

SOLO7 – Nano Transmitter

COFDM – Video, Audio Telemetry and IP Products

July 2013 Data Sheet

The most important thing we build is trust

COBHAM



The SOLO7 Nano transmitter is an ultra-miniature COFDM digital video transmitter from Cobham Tactical Communications and Surveillance, designed specifically for covert video installations and body-worn applications.

With proven Cobham COFDM technology at its core, the exceptionally small size and low power consumption (typically 3.7W @ 100mW RF power) of the SOLO7 Nano transmitter make it the product of choice for covert video hides, or applications requiring long term battery power deployments, small unmanned aerial vehicles, and body-worn or body-wire use.

The SOLO7 Nano transmitter employs ultra-low latency High Profile H.264 (MPEG4 AVC) encoding for excellent image quality retention over the wireless link. MPEG4-ASP video encoding is also available for backward compatibility with older Cobham video transmission products. Equipped with integral COFDM modulation, the SOLO7 Nano transmitter is ideal for establishing rugged wireless video links in numerous environments, including mobile and urban. Offering several user-selectable modes that trade off image quality against range, the SOLO7 Nano transmitter is very well suited to all mission types.

The SOLO7 Nano transmitter supports both industry standard DVB-T modulation and Cobham Narrowband (2.5 MHz), Ultra Narrowband (1.25 MHz) and Ultra-X (625 kHz) bandwidths. The narrowband modes allow users to share scarce spectrum allocation extremely efficiently.

The SOLO7 Nano transmitter is supplied in a simple aluminium lightweight case and features an industry standard reliable SMA transmit connector. Video, control and power interfaces use two Micronics connectors.

The SOLO7 Nano transmitter can be controlled via either USB or via RS232. The versatile and intuitive Cobham Field Controller can also be used to configure and control the SOLO7 Nano transmitter.

Security is ensured with optional AES128/256 Encryption.

The SOLO7 Nano transmitter will transmit images in a non-line of sight environment up to 750m, depending on mode and frequency.



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Specification:

IO

Composite Video	BNC (AV cable)
Stereo Audio	2x Phono (AV cable)
RS232 Data	D-Type (AV cable)
Camera Power	Bare Wire (AV cable) (optional cable)
Power	Banana Plugs (Power cable)
RS232 Control	9-Way D-Type (Power cable)
USB Control	Micro-B USB
RF Output	SMA

RF

Power	100mW, 50mW, 10mW modes
Tuning Range	Dependant on product code
Tuning Steps	125kHz

DVB-T Modulation

DVB-T Bandwidth	8MHz, 7MHz and 6MHz modes
DVB-T FEC	1/2, 2/3, 3/4, 5/6, 7/8
DVB-T Constellation	QPSK, 16QAM, 64QAM
DVB-T Bitrates	3.732Mbps to 31.668Mbps
DVB-T Sensitivity	-95dBm best case mode

Narrowband/UMVL Modulation

NB Bandwidth	2.5MHz, 1.25MHz and 625kHz (optional) modes
UMVL Bandwidth	8MHz, 7MHz and 6MHz modes
NB/UMVL FEC	1/3, 2/3
NB/UMVL Constellation	QPSK, 16QAM, BPSK, (8PSK UMVL)
NB Bitrates	144kbps to 4.879Mbps
UMVL Bitrates	1.317kbps to 14.869Mbps

Video

Input Format	PAL, NTSC (with or without pedestal)
H.264 Compression	AVC / H.264 / MPEG-4 Part 10 High profile level 4.0
ASP Compression	ASP / MPEG-4 Part 2 With NB modulation only
Coding Options	Horizontal scaling of 3/4, 2/3, 1/2, 1/4 Vertical scaling of 1/2, 1/4 Sub-frame rate of 1/2, 1/4, 1/8, 1/24
Encoder Delay	1s to 40ms (mode dependant)
Encoder Bitrates	0.25Mbps to 32Mbps

Audio

Audio Input	1 Analogue stereo pair Mic/Aux level -2dBu Max input level
Sample Rate	32kHz, 48kHz
Coding Modes	2 channels stereo or mono MPEG Audio Layer 1 64-448kbps MPEG Audio Layer 2 48-384kbps

Data Interface

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

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

Remote Control	RS232 & USB Control from PC GUI Application or other device
Front Panel	None, use FCON field controller

Physical

Dimensions	L 58mm (69mm inc mounting lugs), W 38mm, H 17mm
Weight	51g

Power

DC Input	5.9V to 16V reverse polarity protected
Power Consumption	Typical 3.7W with 100mW RF

Environment

Temperature Range	-10 to +50 °C
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Product Codes:

<i>SOL7NTX-550600</i>	<i>* items not yet released</i>
<i>SOL7NTX-440500</i>	<i>SOLO7 NanoTX 5.50-5.95GHz *</i>
<i>SOL7NTX-310360</i>	<i>SOLO7 NanoTX 4.40-5.00GHz *</i>
<i>SOL7NTX-198270</i>	<i>SOLO7 NanoTX 3.00-3.70GHz *</i>
<i>SOL7NTX-165238</i>	SOLO7 NanoTX 1.98-2.70GHz
<i>SOL7NTX-100150</i>	SOLO7 NanoTX 1.65-2.38GHz
<i>SOL7NTX-030047</i>	SOLO7 NanoTX 1.00-1.50GHz
<i>SOL7NTX-020030</i>	SOLO7 NanoTX 300-470MHz
	<i>SOLO7 NanoTX 200-300MHz *</i>

Product Code Includes

1 x CA 2253	NTX DC Power / Ctrl Cable
1 x CA0002	Lemo to banana power leads
1 x CA2254	NTX Audio / Video / Data Cable
TX-UN	Enables Narrowband modulation 2.5MHz, 1.25MHz and MPEG4 ASP
TX-H264	H.264 licence as standard

Accessory Options

TBD

Licensing Options

TX-UXN	Enables 625kHz MPEG4 ASP
TX-UMVLUP	Enables UMVL modulation 8MHz, 7MHz and 6MHz modes
TX-HDUP	Enables H.264 MPEG4 AVC
AES128TX	AES 128 Bit encryption
AES256TX	AES 256 Bit encryption

Products are available to security users in licensed frequency bands. These products are not approved for use by unlicensed users. Commercial products are available if used in appropriate licensed frequency bands.

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