

# 7800R4x4–RF, 7800R4x4–RFI Switch Series



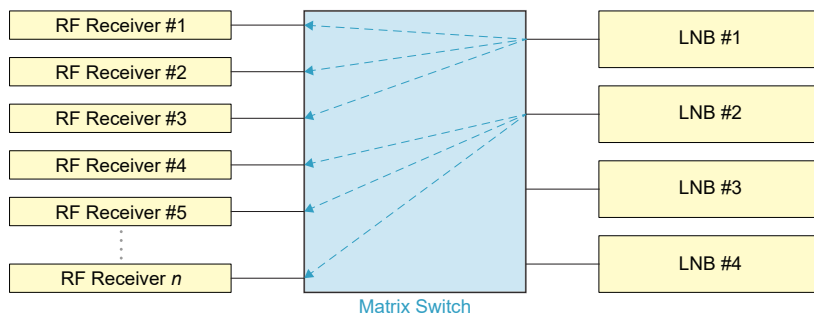
4x4 Modular RF Distributive/Combining Router,  
Software Expandable to 8x16 or 16x8

The 7800R4x4–RF/7800R4x4–RFI is a modular RF signal switch for routing and monitoring L–Band, IF and DTV, as well as other signals within a satellite communications facility. Starting from a base 4x4 configuration, the switch can be expanded to support distributive (fan–out) or combining (fan–in) systems with additional inputs and outputs using software license keys.

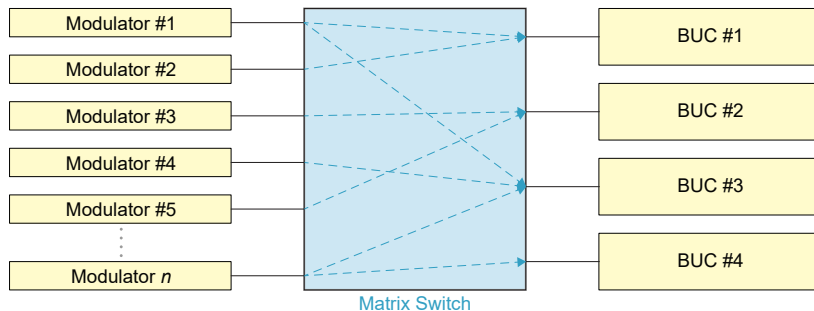
Advanced features such as slope compensation, automatic gain control, salvo operations, monitoring and alarm reporting of critical signal parameters such as input signal presence and signal–level provide flexible RF signal management are offered. Optional per–port selection of 13/18V DC LNB power with active overload and short circuit protection. Direct optical input is also supported using 2307LR miniature fiber receiver.

The 7800R4x4–RF/7800R4x4–RFI is offered with variety of control interfaces and available to provide quick and simple PC or panel–based control for crosspoint control and system configuration. Additionally, this flexible routing switch can be controlled, configured and monitored via web GUI and/or SNMP control over Ethernet, using Evertz' VistaLINK® PRO or other monitoring and control software. This platform can be housed in Evertz' 7800FR 3RU or 7801FR 1RU\* multiframe.

The 7800R4x4–RFI supports both fan–in and fan–out (FIFO) configurations on the same router simultaneously. Examples of FIFO configurations are:



*Distributive (fan–out) configuration*



*Combining (fan–in) configuration*

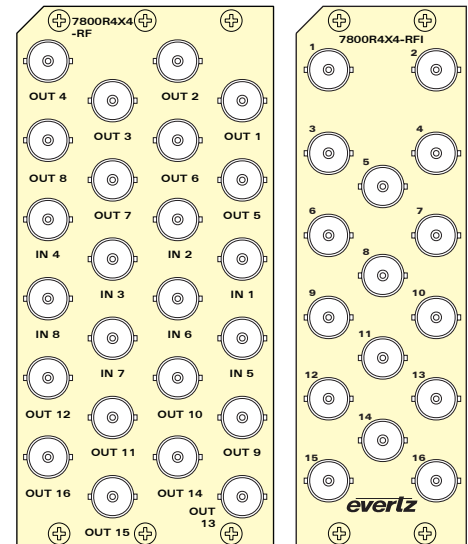
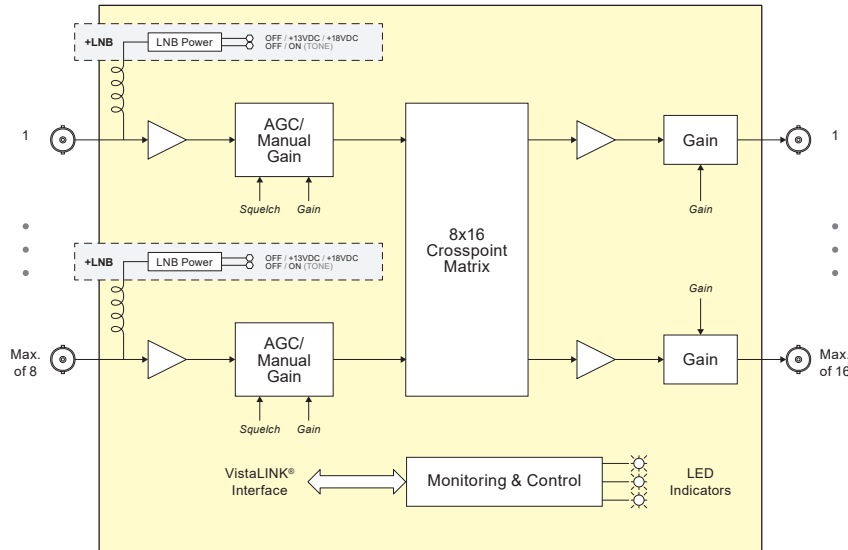
## Features & Benefits

- Modular design, front–loading and hot–swappable
- Future–proof with 40–2400MHz operation
- Supports DVBS2 and DVBS2X
- 70/140MHz IF, L–Band, stacked L–Band and off–air DTV all in one platform
- Passes all modulation formats
- Non–blocking, fan–out or fan–in configuration
- Fan–out system expandable up to 8x16 using license keys; fan–in system expandable up to 16x8 using license keys
- Up to eight programmable salvos
- Optional 13/18V DC LNB power with active overload and short circuit protection
- Solid State matrix switching system reduces complexity, improves reliability and increases flexibility over manual patch bays
- Automatic or manual gain control and RF power monitoring on all input channels
- Adjustable output level in AGC mode

# 7800R4x4-RF, 7800R4x4-RFI Switch Series



4x4 Modular RF Distributive/Combining Router,  
Software Expandable to 8x16 or 16x8



Max. of 8x16 or 16x8  
using 3-slot module

Max. of 8x8 using  
+RP2 option

## Specifications

**System:**  
Switch Sizes:  
*Fan-Out:* 4x8, 4x12, 4x16,  
8x4, 8x8, 8x12, 8x16  
*Fan-In:* 8x4, 12x4, 16x4,  
4x8, 8x8, 12x8, 16x8  
Input/Output Expansion:  
Increments of 4  
Impedance: 75Ω (50Ω optional)  
Connector Type: BNC per  
IEC 61169-8 Annex A,  
(SMA or F-type optional)  
Input Gain Range: -10 to +20dB in 1dB steps  
(manual gain mode)  
Output Gain Range: -15 to +15dB in 1dB steps  
Output AGC Level: -20 to -50dBm  
Bandwidth: 40-2750MHz

**RF Specifications:**  
Frequency Response:  
70-1000MHz: ±0.5dB  
70-2450MHz: ±4.5dB  
850-2150MHz: ±1.5dB  
Isolation:  
> 60dB input to output,  
> 70dB output to output,  
> 70dB input to input  
RF Input Power: 0dBm to -60dBm  
RF Output Power: Max. -10dBm  
Input Return Loss:  
70-2450MHz: 18dB  
Output Return Loss:  
70-2450MHz: 12dB  
850-2150MHz: 14dB  
Input P1dB: +7dBm  
OIP3: +20dBm at -5dBm input  
Noise Figure: 25dB @ 0dB gain,  
14dB @ 20dB gain  
Slope: Fixed with off or  
+4dB slope control  
across 170-2150MHz

**LNB Power (optional -LNB version):**  
Voltage: 13/18V DC, off (selectable)  
Max. Current: 400mA  
Protection: Short circuit, overload

## Ordering Information

### Fan-Out Models:

**7800R4x4-RF** Modular 4x4 wideband RF router software upgradable to 8x16, 75ohm BNC  
**7800R4x4-RF-B50** Modular 4x4 wideband RF router software upgradable to 8x16, 50 ohm BNC  
**7800R4x4-RF-S50** Modular 4x4 wideband RF router software upgradable to 8x16, 50ohm SMA  
**7800R4x4-RF-F75** Modular 4x4 wideband RF router software upgradable to 8x16, 75 ohm F-Type

### Fan-In/Fan-Out Models:

**7800R4x4-RFI** Modular 4x4 wideband Fan in RF router software upgradable to 16x8, 75ohm BNC  
**7800R4x4-RFI-B50** Modular 4x4 wideband Fan in RF router software upgradable to 16x8, 50ohm BNC  
**7800R4x4-RFI-S50** Modular 4x4 wideband Fan in RF router software upgradable to 16x8, 50ohm SMA  
**7800R4x4-RFI-F75** Modular 4x4 wideband Fan in RF router software upgradable to 16x8, 75ohm F-Type connectors

# 7800R4x4–RF, 7800R4x4–RFI Switch Series



4x4 Modular RF Distributive/Combining Router,  
Software Expanable to 8x16 or 16x8

## Specifications (continued)

### Communication & Control:

Medium: Ethernet via FC, serial  
Protocol: SNMP, RS-232, HTTP  
Software: VistaLINK® PRO, web  
GUI via frame controller,  
control panel or  
third-party control

### Electrical:

Voltage: 12V DC  
Power: < 48W

### Compliance & Safety:

Safety: CSA listed to  
CSA 22.2 No. 60065–03,  
UL 60065–03,  
IEC 60065–(2001–12)  
7th edition; complies with  
CE low voltage directive  
EMC: Complies with FCC  
part 15, Class A; complies  
with EU EMC directive

### Physical:

- 2 slots for up to 8x8 configuration
- 3 slots for up to 8x16 or  
16x8 configurations

## Ordering Information (continued)

### Ordering Options:

#### +RP2

Two slot rear panel 75ohm BNC connectors for 7800R–4x4 Routers, for a max of 8x8 router size

### License Options:

#### 7800R–FK–LNB

Software channel key to enable LNB power feature in all input channels for the 7800R4x4–RF router

#### 7800R–4CK–IP–1

Modular 7800R–4x4 RF router 4 input channel software key to expand from 4 to 8 Inputs

#### 7800R–4CK–IP–2

Modular 7800R–4x4 RF router 4 input channel software key to expand from 8 to 12 Inputs

#### 7800R–4CK–IP–3

Modular 7800R–4x4 RF router 4 input channel software key to expand from 12 to 16 Inputs

#### 7800R–4CK–OP–1

Modular 7800R–4x4 RF router 4 output channel software key to expand from 4 to 8 Outputs

#### 7800R–4CK–OP–2

Modular 7800R–4x4 RF router 4 output channel software key to expand from 8 to 12 Outputs

#### 7800R–4CK–OP–3

Modular 7800R–4x4 RF router 4 output channel software key to expand from 12 to 16 Outputs

### Enclosures:

#### 7800FR

3RU Multiframe Which Holds up to 15 Single Slot Modules with AC Power Supply

#### 7801FR

1RU Multiframe Which Holds up to 4 Single Slot or 2 Dual Slot Modules, Requires

Rear Plate Option for Modules