



S1131 Signal Generator Datasheet



Saluki Technology Inc.

The document applies to the instruments of the following models:

- S1131 signal generator (9kHz - 3GHz).

Standard Accessories of S1131 Signal Generator :

Item	Name	Qty
1	Main Machine	1 Set
2	Power Cord	1 pcs
3	CD	1 pcs

Options of S1131 Signal Generator :

Option No.	Item
S1131-01	Internal Baseband Data Generation Option
S1131-02	RF Upconversion Device
S1131-03	Linear frequency modulation function
S1131-04	Frequency hopping function
S1131-05	60MHz real-time bandwidth option (standard bandwidth 20MHz)
S1131-06	Amplitude modulation options (SSB/DSB/CW)
S1131-07	High stability time base option
S1131-08	Extend the frequency range of S1131 to 4kHz
S1131-09	Freq, Power level Control Software
S1131-10	Power Meter Control Kit (with UP60)

Preface

Thanks for choosing Saluki Technology Inc instrument. We devote ourselves to meeting your demands, providing you high-quality measuring instrument and the best after-sales service. We persist with “superior quality and considerate service”, and are committed to offering satisfactory products and service for our clients.

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Saluki Technology

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Product Quality Assurance

The warranty period of the product is 18 months from the date of delivery. The instrument manufacturer will repair or replace damaged parts according to the actual situation within the warranty period. The user should return the product to the manufacturer and prepay mailing costs. The manufacturer will return the product and such costs to the user after maintenance.

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1. Overview

S1131 is a high-performance RF signal generator. It provides multiple functions such as CW signal generate, analog modulation, digital modulation, pulse modulation, frequency/amplitude sweep, step/list sweep etc. S1131 also provides flexible interfaces and support SCPI for easy remote control. S1131 is perfect suitable for education, RF component manufacture and maintenance.

Key Features

- Frequency range: 9kHz - 3.0GHz
- Typical output power: -120dBm to +10dBm
- Multi sweep mode, Step sweep, list sweep, frequency sweep and power sweep
- Standard low frequency output function, sine, square, triangle and saw tooth wave forms are supported
- Standard analog modulation functions, AM, FM, PM and Pulse modulation, minimum pulse width is 100ns
- Standard digital modulation functions, 2ASK, 2,4,8FSK, 2,4,8PSK supported
- Support linear frequency modulation, can simulate radar signals
- Standard IF input port
- USB/ LAN remote control interface, SCPI supported.

2. Specification Details

2. 1. Frequency

Frequency		
Frequency Range	9kHz - 3GHz	
Frequency Resolution	0.23Hz	
Reference Frequency	10MHz	
Temperature Stability (Typ.)	±1ppm	Option: ±100ppb
Internal Reference Output	10MHz, ≥ +2dBm (typ.)	
Sweep Modes	Step Sweep / List Sweep	
Sweep Type	Sweep / Amplitude / Sweep+Amplitude	
Sweep Point	Step Sweep: 2 - 65535 List Sweep: 2 - 16383	
Trigger Mode	Free, External	
Dwell Time	5ms – 50s	

2. 2. Amplitude

Amplitude	
Output Power Range	9kHz to 50kHz: -120dBm to 0 dBm; 50kHz to 3GHz: -120dBm to +10dBm
Power Accuracy	$\leq \pm 1.5\text{dB}$ (9kHz to 3GHz) $\leq \pm 2.0\text{dB}$ (4Khz to 9kHz)

2. 3. Signal Purity

Spectral Purity Specifications		
SSB Phase Noise (dBc/Hz)		10kHz
	f= 1GHz	-93dBc/Hz
Harmonic	$\leq -30\text{dBc}$ (typ.)	
Non-Harmonic	$\leq -50\text{dBc}$ (typ.)	

2. 4. Analogue Modulation Specifications

Modulation Specification			
Internal Modulation Signal Generator (LF)	Waveform	Sine, square, triangle, sawtooth	
	Frequency Range	Sine wave:	1Hz – 500kHz
		Square	1Hz - 20kHz
		triangle, sawtooth	1Hz - 100kHz
Pulse Modulation	Break-make Ratio		≥60dB
	Pulse Cycle Range		200ns - 160s
	Pulse width		100ns-85s
Amplitude Modulation	Modulation Depth		0 - 100%
	Modulation Rate		10Hz – 1MHz
Phase Modulation	Modulation Phase		0° - 360°
	Modulation Rate		10Hz – 1MHz
Frequency Modulation	Frequency Offset		5MHz (max.)
	Modulation Rate		10Hz – 1MHz

2. 5. IF Frequency Upper Conversion Settings

Frequency Upper Conversion	
Input IF frequency range	190MHz $\pm$ 30MHz
Output frequency range	201MHz to 3GHz
Output power range	-120dBm to +10dBm

2. 6. Digital Modulation

Digital Modulation	
Modulation Source	Internal and external
Internal Source	ASK/2FSK/4FSK/8FSK/2PSK/4PSK/8PSK
External Source	Modulation sequence
Modulation Rate	10Hz– 1MHz

2. 7. Interfaces

Interface	
RF Output Interface	N type , 50ohm
LF Output	BNC, 50ohm
IF Input	BNC , 50ohm
USB	USB B 2.0
External Ref In/Out	BNC , 50ohm
External Pulse Input	BNC , 50ohm
External Trigger Input	BNC , 50ohm
LAN	10/100 Base T (Rear Panel)
RS232	9-PIN D-SUB Male (Rear Panel)

2. 8. General

General	
Dimension (W x D x H)	238mm× 103mm×350mm
Weight	≤4.5kg
Operating Temp.	-10℃ to +50℃
Storage Temp.	-40℃ to +70℃
Power Supply	110 - 240V 50/60Hz
Screen Display.	4.3 inch

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