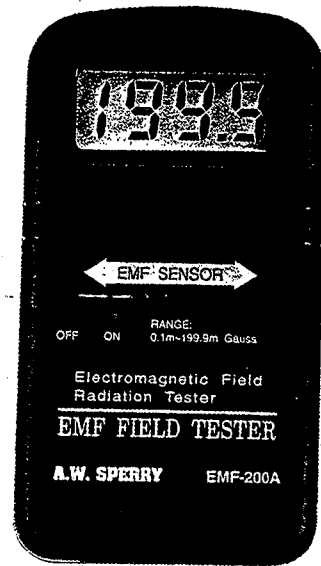


OPERATING INSTRUCTIONS  
**Model EMF-200A**  
Electromagnetic Field Tester



**PLEASE READ THESE OPERATING INSTRUCTIONS CAREFULLY**  
Misuse and or abuse of these instruments cannot be prevented by any printed word and may cause injury and or equipment damage. Please follow all these instructions and measurement procedures faithfully and adhere to all standard industry safety rules and practices.

**A.W. SPERRY INSTRUMENTS INC.**

~~245~~ Marcus Blvd., Hauppauge, New York 11788  
Phone: 1-800-645-5398 Toll Free or 516-231-7050  
Fax: 516-434-3128

## Sec.1 FEATURES

Easy To Use  
Large LCD Display  
Ruggedized Impact Resistant Case  
Compact and Lightweight  
Non-contact Detection

## Sec. 2 APPLICATIONS

The EMF tester is designed to provide the user a quick, reliable and easy way to measure electromagnetic field radiation levels around power lines, home appliances and industrial devices.

It is a cost effective, hand-held instrument designed and calibrated to measure electromagnetic field radiation at different bandwidths down to 50Hz/60Hz.

It is specifically designed to determine the magnitude of electromagnetic field radiation generated by power lines, computer monitors, TV sets, video machinery and many other similar everyday electrical devices.

## Sec.3 CAUTION OF ELECTROMAGNETIC FIELD EXPOSURE

Claims by some scientists indicate that long term exposure to electromagnetic fields may be the cause of childhood leukemia and other forms of cancer. Complete answers to any of these and related questions are not currently available. At the present time the most common practice is to avoid excess exposure over a long period of time. "Prudent Avoidance" as stated by the Environmental Protection Agency (EPA) U.S.A. is recommended. There are no national standards in the United States for exposure to 60 hertz electromagnetic fields.

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## Sec.4 SPECIFICATIONS

**Display:** 13mm (0.5") LCD, 3 1/2 digits  
**Max indication:** 199.9  
**Range (in milligauss):** 0.1 mG to 199.9 mG  
**Band width:** 30 Hz to 400 Hz  
**Number of Axes:** Single axis  
**Accuracy:**  $\pm (4\%rdg + 3d)$  at 50Hz/60Hz  
**Overrange indication:** Display shows '1'  
**Sampling Time:** Approx. 0.4 second  
**Battery:** 9V Transistor type battery (006P, 6F22) A.W. SPERRY part number B-4  
**Power Current:** Approx DC 3 mA  
**Operating Environment:** 0° C to 50° C (32° F to 122°)  
at 90% RH max (0° C to 35° C), 80% RH (35° C to 50° C)  
**Weight:** 165g/0.36 lb. (including battery)  
**Dimension:** 131H x 70W x 25D mm  
(5.2 x 2.8 x 1.0 inch)  
**Packaging:** The model EMF-200A comes complete with one (1) 9V Transistor battery A.W. SPERRY part number B-4 and form # 246 Operating Instructions.  
**Optional Accessory:** The C-37 is an optional carrying case that may be used in conjunction with this tester.

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## Sec.5 FRONT PANEL DESCRIPTION

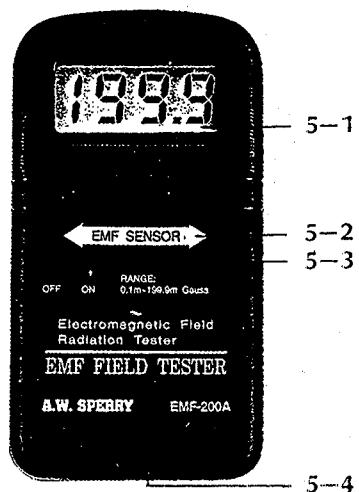


Fig. 1

- 5-1 Display
- 5-2 EMF Sensor Position
- 5-3 Off/On Switch
- 5-4 Battery Cover/Compartment

## Sec.6 MEASURING PROCEDURE

(1) Place the Off/On Switch (5-3 Fig 1) to "On" position. The tester is now ready to take measurements.

Due to the electromagnetic interference of the environment, the display heading may show small values before testing, for example less than 0.5 milligauss. This is not a malfunction of the tester.

(2) With the tester in hand, move slowly toward the object under measurement until it is physically touched. Notice how the field intensity increases as you move closer to the object.

(3) Position the EMF tester at different angles to the object under measurement and observe how this may affect your reading.

(4) By trying different angles approaching the object under measurement, record the highest value shown on the display.

If the object under measurement is turned off during the measurement, the EMF tester reading should then return to zero unless a field from other sources are detected.

## Sec.7 RECOMMENDATION

It is recommended to measure the presence of electromagnetic fields inside and outside of your home and business locations regularly. As "hot spots" are detected by the EMF tester, re-arrangement of the living and working areas is highly recommended. Always try your best to avoid long term exposure to strong electromagnetic fields.

The data in the following tables come from three different organizations: The Electric Power Research Institute (EPRI), the Illinois Institute of Technology Research Institute (IITRI) and the U.S. Environmental Protection Agency (EPA). You should contact the EPA if there are any questions concerning the possible effects of electromagnetic fields or its data.

<b>Bathroom Sources</b>				
Distance from Source	6"	1'	2'	4'
<b>Hair Dryers</b>				
Lowest	1	-	-	-
Median	300	1	-	-
Highest	700	70	10	1
<b>Electric Shavers</b>				
Lowest	4	-	-	-
Median	100	20	-	-
Highest	600	100	10	1
<b>Kitchen Sources</b>				
Distance from Source	6"	1'	2'	4'
<b>Blenders</b>				
Lowest	30	5	-	-
Median	70	10	2	-
Highest	100	20	3	-
<b>Can Openers</b>				
Lowest	500	40	3	-
Median	600	150	20	2
Highest	1500	300	30	4
<b>Coffee Makers</b>				
Lowest	4	-	-	-
Median	7	-	-	-
Highest	10	1	-	-
<b>Crock Pots</b>				
Lowest	3	-	-	-
Median	6	1	-	-
Highest	9	1	-	-
<b>Dishwashers</b>				
Lowest	10	6	2	-
Median	20	10	4	-
Highest	100	30	7	1

<b>Food Processors</b>				
Lowest	20	5	-	-
Median	30	6	2	-
Highest	130	20	3	-
<b>Garbage Disposals</b>				
Lowest	60	8	1	-
Median	80	10	2	-
Highest	100	20	3	-
<b>Microwave Ovens</b>				
Lowest	100	1	1	-
Median	200	40	10	2
Highest	300	200	30	20
<b>Mixers</b>				
Lowest	30	5	-	-
Median	100	10	1	-
Highest	600	100	10	-
<b>Electric Ovens</b>				
Lowest	4	1	-	-
Median	9	4	-	-
Highest	20	5	1	-
<b>Electric Ranges</b>				
Lowest	20	-	-	-
Median	30	8	2	-
Highest	200	30	9	6
<b>Refrigerators</b>				
Lowest	-	-	-	-
Median	2	2	1	-
Highest	40	20	10	10
<b>Toasters</b>				
Lowest	5	-	-	-
Median	10	3	-	-
Highest	20	7	-	-

### Living/Family Room Sources

Distance from Source	6"	1'	2'	4'
<b>Ceiling Fans</b>				
Lowest	-	-	-	-
Median	-	3	-	-
Highest	-	50	6	1
<b>Window Air Conditioner</b>				
Lowest	-	-	-	-
Median	-	3	1	-
Highest	-	20	6	4
<b>Tuners/Tape Players</b>				
Lowest	-	-	-	-
Median	1	-	-	-
Highest	3	1	-	-
<b>Color TVs</b>				
Lowest	-	-	-	-
Median	-	7	2	-
Highest	-	20	8	4
<b>Black &amp; White TVs</b>				
Lowest	-	1	-	-
Median	-	3	-	-
Highest	-	10	2	1
<b>Laundry/Utility Room Sources</b>				
Distance from Source	6"	1'	2'	4'
<b>Electric Clothes Dryers</b>				
Lowest	2	-	-	-
Median	3	2	-	-
Highest	10	3	-	-
<b>Washing Machines</b>				
Lowest	4	1	-	-
Median	20	7	1	-
Highest	100	30	6	-

<b>Irons</b>				
Lowest	6	1	-	-
Median	8	1	-	-
Highest	20	3	-	-
<b>Portable Heaters</b>				
Lowest	5	1	-	-
Median	100	20	4	-
Highest	150	40	8	1
<b>Vacuum Cleaners</b>				
Lowest	100	20	4	-
Median	300	60	10	1
Highest	700	200	50	10

### Bedroom Sources

Distance from Source	6"	1'	2'	4'
<b>Digital Clocks</b>				
Lowest	-	-	-	-
Median	-	1	-	-
Highest	-	8	2	1
<b>Analog (conventional Clock-Face) Clocks</b>				
Lowest	-	1	-	-
Median	-	15	2	-
Highest	-	30	5	3
<b>Baby Monitors</b>				
Lowest	4	-	-	-
Median	6	1	-	-
Highest	15	2	-	-
<b>Electric Blankets</b>				
Measurements taken at 5 cm (2 in.)				
Conventional 39.4 peak, 21.8 average				
Low-Magnetic-Field 2.7 peak, 0.9 average				
Due to the way electric blankets are laid out, fields vary throughout. 5 cm roughly indicates the distance from the blanket to your internal				

organs. One suggestion in using an electric blanket is to heat up your bed and sheets and then to turn the blanket off during the duration of the night. This process may need to be repeated especially on an extra cold night.

<b>Office Sources</b>				
Distance from Source	6"	1'	2'	4'
<b>Air Cleaners</b>				
Lowest	110	20	3	-
Median	180	35	5	1
Highest	250	50	8	2
<b>Copy Machines</b>				
Lowest	4	2	1	-
Median	90	20	7	1
Highest	200	40	13	4
<b>Fax Machines</b>				
Lowest	4	-	-	-
Median	6	-	-	-
Highest	9	2	-	-
<b>Fluorescent Lights</b>				
Lowest	20	-	-	-
Median	40	6	2	-
Highest	100	30	8	4
<b>Electric Pencil Sharpeners</b>				
Lowest	20	8	5	-
Median	200	70	20	2
Highest	300	90	30	30
<b>Video Display Terminals (PCs with Color Monitors)</b>				
Lowest	7	2	1	-
Median	14	5	2	-
Highest	20	6	3	-

The Swedish Government is one of the first who has set a standard for VDTs. They limit the mG output to 2.5 mG at a distance of 50 cm (1'8") from the screen. The VDT industry must agree since they have adopted this standard and produce them accordingly.

<b>Workshop Sources</b>				
Distance from Source	6"	1'	2'	4'
<b>Battery Chargers</b>				
Lowest	3	2	-	-
Median	30	3	-	-
Highest	50	4	-	-
<b>Drills</b>				
Lowest	100	20	3	-
Median	150	30	4	-
Highest	200	40	6	-
<b>Power Saws</b>				
Lowest	50	9	1	-
Median	200	40	5	-
Highest	1000	300	40	4
<b>Electric Screwdrivers (While Charging)</b>				
Lowest	-	-	-	-
Median	-	-	-	-
Highest	-	-	-	-

The dash (-) in the above table means that the magnetic field measurement at this distance from the operating appliance could not be distinguished from background measurements taken before the appliance had been turned on. Magnetic field measurements are in units of milligauss (mG).

## Sec.8 BATTERY REPLACEMENT

(1) When the left corner of the LCD display shows "LO BAT", it indicates the battery output is less than 8.0V - 7.5V. Replacement of the battery is then needed. However, measurements could still be taken for another few hours before the tester becomes inaccurate.

(2) Open the Battery Cover (5-4, Fig 1) at the back of the tester and remove the battery.

(3) Replace with a 9V battery and replace the cover.

## Sec.9 RETURN FOR REPAIRS

Before returning your tester for repair, be sure to check that the failure to operate properly is not due to weak batteries. If this condition does not exist and the instrument fails to operate properly, return the instrument prepaid to:

A.W. Sperry Instruments Inc.  
Customer Service Department  
245 Marcus Blvd.  
Hauppauge, N.Y. 11788

**State in writing what is wrong with the instrument.** All warranty repairs must include proof of purchase in the form of a legible copy or original of the sales receipt clearly identifying the distributor, model number and date of purchase. See warranty statement for full warranty disclosure. Repair estimate will be furnished if requested for out of warranty instruments. Be sure to include all accessories which may be related to the problem, and a note describing the malfunction you observed.