

XPRF — RF Router Matrix Series

128x128, 128x256 and more



The XPRF platform is a wideband, non-blocking, full fanout RF router for signals from 40–2450 MHz including L-Band and other applications. While housed in a compact 14RU chassis, the XPRF platform makes no compromises on features, performance and most importantly, reliability. For system requirements above 128x256, multiple units may be combined up to 2048x2048.

► Features & Benefits

Performance

With satellite bandwidth at a premium, higher order modulation schemes and coding rates afford the ability to pack more data throughput in less RF bandwidth. In order to realize these gains, increased RF signal quality is required for signal demodulation and recovery. As the RF router is the heart of the facility's RF distribution system, it must not impair the signals passing through it, but rather must preserve the quality of these signals from input to output. Evertz understands the needs of modern facilities to take advantage of the latest modulation technologies, and what this means to the importance of signal quality and the impact on recoverability of signals. The XPRF platform is designed with signal quality as a top priority and is the industry's best performing large-capacity router with superior frequency response, isolation, return loss and linearity.

Reliability

All active components (including fans) within the XPRF Series are modular, front-accessible and hot-swappable. No cables ever need to be removed and no rear access to the router is required to service any module. Every active module in the unit has redundancy, including input/output/midpoint cards, fan modules, power supplies and controllers. When system expansion is required above 128x256, the XPRF Series offers built-in gain, which allows the use of passive splitters and combiners. These passive devices do not affect system reliability compared to architectures without available gain that employ added points of failure through active splitters and combiners.

LNB Power

The XPRF Series is the only large-scale RF router platform on the market to offer optional integrated LNB power, individually controllable on all 128x inputs. The LNB power supplies are redundant and hot-swappable, and feature individual active current protection per port. This protection features automatic recovery, so there are never any fuses to replace. LNB current is also individually monitored on each port, with adjustable alarm thresholds providing a means of monitoring LNB health and providing advanced warning of failure.

Maximum Uptime

The RF router is typically installed early on in a facility's signal chain in downlink applications, and closer to the end of the signal chain in uplinks. In either case, it is normally a device with a large amount of the facility's revenue-generating signals flowing through it. Fast, automatic response to problems ensures that this revenue is maintained and downtime costs are not incurred. The XPRF Series provides an unprecedented level of signal protection. Sophisticated self-diagnostics monitor signal paths in the router. In the event that there is any fault detected, the router will quickly and automatically re-route the signal to maintain continuity. This offers total protection of incoming and outgoing feeds and the revenue they generate.

Monitoring and Control

Advanced router control solutions are a core product at Evertz, which extend to the XPRF platform. Multiple intuitive control interface options are available including an integrated 19" touch screen display; largest in its class. Web browser provides quick and easy access to all router controls. Evertz Magnum unified facility control system allows integration of the XPRF Series routers into efficient end-to-end facility control systems. The advanced VUE customizable graphical control solution supports technologies such as touch screens, single and multi-touch interfacing and widgets, providing a highly efficient and effective control surface. A host of advanced touch-screen and x-y style control panels are also available. SNMP capability can be used to integrate third party M&C systems or Evertz' own VistaLINK PRO software. For additional third party support, the 7700R-SC-BRC protocol translator can bridge a number of third party control systems, while integral serial and Ethernet interfaces provide further options. A built-in spectrum analyzer with automatic routing allows the operator to monitor the feeds right on the touch screen display as well on PC using web browser. The XPRF Series routers present all of these interfaces with a host of controls including routes, gain and threshold adjustments as well as monitoring parameters such as self-diagnostic information, RF power levels and LNB current values.

► Specifications

System:		RF Specifications:		Communication & Control:	
Matrix Sizes:	8x8 to 128x256 in a 14RU frame, 2048x2048 max expanded system size, systems may be square or non-square in size	Bandwidth:	40–2450MHz	Serial:	RS–232/RS–422 selectable — Female 9–pin D connector
System Expansion:	Inputs or outputs are expandable in increments of 8, expansion beyond 128x256 requires additional frames and external splitting/combining	Freq Response:	±1.5dB typ. ±2.0dB max ±0.25dB typ. ±0.5dB max over any 36MHz bandwidth	Ethernet:	SNMP, Quartz Protocol, Web Browser
Impedance:	75Ω, (50Ω optional)	Isolation:	>70dB output to output >70dB input to input >70dB input to output	Panels:	19" Integrated touch screen panel, CP2116–E, CP2232–E via direct Ethernet connection, other Evertz panels over Ethernet through MAGNUM or MAGNUM SE
Connector Type:	BNC (SMA and F–type also available)	RF Input Power:	–5dBm to –55dBm	Software:	VistaLINK PRO SNMP NMS, VUE Configurable graphics environment
Input Gain Range:	–15dB to +15dB in 1dB steps	Max RF Output Power:	–5dBm	Electrical:	
Output Gain Range:	–30dB to +30dB in 1dB steps	Input P1dB:	0dBm	AC Input:	Auto–ranging, 100 to 240V AC, 50/60Hz
Redundancy:	100% protection of all routes simultaneously with redundant input, mid and output modules (optional)	OIP3:	>+12dBm	Number:	5 (3 for router power, 2 for LNB power)
		Return Loss:	>17dBm typ. >14dB min. (Input and Output)	Connector:	IEC 60320 — 1 per power supply
		Noise Figure:	<21dB @ 0dB system gain	Physical	
		Group Delay:	<2.0ns	Dimensions:	14RU 24.5"H x 19"W x 18.5"D (622mm H x 483mm W x 470mm D)
		Gain Tracking:	±2.0dB		
		LNB Power:			
		Voltage:	18VDC, off (selectable)		
		Current:	400mA		
		Protection:	Active: short circuit, overload		

* All specifications over specified bandwidth unless noted
 ** High performance models available for enhanced RF specifications

► Ordering Information

XPRF14–128x128	128x128 Protected RF Router/Matrix Switch
XPRF–XL–128x256	128x256 Protected RF Router/Matrix Switch

Contact Evertz sales for matrix sizes from 8x8 to 2048x2048. Evertz will customize a package for your specific application. Please specify the desired matrix size, connector type preference and whether or not LNB power is required.

Ordering Options:

XPRF14–PS	Redundant/spare power supply
XPRF14–LNB128	128x channel LNB power supply module
XPRF14–FC	Redundant/spare frame controller
PKGXPRF14–FM	Spare fan module
XPRF14–LCP	Integrated touch screen display
XPRF–FC–SA	Integrated spectrum analyzer