RP-6100 Series

Multi-Channel RF Record & Playback

Accelerate your RF product designs and research projects with the **powerful** and **cost-effective** RP-6100 – a state-of-the-art **RF recorder** solution.

RP-6120P
Capture real-world RF wherever you are.

Averna

RP-6100 Series

Multi-Channel RF Record & Playback

RP-6140

Key Features

Frequency range of 10–6000 MHz, up to 4x40 MHz or 2x80 MHz bandwidth, 14-bit resolution, tight channel synchronization

Records up to 20 hours, includes RF Studio for quick setup/analysis.

Play back recordings anywhere, visualizing real signals and impairments for in-depth, repeatable analysis and product testing

Averna RF Instruments

RF Studio: RF Record & Playback Software
Easily record and analyze RF, audio and video as well as NMEA data

URT-5000: RF Player and Signal Generator
An all-in-one solution for repeatable testing with generated and real RF

URT-4000: RF Signal Generator
Ideal for generating and impairing all common navigation and radio signals

→ Capture Real-World RF for Repeatable Lab Testing

Averna's RP-6100 Series sets a new standard for RF application testing. Record real-world signals like GNSS, HD Radio, LTE, and WiFi – plus impairments – to significantly advance your projects and harden product designs. With up to 4 channels and 160 MHz of recording bandwidth, a 10–6000 MHz frequency range, tight channel synchronization, and up to 16 TB of storage, this is one of the most powerful and cost-effective R&P solutions on the market.

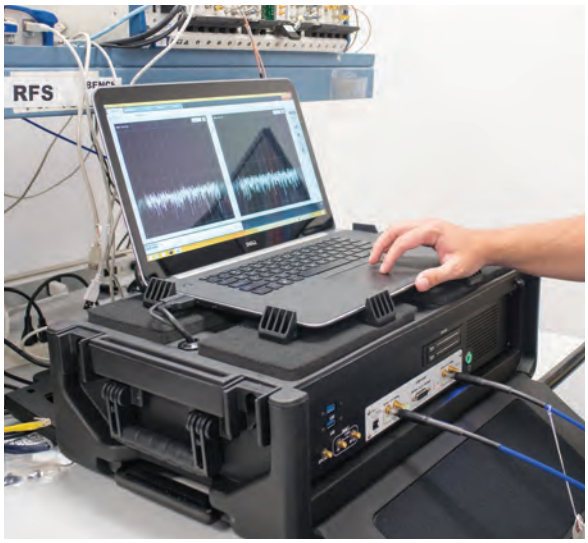
→ RF Studio™ Enables Quick Setups, Playback and In-Depth Analysis

Preloaded with RF Studio, a state-of-the-art workflow tool, the RP-6100 Series lets you quickly set up your recordings, add contextual data, visualize weak signals, and analyze your collected RF environments to validate and fine-tune your designs and products.

RP-6120P
The all-in-one portable model comes with a rugged case for easy transport and field recording

→ RP-6100 Series Features

- Frequency range of 10–6000 MHz, covering all GNSS bands (L1, L2 and L5)
- Multi-channel (1-4): Up to 4x40 MHz or 2x80 MHz bandwidth at 14-bit resolution (‹ 1 Hz)
- User-friendly analysis tools: Noise Figure, Spectrum, Power, and Histogram views
- Storage Capacity 4, 8 or 16 TB (up to 20 hours of recordings)
- Supports ATSC, Bluetooth, DAB, DVB-T, FM, GNSS, HD Radio (FM), IBOC, RDS/TMC, WiFi, etc.
- Four models: RP-6120 (2 ch.), RP-6120P (2 ch. portable), RP-6120D (2 ch. desktop) and RP-6140 (4 ch.)
- Portable: Includes laptop + rugged case; can run on 12V or battery (~40 minutes); DriveView option



RP-6120D
2-channel Desktop model

RP-6120
2-channel Rackmount model

RP-6140
4-channel Rackmount model

RP-6100 Series Technical Specifications

General

Frequency Range	10 MHz to 6 GHz
Frequency Resolution	‹ 1 Hz
Bandwidth	156 kHz to 80 MHz (per channel)
Dynamic Range	80 dB SFDR
Amplitude Resolution	0.5 dB
Amplitude Accuracy	+/- 1dB
Phase Noise	‹ -97 dBc/Hz @ 1 GHz and 1 kHz offset ‹ -105 dBc/Hz @ 1 GHz and 10 kHz offset ‹ -115 dBc/Hz @ 1 GHz and 100 kHz offset
Internal Reference / 1 PPS	10 MHz sine wave ‹ 2 x 10-8 (accuracy) ‹ 2.5 x 10-8 (stability over temperature range) +/- 50 ns 1 PPS
Channel-to-Channel Time Offset	‹ 2 ns
External Reference / 1 PPS	10 MHz sine wave or rectangular 0 to 13 dBm input level 3.3 V to 5 V 1 PPS
Operating Temperature	+5°C to +45°C
Relative Humidity	10% to 90% non-condensing
Warranty	1 year

Recorder

ADC Resolution	14-bit
ADC Sample Rate	200 MS/s
Maximal Signal Power	- 15 dBm (at Rx input)
Gain Range	0 to 37.5 dB
Gain Resolution	0.5 dB
Noise Figure	‹ 10 dB

Player

DAC Resolution	16-bit
DAC Sample Rate	800 MS/s
Maximal Signal Power	+ 20 dBm (at Tx output)
Gain Range	0 to 31.5 dB
Gain Resolution	0.5 dB

Model-Specific Features




Feature	RP-6120D (Desktop)	RP-6120P (Portable)	RP-6120 (Rackmount)	RP-6140 (Rackmount)
Channels/Bandwidth[1]	2 @ 40 MHz each	2 @ 40 MHz each	1 @ 80 MHz 2 @ 40 MHz each	2 @ 80 MHz each 4 @ 40 MHz each
Recording Capacity[2] – Example (1 ch.)	Up to 10 hrs @ 20 MHz Up to 5 hrs @ 40 MHz	Up to 10 hrs @ 20 MHz Up to 5 hrs @ 40 MHz	Up to 20 hrs @ 40 MHz Up to 10 hrs @ 80HHz	Up to 20 hrs @ 40 MHz Up to 10 hrs @ 80HHz
Enhanced Noise Figure	No	No	1.5 dB	1.5 dB
Bias-T (to Power Active GNSS Antenna)	No	One Bias-T 100 mA @ 5 V	One per Channel 100 mA @ 5 V	One per Channel 100 mA @ 5 V
RF Box Dimensions/ Weight	X300 kit + desktop	Portable case: 14” (L) x 22” (W) x 9.25 (H) ~35-40 lbs	17” (L) x 17” (W) x 3.5” (H) ~20 lbs	17” (L) x 17” (W) x 3.5” (H) ~25 lbs
Power	AC 110/220 V	AC 110/220 V or 12 V vehicle Internal battery: ~40 minutes	AC 110/220 V	AC 110/220 V
Server/Computer	Desktop	Laptop	Rackmount Server 2U	Rackmount Server 2U
DriveView Support (Camera + GPS Position Logging)	Contact Averna	Optional	Contact Averna	Contact Averna
Storage Capacity	4 or 8 TB	4 or 8 TB	4, 8 or 16 TB	4, 8 or 16 TB

[1] Other channel/bandwidth configurations available.
[2] Contact Averna for other disk configurations.

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Platinum Partner SYSTEM INTEGRATION