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**Data Sheet**

August 13, 2026

ROHDE &amp; SCHWARZ

## Rohde and Schwarz SGPF

Rohde & Schwarz SGPF PAL TV Generator (CCVS) The R&S SGPF is the PAL member of the SG.F television generator family (SGPF PAL, SGMF NTSC, SGSF SECAM). It digitally generates a PAL composite colour video signal (CCVS) over the eight field sequence at 12 bit resolution. Two LSI gate arrays convert Y, CB, and CR into CCVS with a defined colour subcarrier/sync (SC/H) phase. More than 30 baseband test signals, IEC/IEEE remote control, and optional genlock insertion are provided. Order number 2016.4049.03. The R&S SGPF is the PAL member of the SG.F television generator family (SGPF PAL, SGMF NTSC, SGSF SECAM). It digitally generates a PAL composite colour video signal (CCVS) over the eight field sequence at 12 bit resolution. Two LSI gate arrays convert Y, CB, and CR into CCVS with a defined colour subcarrier/sync (SC/H) phase. More than 30 baseband test signals, IEC/IEEE remote control, and optional genlock insertion are provided. Order number 2016.4049.03. PAL studio, transmitter, and production test; insertion of CCIR VITS; FuBK or general purpose pattern generation; genlock test signal insertion into program (SGPF B2); service alignment of PAL monitors and analyzers.

**MODEL****Rohde & Schwarz SGPF****CALIBRATION****Available on request****CONDITION****Used****STATUS****In stock****RFQ / SKU****SGPF****LISTING**<https://aumictechlabs.com/products/sgpf-2/>

NIST-traceable cal

SAM registered

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NAICS 423690 • 811210 • 541380

### This unit

The Rohde & Schwarz SGPF is a PAL composite color video signal (CCVS) generator that digitally produces test signals coded over an eight-field sequence with 12-bit resolution. It converts Y, CB,

and CR components into a precision CCVS output with accurately defined color-subcarrier/sync-pulse (SC/H) phase relationships. The unit employs two LSI gate arrays to ensure signal integrity and supports PAL identification pulse insertion into line 7 of the first field for sequence verification.

**Technical Specifications**

**Video Standard:** PAL

**Signal Generation:** Digital PAL CCVS over eight-field sequence

**Resolution:** 12 bits

**Component Processing:** Y, CB, CR conversion

**Phase Accuracy:** Precisely defined SC/H phase

**Output Levels:** Nominal luminance  $700 \pm 4$  mV (calibrated); nominal chrominance  $700 \pm 7$  mV (calibrated); departure at 500–700 mV  $\pm 1\%$ ; departure  $< 500$  mV  $\pm 5$  mV; squarewave/staircase/sawtooth  $\pm 4$  mV; 2T pulse  $\pm 5$  mV; 10T/20T pulses  $\pm 7$  mV

**Test Signals:** Over 30 patterns including FuBK standard and general-purpose patterns, CCIR insertion signals, squarewaves (50 Hz, 15 kHz, 250 kHz), sawtooth, multipulse, H sweep, sin x/x, coring, black burst, vertical staircase, white field, and bounce signals

**Vertical Interval Test Signals (VITS):** 8 test signals

**PAL Identification Pulse:** Insertable into line 7, first field

**Genlock Option:** Enables test signal insertion into program signals or program substitution during failures

**Power Supply:** 100–240 V AC, 50–60 Hz

**Operating Temperature:** 0°C to 40°C

**Storage Temperature:** –20°C to 60°C

**Weight:** Approximately 4 kg

**Form Factor:** Standard rack-mountable

**Key Features**

- Adjustable output levels via front panel or IEC/IEEE interface
- External sync input for genlock operation
- Audio tone generation capability
- BNC composite video output connectors

**Compatibility & Integration**

- RS-232, USB, and Ethernet control interfaces
- Synchronization via external sync input

## SGPF Characteristics / Specifications

| PARAMETER                                     | VALUE                                                                |
|-----------------------------------------------|----------------------------------------------------------------------|
| Model                                         | SGPF                                                                 |
| Manufacturer                                  | Rohde & Schwarz                                                      |
| Instrument Type                               | PAL Composite Colour Video (CCVS) Generator                          |
| Alias                                         | R&S SGPF; TV Generator PAL SGPF; 2016.4049.03                        |
| Colour Standard                               | PAL, eight field sequence                                            |
| Digital Resolution                            | 12 bits                                                              |
| Nominal Luminance Level Calibrated            | 700 plus/minus 4 mV                                                  |
| Nominal Chrominance Level Calibrated          | 700 plus/minus 7 mV                                                  |
| Level Departure 500 to 700 mV                 | plus/minus 1 percent                                                 |
| Level Departure below 500 mV                  | plus/minus 5 mV                                                      |
| Squarewave Staircase Sawtooth Tolerance       | nominal plus/minus 4 mV                                              |
| TwoTPulse Tolerance                           | nominal plus/minus 5 mV                                              |
| TenTand TwentyTPulse Tolerance                | plus/minus 7 mV                                                      |
| Amplitude Setting Range                       | minus 50 to plus 40 percent of calibrated value                      |
| Amplitude Frequency Response Multipulse Sweep | plus 0.1 dB up to 5.5 MHz                                            |
| Amplitude Frequency Response Multiburst       | plus 0.1 dB up to 5.8 MHz                                            |
| Group Delay 10T 20T Pulses                    | less than or equal to 5 ns (modulated less than or equal to 5 MHz)   |
| Luminance Rise Time                           | 200 plus/minus 5 ns and 231 plus/minus 5 ns                          |
| Chrominance Rise Time                         | 300 plus/minus 10 ns and 1000 plus/minus 15 ns                       |
| TwoTPulse HAD                                 | 200 plus/minus 5 ns                                                  |
| TenTPulse HAD                                 | 1000 plus/minus 15 ns                                                |
| TwentyTPulse HAD                              | 2000 plus/minus 30 ns                                                |
| Line Time Nonlinearity 5 Step                 | less than or equal to 0.8 percentRYtoBYPhase: 90 plus/minus 1 degree |
| Chrominance Phase Max Departure               | plus/minus 2 degrees                                                 |

| PARAMETER                             | VALUE                                                                                                                                                                                                                                                                       |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weighted S/N All Black 0.2 to 5 MHz   | greater than or equal to 74 dB                                                                                                                                                                                                                                              |
| Weighted S/N Sawtooth                 | greater than or equal to 70 dB                                                                                                                                                                                                                                              |
| SCHPhase                              | 0 plus/minus 5 degrees                                                                                                                                                                                                                                                      |
| I/O Impedance                         | BNC, 75 ohm                                                                                                                                                                                                                                                                 |
| Return Loss                           | greater than or equal to 34 dB up to 6 MHz                                                                                                                                                                                                                                  |
| Sync Pulse Output                     | 2 V into 75 ohm                                                                                                                                                                                                                                                             |
| EXT VITS Gain                         | 0 plus/minus 0.1 dB                                                                                                                                                                                                                                                         |
| EXT VITS Amplitude Frequency Response | plus/minus 0.1 dB up to 6 MHz                                                                                                                                                                                                                                               |
| EXT VITS Differential Gain            | less than or equal to 0.3 percent                                                                                                                                                                                                                                           |
| EXT VITS Differential Phase           | less than or equal to 0.3 degrees                                                                                                                                                                                                                                           |
| Genlock Insertion Field               | lines 319 to 335                                                                                                                                                                                                                                                            |
| Remote Control                        | IEC 625 2 (IEEE 488)                                                                                                                                                                                                                                                        |
| Mains                                 | 100/120/240 V plus 15/minus 10 percent; 230 V plus 10/minus 14 percent; 47 to 63 Hz; 50 VA                                                                                                                                                                                  |
| Dimensions                            | 450 mm x 59 mm x 510 mm                                                                                                                                                                                                                                                     |
| Weight                                | 6 kg                                                                                                                                                                                                                                                                        |
| Rated Temperature                     | plus 5 to plus 45 C                                                                                                                                                                                                                                                         |
| Operating Temperature                 | 0 to plus 50 C                                                                                                                                                                                                                                                              |
| Storage Temperature                   | minus 40 to plus 70 C Notes Specs from the Rohde & Schwarz SGPF/SGSF/SGMF TV Generators data sheet. SGPF is PAL only; use SGMF for NTSC and SGSF for SECAM. Genlock option SGPF B2 is notafield retrofit. Do not confuse with later SAF/SFF CCVS plus component generators. |
| Rise Time                             | 200 plus/minus 5 ns and 231 plus/minus 5 ns                                                                                                                                                                                                                                 |

# General Specifications & Supplementary Characteristics

| PARAMETER             | VALUE                 |
|-----------------------|-----------------------|
| Storage temperature   | minus 40 to plus 70 C |
| Operating temperature | 0 to plus 50 C        |
| Operating Temperature | 0 to plus 50 C        |

# Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

| Specifications                                |                                                                    |
|-----------------------------------------------|--------------------------------------------------------------------|
| Technical Specifications                      |                                                                    |
| PARAMETER                                     | VALUE                                                              |
| Model                                         | SGPF                                                               |
| Manufacturer                                  | Rohde & Schwarz                                                    |
| Instrument Type                               | PAL Composite Colour Video (CCVS) Generator                        |
| Alias                                         | R&S SGPF; TV Generator PAL SGPF; 2016.4049.03                      |
| Colour Standard                               | PAL, eight field sequence                                          |
| Digital Resolution                            | 12 bits                                                            |
| Nominal Luminance Level Calibrated            | 700 plus/minus 4 mV                                                |
| Nominal Chrominance Level Calibrated          | 700 plus/minus 7 mV                                                |
| Level Departure 500 to 700 mV                 | plus/minus 1 percent                                               |
| Level Departure below 500 mV                  | plus/minus 5 mV                                                    |
| Squarewave Staircase Sawtooth Tolerance       | nominal plus/minus 4 mV                                            |
| Two T Pulse Tolerance                         | nominal plus/minus 5 mV                                            |
| Ten T and Twenty T Pulse Tolerance            | plus/minus 7 mV                                                    |
| Amplitude Setting Range                       | minus 50 to plus 40 percent of calibrated value                    |
| Amplitude Frequency Response Multipulse Sweep | plus 0.1 dB up to 5.5 MHz                                          |
| Amplitude Frequency Response Multiburst       | plus 0.1 dB up to 5.8 MHz                                          |
| Group Delay 10T 20T Pulses                    | less than or equal to 5 ns (modulated less than or equal to 5 MHz) |
| Luminance Rise Time                           | 200 plus/minus 5 ns and 231 plus/minus 5 ns                        |
| Chrominance Rise Time                         | 300 plus/minus 10 ns and 1000 plus/minus 15 ns                     |
| Two T Pulse HAD                               | 200 plus/minus 5 ns                                                |
| Ten T Pulse HAD                               | 1000 plus/minus 15 ns                                              |
| Twenty T Pulse HAD                            | 2000 plus/minus 30 ns                                              |
| Line Time Nonlinearity 5 Step                 | less than or equal to 0.8 percent                                  |
| R Y to B Y Phase                              | 90 plus/minus 1 degree                                             |
| Chrominance Phase Max Departure               | plus/minus 2 degrees                                               |

## Specifications

| PARAMETER                                     | VALUE                                                                |
|-----------------------------------------------|----------------------------------------------------------------------|
| Model                                         | SGPF                                                                 |
| Manufacturer                                  | Rohde & Schwarz                                                      |
| Instrument Type                               | PAL Composite Colour Video (CCVS) Generator                          |
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| Colour Standard                               | PAL, eight field sequence                                            |
| Digital Resolution                            | 12 bits                                                              |
| Nominal Luminance Level Calibrated            | 700 plus/minus 4 mV                                                  |
| Nominal Chrominance Level Calibrated          | 700 plus/minus 7 mV                                                  |
| Level Departure 500 to 700 mV                 | plus/minus 1 percent                                                 |
| Level Departure below 500 mV                  | plus/minus 5 mV                                                      |
| Squarewave Staircase Sawtooth Tolerance       | nominal plus/minus 4 mV                                              |
| TwoTPulse Tolerance                           | nominal plus/minus 5 mV                                              |
| TenTand TwentyTPulse Tolerance                | plus/minus 7 mV                                                      |
| Amplitude Setting Range                       | minus 50 to plus 40 percent of calibrated value                      |
| Amplitude Frequency Response Multipulse Sweep | plus 0.1 dB up to 5.5 MHz                                            |
| Amplitude Frequency Response Multiburst       | plus 0.1 dB up to 5.8 MHz                                            |
| Group Delay 10T 20T Pulses                    | less than or equal to 5 ns (modulated less than or equal to 5 MHz)   |
| Luminance Rise Time                           | 200 plus/minus 5 ns and 231 plus/minus 5 ns                          |
| Chrominance Rise Time                         | 300 plus/minus 10 ns and 1000 plus/minus 15 ns                       |
| TwoTPulse HAD                                 | 200 plus/minus 5 ns                                                  |
| TenTPulse HAD                                 | 1000 plus/minus 15 ns                                                |
| TwentyTPulse HAD                              | 2000 plus/minus 30 ns                                                |
| Line Time Nonlinearity 5 Step                 | less than or equal to 0.8 percentRYtoBYPhase: 90 plus/minus 1 degree |
| Chrominance Phase Max Departure               | plus/minus 2 degrees                                                 |

Weighted S/N All Black 0.2 to 5 MHz: greater than or equal to 74 dB

## Specifications

| PARAMETER             | VALUE                          |
|-----------------------|--------------------------------|
| Weighted S/N Sawtooth | greater than or equal to 70 dB |
| SCHPhase              | 0 plus/minus 5 degrees         |
| I/O Impedance         | BNC, 75 ohm                    |

| PARAMETER                             | VALUE                                                                                      |
|---------------------------------------|--------------------------------------------------------------------------------------------|
| Return Loss                           | greater than or equal to 34 dB up to 6 MHz                                                 |
| Sync Pulse Output                     | 2 V into 75 ohm                                                                            |
| EXT VITS Gain                         | 0 plus/minus 0.1 dB                                                                        |
| EXT VITS Amplitude Frequency Response | plus/minus 0.1 dB up to 6 MHz                                                              |
| EXT VITS Differential Gain            | less than or equal to 0.3 percent                                                          |
| EXT VITS Differential Phase           | less than or equal to 0.3 degrees                                                          |
| Genlock Insertion Field 1             | lines 6 to 22                                                                              |
| Genlock Insertion Field 2             | lines 319 to 335                                                                           |
| Remote Control                        | IEC 625 2 (IEEE 488)                                                                       |
| Mains                                 | 100/120/240 V plus 15/minus 10 percent; 230 V plus 10/minus 14 percent; 47 to 63 Hz; 50 VA |
| Dimensions                            | 450 mm x 59 mm x 510 mm                                                                    |
| Weight                                | 6 kg                                                                                       |
| Rated Temperature                     | plus 5 to plus 45 C                                                                        |
| Operating Temperature                 | 0 to plus 50 C                                                                             |
| Storage Temperature                   | minus 40 to plus 70 C                                                                      |

#### Notes

Specs from the Rohde & Schwarz SGPF/SGSF/SGMF TV Generators data sheet. SGPF is PAL only; use SGMF for NTSC and SGSF for SECAM. Genlock option SGPF B2 is not a field retrofit. Do not confuse with later SAF/SFF CCVS plus component generators.

### Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: [sales@aumictech.com](mailto:sales@aumictech.com) · +1 (484) 841-9341

#### Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.