CE

8717 SERIES

ELECTROMAGNETIC RADIATION METERS

OPERATION MANUAL

Introduction

The 8717 Series Meters are used for detecting and measuring potentially hazardous electromagnetic radiation from 3 kHz to 50 GHz. A complete system requires an 8717 Series Meter and one or more 8700 Series Probes.

All 8717 Series Meters have a RS232 serial interface. Some models also include a GPIB interface in addition to the RS232 interface. All models come standard as rack mounted instruments. Bench-top cabinet models are available as an option. A "dash number" at the end specifies the power cord (substitute the power cord number for the "X"). The four available models are:

Model	Interface	Style
8717-1172R-0X	RS232 only	Rack Mount
8717-1172B-0X	RS232 only	Bench Top Cabinet
8717-1174R-0X	RS232 + GPIB	Rack Mount
8717-1174B-0X	RS232 + GPIB	Bench Top Cabinet

All meters in the series are functionally equivalent to the hand-held Model 8718B Radio Frequency Radiation (RFR) Survey Meter. The two meters share the same main control board and the same software. The purpose of this brief manual is to describe the differences between the 8717 Series and 8718B Meters. The user should refer to the Model 8718B User's Guide for all other information.

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Specifications

Specifications for the Series 8717 Meters and the differences between the 8717 Series and the hand-held Model 8718B are described below.

Parameter	Model 8718B	Series 8717-117XX-0X
Package Style	Hand Held	19″ rack, 5.25″ (3U) high
Power Supply	Rechargeable Battery with Line-Operated Charger	Line Operated
Display	4-line x 20-character LCD	4-line x 20-character LCD
Character Height	0.16 inches	0.5 inches
Indicators	Audio Alarm	Audio Alarm Line Power Indicator Test Source Indicator
Controls	19-key Keypad	19-key Keypad AC Power ON/OFF Switch Interface Switch (RS232/GPIB)
I/O Ports	Probe Input Fiber Optic Input Recorder Out RS232 High Freq. Test Source Low Freq. Test Source	Probe Input Fiber Optic Input Recorder Out RS232 High Freq. Test Source Low Freq. Test Source GPIB Alarm Connector

Firmware

The Series 8717-117XX and the Model 8718B use identical firmware (internal software) and identical User's Software. There is only one minor difference in the operation that involves the default setting for the LCD backlight:

> The default setting for the LCD backlight is **ON** for the line operated Series 8717-117XX and it is **OFF** for the hand-held Model 8718B.

The firmware in both meters can be used to turn the backlight on and off.

Controls and Indicators

Power Control: It is suggested that the keypad be used to turn the Series 8717 on and off under normal conditions. ***Shut the meter off using the keypad prior to moving the AC ON/OFF on the rear of the meter to the OFF position.*** The **LINE POWER** indicator on the front panel is designed to monitor the status of the AC power Switch.

Alarm: The nine-pin alarm connector on the rear panel provides a simple way for remote indication that the user-controlled alarm threshold has been exceeded. Both a TTL signal and a set of SPDT relay contacts are provided to indicate alarm status. The meter firmware is used to turn the alarm on and off and to set the alarm threshold. The alarm threshold is set in proportion to the full-scale value of the probe that is being used. For example, if a shaped probe with a full scale indication of **"300% of Standard"** is used and the alarm threshold is set to 10%, then the audio alarm on the front panel will be activated whenever the probe is subjected to a field in excess of 30% of Standard. The TTL signal and the relay contacts operate in parallel to the front panel audio signal. The TTL signal goes High under alarm conditions.

Probe Test: The output of the high frequency test source is very low power. The field generated is far below the Maximum Permissible Exposure (MPE) levels in the IEEE C95.1-1999 standard at a distance of only one-inch from the front panel. The Test Sources automatically turn off 20 seconds after the **Test Source** key is pressed. The **Test Source** indicator is illuminated whenever the test sources are active.

> ### ❖❖❖ *CAUTION* ❖❖❖
> **Do not place your eye tightly against the front panel of the meter in the area of the Probe Test window while the Test Source indicator is illuminated.**

Interface Switch: The interface switch activates one of the two remote interfaces – the **GPIB** or the **RS232** serial port. Although the GPIB interface is most likely to be used for day-to-day operation, the RS232 interface is required to run Narda's User's Software, which is designed to operate via the RS232 port only. Therefore, you must select RS232 in order to load probe calibration information or to extract logged data. It is convenient to have probe calibration information stored in the meter when making single-frequency measurements. Under those conditions, probe correction factors can be used to reduce the amount of measurement uncertainty. Refer to the *8718B User's Guide* for further information.

Other: For all other operations refer to the 8718B User's Guide.

narda
Safety Test Solutions
an (L) communications company

USA: 435 Moreland Road
Hauppauge, NY 11788
Tel 1-631 231-1700   **Fax** 1-631 231-1711
E-Mail NardaSTS@L-3COM.com
www.narda-sts.com

GERMANY: Sandwiesenstr 7
D-72793 Pfullingen
Tel +49-7121-9732-777   **Fax** +49-7121-9732-790
E-Mail support@narda-sts.de
www.narda-sts.de