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NEXUS TELEMETRY RECEIVER

Operator's Manual

Life Sensing Instruments, Inc.

December 15, 2025

Nexus Telemetry Receiver Overview

The Nexus Telemetry Receiver is a component of a patient monitoring system designed to enable bi-directional wireless communication between telemetry patient-worn transmitters and a Central Station computer. Upon receiving the telemetry signals from the transmitters via the WMTS transmission band, the Nexus forwards the data over a wired USB connection to the Central Station computer, which hosts specialized software for displaying and analyzing vital sign data. The Nexus can be powered by an external AC power adapter or by using Power Over Ethernet (PoE).

The receiver operates in conjunction with an external antenna system to establish wireless links with patient-worn telemetry transmitters. These transmitters collect vital sign data and transmit the data via the 608 – 614, 1395 – 1400, and 1427 – 1432 MHz Wireless Medical Telemetry Service (WMTS) bands to the receiver. The Nexus supports downstream communication back to the transmitters over the ISM band (910–920 MHz), enabling limited bi-directional control or configuration updates where applicable.

External Ports

The NEXUS has (4) ports at the rear of the housing.

- **ETHERNET:** This port can be used for PoE (optional).
- **USB:** This port is used for communication between the Central Station computer and the Nexus.
- **POWER:** This port is used to power the device using an external AC power adapter.
- **BNC:** This port is used to connect to the antenna using LMR-240 cable.



LED Status Indicators

The NEXUS has (4) LED lights on the front of the housing.

- **Green LED (RIGHT) : Power:** The LED indicates that the NEXUS is powered on.
- **Green LED: Firmware:** The LED will blink to indicate that the firmware is running.
- **Yellow LED: Communication:** The LED will blink as data is received from the transmitters.
- **Red LED: Fault:** The Red LED indicates a fault condition. When the Red LED is displayed, the Nexus cannot be used.



Instructions for Use

The Nexus Telemetry Receiver requires no user interaction for use. There are no configuration requirements.

Connecting the USB Cable

Insert the “A” end of the USB A to B cable into the port labeled “Data” on the back of the Nexus. Insert the “B” end of the USB A to B cable into the port labeled “Nexus” on the back of the Central Station computer.

Powering on the Nexus (AC Power Adapter)

Insert the barrel jack connector on the AC power adapter into the port labeled “Power” on the back of the Nexus. Plug the AC power adapter’s power cord into the electrical outlet. The Nexus will automatically power on without user interaction. The Nexus will transmit on the ISM band automatically upon powering on.

Powering on the Nexus (POE)

Insert the Ethernet connector from the PoE-enabled network switch or PoE injector into the port labeled “Ethernet” on the back of the Nexus. The Nexus will automatically power on when a valid PoE connection is established and will begin transmitting on the ISM band without user interaction.

Antenna and Professional Installation Information

Antenna Installation and Authorized Use:

The Nexus Telemetry Receiver (Model NEXUS, FCC ID: OF8-NEX1) is designed for operation only with the antenna(s) supplied or expressly approved by Life Sensing Instruments, Inc.

Authorized Antenna:

- Manufacturer: LSI
- Type: PIFA (50 Ω , BNC male connector)
- Gain: 1.8 dBi
- Cable: LMR-240

Substitution of other antennas, cables, or connectors is not permitted without the express written approval of Life Sensing Instruments, Inc. Use of unauthorized antennas may void the equipment authorization and the user's authority to operate the device.

Professional Installation Requirement:

Installation, configuration, and range validation must be performed only by trained personnel authorized by Life Sensing Instruments, Inc.

The professional installer shall:

1. Mount the antenna in accordance with the site plan and coverage documentation.
2. Connect the Nexus Telemetry Receiver and antenna with approved components without any modifications to components (BNC connector, LMR-240 cable, and antenna)
3. Verify field strength coverage and log the installation record in accordance with procedures.

The Nexus Telemetry Receiver is not intended for consumer or residential installation.

Support Services

The authorized support provider for the Nexus Telemetry Receiver is Life Systems International (LSI), located in Charlotte, NC. Support services include hardware support available through the Repair Depot. To learn more about the support services offered by LSI, call 800-846-1279 x1.

Repair Depot

For repair services of the Nexus Telemetry Receiver, contact the authorized support provider:

LSI
Attn: Repair Depot
2102 Cambridge Beltway Dr., Ste. A
Charlotte, NC 28273
800-846-1279 x1
support@lsi-medical.com

Nexus Telemetry Receiver Specifications

MECHANICAL

PHYSICAL DIMENSIONS (WxHxD)	6.85" W X 1.44" x H 8.26" D
WEIGHT	1.75 lbs

ANTENNA CONNECTION

IMPEDENCE	50 OHM
CONNECTOR	BNC, FEMALE

DATA

USB B - PROTOCOL	USB 2.0
USB B - TRANSMISSION RATE	BAUD RATE: 921600 / BANDWIDTH: 75 KBPS
USB B - CONNECTOR TYPE	USB B

ELECTRICAL

INPUT VOLTAGE - AC POWER	100 TO 240 VAC
FREQUENCY - AC POWER	50Hz/60Hz

WIRELESS

MODULATION	4GFSK (WMTS), FSK 150 kHz (ISM)
FREQUENCY BAND (RECEIVING)	608.00-614.00, 1395.00-1400.00, 1427.00-1432.00 MHz
FREQUENCY BAND (TRANSMIT)	910.00 – 920.00 MHz
CHANNEL SPACING	75 kHz

Antenna Specifications

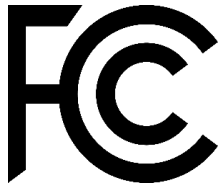
MECHANICAL

DIMENSIONS L X W X H	7.1" L x 4.2" W x 1" H
CONNECTOR	BNC (THROUGH HOLE)
COAX CABLE	LMR-240
MOUNT	CEILING

ELECTRICAL

GAIN (PEAK)	1.8 dBi
VSWR (MAX)	< 2.0:1
POLARIZATION	LINEAR (HORIZONTAL ORIENTATION PREFERRED)
IMPEDANCE	50 OHM
TYPE	PIFA (PLANAR INVERTED-F ANTENNA)
INDOOR/OUTDOOR	INDOOR USE ONLY

FCC Information



Tested to Comply with FCC Standards
Product Name: Nexus Telemetry Receiver
Model Number: NEXUS
FCC ID: OF8-NEX1

Responsible Party:

Life Sensing Instruments, Inc.
2102-A1 Cambridge Beltway Dr.
Charlotte, NC 28273
800-624-2732

Life Sensing Instruments, Inc. declares that the above device complies with the requirements of the Federal Communications Commission.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) this device may not cause harmful interference, and
- 2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Life Sensing Instruments, Inc. could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.