

H.264 SD/HD COFDM Transmitter

COFDM – Video, Audio Telemetry and IP Products

COBHAM

September 2011 Data Sheet

The most important thing we build is trust



The SOLO H.264 Transmitter from Cobham is a rugged, Standard or High Definition digital video transmitter, ideal for motorsport, airborne, sports, news links and law enforcement surveillance applications.

The H.264 Transmitter can operate in a variety of transmission bandwidths allowing the user to trade off image quality against range to suit all types of applications. Excellent range, performance and spectral efficiency are offered when operating in the optional narrow bandwidth mode, which combined with the ultra efficient H.264 encoding allows true broadcast quality pictures to be transmitted in only 2.5MHz bandwidth. This enables users to maximise usage of limited RF spectrum as 2 or 3 cameras can occupy the bandwidth previously required by a single MPEG2 system. All modes of DVB-T modulation are also supported.

The increased compression and efficiency of the MPEG4 H.264 encoder offers users additional range with the added benefit of small size, low latency and low power consumption. In particular, HD transmission is possible using 40% lower bit-rates than conventional MPEG2 systems, enabling true HD transmission in a single 8MHz DVB-T channel whilst using robust modulation settings. Able to transmit images in a non-line of sight environment up to 1km depending on mode and frequency, the

transmitter can achieve even further range with an optional clip-on booster PA.

Greater security of the transmission can be ensured using the optional internal AES128/256. The SOLO H.264 transmitter features mounting holes for bespoke applications and can be easily connected to any camera type. A range of camera brackets are available to facilitate easy mounting of the SOLO H.264 transmitter to satisfy many different camera styles.

For excellent range and coverage, the SOLO H.264 transmitter can be operated with the Cobham Pro-RXB receiver (see separate datasheet). The Pro-RXB receiver is available with 2-way, 4-way, 6-way and 8-way diversity.

Features:

- Low delay H.264 SD & HD encoding
- HD-SDI/SDI with embedded audio input
- Composite video input
- HDMI input with embedded audio input
- ASI input and output
- DVB-T 6/7/8MHz and optional narrowband modulation
- Low power consumption 10W
- Ultra lightweight 400g

Specification:

Input

SD Composite Video	BNC
SD/HD-SDI	BNC
HDMI	HDMI Type A
ASI In	SMB
Balanced Stereo Audio	5 way OB Lemo
RS232 (optional USB) Control	3 (6) way OB Lemo
Power	4 way OB Lemo
Data channel	4 way OB Lemo

Output

RF (optional)	SMA
ASI Out	SMB

RF

Frequency Bands	Frequencies available from 230MHz to 8.6GHz, see product codes
Tuning Step Size	250kHz
O/P Power	100mW

DVB-T Modulation

DVB-T Bandwidth	8MHz, 7MHz and 6MHz modes
DVB-T Guard	1/32, 1/16, 1/8, 1/4
DVB-T FEC	1/2, 2/3, 3/4, 5/6, 7/8
DVB-T Modulation	QPSK, 16QAM, 64QAM
DVB-T Bit-rates	3.6Mbps to 32Mbps

Narrowband Modulation (with TX-NBUP option)

SOLO Bandwidth modes	2.5MHz, 1.25MHz and 625kHz
SOLO Guard	1/16, 1/8
SOLO FEC	1/3, 2/3
SOLO Modulation	QPSK, 16QAM, BPSK, 8PSK
SOLO Bit-rates	140kbps to 4.8Mbps

Video

Video Input	SD-SDI, HDMI, Composite
Compression Type	AVC/H.264/MPEG-4 Part 10
SD Resolution modes	720x480i 59.94Hz, 720x576i 50Hz
Other modes	Horizontal downsampling of 3/4, 1/2 Vertical downsampling of 1/2 Sub-frame rate of 1/2, 1/4, 1/8, 1/24
Coding Mode (MBAFF)	High profile level 4.1, I/IP 4:2:0 Progressive or Interlaced

Data Interface

RS232 Data Input	1k2 to 115k2 baud switchable 7/8 bit, none/odd/even parity
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ASI

Mode	Byte Mode
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Encryption

Type	ABS 32bit as standard AES128/256 (optional)
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Control

Front Panel	Integrated Field Controller 2 Buttons and OLED Screen
Remote Control Application	USB Control from PC GUI

Physical

Dimensions	L 130mm, W 80mm, H 30mm
Weight Base Unit	370g

Power

DC Input Protected	6 to 17V Reverse Polarity
Power Consumption	SD encoding - 9.6W HD encoding - 13.0W worse case with 100mW RF

Environment

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

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Product Codes:

SOLH264TX-034047 Solo H.264 SD TX 340-470MHz 100mW
SOLH264TX-100150 Solo H.264 SD TX 1.0-1.5GHz 100mW
SOLH264TX-150200 Solo H.264 SD TX 1.5-2.0GHz 100mW
SOLH264TX-200250 Solo H.264 SD TX 2.0-2.5GHz 100mW
SOLH264TX-250300 Solo H.264 SD TX 2.5-3.0GHz 100mW
SOLH264TX-300350 Solo H.264 SD TX 3.0-3.5GHz 100mW
SOLH264TX-350400 Solo H.264 SD TX 3.5-4.0GHz 100mW
SOLH264TX-400450 Solo H.264 SD TX 4.0-4.5GHz 100mW
SOLH264TX-440500 Solo H.264 SD TX 4.4-5.0GHz 100mW
SOLH264TX-500550 Solo H.264 SD TX 5.0-5.5GHz 100mW
SOLH264TX-550600 Solo H.264 SD TX 5.5-6.0GHz 100mW
SOLH264TX-640700 Solo H.264 SD TX 6.4-7.0GHz* 100mW
SOLH264TX-700750 Solo H.264 SD TX 7.0-7.5GHz* 100mW
SOLH264TX-810860 Solo H.264 SD TX 8.1-8.6GHz 100mW

*= Currently under development

Product Code Includes

1 x CA0343 USB Control Cable
1 x CA0579 XLR Audio Input Cable
1 x CA0340 RS232 Data Input Cable
1 x CA0002 DC Power Input Cable
1 x CA0006 BNC Video Lead

Accessory Options

TX-VBAT V-Mount Battery Plates
TX-ABBAT AB Battery Plates
TX-PAGBAT PAG Battery Plates
TX-HDUP HD Encoder Upgrade
TX-RFUP-xxxxxx RF Band Swap
HDTXBRAC-V V-Mount Camera Bracket

Licensing Options

TX-NBUP 2.5MHz/1.25MHz/625kHz Narrowband Modulation
TX-HDUP HD Encoder Upgrade
AES128TX AES 128 Internal Encryption
AES256TX AES 256 Internal Encryption

Products are available to security users only, in licensed frequency bands. These products are not approved for use by unlicensed users.

Commercial products are available to unlicensed users - contact Cobham Tactical Communications and Surveillance direct for details.

All product specifications are subject to change without notice. Cobham Tactical Communications and Surveillance will not be liable for technical or editorial errors or omissions.

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