

STANFORD RESEARCH SYSTEMS

SR770

The Stanford Research Systems SR770 is a single-channel 100 kHz FFT spectrum analyzer that delivers a high dynamic range and real-time analysis capabilities. Designed for audio and low-frequency applications, it features a built-in synthesized source, 16-bit A/D conversion, and specialized measurement suites such as THD, octave, and frequency response analysis.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488), RS-232, Centronics Parallel (Printer)
Display	7-inch monochrome CRT raster display

Physical

Power Supply	100/120/220/240 VAC, 50/60 Hz, 60 W
Operating Temperature	0 °C to 50 °C °C
Dimensions (W×H×D)	432 mm × 159 mm × 470 mm mm
Weight	16.3 kg kg

Frequency and Amplitude Performance

Frequency Range	476 μHz to 100 kHz
Frequency Resolution	400 lines (FFT bins)
Frequency Accuracy	±25 ppm
Frequency Span Range	191 mHz to 100 kHz
Dynamic Range	90 dB (typical)
Full-Scale Input Range	-50 dBV to +34 dBV
Spurious Responses	<-90 dBfs (typical)
Harmonic Distortion	<-90 dBc (typical)
Input Noise Floor	<-160 dBVrms/√Hz (typical, >1 kHz)
Amplitude Flatness	±0.2 dB (excluding window effects)
Maximum Input Level	50 V continuous

Bandwidth and Sweep Characteristics

Real-Time Bandwidth	100 kHz
Trigger Sources	Internal, External, Free Run
Trigger Modes	Continuous, Single

System Architecture and Display

A/D Resolution	16-bit
Floppy Drive Type	3.5-inch MS-DOS compatible (1.44 MB)

Inputs, Outputs and Interfaces

Input Impedance	1 M Ω , 15 pF
Input Configuration	Single-ended (A) or differential (A-B)
Input Coupling	AC or DC
Common Mode Rejection Ratio	90 dB @ 1 kHz
Source Output Impedance	< 5 Ω
External Trigger Input Level	TTL

Measurement Capabilities and Signal Processing

Source Output Signal Types	Sine, Two-tone, White noise, Pink noise, Chirp
Source Frequency Range	DC to 100 kHz
Source Output Amplitude Range	0.1 mVp to 1.0 Vp
Source Sine Distortion	<-80 dBc (<10 kHz)
Window Functions	Hanning, Flat-top, Kaiser, Uniform
Averaging Modes	RMS, Vector, Peak Hold
Averaging Types	Linear, Exponential
Measurement Functions	THD, 1/3 Octave, Band, Sideband Analysis, Frequency Response

Power and Electrical Specifications

Power Consumption	60 W
-------------------	------

Rear Panel / Interfaces

Preamplifier Power Output	± 15 V, up to 50 mA (9-pin D-sub connector)
Analog Video Output	Monochrome TTL (9-pin D-sub connector)

Memory & Storage

Saved Traces Capacity	Up to 150 traces in non-volatile RAM
Saved Setups Capacity	Up to 9 front-panel setups in non-volatile RAM
Data Buffer Capacity	Up to 64k points (time data or spectra)

Source

Source Output Amplitude Resolution	1 mVp or 1 % of setting (whichever is greater)
Source Output Amplitude Accuracy	± 0.2 dB (2.3 % of setting)
Source Modes	Sine, Two-Tone, Chirp, Noise
Source Sine Flatness	± 0.1 dB (relative to 1 kHz)
Source Chirp Flatness	± 0.2 dB (relative to 1 kHz)

Signal Acquisition

A/D Sampling Rate	256 kHz
FFT Resolution	400 lines

Signal Input	
Input Ranging	Manual or auto-ranging
Trigger	
External Trigger Input Impedance	10 kΩ
Trigger Delay	Pre-trigger: up to 1024 samples, Post-trigger: up to 65,536 samples
Display & User Interface	
Display Formats	Single, dual (split-screen), or waterfall (3D)
Waterfall Display	3D waterfall plot with up to 128 traces
Measurement & Analysis	
Noise Measurement Units	V/√Hz or dBV/√Hz
Amplitude	
Amplitude Accuracy	±0.3 dB ±0.02% of full scale (excluding window effects)
Phase	
Phase Accuracy	±1.25 deg (relative to external trigger)
Input	
Anti-Aliasing Filter	8-pole elliptic filter with 100 kHz cutoff
TECHNOLOGY	
FFT (Fast Fourier Transform)	
APPLICATIONS	
Audio and low-frequency signal analysis	

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.