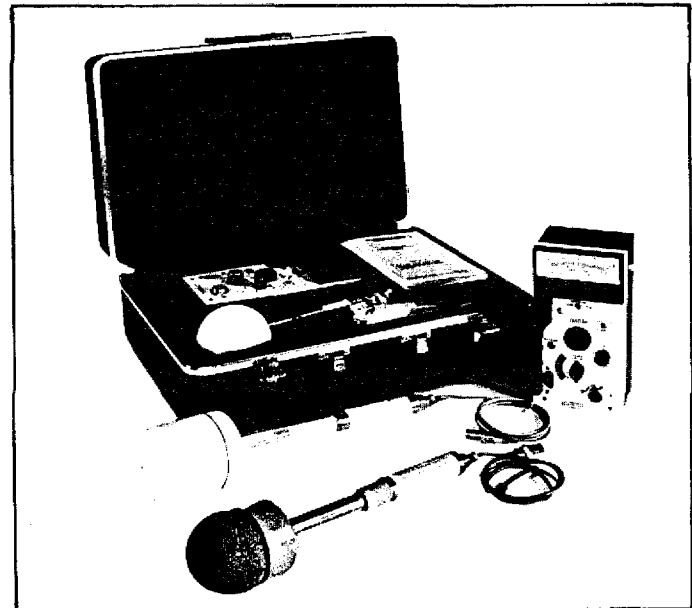




Radiation Monitors

0.0003 to 40 GHz

**8600 SERIES
 BROADBAND
 RADIATION
 MONITORING
 SYSTEMS**



DESCRIPTION

Narda Broadband Radiation Monitors offer maximum accuracy and versatility of measurement. Each system is comprised of a metering instrument and, depending upon the application, one or more field sensitive probes.

As new requirements arise, expanded capabilities are provided by additional probes. These probes and meters are designed to suit all types of exposure monitoring applications.

Interchangeable probes provide electric and magnetic field measurement capability over a wide range of frequencies and power levels. This flexibility allows the use of a single metering instrument below 300 MHz, where separate magnetic and electric field measurements are required to determine actual energy density; the same instrument is useable for electric field measurements up to 40 GHz. Individual probes with 30 dB (1000:1) power density ranges measure fields from as low as 20 micro-watts per square centimeter up to 200 milliwatts per square centimeter.

Each probe is individually calibrated at frequencies throughout its operating band. To insure accurate measurements, a detailed calibration chart is attached to the handle of every probe listing the calibration frequencies and resulting correction factors.

All probes employ three mutually perpendicular sensing elements to provide isotropic response. This configuration results in accurate field measurements independent of the position of the probe or any

FEATURES

- Covers ANSI C95.1-1982*
- Isotropic Response
- True RMS Indication
- Calibration Data Supplied
- Interchangeable Probes, Meters

APPLICATIONS

- **Industrial Emitters:**

Heaters	Sealers
Dryers	Welders
Brazers	Ovens
- **Communications Transmitters:**

AM & FM Broadcast	Mobile & Fixed Radios
VHF & UHF Television	Satellite Earth Stations
- **Scientific/Medical Generators:**

Plasma Etchers	RF Excited Lasers
Diathermy Machines	Particle Accelerators
- **Military, Maritime, Aeronautical Sources:**

Radars	ECM Transmitters
Radionavigation Transmitters	

Radiation Monitors

DESCRIPTION

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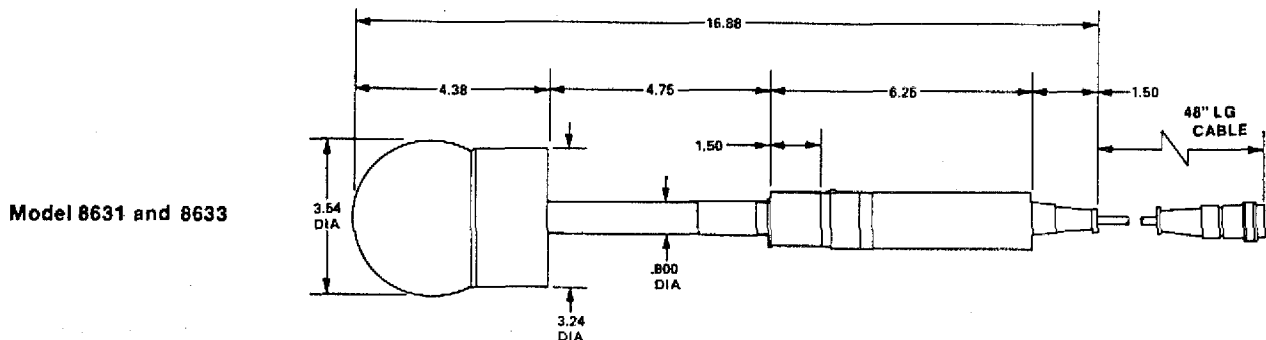
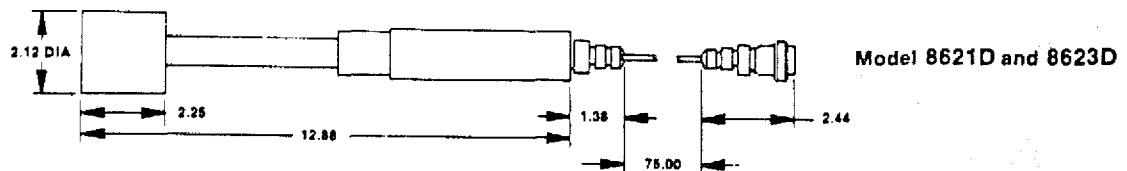
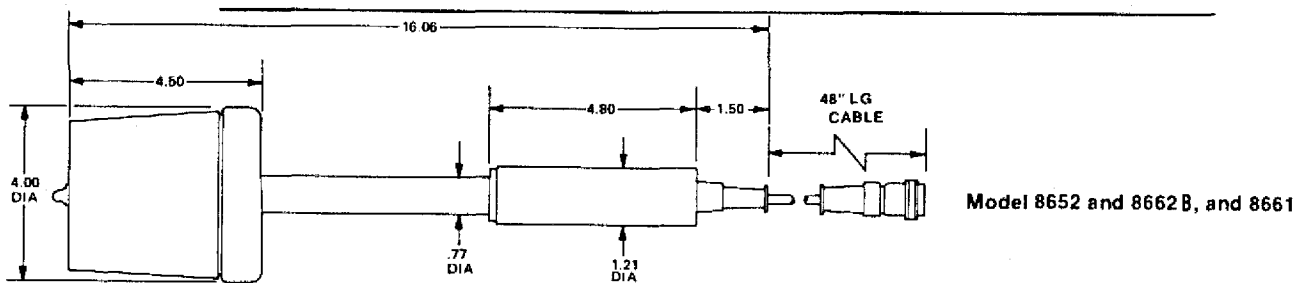
polarization of the incident field. These sensing elements are square law devices, resulting in true RMS average power indications in the presence of multiple and/or pulsed signals. These features permit accurate measurements of radiated fields without the need to first determine the field characteristics.

All meters are battery powered for portability and full shielded for reliable operation in the presence of strong electromagnetic fields. The 8616 which operates from 110/220 VAC with rechargeable batteries is available. All units have three scale ranges and a battery test position selectable from a front panel switch. A meter zero control is also provided.

Additional features available include pushbutton

automatic zeroing, a MAX HOLD function which displays the highest level encountered during a survey, audible alarm with threshold adjustable from 0-100% of full scale on any range, and chart recorder output.

Every system includes a shielded, foam lined carrying case which protects the system components from damage due to physical hazards and inadvertent exposure to excessive RF fields, complete operation and maintenance manual and, for the 8616 meter, the AC line cord and a bracket to attach the probe to the meter enclosure at any desired angle for one hand operation.



SPECIFICATIONS

Broadband Isotropic Probes

Probe Model	8662B	8661	8621D	8623D	8652	8631	8633
Type	ELECTRIC FIELD				MAGNETIC FIELD		
Freq. Ranges	300 kHz to 1 GHz		300 MHz to 40 GHz		0.3 to 10 MHz	10 MHz to 300 MHz	
Power Ranges Full Scale (Equivalent Power Density)	2 20 mW/cm ² 200	.2 2 mW/cm ² 20	0.2 2 mW/cm ² 20	1 10 mW/cm ² 100	2 20 mW/cm ² 200	0.2 2 mW/cm ² 20	2 10 mW/cm ² 100
Field Strength Full Scale (Mean Squared Field Strength)	8000 $\sqrt{V^2}$ 80,000 m ² 800,000	800 $\sqrt{V^2}$ 8,000 m ² 80,000	3800 $\sqrt{V^2}$ 38,000 m ² 380,000	800 $\sqrt{V^2}$ 8,000 m ² 80,000	.05 $\sqrt{A^2}$.5 m ² 5.0	.005 $\sqrt{A^2}$.05 m ² .5	.026 $\sqrt{A^2}$.26 m ² 2.6
Accuracy of Probe Calibration at Test Frequencies	±0.5 dB						
Isotropic Response	±.5 dB		±1 dB		±.5 dB		
Freq. Sensitivity .3 to 10 MHz	—	—	—	—	±0.5 dB	—	—
3 to 300 MHz	±1 dB		—	—	—	—	—
10—300 MHz	—	—	—	—	—	2 dB Max Total Deviation	
13—200 MHz	—	—	—	—	—	±0.5 dB	
.3-1000 MHz	±2 dB		—	—	—	—	
1-40 GHz	—	—	±1.25 dB		—	—	—
.85-16 GHz	—	—	+0.75/-1 dB		—	—	—
.3 to 40 GHz	—	—	+1.25/- 3 dB		—	—	—
CW Overload*	600 mW/cm ²	60 mW/cm ²	300 mW/cm ²	1000 mW/cm ²	600 mW/cm ²	60 mW/cm ²	300 mW/cm ²
Peak Power*	600 W/cm ²	60 W/cm ²	60 W/cm ²	300 W/cm ²	600 W/cm ²	20 W/cm ²	300 W/cm ²
Calibration Frequencies	0.3, 0.5, 1.0, 3.0, 13.56, 27.12, 40.68, 100, 200, 300, 750, 1000 MHz		0.3, 1.7, 2.45, 4.0, 5.0, 6.0, 7.0, 8.2, 9.3, 10, 11, 18, 26, 40 GHz		0.3, 0.5, 1.3, 10 MHz	10, 13.56, 27.12, 40.68, 50, 75, 100, 150, 200, 250, 300 MHz	
Size Probe	17 3/4" (45cm) Long Including 4" Cup		13" (33 cm) Long Including 2 1/8" Sphere		17 1/4" (43.8 cm) Long Including 4" Cup	16 1/2" (41.9 cm) Long Including 3 1/2" Dia. Sphere	
Cable	Four Feet Long (123 cm)						
Operating Temperature Range	0-50° C						

*Operating and Non-Operating

When not in use, store probes in shielded case supplied to avoid accidental exposure to excessive fields.