



Lynx™ Hot Standby Protection Switch

For Lynx T1, E1, DS3 Microwave Radios

Applications

- Cost effective hot standby protection for “mission critical” links and difficult to access sites like mountain tops or offshore locations
- Automatic standby features enable use of off-site maintenance service.-
- Easy radio replacement without link interruption

Features and Benefits

- Data capacity 1x to 8xT1, 1x to 8xE1, DS3
- Provides monitored hot standby (MHS) protection (1+1)
- Requires only one antenna per location
- No software required
- Wide DC Power Input ± 20 to ± 63 V
- Frequency Range:
 - 2.4 GHz ISM: 2400-2483.5 MHz
 - 5.8 GHz ISM: 5725-5850 MHz
 - 5.3 GHz U-UNII: 5250-5350 MHz
 - 5.8 GHz U-NII: 5725-5825 MHz
- Wide operational temperature -30 to $+65^{\circ}$ C
- 2 Year Warranty

Monitored hot standby hardware protection

The protection switches operate in conjunction with two Lynx radios and one antenna at either or both end of a link to provide monitored hot standby (MHS) hardware protection to the on-line radio.

Automatic switching to standby mode

When there is a condition indicating a hardware failure affecting the on-line radio, the Protection Switch simultaneously switches all radio functions including transmitter/receiver RF, data, orderwire, diagnostics, and auxiliary data ports to the standby radio.

The status is displayed via the front panel LED indicator as well as at the alarm and status monitor points located on the rear panel. The output power level can be calibrated via a push button to set the power alarm threshold. Lock-on switches allow for testing the standby equipment.

Interoperability with Lynx radios*

Four models of protection switches are available:

The 4T1 and 4E1 models interoperate with 1xT1/1xE1, or 2xT1/2xE1, or 4xT1/4xE1 Lynx radios in the 2.4 or 5.8 GHz ISM bands. The 8T1/8E1 model inter-operates with 5.8 GHz Lynx radios up to 8T1/8E1 capacity. The DS3 version supports Lynx DS3 radios.

* Lynx Protection Switches do not currently work with Lynx.GX radios

Lynx™ Hot Standby Protection Switch Specifications

	FREQUENCY BAND	DIGITAL DATA CAPACITY (RATE)	DIGITAL DATA INTERFACE	MAXIMUM Tx INSERTION LOSS ¹	MAXIMUM Rx INSERTION LOSS ¹
Model 31455	2400-2483.5 MHz	1x -4xT1 (1.544 Mbps)	RJ-48(C)	2 dB	2 dB
	5725-5850 MHz	1x -4xT1 (1.544 Mbps)	RJ-48(C)	3 dB	3 dB
Model 31450	2400-2483.5 MHz	1x -4xE1 (2.048 Mbps)	BNC female	2 dB	2 dB
	5725-5850 MHz	1x -4xE1 (2.048 Mbps)	BNC female	3 dB	3 dB
Model 31420	5725-5850 MHz	1x -8xT1 (1.544 Mbps)	RJ-48(C)	2.5 dB	2.5 dB
	5725-5850 MHz	1x -8xE1 (2.048 Mbps)	RJ-48(C)	2.5 dB	2.5 dB
Model 31520	5725-5825 MHz	DS3 + 1T1 (45 Mbps)	BNC female	2.5 dB	2.5 dB
	5250-5350 MHz	DS3 + 1T1 (45 Mbps)	BNC female	2.5 dB	2.5 dB

SYSTEM

Maximum Receive Level | -5 dBm, error-free

FRONT PANEL

Status LEDs	A/B on-line, lock-on RF calibration, Power
Alarm LEDs	Protection Fault Major and minor: A/B
Test Points	A and B transmit power
Orderwire Handset	2-wire, RJ-11
Lock-on	Forces radio A or B to remain on-line
Calibration	Push button causes detection and normalization of transmit RF power

SWITCHING

RF Switch	Coaxial relay
Data Switches	Form C
Total Switching Time ²	1.5 seconds (typical)

AUXILIARY CONNECTIONS

VF Orderwire Bridge	600 Ω balanced, 4 wire, 0 dBm, DB25
Diagnostics Port	RS-232/RS-422 (craft/TBOS), DB9
Aux Data Port	RS-232/RS-422, ≤ 9600 baud, DB9
Alarm Port	Three Form C, six TTL DB25 female

POWER/ENVIRONMENT

DC Power	±20 to ±63 Volts, <15 Watts
Optional AC Adapter	100-250 Volts, 50-60 Hz
Power Connector	6-pin barrier strip, plug in
Operational Temperature	-30 to +65°C
Humidity	0 to 95% non-condensing
Altitude	15,000 feet (5000 meters)

PHYSICAL

Size (WxHxD)	17.2 x 3.5 x 10.8 inches 43.7 x 8.9 x 27.3 cm(2RU)
Weight	7 pounds (3.2 kg)

ORDERING INFORMATION

System (xxxx-0 n AC/DC adapter, xxxx-1 includes AC/DC adapter)

31455-x	Protection Switch, 1T1 - 4T1 (2.4 & 5.8 GHz)
31420-x	Protection Switch, 1T1/E1- 8T1/ E1 (5.8 GHz)
31520-x	Protection Switch, DS3 + 1T1 (5.3 & 5.8 GHz)
31450-x	Protection Switch, 1E1 - 4E1 (2.4 & 5.8 GHz)

¹ Measured between antenna port of the radio and antenna port of the Protection Switch. Includes losses due to interconnection RF cables and connectors.

² Total switching time includes sense, switch, carrier lock, frame sync, and data sync.