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WARNING

This monitor should only be used after you have read and understood it's operation and consulted with your company's safety officer. High level, electro-magnetic fields may be hazardous to your health. This monitor cannot protect you from all electro-magnetic hazards that you could encounter. **An alarm at 200% of the applicable exposure standard means you should leave the area immediately!**

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Chapter 1
INTRODUCTION

About Your Nardalert XT

The Nardalert XT is a small, battery-operated RF personal monitor. Individuals who must work in areas where there is the possibility of exposure to significant RF fields wear it to alert them when such a situation occurs. The Nardalert XT combines a sophisticated three-element sensor with a microprocessor-based control circuit, five high intensity LED level indicators, two adjustable audio alarms, and an adjustable vibrator alarm.

Equipment Supplied

Your Nardalert XT is supplied with:

- Monitor
- Batteries, AA Alkaline (includes one spare)
- Pocket Clip P/N 11085700
- Belt Clip P/N 21843600
- Plastic Storage Box P/N 11088800
- User's Guide P/N 42994900



Optional Equipment

The following optional equipment is available for use with your Nardalert XT:

- Model 8865 Interface Kit, used to download and analyze logged data and to adjust several monitor parameters. The kit includes:
  - Windows® compatible User's Software
  - Interface Module
  - Cable to connect Module to PC
  - Cable to connect Module to Monitor
  - Plastic Storage Box
- Soft Case with Belt Clip (P/N 21847600)
- Climber's Harness Case (P/N 21847700)
- Remote Vibrator, used when the monitor must be worn over heavy clothing in noisy environments (P/N 11110100)



Model 8865 Interface Kit

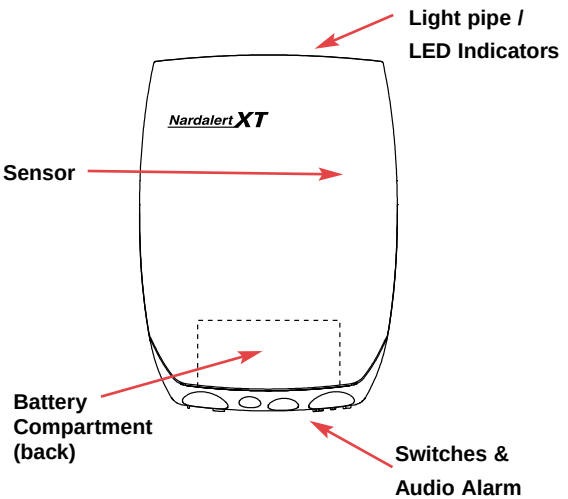


Soft cases are recommended for use by climbers and in severe weather: (l. to rt.) climber-harness case; case front; belt-clip case

Chapter 2
UNDERSTANDING YOUR NARDALERT XT

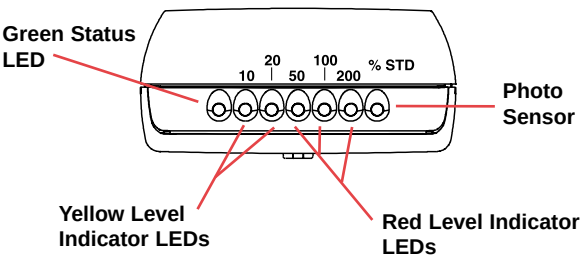
General Description

The basic Nardalert XT RF Personal Monitor is comprised of a sophisticated ultra-broadband, three-section RF sensor and a microprocessor-based control circuit housed in a compact plastic housing. The top of the monitor has seven transparent light pipes: 1 lets light into the monitor to the light sensor and 6 conduct light from the high intensity LEDs out of the monitor. The bottom of the monitor has two switches, a communications jack, and an audio alarm. A vibrator alarm is located within the monitor. The compartment for the single AA Alkaline battery is accessed from the back of the monitor.

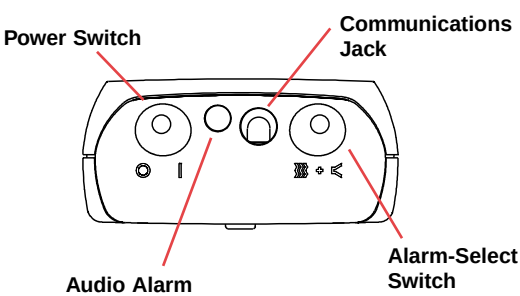


Six LED indicators and a photo sensor are located behind the seven-section light pipe.

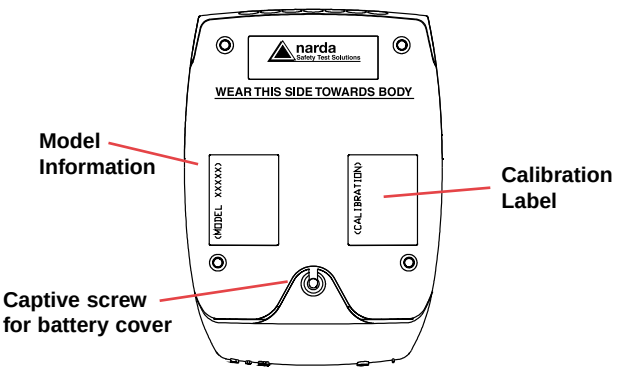
The photo sensor circuit dims the ultra high brightness LEDs under low light conditions, such as when the Nardalert XT is used indoors.



Two switches, an audio alarm, and a communications jack are located on the bottom of the monitor.



The monitor must be worn with its back towards the body. The captive screw that holds the battery compartment cover is located on the back. The back contains three labels. One label specifies the model, serial number, and frequency range. The person who opens the sealed bag should fill in the Calibration Label. It shows the IN SERVICE DATE and the CALIBRATION DUE date.



Specifications

Series	8860 / 8862	8861
Frequency Range	100 kHz to 100 GHz	10 MHz to 100 GHz
Alarm Accuracy (Frequency Sensitivity & Polarization Uncertainty)	+6.0 / -3.0 dB[a] (100 kHz to 2 GHz) +4.5 / - 2.5 dB (2 to 30 GHz) +2.5 / -6.0 (30 to 50 GHz) +2.5 / -6.0 dB (50 to 100 GHz, Typical)	
Sensors (All E-field)	Low-band surface area detector, diode Mid-band dipole, diode High-band thermocouple	
Alarm Indicators **LEDs** **Audio Alarm 1** **Audio Alarm 2** **Vibrator, Internal** **Vibrator, Remote[b]**	 Five High Intensity Flashing: 2 Yellow, 3 Red Steady Tone Variable Tone Continuous Continuous	
Alarm Threshold[c] **Alarm 1, Default Setting** **Range of Adjustment[d]** **Alarm 2, Default Setting** **Range of Adjustment[d]** **Vibrator, Internal** **Vibrator, Remote[b]**	 50% of Std. 10% to 100% of Std. in Inc. of 5% 200% of Std. 20% to 200% of Std. in Inc. of 5% Same Threshold as Alarm 1 Same Threshold as Alarm 1	
LED Indicators	10%, 20%, 50%, 100% and 200% of Std.	
CW Overload	3000% of Standard or Guidance	
Peak Overload	32 dB above Standard or Guidance	
Memory[e] **Number of Data Points** **Logging Interval, Default** **Range** **Logging Time @ 12/min**	 31,263 5 sec. 1-60 sec. in 1 sec. increments 1.5-6.0 min in 0.5 min. increments 42.3 hrs	

Specifications (continued)

Series	8860 / 8862	8861
Maximum Hold Modes[d]	Off, Instantaneous, Averaged up to 6 Minutes	
ELF Immunity	6,000 V/m	100,000 V/m
Battery Type **Life**	1 x AA Alkaline 1000 hrs. with LEDs and Alarms OFF	
Temp. Operating **Non-operating**	-10°C to +55°C -20°C to +55°C	
Humidity	0 to 95%, non-condensing	
Weight (inc. 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	Gray	
Accessories Supplied	Pocket Clip, Belt Clip, Plastic Storage Box, Battery, User's Guide	
Optional Accessories	Interface Kit, Soft Case with Belt Clip (P/N 21847600), Soft Case for Climber's Harness (P/N 21847700), Remote Vibrator[b], and Earphone	

NOTES:

a Vertical and Radial field response between 700 and 1200 MHz may be an additional ±2 dB error.

b Remote vibrator, P/N 11110100, is available as an option. It operates from its own battery.

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

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

e 8862 Series monitors do not include memory.

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
ÖNORM S 1120, 1992 Occupational	A8860	A8861	A8862

Chapter 3

USING YOUR NARDALERT XT

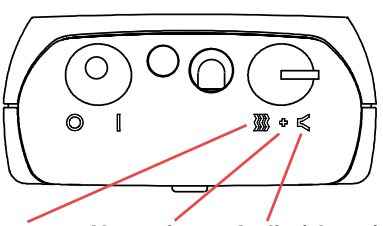
Getting Started

First, decide where the Nardalert XT will be worn and how to attach it to your body. The environment you will be working in influences this decision. For example, a very noisy environment may make it difficult to hear the audio alarm. Similarly, wearing the monitor on the exterior of very heavy clothing will make it very difficult to sense the internal vibrator alarm.

The Alarm-Select switch provides three alarm options:

1. Audio Alarm Only
2. Alternating Audio and Vibrator Alarms
3. Vibrator Alarm Only

The Alarm-Select switch must be set prior to turning the Nardalert XT on. Once the monitor has been turned on, this switch has no effect.



Vibrator — Alternating — Audio (shown)

Interpreting the Turn-On Sequence

Once the Alarm-Select switch has been set to the desired position, turn the Nardalert XT on by moving the Power switch from the Off (0) position to the On (|) position, which is towards the center of the monitor. The Nardalert XT then initiates the following turn-on procedure:

1. If the Nardalert XT is out of calibration, the green LED and the yellow 10% LED will flash for approximately 1 1/2 seconds. (*See **Calibration** in Chapter 5).*
2. The vibrator is activated briefly with one LED. This tests the vibrator and provides a load for the battery test. The LED that is flashed indicates the status of the 10% and 20% indicators. If the 10% LED is flashed, all five LEDs are active. If the 20% LED flashes, then it is active but the 10% LED has been set to the inactive mode. If the 50% LED flashes, then both the 10% and 20% level indicators have been deactivated.
3. The green LED and one of the five level-indicator LEDs flashes to indicate battery level.
4. One or two level-indicator (red and/or yellow) LEDs are illuminated and the steady tone of Alarm 1 sounds to indicate its threshold.
5. One or two level-indicator (red and/or yellow) LEDs are illuminated and the variable tone of Alarm 2 is sounded to indicate its threshold.
6. An RF sensor and/or a system fault is indicated by the illumination of all 6 LEDs and a continuous audio alarm. The LEDs and audio alarm will remain on until the monitor is powered off.

The default alarm level settings are 50% of Standard for Alarm 1 and 200% of Standard for Alarm 2. This is indicated by the illumination of the 50% red LED while the steady tone of Alarm 1 is sounded followed by the illumination of the 200% red LED while the variable tone of Alarm 2 is sounded. If either of the alarm levels has been set to a level other than the default, then a different LED or combination of two LEDs is illuminated. For example, if Alarm 1 has been set to 35% of Standard, then both the yellow 20% LED and the red 50% LED are illuminated while the steady tone of Alarm 1 is sounded.

The Nardalert XT automatically becomes active as a personal monitor after the turn-on sequence with two exceptions:

1. If there is an RF sensor and/or a system fault, the turn-on sequence is halted as previously described.
2. If the battery level is determined to be too low to function for a minimum of 8 hours and to activate an alarm for 20 minutes at the end of this period, the monitor will go into a constant alarm condition. The battery must be replaced before the monitor can be used (*see **Battery** in Chapter 5*).

Normal Operation

The RF field strength status is updated once a second based on an average of the previous second. One or more of the five LED level-indicators will flash whenever the field strength is 10% of Standard or higher (*see **LED Level Indicators** on page 20*).

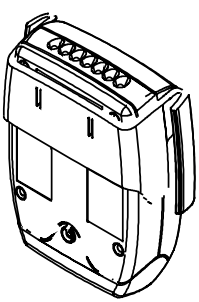
Every ten seconds an LED flashes providing that the RF field level is below 10% of Standard. The green LED flashes if the Maximum Hold Mode is Off. If the Maximum Hold Mode is on, one of the yellow or red level-indicator

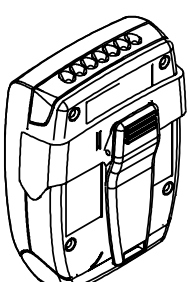
LEDs flashes instead of the green LED (*see* ***Maximum Hold Mode*** *on page 21*).

Wearing the Nardalert XT

The Nardalert XT should be worn on the torso of your body facing forward. Chest level is the preferred location but belt level is also acceptable. This is because your eyes – and for males, the testes – are particularly vulnerable to a RF overexposure. ***The monitor cannot detect RF fields through the body, except under some low frequency conditions.*** To ensure that energy emitting from directly behind you is detected, you should not remain motionless and facing in exactly the same direction for more than a few minutes. Refer to the Appendix for details of the sensor design.

The pocket clip supplied with the monitor allows you to wear the monitor inside your shirt pocket while maintaining the top of the monitor near the top of the pocket, regardless of pocket size. This allows you to view the LED level-indicators.





The belt clip supplied with the monitor snaps on the monitor case in place of the pocket clip. It has a strong spring and retaining hook that makes an accidental detachment from your belt unlikely.

Using the Monitor in Poor Weather

The Nardalert XT should be worn outside your clothing for two reasons:

1. You cannot see the LED level-indicators if you wear the monitor under your clothing.
2. If your clothing becomes wet, the sensitivity of the monitor can be greatly degraded.

> ❖❖❖ ***Note*** ❖❖❖
>
> **Water on the surface of the monitor or either one of the optional soft cases has only a very small impact on the sensitivity of the Nardalert XT. *However, wet clothing in front of the monitor can reduce its sensitivity by up to 90% in the microwave region.***

The Nardalert XT can be used as supplied in very light rain conditions. If you plan to use the monitor in the rain, either one of the two optional soft cases should be used to protect the monitor. One case has an extremely strong stainless steel belt clip. The other case has a leather strap with two snaps that is designed for attachment to a climber's harness (*see* ***Climbing with the Nardalert XT***).

Using the Monitor at Millimeter Frequencies

Nardalert XT monitors are rated for use in fields up to 100 GHz. Sensitivity begins to decrease at about 45 GHz (*see* ***Specifications*** *on page 10*). If you know there is a possibility of being exposed to significant RF fields in this frequency range, you can compensate for the modest decrease in sensitivity by lowering the alarm threshold(s). For example, change Alarm 1 from the default setting of 50% of Standard to 25% of Standard.

Using the Nardalert XT in a High Noise Environment

You have two options if you intend to wear the Nardalert XT in a high noise environment:

1. Use the internal vibrator alarm. Set the Alarm-Select switch to either the vibrator or alternating position before you turn the monitor on. You should be able to sense the vibrator through you clothing providing that it is not especially heavy clothing, such as that used in cold weather.

2. Use the optional remote vibrator alarm. This device allows you to wear the monitor on the outside of heavy clothing. The remote vibrator attaches to the communications jack of the Nardalert XT with a special high impedance cable that does not affect the monitor's sensors. The remote vibrator, which is powered by its own battery, should be worn under the heavy clothing close to your body. It is activated whenever the threshold for Alarm 1 is exceeded.

❖❖❖ ***Note*** ❖❖❖

There is only one alarm level used with either the internal or remote vibrator. Both of these devices are activated at the Alarm 1 threshold.

Audio and Vibrator Alarms

The two alarm thresholds are adjustable using the Model 8865 Interface Kit. The default Alarm level settings are 50% of Standard for Alarm 1 and 200% of Standard for Alarm 2. Alarm 1 is a steady audible tone. Alarm 2, distinguishable by its variable tone, can be set to the same or a higher level than Alarm 1.

Both the internal vibrator and optional remote vibrator activate at the Alarm 1 threshold. To use the remote vibrator, simply plug its cable into the communications jack on the bottom of the monitor. You should connect the remote vibrator before you turn on the monitor. The remote vibrator activates briefly during the monitor's turn-on sequence to verify that it is functioning properly and that its battery is in good condition.

Climbing with the Nardalert XT

The optional climber's harness soft case is strongly recommended if you are going to wear the Nardalert while climbing, such as in tower work. It is not uncommon to accidentally knock a monitor off your person and have it fall to the ground while climbing. This optional soft case securely attaches around one of the straps of your safety harness.

Using the Monitor Near Power Lines

The Nardalert 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.

LED Level Indicators

The RF field level is indicated by five ultra high intensity LEDs. The LEDs are flashed one LED at a time. Flashing the LEDs allows the use of much higher light levels and makes them more noticeable. The Nardalert XT operates on a one-second time base. Field strength is measured 32 times per second and the results are averaged. The one-second average determines which LEDs are flashed and whether an audio alarm or the vibrator alarm is activated. The field strength represented by the LED level-indicators never changes. Each LED flashes for approximately 1/6 second.

Field Strength	Indication
<10	No indication
≥10 to <20	10% LED flashes
≥20 to <50	10% LED flashes, then 20% LED flashes
≥50 to <100	10%, 20%, and 50% LEDs flash in sequence
≥100 to <200	10%, 20%, 50%, and 100% LEDs flash in sequence
≥200	10%, 20%, 50%, 100%, and 200% LEDs flash in sequence. 200% LED is on twice as long (a sec)

Maximum Hold Mode

Maximum Hold has three modes of operation:

1. Off (default condition)
2. Instantaneous (averaged over one second)
3. Time Averaged (averaged over 10 seconds to six minutes)

The maximum hold mode, when activated in either the Instantaneous or the Time Averaged mode, indicates the highest level that the monitor has detected since it was turned on.

The priority for the LED indicators is:

1. The RF field strength is indicated every second whenever the monitor detects an average RF field strength >10% of Standard during the previous second.
2. The monitor indicates the highest level that has been detected every ten seconds if the current field strength is <10% of Standard and the Maximum Hold Mode is On.
3. The green LED flashes every ten seconds if the field strength is <10% of standard and the Maximum Hold Mode is Off.

The Model 8865 Interface Kit is used to control the maximum hold mode parameters.

Responding to an Alarm Condition

If the audio or vibrator alarms on the Nardalert XT are activated, do not panic. The monitor's default setting of 50% of Standard compensates for measurement uncertainty. Most of the time, the monitor activates an alarm below the Maximum Permissible Exposure level set by the relevant standard. The major standards are based on thermal effects and are generally based on a six-minute averaging period. This means that one can remain in a RF field of exactly 100% of Standard indefinitely. Similarly, the standards allow exposure to a field of 200% of Standard for three minutes providing that the next three minutes are free from exposure. This allows time for the body to cool. Most safety programs recommend that you do not attempt to take full advantage of time averaging and require that you do not remain in an area with the monitor indicating a constant alarm condition.

Data Logging

The data-logging feature is always active on the 8860 and 8861 Series Nardalert XT monitors. The 8862 Series does not have a data-logging capability. The recorded data is permanent – it cannot be lost even if the battery is removed. The data is eventually overwritten with new data once the monitor's memory has been filled. This occurs after approximately 40 hours of data has been stored at the default setting of one data point every five seconds.

Chapter 4
ADVANCED FEATURES

Communicating with the Nardalert XT

The Model 8865 Interface Kit is required to communicate with the Nardalert XT. The Interface Kit includes the Interface Module and two cables to connect a monitor to a PC. The kit also includes the Windows® compatible User's Software. The Interface Kit allows you to adjust several monitor parameters – and gives you the ability to analyze logged data.

Data Logging Options

The Nardalert XT averages 32 measurements per second. The average field intensity over this one-second interval, in Percent of Standard, determines which indicators, if any, are illuminated and whether an alarm is activated.

The highest data-logging rate is thus one value per second. The default setting is a data point averaged over five seconds. This results in approximately forty hours of data logging before the oldest data is overwritten. The data is stored in non-volatile memory. It is protected even if the AA battery is removed. This data is lost only when it is overwritten i.e. by leaving the monitor on.

The data logger can be set to average over any interval from 1 to 60 seconds in one-second increments and from 1.5 to 6.0 minutes in 0.5 minute (30-second) increments. The logging time (before data is overwritten) ranges from about eight hours to over 3100 hours.

User-Controlled Parameters

The following parameters can be adjusted in addition to the data-logging rate:

- The 10% and 20% of Standard LEDs can be deactivated.
- Alarm 1 can be adjusted from 10% of Standard to 100% of Standard in 5% increments. The default setting is 50%.
- Alarm 2 can be adjusted from 20% of Standard to 200% of Standard in 5% increments. The default setting is 200%.
- The maximum hold mode can be activated in either an instantaneous (one-second average) mode or in an averaging mode (10, 20, or 30 seconds or 1 to 6 minutes in 30 second increments).
- The time and date of the monitor's internal clock can be changed.

❖❖❖ ***Note*** ❖❖❖

The internal clocks of the 8860 and 8861 Series monitors are set to Greenwich Mean Time (GMT) when they are calibrated at Narda. If desired, use the Interface Kit to reset the monitor's internal clock to the local time and date.

Chapter 5
MAINTENANCE

General Information

The Nardalert XT requires very little maintenance. No operator adjustments are required. The monitor is housed in a very rugged ABS plastic housing. However, this housing is not watertight and should not be immersed in water. The case may be cleaned using a damp cloth. Do not use any type of detergent or solvent.

The major task for the user is battery replacement. The internal clock battery must be replaced at Narda. This is normally accomplished during routine calibration.

❖❖❖ ***Note*** ❖❖❖

Do not open the Nardalert XT housing. There is a good possibility that the monitor may be damaged. There are no user-serviceable items inside the case.

Battery Life

The Nardalert XT operates from a standard AA alkaline battery. These batteries have a typical shelf life of over two years. Operating time in a low RF environment, i.e. levels below 10% of Standard, will be approximately 1000 hours. The audio and vibrator alarms draw a great deal of current compared to the basic circuitry. Users in the presence of significant RF fields with the alarms sounding (or vibrating) on a regular basis can expect 300-400 hours before the battery must be replaced.

The approximate battery condition is indicated during the turn-on sequence described in ***Interpreting the Turn-on Sequence*** at the beginning of Chapter 3. The green LED and one of the five level-indicator LEDs are used to indicate battery level at turn-on as follows:

Indication	Battery Level
200% LED	>90%
100% LED	>80%
50% LED	>60%
20% LED	>40%
10% LED	>20%

Battery Tests

The battery is tested every time the Nardalert XT is turned on as described above. The battery is also tested once an hour. During this test the green LED and the three red LEDs (50%, 100% and 200%) will briefly flash. The LEDs are used to provide a load so that the measurement of remaining battery capacity is more accurate. If it is determined that the battery capacity has dropped below 20%, the monitor will beep. The monitor will continue to beep every 10 seconds. The battery should be replaced as soon as possible.

Clock Battery

The AA alkaline battery powers every part of the Nardalert XT circuit except for the real-time clock circuit. A small 3-volt Lithium battery, similar to those used in a watch, powers this extremely precise integrated circuit. *The clock battery is not user serviceable.* It is located deep inside the monitor inside a shielded container.

The clock battery has an expected life of approximately three years. It should be replaced every two years – the same interval as the recommended calibration. If the clock battery fails, the Nardalert XT continues to function except for the data logger. Precise date and time information is required for the logged data to have any value.

Calibration

The Nardalert XT is calibrated before it is shipped. Narda Safety Test Solutions has determined that the calibration of this product is not affected by storage prior to initial receipt by the customer for up to 12 months providing that the monitor remains sealed in the plastic bag with desiccant. The person who opens the sealed bag should write in the **IN SERVICE DATE** and the **CALIBRATION DUE** dates on the calibration label on the back of the monitor. Narda Safety Test Solutions recommends a two-year calibration interval. If the Nardalert XT is stored for a long interval prior to putting it into service, clock battery life may become the critical factor in determining when the monitor must be calibrated.

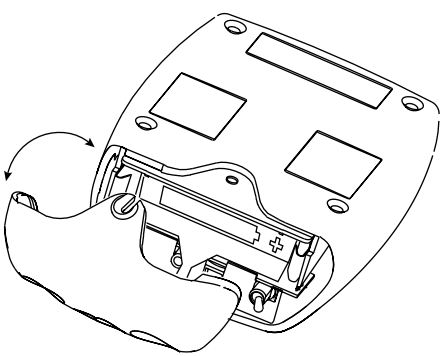
Narda will calibrate the Nardalert XT and replace the clock battery for a nominal charge. The monitor is completely tested using Automatic Test Equipment (ATE) as part of the calibration service.

An out-of-calibration indication is given during the turn-on sequence starting 27 months after the Nardalert XT was built or last calibrated. The extra three months allows for a modest amount of time on the shelf, in distribution, and/or time after receipt before it is put into service. *See **Interpreting the Turn-On Sequence** on page 14.*

Battery Replacement

To replace the battery…

1. Loosen the battery compartment screw on the back of the monitor approximately 3 turns.
2. Pull the battery cover out from under the screw and tilt it slightly towards the front until it comes loose. The screw on the back and two small hooks in the front retains the cover.
3. Remove the battery. The soft tab under the battery makes it easy to remove – simply pull on the tab to loosen the battery.
4. Replace the battery, making sure that the polarity is correct. The battery compartment is marked.
5. Replace the cover by hooking it in the front, tilting it under the screw and tightening the screw.



Appendix
THEORY OF OPERATION

Overview of Nardalert XT

The Nardalert XT combines a patented sensor design with a sophisticated microprocessor-based control circuit. The monitor operates from a standard AA alkaline battery.

Sensor Design

The Nardalert XT's patented sensor design detects the electric field over an extremely broad frequency range 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 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.

RF absorbers are used behind the microwave sensor to isolate it from reflections or scattering. In general, the monitor cannot accurately detect RF fields from behind the body. At low frequencies, however, the body can act as an antenna and introduce energy into the monitor, even when the source is from behind the wearer.

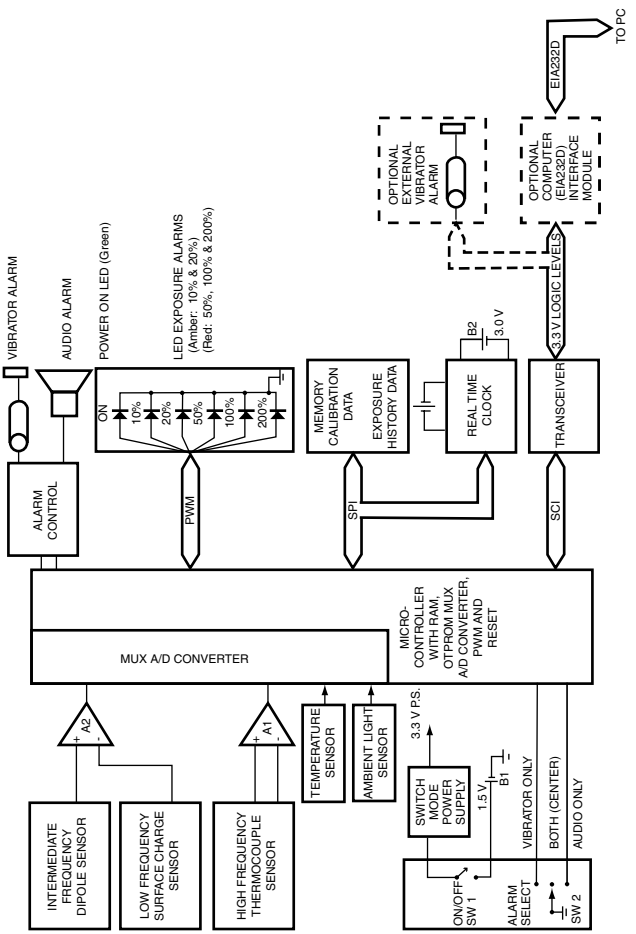
Circuits

The internal circuits operate from a regulated 3-volt supply powered by the AA battery. A separate 1.5-volt button cell powers the real-time clock circuit. The audio and vibrator alarms, which draw the most current, operate directly from the AA battery.

The two sensor inputs feed two low-noise operational amplifier circuits. The output of these two circuits is calibrated in terms of Percent of Standard. The Nardalert XT makes 32 measurements per second. The entire system operates on a one-second basis. The two one-second average percentages are summed by the microprocessor. The total Percent of Standard is used throughout the monitor to determine which indicator LEDs are illuminated, whether an alarm is activated, and which values are stored as part of the data-logging function.

Data is stored in non-volatile memory in blocks of 256 bits of information. This is made up of 249 data points plus seven bits of "header" information. Each header includes: date, time, Alarm 1 level, Alarm 2 level, and the logging interval.

System Block Diagram



Warranty

Narda Safety Test Solutions (Narda STS) warrants Nardalert XT Personal Monitors to be free from any defect in material and workmanship for a period of two years from date of shipment to, and return by, the original purchaser. All warranty returns, however, must first be authorized by a factory office representative.

The limit of liability under this warranty shall be to repair or replace any product, or part thereof, which proves to be defective after inspection by Narda STS. This warranty shall not apply to any Narda STS product that has been disassembled, modified, physically or electrically damaged or any product that has been subjected to conditions exceeding the applicable specifications or ratings.

Narda STS shall not be liable for any direct or consequential injury, loss or damage incurred through the use, or the inability to use, any Narda STS product.

Narda STS reserves the right to make design changes to any Narda STS product without incurring any obligation to make the same changes to previously purchased units.

This warranty is the full extent of obligation and liability assumed by Narda STS with respect to any and all Narda STS products. Narda STS neither makes, nor authorizes any person to make, any other guarantee or warranty concerning Narda STS products.

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About Narda Safety Test Solutions

Narda Safety Test Solutions is the new name for the world leader in non-ionizing radiation safety equipment. In February 2000, Narda – an L-3 Communications Company – acquired the Safety Test Solutions business from Wavetek Wandel & Goltermann. To give more focus to the RF safety business and to separate it from Narda's other business in components and networks, a new division was formed – Narda Safety Test Solutions. It combines the complementary product lines and expertise of these two businesses. The company holds more than 95% of the patents in the field. Products are available to accurately measure electromagnetic fields from a few Hertz to over 100 GHz plus static magnetic fields. RF personal monitors cover 100 kHz to 100 GHz and area monitors detect energy from 300 kHz to 100 GHz.

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