
TEK OPERATORS
MANUAL

Part No.: 070-6096-00
Product Group 26

2754/2754P SPECTRUM ANALYZER

Please Check for CHANGE INFORMATION at the Rear of This Manual

First Printing JUN 1986

Tektronix[®]
COMMITTED TO EXCELLENCE

TABLE OF CONTENTS

	Page		Page
PREFACE.....	i	Section 4 (continued)	
TABLE OF CONTENTS.....	ii	Correcting Numerical Entry Errors.....	4-2
LIST OF ILLUSTRATIONS	iv	Instrument Power Control and	
LIST OF TABLES.....	v	Frequency.....	4-3
SAFETY SUMMARY	vi	Frequency Span and Resolution.....	4-5
Section 1 GENERAL INFORMATION		Marker Functions	4-7
Product Overview.....	1-1	Display Parameters	4-14
Firmware Version and Error Message		Sweep	4-17
Readout	1-1	Digital Storage.....	4-19
Accessories	1-1	Display and General Purpose	4-21
Options	1-2	Front-panel Input/Output and	
Section 2 SPECIFICATION		GPIB.....	4-23
Electrical Characteristics.....	2-1	Rear-panel Input/Output and	
Verification of Tolerance Values.....	2-1	GPIB.....	4-25
Frequency Related Characteristics	2-1	Section 5 INSTRUMENT CHECK OUT	
Amplitude Related Characteristics	2-7	Firmware Version and Error Message	
Input Signal Characteristics	2-12	Readout.....	5-1
Output Signal Characteristics.....	2-15	Firmware Version.....	5-1
General Characteristics.....	2-17	Error Message Readout.....	5-1
Power Requirements.....	2-17	Preparation for Use	5-1
Environmental Characteristics.....	2-18	1. Initial Turn On	5-1
Physical Characteristics	2-19	2. Calibrate Position, Center Fre-	
Section 3 PREPARATION FOR USE		quency, Reference Level, and	
Unpacking and Initial		Bandwidth.....	5-2
Inspection.....	3-1	Functional or Operational Check.....	5-3
Installation.....	3-1	Equipment Required.....	5-3
Rackmount Instrument.....	3-1	Preliminary Preparation.....	5-3
Rack Adapter Kit.....	3-1	1. Check Operation of Front-Panel	
Power Source and Power		Pushbuttons and Controls.....	5-3
Requirements	3-2	2. Check Gain Variation Between	
Storage and Repackaging	3-2	Resolution Bandwidths	5-10
Storage	3-2	3. Check Span Accuracy and	
Repackaging for Shipment.....	3-2	Linearity	5-10
Section 4 CONTROLS, CONNECTORS,		4. Check Resolution Bandwidth and	
AND INDICATORS		Shape Factor.....	5-10
Operating Modes.....	4-1	5. Check Reference Level Gain and	
Initial Entry Functions (Black Labels) ..	4-1	RF Attenuator Steps	5-11
Multiple-Pushbutton Sequence		6. Check Sensitivity.....	5-11
Functions (SHIFT Pushbutton)	4-1	7. Check Residual FM.....	5-12
Terminating Multiple-Pushbutton		8. Check Frequency Drift or	
Sequences	4-1	Stability	5-12
DATA ENTRY Functions (Orange		9. GPIB Verification Program.....	5-13
Labels)	4-1	Section 6 OPERATION	
		Instrument Operating Features.....	6-1
		Firmware Version and Error Message	
		Readout	6-1
		Crt Light Filters	6-1
		Intensity Level and Beam Alignment...	6-1

	Page		Page
Section 6 (continued)		Section 6 (continued)	
Signal Application	6-1	5. Level of Pulsed Signals.....	6-11
RF INPUT Connector	6-1	6. Level of Continuous Wave Signals.....	6-12
Resolution Bandwidth, Frequency		7. Excessive Input Signal Level.....	6-12
Span, and Sweep Time	6-3	8. No Crt Trace	6-12
Using the MANUAL PEAK Control		9. PEAK/AVERAGE.....	6-12
or Automatic Peaking.....	6-4	10. Digital Storage Effects on Signal	
Using the Signal Identifier	6-4	Analyses.....	6-12
Using the Video Filters.....	6-4	11. Stored Display Averaged in Wide	
Using Time Domain Operation	6-5	Spans	6-12
Triggering the Display	6-5	12. Automatic Calibration of Relative	
Sweeping the Display.....	6-5	Amplitudes of Resolution Bandwidth	
Manual Scan of the Spectrum.....	6-5	Filters	6-12
Reference Level, RF Attenuation, and		13. TRIGGERING	6-12
Vertical Display	6-6	Service Information	6-13
Alternate Reference Level Units		Service Manual.....	6-13
Selection	6-6	Product Service.....	6-13
Using the Delta A Mode.....	6-6	Emergency Repair.....	6-13
Using MIN NOISE or MIN		Maintenance Agreements.....	6-13
DISTORTION.....	6-7		
Using Digital Storage	6-7	Section 7 OPTIONS	
Using the Store and Recall Features ..	6-7	Options A1–A5 (Power Cord Options).....	7-1
Using the Markers Feature	6-8	Options M1–M3 (Extended Service and	
Marker Terms	6-8	Warranty Options).....	7-2
Marker Turn On.....	6-8	Option 01 (Add Preselector).....	7-2
Tuning Markers.....	6-9	Option 07 (Provide 75Ω Input).....	7-3
Error Detection.....	6-9	Options 30 (Provide Rackmount	
Using the Automatic Performance		Option 52 (Provide North American	
Testing Feature.....	6-9	220 V).....	7-5
Programming Features (2754P GPIB			
Operation).....	6-10	Appendix A GLOSSARY	
Setting GPIB Address Switches.....	6-10	General Terms	A-1
TALK ONLY, LISTEN ONLY		Terms Related to Frequency.....	A-1
Switches.....	6-10	Terms Related to Amplitude	A-2
Connecting to a System.....	6-10	Terms Related to Digital	
Plotting the Display	6-10	Storage	A-3
Operational Considerations/Precautions		Terms Related to Markers	A-3
1. RF INPUT Power Limit.....	6-11		
2. Instrument Warm-up After Storage.....	6-11		
3. Auto Resolution.....	6-11		
4. Measurements Outside Specified			
Frequency and Tuning Range vs			
Display Span.....	6-11		

LIST OF ILLUSTRATIONS

Figure Number	Page	Figure Number	Page
TEKTRONIX 2754P Programmable Spectrum Analyzer.....viii			
2-1	Dimensions	2-19	
4-1	Instrument Power Control and Frequency	4-3	
4-2	Frequency Span and Resolution	4-5	
4-3	Marker Functions	4-7	
4-4	Locating the signal peak.....	4-8	
4-5	Using FIND PEAK MAX	4-10	
4-6	Signal finding examples.....	4-11	
4-7	Signal finding examples.....	4-12	
4-8	Signal finding example.....	4-13	
4-9	Display Parameters.....	4-14	
4-10	Sweep.....	4-17	
4-11	Digital Storage	4-19	
4-12	Display and General Purpose	4-21	
4-13	Front-Panel Input/Output and GPIB	4-23	
4-14	Rear-Panel Input/Output and GPIB.....	4-25	
5-1	Crt display and readout at initial turn on.....	5-1	
5-2	Typical display of calibration markers in the maximum span position	5-2	
5-3	Integrating a display with the VIDEO FILTER	5-5	
5-4	Using the IDENT feature to identify a real or true response	5-5	
5-5	Displays that illustrate how bandwidth and shape factor are determined	5-11	
5-6	Typical display showing how to determine residual FM	5-13	
6-1	Circuit of a 75-50 Ω matching pad (ac coupled).....	6-2	
6-2	Graph illustrating the relationship between dBm, dBmV, and dB μ V (matching attenuator included where necessary).....	6-2	
6-3	Volts-dBm-Watts conversion chart for 50 Ω impedance.....	6-3	
6-4	Typical display mixed with the VIDEO FILTER	6-5	
6-5	Typical display using B-SAVE A to observe the difference between SAVE A and B displays	6-8	
7-1	International power cord options for the spectrum analyzer.....	7-1	

LIST OF TABLES

Table Number	Page	Table Number	Page
2-1	Frequency Related Characteristics.....	2-1	
2-2	Amplitude Related Characteristics.....	2-7	
2-3	Input Signal Characteristics.....	2-12	
2-4	Output Signal Characteristics.....	2-15	
2-5	General Characteristics.....	2-17	
2-6	Power Requirements.....	2-17	
2-7	Environmental Characteristics.....	2-18	
2-8	Physical Characteristics.....	2-19	
5-1	Sensitivity.....	5-12	
6-1	50 Ω System Reference Level Conversion.....	6-2	
6-2	Primary Marker Trace Organization.....	6-10	
7-1	Power Cord Option.....	7-1	
7-2	Extended Service and Warranty Options.....	7-2	
7-3	Option 01 Alternate Specifications.....	7-2	
7-4	Option 07 Alternate Specifications.....	7-4	