

AOR AR5700D Wideband Receiver

AOR has released the newest member of its desktop wideband receiver line, the AR5700D. This radio will receive signals from 9 kHz through 3.7 GHz and can decode many popular analog and digital modes, including TETRA, DMR, NXDN, D-STAR, DPMR, APCO 25, Yaesu's System Fusion, ALINCO, D-CR. Analog modes include FM, FM Stereo, AM, synchronous AM, USB, LSB, CW, analog I/Q, and FM video, in tuning steps from 1 Hz to 999.999 kHz. There are two receiving circuits depending on frequency: From 9 kHz to 25 MHz, the AR5700D uses direct conversion. From 25 MHz to 3.7 GHz, it uses a double superheterodyne circuit.

Powering the AR5700D's listening ability is a powerhouse of CPUs, DSPs, and FPGAs such as two Renesas SH2 CPUs, three Analog Devices Blackfin DSPs, one Analog Devices ADSP-2185 DSP, two Intel Cyclone IV FPGAs, and two Intel Cyclone III FPGAs. The plethora of chips combines to produce powerful signal processing, demodulation, and decoding. Direct conversion HF signals and intermediate signals are digitized by a 14-bit analog-to-digital converter and sent to the FPGA and DSP units for fast and accurate processing. The high-rate 63/65 MHz sampling frequencies used for the analog-to-digital converter offer sharper aliasing and image reduction.

With an abundance of signal processors and a total of 33 bandpass filters keeping out unwanted signals, the AR5700D can provide +20 dBm IIP3 at 14.1 MHz, +6 dBm at 50 MHz, and +5 dBm at 620 MHz.

Managing the hardware is AOR's AR-IQ-III software, which controls the receiver, I/Q recording and playback for the receiver. The digital I/Q output interface streams I/Q data to your PC through USB 2 isochronous mode at 72Mbit/sec with a sampling rate of 1.125 Msample/sec. I/Q software allows the user to store and playback a 0.9 MHz bandwidth with no loss of quality.

The 0.9 MHz of bandwidth can be anywhere within the receiving range of the receiver. Offline, you can listen and decode within the recorded 0.9 MHz range, tuning any frequency as you would in real time. Users can also loop a particular time frame to repeatedly listen for a signal received in difficult conditions that they may have missed, or search and analyze hard-to-find signal bursts.

The software also allows users to control their rig through a PC or via the internet and provides two spectrum options, a standard and a waterfall view.

The AR5700D has 2,000 memory channels (50 channels x 40 banks), 40 search banks, 1,230 pass frequencies and 100 select channels that can be modified by the user from 5 to 95 channels.

A variety of scan functions are provided as the AR5700D can scan through 100 channels per second.

- **Scan Mode:** Searches the channels previously registered in a memory bank. Up to 20 separate scan groups can also be created to scan a group of linked memory banks.



- **Search Mode:** Tunes the receiver through all frequencies between two specified frequency limits. Forty different search banks can be programmed.
- **Cyber Search Mode:** Uses FFT technology to achieve faster search speeds by looking simultaneously at all frequencies between Low and High, with a signal level above the set squelch level.
- **VFO Search Mode:** Can search frequencies using two VFOs.
- **Priority Reception Mode:** Checks for activity on one of the 2,000 memory channels, while the receiver continues scanning, searching, or monitoring.

On the outside of the box, the front panel has a large knob for the VFO and two smaller knobs for the gain and squelch. There is an LCD that shows the frequency and other operating metrics. The AR5700D comes equipped with an analog signal strength meter that displays three signal strength values: S units, dBm, and dBuV. The signal strength meter takes its measurement from the antenna input so the displayed level does not change when the attenuator or AMP is used.

There is a carrying handle on the right side of the case that can be removed if the unit is to be rack mounted. The AR5700D weighs 5 pounds.

The rear panel contains the following ports: two type 'N' antenna ports, an SMA socket, BNC-J, USB-2 port, 3.5-millimeter stereo phone jack, 8-pin miniature DIN socket for optional GPS unit, RJ-45 socket, USB type B, and an RCA socket.

Standard accessories included with the AR5700D are AC power adaptor, SD card, operating manual, PC control software with license dongle, and two USB cables.

AOR said the AR5700D is available now and has a suggested retail price of \$5999.

For more information, visit www.aorja.com.