

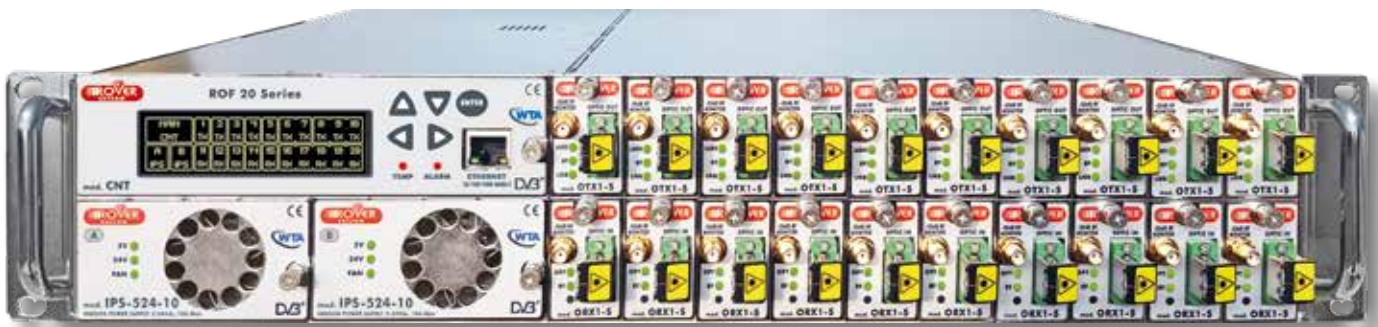


HOT-SWAP RF Over FIBER LINK

WIDE BAND = 50 – 3.000 MHz

RF Over FIBER Series Indoor Unit

mod. **ROF 20-IU**



- 5 years Warranty
- Ideally suited for HTS or Ka-Band Application
- Perfect Integration into any System due to LAN @ Front & Rear plus 2 SFP Slots for Ethernet over Fiber
- 1+1, 2+1 or 4+1 Path Redundancy available

**INNOVATIVE
PERFORMANCE**

for: SYSTEM INTEGRATOR,
TELEPORT BROADCASTER,
CABLE NETWORK, GOVERNMENT
& MILITARY COMMUNICATIONS

CE DVB



1972 > 2020 >>

48 YEARS OF INNOVATION

- Professional RF-over-Fiber link (50-3.000 MHz)
- Outdoor and Indoor Chassis providing Redundant Link Configuration 1+1, 2+1 or 4+1
- Front and Rear Ethernet plus 2 SFP Slots for Ethernet over Fiber allows perfect integration in any customer system
- All Optical RX & Optical TX modules are HOT-SWAPPABLE including Power Supply and Network Controller
- The ROF system can be Configured, Controlled and Monitored via the front panel Controller or via WEB GUI or SNMP
- All 3 Chassis are specially designed to allow mixed configurations and support all the main Optical & RF Connectors
- Internal LNB Powering or an integrated Bias-T built-in the RF Connector Adapter module allows powering any kind of connected equipment, e.g. LNB

BENEFIT

- TX & RX 5 years warranty
- Suited for HTS or Ka-Band Applications
- All OPTICAL Connections in the Front
- All RF Connections in the Rear
- Front accessible RF Monitoring Ports
- External or Internal LNB Powering with Current Monitoring
- Superior RF, OMI Linearity and Low Noise

FEATURES

- Monitoring with Keyboard Controller , SNMP or WEB-GUI
- LED Alarms available in all HOT-SWAP Modules
- RF & OPTICAL Power Sensor Monitor & Alarms
- 50 & 75 Ohm available with F, SMA, BNC, N RF-Connectors
- Fully Compatible with existing Systems
- Ideal for HTS (High Throughput Satellite) & Ka-Band Ready
- Serve all Up-Link dedicated Requirements

INDOOR CHASSIS

mod. **ROF-8-IU**



mod. **ROF-20-IU**



- 1 Unit 19" Rack Chassis
- Front Hot-Swap Slots:
 - Key Board Controller
 - Indoor Redundant Power Supply
 - Up to 8 Optical RX or TX Module
- Rear Slot and Connections
 - RF Connector Adapter or 1+1 Redundancy
 - Hot-Swap Fan
 - Copper Ethernet LAN
 - 2 SFP for Ethernet over Fiber
 - SUB-D9 Dry contact Alarm & Remote Reset

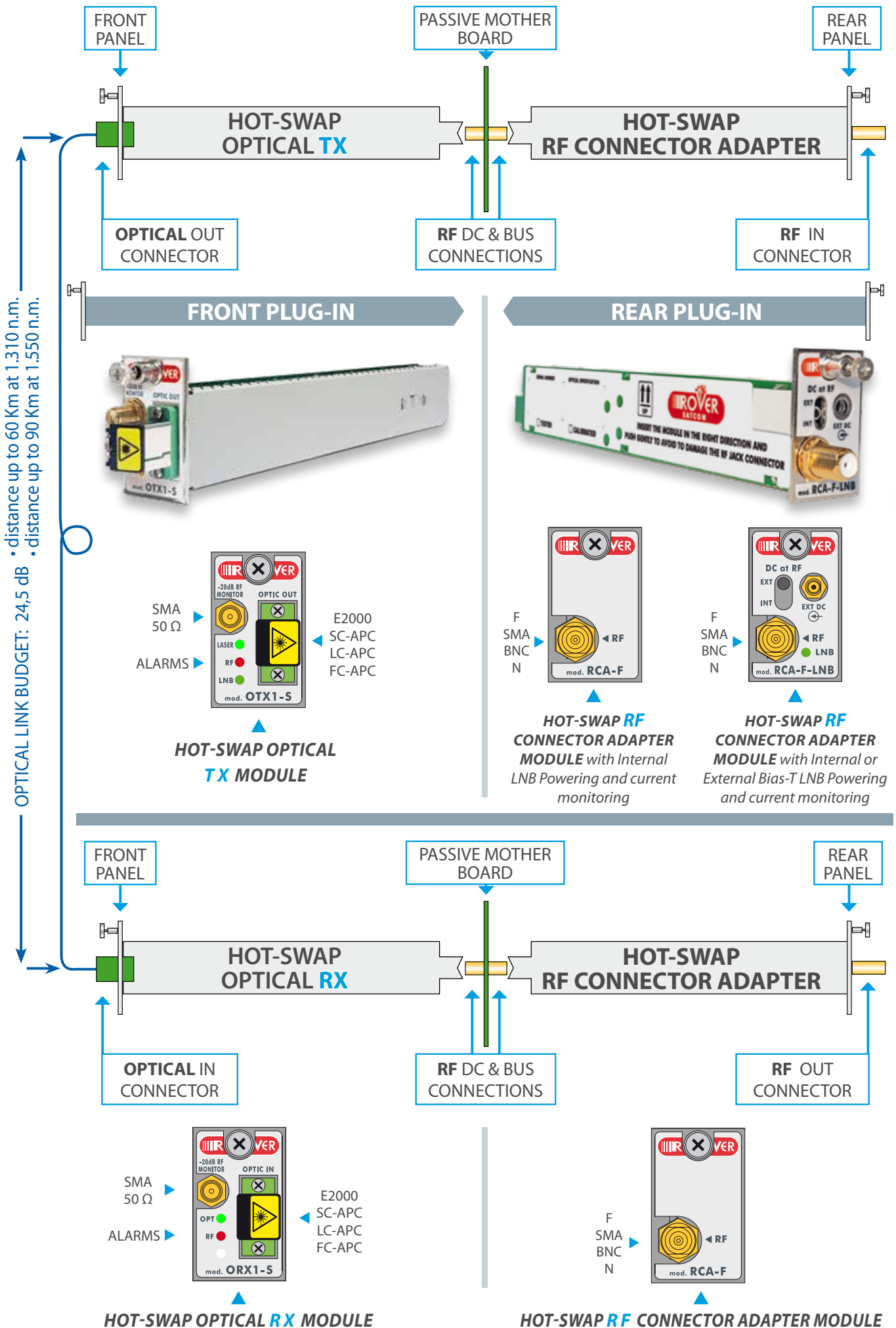
- 2 Unit 19" Rack Chassis
- Front Hot-Swap Slots:
 - Key Board Controller with Ethernet LAN
 - Indoor Redundant Power Supply
 - Up to 20 Optical RX or TX Module
- Rear Slot and Connections
 - RF connect. Adapt. or 1+1, 2+1 & 4+1 Redundancy Switch
 - Hot-Swap Fans
 - Copper Ethernet LAN
 - 2 SFP (opt.) Slots for Ethernet over Fiber
 - 1 SUB-D9 Dry Contact Alarm

OUTDOOR CHASSIS

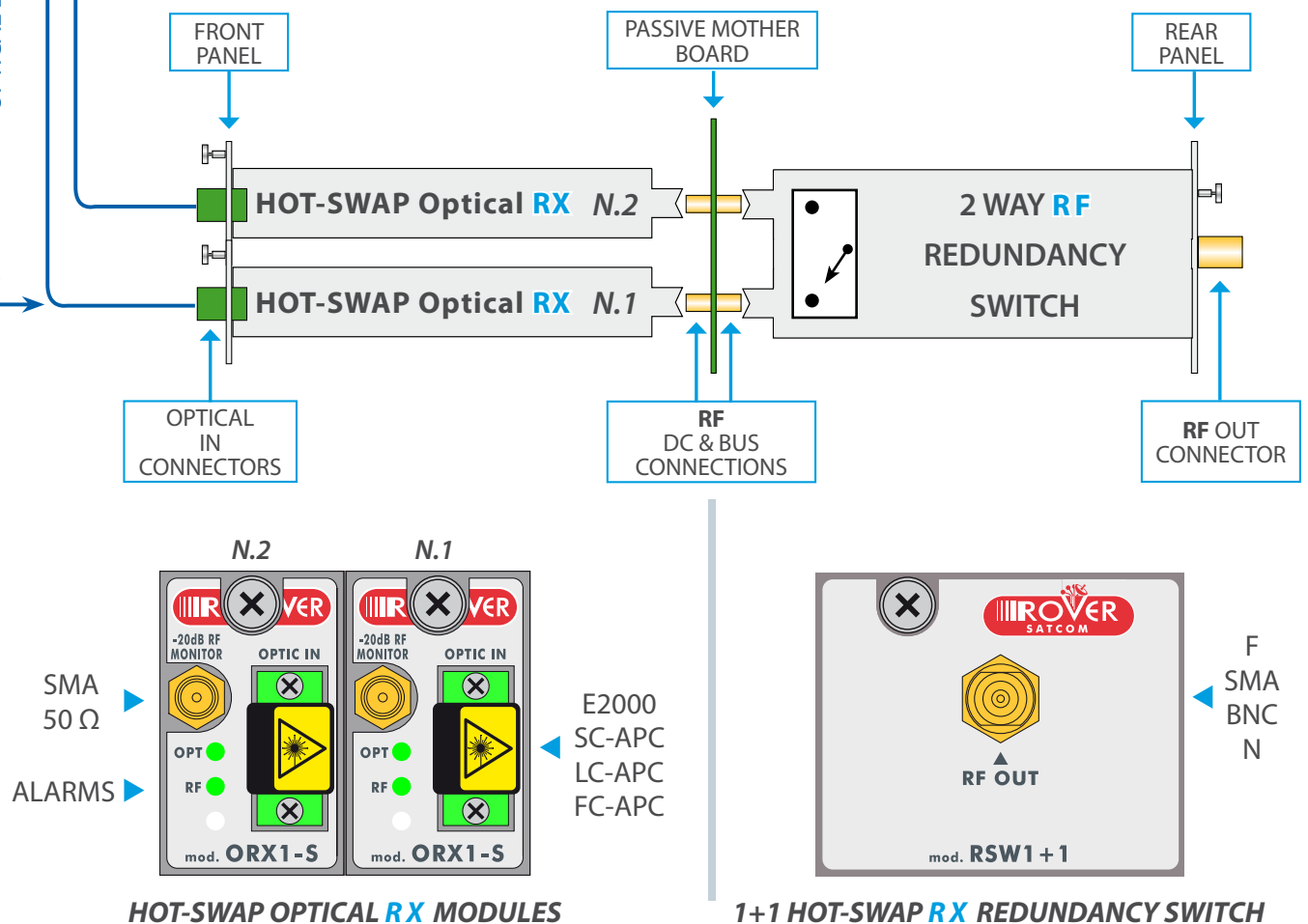
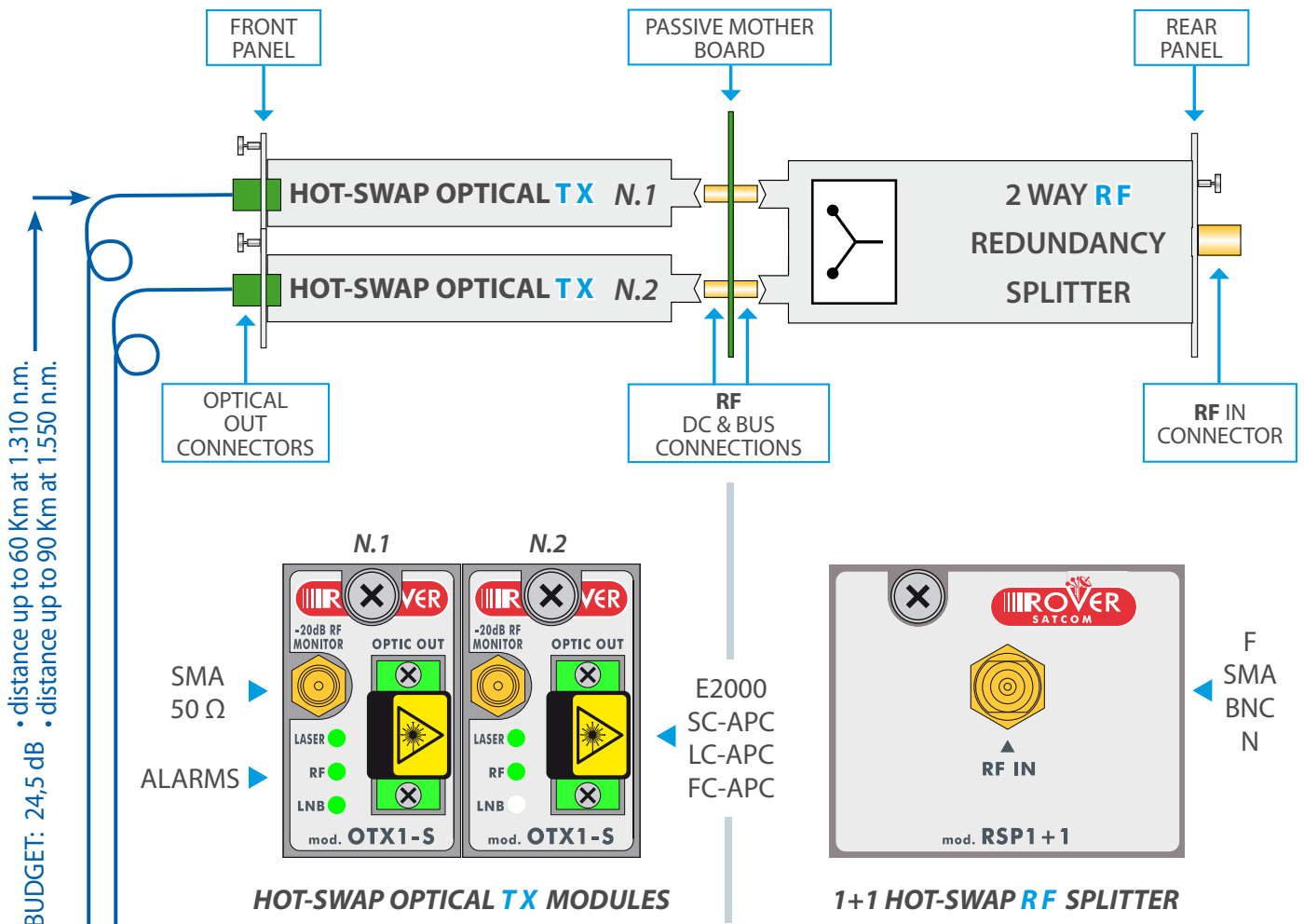
mod. **ROF-20-OU**

- 6 Unit 17" Rack Chassis
- Front Hot-Swap Slots:
 - Key Board Controller with Ethernet LAN
 - Outdoor Redundant Power Supply
 - Up to 20 Plug-in Optical RX or TX Module
 - RF Connect. Adapt. or 1+1, 2+1 & 4+1 Redundancy Switch
 - Copper Ethernet LAN
 - 2 SFP for Ethernet over Fiber
 - SUB-D9 Dry Contact Alarm & Remote Reset
 - Hot-Swap Fans
- Optical Patch Panel
- RF Patch Panel
- De-Icing
- Sun Shade

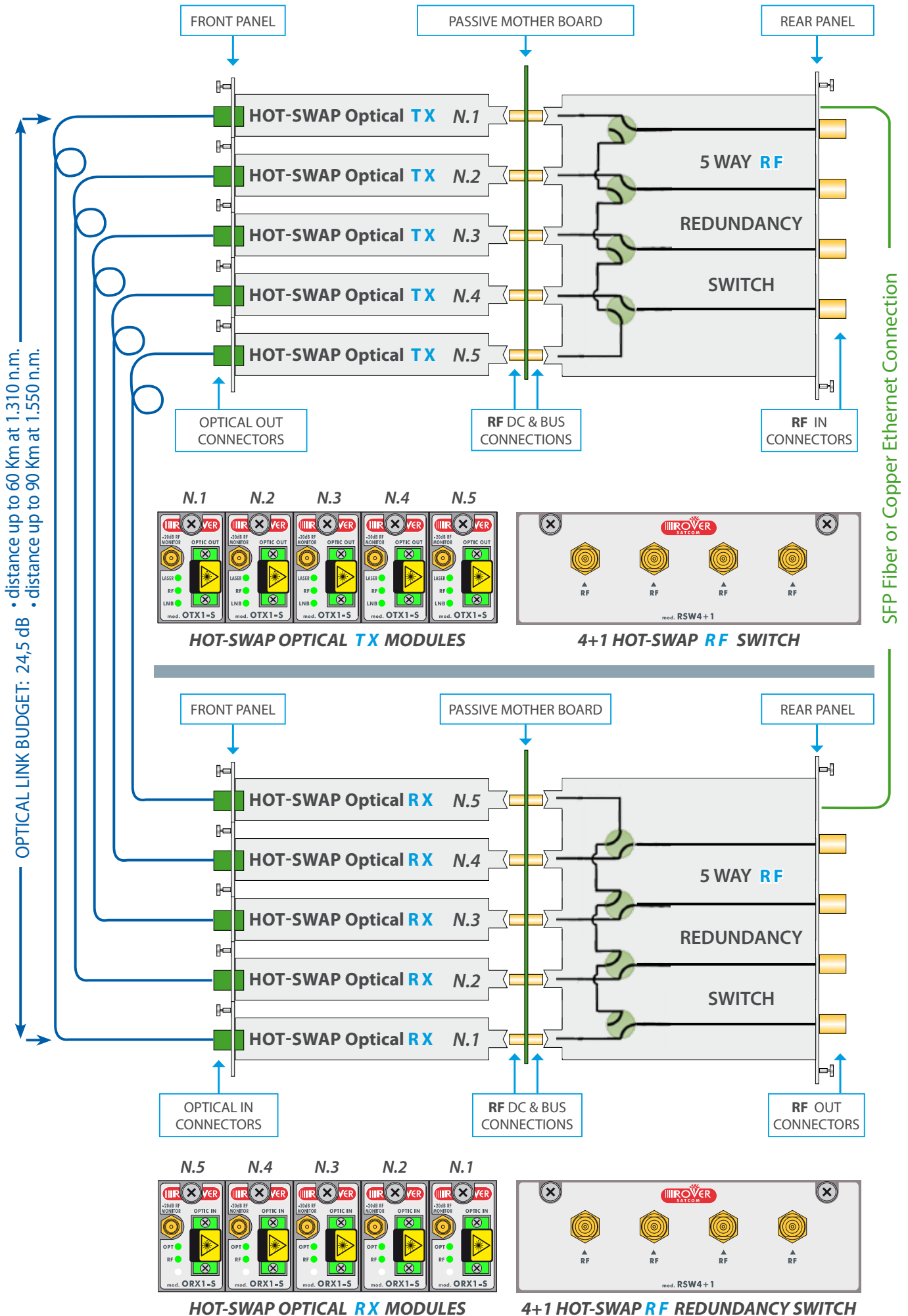




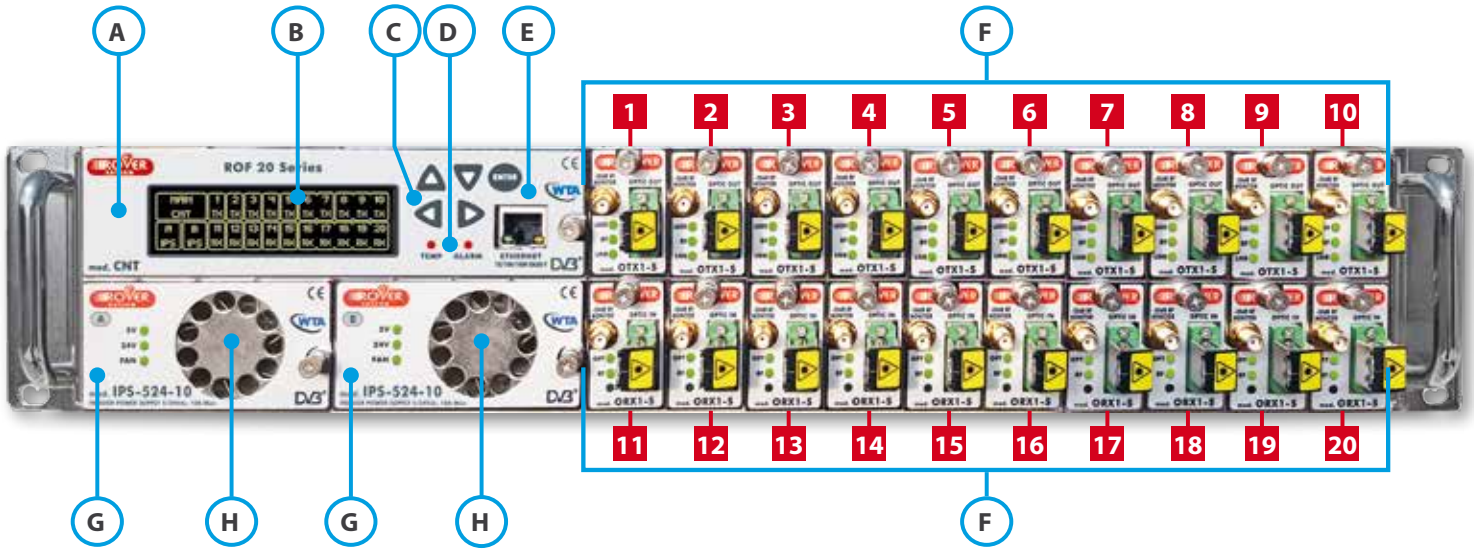
1+1 INNOVATIVE HOT-SWAP OPTICAL LINK REDUNDANCY PHILOSOPHY



4+1 INNOVATIVE HOT-SWAP OPTICAL LINK REDUNDANCY PHILOSOPHY

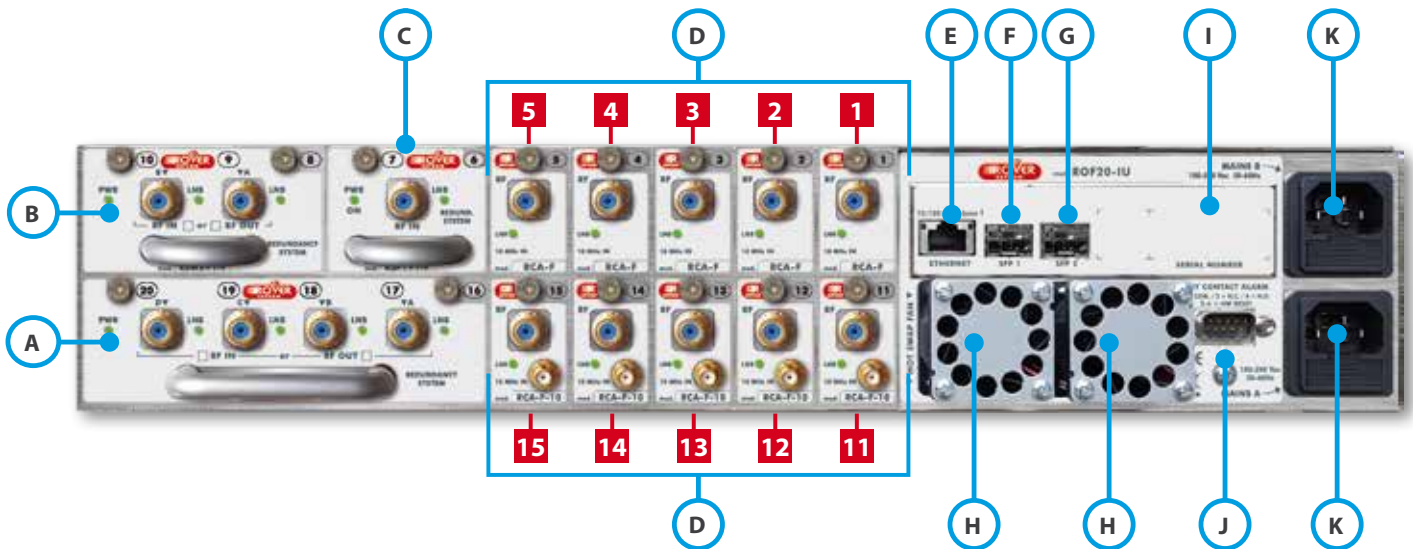


FRONT PANEL DESCRIPTIONS



- A. Hot-Plug Controller Module
- B. Oled Display
- C. Keypad
- D. TEMP & ALARM Leds
- E. Ethernet Connector (opt.)
- F. 20 Slot for Hot-swap Optical TX or RX Modules
- G. Hot-Swap Indoor Power Supply Module
- H. Built-In Fan

REAR PANEL DESCRIPTIONS



- A. 4+1 RF Redundant Switching Module (5 slots)
- B. 2+1 RF Redundant Switching Module (3 slots)
- C. 1+1 RF Redundant Switching Module (2 slots)
- D. 10 Slots for Hot-Swap RF Connector Adapter Modules with Internal or External LNB Powering (1 slot)
- E. Copper Ethernet Connector 10/100/1000 BASE-T
- F. SFP 1 Slot for Ethernet over Fiber
- G. SFP 2 Slot for Ethernet over Fiber
- H. Swappable Chassis Fan
- I. Serial Number
- J. Sub-D Dry 9 Contact Alarm and Remote Reset
- K. Mains and Fuse Receptacle

ADJUSTABLE RACK HANDLE POSITION



Handle: external to the Front Panel
(Position suggested to protect the Front Optical Connectors)



Handle: aligned to the Front Panel



Handle: internal to the Front Panel

TECHNICAL SPECIFICATIONS

mod. OTX1-x (Hot-Swap Optical TX Module)

RF

- Frequency range : 50-3000 MHz
- Range Flatness : $\pm 1,5$ dB
- 36 MHz Flatness : $\pm 0,3$ dB
- RF Connector (via RCA adapter) : F-SMA-BNC-N
- Return Loss (to RCA adapter) : > 14 dB
- Noise Figure : < 10 dB@ max gain
- IMD : > 40 dBc@2 tones -13 dBm
- IP1 : $+5$ dBm (RMS)
- RF Monitor front panel port : -20 dB (SMA)
- RF Power Sensor Alarm : -50 to $+10$ dBm (RMS)
- RF Input Power Range : -50 to $+10$ dBm (RMS)
- RF Damage Input Level : $+15$ dBm (RMS)
- RF Adjustable gain : 30 dB (Auto/Manual)
- RF Gain Stability : $(24h \pm 0,25$ dB) (over range ± 3 dB)

LNB⁵

- Internal LNB Powering (via RCA adapter) : 0, 13, 18 (24)V, 22 KHz, 600 mA
- External LNB Powering (via RCA LNB adapter) : 0, 13, 18 (24)V, 22 KHz, 600 mA
- LNB Current Monitoring and Alarm : from Internal/External Powering

OPTICAL

- OMI : Automatic or Manual
- Power output : $+4,5$ dBm
- Wavelength : 1310 n.m./1550 n.m.
- Connectors : E2000, SC-APC, LC-APC, FC-APC
- Laser : DFB, Class 1M (opt. CWDM)
- Transmission distance : 60 Km at 1310 n.m. or 90 Km at 1550 n.m.

POWER SUPPLY

- Voltage : 5 & 24 Vdc
- Current : 400 mA

ALARMS

- Optical Power : Led, Display, SNMP, WEB GUI
- RF Power Sensor : Led, Display, SNMP, WEB GUI
- LNB Powering : Led, Display, SNMP, WEB GUI

mod. ORX1-x (Hot-Swap Optical RX Module)

RF

- Frequency range : 50-3000 MHz
- Range Flatness : $\pm 1,5$ dB
- 36 MHz Flatness : $\pm 0,3$ dB
- RF Connector (via RCA adapter) : F-SMA-BNC-N
- Return Loss (to RCA adapter) : < 14 dB
- IMD : > 40 dBc@2 tones -13 dBm
- OP1 : $+10$ dBm (RMS)
- RF Monitor front panel port : -20 dB (SMA)
- RF Power Sensor Alarm : -50 to 0 dBm (RMS)
- RF Output Power Range : -50 to $+10$ dBm (RMS)
- RF Adjustable gain : 30 dB (AGC/Manual)
- RF Gain Stability : $(24h \pm 0,25$ dB) (over range ± 3 dB)

OPTICAL

- Input Automatic Gain Control : Automatic or Manual
- Input Power sensitivity range : -20 to $+4$ dBm
- Wavelength : 1100 to 1650 n.m.
- Connectors : E2000, SC-APC, LC-APC, FC-APC
- Input Power measurement range : -30 to $+5$ dBm
- Fotodiode : PIN

POWER SUPPLY

- Voltage : 5 & 24 Vdc
- Current : 300 mA

ALARMS

- Optical Power : Led, Display, SNMP, WEB GUI
- RF Power Sensor : Led, Display, SNMP, WEB GUI

mod. RCA-x (Hot-Swap RF Connector Adapter Module with Internal LNB Powering)

- RCA-F : RF "F" Female Connector
- RCA-S : RF "SMA" Female Connector
- RCA-B : RF "BNC 50 Ω " Female Connector
- RCA-N : RF "N50 Ω " Female Connector

mod. RCA-x-LNB (Hot-Swap RF Connector Adapter Module with Internal/External LNB Powering Switch)

- RCA-F-LNB : RF "F" Female Connector
- RCA-S-LNB : RF "SMA" Female Connector
- RCA-B-LNB : RF "BNC 50 Ω " Female Connector
- RCA-N-LNB : RF "N50 Ω " Female Connector

mod. RSW1+1 (1+1 Hot-Swap Redundancy Switch Module)

- 2 Way RF Output Switch (50-3000 MHz)
- "F" Output Connectors (opt. SMA-BNC-N)
- Automatic or Remote Manual Control

mod. RSP1+1 (1+1 Hot-Swap Redundancy Splitter Module)

- 2 Way RF Input Splitter (250-2350 MHz or 5-3000 MHz)
- "F" Input Connector (opt. SMA-BNC-N)
- Insertion LOSS = 5 dB

mod. RSW2+1 (2+1 Hot-Swap Redundancy Splitter Module)

- 3 Way RF Input or Output Switch (50-3000 MHz)
- "F" Input or Output Connectors (opt. SMA-BNC-N)
- Automatic or Remote Manual Control

mod. RSW4+1 (4+1 Hot-Swap Redundancy Splitter Module)

- 5 Way RF Input or Output Switch (50-3000 MHz)
- "F" Input or Output Connectors (opt. SMA-BNC-N)
- Automatic or Remote Manual Control

mod. IPS-524 (INDOOR Hot-Swap Dual Voltage 5+24 Vdc PSU)

- Input voltage : 100 to 240 Vac
- Output voltage : 5V and 24 V
- Max Output Current : 10A
- Alarm : Led, Display, SNMP, WEB GUI
- Fan : High Speed with alarm

mod. OPS-524 (OUTDOOR Hot-Swap Dual Voltage PSU Module)

- Input voltage : 100 to 240 Vac
- Output voltage : 5V and 24 V
- Max Output Current : 10A
- Alarm : Led, Display, SNMP, WEB GUI
- Fan : High Speed with alarm

mod. CNT (Plug-In Display Key Board Controller Module)

- Operational : Local or Remote SNMP, WEB GUI
- Connectivity : Front and Rear Copper & Fiber Ethernet LAN (opt.)
- Display : Oled type

mod. ROF-8-INDOOR CHASSIS (N.1 Unit 19" Rack)

- Slot capacity : N.10 Front and N. 11 Rear
- Rear Connectivity : 1 Copper Ether. LAN + 1 Fiber SFP Ether. LAN
- Dry Contact Alarms : SUB-D9 connector

mod. ROF-20-INDOOR CHASSIS (N.2 Unit 19" Rack)

- Slot capacity : N.23 Front and N. 20 Rear
- Rear Connectivity : 1 Copper Ether. LAN + 2 Fiber SFP Ether. LAN
- Dry Contact Alarms & Remote Reset : SUB-D9 connector

mod. ROF-20-OUTDOOR CHASSIS (N.6 Unit 17" Rack)

- Slot capacity : N.27 all Front
- Connectivity : 1 Copper Ether. LAN + 2 Fiber SFP Ether. LAN
- Dry Contact Alarms & Remote Reset : SUB-D9 connector

GENERAL SPECIFICATIONS

- TEMPERATURE Range: -30 to $+55$ ° C (operating)
- UMIDITY: 90% not condensed

CHASSIS ORDERING MODEL / CODE EXAMPLE

MODEL/CODE	DESCRIPTION	APPLICATION
ROF20-IU	2 Unit 19" Rack Chassis for RF over Fiber Links, 20 Slots for Tx/Rx, 1+1, 2+1 or 4+1 Path Redundancy, Redundant Hot-Swap Power Supplies, Hot-Swap Key Board Controller with Display, 1(2) Ethernet and optional 2 SFP Modules	
CONTROLLER MODULE for ROF In-/Outdoor Chassis		
- CNT+E	Hot-Swap Key Board Controller with Local Display, 1 Ethernet front and 1 Ethernet rear, Rover Web GUI, SNMP	
- CNT	Hot-Swap Key Board Controller with Local Display, 1 Ethernet rear, Rover Web GUI, SNMP	
POWER SUPPLY MODULE (PSU) for ROF Indoor Chassis		
- IPS-524	Hot-Swap Dual Voltage Power Supply for ROF Indoor Chassis, 5V/10A 24V/10A with high Speed FAN, LED Alarms	

PLUG-IN MODULES OPTIONS

MODELS/CODES	DESCRIPTIONS
OTX1-1310-X	Hot-Swap OPTICAL TX MODULE,DFB Laser, 1310±20, 4,5 dBm, 50-3000 MHz, LNB Powering 13/18 V 0/22 kHz, 20 dB SMA RF Monitor Port, LED Alarms, SC/APC, FC/APC, LC/APC, E2000 HRL Connectors
OTX1-1550-X	Hot-Swap OPTICAL TX MODULE,DFB Laser, 1550±20, 4,5 dBm, 50-3000 MHz, LNB Powering 13/18 V 0/22 kHz, 20 dB SMA RF Monitor Port, LED Alarms, SC/APC, FC/APC, LC/APC, E2000 HRL Connectors
OTX2-CWDM-X	Hot-Swap OPTICAL CWDM TX MODULE,DFB Laser, CWDM±5 nm, 4,5 dBm, 50-3000 MHz, LNB Powering 13/18 V 0/22 kHz, 20 dB SMA RF Monitor Port, LED Alarms, SC/APC, FC/APC, LC/APC, E2000 HRL Connectors SC/APC Connector
ORX1-X	Hot-Swap OPTICAL RX MODULE, High Sensitivity Photodiode, 1260-1610 nm, 50-3000 MHz, 20 dB SMA RF Monitor Port, LED Alarms, SC/APC, FC/APC, LC/APC, E2000 HRL Connectors
RCA-X	Hot-Swap RF Connector Adapter Module, DC Path Through, 50-3000 MHz, F(f) & BNC(f) 75 Ohm, SMA(f) & N(f) 50 Ohm Connectors
RCA-X-10	Hot-Swap RF Connector Adapter Module, 10 MHz & DC Path Through, 50-3000 MHz, F(f) & BNC(f) 75 Ohm, SMA(f) & N(f) 50 Ohm Connectors
RCA-X-exLP	Hot-Swap RF Connector Adapter Module, DC Path Through or External LNB Powering, 50-3000 MHz, F(f) & BNC(f) 75 Ohm, SMA(f) & N(f) 50 Ohm Connectors
RSP-1+1-X	Hot-Swap 2 Way RF Splitter for 1+1 Path Redundancy, DC Path Through, 50-3000 MHz, LNB Powering LED Indicator, F(f) & BNC(f) 75 Ohm, SMA(f) & N(f) 50 Ohm Connectors
RSW-1+1-X	Hot-Swap RF Switch for 1+1 Path Redundancy, DC Path Through, 50-3000 MHz, LNB Powering LED Indicator, F(f) & BNC(f) 75 Ohm, SMA(f) & N(f) 50 Ohm Connectors
RSW-2+1-X	Hot-Swap RF Switch for 2+1 Path Redundancy, DC Path Through, 50-3000 MHz, LNB Powering LED Indicator, F(f) & BNC(f) 75 Ohm, SMA(f) & N(f) 50 Ohm Connectors
RSW-4+1-X	Hot-Swap RF Switch for 4+1 Path Redundancy, DC Path Through, 50-3000 MHz, LNB Powering LED Indicator, F(f) & BNC(f) 75 Ohm, SMA(f) & N(f) 50 Ohm Connectors



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V. rs 18-7-19



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Specifications and features are subject to change without notice.

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