

# DAP SERIES

DIGITAL ANALOG PROCESSOR

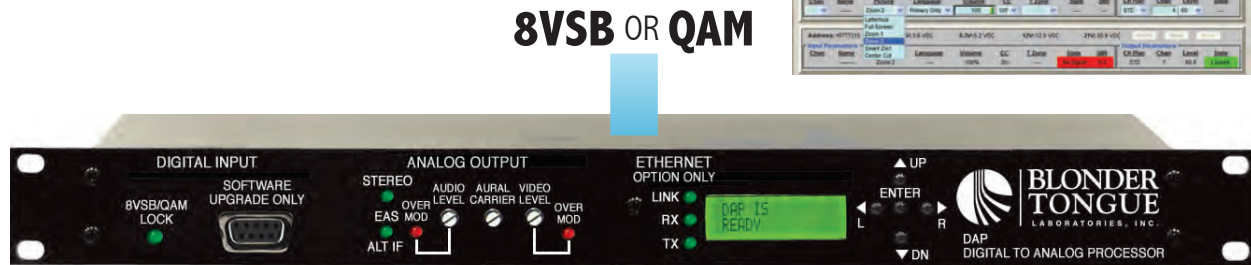
1X 8VSB/QAM > 1X ANALOG RF/2X ASI

DAP (Digital/Analog Processor) accepts one input in 8VSB (digital off-air) or QAM (digital cable) format, and delivers one output in modulated analog RF format. DAP PLUS is the same as DAP, but includes the **AFD** broadcast package. AFD (Active Format Description) is a standard set of codes embedded in the video stream and used by digital television broadcasters to optimally display a 16:9 video format on an analog television set designed for 4:3 video format.

Both DAP and DAP PLUS can be equipped with an optional RNC module (Remote Network Card) for remote monitoring and control operations. One RNC module can monitor and control up to sixty-four DAP/DAP PLUS units installed in a headend. Additionally, DAP PLUS can be equipped with an optional ASI module (Asynchronous Serial Interface) that delivers two identical ASI stream outputs, allowing a seamless migration to an all-digital platform.



### Remote Monitoring & Control via RNC Module



**DAP**  
MODULATED  
**Analog RF**

-OR-

**DAP PLUS**  
SAME AS DAP  
**with AFD**



-OR-

**DAP PLUS ASI**  
SAME AS DAP PLUS  
**with 2x ASI**



## FEATURES

- Agile Broadcast (UHF, VHF) and CATV (Standard, HRC, and IRC) channel assignments in the 54-864 MHz range
- Supports EAS (Emergency Alert System) input which can also be used as an IF (Intermediate Frequency) input
- Automated scanning captures all available off-air or cable programs present on the input signal
- Supports both the Primary and the SAP (Secondary Audio Program) audio programs
- Output power level range of +50 to +62 dBmV adjustable in 0.2 dB increments
- Supports Closed Captioning (EIA-608)

## ORDERING INFORMATION

Model	Stock #	Description
DAP	6290	Digital-to-Analog Processor
DAP PLUS	6295	Digital-to-Analog Processor with AFD
DAP PLUS ASI	6295-10	DAP PLUS equipped with ASI module
DAP PLUS RNC	6295-12	DAP PLUS equipped with Remote Network Card (RNC) Module
DAP PLUS A/R	6295-22	DAP PLUS equipped with both the ASI and the RNC Modules
DAP RNC	6290-RNC	DAP equipped with Remote Network Card (RNC) Module

# SPECIFICATIONS

## INPUT

<b>Connector:</b>	"F" Female
<b>Standards</b> <b>8VSB:</b> <b>QAM:</b>	ATSC Digital Television A/53E ITU-T J.83 - Annex B (64 and 256 QAM)
<b>8VSB Mode</b> <b>Tuning Range:</b> <b>Data Rate:</b> <b>Bandwidth:</b> <b>Power Level:</b>	VHF (NTSC Ch. 2-13), UHF (NTSC Ch. 14-69) 19.392 Mbps 6 MHz -20 to +20 dBmV
<b>QAM Mode</b> <b>Tuning Range:</b> <b>Data Rate:</b> <b>Bandwidth:</b> <b>Power Level:</b>	CATV (NTSC Ch. 2-135) 38.8 Mbps (QAM 256); 26.97 Mbps (QAM 64) – Auto Detect 6 MHz -20 to +20 dBmV

## IF (INTERMEDIATE FREQUENCY)

<b>Connector:</b>	"F" Female Input / "F" Female Output
<b>Aural Frequency:</b>	41.25 MHz
<b>Visual Frequency:</b>	45.75 MHz
<b>Composite Loop Output</b> <b>Aural Carrier Level:</b> <b>Visual Carrier Level:</b>	+20 dBmV +35 dBmV
<b>Impedance:</b>	75 $\Omega$ Input / 75 $\Omega$ Output
<b>Return Loss:</b>	16 dB Input / 15 dB Output
<b>EAS/ALT IF</b> <b>Input Level:</b> <b>Switch Isolation:</b>	+38 dBmV @ 45.75 MHz Greater than 60 dB

## GENERAL

<b>Dimensions (W x D x H):</b>	19.0 x 18.625 x 1.75 inches (483 x 473 x 44 mm)
<b>Power:</b>	110 VAC/60 Hz (Fuse: 1 amp, 250 VDC, SloBlo)
<b>Power Dissipation:</b>	36 W
<b>Weight:</b>	7 lbs (3.2 kg)
<b>Operating Temperature:</b>	32 to 122 °F (0 to 50 °C)
<b>Storage Temperature:</b>	-13 to 158 °F (-25 to 70 °C)
<b>Operating Humidity:</b>	0 to 95% RH @ 35 °C max, non-condensation
<b>Storage Humidity:</b>	0 to 95% RH @ 35 °C max, non-condensation

## RELATED PRODUCTS

Model	Description
AQM	ASI-to-QAM Modulator; Six modulators in 2RU
AQD	8VSB/QAM-to-Baseband Demodulator; Eight demodulators in 3RU
DQMx	4x1 ASI and 8VSB/QAM-to-QAM Multiplexer; 1RU

## OUTPUT

<b>Connectors</b> <b>Standard RF Output:</b> <b>Optional ASI Output:</b>	"F" Female 2 x BNC Female
<b>Standard RF Output</b> <b>Frequency Range:</b> <b>NTSC Channels:</b> <b>Power Level:</b> <b>Power Level Range:</b> <b>Broadband Noise:</b> <b>Spurious:</b> <b>Impedance:</b> <b>Return Loss:</b> <b>Aural/Visual Carrier Ratio:</b> <b>4.5 MHz Aural Inter-carrier Freq. Tolerance:</b> <b>Channel Selectivity</b> <b>Adjacent Aural &amp; Below:</b> <b>Adjacent Picture &amp; Above:</b> <b>Visual Carrier</b> <b>Frequency Tolerance</b> <b>Standard Channels:</b> <b>FCC Aeronautical Channels:</b>	54 to 864 MHz UHF, VHF, CATV (Standard, HRC, & IRC) +60 dBmV (120 dB $\mu$ V) +50 to +62 dBmV (in 0.2 dB increments) -77 dBc (@ +60 dBmV output level, 4 MHz bandwidth) -63 dBc 75 $\Omega$ 15 dB -15 dB $\pm$ 5 $\pm$ 150 Hz; 32 to 122 °F (0 to 50 °C) -40 dB -40 dB $\pm$ 5 $\pm$ 20 kHz; 32 to 122 °F (0 to 50 °C) $\pm$ 5 kHz; 32 to 122 °F (0 to 50 °C)
<b>Video Carrier</b> <b>Frequency Response:</b> <b>Video-to-RMS Hum Ratio:</b> <b>Signal-to-Noise Ratio:</b> <b>Differential Gain:</b> <b>Differential Phase:</b> <b>Over-mod. Indicator:</b> <b>Chrom./Luminance Delay:</b>	1.5 dB Peak-to-Valley (fv-0.5 to fv+4.2 MHz) 65 dB Peak-to-Peak 58 dB (Weighted) 2.0% @ 87.5% 1.0 degree 87.5% $\pm$ 2.5 Per FCC Requirements
<b>Audio Carrier</b> <b>Frequency Response:</b> <b>Frequency Range:</b> <b>Signal-to-Noise Ratio:</b> <b>Total Harmonic Distortion:</b> <b>Over-mod. Indicator:</b>	$\pm$ 1.0 dB (referenced to 75 $\mu$ sec pre-emphasis) 20 Hz to 20 kHz 60 dB @ 25 kHz Deviation 0.6 % 50 kHz $\pm$ 2
<b>Optional ASI Output (DAP PLUS ONLY)</b> <b>Standard:</b> <b>No. of Streams:</b> <b>Data Bit Rate:</b> <b>Transport Stream Rate:</b> <b>Output Impedance:</b>	DVB-ASI; 50083-9 Two identical streams 270 Mbps 160 Mbps (Max) 75 $\Omega$

## ALARMS/MONITORING/CONTROL

<b>Indicators:</b>	8VSB/QAM Lock (Green LED) Stereo Audio (Green LED) EAS or Alternate IF activated (Red LED) Audio Over-modulation (Red LED) Video Over-Modulation (Red LED)
<b>Local Monitoring:</b> <b>Local Control:</b>	Front-panel, 16-character, 2-line LCD screen Front-panel Navigational Key-pad Audio & Video Modulation Adjustment Aural Carrier Adjustment
<b>Remote Monitoring/Control:</b>	GUI-based menu via Web browser (Available if the optional RNC module is installed)

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