L - Band Fiber Optic TVRO Transmission Subsystem

Enables Satellite TVRO Augmentation to Achieve Expanded Continuity of Communications Connectivity

The OFW-3427 / TVRO, L-Band Fiber Optic TVRO Satellite Transmission System provides a neutral host RF design approach for the direct optical conversion and transmission of multiple independent TVRO downlink antennas.

The OFW-3427 / TVRO utilizes MPS proprietary and field proven RF Photonic Technology to seemlessly transport the TVRO RF downlink spectrum. The use of single mode fiber optic cable provides the ability to securely route and distribute TVRO traffic from an outdoor mounted antenna to locations throughout the communications network infrastructure.

The OFW-3427 / TVRO can be integrated into architectures requiring Point-To-Point or Point-To-Multi-Point topologies supporting both single and multiple user augmentations typical of building structures, maritime vessels and other distribution centers.

The OFW-3427 / TVRO can be packaged to support a wide range of market segments to include: Shipboard, Harsh Environment, Airborne, and Commercial Broadcast. A field deployable fly away version which is packaged in tactical transit cases is available for temporary or emergency restoration applications.

For additional informaiton regarding the OFW-3427 / TVRO contact MPS at 610-344-7676 or info@b2bphotonics.com

Market Applications

- Broadcast Operation Centers
- TVRO / CATV Distribution Hubs
- C4ISR Command Posts
- Maritime Vessels / Drilling Platforms
- Earth Stations / Earth Terminals

System Highlights

- Advanced RF Front-End Gain Control
- Modular Channel Expansion
- Protocol Transparent
    - QPSK , BPSK, TDMA, FDMA, M-Ary
- GPS L1 & L2 Auxiliary Capability
- Fiber Optic Cable Ranges >20 km
- Front Panel Display of System Status
- Remote Status Monitor and Control
- 2 Year Limited Warranty

Features

- Hot Swappable Modules
- Redundant Power Supplies
- LNB Powering
- Electrical Surge & Lightning Protection

Topologies

- Point to Point : Single or Multi-User
- Point to Multi-Point: Single or Multi-User

Packaging Options

- Harsh Environment (NEMA)
- MIL SPEC Shipboard / Naval
- Indoor Rack or Wall Mount
- Fly Away Transit Case

Microwave Photonic Systems, Inc.
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100421 CAGE 1A9M1

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Specifications

Optical Parameters:

Optical Wavelength	1310 nm , 1550 nm or CWDM available
Optical Output Power	4 mW (typical)
Optical Connector	FC/APC , SC/APC, or E2000 APC
Max Optical Reflections	< - 55 dBm
Fiber Optic Cable Type	Single Mode, 9/125 um
Optical Link Budget	up to 6 dBo

RF Parameters:

Frequency	950 MHz to 2250 MHz
RF Link Gain (typ)	+0.0 dB, ± 2 dB @ 3.0 dBo Optical Loss
Gain Adjustability	up to 30 dB (internal RF variable attenuator)
Flatness (max)	±1.5 dB, full bandwidth
VSWR (max)	1.5:1
Impedance	75 Ohms
Noise Figure (max)	35 dB @ 3.0 dBo Optical Loss
Noise Figure Adjustability	20 dB up to 45 dB (internal RF variable attenuator)
1 dB Comp. Level (min)	+10.0 dBm (with NF = 35 dB)
Input IP3 (min)	+23.0 dBm (with NF = 35 dB)
Spur Free Dynamic Range	+108.0 dBm*Hz$^{(2/3)}$ @ 3.0 dBo Optical Loss

Indoor Unit General Specifications:

Enclosure: Rack Chassis , 1RU x 19" x 14"
Operating Temperature: 0 to +50 Deg. C.
Universal AC Power Input 120/220 VAC, 50/60 Hz
- Dual Redundant , Hot-Swappable, External Wall Wart Style
User Remote Interface: RS 232 Protocol, Serial to Fiber
- Monitoring: Optical PWR, Attenuator Settings, Temp, PWR Supply Status
- Control: RF Link Gain Attenuator Control
- Interface: DB - 9 or Front Panel Display / Key Pad
Antenna Remote Interface: RS 422 Protocol, Serial to Fiber
RF & Optical Connectors: Type "F" (f) , 4x & SC/APC, 4x

Outdoor Unit General Specifications:

Enclosure: Hoffman NEMA , 16" x 14" x 6"
Operating Temperature: -30 to +70 Deg. C.
Universal AC Power Input 120/220 VAC, 50/60 Hz
- Dual Redundant , Hot-Swappable,- 120 / 220 VAC, 50/60 Hz
User Remote Interface: RS 232 Protocol, Serial to Fiber
- Monitoring: Optical PWR, Attenuator Settings, Temp, PWR Supply Status
- Control: RF Link Gain Attenuator Control
Antenna Remote Interface: RS 422 Protocol, Serial to Fiber
RF & Optical Connectors: Type F (f), 4x & Optical Feedthru to Splice Box

1RU x 19" Rack Mount

Outdoor Harsh Environment

Indoor Wall Mount

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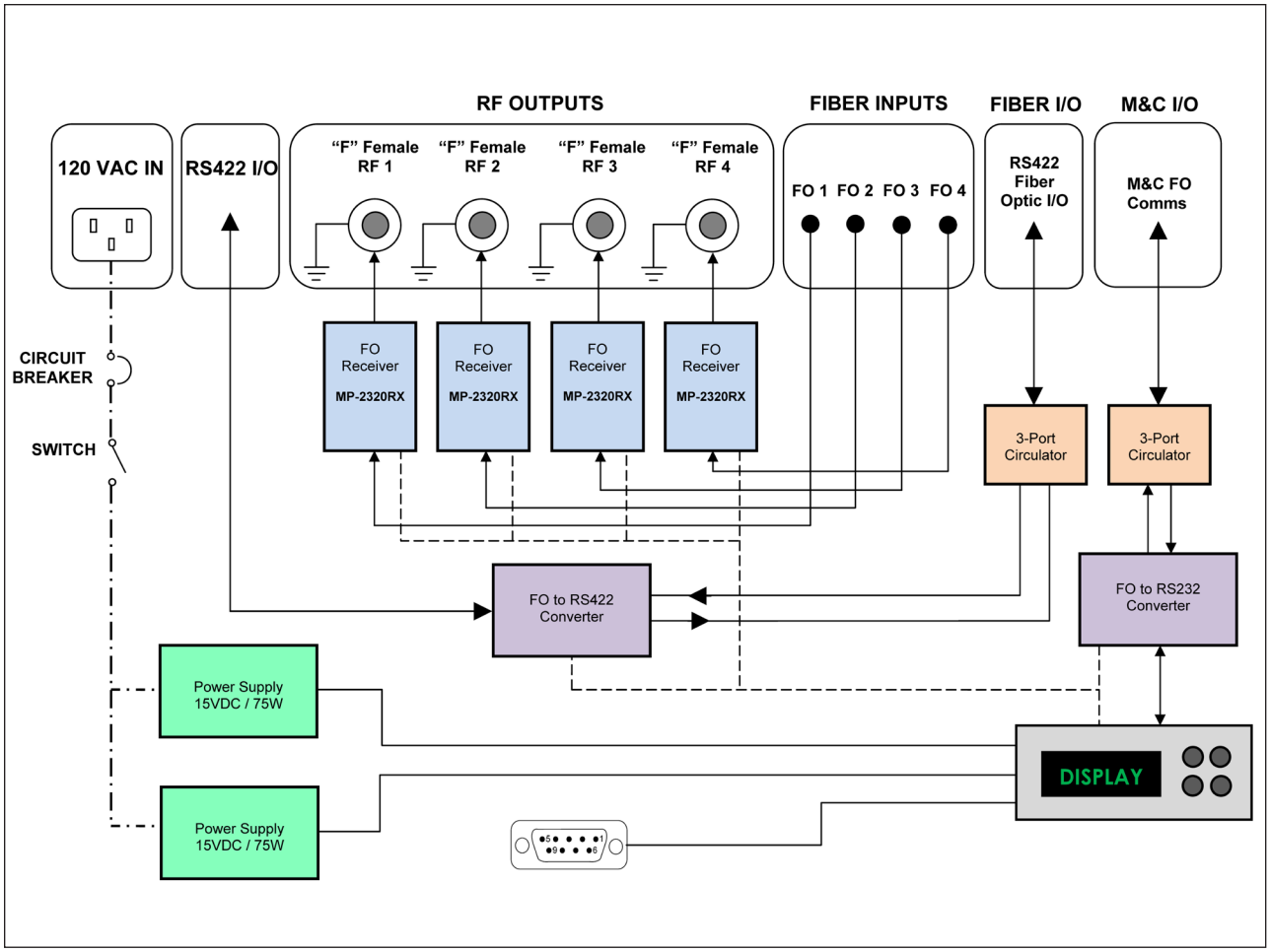
Indoor Unit (IDU) Functional Block Diagram:



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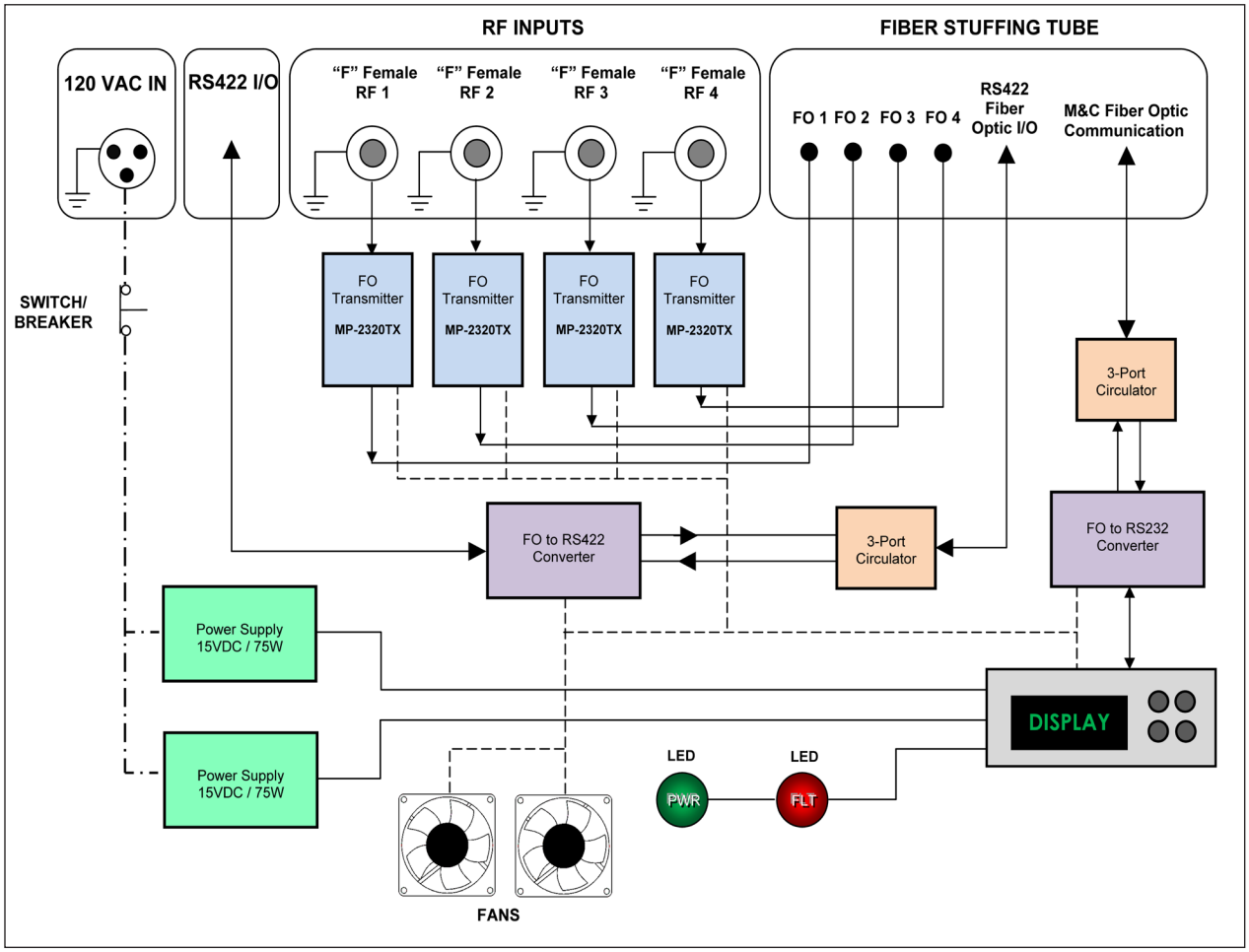
Outdoor Unit (ODU) Functional Block Diagram:



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