

**HP 8561A and HP 8562A/B
Portable Spectrum Analyzers
Operating and Programming Manual**



Operation and Programming Manual

HP 8561A and HP 8562A/B Portable Spectrum Analyzers

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HP 8561A and HP 8562A/B Documentation Description

Manuals Shipped with Your Analyzer

Installation and Verification Manual

HP part number 08561-90003 (for HP 8561A)

HP part number 08562-90071 (for HP 8562A/B)

- Tells you how to install the spectrum analyzer.
- Tells you how to verify spectrum analyzer performance.
- Tells you what to do in case of a failure.

Operation and Programming Manual

HP part number 08562-90086

- Describes analyzer features.
- Tells you how to make measurements with your spectrum analyzer.
- Tells you how to program your spectrum analyzer.

Quick Reference Guide

HP part number 08562-90006

- Provides you with a listing of all remote programming commands.

Options

Service Manual (part of Option 915)

HP part number 08562-90062

- Describes troubleshooting and adjustments of the analyzer.

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Overview

This chapter introduces the front- and rear-panel keys and connectors on the HP 8561A and HP 8562A/B Spectrum Analyzers. Complete descriptions of each front-panel function appear in Chapter 2. The following topics are discussed:

The Front Panel	1-2
Display Annotation	1-4
The Rear Panel	1-6
Introducing Menus and Keys	1-8
Making a Basic Measurement	1-9
Calibrating the Spectrum Analyzer	1-13
Key Menus	1-15

Chapter 2 describes the functions available from the front panel.

Chapter 3 provides examples of common measurements using the spectrum analyzer.

Chapter 4 documents programming techniques and examples.

Chapter 5 documents each spectrum analyzer programming command.

Appendixes provides additional information and references.

Note

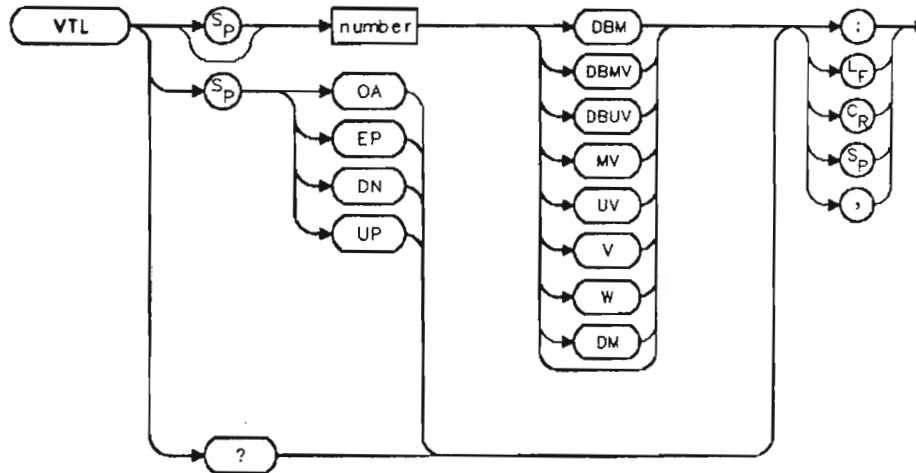


In this manual the frequency range of HP 8562A/B instruments is listed as 9 kHz to 22 GHz. However, the frequency range of HP 8562A/B instruments serial prefixed below 2929A is 1 kHz to 22 GHz.

VTL

Video Trigger Level

Syntax



Item	Description/Default	Range
number	real	-220 to 30

UP/DN: increments by 1 vertical division.

Example

```

10 OUTPUT 718;"TM VID;"
20 OUTPUT 718;"VTL -20DBM;"
30 END

```

Description

The VTL commands sets the video trigger level when the trigger mode is set to VIDEO (refer to the TM command). A dashed line appears on the display to indicate the level. The default value is 0 dBm.

Softkey Cross Reference

Use this appendix to locate a softkey. For each softkey listed, a corresponding front panel key is listed. Pressing this key presents the menu containing the desired softkey.

Table A-1. Softkey Cross Reference

Softkey	Hardkey
0→10V LO SWP	(SWEEP)
.5 V/GHz (FAV)	(SWEEP)
10 MHz IN EXT	(FREQUENCY)
99% POWER BW	(ON)
A	
ADJCURR IF STATE	(AMPLITUDE)
A EXCH B	(TRACE)
AGC ON OFF	(DEMOD)
ALL	(AUTO COUPLE)
AH DEMOD ON OFF	(DEMOD)
AMPTD CORRECT	(EXT)
ANNOT ON OFF	(DISPLAY)
ATTEN	(AMPLITUDE)
ATTEN AUTO MAN	(AMPLITUDE)
AVERAGE CWV LOSS	(EXT)
A+B→A	(TRACE)
A-B→A ON OFF	(TRACE)
A-B+DL→A ON OFF	(TRACE)

Programming Commands vs. Front-Panel Key

Table B-1. Commands vs. Keys

Command	Name	Key
ADJALL	Execute Turn-on Adjustments	
ADJCRT	CRT Adjustment Pattern	CRT ADJ PATTERN
ADJIF	Execute IF Adjustments	FULL IF ADJ
AMB	Trace A Minus Trace B	A-B→A ON OFF
AMBPL	Trace A Minus Trace B Plus Display Line	A-B+DL→A ON OFF
ANNOT	Annotation On/Off	ANNOT ON OFF
APB	Trace A Plus Trace B	A+B→A
AT	Input Attenuator	ATTEN ATTEN AUTO MAN
AUNITS	Absolute Amplitude Units	UNITS
AUTOCP	Autocouple All "AUTO" Functions	ALL
AXB	Trace A Exchange Trace B	A EXCH B
BLANK	Blank Trace	BLANK A BLANK B
BML	Trace A Minus Display Line	B-DL→B
CF	Center Frequency	FREQUENCY CENTER FREQ
CLRW	Clear/Write Trace	CLR-WRT A CLR-WRT B
CNVLOSS	External Mixer Conversion Loss	CNV LOSS VS FREQ
CONTS	Continuous Sweep	CONT
COUPLE	HP 8561A. Couple ac or dc input	COUPLING AC DC
DEMODO	Demodulation	AM DEMOD ON OFF FM DEMOD ON OFF
DEMODAGC	Demodulation Automatic Gain Control	
DEMODT	Demodulation Time	DEMOD TIME
DET	Detection Mode	DETECTOR MODES
DL	Display Line	DISP LIN ON OFF
DONE	Done	

Table C-1. Error Codes (continued)

Error Code	Error	Probable Cause
130	BAD TDF	Arguments are valid only for the TDF command
131	?? AM/FM	AM/FM are not valid arguments for the command
132	!FAV/RMP	FAV/RAMP are not valid arguments for the command
133	!INT/EXT	ENT/EXT are not valid arguments for the command
134	??? ZERO	ZERO is not a valid argument for the command
135	??? CURR	CURR is not a valid argument for the command
136	??? FULL	FULL is not a valid argument for the command
137	??? LAST	LAST is not a valid arguent for the command
138	!GRT/DSP	GRT/DDSP is not a valid argument for the command
139	PLOTONLY	Use argument only with the PLOT command
140	??PWRON	PWRON is not a valid argument for the command
141	BAD ARG	Argument is valid only for the FDIAG command
142	BAD ARG	Query is expected for the FDIAG command
143	NO PRESL	Preselector hardware is required
144	NEXT 44	Next error space

Backward-Compatible Commands

The following list of commands are used by the HP 8566A and HP 8568A spectrum analyzers and are recognized by the HP 8561A and HP 8562A/B. This allows the HP 8561A and HP 8562A/B to use programs written for these Hewlett-Packard spectrum analyzers with only minor modifications. It is recommended that only the HP 8561A and HP 8562A/B commands be used when writing new programs.

Backward-Compatible Commands

Old Command	HP 8561A and HP 8562A/B Command	Description
A1	CLRW TRA	Clear-Write Trace A
A2	MXMH TRA	Maximum Hold Trace A
A3	VIEW TRA	Store-View Trace A
A4	BLANK TRA	Blank Trace A
B1	CLRW TRB	Clear-Write Trace B
B2	MXMH TRB	Maximum Hold Trace B
B3	VIEW TRB	Store-View Trace B
B4	BLANK TRB	Blank Trace B
BL	BML	Trace B minus Display Line
C1	AMB OFF	Trace A minus Trace B off
C2	AMB ON	Trace A minus Trace B on
CA	AT AUTO	Couples the RF attenuator
CR	RB AUTO	Couples the resolution bandwidth
CS	SS AUTO	Couples the center frequency step size
CT	ST AUTO	Couples the sweep time
CV	VB AUTO	Couples the video bandwidth
E1	MKPK HI	Marker to highest peak
E2	MKCF	Marker to Center Frequency
E3	MKSS	Marker Frequency to Center Frequency Step Size
E4	MKRL	Marker to Reference Level
EX	AXB	Exchange Trace A and Trace B
GZ	GHZ	Gigahertz (unit)
KZ	KHZ	Kilohertz (unit)
L0	DL OFF	Display Line off
LB	TEXT	Write text to display
M1	MKOFF	Marker off
M2	MKN	Marker Normal on
M3	MKD	Marker Delta on

Simplified Block Diagram

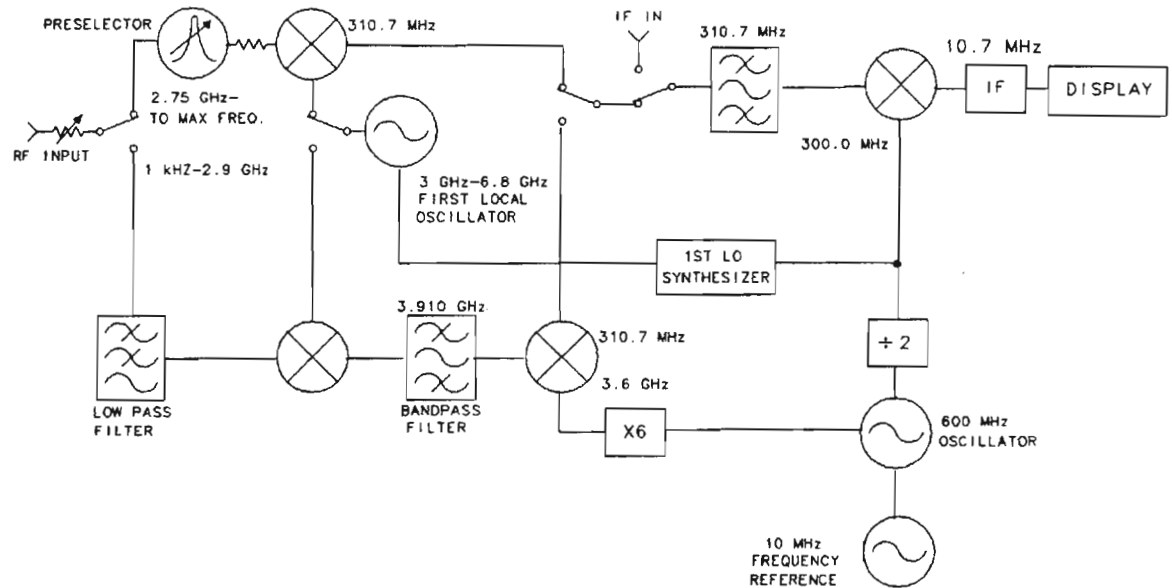


Figure E-1. Simplified Block Diagram

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