# EN-80 Multi-CODEC Encoder / Modulator — Quick Start Guide

Thank you for your purchase of the Adtec EN-80 Encoder. This product is sold with optional modulator hardware packages. Configurations and indicators relevant to those add-on packages are noted here. If you purchased this product without a modulator, please ignore settings noted with an asterisks (*).

The most recent firmware releases are available on our support website, www.adtecdigital.com. Advanced users can find direct API command help as part of the on-board web application, Help Tab.

## Quick View Status

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

Encoder Activity TMR  Fault Mode Status  Encryption

```
ENCODING:20.000M  ! FAULT MODE! CAS:OFF
SVC:  00001  "Service Name"  Service Provider
```

Service ID  Service Name  Service Provider

**Input:** Resolution  Frame Rate  Source

```
I/ RES:   1920X1080 59i                INP: SDI
O/RES: 1920X1080 59i  B/T/ID:OFF/OFF/OFF/OFF
```

**Output:** Resolution  Frame Rate  Bars Status

Video PID  PCR PID  Codec  Chroma

```
VID: 481   PCR:481   COD:H.264 CHR:420
VRT:60000000b/s ENT:CABAC A/F:OFF
```

Video Rate  Entropy Mode  Auto Fill

Audio Status

```
1:MU 384k 3:MU 384k
2:MU 384k 4:MU 384k
```

Audio PIDS 1- 8

```
Audio  1:11300  3:11400
PIDS    2:11300  4:11400
```

IP status  RTP  FEC  Connector  Transports 1 - 4

```
1: SEND ON  BUR  GIGE   3: OFF  OFF  OFF GIGE
2: OFF  OFF  OFF GIGE   4: OFF  OFF  OFF GIGE
```

Modulator Status  Mod FEC  Power  RollOff

```
TX:Enabled 32APSK_9/10 Pwr:-30dB  RO:25%
Freq:1291MHz DVB-S2 Sym:15.00Ms  Pilot:On
```

Frequency  Mode  Symbol Rate  Pilot

| Services | * RF Tx | IPTx | Video | Audio | PIDs | VBI | Profile | CAS | System |
|---|---|---|---|---|---|---|---|---|---|
| TS Mux Rate | Transmit | << 1 - 4 >> | Input | Sampling Frequency | Transport Stream ID | Source | Select | Mode | Login |
| Program Number | Type | Mode | SDI Mode | SDI Clock Source | PMT PID | Closed Caption | Save | Clear Session Word | Duration |
| Service Name | Mode | Tx IP Address | CODEC | ECC Words | PCR PID | VITC Menu | Delete | Encrypt Session Word | Backlight Dim Delay |
| Service Provider | Frequency (MHz) | Tx Port | Entropy Coding | << 1 -4>> | Video PID | | | User ID 1 | Network Menu |
| Tables | Power (dBm) | DVB per IP | Chroma | Input | Audio 1 PID | | | User ID 2 | Time Menu |
| Splice PID Active | Spectrum Inversion | RTP | Video Rate (b/s) | Mode | Audio 2 PID | | | | NTP Menu |
| ASI Receive Mode | Fec Frame | FEC Mode | Autofill | Type | Audio 3 PID | | | | Alarm |
| ASI Mode | Roll Off | FEC L | Latency | Rate | Audio 4 PID | | | | SNMP Menu |
| Carrier ID Menu | Pilot | FEC D | Latency Trim | Level | Teletext PID | | | | COM 2 |
| Bars, Tones, ID Menu | Rate Priority | FEC TOS Bits | Fault Mode | Analog Aud. Level (1-2 Only) | VITC PID | | | | Feature Menu |
| | Symbol Rate | TOS | Fault Resolution | Sync | AMOL PID | | | | Name |
| | Interface Rate | TTL | Aspect Ratio | Musicam Mode | Splice PID | | | | Firmware Version |
| | Carrier Mode | Tx Connector | AFD | IFB | | | | | |
| | 10 MHz Clock | | GOP Type | SDI Pair | | | | | |
| | 10 MHz Clock Comb. | | GOP Structure | | | | | | |
| | | | GOP Size | | | | | | |
| | | | SD Video Mode | | | | | | |
| | | | 3D-Sync Mode | | | | | | |

### Model Indicators:

- L-Band modulator
- IF modulator
- No modulator

**Special Keys:**

F2 — **Use the F2 button as a decimal.**

F1 F2 — **Press the F1 and F2 buttons simultaneously to jump to Modulator Line-up Mode. **Detail on reverse.**

**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.

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>


### *Encoder LED Status*

**Video**
- Off - If modulator is installed, no video is detected or ASI Receive mode is enabled.
- On - Video is detected.
- Blink - No video is detected and fault mode is active.

**Encode**
- Off - Device is not encoding. Idle State
- On - Device is encoding.

**AVC**
- Off - MPEG 2 is selected for encode.
- On - MPEG 4 (H264) is selected for encode.

**4:2:2**
- Off - Encoding chroma type 4:2:0.
- On - Encoding chroma type 4:2:2.

**HD**
- Off - Encoding standard definition.
- On - Encoding high definition.

**IP Out**
- Off - Transport of IP via Ethernet or GigE is idle.
- On - Transport of IP via Ethernet or GigE is active.

*** RF Out**
- Off - Modulator is not transmitting.
- On - Modulator is transmitting.
- Blink - Modulator is in test mode.

**Bars**
- Off - B/T/ID options are disabled.
- On - B/T/ID are enabled.

**A1 - A4**
- Off - Audio encoder cfg. is off.
- On - Audio encoder cfg. is set to encode or passthru.

### *System LED Status*

**Alarm**
- Off - No system alarms
- On - System alarm

**BISS**
- Off - No encryption set
- On - Encryption active

**Busy**
- Off - No network activity
- On - Network traffic present

**Link**
- Off - No network detected
- On - Network communication active

**Front Panel Menus:**

- MODE — **Use Mode Button to move through top layer menus.**
- ▲ — **Use arrows for navigation in submenus.**
- SELECT — **Use select to enter into edit mode and ENTER enter to save selection.**

## Getting Connected

To begin, you will need to connect to your EN-80 via ethernet directly, or by adding the EN-80 to your local area network.The default address for all Adtec devices is 192.168.10.48.

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). If you need to change the IP address of the device, this can be done via the front panel, System > Network menu. Using a CAT 5 crossover cable, connect one end to your computer and the other to the Ethernet 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 and then to the Ethernet port on the back of the device. If your network is DHCP enabled and you prefer that over a static IP, you can turn on DHCP for the device via the front panel, System > Network menu.

## Web-Based Control Application


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© locater in Apple's© Safari© browser or the plug-ins readily available for IE© or 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'.

## Modulator Line-UP * (For access, press the F1 and F2 keys simultaneously.)

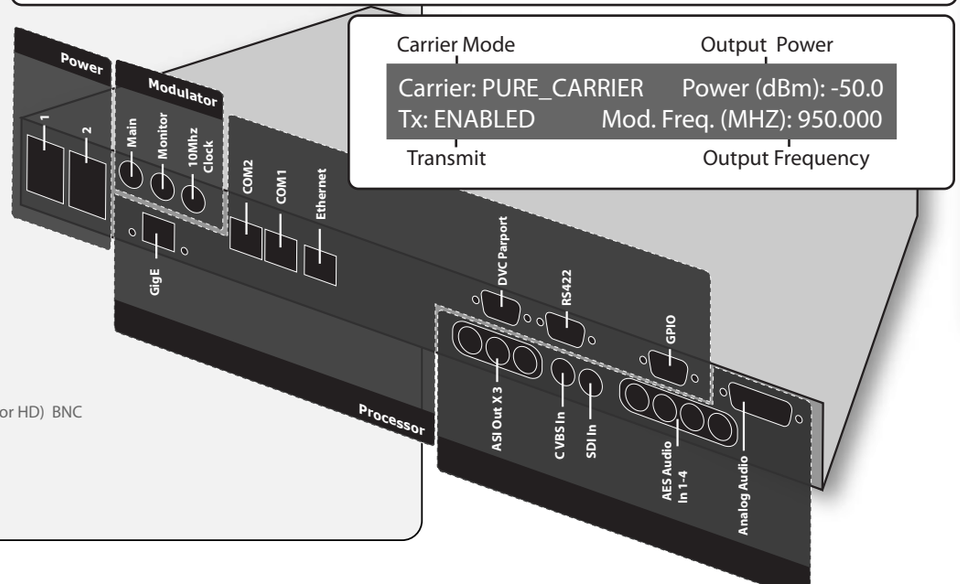
This feature enables the operator to quickly view and/or configure select modulator RF output parameters. The parameters available in this menu are;

**Carrier Mode:** [ PURE_CARRIER or ON ]
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.

**Output Frequency:** [ in 1.0MHz increments ]
Press or hold LEFT or RIGHT arrows to adjust.




**Power** .....

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

**Modulator (optional)*** .....

| | |
|---|---|
| **Main** | **RF output, 50 Ohm BNC** |
| | *L-Band Model:* Frequency range 950 MHz to 1.750 GHz, Power Level -50 to -7 dBm |
| | *IF Model:* Frequency range 50 MHz to 180 MHz, Power Level -30 to +5 dBm |
| **Monitor** | **RF output, 50 Ohm BNC** |
| | *L-Band Model:* Fixed power level at -45 dBm |
| | *IF Model:* Fixed power level at -45 dBm, fixed frequency at 1.08 GHz |
| **10MHz Clock** | BNC 50 Ohm connector for external 10MHz reference input |

**Processor** .....

| | |
|---|---|
| **GigE** | MPEG2 or RTP multicast transport egress port (SMPTE 2022) |
| **COM2** | API Serial Communication Interface |
| **COM1** | Serial Port Used for Troubleshooting (Terminal) |
| **Ethernet** | 10/100 base T ethernet interface (Monitoring/Management) |
| **DVC Parport** | 9-pin parallel I/O interface for control systems |
| **RS422** | Not Currently Supported |
| **GPIO** | Tally and Control Port |

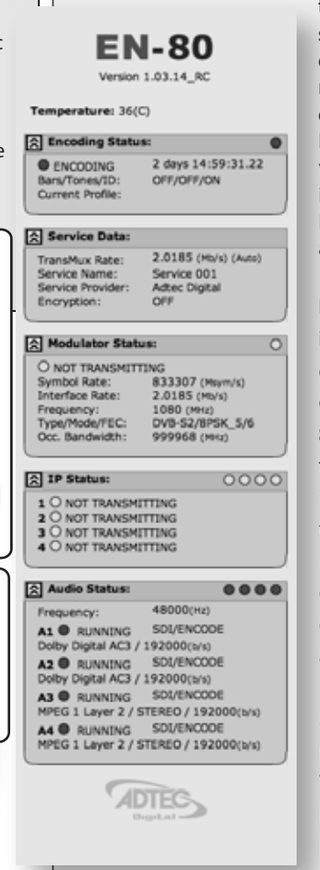
**Encoder** .....

| | |
|---|---|
| **ASI OUT** | 75 Ohm source ASI x3 per EN5000839. Up to 100 Mbps. |
| **CVBS In** | 75 Ohm terminated Standard Definition Composite Video Input |
| **SDI In** | 75 Ohm terminated Input, Video & Audio (SMPTE 259M for SD & SMPTE 292M for HD) BNC |
| **AES Audio In 1-4** | 75 Ohm AES-3 per AES3-2003 |
| **Analog Audio In** | Stereo Pairs 1 and 2 (600 Ohm Balanced) |

**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 network, you can set it up for transmission. You will need to adjust the configurations 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.




**Encoding Status:** These values indicate the encoder's state and displays alarms when a video loss event is detected.

**Service Data:** These values indicate the service or program data being used in your transmission as well as the total TMR output.

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

**IP Status:** These values indicate the status of IP Egress including address, port and FEC parameters.

**Video Status:** The video status information is auto-detected per the input selected. Information such as resolution, chroma, framerate and video rate are included.

**Audio Status:** This section will display all audio status including bitrate, format and audio input selected.