

EN-31 Dual Channel Capable DSNB Encoder / Modulator

Quick Start Guide

Thank you for your purchase of the Adtec EN-31 Encoder/Modulator. This product is sold with one or two encoder modules and with optional modulator hardware packages. Some configurations may differ from the unit you have purchased if there is only one encoder module installed. If you purchased this product without a modulator, please disregard settings noted with an asterisks.

Quick View Status

For information on the core systems of the encoder, use the down arrow on the front panel to scroll through these quick view menus.

Encoder Status TMR Auto Fill Encryption
ENCODING: 38.810Mb/s A/F: OFF CAS:BISS_1
TSI: 00001 SVC1: ON SVC2: OFF

Transport Stream ID Service 1 Service 2
 Service1 ID Service1 Name Service1 Provider
SVC1: 00003 "AdtechDTV1" Adtec Digital 1
SVC2: 00004 "AdtechDTV2" Adtec Digital 2

Service2 ID Service2 Name Service2 Provider
 Input 1: Resolution Frame Rate Source Mode
RES1: 1920x1080 25i INP: SDI MODE: AUTO
RES2: 720x480 59p INP: COMP MODE: SD

Input 2: Resolution Frame Rate Source Mode
 Video Bit Rate CODEC Chroma
VRT1: 15000000b/s COD: MPEG2 CHR: 422
VRT2: 18242000b/s COD: H.264 CHR: 420

Video Bit Rate CODEC Chroma
 Audio 1: 1 - 4 Bitrate Type
1:MU 384k 2:MU 384k 3:MU 384k 4:MU 384k
1:DD 192k 2:DD 192k 3:MU 384k 4:MU 384k

Audio 2: 1 - 4 Bitrate Type
 Video1 PID Audio1 PIDs 1-4
VID: 0309 AUD:1: 0257 2: 0258 3: 0259 4: 0260
VID: 0308 AUD:1: 8180 2: 8181 3: 8182 4: 8183

Video2 PID Audio2 PIDs 1-4
 TSolp 1 - 4 RTP FEC Status Connector
1: SEND ON BUR GIGE 3: SEND OFF OFF GIGE
2: SEND ON OFF GIGE 4: OFF OFF OFF GIGE

ASI Remux Status Programs on Input
REMUX: ACTIVE PROGRAMS: 7
INPUT: 038.963Mb/s RESERVED: 040Mb/s

Input Data Reserved Bandwidth
 *Modulator Status Mod FEC Power Roll Off
TX: Enable 32APSK_9/10 Pwr: -30dB RO: 25%
Freq: 1291MHz DVB-S2 Sym: 15.00Ms Pilot: ON

Frequency Mode Symbol Rate Pilot

LED Status

Video

Blinking - No Video is detected

On - Video is detected

Encode

Off - Device is not encoding

On - Device is encoding

AVC

Off - MPEG2 module installed

On - MPEG4 (H.264) module installed

HD

Off - Video Input is SD resolution

On - Video Input is HD resolution

A1 - A4

Off - Audio mode set to OFF

On - Encoding or Passthru audio

Blinking - Audio is active but there is no source

Alarm

Off - No system alarms

On - System alarm

BISS

Off - Encryption config is OFF

On - Encryption config is ON

Link

Off - No network detected

On - Connection active

Busy

Off - No network activity

On - Network traffic present

Reset:

Should you need to reset your device, you can do so via the front panel by pressing the MODE, ESCAPE and RIGHT ARROW keys simultaneously.

Services	*RF Tx	IP Tx	Video	Audio	PIDS	VBI	Profile	CAS	System
TS Mux Rate	Transmit	<< 1 - 4 >>	<< Ch1 - Ch2 >>	ENC1 ENC2	<< Ch1 - Ch2 >>	Source	Select	Mode	Login
Autofill	Type	Mode	Input	<< 1 - 2 >>	PMT PID	Closed Cap.	Save	Clear SW	Duration
Tables	Mode	IP Tx Mode	SDI Mode	Surround Mode	PCR PID		Delete	Encrypted SW	Network Menu
TSID	Local Oscillator	Tx IP Address	Chroma	<< 1 - 4 >>	Video PID			User ID 1	Time Menu
ASI Mode	Uplink Freq	Tx Port	Video Rate	Input	Audio 1 PID			User ID 2	NTP Menu
ASI Remux	Frequency(MHz)	DVB per IP	Aspect Ratio	Mode	Audio 2 PID				Alarm
<< Ch1 - Ch2 >>	Power(dBm)	RTP	AFD	Type	Audio 3 PID				SNMP Menu
Active	Spectrum Invrnsn	FEC Mode	GOP Type	Rate	Audio 4 PID				COM2
Service Name	Fec Frame	FEC L	GOP Structure	Level	Teletext PID				Feature Menu
Svc Provider	Roll Off	FEC D	GOP Size	Sync	AMOL PID				Hardware Info
Program #	Pilot	FEC TOS bits	Fault Mode	Format	VITC Mode				Name
Logical Ch #	Rate Priority	Type of Service	Fault Resolution	IFB	VITC PID				Firmware
Bars,Tones,ID	Symbol Rate	TTL		SDI Pair	Splice Mode				Backlight
	Interface Rate	Tx Connector		SDI Clock Source	Splice PID				
	Carrier Mode	Service Select		ECC					
	10 MHz Clock	Mux Rate Mode		SDI Audio Grp.					
	Clock Comb.	Multicast Rate							

Model Indicators:

No modulator

IF/LB/10M modulator

Model Variety:
 Adtec offers MPEG2 and MPEG4 encoder modules. Depending on the type and quantity of modules purchased, configurations may vary.

Front Panel Menus:

Use Mode Button to move through top layer menus. Use select to enter into edit mode and enter to save selection.

Use arrows for navigation in submenus.

Special Keys:

Use the F2 button as a decimal.

Units ship with the front panel logged in by default. If you become logged out and are prompted for a password, use the following key sequence for access.

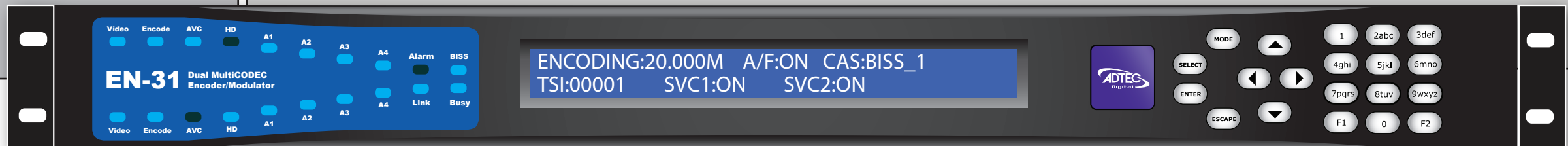
Press <Select> when panel displays 'User Login -- logged out'
 Press <Up arrow>
 Press <Select>
 Press <Enter>
 Press <Right arrow>
 Press <Enter>

Modulator Line-UP * For access, press the F1 and F2 keys simultaneously. This feature enables the operator to quickly view and/or configure select modulator RF output parameters. The parameters available in this menu are;

Carrier Mode: [PURE_CARRIER or MODULATED] Use SELECT Button to toggle. **Output Power:** [in 0.5dB increments] Press or hold UP or DOWN arrows to adjust.

Transmit: [ENABLED or DISABLED] Use ENTER Button to toggle. **Uplink Frequency:** [in 1.0MHz increments] Press or hold LEFT or RIGHT arrows to adjust.

Carrier Mode Output Power
Carrier: PURE_CARRIER Power (dBm): -50.0
Tx: ENABLED Uplink (MHZ): 950.000
 Transmit Uplink Frequency



Getting Connected

To begin, you will need to connect to your EN-31 via IP 1 directly, or by adding the EN-31 to your local area network. The network settings can be found via the front panel System > Network Menu. IP addresses are dynamically set via DHCP. If you wish to assign a static address, you will need to turn DHCP off prior to setting a manual address.

To connect directly to the device, make sure that your computer and the device have IP addresses within the same IP class range (ex. 192.168.10.48 for the device and 192.168.10.49 for your computer). Using a CAT 5 crossover cable, connect one end to your computer and the other to the IP 1 port found on the processor section of the back panel. (Some computers can auto negotiate the connection and a crossover may not be necessary.)

To add the device to a LAN, connect a standard CAT 5 Ethernet cable to your network router or switch and then to the IP 1 port on the back of the device.

Web-Based Control Application



Firefox® browsers, users can locate all of the Adtec devices on a network by referencing the serial number on the back of the device. Clicking on the unit in the Bonjour® list will re-route you to a login page. If you do not wish to use Bonjour, you can reach the device's web application by pointing your browser to the IP Address of the device. Ex. <http://192.168.10.48/>. You will be prompted for a username and password. The default username is 'adtec'. The default password is 'none'.

The left-hand panel of the application will report current status in real-time while the right panel tabs will allow you to configure your device.

Adtec Digital has adopted zero-configuration networking technology, streamlining the setup and configuration processes for our products. The use of this technology enables automatic discovery of Adtec devices and services on an IP network. Used in tandem with the web-based control and configuration applications we can now provide 1-click access to any device.


By using the built-in Bonjour® locator in Apple's® Safari® browser or the plug-ins readily available for IE® or

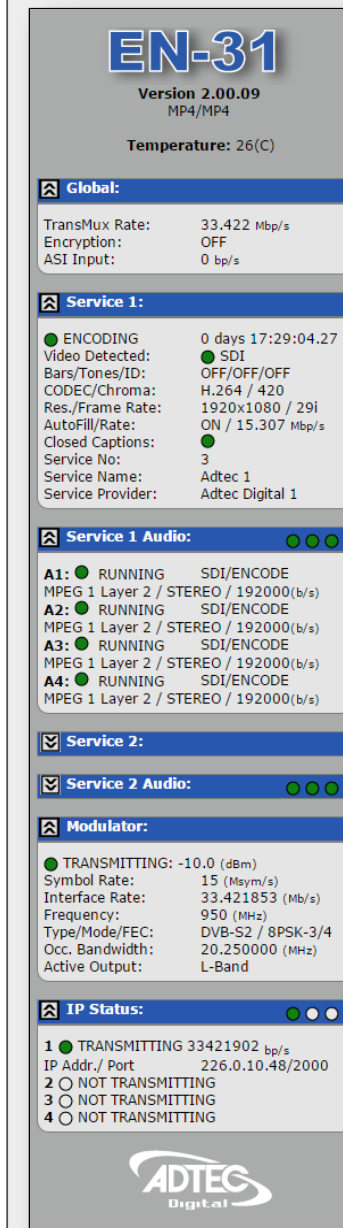


Have questions? Each field or group of fields in our web-based application has a hint button associate with it. It contains information on use of the field or acceptable ranges.

Getting Started

Once your encoder is accessible via the network, you can set it up for transmission. You will need to adjust the configuration using the front panel or web UI. As you make changes, you will see the status sections on the left hand side of the web UI adjust. These status sections report the majority of the critical information needed for monitoring during a transmission. Each of these status menus can be collapsed by

clicking on the  icon. This allows you to view only that information which is most critical for you, but keeps a LED indicator visible for all sections at all times for alarms.



Global Status: These values indicate the total Trans Mux Rate output, encryption status, and data present on ASI input.

Service 1 or 2: These values indicate the service or program data being used in your transmission as well as status of the first encoder.

Service 1 or 2 Audio: This section will display all audio status, including bitrate, format, and input selected for the first encoder.

IP Status: These values indicate the status of IP egress, including bitrate, address, and port.

*** Modulator Status:** Devices containing the optional modulator will display this status window indicating activity and critical uplink parameters.

Power

Power 1 & 2 Redundant AC Power, Standard 3 pin computer power plug (Auto range 70-240 VAC Input)

Processor

COM1 Serial Port Used for Troubleshooting (Terminal)
COM2 API Serial Communication Interface

IP 1 Management/Monitoring default port (10/100/1000BASE-T)
IP 2 TSolP UDP, RTP and SMPTE 2022 multicast or TCP transport default port (10/100/1000BASE-T)

Parport 9-pin parallel I/O interface for control systems
GPIO Tally and Control Port

Encoder

CVBS In 1-2 75 Ohm terminated BNC Composite Video
SDI In 1-2 75 Ohm terminated BNC, Video/Audio (SMPTE 259M/SD, SMPTE 292M/HD)
Audio In 1-2 Analog Stereo Pairs (600 Ohm Balanced)
ASI Input 75 Ohm terminated BNC for ASI remux
AES Audio In 1-2 75 Ohm AES-3 per AES3-2003 (2 inputs per service)
ASI Out 75 Ohm BNC source ASI x 2per EN5000839, up to 150 Mbps

* Modulator (optional)

LB Out 50 Ohm BNC, L-band RF output (frequency range 950 MHz to 2.150 GHz)
LB Mon 50 Ohm BNC, L-band Monitor output
IF Out 75 Ohm BNC, IF RF output (frequency range 50 MHz to 180 MHz)
IF Mon 75 Ohm BNC, IF Monitor output
10MHz In 50 Ohm BNC connector for external 10MHz reference
10MHz Out 50 Ohm BNC connector for 10MHz output reference
IP MOD In TSolP input directly to Modulator
ASI to MOD 75 Ohm terminated BNC input directly to Modulator

