ELECTRICAL CHARACTERISTICS

The following characteristics and features apply to the TR 502 and TR 502/7L13 Spectrum Analyzer system. They are applicable over the environmental specification limits for the TM 500- and 7000-Series mainframes.

Frequency Range:	The TR 502 tracks the 7L13 tuned input frequency from 100 kHz to 1.8 GHz.
Output Level:	
Maximum Output Position (0 dBm):	0 dBm ±0.5 dB.
Range:	0 to −59 dBm in 10 dB and 1 dB steps.
Relative Level Accuracy:	±0.2 dB/1 dB step to a maximum of ±2.0 dB. A front panel control provides an additional 2 dB of attenuation.
Output Impedance:	50 Ω nominal, VSWR is 2:1 or less to 1.8 GHz.
Flatness:	
TR 502:	Within ±0.65 dB, from 100 kHz to 1.8 GHz.
TR 502/7L13 System:	Within ±1.65 dB, from 100 kHz to 1.3 GHz and within ±2 dB to 1.8 GHz.
Dynamic Range:	
TR 502/7L13 System:	110 dB or more.
Residual FM (peak to peak):	
TR 502:	1 Hz or less.
TR 502/7L13:	10 Hz or less.
Auxiliary Output:	0.1 V rms minimum, into 50 Ω load.
Spurious Output:	
Harmonic Content:	20 dB or more below the carrier.
Non-Harmonic Content:	40 dB or more below the carrier.

ENVIRONMENTAL CHARACTERISTICS

This instrument will meet the electrical characteristics over the environmental limits of the TM 500-Series Test and Measurement System Power Module. Complete details on test procedure, including failure criteria, etc., can be obtained from Tektronix, Inc. Contact your local Tektronix Field Office or representative.

Operating and Storage Requirements:

Operating Temperature Range: 0°C to +55°C.
Storage Temperature Range: −54°C to +75°C.

ACCESSORIES

Standard Accessories

Two coaxial cables, 50 Ω
28.5 inches
Logic Interface Cable
Adapter, "N male to BNC female"
Adapter, SMA Male to BNC Female
Retainer Plug-in
Manual, Instruction

Optional Accessories

10 dB attenuator

Refer to the Replaceable Mechanical Parts Section for part numbers of standard and optional accessories.

INSTALLATION

Initial Inspection

This instrument was inspected both mechanically and electrically before shipment. It should be free of mars or scratches and electrically meet or exceed all specifications. To confirm this, inspect the instrument for physical damage incurred in transit and test the electrical performance by following the Operating Instructions in Section 2 and Performance Check Procedure in Section 3. If there is damage or deficiency, contact your local Tektronix Field Office or representative.

Installation

This instrument may be shipped installed in the TM 500-Series Power Module and ready for use as a bench instrument, or it may be shipped as an individual unit. The instrument is held in the mainframe by means of a mounting screw and shoulder washer through an existing hole in a bottom cross-member. The retainer screw threads into a bracket that is mounted on the back of the TR 502. (See list of accessories on ACCESSORIES tab page at the back of this manual.) Remove this screw to free the TR 502 from the mainframe. If shipped as an individual unit, install the bracket assembly by removing the two center screws at the rear of the TR 502 and use them to mount the bracket; install the TR 502 into the TM 500 Power Module as illustrated in Fig. 1-2. After installation, connect the TM 500 to a suitable power source and proceed as directed in the Operating Instructions section of this manual.