

Broadcast Video IP Encoder

COFDM – Video, Audio Telemetry and IP Products

DTC

June 2016 Data Sheet



The Broadcast Video IP Encoder from DTC is a feature-rich, High Definition video IP encoder designed specifically for broadcast applications.

The unit features a variety of connectivity options for maximum flexibility, including composite, SDI, HD-SDI and HDMI video inputs. Audio input options include balanced analogue audio with switchable mic/line level and P48 phantom power for broadcast microphones, SDI embedded audio, HDMI and Bluetooth (option).

An on-board control panel with daylight-readable OLED display enables in-field preset selection, control of all functions plus display of unit status without the need for a separate computer. Web-browser and RS232 control are also available.

The increased compression and efficiency of the MPEG4 H.264 encoder in DTCs SD and HD solution offers users additional bit rate savings with the added benefit of standard, low and ultra-low latency modes. Power consumption is only 7-9 watts.

The unit is housed in a rugged yet compact enclosure, with multiple M3 mounting holes and 2x 1/4-20 UNC tapped holes for mounting on a lighting stand spigot. Additionally, V-mount, Anton-Bauer and PAG camera mounting brackets are available as options.

The IFB version features a return audio output via a 3.5mm stereo headphone jack for camera talkback or presenter IFB. This version also offers a Bluetooth/WiFi option - Bluetooth can be used to transmit IFB to a wireless belt-pack, which in turn transmits presenter audio back to the unit, providing a complete wireless connection between the

camera and presenter. The built-in WiFi hotspot allows the location crew to wirelessly utilise the IP connection for access to Newsroom IT facilities, email and internet research.

The IFB version also offers a USB port for file downloads and IP connection via a 4G modem. The FTP function enables direct file transfer or conversion of live video into a store-and-forward stream.

Key Features:

- Broadcast Quality H.264 High Profile Encoding
- Composite/SDI/HD-SDI and HDMI video inputs
- Ultra low delay mode (<15ms) **
- Balanced analogue audio input with mic/line level and P48 microphone powering
- Downsampling of SD and HD video input (resolution and/or frame rate)
- Low power consumption
- Up to 4 simultaneous unicast/multicast streams
- Adaptive bit-rate encoding option – the encoder measures the size of the internet ‘pipe’ and automatically selects the optimum encoding bit-rate*
- Multiple mounting options
- USB in/out for file transfer & 4G Cellular modem connectivity (IFB version)
- IFB/return audio with Bluetooth option (IFB version)
- Built-in WiFi hotspot option (IFB version)

* Feature not implemented in initial release

** Network routing and receiver buffering will increase the delay dependant on infrastructure.

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Specification:

Inputs

Composite/SDI/HD-SDI	BNC
HDMI	HDMI Type A
Stereo Audio	5 way 0B Lemo SDI Embedded Bluetooth (option)
USB*	File download (store & forward)
Power	4 way 0B Lemo

Outputs

Ethernet	8P8C (RJ45)
IFB/Return Audio (IFB vers.)	3.5mm stereo jack Bluetooth (option)
USB*	4G Cellular Modem
Recording (option)*	Micro SD Card

Ethernet/WiFi

Supported modes	10BASE-T 100BASE-TX (Auto MDI-X) WiFi spec
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Streaming

Number of streams	4
Format	MPEG Transport Stream
Protocols	UDP Multicast RTSP (RTP) Unicast RTSP (RTP) Multicast
Unicast clients	Up to 3 per stream
Bitrate	Total 30Mb/s Max.

Recording (with IP-R)*

Media	Micro SD Card (max 32Gb)
Format	Transport Stream
Bitrate	To be confirmed

SD Video

Video Input	Composite, SDI
Compression Type	AVC/H.264/MPEG-4 Part 10 ASP/MPEG-4 Part 2 (with IP-MPEG4)
SD Resolution modes	720x480i 59.94Hz, 720x576i 50Hz
Other modes	Horizontal downsampling of 3/4, 2/3, 1/2, 1/4 Vertical downsampling of 1/2, 1/4 Sub-frame rate of 1/2, 1/4, 1/8, 1/24
Coding Mode	High profile level 4.1, I/VP 4:2:0 Progressive or Interlaced (MBAFF)
Encoder Delay	<65ms in low delay mode Variable in standard delay mode**
Encoder Bitrates	0.25 to 30Mb/s

HD Video

Video Inputs	HD-SDI, HDMI
HD Resolution modes	1920x1080i 60/59.94/50Hz 1920x1080p 30/29.97/25/24/23.97Hz 1920x1080psf 30/29.97/25/24/23.97Hz 1280x720p 60/59.94/50Hz

Audio

Audio Input	1x balanced analogue stereo pair Mic/Line level P48 phantom powering HD-SDI, 1 digital stereo pair HDMI, 1 digital stereo pair
Sample Rate	48kHz
Coding Modes	1 channel stereo or mono Mpeg layer 1 / layer 2
Audio Output (IFB vers.)	8-32Ω stereo headphone Level adjustable via control panel

Control

Control panel	Daylight-readable OLED + joystick
Remote Control	Web interface RS232 control or camera PTZ interface

Physical

Dimensions	L 145mm, W 85mm, H 40mm
Weight Base Unit	325g

Power

DC Input	6 to 17V Reverse Polarity Protected
Power Consumption (typ)	SD encoding - 6.0W HD encoding - 9.0W

Environment

Temperature Range	-10 to +50 °C
Sealing	Splash-proof

Product Codes:

NETBH264ENC	Broadcast H.264 SD/HD IP Encoder
NETBH264ENC-IFB	Broadcast H.264 SD/HD IP Encoder + IFB

Included

1x CA0579, Audio input cable
1x CA2136, RS232 control cable
1x CA0002, DC Power Input Cable
1x Cat5e Ethernet cable

Options

IP-IFBUP	Upgrade standard unit to IFB version (return to factory)
IP-BTH	Enable Bluetooth/WiFi (IFB version only)
IP-ADBR	Adaptive bit-rate encoding*
IP-USB	USB socket for file transfer and 4G modem (IFB version only)
CA0023	Mains Power Supply
IFB-PAC	Bluetooth IFB/mic kit
HDTXBRAC-V	V-mount camera bracket
HDTXBRAC-AB	Anton Bauer camera bracket

* Feature not implemented in initial software release

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