

This literature was published years prior to the establishment of Agilent Technologies as a company independent from Hewlett-Packard and describes products or services now available through Agilent. It may also refer to products/services no longer supported by Agilent. We regret any inconvenience caused by obsolete information. For the latest information on Agilent's test and measurement products go to:

[www.agilent.com/find/products](http://www.agilent.com/find/products)

Or in the U.S., call Agilent Technologies at 1-800-452-4844 (8am-8pm EST)



**Agilent Technologies**

Innovating the HP Way

# HP 8591C Cable TV Analyzer

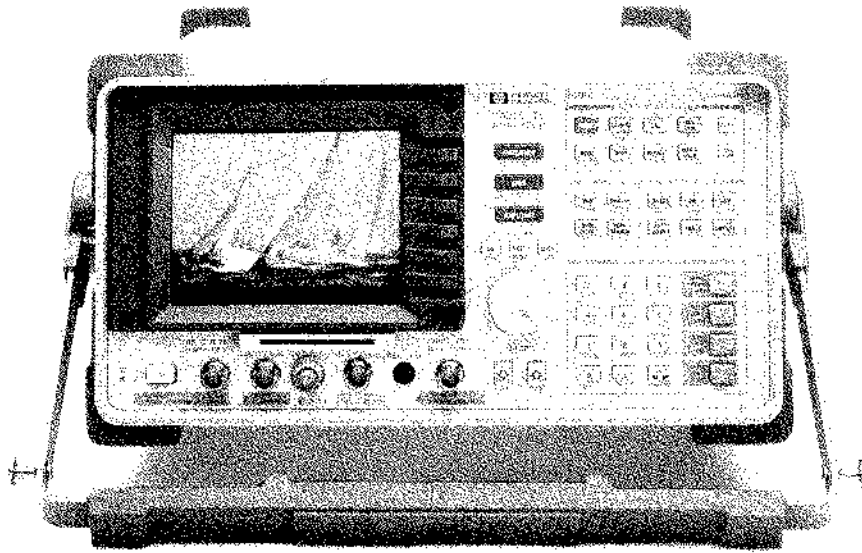


## Technical Data

**Accurate, Dependable  
RF and Video Measurements  
in One Durable Instrument**



**Upgradable. Portable. Flexible. Visionary.**



**The HP 8591C in TV receiver mode**

*Today's technical standards advise you to measure and record key parameters of your cable television system. In the future, these measurements will be mandatory. How can you ensure that you keep pace as standards change?*

*The answer? Turn to Hewlett-Packard. We've designed the HP 8591C specifically to meet your cable TV testing needs now and in the future. This dedicated cable TV analyzer provides accurate, dependable RF and video measurements in a durable, economical instrument.*

#### **Video Measurements**

To maintain system quality at the headend, you will want to make three key video measurements (differential gain, differential phase and chrominance-luminance delay inequality) in addition to RF measurements. The HP 8591C with Option 107 provides this measurement capability in a single instrument, saving you money while simplifying system testing.

#### **Keep Your Customers Happy and Save Time with Non-interfering Measurements**

When your customers subscribe for cable TV service, they expect quality service without interruption. Now, for the first time, you can perform all RF and video measurements without interrupting the system. And non-interfering measurements can be performed automatically for full system test. This keeps your customers happy and also allows you to make unattended measurements when it is convenient for you. When system problems occur, you can also perform non-interfering

tests manually. The HP 8591C switches from a dedicated system monitor to a flexible troubleshooting tool at the touch of a button.

#### **Upgrades for the Future**

The HP 8591C is designed with flexibility in mind. To accommodate changes in required measurements and measurement techniques, you can easily upgrade your HP cable TV analyzer thanks to flexible hardware and software designs. For added flexibility, the analyzer has country specific options available to cover the common PAL and SECAM formats used throughout the world.

#### **Portable and Rugged**

HP's cable TV analyzer provides all this performance in a rugged, portable instrument ideal for field use. It comes in a durable carrying case that makes it easy to transport and protects it from moisture and dirt. And the analyzer is fully operational within the case so you never need to remove it.

*HP 8591C - The best choice for your cable TV measurement needs*

## Trouble-shooting with the HP 8591C

When problems occur, you need a powerful troubleshooting tool to help you fix them. In manual mode, the HP 8591C cable TV analyzer provides continuous updates for the measurements you select. For really tricky problems, you can convert your cable TV analyzer to a full-feature spectrum analyzer at the touch of a button.

### Built-in Preamplifier

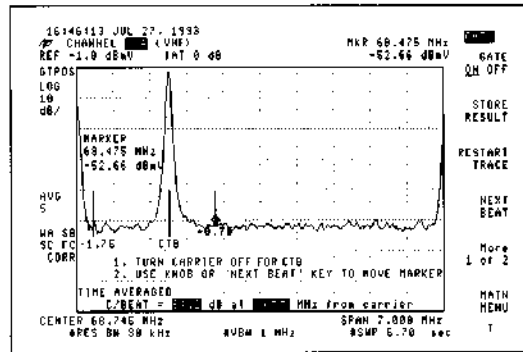
To aid troubleshooting at low power levels, a built-in, 20 dB preamplifier comes standard. It is specified to 1 GHz to cover all your VHF and UHF cable TV channels, and is switched in and out using softkey menus. The preamplifier's gain is automatically added to the reference level and marker read-outs so you can read the proper power levels directly from the screen.

### The Analyzer as a TV Receiver

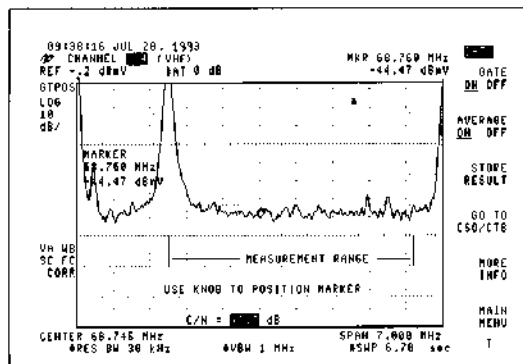
With Option 107, you can operate the analyzer as a television receiver. Not only can the sound be heard on the analyzer's built-in speaker, but the TV picture can now be viewed on the analyzer's display. This allows you to quickly identify picture quality problems such as noise, distortion, hum, and ingress.

## Non-interfering Tests

Option 107 adds non-interfering RF and video measurement capability to the HP 8591C cable TV analyzer. Until now, carrier-to-noise and composite second order measurements had to be made with the modulation turned off. With the HP 8591C, these measurements can be made on a quiet line selected by the user. Additionally, if one of your test lines is a CCIR line 18 or equivalent, you can perform the in-channel frequency response test without disabling your system.



Non-interfering composite second order (CSO) test



Non-interfering carrier-to-noise measurement

## System Monitoring with the HP 8591C

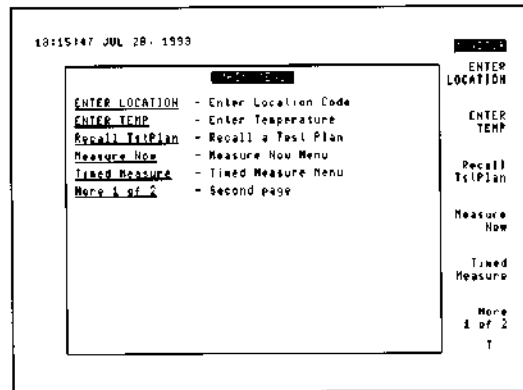
Frequent system testing is one way to maintain cable TV system quality. In automatic mode, the HP 8591C acts as a system monitor, testing performance automatically without disrupting service. This mode also allows you to execute the tests unattended over extended periods of time.

### Customize System Test Plans Without A PC

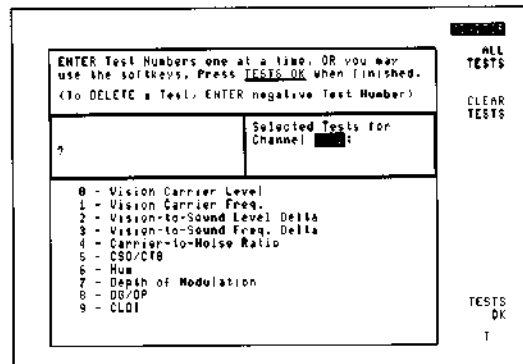
You can design your own test plans for different systems, test locations and test conditions through the analyzer's test plan menu. This menu allows you to select measurements for each channel or range of channels. Standard channel plans are built in so you can set up your system's channel plan quickly and easily, all from the front panel of the analyzer. No external equipment is required. You can easily select the tests you desire for each channel, and on-screen "help" text leads you through the measurements. Up to five test plans can be stored in the analyzer.

Additional plans can be stored on RAM cards that are loaded easily from the front panel.

After setting up the test plans, you can make measurements anytime. A simple press of a key starts your testing immediately. Or, for time-delayed and repeat measurements, simply enter start and stop times and dates, with repeat-time intervals. Your cable TV analyzer does the rest.



Test plan selection menu for running test plans



Test plan creation menu for selecting channels and tests

### Turn Test Data into Instant Reports

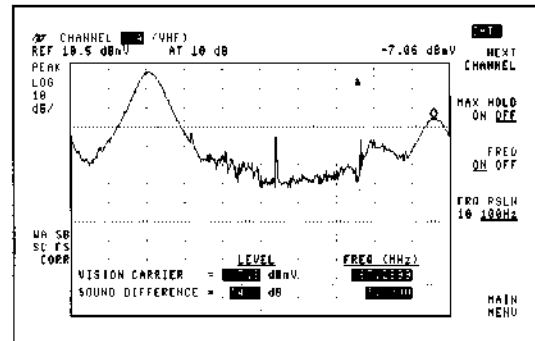
Your test data can be printed in tabular form, suitable for formal reports, on both HP and Epsom printers. Test results are listed under the channel number being measured and scrambled channels are underlined. Results from up to 40 test runs can be stored on RAM cards for future analysis. For reference, each file includes details of the analyzer's serial number, configuration, and a user entered test location and temperature.

## RF and Video Measurements at the Touch of a Button

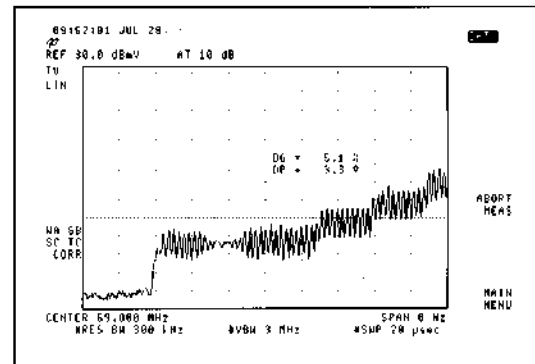
The HP 8591C cable TV analyzer with the HP 85721A cable TV measurement personality provides these dedicated cable TV measurements. The personality is loaded into the HP 8591C before shipment.

### RF Measurements

- Automatic tuning of vision, sound and FM broadcast carriers
- Vision and sound carrier levels and frequencies
- Depth of modulation
- Sound and FM broadcast carrier deviation
- Carrier-to-noise ratio
- In-channel frequency response<sup>1</sup>
- In-service hum/low frequency disturbances
- System frequency response
- View baseband TV line and field
- Simultaneous TV picture and sound demodulation<sup>1</sup> (view and listen)
- Distortion (CSO/CTB)
- Cross modulation
- View ingress and co-channel interference



Simultaneous measurement of carrier levels and frequencies

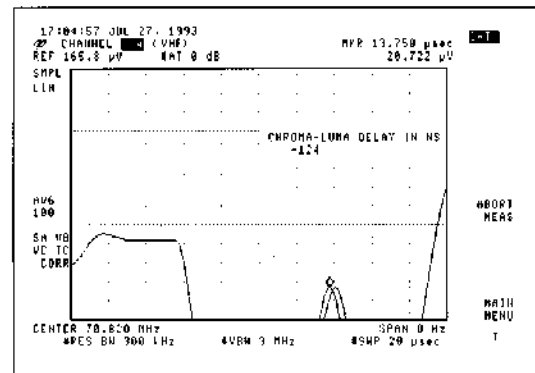


Simultaneous differential gain and differential phase video measurements

### Video Measurements

- Differential gain<sup>1</sup>
- Differential phase<sup>1</sup>
- Chrominance-luminance delay inequality<sup>1</sup>

<sup>1</sup> Requires Option 107



Chrominance-luminance delay inequality measurement

# Specifications

## HP 8591C Cable TV Analyzer

All specifications apply over 0° C to +50° C. The analyzer will meet its specifications after 2 hours of storage at a constant temperature within the operating temperature range, 30 minutes after the analyzer is turned on and after CAL FREQ, CAL AMPTD have been run.

### Frequency Specifications

<b>Frequency Range</b>	1 MHz to 1.8 GHz	
<b>Frequency Reference</b>	<i>Standard</i>	<i>Option 704</i>
Aging	$\pm 1 \times 10^{-7}$ /year	$\pm 2 \times 10^{-8}$ /year
Settability	$\pm 2.2 \times 10^{-8}$	$\pm 0.5 \times 10^{-6}$
Temperature Stability	$\pm 1 \times 10^{-8}$	$\pm 5 \times 10^{-6}$
<b>Frequency Accuracy</b>		
Freq Span $\leq 10$ MHz	$\pm(\text{frequency readout} \times \text{frequency ref error}^1 + 3.0\% \text{ of span} + 20\% \text{ of RBW} + 100 \text{ Hz})$	
Freq Span $> 10$ MHz	$\pm(\text{frequency readout} \times \text{frequency ref error}^1 + 3.0\% \text{ of span} + 20\% \text{ of RBW})$	
<b>Marker Count Accuracy</b> (S/N $\geq 25$ dB, RBW/span $\geq 0.01$ )		
Freq Span $\leq 10$ MHz	$\pm(\text{marker frequency} \times \text{frequency ref error}^1 + \text{counter resolution} + 100 \text{ Hz})$	
Freq Span $> 10$ MHz	$\pm(\text{marker frequency} \times \text{frequency ref error}^1 + \text{counter resolution} + 1 \text{ kHz})$	
Counter Resolution	Selectable from 10 Hz to 100 kHz	
<b>Frequency Span</b>		
Range	0 Hz (zero span), 1 MHz to 1.8 GHz	
Resolution	4 digits	
Accuracy	$\pm 2\%$ of span, span $\leq 10$ MHz $\pm 3\%$ of span, span $> 10$ MHz	
<b>Frequency Sweep</b>		
Range		
Span = $\geq 1$ MHz	20 ms to 100 s	
Span = 0 Hz	20 $\mu$ s to 100 s (not Option 701)	
Accuracy		
20 ms to 100 s	$\pm 3\%$	
20 $\mu$ s to 20 ms	$\pm 2\%$ , (not Option 701)	
Sweep Trigger	Free run, Single, Line, Video, Ext.	
<b>Resolution Bandwidth</b>	1 kHz to 3 MHz, 8 selectable 3-dB bandwidths in 1,3,10 sequence	
Option 130	Adds 30,100 and 300 Hz bandwidths.	
Bandwidth Accuracy	$\pm 20\%$	
<b>Video Bandwidth</b>		
Range	30 Hz to 1MHz in 1,3 sequence	
<b>Stability</b>		
Phase Noise	(1 kHz RBW, 30 Hz VBW, and sample det) $< -90$ dBc/Hz at $> 10$ kHz offset from CW signal $< -105$ dBc/Hz at $> 30$ kHz offset from CW signal	
Residual FM	$< 250$ Hz pp in 100 ms (1 kHz RBW, 1 kHz VBW)	
System Related		
Sidebands	$< -65$ dBc at $> 30$ kHz offset from CW signal	

### Amplitude Specifications

<b>Amplitude Range</b>	Displayed average noise level to +72 dBmV	
<b>Max Safe Input</b>		
Peak Power	+72 dBmV (0.2 watts) Input Atten $\geq 10$ dB	
DC	100 V	
<b>Gain Compression</b>		
$> 10$ MHz	$\leq 0.5$ dB (+39 dBmV at input mixer <sup>2</sup> )	
<b>Displayed Average Noise Level</b>	(Input terminated, 0 dB attenuator 1 kHz RBW, 30 Hz VBW, sample det)	
(without preamp)	$\leq -63$ dBmV 1 MHz to 1.5 GHz	
(with preamp)	$\leq -83$ dBmV 1 MHz to 1 GHz	
<b>Spurious Responses</b> (10 MHz to 1.8 GHz)		
Second Harmonic	$< -70$ dBc for +4 dBmV tone at input mixer <sup>2</sup>	
Third Order Intermod	$< -70$ dBc for two +19 dBmV tones at input mixer <sup>2</sup> and $> 50$ kHz separation	
Other Input Related	$< -65$ dBc at $\geq 30$ kHz offset, for +29 dBmV tone at input mixer <sup>2</sup>	
<b>Residual Responses</b>	(Input terminated and 0 dB atten)	
1MHz to 1.8 GHz	$< -38$ dBmV	
<b>Display Range</b>		
Log Scale	0 to -70 dB from ref level is calibrated 0.1 to 20 dB/division in 1 dB steps 8 divisions	
Linear Scale	8 divisions	
Scale Units	dBm, dBmV, dB $\mu$ V, volts and watts	
Marker Readout Resol	0.05 dB for log scale 0.05% of ref level for linear scale	
<b>Fast Sweep Times for Zero Span</b> (not Opt 701)		
20 $\mu$ s to 20 ms	0.7% of ref level for linear scale $\leq 1$ GHz	
<b>Reference Level</b>		
Range	Same as amplitude range	
Resolution	0.01 dB for log scale 0.12% of ref level for linear scale (Referred to +29 dBmV ref level)	
Accuracy	+49 to -10.9 dBmV $\pm(0.3 \text{ dB} + 0.01 \times \text{dB from } +29 \text{ dBmV})$	
<b>Frequency Response</b>		
Absolute <sup>3</sup>	$\pm 1.5$ dB	
Relative Flatness <sup>4</sup>	$\pm 1.0$ dB	
<b>Calibrator Output</b>		
Frequency	300 MHz $\pm(300 \text{ MHz} \times \text{frequency ref error}^1)$	
Amplitude	+28.75 dBmV $\pm 0.4$ dB	
<b>Input Attenuator</b>		
Range	0 to 70 dB in 10 dB steps	
Accuracy		
0 to 60 dB	$\pm 0.5$ dB at 50 MHz, ref to 10 dB atten	
70 dB	$\pm 1.2$ dB at 50 MHz, ref to 10 dB atten	
<b>Resolution Bandwidth</b>	(Referred to 3 kHz RBW at ref level)	
Switching Uncertainty		
3 kHz to 3 MHz RBW	$\pm 0.4$ dB	
1 kHz RBW	$\pm 0.5$ dB	
30 Hz to 300 Hz RBW	$\pm 0.6$ dB (Option 130)	

(Amplitude continued)

<b>Log to Linear Switching</b>	±0.25 dB at reference level
<b>Display Scale Fidelity</b>	
Log Incremental Acc.	±0.2 dB/2 dB, 0 to -70 dB from ref lev
Log Max. Cumulative	±0.75 dB, 0 to -60 dB from ref level
Linear Accuracy	±1.0 dB, 0 to -70 dB from ref level ±3% of reference level
<b>Internal Preamp</b>	
Frequency Range	1 MHz to 1.0 GHz
Gain	≥ 20 dB
Noise Figure	≤ 5dB

### Option 011 Built-in Tracking Generator

<b>Frequency Range</b>	1 MHz to 1.8 GHz
<b>Output Power Level</b>	
Range	+42.8 dBmV to -27.2 dBmV
Resolution	0.1 dB
Absolute Accuracy	±1.0 dB (+28.8 dBmV at 300 MHz)
<b>Vernier Accuracy</b> (15° to 35°C)	
	±0.75 dB (+28.8 dBmV at 300 MHz)
<b>Output Flatness</b>	
	±1.75 dB
<b>Output Power Sweep</b>	
Range	+ 42.8 dBmV to -32.2 dBmV
Resolution	0.1 dB
<b>Spurious Output, (+ 42.8 dBmV Output)</b>	
Harmonic Spurs	<-25 dBc
Non-harmonic Spurs	<-30 dBc
<b>Tracking Generator Feedthrough</b>	
	<-57 dBmV

### Option 107 TV Receiver and Time Gate

<b>Gate Delay</b>	
Range	1 μs to 65.535 ms
Resolution	1 μs
Accuracy	±1 μs + (0.01% x Gate Delay) <sup>5</sup> (From Gate Trigger Input to positive edge of Gate Output)
<b>Gate Length</b>	
Range	1 μs to 65.535 ms
Resolution	1 μs
Accuracy	±(0.2 μs +(0.01% x Gate Length)) (From positive edge to negative edge of Gate Output)
<b>Gate Amplitude Characteristics<sup>5</sup></b>	
Additional Log Error	±0.3 dB

<sup>1</sup> Frequency Reference Error = (Aging rate x period of time since adjustment + initial achievable accuracy + temperature stability). See Table of characteristics in operation manual.

<sup>2</sup> Mixer Power Level (dBmV) = Input Power (dBmV) - Input Atten (dB)

<sup>3</sup> Referred to 300 MHz CAL OUT, 10 dB input attenuation.

<sup>4</sup> Referred to midpoint between highest and lowest frequency response deviations.

<sup>5</sup> With Gate on enabled and triggered, CW Signal, Peak Detector Mode.

## General Specifications

<b>Temperature</b>	
Operating	0° to +50°C in carrying case
Storage	-40° to +75°C
<b>EMI Compatibility</b>	
	Conducted and radiated interference CISPR Pub. 11 and FTZ 526/527/79
<b>Audible Noise</b>	
	<37.5 dBA pressure and <5.0 Bels power (ISO DP7779)
<b>Power Requirements</b>	
	On (line 1) 86-127, or 195-253 Vrms; 47-66 Hz, 103-126 Vrms, 400 Hz ±10% Power consumption <7 watts
Standby (line 0)	
<b>User Memory (nominal)</b>	
	32 Kbytes non-volatile RAM
<b>Data Storage (nominal)</b>	
	50 states and traces, internal memory 8 internal state registers; 24 states and traces, memory card (HP 85702A)
<b>Weight (nominal)</b>	
	19 kg (42lb)
<b>Size (nominal)</b>	
	213 mm (8.4") H x 366 mm (14.4") W x 460 mm (18.1") D
<b>Warranty</b>	
	1 yr. limited warranty for materials and workmanship
<b>Inputs/Outputs</b>	
<b>Front Panel Connectors</b>	
Input	75 Ω BNC female
Cal Output	75 Ω BNC, +29 dBmV, 300 MHz
100 MHz Comb Out	100 MHz ± 0.007%, SMA
Probe Power	+15 Vdc, -12.6 Vdc, and Gnd (150 mA max each)
TV in (Option 107)	75 Ω BNC female
<b>Rear Panel Connectors</b>	
Aux Video Out	50 Ω BNC, 0-1 V
Monitor Out	50 Ω BNC
Selectable Format	NTSC, 15.75 kHz, 60 Hz, PAL, 15.625 kHz, 50 Hz
High Sweep In/Out	BNC, high TTL = sweep, low TTL = retrace
Sweep Output	BNC, 5 k Ω, 0 to +10 V ramp
Aux IF Output	50 Ω BNC, -10 to -60 dBm, 21.4 MHz
Ext. Trigger Input	BNC, TTL levels, positive edge trigger
TV Trigger Output	BNC, TTL levels, negative edge trigger after sync pulse
10 MHz Ref Output	50 Ω BNC, 10 MHz, 0 dBm
Ext Ref In	50 Ω BNC, 10 MHz, -2 to +10 dBm
RS-232	D-connector
HP-IB (Option 021)	SH1,AH1,T6,L4,SR1,RL1,PP0, DC1,C1, C2,C3, & C28
Earphone	1/8 inch monaural jack
Aux Interface	9 pin "D" subminiature
Keyboard	5 pin DIN, Option 003 IBM AT keyboard compatible.
Gate Trigger Input (Option 107)	50 Ω BNC, pulse > 30 ns
Gate Output (Option 107)	50 Ω BNC, TTL levels

## Specifications

### Cable TV RF and Video Measurement

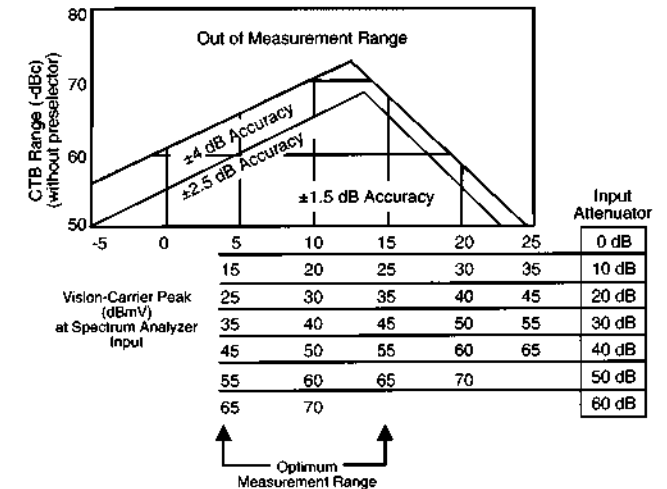
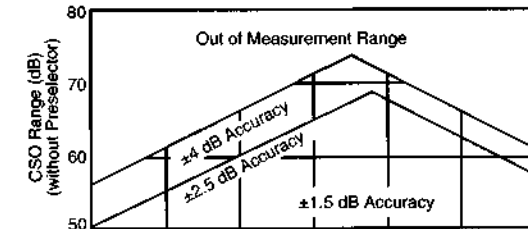
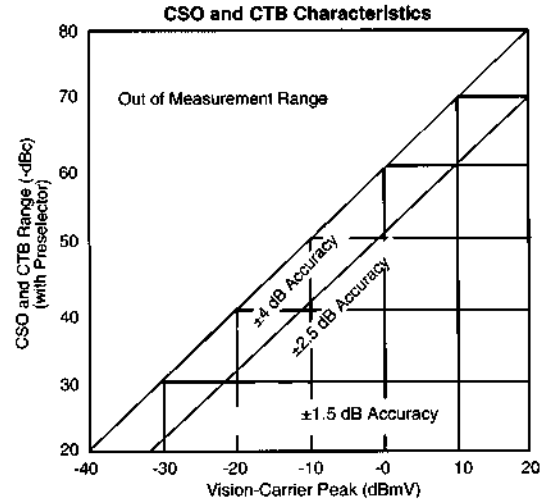
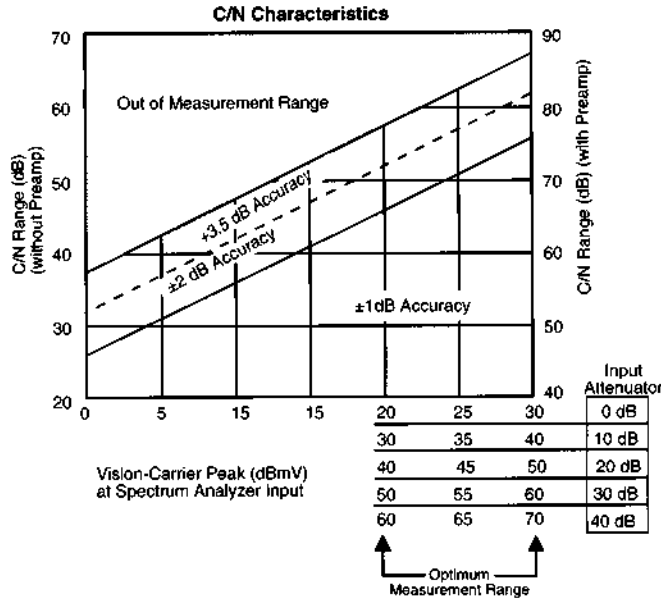
These specifications describe warranted performance of the HP 8591C cable TV analyzer and the HP 85721A cable TV measurements personality from 0°C to 50°C after the warm-up and calibration described earlier. PAL/SECAM signals are covered by ordering the relevant country option. A RAM card is needed for the HP 85721A to store test results. Test data may also be printed using an HP DeskJet or LaserJet printer.

<b>Input Configuration</b>	75 Ω BNC Female	<b>FM Deviation</b> (characteristic)	Peak reading of FM deviation
<b>Channel Selection</b>	Analyzer tunes to specified channels based upon selected tune configuration.	<b>Range</b>	±100 kHz
<b>Tune Configuration</b>	CCIR VHF, S, UHF as standard plus country variations by option.	<b>Resolution</b>	100 Hz
<b>Channel Range</b>	1 to 99 (manual and automatic mode)	<b>Accuracy</b>	±1.5 kHz
<b>Frequency Range</b>	5 to 900 MHz (manual mode) 47 to 898 MHz (automatic mode)	<b>Hum/Low-Frequency Disturbance</b>	Power-line frequency and low-frequency disturbance measured on modulated and/or unmodulated carriers. May not be valid for scrambled channels.
<b>Amplitude Range</b>	-15 to +70 dBmV for S/N > 30 dB	<b>AM Range</b>	0.5 to 10%
<b>Vision-Carrier Frequency</b>	Vision-carrier frequency is counted	<b>Resolution</b>	0.1%
<b>Precision Frequency Reference (Standard)</b>		<b>Accuracy</b>	±0.4% for hum ≤ 3% ±0.7% for hum ≤ 5% ±1.3% for hum ≤ 10%
<b>Resolution</b>	100 Hz	<b>Vision Carrier-to-Noise Ratio (C/N)<sup>7</sup></b>	The C/N is calculated from the vision-carrier peak level and the minimum noise level, normalized to between 3.5 and 8.0 MHz noise bandwidth.
<b>Accuracy</b>	±(1.2 x 10 <sup>-7</sup> x carrier freq + 110 Hz)	<b>Optimum Input Range</b>	See Graphs
<b>Option 704 Frequency Reference</b>		<b>Maximum C/N Range</b>	Input level dependent - See graphs
<b>Resolution</b>	1 kHz	<b>C/N Resolution</b>	0.1 dB
<b>Accuracy</b>	±(7.5 x 10 <sup>-6</sup> x carrier freq + 110 Hz)	<b>C/N Accuracy</b>	Input level and measured C/N dependent ±1.0 to ±3.5 dB over optimum input range
<b>Vision-to-Sound Carrier Frequency Difference</b>	Frequency difference between vision and sound carriers is counted	<b>CSO and CTB Distortion<sup>7</sup></b>	Manual composite second order (CSO) and composite triple beat (CTB) distortions are measured relative to the vision carrier peak and require momentary disabling of the carrier. Automatic measurements are made in the channel above the channel selected and assumes that it is unused. If the analyzer has Option 107, a non-interfering CSO measurement can be made. See Graphs
<b>Difference Range</b>	5.0 to 6.5 MHz	<b>Optimum Input Range</b>	Input level dependent - See graphs
<b>Resolution</b>	100 Hz	<b>Maximum CSO/CTB Range</b>	66 to 73 dB over optimum input range
<b>Accuracy</b>	±221 Hz for precision frequency ref (std) ±254 Hz for Option 704 frequency ref	<b>Manual CSO/CTB Resolution</b>	0.1 dB
<b>Vision-Carrier Level</b>	The peak amplitude of the vision carrier is measured to an absolute standard traceable to the National Institute of Standards and Technology, or equivalent international body.	<b>System CSO/CTB Resolution</b>	1 dB
<b>Amplitude Range</b>	-15 to +70 dBmV	<b>CSO/CTB Accuracy</b>	Input level and measured CSO/CTB dependent - See graphs ±1.5 dB to ±4.0 dB over optimum input range
<b>Resolution</b>	0.1 dB	<b>Crossmodulation</b>	Horizontal-line (15.625 kHz) related AM is measured on the unmodulated vision carrier.
<b>Absolute Accuracy</b>	±2.0 dB for S/N > 30 dB	<b>Range</b>	60 dB, usable to 65 dB
<b>Relative Accuracy</b>	±1.0 dB relative to adjacent channels in frequency ±1.5 dB relative to all other channels	<b>Resolution</b>	0.1 dB
<b>Vision-to-Sound Carrier Level Difference</b>	The difference between peak amplitudes of the vision and sound carrier is measured.	<b>Accuracy</b>	±2.0 dB for xmod. <40 dB, C/N >40 dB ±2.6 dB for xmod. <50 dB, C/N >40 dB ±4.6 dB for xmod. <60 dB, C/N >40 dB
<b>Difference Range</b>	0 to 25 dB	<b>System Frequency Response (flatness)</b>	System amplitude variations are measured relative to a reference trace stored during the setup.
<b>Resolution</b>	0.1 dB		
<b>Accuracy</b>	±0.75 dB for S/N > 30 dB		
<b>Depth of Modulation (characteristic)</b>	Percent AM is measured from horizontal sync tip to maximum video level; measurement requires a white-reference VITS and may not be valid for scrambled channels.		
<b>AM Range</b>	50 to 93%		
<b>Resolution</b>	0.1%		
<b>Accuracy</b>	±2.0% for C/N > 40 dB		



# C/N, CSO, and CTB Measurements

The three graphs summarize the combined HP 8591C and HP 85721A characteristics for C/N, CSO, and CTB testing on cable TV systems with up to 99 channels and up to +9 dB amplitude tilt. C/N, CSO, and CTB measurement accuracies and ranges can be read from the relevant graphs. They depend upon the vision carrier peak level and the measurement reading. For C/N measurements with a preselector, there is no optimum range and the accuracy boundaries drop by the preselector's insertion loss (typically 2dB).



(Specifications continued)

### Frequency Response Setup

Fast Sweep Time 2 s (default) for no scrambling  
 Slow Sweep Time 8 s (default) for fixed-amplitude scrambling  
 Reference-Trace Storage 50 traces that include analyzer states

### Frequency Response Test

Range 1.0 dB/Div to 20 dB/Div (2 dB default)  
 Resolution 0.05 dB  
 Trace-Flatness Accuracy  $\pm 0.1$  dB per dB deviation from a flat line and  $\pm 0.75$  dB maximum cumulative error

Trace-Position Accuracy 0.0 dB for equal temperature at test locations and  $\pm 0.4$  dB max. for different ambient temperatures

**Video Measurements** (Option 107 required; appropriate TV line must be selected)

**Non-interfering color** (requires CCIR lines 17 and 330 or equivalent)

Differential Gain Accuracy  $\pm 6\%$   
 Differential Phase Accuracy  $\pm 4^\circ$   
 Chrominance - Luminance  
 Delay Inequality Accuracy  $\pm 40$ ns

### Non-Interfering Tests with Gate On<sup>6</sup>

C/N and CSO See graphs for accuracy (quiet line must be selected)  
 In-channel Frequency  
 Response Accuracy  $\pm 0.5$  dB within channel (requires CCIR line 18 or equivalent)

<sup>6</sup> A preamplifier and preselector filter may be required to achieve specifications.

## Ordering Information

### HP 8591C Cable TV Analyzer

including 75  $\Omega$  input impedance, yellow soft carrying case and shoulder strap, precision frequency reference, built-in preamplifier, TV trigger, AM/FM demodulator, fast time domain sweeps, RS-232 interface, BNC to Type-F adaptor, HP 85721A Cable TV measurement personality and HP 85702A 128k RAM card. Note that the standard unit supports NTSC formats only. For PAL/SECAM formats, the relevant country option must be ordered.

### Country Specific Options

- Option ABG** Australia (English language documentation) - PAL B/G/I.
- Option ABU** UK (English language documentation) - PAL B/G/I.
- Option AC0** Belgium (English language documentation) - PAL B/G/I.
- Option AC5** Spain (English language documentation) - PAL B/G/I.
- Option ACD** Switzerland (English language documentation) - PAL B/G/I.
- Option ACE** Denmark (English language documentation) - PAL B/G/I.
- Option ACG** Austria (English language documentation) - PAL B/G/I.
- Option ACK** Norway (English language documentation) - PAL B/G/I.
- Option ACW** Germany (English language documentation) - PAL B/G/I.
- Option ACX** France (English language documentation) - SECAM L.
- Option ACY** Sweden (English language documentation) - PAL B/G/I.
- Option ACZ** Netherlands (English language documentation) - PAL B/G/I.
- Option AKA** Finland (English language documentation) - PAL B/G/I.
- Option AKK** Italy (English language documentation) - PAL B/G/I.
- Option AKM** China (English language documentation) - PAL D/K.
- Option ARC** Poland (English language documentation) - PAL B/G/I.
- Option ARF** Hungary (English language documentation) - PAL B/G/I, SECAM D/K.

### Other Options

- Option 107** TV receiver/video tester (including 75  $\Omega$  coupler and cables).
- Option 011** Built-in tracking generator (75  $\Omega$ ).
- Option 015** Replaces yellow soft carrying case with tan soft carrying case.
- Option 021** Replaces RS-232 interface with HP-IB interface.
- Option 119** Noise figure card.
- Option 130** Adds narrow resolution bandwidths
- Option 701** Deletes TV trigger, AM/FM demodulation and fast time domain sweeps.
- Option 704** Deletes precision frequency reference.
- Option 908** Rack mount kit without handles.
- Option 909** Rack mount kit with handles.
- Option 915** Component level information and service guide.
- Option W30** Two additional years return to HP service.
- Option W32** Two additional years return to HP calibration.
- Option R07** Retrofit kit for Option 107.

### Recommended Accessories

- HP 85702A** Additional 128k RAM Card
- HP C2121A** DeskJet 550C RS-232 Printer
- HP 85901A** Portable AC Power Source
- 13242-60011** RS-232 Printer Cable

For more information, call your local HP sales office listed in your telephone directory.

Data Subject to Change  
Copyright © 1993  
Hewlett-Packard Company  
Printed in U.S.A.  
5091-8637E 8/93