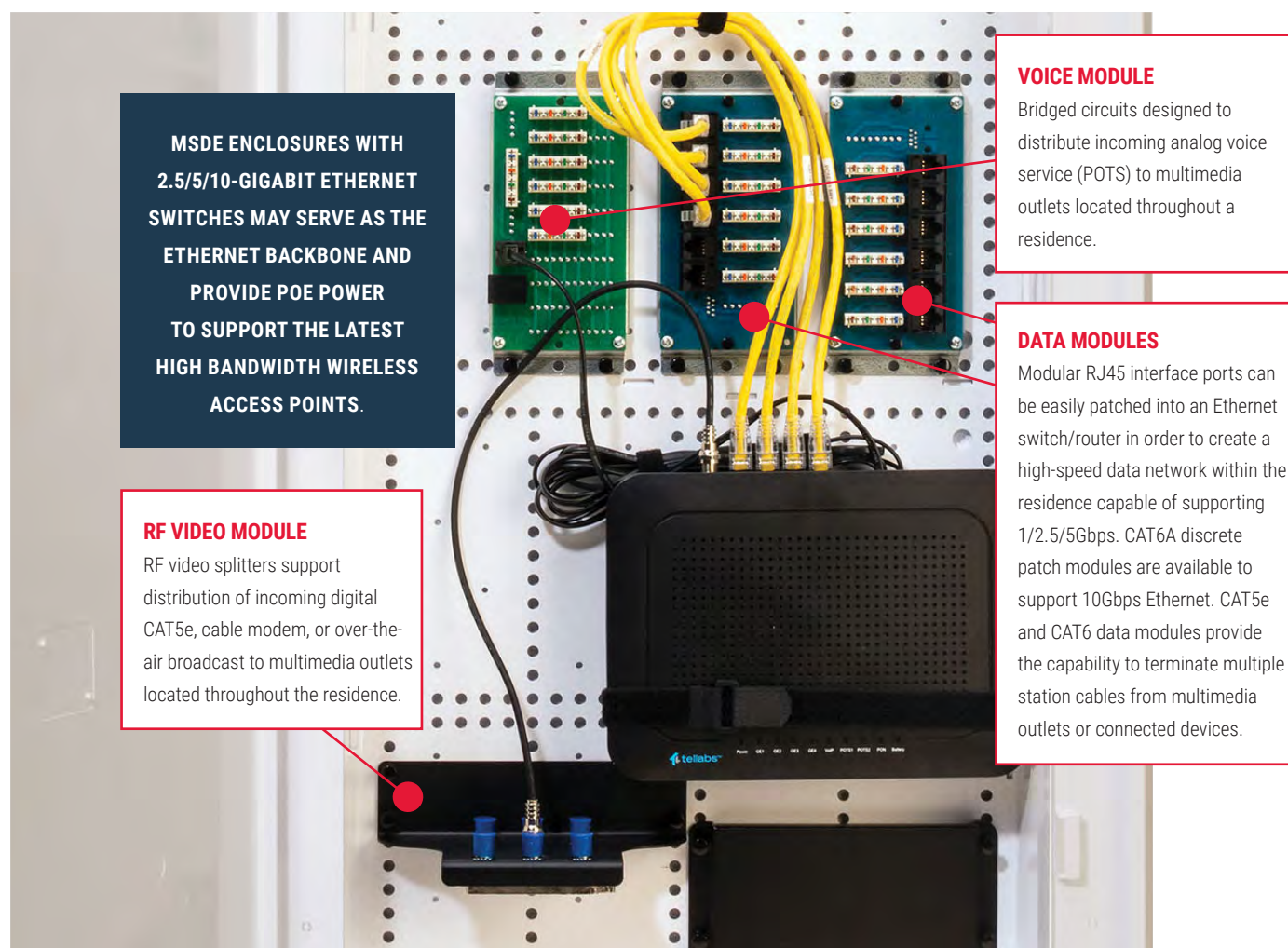
DATA + POWER OVER ONE CABLE

The OCC•10G CAT6A Copper Solution fully supports 10G performance and enhanced 4-pair PoE for the latest 802.11ax and emerging 5G access points.
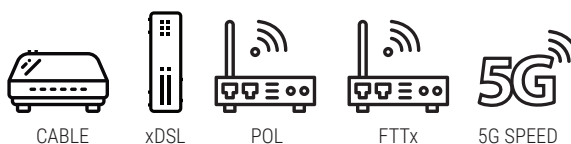
HOW STRONG IS YOUR
BACKBONE?

The OCC MSDE (Multiple Service Distribution Enclosure) Solution is designed primarily for Multi-Dwelling Units (MDU)/ Residential installations. Combined with OCC's POL Solution, the MSDE offers hybrid fiber plus power to save you money on your infrastructure costs for new and existing MDU projects. These rugged, yet lightweight enclosures are constructed of UL 94-V0 ABS plastic and can be flush-mounted between standard 16" stud walls or surface mounted. Voice, data and video distribution modules enable analog voice, VoIP, Broadband Internet, Ethernet/IP Data and RF video distribution to multiple outlet locations or devices within a residence. OCC MSDE Solution can be the foundation of a wired Ethernet backbone essential to support the connected home.

MSDE ENCLOSURES WITH 2.5/5/10-GIGABIT ETHERNET SWITCHES MAY SERVE AS THE ETHERNET BACKBONE AND PROVIDE POE POWER TO SUPPORT THE LATEST HIGH BANDWIDTH WIRELESS ACCESS POINTS.

VOICE MODULE
Bridged circuits designed to distribute incoming analog voice service (POTS) to multimedia outlets located throughout a residence.

DATA MODULES
Modular RJ45 interface ports can be easily patched into an Ethernet switch/router in order to create a high-speed data network within the residence capable of supporting 1/2.5/5Gbps. CAT6A discrete patch modules are available to support 10Gbps Ethernet. CAT5e and CAT6 data modules provide the capability to terminate multiple station cables from multimedia outlets or connected devices.

RF VIDEO MODULE
RF video splitters support distribution of incoming digital CAT5e, cable modem, or over-the-air broadcast to multimedia outlets located throughout the residence.

OCC's MDU/Residential MSDE RF Transparent Enclosures accommodate multiple voice, data and video modules, and network electronics, including wireless access points to support distribution of broadband services.

CABLE   xDSL   POL   FTTx   5G SPEED

MDU TELECOMMUNICATIONS INFRASTRUCTURE DESIGN
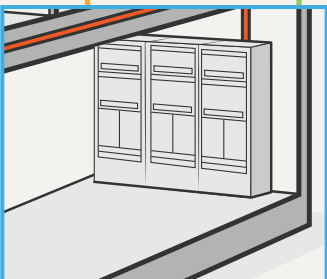
CATEGORY 6A COPPER CABLE

TELECOM ROOM

MULTIMODE FIBER — Traditional Structured Cabling
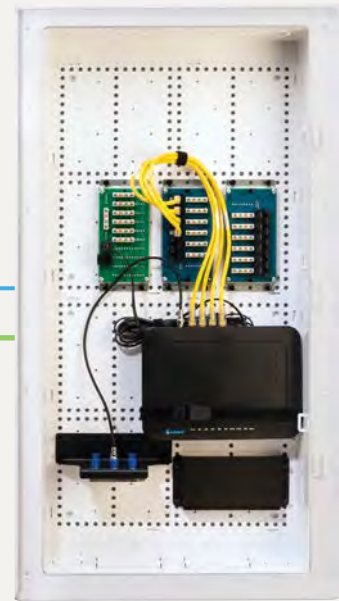
SINGLE-MODE FIBER — POL

EQUIPMENT ROOM

TRADITIONAL STRUCTURED CABLING

There are numerous options for designing the network cabling infrastructure for MDU projects. The traditional structured cabling method typically includes one telecommunications room (TR) per floor. Multimode fiber provides the backbone infrastructure between the equipment room and each telecommunications room. Copper cabling is used to provide the interconnection between the TR and the distribution device (MSDE enclosure) located in the residence. Ethernet access switches in the TR provide the fiber to copper conversion. A small Ethernet router or residential gateway located in the MSDE enclosure provides networking capability within each residence.

PASSIVE OPTICAL LAN (POL)

POL technology is increasingly being utilized to securely deliver voice, data and IP video and/or broadband video to residences over a single strand of optical fiber. Single-mode fiber, with virtually unlimited bandwidth, provides the backbone infrastructure between the Optical Line Terminal (OLT), located in the equipment room and the Optical Network Terminal (ONT) located in the MSDE enclosure in the residence. Passive optical splitters inserted between the OLT and ONT provide the capability to create a point-to-multi-point network architecture in which a single OLT port may serve multiple ONTs. The ONT provides the fiber to copper conversion and the networking capability within each residence.

Whether you choose a traditional structured cabling design or POL, OCC has the expertise to build the right solution to meet your needs. Our customers continue to count on OCC's robust product offering to provide a single source to fulfill their infrastructure needs.

OCC MSDE SOLUTION

MSDE RF TRANSPARENT ENCLOSURES

DESCRIPTION	OCC PART #
15" Enclosure with Hinged Door	MSDE15P
30" Enclosure with Hinged Door	MSDE30P
15" Enclosure, 6-Pack	MSDE15P-BOX6
15" Hinged Door, 6-Pack	MSDE15P-DOOR6
30" Enclosure, 6-Pack	MSDE30P-BOX6
30" Hinged Door, 6-Pack	MSDE30P-DOOR6
15" Enclosure	MSDE15P-BOX
15" Hinged Door	MSDE15P-DOOR
30" Enclosure	MSDE30P-BOX
30" Hinged Door	MSDE30P-DOOR
CAM Lock with Keys	MSDEP-LOCK

FEATURES

> Mounting tabs for standard 16" on-center stud spacing
> Enclosures mount flush with wall when using standard 2x4 studs and ½" drywall
> Versatile pegboard mounting configuration
> Multiple knockouts for cable entry
> UL 94-V0 ABS Plastic construction
> Hinged, vented doors for heat dissipation
> UL 1863, Standard for Communications-Circuit Accessories
> Minimizes wireless signal degradation
> UL2416, Standard for Audio/Video, Information and Communication Technology Equipment Cabinet, Enclosure and Rack Systems
> Multiple Purchase Options
  • Enclosures and Covers may be purchased in 6-Packs
  • Single enclosure and cover purchased together
  • Single enclosure and cover purchased separately
  • Pre-Configured enclosure kits with modules –See part configurator table

MSDE RF TRANSPARENT ENCLOSURES & DISTRIBUTION MODULES PART CONFIGURATOR

MSDExxP	Txxx	Dxx	Vx	L
xx = 15" Enclosure/Door	T = Telco Module	D = Data Module	V = Video Module	L = Lock
xx = 30" Enclosure/Door	T000 = No Telco Module	D00=No Data Module	X = Number of Ports (4 or 6)	Blank = No lock
	408 = *4x8 Telco Module*	2nd digit; blank = Cat5e; 6 = Cat6	V0 =No Video Module	
		3rd digit = #ports	***Ex. V4=**4 Port Video Module*	
		***Ex. D65 =** Cat6 5-port module*		

Example: MSDE30PT408D68V6 (30" Enclosure, 4x8 Telco Module, Category 6 8-Port Data Module, 6-Port Video Module)

VOICE DISTRIBUTION MODULES

DESCRIPTION	OCC PART #
Voice Distribution Module, 4-Line Input x 6 Outputs	MODP-T406
Voice Distribution Module, 4-Line Input x 8 Outputs	MODP-T408
Voice Distribution Module, 4-Line Input x 10 Outputs	MODP-T410

FEATURES

> 4-line telco input
> Network test port
> RJ31X alarm interface port
> Available in 6, 8 and 10 station output configurations
> 110 punch down blocks for quick and reliable terminations

RF VIDEO DISTRIBUTION MODULES

DESCRIPTION	OCC PART #
Video Distribution Module, 1x4, 1GHz	MODP-V4
Video Distribution Module, 1x6, 1GHz	MODP-V6

FEATURES

> 4- & 6-port configurations available
> F-Style Connectors
> 5-1000MHz Bandwidth
> Modules are easily mounted using plastic push-pins fasteners

DATA DISTRIBUTION MODULES

DESCRIPTION	OCC PART #
Category 6 Data Distribution Module, 4-Port	MODP6-DB4
Category 6 Data Distribution Module, 5-Port	MODP6-DB5
Category 6 Data Distribution Module, 6-Port	MODP6-DB6
Category 6 Data Distribution Module, 7-Port	MODP6-DB7
Category 6 Data Distribution Module, 8-Port	MODP6-DB8
Category 5e Data Distribution Module, 4-Port	MODP-DB4
Category 5e Data Distribution Module, 5-Port	MODP-DB5
Category 5e Data Distribution Module, 6-Port	MODP-DB6
Category 5e Data Distribution Module, 7-Port	MODP-DB7
Category 5e Data Distribution Module, 8-Port	MODP-DB8

FEATURES

> Category 5e and Category 6 configurations available
> Available in 4-,5-, 6-, 7- and 8-port configurations
> 110 punch-down blocks for quick and reliable terminations of station cables
> RJ45 modular ports for patching into switch/router
> Modules are easily mounted using plastic push-pin fasteners

OCC MSDE SOLUTION

12-PORT KMJ MOUNTING BRACKET

DESCRIPTION	OCC PART #
Mounting Bracket, 12-Port, KMJ, Unloaded	MODP-12PBKT

FEATURES

> Accommodates up to (12) KMJ jacks/inserts/adapters

> May be used with Cat6A KMJ modular jacks to create a data distribution module capable of supporting 10Gbps Ethernet

*Sold as empty bracket only, KMJ Jacks must be ordered separately.

NETWORK EQUIPMENT MOUNTING BRACKET

DESCRIPTION	OCC PART #
Network Equipment Mounting Bracket	MSDEP-NBKT

FEATURES

> Accommodates modems, routers, switches or ONT devices

> 3" H x 6" W

> Versatile Velcro mounting strap

PATCH CORDS

CATEGORY	OCC PART #
CAT6A	PC6AU-B-xxyy
CAT6	PCSIXxxByy
CAT5E	PC5EBxxByy

xx=length; yy=COLOR: 01=Yellow; 02=Black; 03=Red; 04=Green; 05=Blue; 06=Gray; 07=White; 08=Orange; 09=Brown; 10=Purple

PATCH PANELS

CATEGORY	PORTS	RU	OCC PART #
CAT6A	24	1	DCC2488/1106AN
CAT6A	48	2	DCC4888/1106AN
CAT6	24	1	DCC2488/110SIX
CAT6	48	2	DCC4888/110SIX
CAT5E	24	1	DCC2488/110A5E-R
CAT5E	48	2	DCC4888/110A5E-R

OCC patch panels are available in both flat and angled styles. Category 6A patch panels utilize discrete high performance modular jacks.

KMJ JACKS/FIELD TERMINABLE PLUGS

CATEGORY	KMJ JACK/FIELD TERMINABLE PLUG	OCC PART #
CAT6A	JACK	K6Axx
CAT6	JACK	KMJA6xx
CAT5E	JACK	KMJA5Exx
CAT6A	PLUG (UTP)	OCCUFP6A
CAT6A	PLUG (STP)	OCCSFP6A

xx=color; 01=Office White, 02=Black, 03=Red, 04=Green, 05=Blue, 06=Gray, 08=Orange, 09=Yellow, 10=Purple, 11=Brown, 12=Bright White, 18=Light Blue

In addition to providing excellent link/channel performance, OCC modular jacks exceed TIA component electrical performance. Category 6A shielded and unshielded field terminable plugs are backwards compatible and may also be used in the Category 5e and Category 6 modular plug terminated links.

Contact your OCC representative at **1-800-622-7711** for ordering information. We're ready to assist you.

KMJ FACEPLATES (SINGLE GANG)

PORTS	ID WINDOWS	OCC PART #
1	YES	FPSK01xx
2	YES	FPSK02xx
3	YES	FPSK03xx
4	YES	FPSK04xx
6	YES	FPSK06xx
1	NO	FPKS01xx
2	NO	FPKS02xx
3	NO	FPKS03xx
4	NO	FPKS04xx
6	NO	FPKS06xx

xx=color; 00 = Electrical Ivory, 01 = Office White 12 = Bright White

COPPER CABLE

CATEGORY	CMR/CMP	OCC PART #
CAT6A	CMP	OCC-U6A4PLM-XX
CAT6A	CMR	OCC-U6A4R-XX
CAT6	CMP	OCC-UE64PLM-XX
CAT6	CMR	OCC-UE64R-XX
CAT5E	CMP	OCC-U5E4PLM-XX
CAT5E	CMR	OCC-U5E4R-XX

xx=color; 01=Yellow, 02=Black, 03=Red, 04=Green,
05=Blue, 06=Gray, 07=White, 08=Violet, 09=Orange

OCC copper cables support all IEEE
PoE standards for DC power delivery
over 4-pair cabling when installed in
accordance with
TIA TSB-184-A guidelines.

SUPPORT & WARRANTY

TECHNICAL AND DESIGN-BUILD EXPERTISE

Instead of relying on OCC just for products, more
and more of our customers rely on our design-build
expertise. Our design engineers and technical staff
provide unprecedented service, support, and assistance.

ONE-STOP SHOP

Since we provide one of the largest network-solutions
portfolios in the industry, many of our customers rely
on OCC as their one-source solutions provider. From
the most reliable end-to-end cabling and connectivity
systems, down to the shortest patch cable, we can meet
your every network need.

CUSTOMER-DERIVED INNOVATIONS

We partner with you, our customer, and listen to your
needs. Thanks to our customers, we've designed,
innovated, and customized some of the best solutions in
the industry, providing the speed, immediate scalability,
space savings, and ultra-high performance demanded by
zero-downtime networks of all sizes.

COMPETITIVE WARRANTY PROGRAMS

OCC, in conjunction with certified Multimedia Design
and Integration Specialist (MDIS) installers around the
world, is able to offer various competitive warranty
and extended warranty programs. OCC has developed
warranty plans that offer a flexible approach to long-
lasting network installations.

QUICK SHIPPING

SAME DAY SHIPPING ON IN-STOCK ITEMS IF ORDERED BY 12PM, EST.

OCC®
CONNECTIONS YOU CAN COUNT ON.™

LOCATIONS

ROANOKE

ASHEVILLE

DALLAS

VISIT OCCFIBER.COM

OCC ROANOKE, VA

Corporate Headquarters and Fiber Optic Cable Manufacturing Facility

5290 Concourse Drive
Roanoke, VA 24019 USA
540-265-0690 or 800-622-7711

OCC DALLAS, TX

Harsh Environment and Specialty Connectivity Manufacturing Facility

1700 Capital Avenue, Suite 150
Plano, TX 75074 USA
972-509-1500 or 877-509-1500

OCC ASHEVILLE, NC

Enterprise Connectivity Manufacturing Facility

33 Superior Way
Swannanoa, NC 28778 USA
828-298-2260 or 800-880-7674

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