



# Lynx.sc

Digital Microwave Radio



## Fast, Cost-Effective Wireless Connectivity

Lynx.sc is a digital microwave radio that provides wireless connectivity with capacity up to two T1/E1 lines at distances exceeding 50 miles (80 km)—and is less expensive than leasing lines.

Using high-quality radios and standard telco interfaces, Lynx.sc allows you to quickly connect or extend your infrastructure over long distances. Because it is wireless, Lynx.sc offers significant cost savings compared to leased-line connections, and provides a time-to-market advantage where installing new lines is impossible or too costly.

In addition, Lynx.sc is license-exempt in most countries, so you can install it when and where you need it, without right-of-way limitations, frequency licensing delays, or waiting for your telecommunications provider to deliver new lines.

### Extend or Enhance Your Network Virtually Overnight

Easy installation and hassle-free operation allow you to quickly extend networks and eliminate bandwidth bottlenecks, making Lynx.sc wireless radios the ideal solution for:

- Cellular carriers connecting cell towers and backhauling traffic to central offices or leased line access points
- Cellular carriers and service providers needing to build out infrastructure in remote locations where leased lines are unavailable or cost-prohibitive
- Service providers establishing new Points of Presence and direct connections to customers

### About the Lynx® Product Family

The Lynx family of digital microwave radios provides a broad range of point-to-point wireless solutions, delivering a proven and cost-effective alternative to wire and fiber for telco connectivity applications.

In addition to Lynx.sc, the entry-level Lynx product, the Lynx product line includes:

**Lynx.HD**, offering up to 8xT1/E1 capacity at distances exceeding 40 miles (64 km).

**Lynx DS-3**, offering DS-3 capacity at distances exceeding 15 miles (24 km).

**Lynx OC-3**, offering 155 Mbps capacity at distances exceeding 7 miles (11 km).

## PRODUCT HIGHLIGHTS

### Fast and Easy to Deploy

- License-exempt frequencies eliminate regulatory delays
- Wireless connectivity eliminates the need for leasing or installing lines
- Easy integration with new high-speed switches, legacy data, and voice network products
- Multiple frequency options offer flexibility when co-locating radios

### Rapid Return on Investment

- Fast payback compared to leasing T1 lines or building new wireline infrastructure
- Fast deployment opens up new revenue streams and enables faster customer acquisition

### 99.999% Carrier-Class Reliability

- Meets or exceeds traditional telco wireline standards and requirements
- Transmission rates not affected by weather
- Longer distances and highest reliability due to superior system gain

## KEY FEATURES

- 1 to 2 T1/E1 connections
- Frequency Ranges:
  - 2.4 GHz license-exempt;
  - 5.8 GHz license-exempt
- Compliant with industry standards
- Point-to-point communications from less than 1 mile/km to more than 50 miles/80 km
- Wide DC power input ( $\pm 20$  to  $\pm 63$  V), AC adapter available
- Wide operational temperature
- Built-in loopback, far-end monitoring, and private telephone network orderwire
- 2-year warranty

## Product Specifications

PRODUCT	MODEL NUMBER	FREQUENCY BAND	DIGITAL CAPACITY (FULL DUPLEX)	CHANNEL PLANS	THRESHOLD (BER=1X10 <sup>-4</sup> )	OUTPUT POWER (MINIMUM)	SYSTEM GAIN	DISTANCE (MILES/KM)
Lynx.sc T1	31250	2400-2483.5 MHz	T1 (1.544 Mbps)	2 (A, B)	-94 dBm	+27 dBm	124 dB	>60/96
Lynx.sc 2xT1	31650	2400-2483.5 MHz	2xT1 (2x1.544 Mbps)	1 (A)	-91 dBm	+27 dBm	121 dB	>55/88
Lynx.sc T1	31000	5725-5850 MHz	T1 (1.544 Mbps)	3 (A, B, C)	-93 dBm	+20 dBm	116 dB	>50/80
Lynx.sc 2xT1	31600	5725-5850 MHz	2xT1 (2x1.544 Mbps)	2 (A, B)	-90 dBm	+20 dBm	113 dB	>48/77
Lynx.sc 1E1	31500	2400-2483.5 MHz	E1 (2.048 Mbps)	2 (A, B)	-93 dBm	+27 dBm	123 dB	>60/96
Lynx.sc 1E1	31400	5725-5850 MHz	E1 (2.048 Mbps)	3 (A, B, C)	-92 dBm	+20 dBm	115 dB	>50/80
Lynx.sc 2xE1	31700	5725-5850 MHz	E1 (2x2.048 Mbps)	2 (A, B)	-90 dBm	+20 dBm	113 dB	>48/77

### System

<b>Antenna Connector</b>	N-Type female
<b>Full Output Power (2.4 GHz)</b>	≥ +27 dBm, +30 dBm max
<b>RF Attenuation Range</b>	16 dB, minimum
<b>Full Output Power (5.8 GHz)</b>	≥ +20 dBm, +23 dBm typical
<b>RF Attenuation Range</b>	20 dB, minimum
<b>Maximum Receive Level</b>	-5 dBm, error-free
<b>Processing Gain</b>	10 dB, minimum
<b>Transmission Delay</b>	
Radio Only	500 μs, maximum
10-mile path	550 μs, maximum
30-mile path	650 μs, maximum
50-mile path	750 μs, maximum
<b>Regulatory Compliance</b>	US: FCC part 15.247 (ISM), Class B, Canada: IC RSS 210/139 DSX-1: CCITT G.823, AT&T Pub 62411, Bellcore TR-TSY-000499 CEPT-1: ITU-TG703

### Digital Line Interfaces

<b>Digital Interface</b>	CEPT-1 (E1) or DSX-1 (T1)
<b>Connector: E1</b>	BNC female
<b>Connector : T1</b>	RJ-45 female, DB-9 female
<b>Line Code: T1</b>	B8ZS or AMI selectable
<b>Line Code: E1</b>	HDB3
<b>Line Build Out: T1</b>	0 to 600 feet/200 m, selectable
<b>Blue Code</b>	AIS (Alarm Indication Signal)
<b>Far-end Loopback</b>	Local or remote control Internal or external signal source

### Auxiliary Connections

<b>Orderwire Handset</b>	2-wire, RJ-11
<b>VF Orderwire Bridge</b>	600 ohm balanced, 4-wire, 0 dBm, DB25

### Auxiliary Connections Continued

<b>Diagnostics Port</b>	RS-232/RS-422 (craft/TBOS), DB9
<b>Aux. Data Port (Clear Service Channel)</b>	RS-232/RS-422, ≤19.2K baud, DB9
<b>Alarm Port</b>	2 ea. Form C, 6 TTL, DB25
<b>Test Points</b>	Output power, near- and far-end RSL

### Power/Environment

<b>DC Power</b>	±20 to ±63 Volts, <45 Watts
<b>Optional AC Adapter</b>	100-250 Volts, 50-60 Hz
<b>Power Connector</b>	6-pin barrier strip, plug-in
<b>Operational Temperature</b>	-30° to +65° C
<b>Humidity</b>	0 to 95%, non-condensing
<b>Altitude</b>	15,000 feet/5000 meters, max.

### Physical

<b>Size (WxHxD)</b>	17.2 x 3.5 x 14.5 inches 43.7 x 8.9 x 36.8 cm
<b>Weight</b>	11 lbs/5 kg

### Mounting (Installation)

<b>EIA Rack Mount</b>	19 inch, 2-unit height (mounting brackets supplied)
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### Frequency Channel Plans (MHz)

