URT-4000

RF Signal Generator

Generate and **impair** all common RF signals like AM/FM, DAB, GPS, IBOC, Sirius and XM to **ensure optimum product quality**, test coverage and support for your **radio** and **navigation receivers.**

Averna

URT-4000

RF Signal Generator

Available Toolkits

- AM/FM
- DAB/DAB+/DMB
- GPS Manufacturing Simulators (Single Satellite or Constellation)
- HD Radio (IBOC)
- RDS/RBDS (1 or 3 Channels)
- Sirius and XM – Type 1 Acceptance and Manufacturing
- TMC–RDS

Averna RF Instruments

RP-6100 Series: Multi-Channel RF Record & Playback
Powerful, cost-effective RF solutions for capturing GNSS, WiFi, LTE & more

RF Studio: Easily Record a variety of RF signals

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

→ Need to accelerate your RF receiver quality?

The Averna URT-4000 is a state-of-the-art RF signal source that utilizes Averna protocol-specific signal-generation toolkits and signal libraries to generate and impair common navigation and broadcast radio signals for receiver testing, production and support. The URT-4000 has been optimized for radio manufacturing needs and is an ideal RF signal generator for Functional Test, ATE, End-of-Line and other test stations.

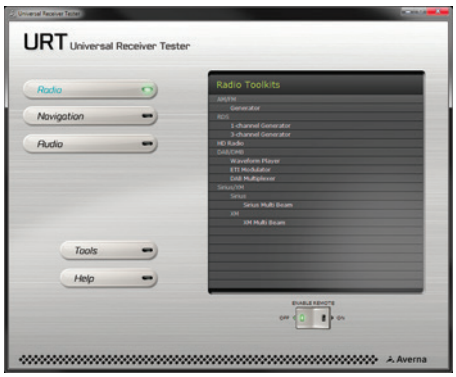
→ Delivers Productivity-Enhancing Features

The URT-4000 is packed with features important for manufacturing test, such as remote-system health and fan monitoring, an easy-to-use remote API for sequencing signal generation to improve throughput, and fast switching time between protocols and level settings.

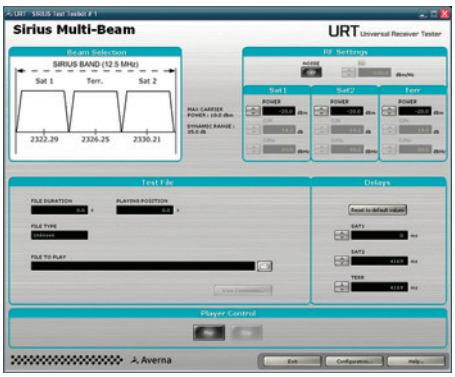
→ Key Features and Benefits

- Supports all common navigation and broadcast radio protocols
- Easily adapts to new and ever-changing protocols, eliminating need for new instruments
- Real-time signal generation for long-running lifecycle tests like HALT and HASS
- Allows synchronization of units to support multiple channels
- Easy-to-use interface to generate signals quickly and intuitively
- Complete API for automating remote control of the instrument

→ URT Radio and Navigation



Get easy access to any Averna RF toolkit from the handy URT console.



Each RF toolkit has all the features you need for precise, repeatable testing.

Deploy the **industry-standard RF Signal Generator** to boost receiver quality and get to market first.

RF Output

Frequency	
Output Range	140 kHz to 2.5 GHz
Resolution	0.1 Hz
Phase Noise @ 1 GHz	‹ -90 dBc/Hz, 1 kHz Offset ‹ -95 dBc/Hz, 10 kHz Offset ‹ -110 dBc/Hz, 100 kHz Offset
Noise Floor	-140 dBm/Hz @ 10 MHz Offset
Internal Reference	+/- 0.2 ppm initial accuracy +/- 0.8 ppm/year aging +/- 1.0 ppm temperature stability

Amplitude & Power	
Range	-140 dBm to +10 dBm P.E.P.
Resolution	0.1 dB
Accuracy	+/-1.0 dB (≤-110 dBm), +/-2.0 dB (≤ -110 dBm)
Gain Resolution, RF Playback	0.25 dB
Max. IMD level	-60 dBm typ. (two -5 dBm tones)
Harmonics	-30 dBc @ 0 dBm (typ.)

NOTE: All specifications apply for √(I2+Q2) = 0.5 FS

Baseband	
1 MHz to 20 MHz real-time BW	
Sample Rate	25 MS/s
Dynamic Range	80 dB SFDR
Output Resolution	16-bit

Environmental

Warm-up Time	Weight
60 min @ 20˚C (68˚F) (typ.)	15 kg (33.06 lbs)

Size (H x W x D)	
Unit	2 U
Rackmount	48 cm (19 in)
Deep	40 cm (16 in)
Removable rack ears and handles	

Temperature	
Operating	5˚C (41˚F) to 45˚C (113˚F)
Storage	-20˚C (-4˚F) to 70˚C (158˚F)

Relative Humidity
10% to 90% (non-condensing)

Storage
4 x 6.4 cm (2.5 in) hot-swappable drive bays
Up to 4 x 6.4 cm (2.5 in) 500-GB SATA 2.0 hard-disk drives

Calibration	Warranty
2 years	24 months

Power
90-264 VAC, 50/60 Hz, 125 Watts (typ.)
IEC 60320-C14 power connector inlet
IEC 60320-C13 to NEMA 5-15P, 3 m (9.8 ft) North American power cord included
IEC 60320-C13 to CEE 7/7, 3 m (9.8 ft) European power cord included

Connectivity

RF Connector	
RF Output (50Ω)	1 x N Female +20 dBm, +/- 16V DC, AC coupled

LO	
LO Input	1 x SMA Female Freq. 150 MHz/2.5 GHz Level 0/+5 dBm, Max.: +12 dBm
LO Output	1 x SMA Female Freq. 150 MHz/2.5 GHz Level 0/+5 dBm, Max.: +20 dBm

10 MHz Reference	
10 MHz REF Input (50Ω)	1 x SMA Female Freq. 10 MHz, Level 0/+10 dBm Max.: +15 dBm
10 MHz REF Output (50Ω)	1 x SMA Female Freq. 10 MHz, Level +2 dBm Max.: +10 dBm

100 MHz Sample Clock	
Clock Input (50Ω)	1 x SMA Female Freq. 100 MHz, Level 0/+10 dBm Max.: +12 dBm
Clock Output (50Ω)	1 x SMA Female Freq. 100 MHz, Level +4 dBm Max.: +20 dBm

Trigger/Sync Input(s) & Output(s)	
Input (50Ω)	2 x SMA Female Freq.: PULSE, Level: TTL 5V TOL Max.: -0.5/5.5V
Output (50Ω)	1 x SMA Female Freq.: PULSE, Level: TTL 5V TOL Max.: -0.5/5.5V

Ethernet
1 x 10/100/1000 Mbps RJ-45 LAN port

Peripheral
4 x USB 2.0/1.1 Type A peripheral ports (back)
2 x USB 2.0/1.1 Type A peripheral ports (front)

Display
1 x DBHD-15F VGA port

Compliance
FCC 47 Part 15 Class A
European Directive 98/336/EEC Class A (Emissions)
European Directive 2002/95/EC (RoHS)

Averna

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Platinum Partner SYSTEM INTEGRATION