

Everywhere You Want To Go...



# *Public Educational & Governmental Access PEG Encoder*

# *Drake Solutions*

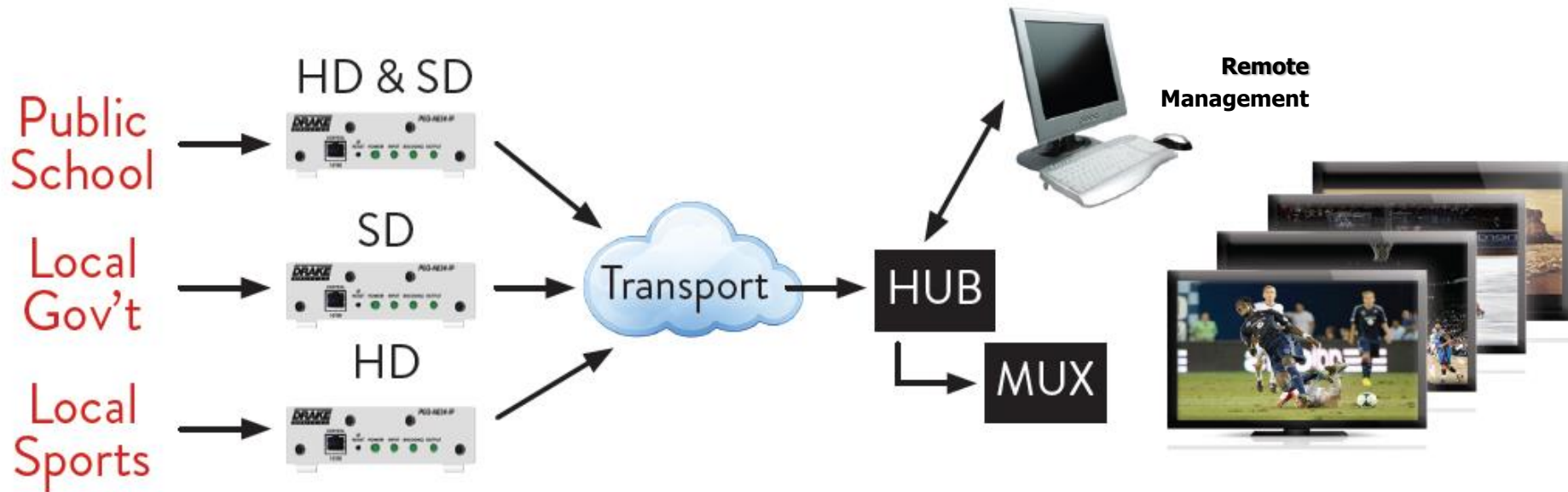
- Industry leader in providing modular and scalable encoding solutions for leading CATV Operators, Broadcasters, Private Networks and Government Facilities
- Cost effective and reliable MPEG2 and MPEG4 H.264 encoding for traditional RF QAM and IPTV applications worldwide
- NEW PEG Encoder  
MPEG-2/H.264 HD + SD with SFP Copper/Fiber IP output

# *PEG Encoder Overview*

- A PEG (Public Education Government) channel carries local public access, school events, and municipal government programming.
- The PEG encoder is used to transport video and audio signals from a local origination site back to Service Provider Headend or hub location, so it can be multiplexed and broadcasted over the Service Provider's franchise area.
- Programming content includes high school sports events, live coverage of town hall and school committee meetings, and local citizens content.

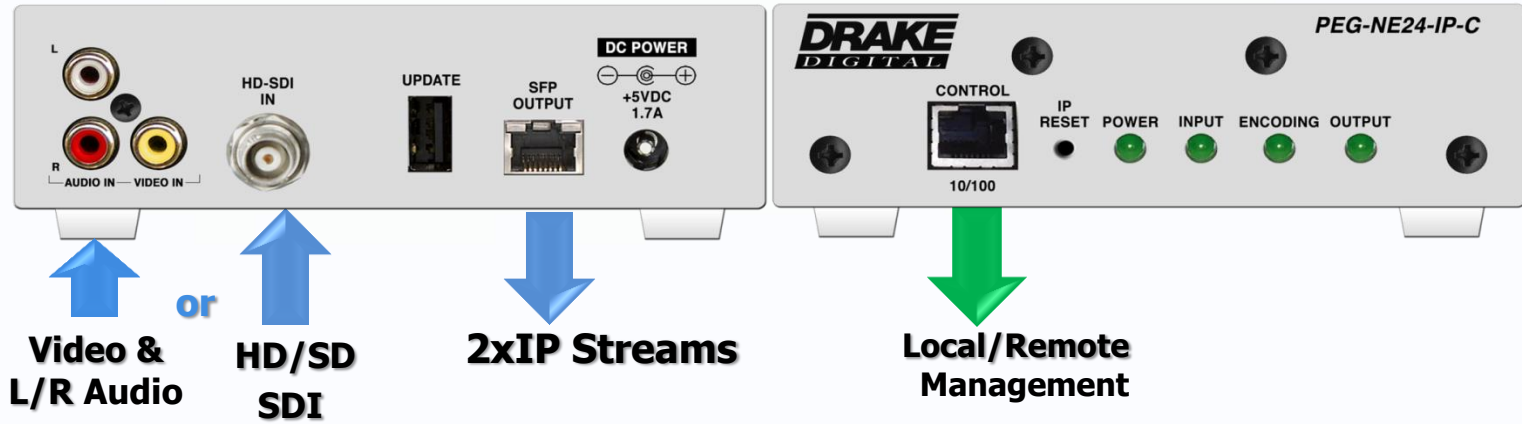
# PEG Encoder Application

PEG ENCODER ..... LOCALLY ORIGINATED CONTENT



# PEG Encoder Models

**Model: PEG-NE-IP-C stock # 1002613**



**Model: PEG-NE-IP stock # 1002603**



# PEG Encoder 3 in 1 RU



# PEG Encoder Functional Specifications

- Hardware 1 RU:
  - Single AC Power Supply
- Input:
  - 1 HD/SD-SDI BNC type connection
    - Model # 1002606
  - HD/SD-SDI or Composite (Video with Left & Right Audio) RCA connector
    - Model # 1002613
  - Auto-scan for input resolution
  - Video Modes
    - 480i (640x480/720x480 @ 30FPS)
    - 720P (1280x720 @ 60FPS)
    - 1080i (1920x1080 @30FPS)
  - Audio:
    - SDI HD/SD Embedded Audio
    - Analog Audio Left & Right
- IP Output:
  - SFP module (Copper or Optical SFP)
  - SFP optical distances 10km, 40km, 70km, and ITU SFPs
  - SFP CWDM and DWDM

# PEG Encoder Video & Audio Specifications

- Video Encoding:
  - MPEG-2 & H.264 encoding
  - HD (720p & 1080i)
  - SD 480i
  - Output 2 x IP Streams (SPTS)
    - HD MPEG-2 + SD MPEG-2
    - HD H.264 + SD MPEG-2
    - HD H.264 + SD H.264
  - Supports Frame or Field encoding
- Audio Encoding:
  - Dolby Digital AC-3
  - AAC (Advanced Audio Coding) stereo audio
  - MP2 (MPEG-1 Audio Layer 2) stereo audio



# *PEG Encoder Features*

- Encodes a HD & SD stream of the same content in either MPEG-2 or H.264 formats
- Optional In-band management with VLAN support on SFP output
- GUI-based menu for local & remote configuration (Password Protected)
- Configuration and shutdown control via HTTP server UI and programmable API
- Unicast or Multicast
- Provides Null Packet stuffing up to 25 Mbps

# *PEG Encoder Benefits*

- Built-in watchdog timer with system reboot capability
- SNMP v2 support for Network Monitoring
- Easily integrated into 3<sup>rd</sup> party Management Systems
- IP Reset Button (default to factory IP Address)
- Displays encoder status messages in System Log
- Audio Test Tone enabled on loss of input
- Front Panel Activity LEDs
- Field upgradable firmware

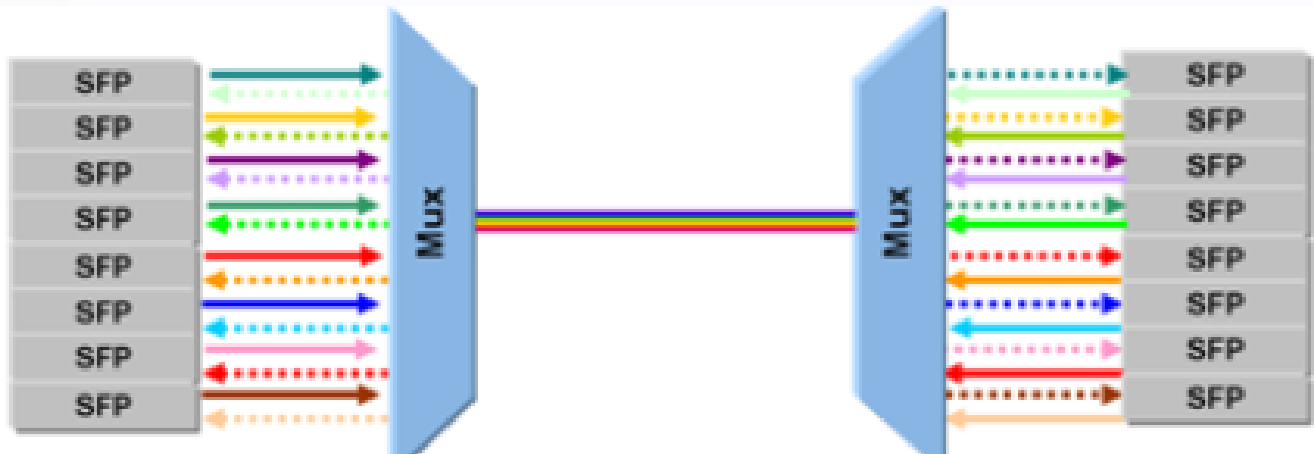
# *PEG Encoder Stream Settings*

- Primary Stream settings
  - HD MPEG-2 bitrate settings 9 to 19 Mbps
  - HD H.264 bitrate settings 6 to 13 Mbps
  - SD MPEG-2 bitrate settings 2 to 8 Mbps
  - SD H.264 bitrate settings 1 to 4 Mbps
  - Selectable Audio bitrate of 128,192, & 384 kbps
- Secondary Stream settings
  - SD MPEG-2 bitrate settings 2 to 8 Mbps
  - SD H.264 bitrate settings 1 to 4 Mbps
  - Selectable Audio bitrate of 128,192, & 384 kbps

# PEG Encoder

## SFP Module Interface

- SFP Interface Module:
  - Copper
    - 10/100/1000 Base-T
    - Auto negotiation support
  - Optical
    - 850nm, 1310nm, and 1550nm
    - CWDM and DWDM



# PEG Encoder SFP Module Interface



Part number

Model

Description

Part number	Model	Description
1002620	SFP-C-10/100/1000 TRANSCEIVER	10/100/1000BASE-T SFP, RJ-45, 100M, COPPER
1002621	SFP-MM-850-550M	1000BASE-SX SFP, 850NM, 550M, MMF, DDM
1002622	SFP-SMF-1310-10KM	1000BASE-LX SFP, 1310NM, 10KM, SMF, DDM
1002623	SFP-SMF-1550-80KM	1000BASE-ZX SFP, 1550NM, 80KM, SMF, DDM
1002624	SFP-SMF-CWDM-1470NM-80KM	1.25GBASE-CWDM-SFP, 1470NM, 80KM, SMF, DDM
1002625	SFP-SMF-CWDM-1490NM 80KM	1.25GBASE-CWDM-SFP, 1490NM, 80KM, SMF, DDM
1002626	SFP-SMF-CWDM-1510NM-80KM	1.25GBASE-CWDM-SFP, 1510NM, 80KM, SMF, DDM
1002627	SFP-SMF-CWDM-1530NM-80KM	1.25GBASE-CWDM-SFP, 1530NM, 80KM, SMF, DDM
1002628	SFP-SMF-CWDM-1550NM-80KM	1.25GBASE-CWDM-SFP, 1550NM, 80KM, SMF, DDM
1002629	SFP-SMF-CWDM-1570NM-80KM	1.25GBASE-CWDM-SFP, 1570NM, 80KM, SMF, DDM
1002630	SFP-SMF-CWDM-1590NM-80KM	1.25GBASE-CWDM-SFP, 1590NM, 80KM, SMF, DDM
1002631	SFP-SMF-CWDM-1610NM-80KM	1.25GBASE-CWDM-SFP, 1610NM, 80KM, SMF, DDM
1002632-XX	SFP-SMF-DWDM-CHXX-40KM	1.25GBASE-DWDM-SFP, CH. 20-59 ,40KM, SMF, DDM
1002633-XX	SFP-SMF-DWDM-CHXX-80KM	1.25GBASE-DWDM-SFP, CH. 20-59, 80KM, SMF, DDM

Last 2 numbers indicate channel number (20-59).

# PEG Encoder IP Addresses

- Easy configurable IP addresses:
  - SFP IP address
  - SFP VLAN
  - Management

Status	Encoder	<b>System</b>	Log	Firmware Update
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System Configuration

**SFP Port Ethernet Settings**

SFP Port MAC Address	F0:3F:F8:00:05:8D
SFP Port IP Address	<input type="text" value="172.16.80.1"/>
SFP Port Subnet Mask	<input type="text" value="255.255.255.0"/>
SFP Port Default Gateway	<input type="text" value="0.0.0.0"/>
SFP Port HTTP Server Enable	<input type="text" value="Disabled"/>

**SFP VLAN Ethernet Settings**

VLAN Enable	<input type="text" value="Disabled"/>
VLAN Tag	<input type="text" value="0"/>
VLAN IP Address	<input type="text" value="0.0.0.0"/>
VLAN Subnet Mask	<input type="text" value="0.0.0.0"/>
VLAN Default Gateway	<input type="text" value="0.0.0.0"/>

**Control Port Ethernet Settings**

Control Port MAC Address	F0:3F:F8:00:05:8E
Control Port IP Address	<input type="text" value="172.16.70.1"/>
Control Port Subnet Mask	<input type="text" value="255.255.255.0"/>
Control Port Default Gateway	<input type="text" value="172.16.70.254"/>

# PEG Encoder Configuration Page

- Easy to use pull down menu to set parameters

Status	<b>Encoder</b>	System	Log	Firmware Update
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Encoder Configuration

**Global Settings**

Audio Test Tone	Enable ▼
Audio Synchronization	+0 ms ▼
Stream Enable	Primary + SD ▼

**Primary Stream Settings**

Video Encoder Format	MPEG2 ▼
SD Video Bitrate (Mbps)	3.0 ▼
SD TS Bitrate (Mbps)	3.750 ▼
HD Video Bitrate (Mbps)	12.0 ▼
HD TS Bitrate (Mbps)	12.750 ▼
Audio Encoder Format	AC3 ▼
Audio Bitrate	128 kbps ▼
Destination IP	239.0.0.1
Destination Port	1234
IP Stream TTL	128 ▼
Stuffing Output	Enable ▼
Video Mode Flags	None ▼

**SD-Only Stream Settings**

Video Encoder Format	MPEG-4 H.264 ▼
SD Video Bitrate (Mbps)	2.0 ▼
SD TS Bitrate (Mbps)	2.750 ▼
Audio Encoder Format	AC3 ▼
Audio Bitrate	128 kbps ▼
Destination IP	239.0.0.2
Destination Port	5678
IP Stream TTL	128 ▼
Stuffing Output	Enable ▼
Video Mode Flags	None ▼

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