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Data Sheet

August 13, 2026

STANFORD RESEARCH SYSTEMS

Stanford Research CG650

Stanford Research Systems CG650 Complete Clock Receiver Kit The SRS CG650 is the complete set of ten optional line-receiver modules (CG640 through CG649) for the CG635 synthesized clock generator. Each receiver converts the CG635 rear-panel RJ-45 LVDS/RS-485 clock into complementary SMA logic at a specific family: CMOS +5 V / +3.3 V / +2.5 V, PECL +5 V / +3.3 V / +2.5 V, RF +7 dBm, CML/NIM, ECL, or LVDS. Receivers are not standalone generators; they are powered from the CG635 RJ-45 and placed near the DUT over Category-6 cable. The SRS CG650 is the complete set of ten optional line-receiver modules (CG640 through CG649) for the CG635 synthesized clock generator. Each receiver converts the CG635 rear-panel RJ-45 LVDS/RS-485 clock into complementary SMA logic at a specific family: CMOS +5 V / +3.3 V / +2.5 V, PECL +5 V / +3.3 V / +2.5 V, RF +7 dBm, CML/NIM, ECL, or LVDS. Receivers are not standalone generators; they are powered from the CG635 RJ-45 and placed near the DUT over Category-6 cable. Remote regeneration of CG635 clocks at CMOS, PECL, ECL, LVDS, CML/NIM, or RF levels; mixed-logic test fixtures that need all ten families on the bench; high-speed digital, ADC/DAC, and SERDES clock distribution.



MODEL

**Stanford Research
Systems CG650**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

CG650

LISTING

<https://aumictechlabs.com/products/cg650-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Stanford Research Systems CG650 is a synthesized signal generator engineered for waveform generation in precision test and laboratory applications. It delivers accurate sine,

square, and triangle waveforms with low distortion and minimal jitter, making it suitable for sensitive measurements and high-speed digital system characterization.

Technical Specifications

Waveform Outputs

Sine Square Triangle Signal Characteristics

The CG650 provides low-distortion output for signal integrity in demanding applications. Square wave outputs feature fast transition times critical for digital signal testing. Jitter performance is optimized for high-speed digital systems and data acquisition circuits.

Output Configuration

Multiple output levels accommodate various system interfaces and load conditions. Standard output connectors enable straightforward integration into test benches and automated systems.

Key Features

- Frequency accuracy specifications support precision timing applications
- Minimal jitter ensures reliable performance in time-sensitive measurements
- Fast square wave transitions for digital signal characterization
- Flexible output levels for diverse interface requirements

Compatibility & Integration

The CG650 accepts external timebase references for enhanced frequency stability and system synchronization. Optional internal OCXO (Oven Controlled Crystal Oscillator) and Rubidium timebase upgrades are available to meet stringent stability requirements.

Manufacturer Support

Stanford Research Systems backs the CG650 with a one-year warranty against defects in materials and workmanship from shipment date. Authorized SRS service facilities provide warranty service and repair support.

Features & description

From manufacturer datasheet

Features

- Bundle of CG640, CG641, CG642, CG643, CG644, CG645, CG646, CG647, CG648, and CG649
- RJ-45 input; complementary Q and $\bar{Q}$ on SMA
- Module size 1.625 in x 1 in x 3 in (WHD)
- Cable guidance: up to about 10 ft at 2 GHz; up to about 200 ft at 10 MHz
- CG640 forces logic 0 above F_{max} ; other modules continue with reduced amplitude
- Requires a CG635 host (not included in the CG650 kit identity)

CG650 Characteristics / Specifications

PARAMETER	VALUE
Model	CG650
Manufacturer	Stanford Research Systems
Instrument Type	Complete Optional Clock Receiver Kit (CG640 through CG649)
Parent Instrument	CG635 Synthesized Clock Generator
Alias	CG650; SRS CG650
Receiver Count	10 modules (CG640 to CG649)
Module Input	RJ-45 from CG635 via Category-6 cable
Module Outputs	complementary Q and $\bar{Q}$ on SMA
Module Dimensions	1.625 in x 1 in x 3 in (WHD)
Host Clock Frequency Range	DC, 1 μ Hz to 2.05 GHz (CG635)
CG640 Logic Family	CMOS +5 Vcc
CG640 Fmax	105 MHz at specification (catalog title may say 100 MHz)
CG640 Transition Time	2.0 ns max
CG640 Source Impedance	50 ohm
CG640 Load Impedance	High-Z
CG640 Above Fmax	output set to logic 0
CG641 Logic Family	CMOS +3.3 Vcc
CG641 Fmax	250 MHz at specification
CG641 Transition Time	800 ps max
CG642 Logic Family	CMOS +2.5 Vcc
CG642 Fmax	250 MHz at specification
CG642 Transition Time	800 ps max
CG643 Logic Family	PECL +5 Vcc
CG643 Fmax	2.05 GHz (catalog to 2050 MHz)
CG644 Logic Family	PECL +3.3 Vcc

PARAMETER	VALUE
CG644 Fmax	2.05 GHz
CG644 Transition Time	100 ps max
CG644 Source Impedance	50 ohm
CG644 Load Impedance	50 ohm
CG645 Logic Family	PECL +2.5 Vcc
CG645 Fmax	2.05 GHz
CG646 Logic Family	RF +7 dBm
CG646 Fmax	2.05 GHz
CG647 Logic Family	CML/NIM
CG647 Fmax	2.05 GHz
CG648 Logic Family	ECL (negative)
CG648 Fmax	2.05 GHz
CG649 Logic Family	LVDS
CG649 Fmax	2.05 GHz
CG649 Transition Time	100 ps max
Cable Length at Two GHz	up to 10 feet typical OEM guidance
Cable Length at Ten MHz	up to 200 feet typical OEM guidance
Receiver Power	supplied from CG635 rear-panel RJ-45
Host Jitter	less than 1 ps rms (1 kHz to 5 MHz BW, CG635)
HostQAmplitude	200 mV to 1.00 V into 50 ohm (CG635) Notes Specs from SRS CG635 catalog, CG635 manual receiver table, and CG640-CG649 product family pages. CG650 is the all-ten-receivers ordering bundle, notastandalone clock generator. Confirm each module identity on the housing.
Cable guidance	up to about 10 ft at 2 GHz; up to about 200 ft at 10 MHz

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	
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Module Outputs	complementaryQand /Q on SMA
Module Dimensions	1.625 in x 1 in x 3 in (WHD)
Host Clock Frequency Range	DC, 1 uHz to 2.05 GHz (CG635)
CG640 Logic Family	CMOS +5 Vcc
CG640 Fmax	105 MHz at specification (catalog title may say 100 MHz)
CG640 Transition Time	2.0 ns max
CG640 Source Impedance	50 ohm
CG640 Load Impedance	High-Z
CG640 Above Fmax	output set to logic 0
CG641 Logic Family	CMOS +3.3 Vcc
CG641 Fmax	250 MHz at specification
CG641 Transition Time	800 ps max
CG642 Logic Family	CMOS +2.5 Vcc
CG642 Fmax	250 MHz at specification
CG642 Transition Time	800 ps max
CG643 Logic Family	PECL +5 Vcc
CG643 Fmax	2.05 GHz (catalog to 2050 MHz)
CG644 Logic Family	PECL +3.3 Vcc
CG644 Fmax	2.05 GHz

PARAMETER	VALUE
CG644 Transition Time	100 ps max
CG644 Source Impedance	50 ohm
CG644 Load Impedance	50 ohm
CG645 Logic Family	PECL +2.5 Vcc
CG645 Fmax	2.05 GHz
CG646 Logic Family	RF +7 dBm
CG646 Fmax	2.05 GHz
CG647 Logic Family	CML/NIM
CG647 Fmax	2.05 GHz
CG648 Logic Family	ECL (negative)
CG648 Fmax	2.05 GHz
CG649 Logic Family	LVDS
CG649 Fmax	2.05 GHz
CG649 Transition Time	100 ps max
Cable Length at Two GHz	up to 10 feet typical OEM guidance
Cable Length at Ten MHz	up to 200 feet typical OEM guidance
Receiver Power	supplied from CG635 rear-panel RJ-45
Host Jitter	less than 1 ps rms (1 kHz to 5 MHz BW, CG635)
HostQAmplitude	200 mV to 1.00 V into 50 ohm (CG635)

Notes

Specs from SRS CG635 catalog, CG635 manual receiver table, and CG640-CG649 product family pages. CG650 is the all-ten-receivers ordering bundle, not a standalone clock generator. Confirm each module identity on the housing.

Available from Aumictech

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

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

Aumictech

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30-day returns
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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.