



## DAD860 & DAD860A

### Digital to Analog Decoder



**DAD860**  
Digital to Analog Decoder



**DAD860**  
Control Module



**DAD860** Rack Enclosure

The Drake DAD860 and DAD860A Digital to Analog Decoders provide digital demodulation and decoding, for ATSC 8VSB broadcast or in-the-clear QAM television signals. Both models deliver a standard NTSC composite analog video and stereo audio output. Either of these devices, used in conjunction with an analog NTSC modulator, allows a cable system operator to continue to provide analog versions of services that will only be available to him as digital in the future. They may also be utilized to provide the alternate digital channels now available from many broadcasters.

The DAD860A (A indicates ASI output) also provides a front panel DVB-ASI transport stream output from the demodulator portion of the DAD. This stream will contain all programs present on the selected RF channel without regard to any decoder settings. Decoder settings made to the DAD860A will control only its NTSC A/V outputs. The paragraphs below referring to DAD860 decoder operation apply equally to the DAD860A decoder output.

The decoder makes no change to the image format if the digital signal received is transmitted in 480i. If the signal is high definition, 720p or 1080i, options are given to either crop or "letterbox" the 16:9 proportioned image into a 4:3 format for output. The DAD is AFD Ready. This means that the DAD supports automatic aspect ratio control through the Active Format Description metadata that may be broadcast with the video. AFD control may be overridden if desired.

The DAD860 and DAD860A are packaged in extruded aluminum modules that are compatible with the Drake RMM12 or RMM4 rack-mounting units normally used for our analog mini-rack components. The modules are one unit wide and thus take one of 12 available slots in the RMM12. There is a companion controller, the DAD860 Controller, that can be used in the RMM12 to program and monitor between one and ten DAD860(A) modules. The controller module is two units wide as mounted in the RMM12.

The DAD860 modules may be intermixed with analog modulators from the Drake VMM mini-rack series, all powered by a single PSM121. This allows an analog demodulator to be replaced by a DAD860 or DAD860A while reusing existing analog modulators.

The DAD860 or DAD860A can operate independently of the DAD860 Controller module. In this situation, the DAD must be programmed from a PC that is connected to the front panel RS232 connector on the DAD. Once the unit is programmed, the PC may be disconnected and the DAD will save and remember the settings in nonvolatile memory so power interruptions do not corrupt the operating parameters.

- High quality, low noise, frequency agile, digital to analog decoder designed to receive digital signals from off-air ATSC broadcast stations or clear QAM CATV systems and decode them to analog NTSC video and stereo audio
- DAD 860 video and stereo audio output can then be connected to a modulator, such as VMM600 or VMM860 series to remodulate the now analog output to the desired off-air or CATV output channel from 54 MHz to 860 MHz in either broadcast or CATV channel plans
- Can also be connected to other devices accepting analog video and stereo audio inputs such as video recorders, monitors, etc.
- Housed and powered in RMM4 chassis with integrated power supply or the RMM12 chassis and PSM121 power supply

**Specifications**

<b>Input Frequency Range</b>	
Off Air mode:	54 to 806 MHz, CH 2 - 69
CATV modes:	54 to 860 MHz, CH 2 - 135
<b>Recommended Input Levels</b>	
8VSB:	-26 to +30 dBmV
64QAM & 256QAM:	-12 to +15 dBmV
<b>Connector &amp; Impedance</b>	
	Type F, 75 Ohms, 6 dB or better return loss.
<b>Demodulation</b>	
Modulation and Symbol Rates Accepted:	8VSB @ 10.762 Ms/s 64 QAM (ITU B) @ 5.057 Ms/s 256QAM (ITU B) @ 5.3606 Ms/s
Equalizer span:	- 75 to + 75 $\mu$ Sec
<b>ASI Output - DAD860A only</b>	
	Complete transport stream is output containing all programs that are present on the RF channel that is being demodulated
<b>Video</b>	
Output Format:	480i NTSC Video, 1 V p-p
Aspect ratio:	The DAD860 provides choices for displaying a received HD picture in the 480i NTSC output. Usually a cropped or a letter box setting is chosen. Active Format Description, or AFD, may be selected to allow broadcaster to control output format
Closed Captioning:	YES. EIA-608 analog(VBI) closed captioning in the output
Video Output Connector:	Type F female
<b>Audio</b>	
Audio channel selection:	YES, when multiple channels are provided
Output level:	Approximately 250 mV rms, user programmable
Audio Output Connectors:	RCA, two - left and right channels
<b>Other</b>	
Power:	DAD860: 5 V @ 390 mA and 12V @ 220 mA DAD860A: 5V @ 550 mA and 12V @ 260 mA Power supplied by PSM121 or RMM4 power supply
Operating Temp. Range:	0 deg C to + 50 deg C
FCC:	Meets FCC, Part 15 requirements.