TRIO

PAL System Color Pattern Generator CG-912

NTSC System Color Pattern Generator CG-911A

These versatile color pattern generators provide all the standard pattern signals necessary for testing and adjustment of color TVs and other video equipment, including split-field, color bar, and gray scale. Easy-to-use pushbuttons command a free selection of 15 types of patterns, providing all the test capability required by today's sophisticated video equipment.

PAL B,M & N

NTSC

TRIO-KENWOOD CORPORATION

The key to clear, sharp images.

The CG-911A Color Pattern Generator accomodates the standard NTSC color TV system while the CG-912 covers the PAL-B (or M and N) system.

Pattern signals available for quick recall include split-field, and color bar as well as the usual raster, dot, center-cross, and crosshatch signals for red, blue, green and white. The generators feature full-field color bars as well as color bars without a luminance signal, a gray scale without a chromaticity signal and other useful pattern signals.

Of course, interlaced and non-interlaced signals can be output and a picture signal output for video equipment has been provided, making these powerful generators the ideal signal generator choices for testing and adjustment of video tape, color TV and other video equipment.

PAL System
Color Pattern Generators

CG-912B
PAL-B System

CG-912M
PAL-M System

CG-912N
PAL-N System

Color patterns to accomodate standard TV systems.

Both NTSC (CG-911A) and PAL B, M, and N (CG-912) standard color TV systems can be accomodated with easy-to-use full-field and split-field color bars as well as gray scale without a luminance signal and color bars without a chromaticity signal.

Level setting.

Setup, chrominance and luminance levels may be arbitrarily set as a convenience in the testing and adjustment of color TVs, etc.

Purity adjustments.

By using the ability of these generators to output red, blue, red and white rasters, verification of purity and testing or adjustments of white balance may be made.

Linearity and convergence adjustments.

The central dot may be used for adjustment of static convergence, and the crosshatch signal can be used to adjust dynamic convergence, and test for or adjust vertical and horizontal amplitude and linearity.

Convergence adjustments.

The center cross and dot may be used to perform raster alignment adjustments and convergence adjustments and testing.

Video and RF outputs.

As a convenience for the testing and adjustment of monitor TVs and other video equipment, a video output (75Ω) and for TV receivers an RF signal output (75Ω) have been provided.

Interlaced and progressive scan.

These generators provide not only the commonly used interlaced scan, but progressive scan as well, enabling a reduction in the flicker of the center cross and crosshatch patterns.

RF Output may be switched on/off.

When only the video signal is to be used, or to prevent interference, the unused RF signal may be switched off.

Electronic switching used in pattern selection.

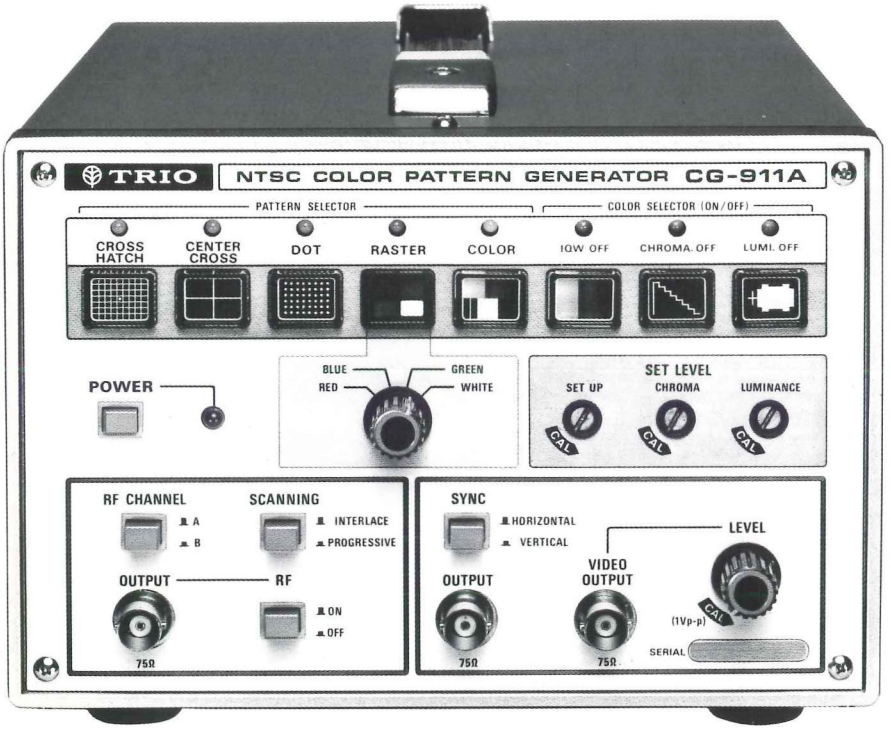
For often-used switching functions, such as pattern selection and color selection, electronic switching has been used to ensure excellent durability and high reliability as well as enhancing the ease-of-use of these generators.

The RF channels of all countries are covered.

The CG-911A provides internal video frequency switching between the Japanese channels (Ch. 2 or Ch. 3) and the U.S.A. channels (Ch. 5 or Ch. 6). Similarly, the CG-912 covers the Western European channels (Ch. 3: 55.25MHz or Ch. 4: 62.25MHz) as well as the Italian, Australian, New Zealand, Brazilian, Argentine and other channels, accomodating a large number of country standards by providing externally controlled frequency adjustment.

Vertical and horizontal sync signals are provided to facilitate oscilloscope observation of the video signal waveform.

The sync signals, including a pulse-equivalent signal are phase-locked to the subcarrier signal.

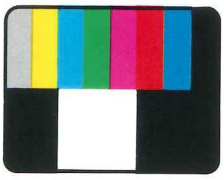


NTSC System
Color Pattern Generator

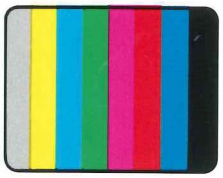
CG-911A

Patterns Generated

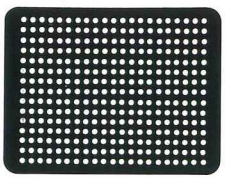
- Split-field color bars



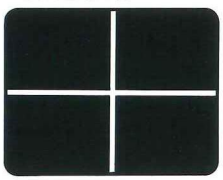
- Full-field color bars



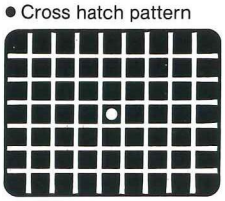
- Dot pattern



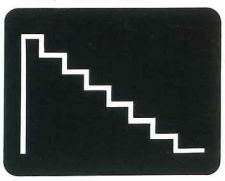
- Center cross



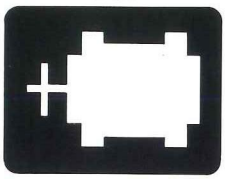
- Cross hatch pattern



- Step waveform

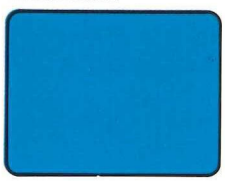


- Chrominance

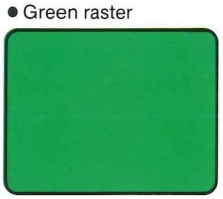


- Red raster

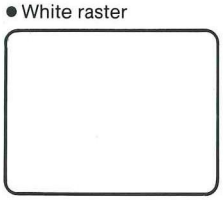
- Blue raster



- Green raster



- White raster



Specifications

CG-911A (CG-912B, M, N)

Patterns

Crosshatch:	16×21, white on a black background with a central dot
Center cross:	1×1, white on a black background with a central cross
Dot:	15×20, white on a black background
Raster:	Red, blue, green and white
Color:	75% luminance sequential NTSC (PAL) color bars Upper screen: 75% luminance white, yellow, cyan, green, magenta, red, blue, and black from the left Lower screen: Q, −I, (U,V), 100% luminance white and black from the left
NTSC, IQW off: (PAL, UVW)	Lower screen Q, −I, (U,V), for the color signal Full-field color bars are inserted in the upper screen instead of 100% black and white
Chroma off:	The chrominance signal is removed from the color bar signal and luminance only is used for the pattern
Luminance off:	The luminance signal is removed from the color bar signal and chrominance only is used for the pattern

Video Output

Output voltage: Fixed: 1.0Vpp (75Ω load)
Adjustable: 0~1.5Vpp (75Ω load)
Output impedance: 75Ω
Polarity: Positive (sync signals are negative)

RF Output

Modulation type: Negative
Picture frequency:
CG-911A

	Japan ch. (MHz)	U.S. ch. (MHz)
A	CH2 (97.25)	CH5 (77.25)
B	CH3 (103.25)	CH6 (83.25)

*The selection of either Japan or U.S. channels is done internal to the generator.

CG-912

CH	W. Europe ch. (MHz)	Italy ch. (MHz)	Australia ch. (MHz)	New Zealand ch. (MHz)	Brazil ch. (MHz)	Argentine ch. (MHz)
A	CH3 (55.25)	CHA (53.75)	CH1 (57.25)	CH2 (55.25)	CH2 (51.25)	CH2 (55.25)
B	CH4 (62.25)	CHB (62.25)	CH2 (64.25)	CH3 (62.25)	CH3 (61.25)	CH3 (61.25)

Output voltage: 10mVrms (min) (output circuit open)
Output impedance: 75Ω

Sync signal Outputs

Frequency: Horizontal and vertical frequencies
Output voltage: Approx. 1Vpp (output circuit open)
Output impedance: 75Ω

Subcarrier Output

Subcarrier frequencies:

NTSC	3.579545MHz
PAL-B	4.433619MHz
PAL-M	3.575611MHz
PAL-N	3.582056MHz

Frequency: IF ±100Hz (adjustable to within ±5Hz)
Output voltage: Approx. 1Vpp (output circuit open)
Output impedance: 75Ω

Sync signals

Broadcast standard		NTSC	PAL-B	PAL-M	PAL-N
Horizontal scan frequency		15.734kHz	15.625kHz	15.734kHz	15.625kHz
Vertical scan frequency	Interlaced scan	59.94Hz	50.00Hz	59.94Hz	50.00Hz
	Sequential scan	60.05Hz	50.08Hz	60.05Hz	50.08Hz

Minimum of 8 cycles on the back porch of the horizontal sync signal.

Color burst video output signal level

NTSC

Tolerance	Luminance component (%) ±5%	Chroma level (%) ±5%	Chroma phase ±5% (deg)
75% White	75	–	–
Yellow	67	33	167
Cyan	53	47	284
Green	44	44	241
Magenta	31	44	261
Red	23	47	104
Blue	8	33	347
Q	–	20	33
−I	–	20	−57
Burst	–	20	180
Black	0	–	–
Sync signal level	40	–	–

PAL

Color	Luminance component (%)	Chroma level (%)	Chroma phase +V	Chroma phase −V
100% White	100	U	–	–
75% White	75	W	–	–
Yellow	67	33	167	193
Cyan	53	47	284	76
Green	44	44	241	119
Magenta	31	44	61	299
Red	23	47	104	256
Blue	8	33	347	13
U	0	20	0	0
V	0	20	90	270
Burst	0	20	135	315
Black	0	–	–	–
Sync level	*43	–	–	–

*PAL-B, M 43, PAL-N 40

Note 1. The chroma level is expressed in % with 100% representing the span from 100% black to 100% white.
2. The chroma phase is expressed with respect to the burst phase (180° with respect to the B-Y axis).
3. The sync signal level and Q, −I and (U,V) levels are expressed with 100% white as the 100% level.

Level Control

Chroma level:	Approx. 20% adjustment of the color bar and raster chrominance (Note that the maximum signal amplitudes for the yellow and cyan color bars can be preset at the same level as 100% white.)
Luminance level:	Approx. 20% adjustment of the luminance for all patterns (Note that white signal level for raster can be is preset to 100%.)
Setup level:	0~10% adjustment of the setup level for all patterns (Note that the black level can be preset to 75%.)

Power requirements: 100/120/220/240V AC, 50/60Hz, approx. 15W
Dimensions: 190(W)×128(H)×300(D)mm
Weight: Approx. 3.5kg
Accessories: Power cord 1pc
Accessory Cable (CA-41) 1pc
Instruction manual 1pc

TRIO-KENWOOD CORPORATION
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CABLE: TRIOINSTRUMENT TOKYO TELEX: 242-3446 TRITES

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