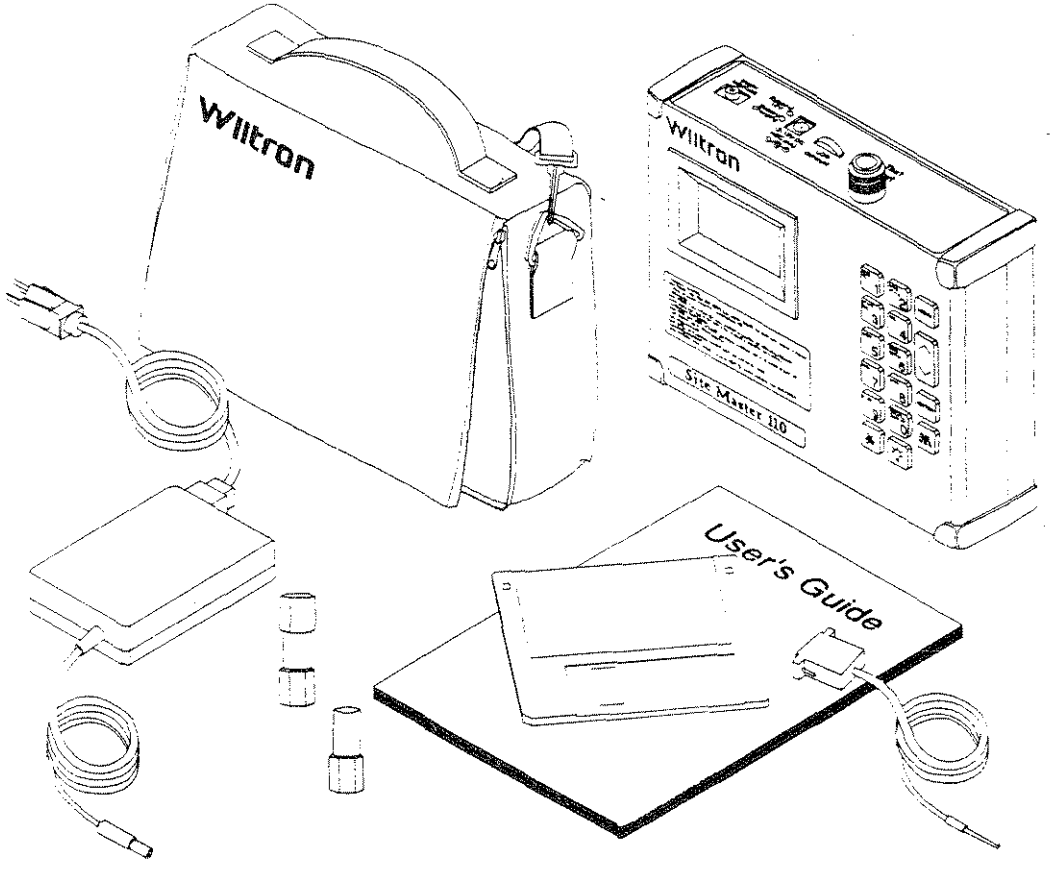

Figure 1-1. **Site Master 110 ™** *System*

Chapter 1
General Information

Introduction

This chapter provides description, specification, and optional accessories for the **Site Master** ™ Series instrument. This series has two members: the **Site Master 110** ™ , a 700 to 1100 MHz, single band model; and the **Site Master 330** ™ , a 700 MHz to 3.3 GHz, three-band model. Throughout this manual, the term **Site Master** will refer to the series; whereas, the term **Site Master 110** will refer to the single-band model and the term **Site Master 330** will refer to the three-band model.

Description

The **Site Master** (Figure 1-1) is a hand held SWR/RL measurement instrument that operates within a model-specific band of frequencies. It uses a keypad to enter data and a liquid crystal display (LCD) to provide a graphical indication of SWR or return loss over the selected frequency range. By using an external computer, the return loss data can be converted to **Fault Location** (see Chapter 3). The **Site Master** is capable of up to three hours of continuous operation from a fully charged internal battery, and it can also be operated from a 115/230 Vac source (which will also simultaneously charge the battery). Remaining battery time can be displayed on the LCD via menu selection. Built-in energy

conservation features can be used to extend battery capacity over an eight-hour work day.

The **Site Master** is designed for measuring the SWR or return loss and fault location of cables, antenna systems, or any other single-port device. The displayed trace can be scaled and/or enhanced with a settable frequency marker and/or limit line. A menu option provides for an audible "beep" when the limit value is exceeded. To permit use in low-light environments, the LCD can be back lighted using a front panel key.

Standard Accessories

A PC based screen-capture software program (called Software Tools) will convert the **Site Master** display to a Microsoft Windows 3.x graphic, while retaining the measured data. A variety of graphic formats are supported. When used with its supplied cable (which connects between the Serial Interface jack on the **Site Master** and a Com port on a DOS-based PC), this software will capture the measured trace. This trace can then be displayed, scaled, and/or enhanced with markers and limits (or have the existing markers and limits moved or removed). *The underlying data can be extracted and used in spreadsheets or for other analytical tasks.*

The Software Tools also perform DTF (Distance To Fault) or Fault Location by clicking on the appropriate icon.

The following items are supplied with the basic hardware.

- Soft carrying case
- Calibration components, Economy (N male)
- AC-DC converter
- Automotive Cigarette Lighter 12 Volt DC Adapter

- 3 1/2-inch floppy disk containing Fault Location (DTF) and management software
- Serial Interface Cable, Part Number B40981
- One year Warranty (includes battery, firmware, and software)
- User's Guide

Optional Accessories

- Wiltron precision N type Short/Open, Wiltron Part No. 22N50
- Wiltron precision N Load, Wiltron Part No. 28N50-3
- 0.7 meters Phase-stable cable, Wiltron Part No. 100/5
- 1.5 meters Phase-stable cable, Wiltron Part No. 100/6
- Spare economy N type Short, Wiltron Part No. 510-8
- Spare economy N type Load, Wiltron Part No. 510-89
- Spare Soft Carrying Case, Wiltron Part No. D40882
- Spare AC-DC Adapter, Wiltron Part No. 40-74
- Spare Automotive 12 Volt Adapter, Wiltron Part No. 806-62
- Spare Serial Interface Cable, Wiltron Part No. B40981
- Transit Case for Site Master, Wiltron Part No. 760-194

Performance Specifications

Performance specifications are provided in Table 1-1.

Table 1-1. Performance Specifications (1 of 2)

Description	Value
Frequency Range	
Site Master 110	700 to 1100 MHz
Site Master 330	Band 1: 700 to 1100 MHz Band 2: 1400 to 2200 MHz Band 3: 2200 to 3300 MHz
Frequency Accuracy (CW Mode)	75 parts per million
Frequency Resolution	100 kHz
Measurement Range VSWR	1.00 to 65.00
Return Loss Resolution	0.1 dB
*Fault Location Resolution, nominal	1% of maximum range
Dynamic Range	25 dB
Directivity (corrected)	36 dB
Measurement Speed	100 ms per point
Test Port, Type N	50 Ohms (75Ω with adapter)
Max. Power output, nominal	
Site Master 110	+9 dBm
Site Master 330	–12 dBm
**Immunity to Interfering signals up to the level of	+10 dBm (**Site Master 110**) –15 dBm (**Site Master 330**)

Table 1-2. Performance Specifications (2 of 2)

***Temperature	
Storage	–20° C to 75° C
Operation	0° C to 50° C
Maximum (burnout) level of incoming signal at port	+22 dBm
Weight	2.2 pounds
Size	8x7x2¼ inches

** Fault location is accomplished by inverse Fourier Transformation of data taken with the* **Site Master**. *Resolution and maximum range depend on the number of frequency data points, frequency sweep range and dielectric constant of the cable being tested.*

$$Resolution\ (meters) = \frac{1.5 \times 10^8}{\Delta Freq \sqrt{\varepsilon_r}}$$

$$Maximum\ Range = Resolution \times 110$$

*** Immunity measurement is made in CW mode with incoming intefering signal exactly at the same frequency (worst case situation). Typical immunity is better when swept frequency is used.*

**** Specifications are valid when unit is calibrated at ambient temperature.*