Personal & Area Monitors

Nardalert XT

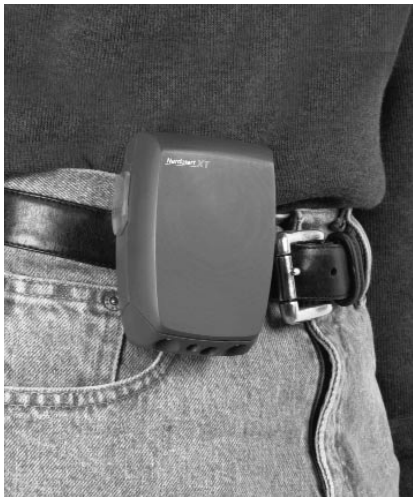
RF PERSONAL MONITORS

US Patents 6,154,178 5,600,307 5,168,265
International Patent Pending

narda
Safety Test Solutions
an L3 Communications Company

Preliminary Specifications

- 100 kHz to 100 GHz
- Shaped Frequency Response Matched to Your Standard
- Data Logger Records Continuously – more than 30,000 data points
- Five High-Intensity LED Level Indicators
- Tri-Sensor Handles All Types of Fields
- Two Adjustable Audio Alarms
- Adjustable Vibrator Alarm
- Long Battery Life
- Patented Design



DESCRIPTION

The new Nardalert XT family of RF personal monitors is designed to satisfy the needs of virtually all individuals who use an RF personal monitor.

- ❖ Models are available that closely conform to all major worldwide standards.
- ❖ The adjustable alarm feature allows one alarm to be set at a level equal to the upper tier of two-tier standards, such as "Occupational" or "Controlled" limits, while the second alarm can be set to the lower tier, such as the "Uncontrolled" or "General Population" limits.
- ❖ The ultra-broadband sensors cover almost the entire usable RF spectrum in a single monitor.
- ❖ The unique tri-sensor design handles every possible signal format, from complex multi-signal communication environments to military platforms with both communications and radar signals.
- ❖ The five flashing high-intensity LED level indicators can be seen while wearing the monitor, even outdoors in the sun.
- ❖ There are four different ways to wear the monitor – pocket clip, belt clip, soft case with belt clip (optional) and soft case for climber's harness (optional).
- ❖ The audio alarm has two distinct sounds that are associated with the two different alarm thresholds. Both alarm thresholds can be adjusted using the optional Interface Kit.

❖ The user can select an audio alarm, a vibrator alarm, both audio and vibrator, or an optional remote vibrator. The remote vibrator can be used in areas with high ambient noise when the user is wearing heavy clothing that would prevent the detection of the internal vibrator.

❖ The data logger is always on. The logging interval can be adjusted using the optional Interface Kit. At the default setting, the average field strength is logged every five seconds with the data logger retaining more than 40 hours of information before it starts to write over the oldest data.

❖ Either one or both of the two LEDs that indicate the lowest levels (10% of Standard and 20% of Standard) can be deactivated using the optional Interface Kit for applications where it is desirable to indicate only higher field strengths.

Nardalert XT
Interface Kit

Allows you to adjust several monitor parameters – and you can download and analyze logged data.

Model 8865 includes:

- Windows® compatible User's Software
- Interface Module
- Cable to connect Module to PC
- Cable to connect Module to Nardalert XT

ONE INTERFACE KIT PER LOCATION IS RECOMMENDED

APPLICATIONS

Nardalert XTs are usable over their entire rated frequency range when worn on the body as an RF personal monitor. The patented sensor design detects the electric field over an extremely broad frequency band regardless of signal format or polarization.

❖ The low frequency sensor is a low impedance, surface-area sensor designed to detect the radial fields that are characteristic of low-frequency communications systems. The compensated diode detector yields accurate results even in highly complex, multi-signal environments.

❖ The diode-dipole design complements the low frequency sensor in the UHF region by detecting vertically polarized fields. The combination of the two sensors detects all polarizations.

❖ The microwave band sensor uses thermocouple detectors. Thermocouple arrays function primarily as dipole antennas up to about 10 GHz. At higher frequencies, the sensor increasingly functions in the traveling-wave mode of detection. This enhances the sensor's sensitivity and allows it to function accurately up to 100 GHz and beyond. Thermocouple detectors are always true RMS detectors and yield accurate results even with extremely narrow radar pulses.

The 8861 Series is specifically designed for use in strong ELF fields, such as where wireless antennas are mounted on towers that carry high voltage 50/60 Hz utility power. The 8860 and 8862 Series Nardalert XT models are not designed for this environment and false alarms may occur.

There are three series of Nardalert XT RF monitors. Within each series, the specifications are essentially identical except for the sensor "shaping." Each specific standard or guidance requires some differences in the sensor design and calibration. The three Nardalert XT series are:

Soft cases are recommended for use by climbers and in severe weather: (l. to rt.) climber-harness case; case front; belt-clip case

8860 Series: This is the full-featured, Nardalert XT series that includes all the user-adjustable parameters plus the ability to log more than 30,000 data points automatically whenever the monitor is turned on. The data-logger feature can be used to analyze personnel exposures in order to improve operations. Or it can be used much in the way a Flight Data Recorder is used on board an aircraft – the logged data can be reviewed whenever there is a need to determine what levels an individual has been exposed to.

8861 Series: The 8861 Series is designed for applications where the user will be in close proximity to strong ELF fields, such as from 50/60 Hz power lines. These monitors are very similar to the standard, full-featured series except that the inside of the housing has a special conductive coating that blocks the ELF signals. The low frequency range of these monitors is reduced due to the coating.

8862 Series: This series is identical to the full-featured 8860 Series except that these monitors do not include the data-logging capability.

MODEL SELECTION GUIDE

STANDARD / GUIDANCE	NARDALERT XT MODELS		
	8860 SERIES	8861 SERIES	8862 SERIES
ACGIH	B8860	B8861	B8862
AS/NZ 2772.1 (1998, draft) Occupational	D8860	D8861	D8862
Canada Safety Code 6 99-EHD-237 RF Workers	C8860	C8861	C8862
DIN VDE 0848, Part 2, October 1991 Area 1 Occupational	D8860	D8861	D8862
ENV 50166-2 Occupational	D8860	D8861	D8862
FCC 1997 Occupational / Controlled	A8860	A8861	A8862
ICNIRP 1998 Occupational	D8860	D8861	D8862
IEEE C95.1-1999/ANSI C95.1-1992 Controlled	B8860	B8861	B8862
Japan RCR-38 Controlled	A8860	A8861	A8862
NATO STANAG 2345	B8860	B8861	B8862
Ö NORM S 1120, 1992 Occupational	A8860	A8861	A8862

SPECIFICATIONS

Series	8860	8861	8862
Frequency Range	100 kHz to 100 GHz	10 MHz to 100 GHz	100 kHz to 100 GHz
Frequency Sensitivity	-1,+3 dB		
Sensors (All E-field)	Low-band surface area detector, diode Mid-band dipole, diode High-band thermocouple		
Alarm Indicators			
LEDs	Five High Intensity Flashing, 2 Yellow, 3 Red		
Audio Alarm 1	Steady Tone		
Audio Alarm 2	Variable Tone		
Vibrator, Internal	Continuous		
Vibrator, Remote[a]	Continuous		
Alarm Threshold[b]			
Alarm 1, Default Setting	50% of Standard		
Range of Adjustment[c]	10% to 100% of Standard in Increments of 5%		
Alarm 2, Default Setting	200% of Standard		
Range of Adjustment[c]	20% to 200% of Standard in Increments of 5%		
Vibrator, Internal	Same Threshold as Alarm 1		
Vibrator, Remote[a]	Same Threshold as Alarm 1		
LED Indicators	10%, 20%, 50%, 100% and 200% of Standard		
CW Overload	3000% of Standard or Guidance		
Peak Overload	32 dB above Standard or Guidance		
Memory			
Number of Data Points	31,263		—
Logging Interval, Default	5 sec.		
Range[c]	1-60 sec. in 1 sec. increments 1.5-6.0 min in 0.5 min. increments		
Logging Time @ rate of 12/min	42.3 hrs.		
Latching / Peak Hold Modes[c]	Off, Instantaneous, Averaged up to 6 Minutes		
ELF Immunity	6,000 V/m	100,000 V/m	6,000 V/m
Battery Type	1 x AA Alkaline		
Life	800 hrs. with LEDs and Alarms OFF		
Temperature Operating	-10°C to +55°C		
Non-operating	-20°C to +60°C		
Weight (including battery)	157 g. / 5.5 oz.		
Size	10.5 cm H x 7.6 cm W x 3.5 cm D / 4.12" H x 3.0" W x 1.37" D		
Color	Dark Gray		
Accessories Supplied	Pocket Clip, Belt Clip, Plastic Storage Box, Battery, Operating Manual		
Optional Accessories	Interface Kit, Soft Case with Belt Clip (P/N 21847600), Soft Case for Climber's Harness (P/N 21847700), Remote Vibrator, and Earphone		

Notes:

a Remote vibrator, P/N 11093000, is available as an option. It operates from its own battery.

b Percent of Standard percentages are in terms of equivalent plane-wave power density relative to the Standard or Guidance.

c The Interface Kit is required to make adjustments to the monitor settings and/or to download logged data.

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