



CNMC CO., INC

A Best Medical International Company



7008 R/T

Area Monitor Manual

CNMC CO., INC.

7008 R/T Area Monitor Operators Manual

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Table of Contents

Introduction	ii
 SECTION 1	
Specifications	1
 SECTION 2	
Installation	2-3
 SECTION 3	
Operation	4
Setup	4
Setting Alarm Level	4
Overload	5
Overrange	5
Detector Failure	5
 SECTION 4	
Remote connection	6
 SECTION 5	
Computer Connection	7
 SECTION 6	
Spare Parts List	8
 SECTION 7	
Support	9
RMA Request Form	10

Introduction

The 7008 R/T Area Monitor is a radiation area monitor that continuously monitors and alerts personnel when the level of radiation has exceeded a preset level. This will ensure the safety of individual before entering areas where there is a possibility of exposure.

The alarm on the 7008 R/T is tripped when the level of radiation exceeds the level that is entered in to the unit via the front panel buttons. The red indicator light on top of the unit and the red LED on the front panel will illuminate and flash until the level of radiation goes below the alarm set point. There is also an audio alarm located on the top of the unit that can be muted by the switch located on the top of the unit if desired.

A green LED light on the front panel illuminates when the unit is functioning properly.

A flashing yellow LED on the front panel indicates that the battery voltage is low and should be plugged in to charge.

A connector at the bottom of the unit provides for attaching a remote alarm for mounting outside of an area.

Specifications:

MODEL 7008R/T RADIATION AREA MONITOR

Detector: Internal solid-state detector
 Display: 8 digit, 12 mm high (0.5 in) LCD
 Range: 0.1 to 999.9 mR/h (1 to 9999 μ Sv optional)
 Alarm: May be preset in 0.1 mR/h (1 μ Sv) increments
 Visual: Red light
 Audio: Sonalert, single beep, may be disabled
 Battery: Built-in rechargeable NiMH battery supplies 48 hours of non-alarm use under line power failure conditions. Low battery yellow LED on front panel.
 Power: 95 – 230 VAC, 50/60 Hz, Universal Adapter (# 7008-AC)
 Dimensions: 19.4 cm x 11.5 cm x 6.8 cm
 (7.6 in x 4.5 in x 2.7 in)
 Weight: 0.7 kg (1.5 lbs)
 Dimensions: 21.0 cm wide, 32.8 cm long, 12.5 cm high
 (8.3 in x 12.9 in x 4.9 in)
 Weight: 2.1 kg (4.5 lbs)

MODEL 7008RT REMOTE ALARM UNIT

Alarm: Red lamp indicates, Sonalert provides audio for alarm and failure, toggle switch disables audio
 Status OK: Green light indicates correct monitor operation
 Power: From 7008 R/T
 Cable: 50 foot length cable (other lengths available)
 Dimensions: 19.4 cm x 11.5 cm x 6.8 cm (7.6 in x 4.5 in x 2.7 in)
 Weight: 0.5 kg (1.0 lbs)

Installation

2.1 Mounting

The 7008 R/T may be mounted to any surface using the supplied wall-mounting bracket.

Note:

The unit should be mounted within 6 feet of an AC outlet

After the wall bracket has been mounted in the desired location, the 7008 R/T can be attached to the bracket by first slightly tilting the top of the unit out and sliding the unit up so that the lower portion of the 7008 R/T aligns with the two pegs at the bottom of the wall bracket. After the lower portion is aligned, tilt the top of the unit towards the wall bracket and slightly push down until the unit clicks into the bracket.



2.2 Power

Attach the plug from the power adapter into the 7008 R/T and then plug the adapter into the AC outlet. Move the power switch to the on position on the bottom of the unit. The display should illuminate and display the current measurement.

The internal batteries will be continuously charged will the unit is plugged into the AC power and the power switch in the on position. In case of a power failure the unit will automatically switch to battery power.

Operation

3.1 Setup

Attach the power adapter per section 2.2. and turn the power switch to the on position. The unit will power-up and perform a self diagnostic test. All of the segments in the display and the LED indicators will illuminate for approximately two seconds. If the audio switch is in the on position the alarm will also sound for two seconds.

3.2 Alarm Set

After the unit has powered up, the alarm can be set to any value in 0.1mR/h increments.

To set the alarm, press and hold the Alarm Set button down, use the up and down arrows to set the desired value. Holding the up and down arrow down will increase the speed of the change on the display.

When the radiation levels reaches the set alarm level, the unit's red alarm LED on the front panel and the red domed light on the top will flash in one-second intervals.

If the Audio switch is in the on position the audio will beep once when the alarm set point has been reached.



3.3 Overload

When the radiation levels exceed the upper limit of the unit an ---OL--- is displayed and the audio will give a constant tone. The unit will return to normal operations when the radiation levels subside.

3.4 Overrange

When the input of the microprocessor is exceeded the unit will go into an Overrange mode by displaying all dashes on the display and a constant audio if the audio is turned on. The red alarm lights will illuminate. The green OK LED on the front panel will go out indicating a problem.

3.5 Detector Failure

In the event that the detector fails (no counts) the unit will display all dashes, sound the audio alarm if turn on and extinguish the green OK LED. This will occur after 15 minutes of no counts received by the microprocessor.

Remote Alarm

4.1 Remote Connection

An optional remote alarm can be connected the 7008 R/T area monitor. (Part Number 7008 R) All required voltages and signals are supplied via the interconnecting cable.



To connect the remote to the area monitor place the DB9 male connector from the supplied cable into the connector on the bottom of the area monitor marked Remote/PC connection. Tighten the two screws to secure the connector to the area monitor. Connect the other end of the cable to the remote and secure.

A bar of red LED's on the remote will illuminate when the area monitor goes into an alarm mode. The green OK LED on the remote will be extinguished during an alarm condition.

Computer Connection

5.1 Computer Access

The 7008 R/T readings can be displayed on a computer using an optional computer interface cable part number 7008-COMP-CABLE. This will allow the area monitor to be remotely monitored.

5.2 HyperTerminal Settings

Select the COM port that the Area monitor is connected too.

Configure the COM port to the following settings:

1. Bits per Second: 2400
2. Data Bits: 8
3. Parity: None
4. Stop Bits: 1
5. Flow Control: None

When HyperTerminal is connected and running, the area monitor will update the readings on the computer screen once every second.

Spare Parts

6.1 Spare parts and optional items

Part Number	Description
7008 R	Remote Alarm
LEDLIGHT	Red Dome Light bulb
7008-AC	AC Wall Adapter 18VDC@ 0.5A
7008-COMP-CABLE	Computer interface cable
B1370028	Wall Mounting Bracket
7008BP	Battery Pack

Support Contact

7.1 Support and Repair/Calibration Contact Information

For repair and calibration, please download a RMA form from www.cnmcco.com/services.html and fax the completed form to CNMC CO at 615-885-0285.

Please ship the unit along with a copy of the RMA for service to:

CNMC Co., Inc
865 Easthagan Drive
Nashville, TN 37217
615-391-3076

7.2 Technical Support

For Technical support please call 800.635.2662 in the US or 1-615-391-3076 or email assist@cnmcco.com.



A Best Medical Company
865 Easthagan Drive
Nashville, TN 37217
Ph. 615-391-3076 Fax 615-885-9285
www.cnmcco.com





RMA REQUEST FORM

Facility name: _____ Contact name: _____ Position: _____

Telephone: _____ FAX#: _____ Email: _____ Date: _____

Exact address product is to be returned to (enter up to 6 lines):

1 _____ 4 _____
2 _____ 5 _____
3 _____ 6 _____

Return shipping method, check one: Overnight Ground 2-3 day (if faster than Ground)
or depends (give explanation) _____

Billing contact (if different): Name: _____ Phone: _____

Check if facility uses P.O. numbers? yes no If yes, we will need a copy of the PO faxed to 615.885.0285,
or emailed to assist@cnmcco.com *sometime* before we return ship. (Please reference the RMA# on the P.O.)

System Description: _____ serial no. _____

sub-system item 1 _____ serial no. _____

sub-system item 2 _____ serial no. _____

sub-system item 3 _____ serial no. _____

Reason for return (attach data file if available):

Approx date unit was last returned ? _____ Reason _____

Enter any special service request here: _____

IF RETURNING A SYSTEM FOR CALIBRATION, PLEASE ENTER THE REQUIREMENTS BELOW.

Electrometer Model: _____ Serial No.: _____

1 scale/setting: _____ 2 scale/setting: _____ 3 scale/setting: st nd rd

Problems or Comments: _____

Ion Chamber Model: _____ Serial No.: _____

Co-60 Absorbed Dose (TG-51 Protocol): _____ Co-60 Air Kerma (TG-21 Protocol): _____ Cs-137: _____

Therapy X-Ray Point, +/- 2% (Specify Beam Code(s)): _____

Diagnostic/Mammography X-Ray Point, +/- 5% (Specify Beam Code(s)): _____

Problems or Comments: _____

Ion Chamber Model: _____ Serial No.: _____

Co-60 Absorbed Dose (TG-51 Protocol): _____ Co-60 Air Kerma (TG-21 Protocol): _____ Cs-137: _____

Therapy X-Ray Point, +/- 2% (Specify Beam Code(s)): _____

Diagnostic/Mammography X-Ray Point, +/- 5% (Specify Beam Code(s)): _____

Problems or Comments: _____

Well Chamber Model: _____ Serial No.: _____ Specify Source Type(s) and Manufacturer(s):

HDR, IR-192: _____ HDR, Sr-90: _____ LDR, IR-192: _____ LDR, Cs-137: _____

LDR, Cs-131 _____ LDR, I-125: _____ LDR, Pd-103: _____ LDR, Novoste IVB Sr-90: _____

other _____ other _____ other _____

other _____ other _____ other _____

Survey Meter or Small Instrument Model: _____ Serial No.: _____

comment: _____

Fax to 615.885.0285. Allow 1 business hour to 1 business day for reply. Please save form for future use.

For questions please call: (800) 635-2662