

Color Pattern Generators

CG-960 SERIES

NTSC Color Pattern Generator

CG-961 (NTSC)

PAL Color Pattern Generator

CG-962 (PAL)

※ GP-IB option (Factory option)

OUTLINE

The CG-961 (NTSC) and CG-962 (PAL) are video signal generators, especially suitable to the needs of the audio/visual area which requires a large-sized screen and higher resolutions. The test signal provides a total of 23 types of patterns including a monoscope pattern all of which are generated by the 8-bit digital data. Furthermore, they are equipped with not only the monoscope pattern or color-bar signal, but also other special patterns such as pulse & bar signal, a 5-step modulation staircase signal, H sweep signal and bounce signal, etc. to be used to evaluate the video circuit characteristics -- ready to be used in a wide variety of applications.

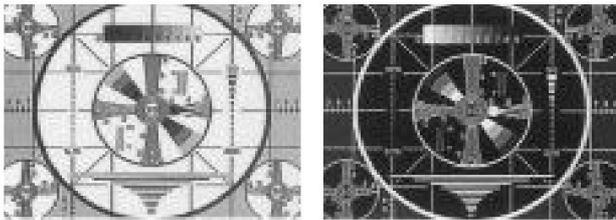
GP-IB
OPTION



FEATURES

Monoscope Pattern

The monoscope pattern provides an horizontal resolution of 1,000 TV lines. It can be used for evaluation of a high-resolution TV monitor.



● Monoscope pattern

● Negative-inverted mono-scope pattern

Y/C-Separated Output supplied as standard

In addition to the composite video output, S-Video output with luminance/chrominance separated terminals are also provided as standard.

Amplitude accuracy of $\pm 3\%$, Phase accuracy of 3°

Since the digital data is generated in 8 bits, it features extremely high accuracy. The resulting amplitude accuracy is maintained to within $\pm 3\%$ or 10 mV, and the phase accuracy is maintained within $\pm 3^\circ$.

Video noise evaluation signal

The 50% D-white signal (luminance noise) or 100% chroma signal (chroma noise) are also provided for evaluation of the video noise.

Bounce signal

The bounce signal to be used for evaluation of the DC clamp is also supplied. It alternates between white and black every second.

Enriched built-in patterns

An H Sweep signal for evaluation of frequency response, and a 5-step modulated staircase wave for DG/DP measurement are also provided. The pulse & bar signal for evaluation of the quality of circuit characteristics. At the same time, two types of color-bar signals – full-field and split – are also built in.

Setup 0%

In answer to market trends, the CG-961 (NTSC) is equipped with the setup 75% design.

RF Output

As an RF output, 1 kHz audio signal is also added. The frequency can be varied from the front panel control.

EEPROM backup

EEPROM is employed for backup of the panel setting status. You don't have to worry about exhaustion of the backup battery.

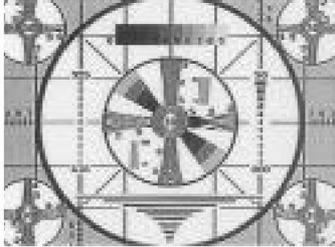
GP-IB option (Factory option)

As a factory set option, the CG-961/962 can be installed the GP-IB interface, for accommodating an automated system.

COLOR PATTERN GENERATORS

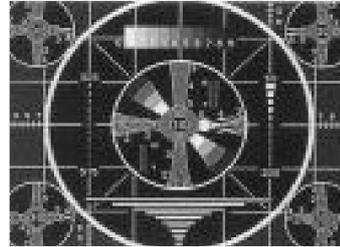
EXAMPLE OF PATTERNS

Monoscope Pattern



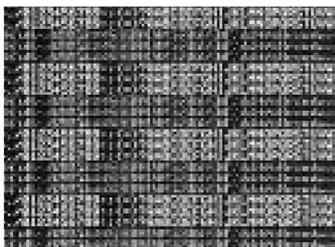
- Screen size, Position
- Resolution
- Streaking
- Total evaluation

Monoscope Pattern



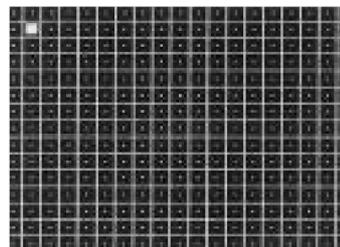
(Inverted, negative)

Characters



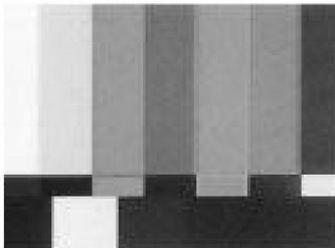
- Focus
- Blur

Cross & Dot



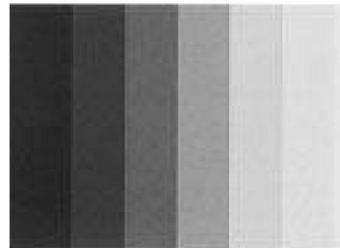
- Convergence
- Alignment
- Deflection yoke polarity check

SMPTE Color-Bar



- Color reproduction
- Saturation
- Brightness

5-Step



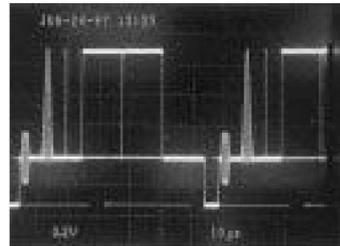
- DG/DP
- Linearity

Magenta



- Color irregular (unevenness) check

Pulse & Bar



- Y/C delay
- Y/C gain difference

50% White



- Brightness noise

CG-961/CG-962

SPECIFICATIONS

| Model | | CG-961 | CG-962 |
|---|--|---|------------------------------|
| Patterns | | | |
| Pattern type | Monoscope | Horizontal resolution of 1,000 TV lines | |
| | Cross & Dot | Cross hatch: 20 × 16, Dot: 19 × 15 | |
| | Window | 0.5 × 0.5 | |
| | Characters | 94 × 24 characters or 47 × 24 characters | |
| | Raster | 100% white, 50% white, 100% chroma, R, G, B, Mg | |
| | Bounce | Alternates between white and black in once per second (approx.) | |
| | H Sweep | 250 kHz - 5 MHz, with marker | 250 kHz - 6 MHz, with marker |
| | Pulse & Bar | 12.5T modulation pulse, 2T pulse, Bar | |
| | Split Color Bar | Conforming SMPTE | Dividing rate same as SMPTE |
| | Full-field Color Bar | Color bar in brightness order | |
| 5-Step | Chroma ON/OFF selectable | | |
| Reverse | Negative inversion of Mono-Scope, Cross & Dot, Wind, Characters | | |
| Chroma | ON/OFF selectable for Color Bar, 5-Step | | |
| Video Output: Y/C Output | | | |
| Output Level | 1 V _{p-p} ± 3% (Sync tip -- 100% white), Color saturation 75%, Setup 0% | | |
| Output Accuracy | ± 3% or within 10 mV, ± 3° | | |
| Output Impedance | 75 Ω ± 10% | | |
| Sub-Carrier Frequency | 3.579545 MHz ± 100 Hz | 4.433619 MHz ± 100 Hz | |
| Horizontal Scanning Frequency | 15.734 kHz | 15.625 kHz | |
| Vertical Scanning Frequency | 59.94 Hz interlaced | 50.00 Hz interlaced | |
| RF Output | | | |
| Output Level | 60 dBμ or more (75Ω loaded) | | |
| Frequency Variable Range | 45 MHz - 104 MHz | 40 MHz - 104 MHz | |
| Audio Signal | Approx. 1 kHz | | |
| Audio Carrier Frequency | 4.5 MHz | 5.5 MHz | |
| Power Requirements | | | |
| Power Voltage | AC 90 V - 250 V, 50/60 Hz | | |
| Power Consumption | Approx. 15 W | | |
| Environmental Conditions | | | |
| Operate Temperature Range | 0 - 40°C, RH 85% or less | | |
| Specification of Guaranteed Temperature Range | 10 - 35°C, RH 85% or less | | |
| Others | | | |
| Dimensions | 212 (W) × 133 (H) × 272 (D) mm | | |
| Weight | Approx. 3.8 kg | | |
| Option | GP-IB : Factory option | | |

Video output signal level

CG-961

| | 75% White | Yellow | Cyan | Green | Magenta | Red | Blue | -I | 100%White | Q | Burst | Black | Synced signal level |
|-----------------------------|-----------|--------|------|-------|---------|-----|------|-----|-----------|-----|-------|-------|---------------------|
| Luminance component (mVp-p) | 536 | 477 | 375 | 316 | 220 | 161 | 59 | 0 | 714 | 0 | 0 | 0 | 286 |
| Chroma level (mVp-p) | — | 480 | 681 | 636 | 636 | 681 | 480 | 286 | — | 286 | 286 | — | — |
| Chroma phase (deg)° | — | 167 | 283 | 241 | 61 | 103 | 347 | 303 | — | 33 | 180 | — | — |

CG-962

| | 75% White | Yellow | Cyan | Green | Magenta | Red | Blue | U | 100%White | V | Burst | Black | Synced signal level |
|-----------------------------|-----------|--------|------|-------|---------|-----|------|-----|-----------|-----|-------|-------|---------------------|
| Luminance component (mVp-p) | 525 | 465 | 368 | 308 | 217 | 157 | 60 | 0 | 700 | 0 | 0 | 0 | 300 |
| Chroma level (mVp-p) | — | 470 | 664 | 620 | 620 | 664 | 470 | 300 | — | 300 | 300 | — | — |
| Chroma phase (deg) | +V | — | 167 | 283 | 241 | 61 | 103 | 347 | 0 | — | 90 | 135 | — |
| | -V | — | 193 | 77 | 119 | 299 | 257 | 13 | 0 | — | 270 | 225 | — |