Color Pattern Generators

CG-930 SERIES

NTSC Color Pattern Generator

CG-931 (NTSC)

PAL Color Pattern Generator

CG-932 (PAL)

※ Remote Control Option (Factory Option)

OUTLINE

The CG-931 (NTSC) and CG-932 (PAL) are color pattern generators for the NTSC and PAL color systems, respectively. In addition to the split-field color bar required for the adjustment and inspection of video equipment and color TVs, they are provided with a variety of standard pattern signals including the dot, cross-hatching, center-cross and window patterns as well as blue, green, red and white color raster patterns. With S-output provided as standard, they are indispensable equipment for the new multimedia era.

FEATURES

CG-931: NTSC Color Pattern Generator in compliance with EIA (RS-189A) and SMPTE (ECR-1-1978) Standards

The CG-931 can output color-bar signals in compliance with both RS-189A and ECR-1-1978 standards. In addition to the field color bar signals, it can provide patterns including I/Q/W ON/OFF switching, color bar signals without luminance component and gray scale signals without chrominance component instantaneously.

CG-932: PAL Standard Color Pattern Generator

The CG-932 can provide 2 kinds (2-split, 3-split) of spilt-field color bar signals as well as U/V/W ON/OFF switching, color bar signals without luminance component and gray scale signals without chrominance component instantaneously.

※ The following are common features for the 2 models.

S-Output

An S-output is provided as standard. In addition, Y+S and C outputs are provided at the rear panel (BNC connectors), and the output levels of each are variable individually.

CG-931/CG-932

Variable Setting Levels
The setup, chrominance and luminance levels are arbitrarily settable and a calibration signal is provided for each, as a convenience in making simple adjustments and repairs to color TV receivers.

Individual Rasters for Purity Adjustments
Red, blue, green and white rasters are provided for use in verification of purity and in adjustment and inspection of white balance.

Dot and Cross-Hatch Patterns for Adjustments of Linearity and Convergence
A central dot can be used for adjustment of picture tube static convergence, and a cross-hatch pattern can be used for adjustment of dynamic convergence, these being provided as a convenience in adjusting vertical/horizontal amplitude and linearity.

Center Cross and Dot for Convergence Adjustment
A center cross and dot are provided to enable adjustment and inspection of raster alignment and convergence.

High-Voltage Testing
A white window on a black background enables testing high-voltage stability.

Video and RF Outputs
A video output for monitor TVs (75Ω) and RF output for TV receivers (75Ω) are provided as standard.

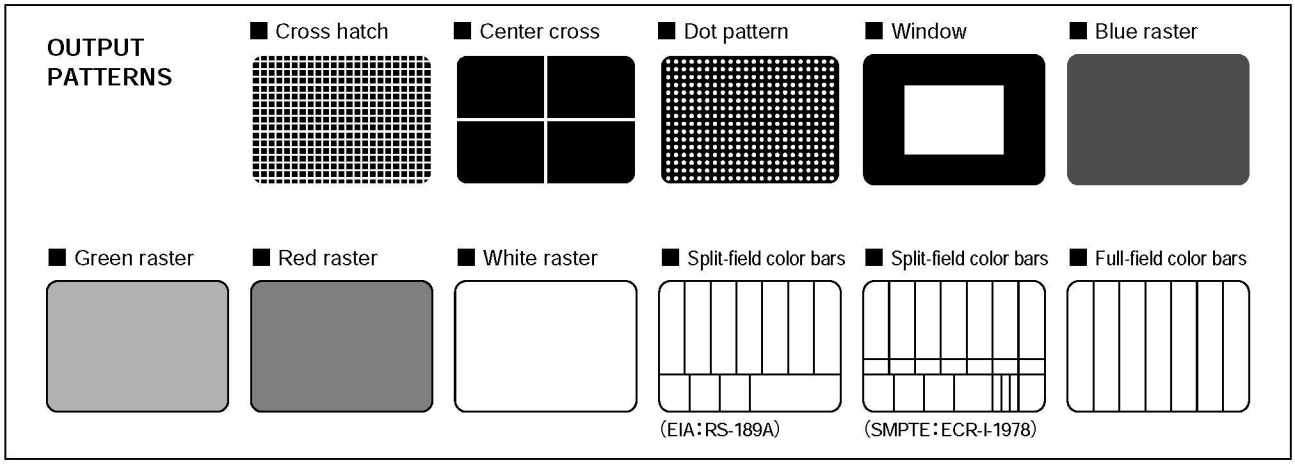
Sync Signal Output
To simplify the task of observing the video signal on an oscilloscope, the vertical and horizontal sync signals are provided as outputs. In addition, the sync signals include equivalent pulses and their phase is locked to the subcarrier frequency.

Interlaced and Progressive Scanning
In addition to the normally-used interlaced scanning, progressive scanning is also possible, thereby reducing jitter in the horizontal lines of the center cross and cross-hatch patterns.

RF Output ON/OFF Switching
When using only the video output or when it is desirable to eliminate interference, the unwanted RF output can be switched off.

RF Channel Switching
While the standard RF channels of the CG-931 are Japanese channels and those of the CG-932 are European channels, they can be switched to the frequencies of other major countries, such as the US channels with the CG-931 and the Italian, Australian, New Zealand and UK channels with the CG-932.

Remote Control Capability
With each model, the remote switching of patterns using an optional remote control unit (RT-62A) is available as a factory option (made to order.)



COLOR PATTERN GENERATORS

SPECIFICATIONS

Pattern

Cross hatch ····· 16×20 (white on black background including one dot at the center of the screen)
Center cross ····· 1×1 (white on black background with cross at the center of the screen)
Dots ····· 15×19 (white on black background)
Window ····· 0.5×0.5 (white on black background)
Rasters ····· Red, blue, green, white
Color bars NTSC ····· EIR: Conforms to RS-189A
SMPTE: Conforms to EIR-1-1978
PAL ····· 75% intensity sequential PAL color bars; bar 1 (divided in two) & bar 2 (divided in three)
I, Q, W off ····· For the color signal, Q and I (U, V for PAL) at the bottom of the screen.
PAL: (U, V, W off) ····· Instead of 100% white and black, a full-field color bar is inserted at the top of the screen.
CHROMA off ····· The chrominance component is eliminated from the color bar signal and the pattern is provided with luminance only.
LUMMI off ····· The luminance component is eliminated from the color bar signal and the pattern is provided with chrominance only.

Video output

Output level ····· CAL: 1.0Vp-p (75Ω load)
VAR: 0 to 1.5Vp-p (75Ω load)

S output
Output level ····· CAL: Y+S, 1Vp-p (SYNC to 100% white), C 286mVp-p (burst), 300mVp-p (PAL only)
VAR: ±10% (both Y+S and C)

RF out
Modulation type ····· Negative
Output voltage ····· 60dBμ min.
Output impedance ····· 75Ω
Picture frequencies

		A	B
CG-931	JAPAN CH	CH2 97.25MHz	CH3 103.25MHz
	USA CH	CH5 77.25MHz	CH6 83.25MHz
CG-932	EUROPE CH	CH3 55.25MHz	CH4 62.25MHz
	ITALY CH	CHA 53.75MHz	CHB 62.25MHz
	AUSTRALIA CH	CH1 57.25MHz	CH2 64.25MHz
	NEW ZEALAND CH	CH2 55.25MHz	CH3 62.25MHz
	U.K. CH	CH71 495.25MHz	CH77 543.25MHz

Sync signal output
Frequency ····· Horizontal and vertical frequencies
Output voltage ····· Approx. 1Vp-p (open output)
Output impedance ····· 75Ω

Subcarrier

Subcarrier frequency ····· NTSC: 3.579545MHz
PAL: 4.433619MHz
Frequency ····· Center frequency ±100Hz (adjustable ±5Hz)
Output voltage ····· Approx. 1Vp-p (open output)
Output impedance ····· 75Ω
Color burst ····· Minimum of 8 cycle at the back porch of the horizontal sync signal

Level control

Chroma level ····· The color bar or raster chrominance level is adjustable approximately ± 20%. However, the yellow and cyan color bar signal amplitude maximum value can be preset to the same level as the 100% white signal.
Luminance level ····· The luminance level of patterns is adjustable approximately 20%. However, presetting of the white signal level for the raster to 100% is possible.
Setup level ····· The setup level of patterns is variable 0 to 10%. However, presetting of the black level to 7.5% is possible.

Sync signals

		CG-931	CG-932
Horizontal scan frequency		15.734kHz	15.625kHz
Vertical scan frequency	Interlaced	59.94Hz	50.00Hz
	Progressive	60.05Hz	50.08Hz

Temperature/humidity for operation ····· 0℃ to 40℃ RH85% or less
Temperature/humidity for characteristics in spec. ····· 10℃ to 35℃ RH85% or less
Power source ····· 100/120/220V AC±10%, 216 to 250V AC, 50/60Hz, Approx. 15W
Case dimensions ····· 212 (W)×133 (H)×272 (D) mm
Maximum dimensions ····· 212 (W) ×156 (H) ×298 (D) mm
Weight ····· Approx. 3.5kg
Accessories ····· Instruction manual (1), accessory cable (model: CA-41)(1), power cord (1)

Video output signal level

CG-931

Allowable value		75% White	Yellow	Cyan	Green	Magenta	Red	Blue	Q	−I	Burst	Black	Synced signal level
Luminance component (IRE)	±5%	77	69	56	48	36	28	15	7.5	7.5	0	7.5	40
Chroma level (IRE)	±5%	—	62	88	82	82	88	62	40	40	40	—	—
Chroma phase (deg)	±5°	—	167	283	241	261	103	347	33	303	180	—	—

CG-932

Allowable value		100% White	75%White	Yellow	Cyan	Green	Magenta	Red	Blue	U	V	Burst	Black	Synced signal level
Luminance component (mVp-p)	±5%	700	525	465	368	308	217	157	60	0	0	0	0	300
Chroma level (mVp-p)	±5%	—	—	470	664	620	620	664	470	300	300	300	—	—
Chroma phase (deg)	+V	—	—	167	283	241	61	103	347	0	90	135	—	—
±5°	−V	—	—	193	77	119	299	257	13	0	270	315	—	—