

Fluke 54000 Series Video and TV Signal Generators



State of the art generators for TV, VCR and video monitor test

Fluke's TV test tools offer today's widest choice of TV and video test signals from a range of compact instruments. These state of the art generators provide support for TV, VCR and video monitor testing in all the PAL, NTSC and SECAM analog video standards.

A range of easy to use instruments to test TVs, VCRs, set top boxes and other video equipment. According to any video standard. With today's widest choice of highly accurate signals.

Two compact models in the series

The Fluke 54100 Video Signal Generator is the obvious choice for testing video circuitry. The Fluke 54200 TV Signal Generator offers additional sound test signals and a highly stable RF output, making it ideal for complete testing of TV sets, VCRs or other related equipment. Both models offer single or multiple TV standards (PAL, NTSC, SECAM), text functions and a choice of signal outputs.

All applications

The digitally generated test signals of the Fluke 54000 Series comply with the recommendations of the CCIR, EBU, FCC, ITU and EIA standards for analog television. This versatility, combined with the high signal quality (stability and purity) makes them ideal for testing TV receivers, VCRs, camcorders, observation systems and set top decoder boxes and also for checking the individual sub-assemblies or components used in these products.

Just what you need

Whether you work in development, production, quality assurance, installation, maintenance or repair, there is a model to suit your needs - choose from a number of readily defined configurations, offering test support for exactly those systems and standards you are using.

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Multi or single standard

The Fluke 54000 series TV and Video Signal Generators are available with PAL, NTSC and/or SECAM video standard. The appropriate sub standards (system B,D,G,I,K,K1,L,M or N) are enabled automatically.

Extensive data capabilities

In addition to video, the 54000 series offer extensive data capabilities. A host of test signals are available: Teletext (TOP, FLOF and VPT), Antiope, WideScreen Signalling (WSS), Program Delivery Control (PDC), Video Program System(VPS), Closed Caption.

Sound choices (Fluke 54200 only)

In addition to standard mono audio signals, the Fluke 54200 optionally supports both analog stereo (BG, A2 and Mk) and digital stereo (NICAM) systems. A BTSC sound channel can be included to test multi-channel television sound (MTS) and a second audio programme (SAP).

Stable RF output (Fluke 54200 Only)

The RF output on the Fluke 54200 TV Generator covers the entire RF frequency range from 32 to 900 MHz. The output frequency can be set directly with a resolution of 50 kHz. For fast and precise reference you can enter the RF carrier level either in mV or dB μ V and the maximum output level is as high as 100 mV at any carrier frequency. Group Delay pre-correction, also known as group delay filtering, allows you to test applications that need accurate luminance and chrominance timing.

Easy to use

These generators are excellent examples of Fluke's reputation for easy-to-use instruments.

- Select the main functions directly on the front panel keyboard. More advanced functions can be accessed using soft keys and the large LCD (Liquid Crystal Display) with its familiar graphical interface.
- Accurately set luminance and chrominance amplitudes with the down and up arrow keys or the numerical keyboard.
- Store up to 99 different test situation settings for later instantaneous recall.
- Conveniently select from a number of pre-programmed country-specific settings.

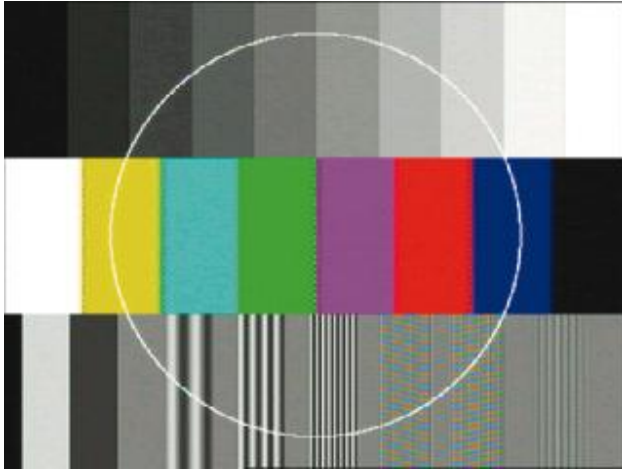
Wide range of patterns

On all models you will find the test patterns and capabilities you'll need to test and align the total video signal path. There are over 500 test patterns - for calibrating geometry (in 4:3 and 16:9 aspect ratio), synchronization, focusing, static and dynamic convergence. You'll find signals for checking bandwidth, interference (such as cross color), amplitude response, tracking and clipping, as well as for color reproduction, cut-off setting, high voltage stability, analog to digital conversion and much more.

These are some examples of the built-in test patterns:

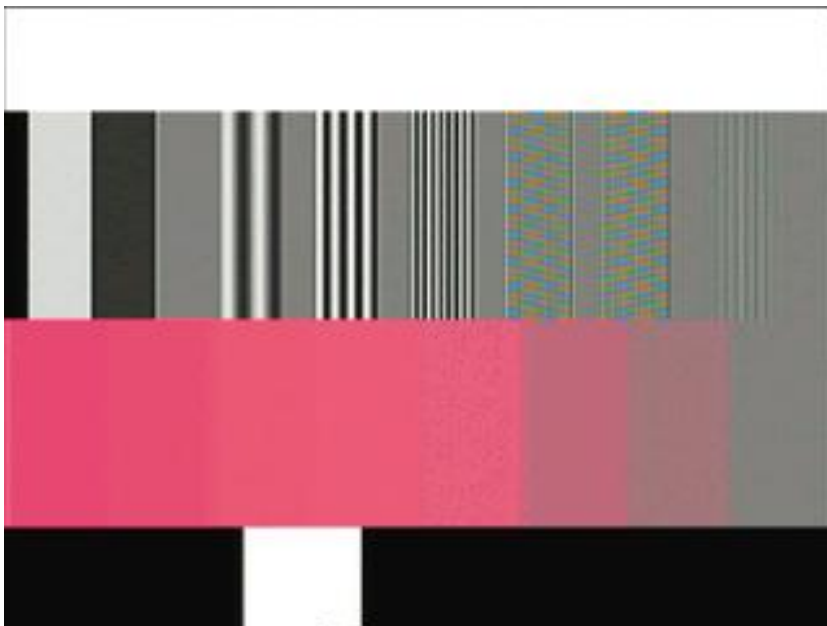
Pattern combinations

(Grayscale / White / Multiburst / Color Bar)



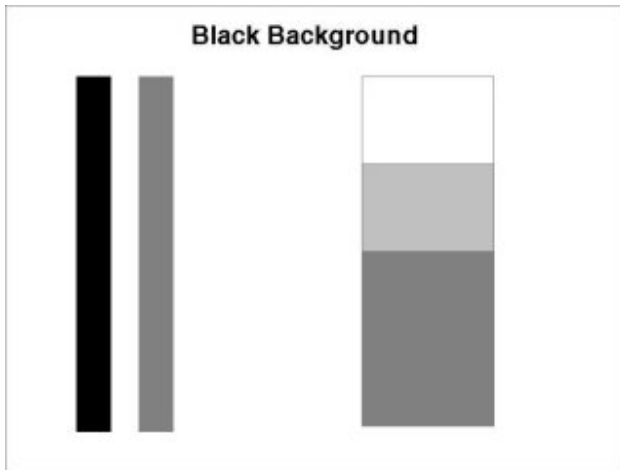
Combined test patterns have the advantage of offering more complete video information, giving you a quick functional overview.

VCR 2 pattern shown, is a combined test pattern divided into three horizontal bars.



- 100% white bar for exact level adjustments
- Multiburst reference bar consisting of six vertical frequency bursts used for various filter circuits alignment;
- R-Y decreasing linear saturation bar to test chroma and color AGC circuitry;
- The last portion is a black bar with a moving white square for checking moving or slow motion pictures.

PLUGE



PLUGE, or Picture Line-Up Generating Equipment is an international standardized B/W test pattern used to perform accurate and consistent line of picture monitors.

- [Specifications](#)

Introduction	
Video Standards	PAL, NTSC, SECAM in 4:3 & 16:9 Aspect Ratios in accordance with recommendations of the CCIR, EBU, FCC, ITU and EIA analog television standards.
Sound System (PM52000 only)	Analog, NICAM digital and BTSC stereo sound systems
Data Services	Teletext, WSS, PDC, VPS and Closed Caption

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Level:	100% (nominal setting)
Tolerance:	5% (PAL/NTSC)
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Setting range:	0% to 150%
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Patterns	
Reference	ITU Rec. 471-1/1994 and SMPTE EG27-1994 for Color Bar SMPTE EG1-1990 for SMPTE Color Bar CCIR Rec. 473-5, 1990 and CCIR Rec. R26-1981 for IRS 17 CCIR Rec. 473-5, 1990 for Multiburst CCIR Rep. 1221 for PLUGE
Aspect ratio	4:3, 16:9
Circle	Centered circle with 4 additional corner circles in 16:9 mode
Center Cross	With border castellations (overscan indication selectable at 2% or 3%)
White	0, 5, 10 to 100% (5% steps) for 625 line systems 7.5, 15 to 100 IRE (5 IRE steps) for 525 line systems
Purity	Red, green, blue, cyan, magenta, yellow, white, black (100/0/75/0 for 625 line systems and 100/7.5/75/7.5 for 525 line systems)
Dots	17x13 dots in 4:3 mode, 23x13 dots in 16:9 mode With center indication
Crosshatch	18x14 lines in 4:3 mode, 24x14 lines in 16:9 mode With center indication, selectable 'top-left' indication and chroma
Checkerboard	12x9 squares in 4:3 mode, 16x9 squares in 16:9 mode
PLUGE	-1.6, 0, +1.6, 100% for 625 line systems 4.8, 7.5, 10.7, 100 IRE for 525 line systems
Grayscale	10 steps linear staircase (11 Levels)
VCR	VCR Test (2 types) Resolution Test (2 types) Writing Current
Multiburst	0.5, 1.0, 2.0, 4.0, 4.8, 5.8 MHz for 625 line systems 0.5, 1.0, 2.0, 3.0, 3.58, 4.2 MHz for 525 line systems With time intervals
Digital Scan	ADC Check (2 types) including linear ramp intensity signal Moving Block Progressive Scan Check (3 types)

Color Bar	625 line systems	75/0/75/0, 100/0/75/0, 75/0/100/25, 100/0/100/25
	525 line systems	75/7.5/75/7.5
	SMPTE Color Bar	100/7.5/75/7.5
	Horizontal Color Bar	(75/0/75/0 for 625 line systems and 75/7.5/75/7.5 for 525 line systems)
DEM	Demodulator Test (2 types)	
Color Temperature	3 different sizes with adjustable levels for center and border	
Diverse	<ul style="list-style-type: none"> * EHT Test (Reference rectangle with switching white/black window) * Full field 'IRS 17', (in 625 line systems, reference line 17 can be selected separately) * sin x/x-pattern for bandwidth tests 	
Pattern combination	<ul style="list-style-type: none"> * Circle with every other pattern (except Progressive Scan 3) or combination * Center Cross / Crosshatch / Dots / Purity * Grayscale / White / Multiburst / Color Bar 	

Sound Outputs (54200 Only)			
Sound Carrier	Voltage (V_{pp} into 50Ω):	142 mV for mono carrier and system B, G 200 mV for mono carrier and system D, I, K, K1, L, M, N 63.2 mV for stereo and NICAM B, G, D, I, K carrier (sound carrier 2) 28.3 mV for NICAM L carrier (sound carrier 2)	
	Setting range:	for mono carrier (depends on sound carrier 1 level setting): 112.5 mV to 356 mV at -15 dBc to -5 dBc sound carrier level	
	Resolution:	1 dB	
	Setting range:		
	for stereo and NICAM carrier:	63.2 mV at -20 dBc sound carrier level	
	Resolution:	1 dB	
	Setting range:		
	for stereo and NICAM carrier:	63.2 mV at -20 dBc sound carrier level 35.6 mV at -25 dBc sound carrier level 28.3 mV at -27 dBc sound carrier level	
	Tolerance:	±2 dB	
	Impedance:	50Ω	
	Connector:	SOUND IF OUT, BNC rear	
	Audio and Euro AV	Voltage (V_{rms} in open circuit):	500 mV, 278 mV at 12 kHz intern in NICAM mode
		Tolerance:	5%
Impedance:		600Ω	
Connector:		AUDIO OUT, Cinch rear; EURO AV OUT, EURO AV connector rear	
BTSC MPX and FM Stereo Pilot	Impedance:	600Ω	
	BTSC mode:	BTSC baseband signal	

	Voltage (Vrms open circuit):	Nominal
	BTSC mode:	BTSC baseband signal
	Main channel:	500 mV, at 13.5 kHz deviation incl. 75µs pre-emphasis
	Pilot carrier:	185 mV, equivalent to ±5 kHz deviation of sound carrier
	SAP carrier:	555 mV, equivalent to ±15 kHz deviation of sound carrier
	Tolerance:	5%
	Stereo/ Dual mode for sound system:	Germany, A2
	Pilot signal:	90 mV
	Tolerance:	5%
	Stereo/Dual Mode for Sound System:	Mk
	Pilot signal:	180 mV
NICAM Data and NICAM Clock	Frequency:	728 kHz
	Tolerance:	3 ppm for +5 to +45° C 1 ppm at reference temperature
	Aging:	≤ 2 ppm per year
	Voltage (Vpp into 50Ω):	1V
	Tolerance:	10%
	Impedance:	50≤
	Connector:	NICAM OUT DATA, BNC rear NICAM OUT CLOCK, BNC rear

Sound Inputs			
Audio, Euro AV and MTS Multiplex	Voltage (Vrms):	500 mV (nominal)	
	Modulation bandwidth:	40 Hz to 15 kHz	
	Impedance:	0.1 MΩ	
	Connector:	AUDIO IN, Cinch rear, EURO AV IN, EURO AV connector rear, MTS IN, BNC rear	
	Max. external voltage:	±40V	

Mono Sound			
Sound Carrier	Frequency:	4.5 MHz for system M, N 5.5 MHz for system B, G 6.0 MHz for system I 6.5 MHz for system D, K, K1, L	
	Tolerance:	3 ppm for +5 to +45° C 1 ppm at reference temperature	
	Aging:	≤ 2 ppm per year	
	Level:	-13 dBc for system B, G -10 dBc for system D, I, K, K1, L, M, N	
	Tolerance:	2 dB at reference temperature	
	Setting range:	-5 dBc to -15 dBc	
	Tolerance:	2 dB at reference temperature	
	Resolution:	1 dB	

Modulation	Frequency:	0.5, 1.0, 3.0 kHz: for system B, D, G, I, K, K1, L (S1 Modulation) or off
		0.3, 1.0, 3.0 kHz: for system M and N (S1 Modulation) or off
		0.5, 1.0, 3.0 kHz: (S3 Modulation) or as NICAM for system NICAM B/G, NICAM DK, DC, I, L or off
	Type:	FM for system B, D, G, I, K, K1, M, N
		AM for system L
	Deviation:	27 kHz for system B, D, G, I, K, K1 (pre-emphasis off), 13.5 kHz for system M, N (pre-emphasis off)
	Tolerance:	5%
	Pre-emphasis (FM):	50 µs for system B, D, G, I, K, K1 or off
		75 µs for system M, N or off
	Modulation depth:	54% for system L
Tolerance:	5%	

Stereo/Dual Sound																							
Sound Carrier 1	<table border="1"> <tr> <td>Data:</td> <td>As Mono</td> </tr> <tr> <td>Modulation matrix:</td> <td>Stereo (L+R)/2</td> </tr> <tr> <td>Dual:</td> <td>CH1 (S1 Modulation)</td> </tr> </table>	Data:	As Mono	Modulation matrix:	Stereo (L+R)/2	Dual:	CH1 (S1 Modulation)																
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	Modulation depth:	50%
	Tolerance:	5%

NICAM stereo	
Sound Carrier 1	Data: As MONO SOUND CARRIER Modulation matrix: Mono: As NICAM (S1 Modulation), Independent (S3 Modulation) Stereo: (L+R)/2 Dual: CH1 (S1 Modulation)
Sound Carrier 2	Frequency: 5.85 MHz for system B, D, G, K, L 6.875 MHz for system D, K (for China) 6.552 MHz for system I Tolerance: 3 ppm for +5 to +45° C 1 ppm at reference temperature Aging: ≤ 2 ppm per year Level: -20 dBc for system B, D, G, I, K -27 dBc for system L Tolerance: 3 dB at reference temperature Setting range: -20, -25, -27 dBc
Modulation	Reference: NICAM-728, CCITT Rec J17 Frequency: 0.5, 1.0, 1.5, 3.0 kHz for channel 1 (S1 Modulation) or off 1.0, 1.5, 3.0, 12 kHz for channel 2 (S2 Modulation) or off Test 1: Demodulator pattern Test 2: Decoder pattern Test 3: Un-modulated carrier Type: QPSK Mode: Mono, Dual, Stereo, Test Bit-rate: 728 kbits/s Tolerance: 3 ppm for +5 to +45° C 1 ppm at reference temperature Aging: ≤ 2 ppm per year Level: High, low RSSF: On, off

BTSC Stereo Sound	
Sound Carrier	Frequency: 4.5 MHz for system M Tolerance: 3 ppm for +5 to +45° C 1 ppm at reference temperature Aging: ≤ 2 ppm per year Level: -10 dBc Tolerance: 2 dB at reference temperature Setting range: -5 to 15 dBc Tolerance: 2 dB at reference temperature Resolution: 1 dB
Modulation	Frequency: 0.3, 1.0, 3.0 kHz for channel 1 (S1 Modulation) or off Type: FM with BTSC base band

	<p>5.0 kHz for SAP (0.3 and 1.0 kHz in Test modes) or un-modulated or off</p> <p>Type: FM with BTSC base band</p> <p>Base band: Main channel (L+R) Pilot sub carrier Stereo sub channel (L-R, BTSC compressed) SAP sub channel (SAP signal, BTSC compressed)</p> <p>Stereo sub channel: Subcarrier AM modulated with suppressed carrier by BTSC compressed L-R signal</p> <p>SAP sub channel: Subcarrier FM modulated by SAP signal</p> <p>Mode: Mono, Stereo, SAP</p> <p>Deviation: 13.5 kHz (with de-emphasis on) 15 kHz by SAP 5 kHz by pilot</p> <p>Tolerance: 5%</p> <p>Pre-emphasis: 75 μs</p>
Identification	<p>Pilot subcarrier frequency: f_H</p> <p>Stereo subcarrier frequency: $2 \times f_H$</p> <p>SAP subcarrier frequency: $5 \times f_H$</p> <p>Tolerance subcarrier: 3 ppm for +5 to +45° C 1 ppm at reference temperature</p> <p>Aging: ≤ 2 ppm per year</p>

Digital Services	
Wide Screen Signaling (WSS)	<p>Reference: ETSI, ETS 300 294, November 1994 PAL plus System Description, Revision 3.0, January 1994 Rec. ITU-R BT. 1119</p> <p>TV systems: 625 line systems</p> <p>Data line: 23 (field 1)</p> <p>Signaling method: Bi-phase coding, NRZ-L</p> <p>Clock frequency: 5 MHz</p> <p>Tolerance: 3 ppm for +5 to +45° C 1 ppm at reference temperature</p> <p>Aging: ≤ 2 ppm per year</p> <p>Level: 0.5 V for '1' at 0.7 V maximum video level Black level for '0'</p> <p>Tolerance: 5% for '1' 3% of sync amplitude for '0'</p>
Teletext DIDON ANTIOPE (CCIR System A)	<p>Reference: CCIR Rec. 653-1 CCIR Doc. 11/345-E</p> <p>TV systems: 625 line systems</p> <p>Data line: 20, 21, 333, 334</p> <p>Signaling method: Binary NRZ</p> <p>Clock frequency: 6.203125 MHz</p> <p>Tolerance: 3 ppm for +5 to +45° C 1 ppm at reference temperature</p> <p>Aging: ≤ 2 ppm per year</p> <p>Level: 7/3 of sync amplitude for '1' Black level for '0'</p> <p>Tolerance: 0 to - 10% for '1' 3% of sync amplitude for '0'</p>

Teletext UK (CCIR System B)	<table border="1"> <tr> <td>Reference:</td> <td>CCIR Rec. 653-1</td> </tr> <tr> <td></td> <td>CCIR Doc. 11/282-E</td> </tr> <tr> <td>System:</td> <td>625 line systems</td> </tr> <tr> <td>Data line:</td> <td>13, 14, 20, 21, 326, 327, 333, 334 for 8 line mode; 20, 21, 333, 334 for 4 line mode</td> </tr> <tr> <td>Signaling method:</td> <td>Binary NRZ</td> </tr> <tr> <td>Clock frequency:</td> <td>6.9375 MHz</td> </tr> <tr> <td>Tolerance:</td> <td>3 ppm for +5 to +45° C 1 ppm at reference temperature</td> </tr> <tr> <td>Aging:</td> <td>≤ 2 ppm per year</td> </tr> <tr> <td>Level:</td> <td>66% of the difference between black level and peak white level for '1'; Black level for '0'</td> </tr> <tr> <td>Tolerance:</td> <td>6% for '1' 2% of the difference between black level and peak white level for '0'</td> </tr> </table>	Reference:	CCIR Rec. 653-1		CCIR Doc. 11/282-E	System:	625 line systems	Data line:	13, 14, 20, 21, 326, 327, 333, 334 for 8 line mode; 20, 21, 333, 334 for 4 line mode	Signaling method:	Binary NRZ	Clock frequency:	6.9375 MHz	Tolerance:	3 ppm for +5 to +45° C 1 ppm at reference temperature	Aging:	≤ 2 ppm per year	Level:	66% of the difference between black level and peak white level for '1'; Black level for '0'	Tolerance:	6% for '1' 2% of the difference between black level and peak white level for '0'
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PDC	<table border="1"> <tr> <td>Reference:</td> <td>EBU SPB 459 Revision 2 Specification of the Domestic Video Program Delivery Control System February 1992</td> </tr> <tr> <td>System:</td> <td>TELETEXT UK (CCIR system B)</td> </tr> <tr> <td>Programming:</td> <td>All parameters</td> </tr> <tr> <td>Labeling:</td> <td>Single, multi</td> </tr> </table>	Reference:	EBU SPB 459 Revision 2 Specification of the Domestic Video Program Delivery Control System February 1992	System:	TELETEXT UK (CCIR system B)	Programming:	All parameters	Labeling:	Single, multi												
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VPS	<table border="1"> <tr> <td>Reference:</td> <td>Technische Richtlinie ARD/ZDF Nr. 8 R 2 Video Program System (VPS); EBU SPB 459 Revision 2 Specification of the Domestic Video Program Delivery Control System February 1992</td> </tr> <tr> <td>TV systems:</td> <td>625 line systems</td> </tr> <tr> <td>Data line:</td> <td>16</td> </tr> <tr> <td>Signaling method:</td> <td>Bi-phase modulation</td> </tr> <tr> <td>Clock frequency:</td> <td>5.0 MHz</td> </tr> <tr> <td>Tolerance:</td> <td>3 ppm for +5 to +45° C 1 ppm at reference temperature</td> </tr> <tr> <td>Aging:</td> <td>≤ 2 ppm per year</td> </tr> <tr> <td>Level:</td> <td>0.5 V for '1' at 0.7 V maximum video level Black level for '0'</td> </tr> <tr> <td>Tolerance:</td> <td>5% for '1' 3% of sync amplitude for '0'</td> </tr> <tr> <td>Programming:</td> <td>All parameters</td> </tr> </table>	Reference:	Technische Richtlinie ARD/ZDF Nr. 8 R 2 Video Program System (VPS); EBU SPB 459 Revision 2 Specification of the Domestic Video Program Delivery Control System February 1992	TV systems:	625 line systems	Data line:	16	Signaling method:	Bi-phase modulation	Clock frequency:	5.0 MHz	Tolerance:	3 ppm for +5 to +45° C 1 ppm at reference temperature	Aging:	≤ 2 ppm per year	Level:	0.5 V for '1' at 0.7 V maximum video level Black level for '0'	Tolerance:	5% for '1' 3% of sync amplitude for '0'	Programming:	All parameters
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	T1 to T4
EDS Data (V-chip)	Basic EDS-data test capability supported. Four CC-data packets each include EDS-data. Codes included: 'rating G', 'ratingX', 'ratingTV-Y' and 'rating TV-MA'.

RGB, Y/C (S-VHS/Hi-8), YCrCb Outputs																											
RGB outputs	<table border="1"> <tr> <td>Voltage (Vpp into 75Ω):</td> <td>700 mV</td> </tr> <tr> <td>Tolerance:</td> <td>5%</td> </tr> <tr> <td></td> <td>2% at reference temperature</td> </tr> <tr> <td>Impedance:</td> <td>75Ω</td> </tr> <tr> <td>Polarity:</td> <td>Positive</td> </tr> <tr> <td>Coupling:</td> <td>DC</td> </tr> <tr> <td>Blanking level:</td> <td>0V</td> </tr> <tr> <td>Offset:</td> <td>± 200 mV</td> </tr> <tr> <td>Synchronization:</td> <td>Selectable in R, G, B or Off (only for BNC outputs)</td> </tr> <tr> <td>Connector:</td> <td>RGB OUT, BNC rear; EURO AV OUT, EURO AV connector rear</td> </tr> <tr> <td>Max. external voltage:</td> <td>±9V</td> </tr> </table>	Voltage (Vpp into 75Ω):	700 mV	Tolerance:	5%		2% at reference temperature	Impedance:	75Ω	Polarity:	Positive	Coupling:	DC	Blanking level:	0V	Offset:	± 200 mV	Synchronization:	Selectable in R, G, B or Off (only for BNC outputs)	Connector:	RGB OUT, BNC rear; EURO AV OUT, EURO AV connector rear	Max. external voltage:	±9V				
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Max. external voltage:	±9V																										
Y/C Outputs	<table border="1"> <tr> <td>Luminance signal amplitude (Vpp into 75Ω):</td> <td>1V (including sync)</td> </tr> <tr> <td>Tolerance:</td> <td>5%</td> </tr> <tr> <td></td> <td>2% at reference temperature</td> </tr> <tr> <td>Coupling:</td> <td>DC</td> </tr> <tr> <td>Blanking level:</td> <td>0V</td> </tr> <tr> <td>Offset:</td> <td>± 200 mV</td> </tr> <tr> <td>Chrominance signal level:</td> <td>100%, same as chrominance part of CVBS signal</td> </tr> <tr> <td>Tolerance:</td> <td>5%</td> </tr> <tr> <td></td> <td>2% at reference temperature</td> </tr> <tr> <td>Coupling:</td> <td>AC</td> </tr> <tr> <td>Impedance:</td> <td>75Ω</td> </tr> <tr> <td>Connector:</td> <td>Y/C OUT, 4-pin S connector; EURO AV OUT, EURO AV connector rear</td> </tr> <tr> <td>Max. external voltage:</td> <td>±9V</td> </tr> </table>	Luminance signal amplitude (Vpp into 75Ω):	1V (including sync)	Tolerance:	5%		2% at reference temperature	Coupling:	DC	Blanking level:	0V	Offset:	± 200 mV	Chrominance signal level:	100%, same as chrominance part of CVBS signal	Tolerance:	5%		2% at reference temperature	Coupling:	AC	Impedance:	75Ω	Connector:	Y/C OUT, 4-pin S connector; EURO AV OUT, EURO AV connector rear	Max. external voltage:	±9V
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YCrCb Outputs	<table border="1"> <tr> <td>Voltage Y (Vpp into 75 Ω):</td> <td>1 V (including Sync)</td> </tr> <tr> <td>Voltage CrCb (Vpp into 75 Ω):</td> <td>0.7 V</td> </tr> <tr> <td>Tolerance:</td> <td>5%</td> </tr> <tr> <td></td> <td>2% at reference temperature</td> </tr> <tr> <td>Impedance:</td> <td>75Ω</td> </tr> <tr> <td>Coupling:</td> <td>DC</td> </tr> <tr> <td>Blanking level:</td> <td>0V</td> </tr> <tr> <td>Offset:</td> <td>± 200 mV</td> </tr> <tr> <td>Connector:</td> <td>Y/ Cr/ Cb OUT, BNCs rear</td> </tr> <tr> <td>Max. external voltage:</td> <td>±9V</td> </tr> </table>	Voltage Y (Vpp into 75 Ω):	1 V (including Sync)	Voltage CrCb (Vpp into 75 Ω):	0.7 V	Tolerance:	5%		2% at reference temperature	Impedance:	75Ω	Coupling:	DC	Blanking level:	0V	Offset:	± 200 mV	Connector:	Y/ Cr/ Cb OUT, BNCs rear	Max. external voltage:	±9V						
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IEEE and RS-232 Interface	
IEEE-488 Interface	Allows selection and control of all functions

	Reference: ANSI/IEEE Std. 488-1987 Compatibility: IEEE-488.2- 1987 Interface functions: AH1, SH1, L4, T6, RL1, SR1, DC1, E2 Connector: Amphenol rear (RFI/EMI shielded)
RS-232 Interface	Allows selection and control of all functions Baud rate: 110, 150, 300, 600, 1200, 2400, 4800, 9600, or 19200 Data bits: 7 or 8 Stop bits: 1 2 for 110 Baud Parity check: Odd, even or none (none for 8 data bits only) Handshake: Software, hardware Connector: 9 pin D-type rear (male)
General Specifications	
Environmental Conditions	Environment: Laboratory equipment Class 5 (MIL-T-28800D) Warming-up time: 30 min Recalibration interval: 12 months Temperature: +22 to +24°C for reference temperature 0 to +50°C for operating -20 to +71°C for non-operating Reliability: MTBF = 20,000 hours Humidity, altitude, vibration and shock: MIL-T-28800D (Class 5) Safety: EN 61010-1 +/A2, Class I IEC 1010-1 +A1 +A2, Class I CAN/CSA-C22.2 No 1010.1, Class I EMC emission: EN 55011, Group 1, Class B VDE 0875, Part 11, Group 1, Class B CISPR 11, Group 1, Class B FCC Part 15J Class A EMC immunity: EN 50082-1 (Generic) RF EM field: IEC 801-3/84 (27-500 MHz, 3V/m) Electrostatic discharge: IEC 801-2/84 (± 8 kV air discharge) Fast transient: IEC 801-4/88 (0.5 kV signal/ control lines, 1 kV mains)
RF EM field	ENV 50140 (80-1000 MHz, 3V/m)
Electrostatic discharge	IEC 1000-4-2 (± 8 kV air discharge), (± 4 kV contact discharge)
Magnetic Field	IEC 61000-4-8 (50 Hz, 3 A/m)
Power Requirements	Line voltage operating: 90 to 264V Line frequency: 47.5 to 63 Hz Power consumption: 60W
Dimensions and Weight	Width: 323 mm (12.72 in) Height: 147 mm (5.79 in) 132.5 mm (5.22 in) without feet (≈ 3 HE) Depth: 417 mm (16.42 in) Weight: Net 9.8 kg (21.6 lb.) Shipping 11.4 kg (25.1 lb.)

[ISOTEST, S.L.](http://www.isotest.es), Instrumentación Electrónica y Laboratorio de Calibración

C/Ikea, 51 – 48940 Leioa – Vizcaya – Tfno.: 944803040 – Fax: 944803024 E-mail: jesus.gomez@isotest.es

Fluke 54100- and 54200-Series

FLUKE	54200						54100				
	Multiple			Dual	Single		Multiple		Dual	Single	
Model	54200M01/nnn	54200M02/nnn	54200M03/nnn	54200PN1/nnn	54200P01/nnn	54200N01/nnn	54100M01/nnn	54100M02/nnn	54100PN1/nnn	54100P01/nnn	54100N01/nnn
Color System:	PAL	•	•	•	•	•	•	•	•	•	•
	NTSC	•	•	•	•	•	•	•	•	•	•
	SECAM	•	•	•			•	•			
RF Output	32...900 MHz	•	•	•	•	•					
Analog stereo sound		•	•	•	•	•					
Nicam sound		•	•		•						
BTSC sound		•	•			•					
Teletext, PDC, VPS		•			•	•	•		•	•	
Closed Caption		•				•	•				•
RGB, Y/C, Y/Cr/Cb		•	•	•	•	•	•	•	•	•	•
IEEE, RS-232		•	•	•	•	•	•	•	•	•	•

Operating manual languages and line cord options

(replace 'nnn' in above typenumbers by one of the following)

Available configurations		
Typenumber suffix	Description	
	Power cord	User manual language
~/001	European	English version
~/003	US	
~/004	UK	
~/008	Australian	
~/011	European	French version
~/013	US	
~/021	European	German version
~/025	Swiss	

Example: "Fluke 54100PN1/025" is the ordering code for a 54100 Video Signal Generator that supports the PAL and NTSC standards, provides Teletext, PDC and VPS services, is equipped with RGB, Y/C and Y/Cr/Cb optional outputs and an IEEE and an RS-232 remote control bus, and that is delivered with a Swiss line cord and a user manual in the German language.

Fluke 54100- and 54200-Series

Included with the instrument

Fluke 54200	Fluke 54100
• User Manual 54200	• User Manual 54100
• Statement of Calibration Practices	• Statement of Calibration Practices
• Line cord	• Line cord
• Cable SCART – SCART	• Cable SCART – SCART
• Cable SCART – 3 * Cinch male	• Cable SCART – 3 * Cinch male
• Y/C Cable (instruments with Y/C output only)	• Y/C Cable (instruments with Y/C output only)
• RF-cable BNC – IEC-169-2	
• Adapter IEC-169-2 – F-male	

Rackmount

For mounting the generator in a 19" rack system, an optional rackmount kit Fluke 54091 is available. Front panel height is 3 HE (133.5 mm / 5.25 inch).

Calibration Certificate

As a standard, a 'Statement of Calibration Practices' is delivered with every instrument.

On request, a Certificate of Calibration, stating calibration data, will be issued at a nominal fee.

Fluke. *Keeping your world up and running.*

Fluke Corporation

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In Canada (905) 890-7600
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From other countries +1 (425) 446 -5500
or Fax +1 (425) 446 -5116

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