



GPS-SA3000X Series

Spectrum Analyser



9 kHz to 3.2 GHz. All-Digital IF.

The GPS-SA3032X is a 9 kHz to 3.2 GHz spectrum analyser built on an all-digital IF, with a 10.1" WVGA display, a preamplifier fitted as standard and a displayed average noise level of -161 dBm/Hz.

Resolution bandwidth reaches 1 Hz, separating closely spaced signals that a 10 Hz floor would merge. Phase noise is -98 dBc/Hz at 10 kHz offset from a 1 GHz carrier, total amplitude accuracy is better than 0.7 dB, and four traces and markers can be worked independently.

A tracking generator covering 100 kHz to 3.2 GHz is available factory-fitted as the GPS-SA3032TG, or as a retrofit kit. EMI pre-compliance, reflection and advanced measurement kits add CISPR 16 quasi-peak detection, VSWR and return loss, and channel power and ACPR.

KEY FEATURES

- 9 kHz to 3.2 GHz · all-digital IF technology
- 1 Hz minimum resolution bandwidth
- DANL -161 dBm/Hz normalised to 1 Hz, preamp on
- Phase noise -98 dBc/Hz at 10 kHz offset, 1 GHz
- 10.1" WVGA display · preamplifier fitted as standard

IDEAL FOR

- Microwave communications links
- Telecommunications and broadcast
- Mobile communication systems
- EMI and EMC pre-compliance
- Component test and signal surveillance

TECHNICAL SPECIFICATIONS

GPS-SA3000X Series Spectrum Analyser	
Frequency Range	9 kHz to 3.2 GHz · span 0 Hz and 100 Hz to 3.2 GHz · resolution 1 Hz
Reference Source	10 MHz internal · initial calibration accuracy <1 ppm · temperature stability <1 ppm/year, 0 to 50°C
Bandwidths	RBW 1 Hz to 1 MHz, shape factor <4.8:1 (60 dB:3 dB) · VBW 1 Hz to 3 MHz · both in 1-3-10, uncertainty <5%
Displayed Average Noise	-161 dBm/Hz normalised to 1 Hz, preamp on (10 to 200 MHz, typ.) · -141 dBm/Hz preamp off
Phase Noise	<-95 dBc/Hz at 10 kHz offset (-98 dBc/Hz typ.) · <-115 dBc/Hz at 1 MHz offset, 1 GHz carrier
Amplitude Accuracy	Total <0.7 dB · absolute ± 0.4 dB preamp off · frequency response ± 0.8 dB
Level Range	DANL to +10 dBm (100 kHz to 1 MHz), to +20 dBm (1 MHz to 3.2 GHz) · reference level -100 to +30 dBm in 1 dB steps
Preamp & Attenuation	20 dB nominal preamplifier, fitted as standard · input attenuation 0 to 51 dB in 1 dB steps
Maximum Input	+30 dBm average RF (3 minutes, attenuation >20 dB) · damage level +33 dBm · ± 50 Vdc
Distortion	Second harmonic -65 dBc · third-order intercept +10 dBm · residual response <-90 dBm
Sweep	1 ms to 3000 s · sweep mode (RBW 30 Hz to 1 MHz) or FFT (RBW 1 Hz to 10 kHz) · single or continuous
Trigger	Free run, video or external · 5 V TTL, rising or falling edge
Traces & Detectors	4 independent traces and markers · 751 display points · positive and negative peak, sample, normal, average · quasi-peak with EMI kit
Tracking Generator	Optional · 100 kHz to 3.2 GHz · output -20 to 0 dBm in 1 dB steps · flatness ± 3 dB
Connectors	RF input and TG output 50 Ω N-female, VSWR <1.5 nominal · 10 MHz reference in and out and external trigger, BNC-female
Display	10.1" TFT LCD, 1024 $\times$ 600 · waveform area 751 $\times$ 501
Interfaces & Storage	USB-A Host, USB-B Device · LAN (VXI-11), 10/100 Base, RJ-45 · 256 MB internal, 32 GB via USB
Power	100 to 240 Vac, 45 to 440 Hz · 30 W



WHAT'S IN THE BOX

- GPS-SA3032X main unit
- Power cord
- USB cable
- Calibration certificate
- Quick start guide and product certificate

INTERFACES · USB-A Host, USB-B Device, LAN (VXI-11) 10/100 Base RJ-45

POWER · 100 to 240 Vac, 45 to 440 Hz · 30 W

GENERAL SPECIFICATIONS

Code	Item	Part Number
GPS-SA3032X	Spectrum analyser, 9 kHz to 3.2 GHz, 10.1" display	630320
GPS-SA3032TG	Spectrum analyser, 9 kHz to 3.2 GHz, with tracking generator fitted	650530

Options: tracking generator kit TG-SA3000 (900355) · EMI measurement kit EMI-SA3000 (900109) · advanced measurement kit AMK-SA3000 (900382) · reflection measurement kit REFL-SSA3000 (900183) · soft carrying bag BAG-SCC (900362). Please contact us for pricing and lead times.

MASS

4.6 kg (with tracking generator fitted)

OPERATING

0°C to 50°C · storage -20°C to 70°C

WARRANTY

1 year (subject to product registration)

DIMENSIONS

393 $\times$ 207 $\times$ 116.5 mm (w $\times$ h $\times$ d)

HUMIDITY

$\leq 95\%$ RH (0 to 30°C) · $\leq 75\%$ RH (30 to 50°C)

CERTIFICATION

EMC EN 61326-1:2013 · Safety EN 61010-1:2010