

AOR ARD9800 Fast Modem – Digital Voice and Image Interface

Convert Your Analog Transceiver to **Digital** In One Easy Step!

No transceiver modifications are necessary.



*Use a conventional voice transceiver
for digital voice communications,
data and images while you
maintain analog capabilities.*

*The ARD9800 is a breakthrough in
communications technology. By simply
connecting the ARD9800 to a pair of
transceivers, clear, reliable digital
communications are a reality.*

- **Digital voice communications using existing analog 2way radios.**
The ARD9800 uses the same audio frequencies (300 Hz ~ 2500 Hz) as microphone audio to modulate the voice signal. This allows you to use an analog radio as a digital voice radio.
- **Works on Single Side Band (SSB) mode.**
The Automatic frequency clarifier function adjusts frequency drift automatically in the SSB mode. (Approximately up to +/- 125 Hz). Utilizes the OFDM (Multi Carrier Modulation) circuit that is effective against Multi-path or Selective Fading.
- **Automatic digital receive**
Automatic voice signal detector recognizes the received signal as analog or digital, automatically switching to the appropriate mode.
- **Digital Slow Scan TV**
Built-in video capture function (NTSC). Compresses the signal into AOR's original adaptive JPEG. Send and receive images (similar to analog slow scan TV, but faster) in the digital mode. Built-in video output connector (NTSC) allows viewing the picture on an external monitor.
- **Built-in high grade Vocoder (AMBE)**
Utilizing high-grade digital voice compression delivers quality digital voice communications.
- **Built-in FEC error correction**
A powerful error correction circuit delivers stable and reliable communications.
- **High speed data communications on the HF band**
High-speed (3600bps) data communication is possible on the HF (High Frequency) bands. (Speed may be limited by regulations in certain jurisdictions.)
- **Small and compact unit. Easy to operate.**
Simply connect the ARD9800 between the microphone jack and microphone. No complicated modifications necessary.
- **Wide range of operating voltages**
Operates on 10 to 16 V DC from an external power source. 6 V DC operation is also possible by changing an internal jumper setting. Low power consumption (Approximately 160 mA at 12 V DC)
- **Utilizes a uniquely designed high performance DSP engine**
- **Uses established G4GUO open protocol**

AOR ARD9800 Fast Modem

Digital Voice and Image Interface

You don't need a new radio to begin exploring the new world of digital communications. All you need is the ARD9800 Fast Modem!

SPECIFICATIONS

Modulation method	OFDM
Band width	300 Hz ~ 2500 Hz, 36 carriers
Symbol Rate	20 mS (50 baud)
Guard interval	4mS
Tone steps	62.5 Hz
Modulation method	36 carriers: DQPSK (3.6K)
AFC	+/- 125 Hz
Error correction	Voice: Golay + Hamming Video/Data: Covolution + Reed-Solomon
Header	1 Sec. 3 tones + BPSK training pattern for synchronization
Digital voice	AMBE2020 coder, decoder
Signal detection	Automatic Digital detect, Automatic switching between analog mode and digital mode
Video Compression	AOR original adaptive JPEG
Video	NTSC Input/Output
Power requirements	10 ~ 16 V DC, Approximately 200 mA Typ(@ 12 V DC) 6 V DC by internal jumper setting
Serial port	RS-232C, 9600 bps, Asynchronous
Dimensions (w, h, d)	100 x 32 x 158 (mm) or 3.94 x 1.26 x 6.14 (inches) (Projections excluded.)
Connectors	Radio: Microphone output (level adjustable), Speaker input (500 mV ~ 5 V p-p), PTT (Push To Talk), Video IN/OUT: NTSC 1 V p-p (75 ohm)
MIC	Microphone input, Speaker output, PTT input
Others:	Signal Encryption for commercial applications (where permitted; special commercial version required)
	Analog/Digital mode selector
	Video capture/transmit switch

Digital Voice Communications on Amateur Radio bands. You get clear, crisp audio at the touch of a button.

Automatic Mode Recognition The ARD9800 automatically recognizes incoming digital signals and starts decoding those signals immediately.

Maintains Analog Capability You keep the ability to communicate in conventional analog modes. And you can easily shift between digital and analog operations.

Send Images Too! With the optional memory module, you can send photos or captured video images quickly and easily. View the images through any NTSC monitor that has a video input. It's like SSTV, only faster!

No Rig Modifications Needed All you need to do is connect the ARD9800 to your Amateur transceiver's microphone and speaker output ports, using the supplied cables. (You will have to prepare a connector for your rig's microphone port.) It's a simple, easy process to start using digital communications and there are no internal modifications or adjustments needed for your radio.

Open Digital Protocol means use of the ARD9800 is permitted on the US Amateur Bands (non-USA users should check applicable regulations).

Keyboard communications and file transfers are also possible.



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