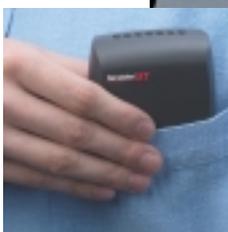
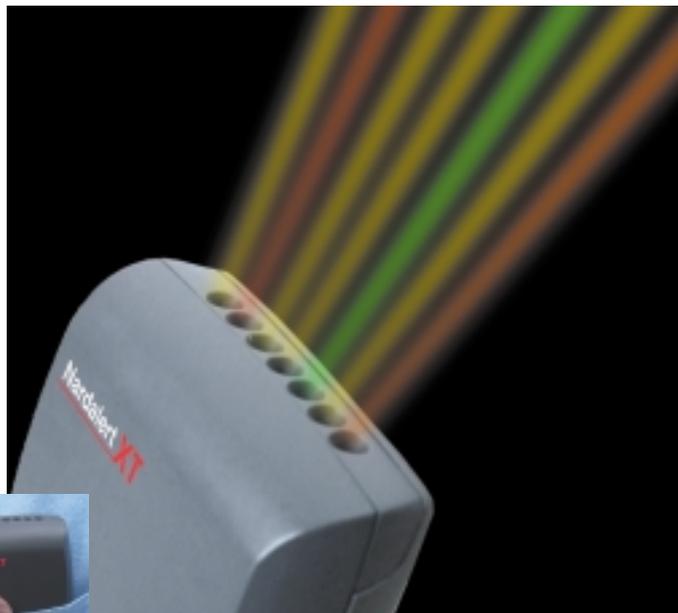


# Personnel Protection



Precision measurement technology for safety in electromagnetic fields.



## Nardalert XT and RadMan XT, the personal monitors for high-frequency electromagnetic fields

< Personal monitors >  
*warn and monitor*

Nardalert XT and RadMan XT, the < personal monitors > from NARDA Safety Test Solutions, provide warnings wherever people can be in danger from strong electromagnetic fields, in particular in the following areas:

- Telecommunications
- Broadcasting
- Industry
- Military
- Air traffic control

Nardalert XT and RadMan XT are available in “ELF immune” versions for use in close proximity to high voltage 50/60 Hz utility power lines.



Personal monitors are worn on the body as warning devices. The RadMan XT can also be used as a hand-held detector for initial qualification and to find leaks in waveguide and coaxial connections.

### Who should use the monitors?

Nardalert XT and RadMan XT should be worn by all individuals who work in areas where there is a potential for exposure to significant electromagnetic field levels. This includes people,

- who are responsible for everyday operations
- who provide services (painters, cleaners, HVAC or elevator repair, etc.)
- who inspect or visit industrial facilities
- industrial facilities



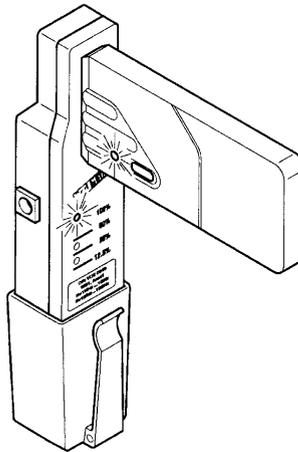


**Switch it on and wear it**  
 Nardalert XT and RadMan XT are ready for immediate use: simply < **switch on** > and they will provide you with reliable warnings if threshold values are exceeded. There are no functions that require expert knowledge. The basic functions cannot be changed without the special software and hardware. This makes our personal monitors suitable for use by anyone.

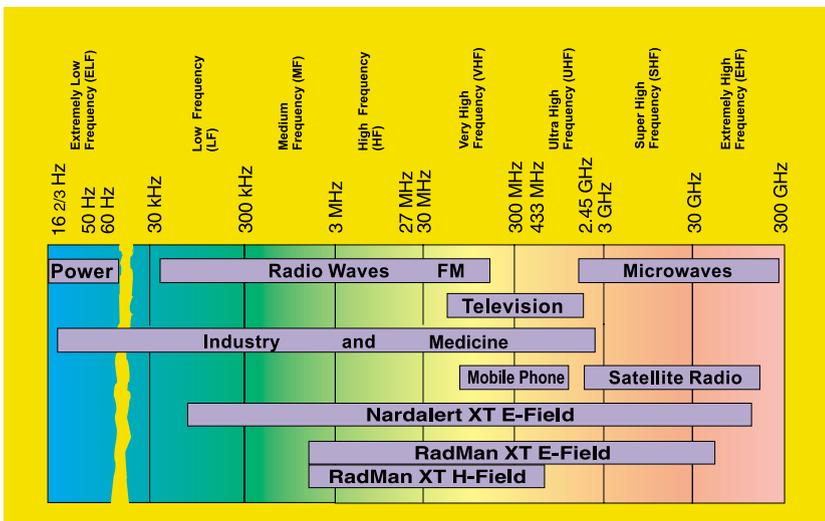
*When you < turn on > the device it automatically performs a self-test that checks the battery level and the general functions.*

**Optimised for use in the field**

These warning devices have been designed for daily use. They consume very little power except when in alarm mode. Therefore, the batteries have a very long life. They also provide reliable measurements even in extreme temperatures (-10° C to +55° C).

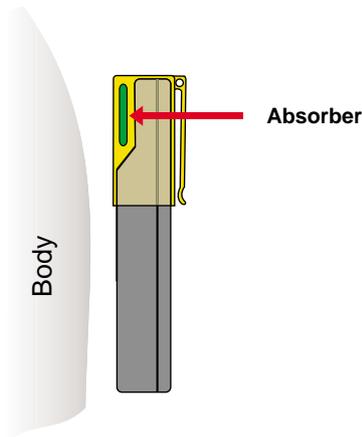


Extended self-test with the aid of the Test Generator

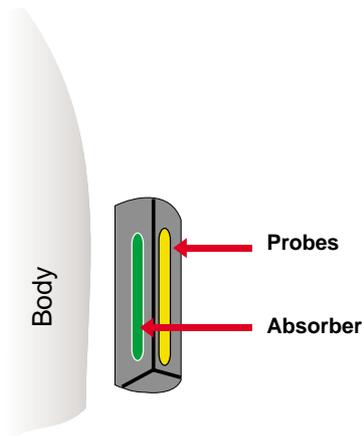


**< Influence of the body >**  
*measurements on the body are often overstated, i.e., the warning comes too early. Instruments from NARDA-STG minimize this effect by using RF absorbers.*

**< Absorber cap >:**  
*for RadMan XT: This also functions as a grip for taking measurements with an outstretched arm. The warning device thus becomes a measuring device.*



Always wear RadMan XT with the absorber cap mounted and the clip facing outwards.



Nardalert XT should be worn with the flat side facing the body and the LEDs facing upwards.

### The personal monitor as your daily companion

Personal monitors are best worn on the outside of clothing or in your outside breast pocket (though not in the outside pocket of very heavy clothing) and lying flat against your body.

Absorbers minimize the **< influence of the body >**.

The absorber for the RadMan XT is located in the yellow protective cap. The absorber for the Nardalert XT is an integral part of the housing.



### What to do if the alarm sounds

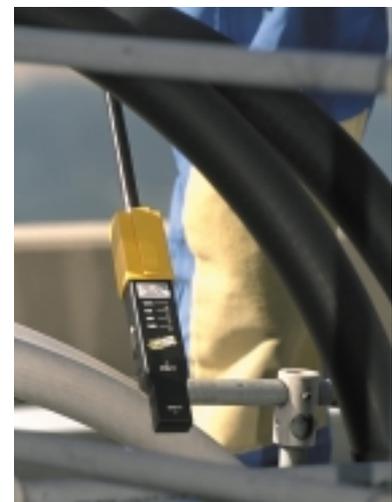
When the level reaches 50% of the threshold value, there is an audio alarm and the LEDs light up. If the level reaches 100% (RadMan) or 200% (Nardalert), you will hear a different alarm tone. If this happens, you should leave the area immediately. Before you re-enter the area, ensure that the source of energy is turned off so that the intended work can be done.

### Initial Qualification

After repositioning the absorber cap, the RadMan XT can also be used as a measuring device for initial qualification. Its isotropic sensors are a particular advantage.

### Searching for leaks

To search for leaks, move the **< absorber cap >** of the RadMan XT to the position where you can use it as a grip and pass it slowly and at a good distance along the cables. When the alarm sounds, approach the source of the radiation only until the display shows a maximum of 100%. RadMan's small, slim shape makes it especially suitable for places that are difficult to access.



## Evaluations that conform to standards through < Shaping >

Different services operate at different frequencies. The frequency-dependent response of the sensors in the Nardalert XT and the RadMan XT ensure that the evaluations for all services conform to standards – independent of their frequencies. Shaped frequency response is a Narda Safety Test Solutions patent.

## Evaluation of data through user software

Nardalert XT and RadMan XT both have internal memories. This function is unprecedented in personal monitors. The user software allows you to read the data and evaluate it, e.g., to

- provide proof of whether the threshold value was exceeded or not
- calculate averages
- statistical analysis
- view the chronological development of events

These features allow safety personnel to produce complete and accurate documentation.

## Questions? We are there for you!

Our sales partners will be delighted to help if you have any problems with applications or questions about our monitors.

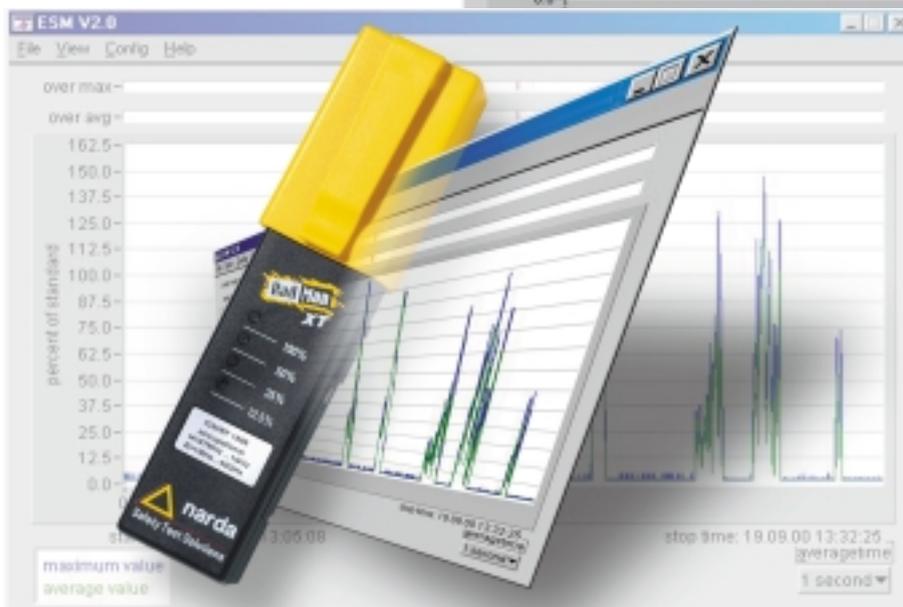
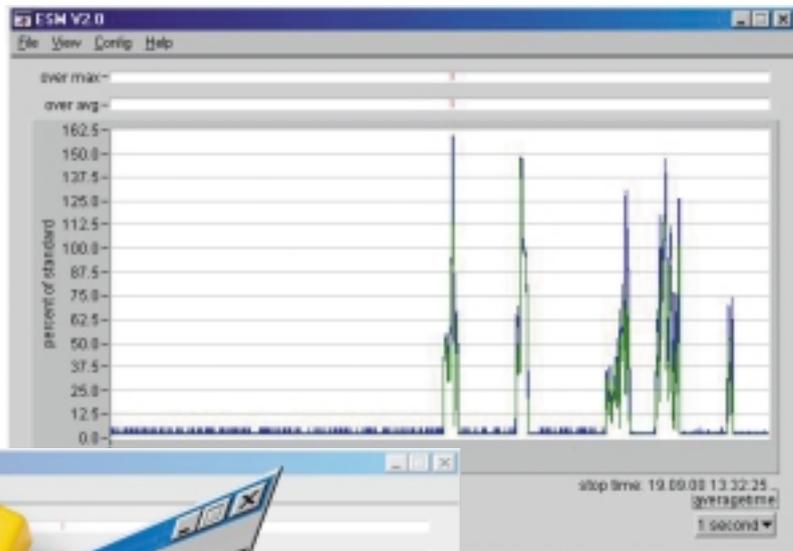


### < Shaping >:

*A unique and patented function of the Nardalert XT and RadMan XT personal monitors*

*RadMan:  
DE PATENT 19726138  
US PATENT 5955954*

*Nardalert:  
US PATENTS 6154178, 5600307,  
5168265  
International Patent pending*



## Nardalert XT – audible, visible and physical warnings you can't miss

The **< warning lights >**:  
facing upwards and easily visible

**< In the vicinity of radar equipment >**  
Nardalert XT's thermocouple sensors  
make it the ideal warning device

**< Three >**  
types of alarm: LED, audio alarm,  
and vibrating alarm

You select the **< type of alarm >** by  
setting a switch before you turn the  
monitor on: select audio alarm or  
vibrating alarm, or both audio alarm  
and vibrating alarm. The visual  
warning (LEDs) cannot  
be turned off.

You can change the **< logging rate >**  
and alarm threshold using the  
optional interface kit



Nardalert XT is a handy warning device that is ideal for your breast pocket. It comes with two types of clip that allow you to either wear it in a shirt pocket or on a belt. One of the two optional soft cases attaches to a safety harness such as those used by climbers. The **< warning lights >** are located on the top front side and are therefore easy to read at a glance.

The Nardalert XT monitors electric fields in the frequency range between 100 kHz and 100 GHz with a patented combination of three sensor/detectors:

- in the highest frequency range with thermocouples
- in the mid-frequency range with diode-based dipole sensors
- in the low frequency range with diode-based surface-area sensors

Nardalert XT's special sensor technology makes it especially suitable for use as a warning device **< in the vicinity of radar equipment >** because the RMS value of radar pulses can be correctly measured.

### How does Nardalert warn you?

The monitor warns you in **< three >** different ways:

#### 1. LED Warning:

High intensity LEDs are flashed in sequence to update your status once a second. The LEDs represent field intensities of 10%, 20%, 50%, 100%, and 200% of the standard. The 10% and 20% LEDs are yellow, the other three are red. The combination of number of LEDs and their color make it easy for you to always know the strength of

the field that you are in. A light sensor automatically controls the brightness of the LEDs. They cannot be overlooked, even in the brightest surroundings, but in dark conditions they flash without blinding you.

#### 2. Audio Alarm:

Two distinct audio sounds are used. The first alarm, which is set by the factory at 50% of standard, is a steady beep. The second alarm, which is factory-set at 200%, is a variable tone.

#### 3. Vibrating Alarm:

The Nardalert XT has a built-in vibrating alarm. This feature is unique for a personal monitor and is ideal in a loud environment. You can select the vibrating alarm in addition to, or instead of, the audio alarm. You can choose the **< type of alarm >** for the Nardalert XT according to the environment and his or her preference.

### Changing Settings

Nardalert XT settings e.g., the **< logging rate >** and alarm thresholds, can only be changed by using the optional interface kit. This guarantees only authorized personnel can make alterations to Nardalert XT parameters.

Area of Application	Nardalert XT
Wireless	Recommended
Military	Thermocouple sensors yield accurate results even with radar systems
Broadcast	Recommended also for long and middle wave transmitters
Antennas on Power Transm. Towers	ELF-immune models available

## RadMan XT - the personal monitor for E- and H-fields

< **RadMan XT** > can be used as a warning device, monitor, and also as a measuring instrument due to the protective cap that can be moved to a different position to form a grip. The optional extension rod is especially helpful in the area of SW and VHF transmitters as it further minimize the effect of the body on the measured results. It allows you to see whether your next step will bring the field strength up to 100% or whether the radiation will decrease.

The RadMan XT has six sensors that measure both the electric and magnetic field simultaneously and independently of each other. All the hotspots in the < **E- and H-fields** > are detected because of the isotropic sensors; i.e., field measurements are not dependent on the direction of the sensor. The higher of the two measured values is used to determine alarm conditions. To obtain < **separate values** > for the E- and H-fields, switch the RadMan XT off and then on again. During the test routine

the H-field and then the E-field are displayed in quick succession.

The RadMan XT operates over a broad spectrum of frequencies. It provides warnings through four LEDs and an audio alarm tone that sounds at 2 Hz when the level reaches 50% of the threshold value and at 4 Hz when it reaches 100%. The earphone provided with the monitor is ideal for noisy environments.

The RadMan remembers the < **highest measured value** >. This value is displayed every 10 seconds. At the same time the operational display is provided by the glowing of the corresponding LEDs.

### Multiple functions save on investment costs

The RadMan XT is a warning device that also functions as a measuring device. In the event of a warning, the user can make an additional measurement himself and, for example, check whether the alarm was premature and caused by the influence of the wearer's body.

### RadMan is patented

The name RadMan is protected. RadMan has received a patent for its well-considered, practical concept.

< **RadMan XT** > is a warning device, measurement instrument, and monitor in one.

< **E- and H-Fields** >: Simultaneous measurement ensures that you find all the hotspots – electric or magnetic. Their distribution within the near field can vary greatly.

< **Separate values** >: RadMan XT has an optical interface that allows you to read the measured values of the E- and H-fields separately.



< **Highest measured value** >: You can see this at any time as the corresponding LED flashes every 10 seconds.

#### RadMan XT

Recommended

Fast models available for measuring peak values (Special version)

VHF frequencies incl. FM-Radio and higher

ELF-immune models available

# Personnel protection from Narda-STS. An overview

	Nardalert XT 8860	Nardalert XT 8861 ELF immune	Nardalert XT 8862	RadMan XT	RadMan XT ELF Immune	RadMan
Frequency range	100 kHz–100 GHz	10 MHz–100 GHz	100 kHz–100 GHz	1 (3) MHz–40 GHz	27 MHz–40 GHz	1 (3) MHz–40 GHz
Personnel protection	●	●	●	●	●	●
Function as measuring device				●	●	●
Searching for leaks				●	●	●
E-Field	●	●	●	●	●	●
H-Field				●	●	●
Isotropic probes				●	●	●
Thermocouple sensors for the highest frequency range	●	●	●			
Surface-area sensors for the low frequency range	●	●	●			
Diode sensor	●	●	●	●	●	●
Shaped frequency Response	●	●	●	●	●	●
Optical alarm	●	●	●	●	●	●
Acoustic alarm	●	●	●	●	●	●
Vibrating alarm	●	●	●			
Adjustable Alarm Levels	●	●	●			
Memory	●	●		●	●	
	31 263 measured values			1637 data sets (date, time, measured value for average, max. and min. (for both E and H))		

## Order numbers for the standard you wish

	B8860	B8861	B8862		
ACGIH	B8860	B8861	B8862		
AS/NZ 2772.1 (1990, draft) Occupational	D8860	D8861	D8862	2251/07	2250/07
Canada, Safety Code 6 99-EHD-237 RF Workers	C8860	C8861	C8862	2251/10	2250/60
DIN VDE 0848, Part 2, October 1991 Area 1 Occupational	D8860	D8861	D8862	2251/01	2251/71 2250/51
ENV 50166-2 Occupational	D8860	D8861	D8862	2251/04	2250/54
FCC 1997 Occupational Controlled	A8860	A8861	A8862	2251/02	2251/72 2250/52
ICNIRP 1998 Occupational	D8860	D8861	D8862	2251/06	2251/76 2250/56
IEEE C95.1-1999/ANSI C95.1-1992 Controlled	B8860	B8861	B8862	2251/05	2250/55
Japan, RCR STD-38 Controlled	A8860	A8861	A8862	2251/03	2250/53
NATO STANAG 2345	B8860	B8861	B8862		
Ö NORM S 1120, 1992 Occupational	A8860	A8861	A8862	2251/09	2250/59

Customer-specific versions are available alongside the above-listed products.

### Accessories

**Nardalert XT** comes with 2 mounting clips, battery, storage box, and User's Guide as standard. Optional accessories: PC interface kit with software (Model 8865), soft case with belt clip (P/N 21847600), soft case for climber's harness (P/N 21847700), remote vibrator alarm (P/N 11093000) and earphone.

**RadMan XT** comes with an earphone, handbook, carrying pouch and battery as standard. Optional accessories: PC interface kit (EMS-TS) with software (2251/90.50), extension rod (2250/92.02), plastic carrying case (2250/92.03) and tripod (2244/90.31).

Full technical details are available from our sales partners or at [www.narda-sts.com](http://www.narda-sts.com).

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