

DRAKE DAD860

DIGITAL TO ANALOG DECODER



Description and Applications

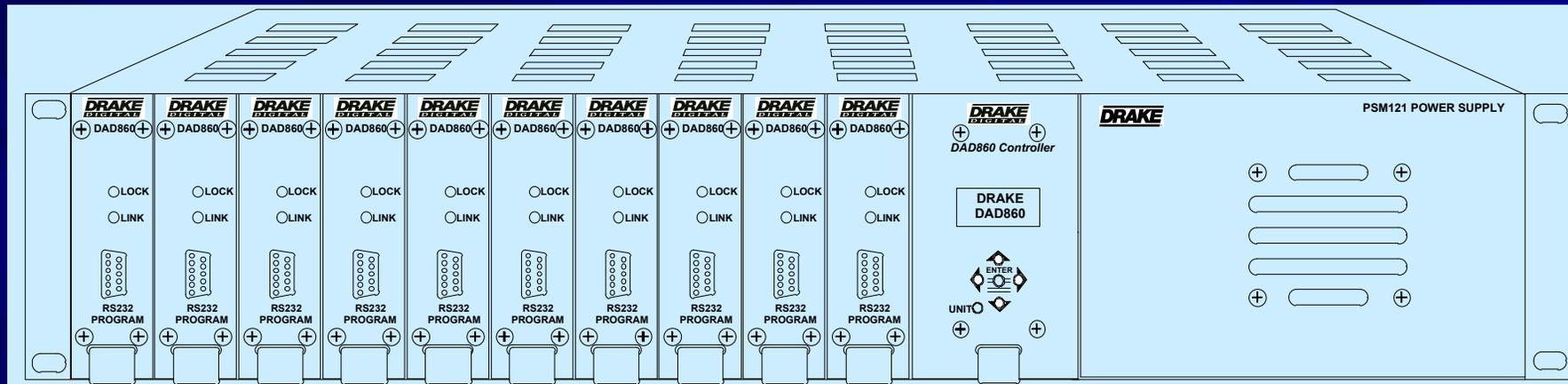
Description

- The Drake DAD860 is a high quality, low noise, frequency agile, digital to analog decoder which was 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.

- The video and stereo audio output of the DAD860 can then be connected to a modulator such as the Drake 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.
- The DAD860 output can also be connected to other devices accepting analog video and stereo audio inputs such as video recorders, monitors, etc.

Installation Options

- Both the DAD860 and the VMMxxx series modulators can be housed and powered by Drake's RMM4 chassis with integrated power supply or the RMM12 chassis and PSM121 power supply as shown here.



Each DAD860 can be programmed using the 'DAD860 Controller' module shown in the above system. It can also be programmed by a PC running 'Drake DAD860 Control Software', by connecting a serial port of the PC to the RS232 receptacle on the front of the DAD860. Once programmed, the DAD860 will retain its programming when power is removed.

Advantages of Digital to Analog Decoding

- After February 2009, most off-air analog broadcasts will stop and only ATSC digital transmitters will be used for broadcast TV. For non all digital CATV systems, the DAD860 provides an economical way to receive the new digital transmissions and to output an analog NTSC video and audio signal for feeding an analog modulator at the headend. This solution would comply with the FCC requirement to support analog TVs until February 2012.
- More channels could be made available to analog TV owners. Many analog TV stations are currently transmitting multiple program channels in digital format, which are currently unavailable to analog set owners.
- Picture quality will be improved. Digital transmission eliminates “snow”, “noise” and “ghosts”.
- Less spectrum space is required for digital off-air and CATV broadcasting since multiple digital programs can be transmitted in a single 6 MHz wide channel, thus freeing spectrum space for use by other services.

Potential Applications

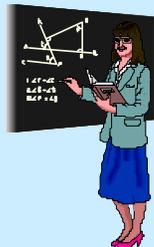
•Hotels and Motels



•Apartment Buildings



•Schools



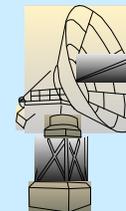
•Condominiums
•Retirement
& Other Planned
Communities



•Hospitals



•Cable Systems



•Restaurants &
•Sports Bars



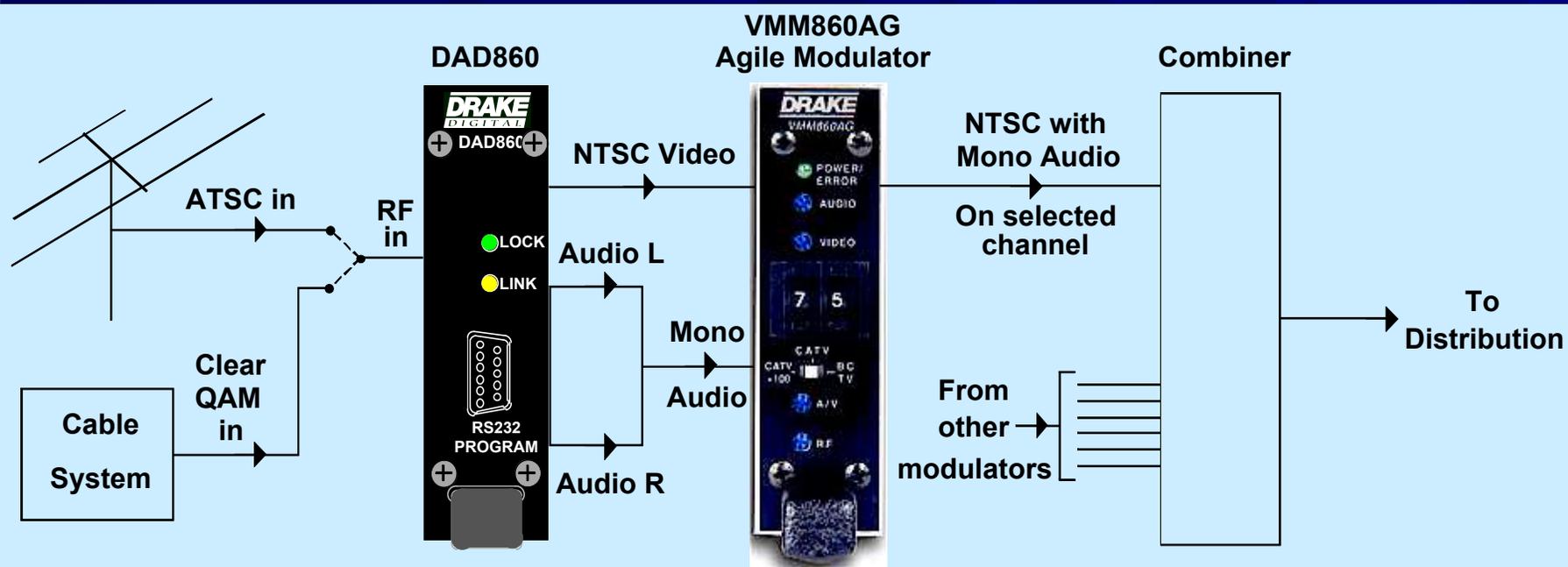
•Prisons



Solutions for Decoding ATSC or Clear QAM Digital Signals to Analog for Re-distribution as NTSC Video with:

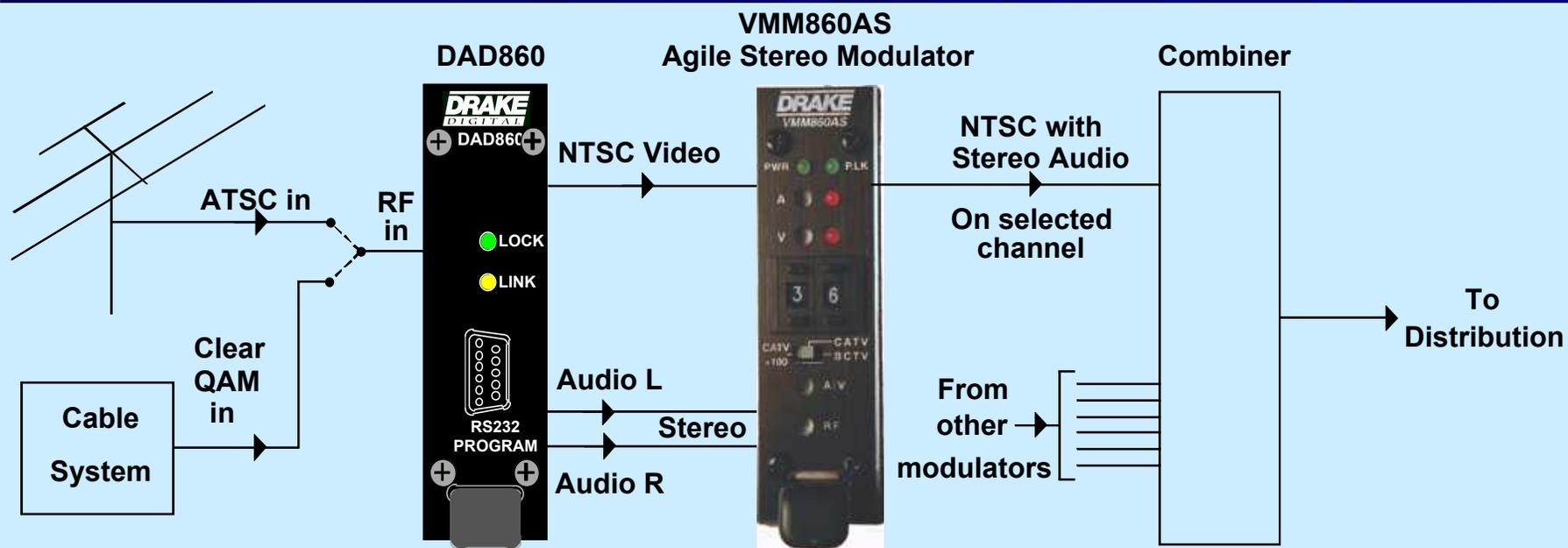
- Mono Analog Audio.
- Stereo Analog Audio.
- Analog Stereo with SAP.

Mono Analog Audio



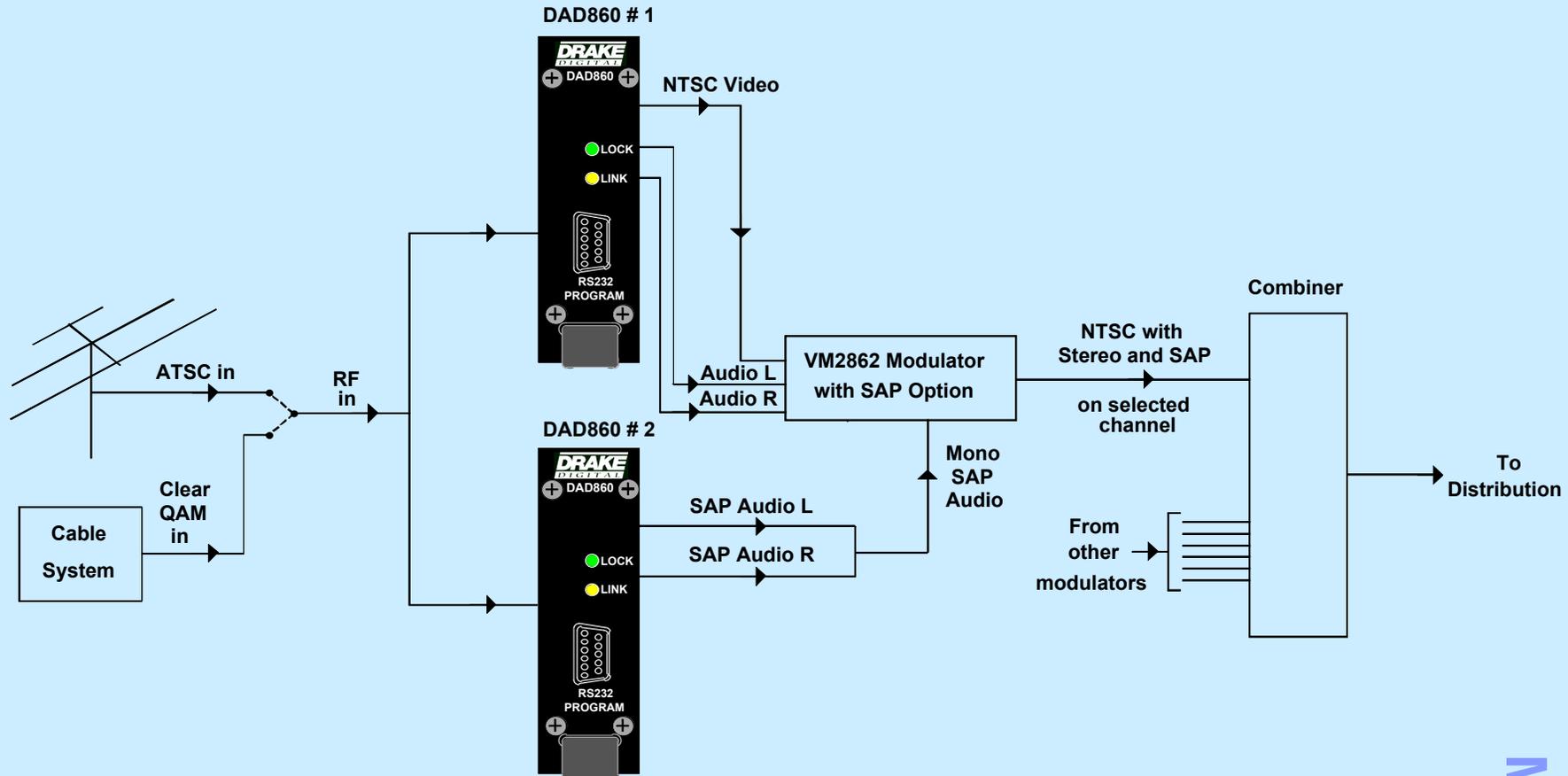
- The above configuration shows a typical method of decoding ATSC off-air or clear QAM signals from a cable channel to a mono analog audio channel that can be fed into a cable system. The video and audio outputs of the DAD860 are being fed into a Drake VMM860AG agile modulator. Note that the audio L and audio R outputs from the DAD860 must be summed together before being fed into the single audio input of the VMM860AG modulator. The modulator output is then fed to a combiner for distribution.

Stereo Analog Audio



- If stereo output is desired, a stereo modulator such as the Drake VMM860AS must be used as shown in the above illustration. Here, the left and right audio outputs from the DAD860 are being fed into the L and R audio inputs of the VMM860AS. The modulator output is being fed into a combiner for distribution along with other modulator outputs.

Analog Stereo Audio with SAP



- If both stereo and SAP are desired, the above configuration is suggested. Here, two DAD860s are used, both of which are tuned to the same digital program. Unit # 1 feeds video and stereo audio to a Drake VM2862. Unit # 2 feeds alternate language audio to the SAP input of a VM2862 with the SAP option. The result is an output channel from the VM2862 containing video, stereo audio and SAP, which is then fed to a combiner for distribution.

DAD860 Specifications

•RF INPUT

- Frequency Range: 54 MHz to 864 MHz
 - Channel Plans: Broadcast, STD CATV, HRC, IRC
- Input Channel BW: 6 MHz
 - Demod Modes:
 - Broadcast: 8VSB, ATSC Standard-18 video formats
 - CATV: 64QAM, 256QAM Annex B Auto Detected
 - Symbol Rates:
 - 8VSB: 10.76 MS/s
 - 64QAM: 5.057 MS/s
 - 256QAM: 5.3606 MS/s
 - Recommended Input Level Range:
 - 8VSB: -26 to +30 dBmV
 - 64 QAM: -15 to +15 dBmV
 - 256QAM: -12 to +15 dBmV
 - Input Connector: Type F Female,
 - Impedance: 75 Ohms
 - Return Loss: 6 dB or better

DAD860 Specifications (continued)

NTSC VIDEO AND AUDIO OUTPUTS

- Video Output Connector: Type F, Female
 - Impedance: 75 Ohms
 - Level: 1 V p-p.
 - Format: 480i NTSC
 - VBI Data: NTSC Parental Control and EIA-608
Closed Captioning
- Audio Outputs: L & R, Mono or Stereo
 - Level: 250 mV rms nominal, user adjustable
- Aspect Ratio: User Programmable -
Cropped, Letter Box, Stretched or AFD*.

GENERAL

- Power Requirement: 5 VDC, 12 VDC Supplied by Drake
PSM121 or RMM4
- Dimensions: 3.4 " H x 1 " W x 9.5 " D
- Weight: 13.1 oz

* Active Format Description - automatically set by data sent in the program stream.