Product Review

HDE-2H2S-QAM

Input: 2xHDMI, 2xHD-SDI, & 4xComponent

Output: 4xQAM

MODEL	STOCK
HDE-2H2S-QAM	6379

ENCODER COLLECTION

Rev:120514-01

BLONDER TONGUE LABORATORIES, INC.
One Jake Brown Road, P.O. Box 1000
Old Bridge, NJ 08857-1000 USA

Description

HDE-2H2S-QAM (MPEG-2 HD Encoder – 2xHDMI, 2xHD-SDI, & 4xComponent-to-4xQAM) accepts up to four (4) high-definition (HD) programs from any of the following inputs:

- **2xHDMI (unencrypted),**
- **2xHD-SDI, and**
- **4xComponent.**

MPEG-2 encoded outputs are available in the following formats simultaneously:

- **4xQAM,**
- **1xGigE (1000Base-T Ethernet), and**
- **4xASI.**

[1] The encoder does not accept HDCP-encrypted HDMI input.

Front Panel

Comprehensive remote monitoring/control is accomplished using any standard Web browser via this 10/100BaseT Ethernet interface

Power LED

Encoder LED

QAM RF Test Connector allows monitoring/testing of the QAM output without service interruption

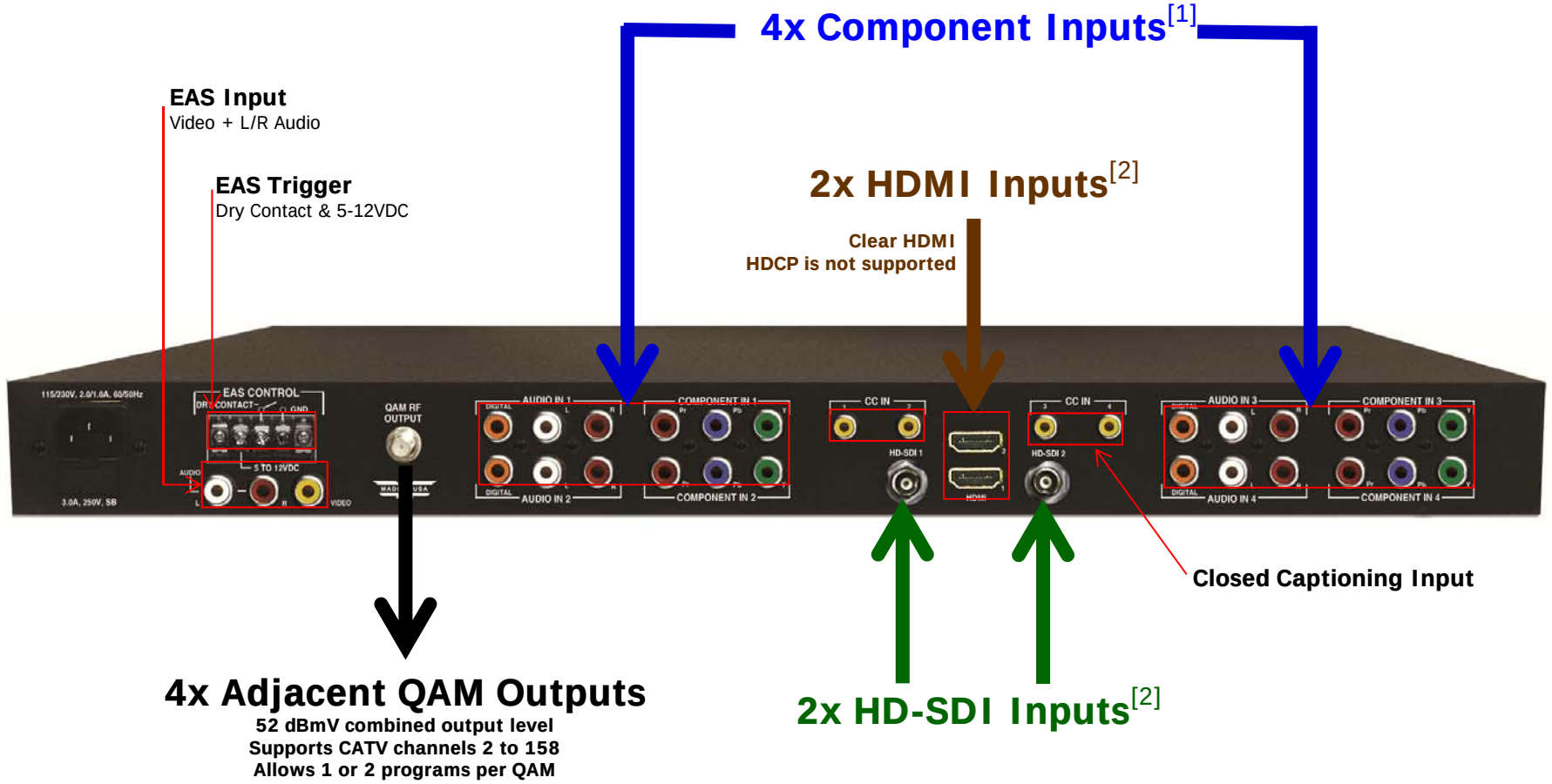
IP Reset to factory default

Video & Audio LEDs inputs 1 thru 4

1xGigE Output
RJ45 connector

4xASI Outputs
BNC connectors

Rear Panel



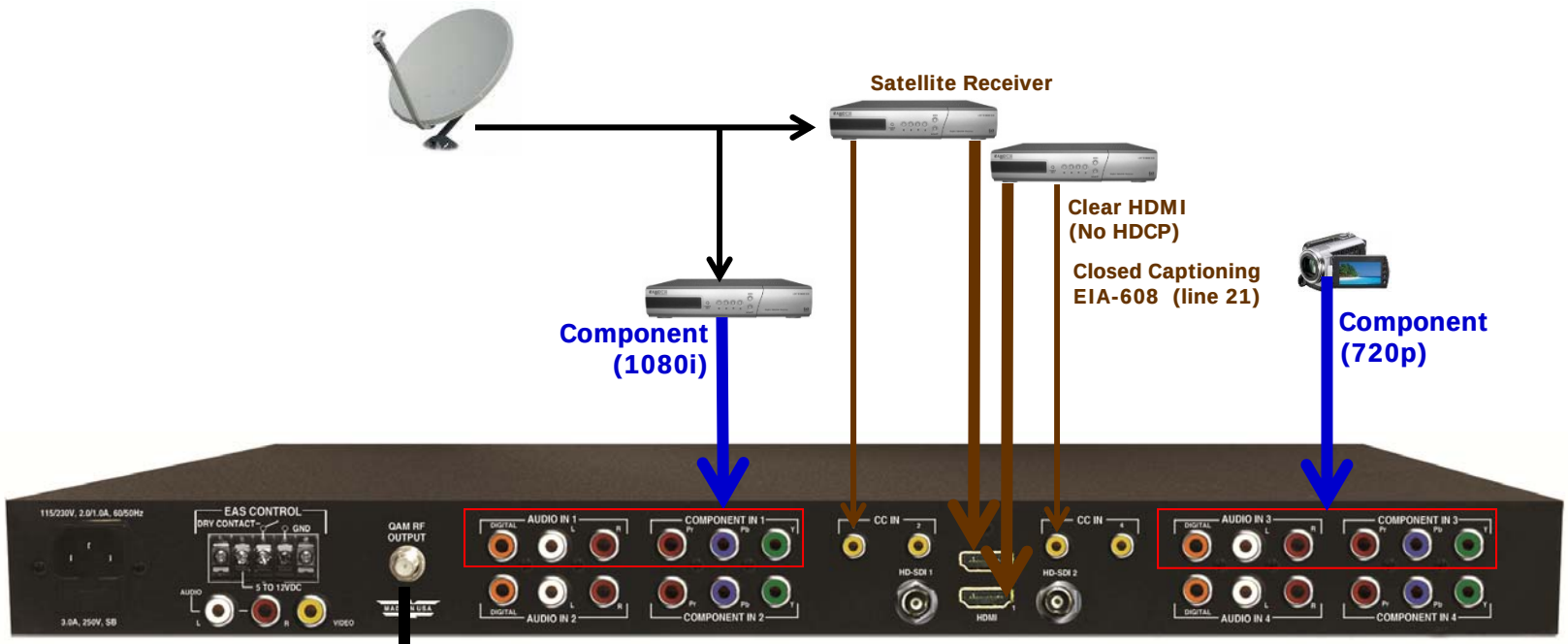
[1] The encoder accepts both analog and digital audio inputs. If both inputs are present, the encoder will process the analog as the primary audio source - the digital will become the secondary audio source.

[2] The encoder accepts analog NTSC Closed Captioning (EIA-608, also known as Line 21) from a Composite source, digitizes and then inserts it in the MPEG-2 encoded Transport Stream of the HDMI input. The encoder also supports EIA-708 if Closed Captioning is embedded in the HD-SDI input.

Features

- Accepts up to four (4) programs from any of the following inputs: 2xHDMI (unencrypted), 2xHD-SDI, and 4xComponent
- Simultaneously delivers the following outputs: 4xQAM, 1xGigE, and 4xASI
- Multiplexes up to four (4) input programs in any of the following output combinations:
  - i. 1:1 (1 program per 4xQAM channels)
  - ii. 2:1 (2 programs per 2xQAM channels, not exceeding 38.8 Mbps)
- Each of the four (4) QAM channels can (i) contain 1 or 2 programs, and (ii) be turned on/off individually
- Provides +52dBmV QAM output level for four (4) combined channels (+60dBmV for 1 QAM)
- Provides comprehensive GUI-based monitoring and control via standard Web browsers
- Supports Closed Captioning EIA-608 and EIA 708
- Equipped with EAS interface (Analog Video + L/R Audio)
- Supports Real-time Dolby Digital (AC-3) audio encoding
- Supports user-defined PSIP configuration

Typical Application (2xHDMI & 2xComponent)

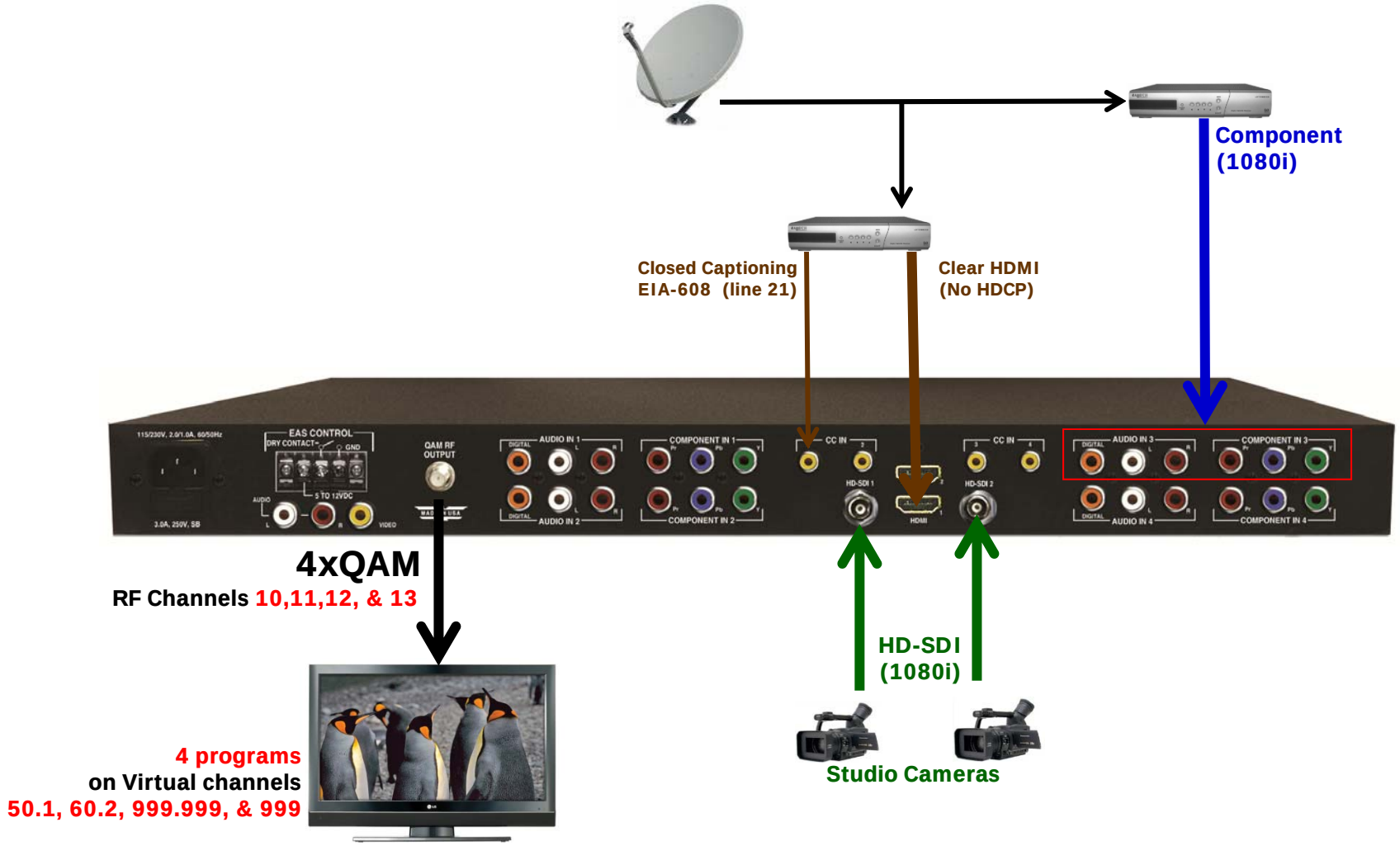


4 programs
on Virtual channels
50.1, 60.2, 999.999, & 999

4xQAM
RF Channels 10,11,12, & 13

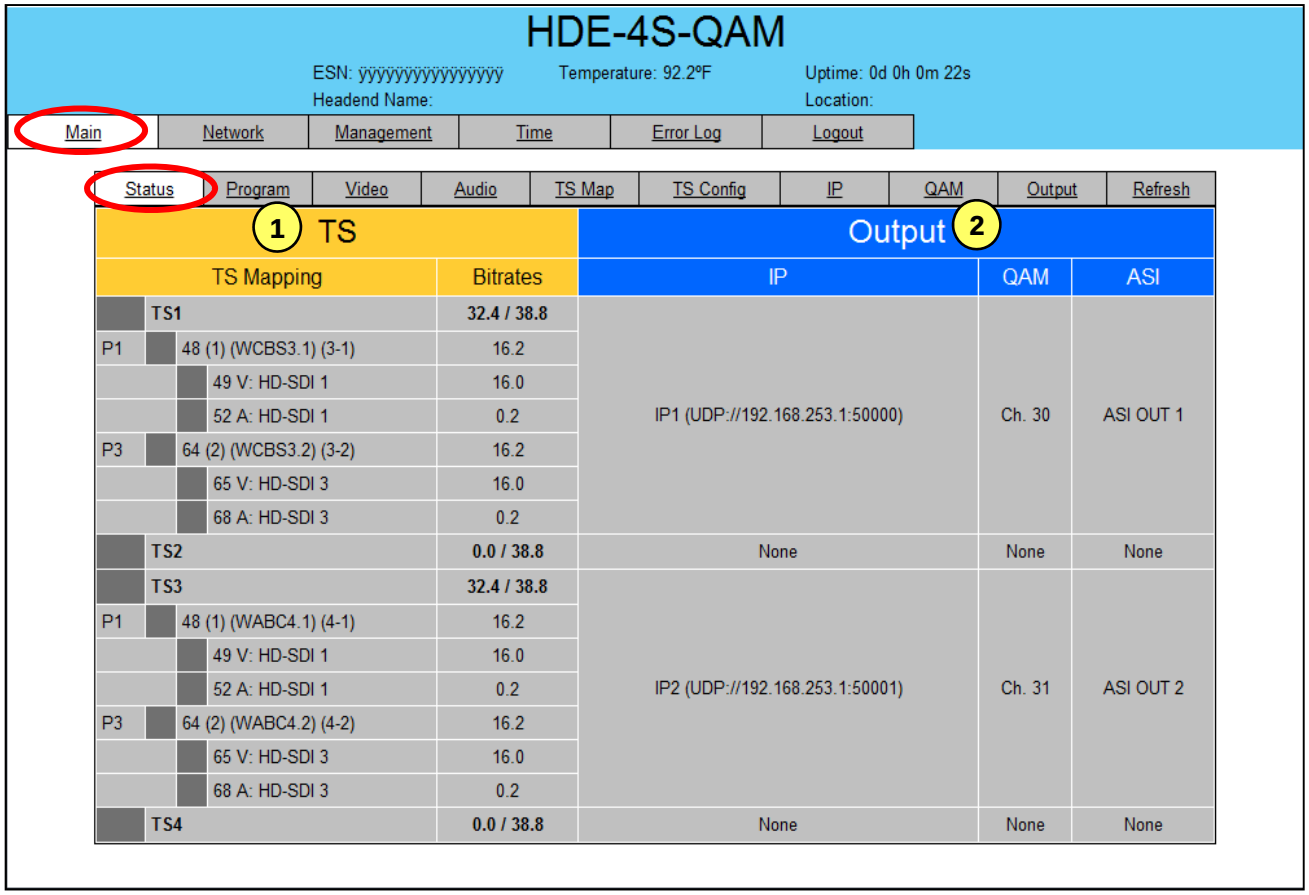
Supports PSIP configuration
User can configure RF output channels 10, 11, 12, and 13 to be displayed on virtual channels 50.1, 60.2, 999.999, and 999 respectively

Typical Application (1xHDMI, 2xHD-SDI & 1xComponent)



Monitoring & Control - Main > Status

The read-only "Main > Status" screen displays information about (i) the construction of each of the four (4) Transport Streams (TS) and (ii) the output mode of each.



HDE-4S-QAM

ESN: ÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿ Temperature: 92.2ºF Uptime: 0d 0h 0m 22s

Headend Name: Location:

Main | Network | Management | Time | Error Log | Logout

Status | Program | Video | Audio | TS Map | TS Config | IP | QAM | Output | Refresh

1 TS			Output 2		
TS Mapping		Bitrates	IP	QAM	ASI
TS1		32.4 / 38.8	IP1 (UDP://192.168.253.1:50000)	Ch. 30	ASI OUT 1
P1	48 (1) (WCBS3.1) (3-1)	16.2			
	49 V: HD-SDI 1	16.0			
	52 A: HD-SDI 1	0.2			
P3	64 (2) (WCBS3.2) (3-2)	16.2			
	65 V: HD-SDI 3	16.0			
	68 A: HD-SDI 3	0.2			
TS2		0.0 / 38.8	None	None	None
TS3		32.4 / 38.8	IP2 (UDP://192.168.253.1:50001)	Ch. 31	ASI OUT 2
P1	48 (1) (WABC4.1) (4-1)	16.2			
	49 V: HD-SDI 1	16.0			
	52 A: HD-SDI 1	0.2			
P3	64 (2) (WABC4.2) (4-2)	16.2			
	65 V: HD-SDI 3	16.0			
	68 A: HD-SDI 3	0.2			
TS4		0.0 / 38.8	None	None	None

1. **Indicates the information about the four (4) output transport streams. Under each transport stream (ex: TS1), displays the programs present in the transport stream and the corresponding content and bitrate.**

2. **Indicates the information about the three (3) output formats i.e. IP, QAM, and ASI.**

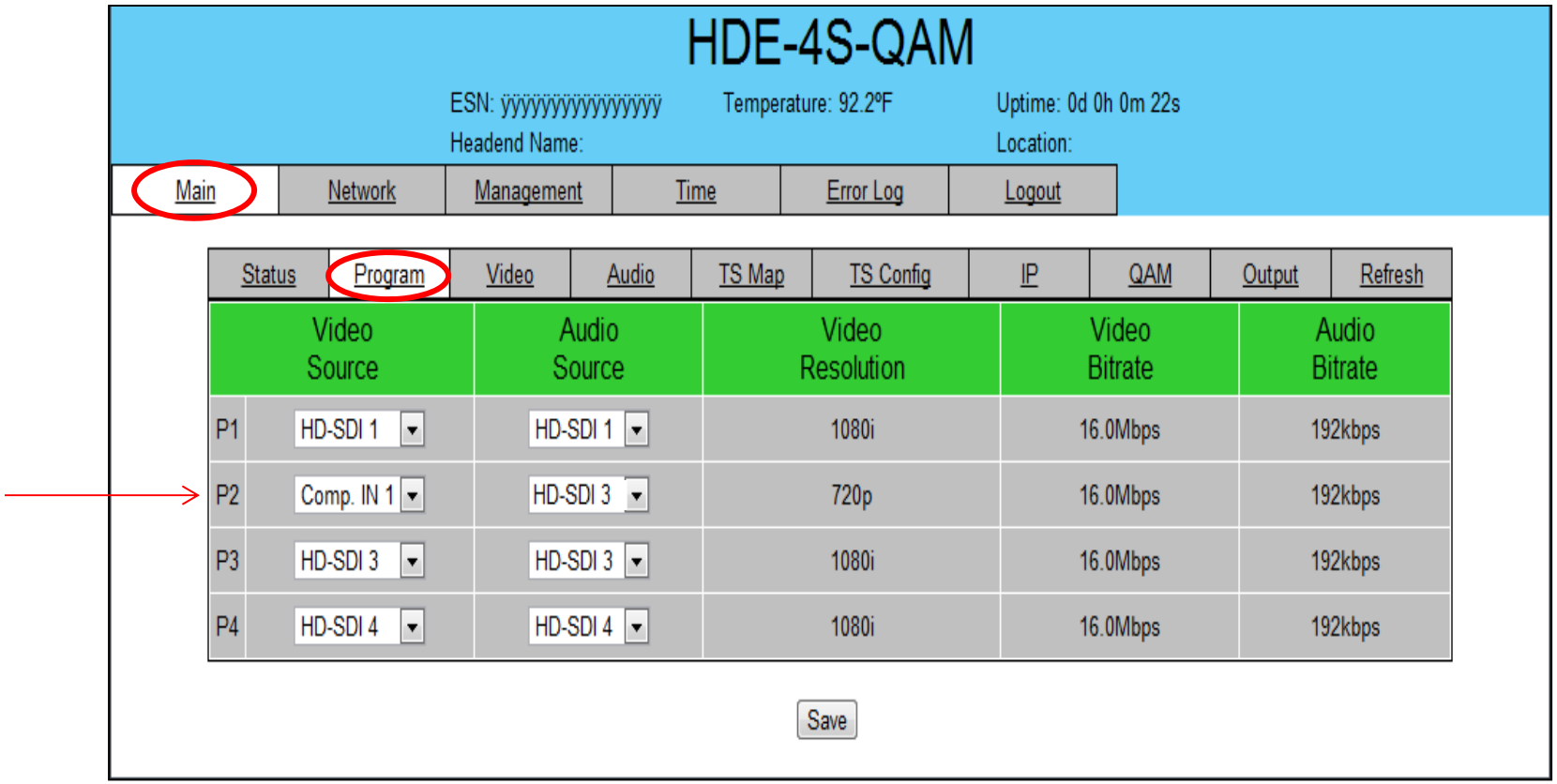
   For IP, displays the information about encapsulation used (UDP or RTP), IP Address (Uni- or Multi-cast), & port number.

   For QAM, displays the QAM RF Channel number the output is assigned to.

   For ASI, displays the physical ASI port number the output is assigned to.

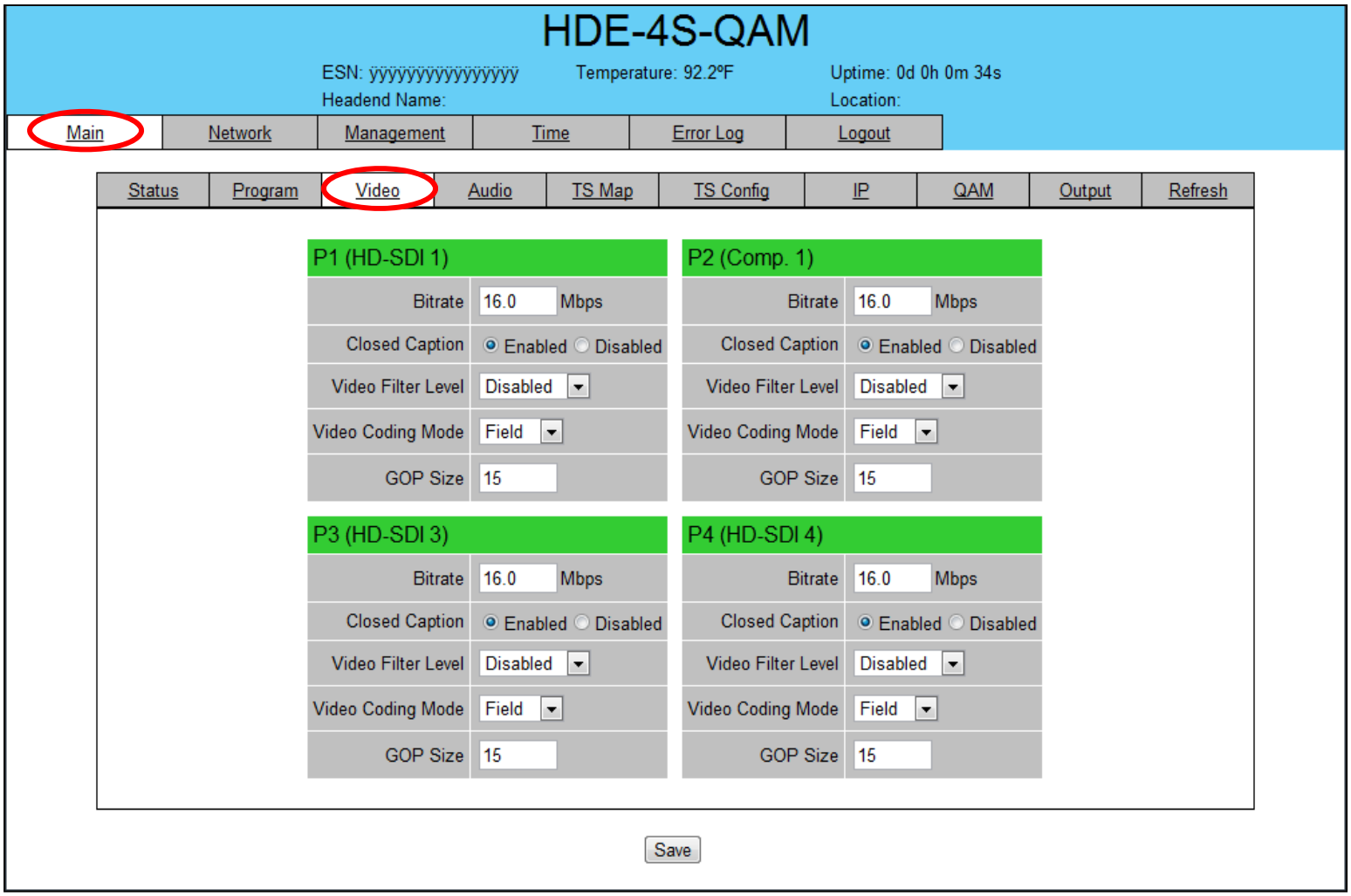
Monitoring & Control - Main > Program

The "Main > Program" screen allows the user to select the video and audio source for each input program. The encoder allows creation of a transport stream with audio and video from different sources – for example program 2 shown below consists of video from component input # 1 and audio from HD-SDI #3.



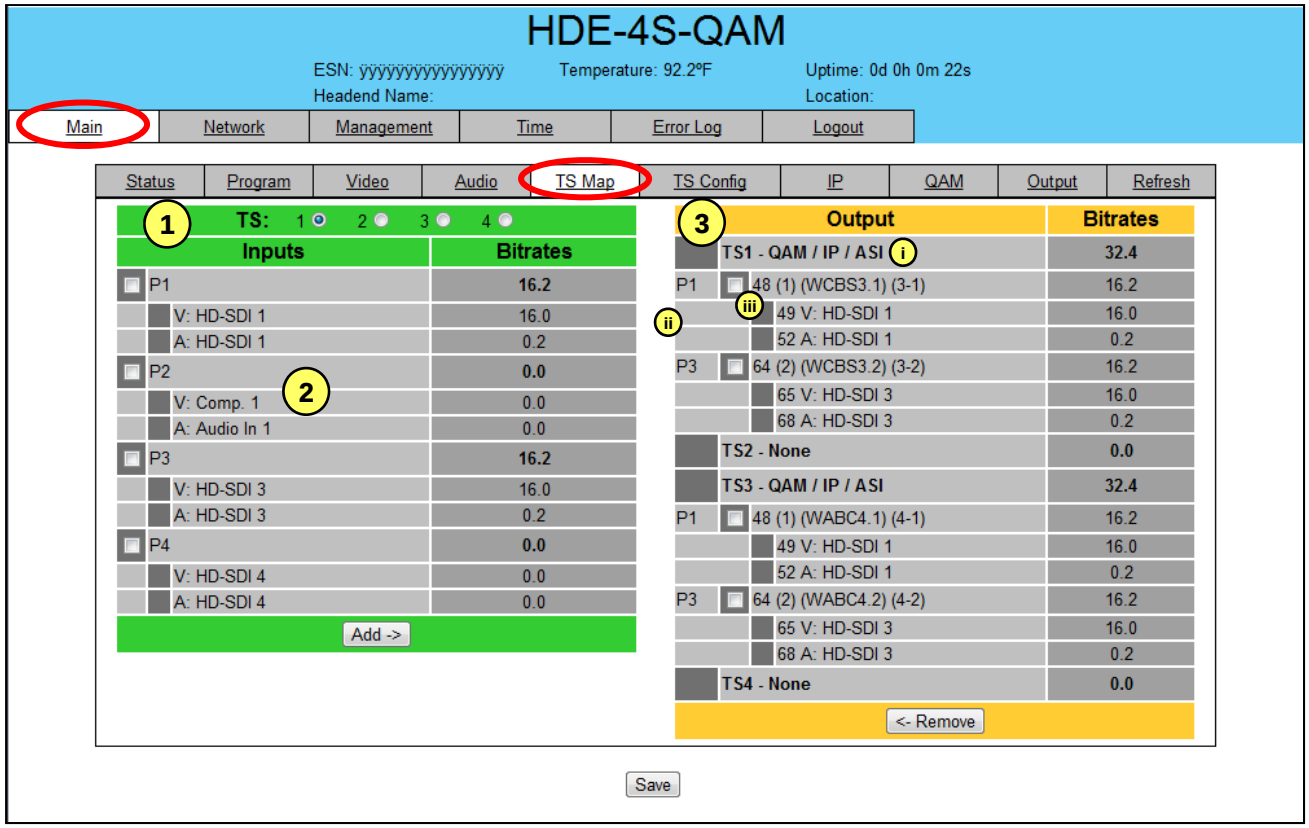
Monitoring & Control - Main > Video

The "Main > Video" screen allows the user to select the video parameters for each input program.



Monitoring & Control - Main > TS Map

The "Main > TS Map" screen allows the user to construct each of the four (4) Transport Streams.



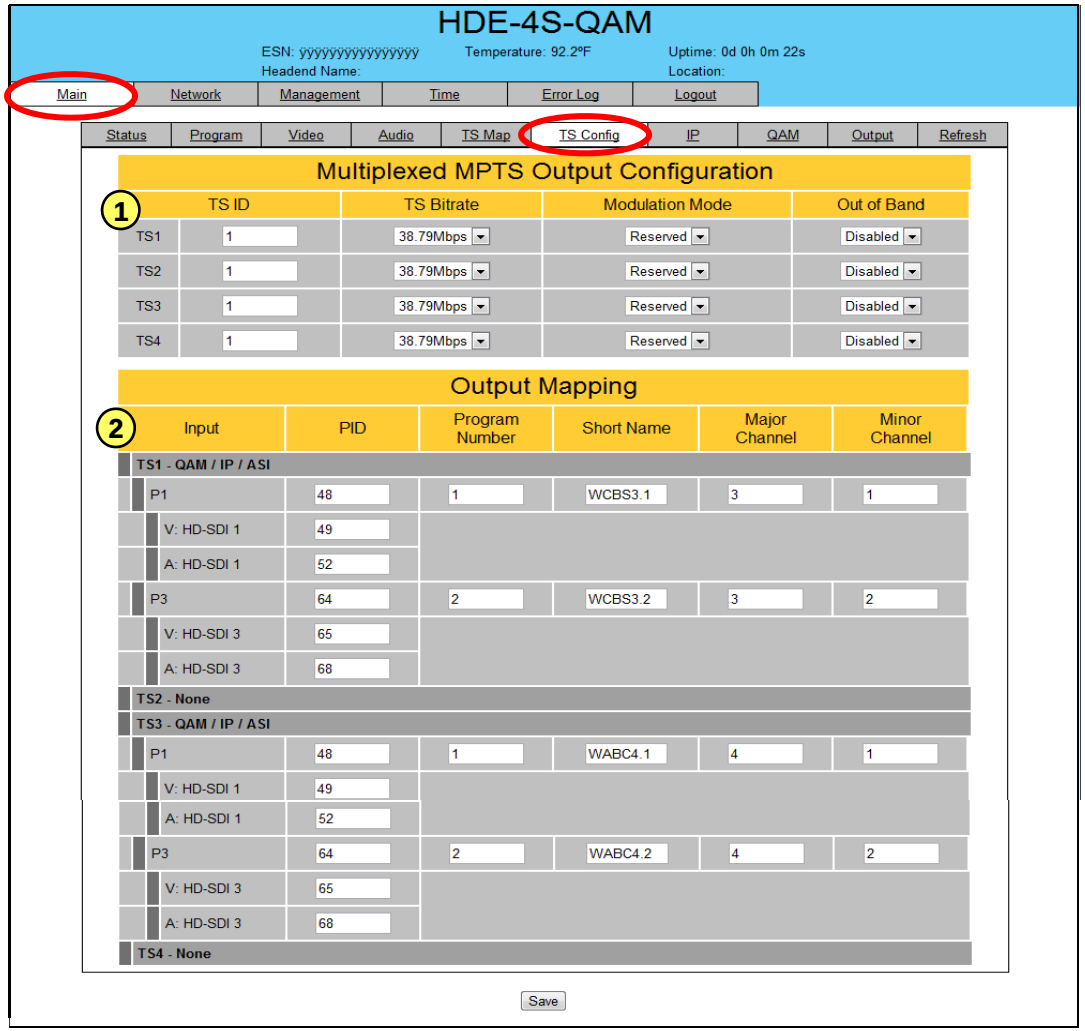
1. **Allows user to select TS that is to be constructed.**

2. **Allows user to assign any of the available input programs to the TS.**

3. **Displays the real-time construction of each TS. For example, TS1 shown here is:**
   - **(i) Delivered in QAM, IP , and ASI output modes**
   - **(ii) Contains input programs P1 and P3**
   - **(iii) Program P1 has the following characteristics:**
     - **PMT=48**
     - **Program No.= 1**
     - **Ch. name=WCBS3.1**
     - **B'cast ch.=3.1**
     - **Video PID No.=49**
     - **Audio PID No.=52**

Monitoring & Control - Main > TS Config

The "Main > TS Config" screen allows the user to create a Virtual channel table (VCT) for each output TS.

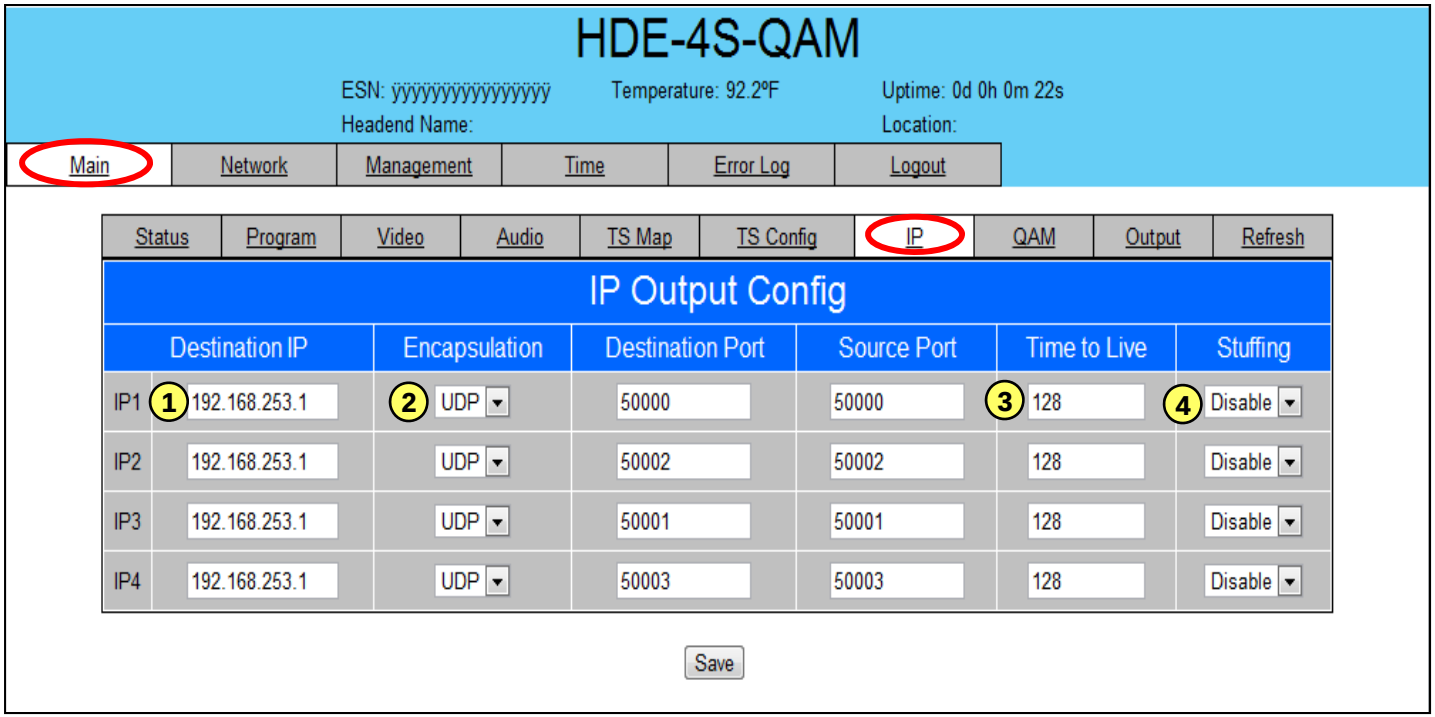


1. **Allows user to edit the following information about each of the output TS:**
   Transport Stream ID number
   Transport Stream's bitrate
   Modulation Mode (QAM 256 /64 ; 16/8VSB)

2. **Displays the input programs assigned to each TS, along with their PID numbers, program number, short name, and major-minor channel number to create a VCT.**

Monitoring & Control - Main > IP

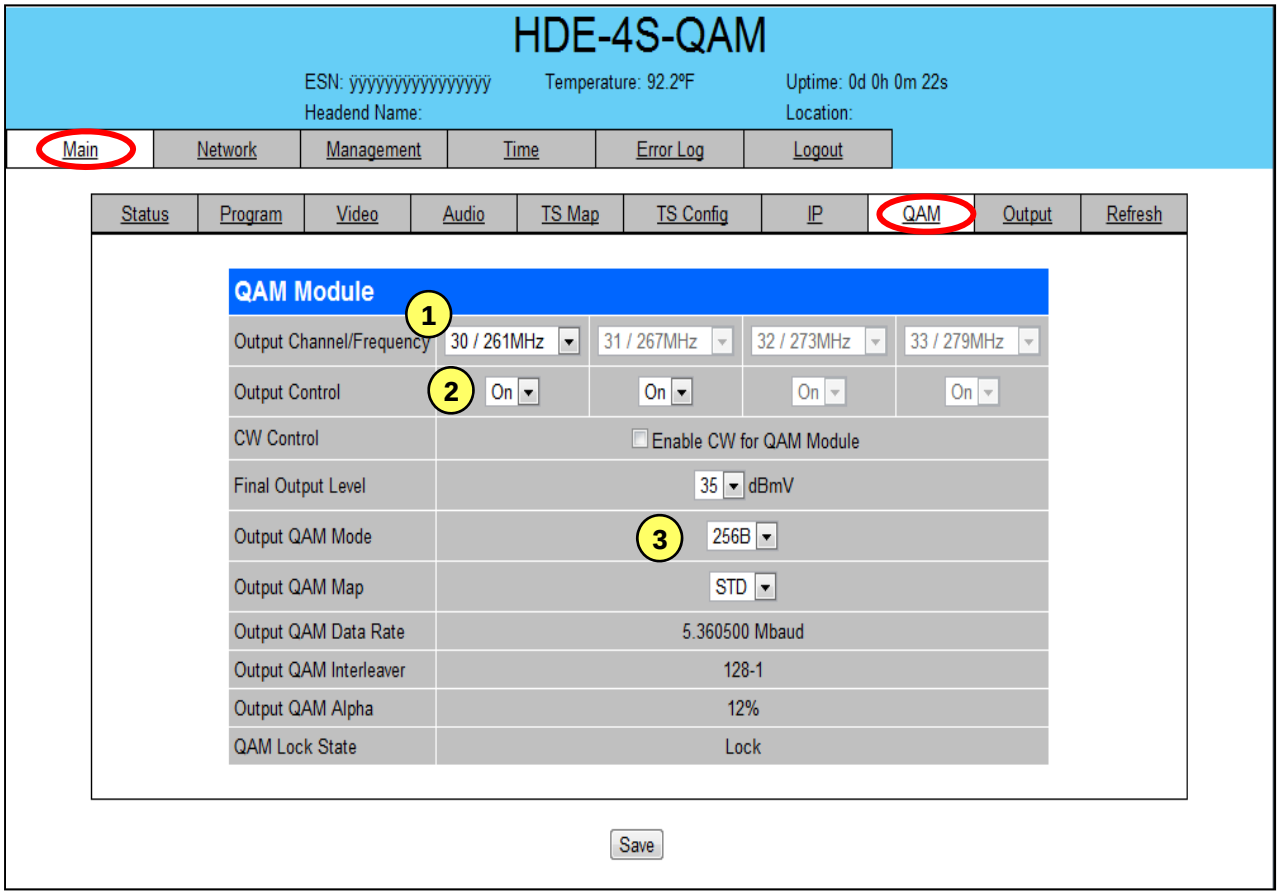
The "Main > IP" screen allows the user to assign the Destination IP address for each of the four (4) TS.



1. **Allows user to assign a uni- or multi-cast IP address for the IP output.**
2. **Allows user to select the UDP or RTP mode for the IP output and assign destination and source port numbers.**
3. **Allows user to assign an upper bound on the time that an IP packet can exist in an IP network to prevent an undeliverable packet from circulating on the network perpetually. The range is 1 to 255.**
4. **When enabled, adds null packets to ensure the TS is maintained at a constant bitrate.**

Monitoring & Control - Main > QAM

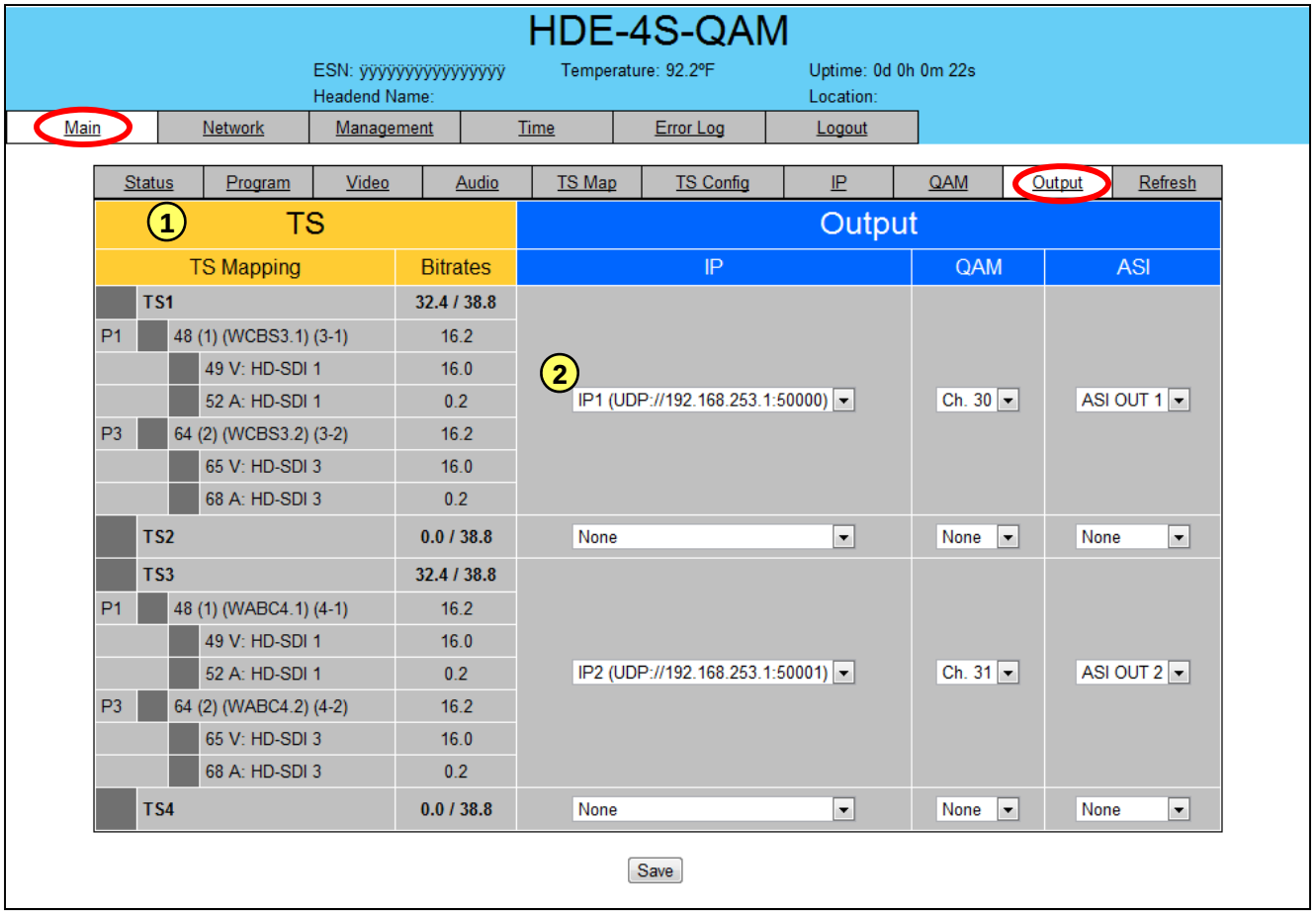
The "Main > QAM" screen allows the user to assign the RF QAM characteristics for each of the four (4) TS.



1. **Allows user to select the RF QAM channel number / frequency.**
2. **Allows user to turn each channel on / off individually.**
3. **Allows user to select the output level, modulation mode (QAM 64, 256, ...) , and type (Standard, HRC, IRC).**

Monitoring & Control - Main > Output

The "Main > Output" screen allows the user to assign each of the four (4) TS to any of the three output formats.



1. **Indicates the construction of each TS.**

2. **Allows the user to assign each TS to a desired output format. Shown here for example are: TS1 will be delivered in IP (UDP://192.168.253.1:50000), QAM (Ch.30) and ASI (ASI BNC connector 1) formats, TS2 has no content, etc…**