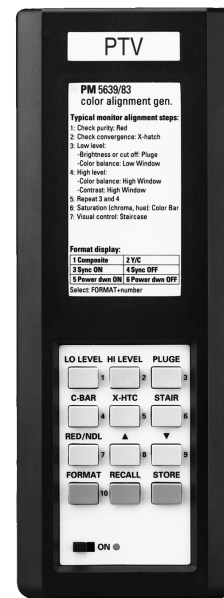
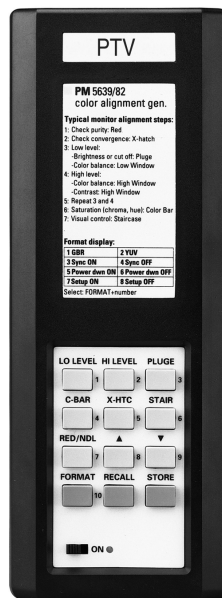


Color Alignment Generators, PM 5639/82 & PM 5639/83



- Battery operated hand-held generators
- Special patterns for color monitor alignment
- Special patterns for projector and video wall alignment
- Easy operation
- All versions: 525/625, PAL, NTSC, Y/C, RGB, YP_BP_R
- Composite sync output
- Interfaces directly to PM 5639 series of Color Analyzers

PM 5639/82 and PM 5639/83 Color Alignment Generators

These Color Alignment Generators set new standards for portable generators. These generators can be used both as standard portable generators or in automatic mode together with the color analyzers in the PM 5639 series. The generators include all the signals used for the adjustment of color monitors as well as adjustment of projectors and video walls. The generators can also be used for general maintenance work. There are signals for both adjustment and some performance checks.

Color Monitors in Studios

Incorrect adjustment of monitors very often jeopardizes the final work or makes the production much too time-consuming. The quality and the matching similarity of the colors on the monitors become more and more important with the increasing interchange of material. Color monitors are typically the only instruments used to judge the result of work.

Projection Color Monitors

Adjustment of projectors is done the same way as with CRT monitors although in some cases it requires different test signals. These signals are also included in the generators.

Videowall Systems

When videowall systems are adjusted, the geometry between the different display units is also important. For this special application, a diagonal cross-hatch test pattern is included in the generators.

The Signal Quality

Standard generators normally supply many fine signals, but they rarely include all the signals needed for the color adjustment of color monitors. When color monitors are adjusted, special attention must be paid to the tracking of the various color components. This has very much been taken into account in the design of these generators.

The Generator Operation

The generators are very simple to operate. To select a signal, just press the button indicating that signal. Checking and configuring the generators is also simple: use the graphic guide printed on the top of the generator together with the format display. To store or recall a preset, just press store or recall followed by the numbered preset key.

Remote Operation using a PM 5639/00

CTR Color Analyzer or PM 5639/10

Projector Color Balance meter

The generators can be remotely-controlled by means of the PM 5639/80 Display unit included with the products. In this case, the preset in the generator is recalled every time a measuring setup is recalled in the color analyzer display unit, thus making the calibration of the monitor even easier.

Product Data

Test Signals

- PLUGE with vertical grey scale
- Window signal
0% to 100% with level indication (5% intervals)
- Flat-field grey signal:
0% to 100% with level indication (5% intervals)
- Diagonal cross-hatch: 16 x 16 lines
- Staircase: 5-step 0% to 100%
- Needle pulse: white and black
- Flat-field red signal: 75% saturation

625 Line Generators only

- Color bar: EBU + Grey 75%, 2:1
- Cross-hatch:
14 x 19 lines + dots + border castellations

525 Line Generators only

- SMPTE Alignment Color Bar Test Signal: in accordance with EG 1-1990
- Cross-hatch:
14 x 17 lines + dots + border castellations

Video Levels Nominal

Composite PAL G and Y/C 625 Line Generator

- 100% Y (luminance): 700 mV
- Sync: 300 mV
- Subcarrier: 4.43361875 MHz, ± 50 Hz

Component RGB and YP_BP_R 625 Line Generator

- 100% RGB: 700 mV
- 100% Y (luminance): 700 mV
- 100% P_B, P_R (B-Y, R-Y color difference): ± 350 mV
- Sync: 300 mV

Composite M-NTSC and Y/C 525 Line Generator

- 100% Y (luminance): 714 mV
- Sync: 286 mV
- Setup: 53.6 mV (7.5 IRE)
- Subcarrier: 3.579545 MHz, ± 50 Hz

Component RGB and YP_BP_R 525 Line Generator

- 100% RGB: 700 mV
- 100% Y (luminance): 700 mV
- 100% P_B, P_R (B-Y, R-Y color difference): ± 350 mV without setup on Y, ± 323.8 mV with setup on Y
- Sync: 300 mV
- Setup: 52.5 mV

Video outputs Connections/Accuracy

Included with the generator is a special cable having four BNC connectors for the video signals. All video output levels are specified with 75 Ω terminations at the end of the interface Sub-D to BNC cable

YP_BP_R Mode

- Luminance level black and white signals $\pm 1\%$ at 100% white
- Y, P_B and P_R levels $\pm 1.5\% \pm 3$ mV
- Sync on Y (selectable): $\pm 2\%$

RGB Mode

- R, G and B output level: common mode $\pm 1\%$ at 100% white, $\pm 1.5\% \pm 3$ mV at other levels, differential $\pm 0.2\%$
- Sync on G (selectable): $\pm 2\%$

Composite and Y/C Generators

- Luminance level: $\pm 1\%$ at 100% white, $\pm 1.5\% \pm 3$ mV at other levels
- Chrominance to luminance amplitude error $< 2\%$, including burst
- Chrominance phase error $< 2^\circ$
- Sync on Y (selectable): $\pm 2\%$

525 Line Generators Only

- YP_BP_R mode: Selectable set-up: 52.5 mV $\pm 1.5\% \pm 3$ mV
- RGB mode: Selectable set-up: 52.5 mV $\pm 1.5\% \pm 3$ mV with color signals Differential $\pm 0.2\%$

Synchronizing Output

- Sync out: 300 mV $\pm 5\%$ in 75 Ω , 5V $\pm 10\%$ when open-ended, output impedance ~ 1.2 k Ω

Output Impedances

- Composite (including sync) out 75 $\Omega \pm 2\%$
- Luminance (including sync) out 75 $\Omega \pm 2\%$
- Chrominance out 75 $\Omega \pm 2\%$
- G (including sync), B, R out 75 $\Omega \pm 2\%$

Presets

- 10 presets selectable from the keyboard and the remote connector

Memory

- Configuration and presets are stored in non-volatile memory. No backup battery needed, nor included

Remote Operation

- The generators may be remotely controlled from the PM 5639/80 Display Unit
The 10 presets can be recalled by selecting the 10 measuring set-ups of the display unit

Factory Programming

- A standard signal-set for monitor calibration is pre-programmed. The presets are programmed equal to the printed text on the keys
- Set-up is enabled in composite and Y/C outputs and disabled in component output versions of the 525 Line Generators

General Specifications

Power

- The generators are powered by a removable rechargeable battery pack. The instrument may be operated when connected to the DC charger. The generators feature an automatic standby mode - which is activated if 10 minutes have passed without any keystroke
- Consumption of charger: < 7 VA
- Operating time: > 6 h (fully charged batteries)

Mechanical Data

● Generator

Height: 34 mm (1.3")
Width: 75 mm (3.0")
Length: 200 mm (7.9")

(excluding connectors)

Weight: 350 g (0.8 lbs)

● Battery Charger:

Height: 86 mm (3.4")
Width: 50 mm (2.0")
Length: 45 mm (1.8")
(except mains connector)
Weight: 275 g (0.61 lbs)

Environmental Conditions

- Operating temperature: +10 to +40 °C (+50° to +104 °F) (non-condensing)
- Storage temperature: - 10 to +70 °C (14° to 158 °F)

Electromagnetic compatibility

- in compliance with EU requirements for EMC.
Emission: EN 55022 class B
Immunity: EN 50082-1/1992 part 1
Basic standards: IEC 801
IEC 77B

Safety

- Safety: in compliance with IEC 348 class 1

Variants and Versions & Accessories

Variants and Versions

The generators comes in four different versions:

- Composite G-PAL configureable to Y/C
- Composite M-NTSC configureable to Y/C
- Component 625 RGB configureable to YP_BP_R
- Component 525 RGB configureable to YP_BP_R
- Black set-up can be selected for the 525 Line component Generators

Accessories

The PM 5639/82 and PM 5639/83 Color Alignment Generators include:

- a PM 5639/82 or PM 5639/83 Generator Unit
- an Interface Cable sub-D to BNC
- a FCC 68/J11 Interface Cable for Remote Control
- a 110V AC or 230V AC Battery Charger
- a Rechargeable Battery Pack
- an Instruction Manual

PM 5639 Related Products

| | | |
|-------------|----------------|--|
| PM 5639/00 | 9449 056 39001 | CRT colour analyser with hand-held display unit |
| PM 5639/01 | 9449 056 39011 | CRT colour analyser with PC interface & software |
| PM 5639/02 | 9449 056 39021 | CRT Colour Alignment System for Barco® Monitors |
| PM 5639/03 | 9449 056 39031 | CRT Colour Alignment System for Sony® Monitors Projector |
| PM 5639/06 | 9449 056 39061 | LCD Colour Analyser with handheld display unit |
| PM 5639/20 | 9449 056 39201 | Industrial CRT Colour Analyser, single sensor version |
| PM 5639/21 | 9449 056 39211 | Industrial CRT Colour Analyser, double sensor version |
| PM 5639/25 | 9449 056 39251 | Miniature CRT Colour Analyser |
| PM 5639/26 | 9449 056 39261 | LCD Colour Analyser for Industrial and PC-applications |
| PM 5639G/82 | 9449 056 39823 | Colour Alignment Generator, component 625 lines |
| PM 5639M/82 | 9449 056 39828 | Colour Alignment Generator, component 525 lines |
| PM 5639G/83 | 9449 056 39833 | Colour Alignment Generator, composite 625 lines, PAL |
| PM 5639M/83 | 9449 056 39838 | Colour Alignment Generator, composite 525 lines, NTSC |

Options

| | | |
|------------|----------------|---|
| PM 5639/61 | 9449 056 39611 | Expansion kit - to upgrade PM 5639/20 to PM 5639/21 |
| PM 5639/62 | 9449 056 39621 | Expansion kit -to upgrade PM 5639/00 to PM 5639/01 |
| PM 5639/63 | 9449 056 39631 | CRT Auto Colour Alignment Option for Barco® Monitors |
| PM 5639/64 | 9449 056 39641 | CRT Auto Colour Alignment Option for Sony® Monitors |
| PM 5639/80 | 9449 056 39801 | Display unit |
| PM 5639/90 | 9449 056 39901 | CRT Colour sensor |
| PM 5639/92 | 9449 056 39921 | Industrial CRT sensor |
| PM 5639/93 | 9449 056 39931 | Miniature CRT colour sensor |
| PM 5639/94 | 9449 056 39941 | LCD Colour Sensor |
| PM 8549/06 | 9449 085 49061 | 6 m extension cable for PM 5639 |
| PM 8549/10 | 9449 085 49101 | 10 m extension cable for PM 5639 |
| PM 8550 | 9449 085 50001 | Calibrating software for PM 5639/90 and PM 5639/92-93 |
| PM 8563 | 9449 085 63001 | Interface cable for PM5639/80 to connect to PM8639/93 and PM5639/94 |
| PM 8664 | 9449 085 64001 | Auto set-up cable for auto alignment of Barco HDM 5049 monitor series |

Ordering Information

| | | |
|-------------|----------------|---|
| PM 5639G/82 | 9449 056 39823 | Colour Alignment Generator, component 625 lines |
| PM 5639M/82 | 9449 056 39828 | Colour Alignment Generator, component 525 lines |
| PM 5639G/83 | 9449 056 39833 | Colour Alignment Generator, composite 625 lines, PAL |
| PM 5639M/83 | 9449 056 39838 | Colour Alignment Generator, composite 525 lines, NTSC |

FOR FURTHER INFORMATION

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