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Data Sheet

NOISE/COM
A WIRELESS TELECOM GROUP COMPANY

# UFX7000A Programmable Noise Generator




*Count on the Noise Leader. Count on Noise Com.*

# UFX 7000A Programmable Noise Generator Series

The **UFX7000A** Series instruments contain an amplified noise source that is tuned to provide the best flatness and optimized to deliver an output with a Gaussian amplitude distribution. Noise output power level can be adjusted from 0 to 127 dB in 1 dB (optionally 0.1 dB) steps. The output signal is controlled by an RF type switch. In the standby state, the noise is terminated into an RF load, and in the "on" state it is directed to the output connector.

The UFX7000A Series flexible architecture allows many options to be specified. An internal combiner allows the user to inject an external signal via a front panel connector to add a controlled amount of noise. Noise Com will modilfy base units for specific customer needs. For pricing and availablity, consult the factory.

Optional signal attenuation is available up to 127 dB, in 0.1 or 1 dB steps . A switching filter bank in the noise path allows up to four filters to be connected. The optional filters can be specified in any combination of band pass, low pass, high pass, or notch, with a thru line and 50 Ohm termination (RF load) included. Connectors on the back panel provide a pathway for the external filters to the internal combiner and the front panel instrument output.

The UFX7000A Series is microprocessor-controlled and provides information about operation of the instrument via a 6.25" color TFT display. Control of the noise level, noise on/off switching, signal on/off switching, and noise source selection can be controlled either manually by the touch screen, or remotely via IEEE-488 bus, ethernet, or serial type RS232. The UFX7000A series instruments can be integrated into an ATE test station.

## General Specifications

- Output White Gaussian noise
- Attenuator 0 to 127 dB in 1 dB steps
- 0 to 79 dB above 2 GHz
- Impedance 50 Ohms
- Typical VSWR 1.5:1
- Standard output SMA female connector (K female for UFX7240)
- 6.25" color VGA, TFT touch screen
- Dimensions: 17.22 in. wide x 6.30 in. with feet, high x 19.5 in. deep
- Fold-down feet for bench-top use
- Power 120 VAC, 60 Hz
- Operating temperature: -10° to +65°C




Custom filter control menu




Intuitive standard control menu




## Specifications

| **UFX7000A Series** | | | Output Characteristics | | |
|---|---|---|---|---|---|
| Model | Frequency Band | Power | dBm/Hz (dBm) | Flatness (dB) | uV/ root (Hz) |
| UFX7101A | 10 Hz - 20 kHz | +13 | -30 | ±0.5 | 7071 |
| UFX7103A | 0 Hz - 500 kHz | +13 | -44 | ±0.5 | 1414 |
| UFX7105A | 10 Hz - 10 MHz | +13 | -57 | ±0.5 | 316 |
| UFX7107A | 100 Hz - 100 MHz | +13 | -67 | ±0.75 | 100 |
| UFX7108A | 100 Hz - 500 MHz | +10 | -77 | ±1.0 | 31.6 |
| UFX7109A | 100 Hz - 1 GHz | +10 | -80 | ±1.5 | 22.4 |
| UFX7110A | 100 Hz - 1.5 GHz | +10 | -82 | ±1.5 | 18.2 |
| UFX7111A | 1 GHz - 2GHz | +10 | -80 | ±1.5 | 22.4 |
| UFX7112A | 1 MHz - 2 GHz | 0 | -93 | ±2.0 | 5.01 |
| UFX7124A | 2 GHz - 4 GHz | -10 | -106 | ±2.0 | 1.58 |
| UFX7218A | 2 GHz - 18 GHz | -20 | -122 | ±2.0 | 0.18 |
| UFX7240A | 2 GHz - 40 GHz | -20 | -126 | ±4.0 | 0.11 |

| **UFX7900A Series (1 Watt output)** | | | Output Characteristics | |
|---|---|---|---|---|
| Model | Frequency Band | Power | dBm/Hz | Flatness (dB) |
| UFX7903A | 500 Hz - 500 kHz | +30 | -27 | ±2 |
| UFX7905A | 500 Hz - 10 MHz | +30 | -40 | ±2 |
| UFX7907A | 250 kHz - 100 MHz | +30 | -50 | ±2 |
| UFX7908A | 1 MHz - 200 MHz | +30 | -53 | ±2 |
| UFX7909A | 1 MHz - 300 MHz | +30 | -55 | ±2 |
| UFX7910A | 2 MHz - 500 MHz | +30 | -57 | ±2 |
| UFX7911A | 5 MHz - 1 GHz | +30 | -60 | ±3 |

* High power units have a reduced crest factor.

## Applications

- Eb/No, C/N, SNR
- Disk Drive Testing
- BER Testing
- Military Jamming
- GPS Receiver Testing
- CATV Testing
- Spectrum Analyzer Calibration
- Filter Testing
- EMI Testing

## Options

| Option number | Description |
|---|---|
| U7opt01 | N female output connector |
| U7opt02 | BNC female output connector |
| U7opt03 | 0 to 127.9 dB noise Attenuator in 0.1 dB steps instead of 127 dB in 1 dB steps† |
| U7opt04 | Switch elements, 2 X SP6T for 4 filter paths, 1 thru-path, 1 termination (filters are optional) |
| U7opt06 | 75 Ohm output impedance (6 dB loss in the noise path and 12 dB loss in the signal path) |
| U7opt07 | Combiner for input signal (6 dB loss in noise and signal paths) |
| U7opt08 | Double output terminals (switched) |
| U7opt09 | Custom frequency, power, or flatness requirement** |
| U7opt10 | Line power 230 VAC, 50 Hz |
| U7opt11 | RS-232 in addition to standard IEEE-488 interface |
| U7opt12 | 0 to 127 dB signal Attenuator in 1 dB steps* |
| U7opt13 | 0 to 127.9 dB signal Attenuator in 0.1 dB steps† |
| U7opt15 | Optional 19" rack mounts brackets |
| U7OPT16 | GPIB IEEE-488 |

† N/A for UFX7218A and UFX7240A (0 to 79.9 for UFX7124A and UFX7126A)
* U7opt07 must also be included when ordering this option, 0 to 79 dB above 2 GHz
** Consult factory for pricing and availability




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