Evolution Series
PD55S & PD55SL
Modem Redundancy Switch

OVERVIEW

The Evolution Modem Redundancy Switch system offers a revolutionary approach to Modem Redundancy Protection by integrating the Backup Modem and 1:N Redundancy Controller into a single unit. The Backup Modem / Controller becomes a 3RU high 19 inch chassis, which incorporates the traffic and overhead interface connectors necessary to support the online Modem group. This low cost and compact 1:N scheme employs proven integrated 1:1 Redundancy technology pioneered by Paradise Datacom.

EASE OF OPERATION

An innovative new menu structure makes configuration a simple procedure. Advanced user interfaces support the display of text in different languages. Unique Web User Interface offers full remote control and in-depth performance analysis tools using Internet Explorer without special Monitor & control software.

FEATURES

▶ Modular design gives maximum flexibility
▶ Integrated Backup Modem and Redundancy Controller in 3RU
▶ Low Cost
▶ Scaleable up to 1 for 16 (Traffic protection only)
▶ Scaleable up to 1 for 8 (Traffic and Overhead protection)
▶ Backup Modem / Controller can be replaced without affecting traffic
▶ Supports priority traffic channel protection
▶ Supports mixed traffic interfaces including Ethernet
▶ Supports Manual and Automatic Redundancy Protection
▶ Redundant power supplies for maximum reliability
▶ Web User Interfaces Remote Control via Ethernet - simple to configure
▶ PD55S Supports an IF Modem group with PD25 and/or PD55 Modems and optional Transponder Switching
▶ PD55SL supports an L-band Modem group with PD25L and/or PD55L Modems

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Instructions for selection of your Evolution Modem Redundancy Switch Options:

1 Select the Redundancy Switch interface options for interface positions A, B, C & D in accordance with the traffic interfaces used on the associated Traffic Modems, and overhead protection if required. Each Switch interface panel caters for up to 4 Modems with like physical interfaces.

2 Select whether the system is to be IF (PD55S) or L-band (PD55SL).

3 Select the features needed within the Backup Modem, ensuring that the Backup Modem includes all the features of every Traffic Modem within the Redundancy Group.

Rear view of PD55S IF Redundancy Switch

Please select your Backup Interface Options to include all modem interfaces within the group.

Interface Position A **hardware option**	Select 1 Option		4 x LVDS / EIA530 on D25 female supports serial LVDS, RS422, X.21, V.35, G.703 balanced
			4 x G.703 on BNC supports G.703 unbalanced
			4 x HSSI on HD50 50-way SCSI-2 connector
			4 x Ethernet on RJ45 supports 10/100BaseT Ethernet
Interface Position B **hardware option**	Select 1 Option		4 x LVDS / EIA530 on D25 female supports serial LVDS, RS422, X.21, V.35, G.703 balanced
			4 x G.703 on BNC supports G.703 unbalanced
			4 x HSSI on HD50 50-way SCSI-2 connector
			4 x Ethernet on RJ45 supports 10/100BaseT Ethernet
			Blanking Plate (position not used)
Interface Position C **hardware option**	Select 1 Option		4 x LVDS / EIA530 on D25 female supports serial LVDS, RS422, X.21, V.35, G.703 balanced
			4 x G.703 on BNC supports G.703 unbalanced
			4 x HSSI on HD50 50-way SCSI-2 connector
			4 x Ethernet on RJ45 supports 10/100BaseT
			4 x overhead protection for Modems connected to Interface Position A
			Blanking Plate (position not used)
Interface Position D **hardware option**	Select 1 Option		4 x LVDS / EIA530 on D25 female supports serial LVDS, RS422, X.21, V.35, G.703 balanced
			4 x G.703 on BNC supports G.703 unbalanced
			4 x HSSI on HD50 50-way SCSI-2 connector
			4 x Ethernet on RJ45 supports 10/100BaseT Ethernet
			4 x overhead protection for Modems connected to Interface Position B
			Blanking Plate (position not used)

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Fully configurable - only pay for what you need!

Please select your Modem options and fax to your sales representative or directly to Paradise Datacom.
Refer to the PD55 or PD55L Modem datasheets for modem specifications.

	User Options	Description
Integrated Backup Modem	✔	BPSK/QPSK/OQPSK 4.8kbps to 8,448kbps, 1bps variable rate, closed network modem. Ethernet 10/100 BaseT on RJ45 for M&C, unaccelerated Ethernet 10/100 BaseT on RJ45 via traffic or overhead (Ethernet Bridging). **Includes: Viterbi FEC, Rates 1/2, 3/4 & 7/8 with k=7** **Intelsat Reed-Solomon Outer Codec to IESS 308** **Advanced ESC: Variable rate Async channel for Closed Net plus ESC operation.** **AUPC: Automatic Uplink Power Control (operates through ESC channel)** **Remote Web Browser based monitoring tools (Spectrum Display, Constellation Monitor and link performance versus time) plus SMTP email client for status notification** **DHCP allowing IP address to be allocated dynamically via external DHCP network server** **Header compression of UDP and IP packet headers at data rates up to 2Mbps** **IEEE 802.1p QoS supporting choice of strict priority queuing or fair weighting queuing, IEEE 802.1q VLAN support**
Either PD55S IF	E	Wideband IF: 50-180MHz in 100Hz steps **(hardware option)** - BNC female (x2) for IF interfacing
or PD55SL L-band	R	L-band: 950-1950MHz in 100Hz steps **(hardware option)** - includes 4E-8 High Stability reference oscillator and N-type female (x2) for L-band interfacing
Adds Data Rates to 16,896kbps	E	Extends base operation to 16,896kbps
Adds Data Rates to 25Mbps	H	Extends 16,896kbps operation to 25Mbps - requires 16,896kbps option
Adds Data Rates to 55Mbps		Extends 25MBps operation to 55Mbps - requires 16,896kbps & 25Mbps options
IP Acceleration		TCP/IP Acceleration to 8,448kbps on base Ethernet port - overcomes performance problems associated with TCP over satellite
Ethernet Brouting	S	Ethernet Brouting for Point-to-Multipoint operation when there is a non-satellite return path - can be used with base Ethernet port or IP Traffic card
Position 2 **(hardware option)**		Blank Panel
	N	IP Traffic card providing TCP acceleration to 16,896kbps, subject to prevailing data rate limits
Position 2 IP Traffic card options	O	Adds TCP acceleration up to 25Mbps, subject to prevailing data rate limits - requires IP Traffic card in Position 2
		Adds TCP acceleration up to 55Mbps, subject to prevailing data rate limits - requires IP Traffic card in Position 2 and requires 25Mbps acceleration option
	I	Adds UDP and IP Header Compression to RFC 3059 at throughput rates to 16,896kbps, subject to prevailing data rate limits - requires IP Traffic card in Position 2
Low Rate TPC 2nd Generation Turbo 8,448kbps *maximum*	P	Rates 5/16, 21/44, 0.493, 2/3, 3/4, 0.789, 7/8 Paradise (low latency) in BPSK, QPSK, OQPSK Rate 7/8 in QPSK, OQPSK Rate 0.93 Paradise in QPSK, OQPSK Rates 3/4, 7/8, 0.93 in 8PSK - requires 8PSK option Rates 3/4, 7/8, 0.93 in 16QAM - requires 16QAM option
High Rate TPC 2nd Generation Turbo *All rates to 55Mbps subject to prevailing data rate limits*	O	Rates 5/16, 21/44, 0.493, 2/3, 3/4, 0.789, 7/8 Paradise (low latency) in BPSK, QPSK, OQPSK Rate 7/8 in QPSK, OQPSK Rate 0.93 Paradise in QPSK, OQPSK Rates 3/4, 7/8, 0.93 in 8PSK - requires 8PSK option Rates 3/4, 7/8, 0.93 in 16QAM - requires 16QAM option
8PSK	R	Rate 2/3 8PSK Pragmatic TCM to IESS 310 8PSK Turbo available - requires 2nd Generation Turbo FEC option
16QAM	U	16QAM - requires 2nd Generation Turbo FEC option
IBS / SMS	O	Satellite framing to IESS 309 with low rate Intelsat ESC (to IESS 403) & High Rate IBS/SMS ESC
Audio Channels	Y	P1348 Emulation mode for IBS 64kbps carrier (2xaudio) or 128kbps (2xaudio + 64kbps data) - requires IBS/SMS & IDR options
Drop / Insert	T	T1/E1 linear order Drop/Insert. Drop/Insert can operate with any interface, although G.703 is typically used (requires G.703 option if used in G.703 mode)
Extended D/I	C	Independent timeslot re-ordering on Tx & Rx. Signaling (E1 CAS & T1 RBS). Rx Partial Insert for multi-destinational working, Timeslot ID maintenance for N=1 to 31 with IBS / SMS or Closed Net plus ESC - requires Drop / Insert option
Advanced AUX	E	Variable rate synchronous Aux channel for IBS / SMS - requires IBS / SMS option IDR 32/64kbps in place of one/both audio ADPCM ESC channels - requires IDR option
Custom	L	Custom RS Outer Codec values of n, k and interleaver depth, custom IBS / SMS modes, allocation of overhead between ESC and Aux channels in IBS / SMS, custom backward alarms in IBS / SMS, and Closed Net plus ESC
PRBS Tester	E	Internal Bit Error Rate Tester (BERT) can run through main data channel, or ESC/Aux channels
OM-73	E	OM-73 Scrambling, symbol mapping and Viterbi compatibility
Transponder Switch **(hardware option) IF option only**	S	IF Transponder switching up to 1:16 - please specify 70MHz or 140MHz band at time of order