

SOLO7 – OB Transmitter

COFDM – Video, Audio Telemetry and IP Products

DTC

April 2016 Data Sheet

The SOLO7 OB Transmitter from Domo Tactical Communications (DTC) is a compact and feature rich COFDM digital video transmitter specifically designed for high quality Outside Broadcast applications. This includes the latest in DTC encoder developments for 1080p50/60 support and 4:2:2 sampling.

With proven DTC COFDM and H.264 encoder technology at its core, the small size and ultra-low power consumption enables high definition images and is ideal for establishing rugged wireless video links in all environments including mobile, urban and non-line of sight:

- Industry standard DVB-T modulation for high quality and compatibility with existing systems
- DTC UML modulation for enhanced high speed operation (motorsports) and improved performance at high frequencies (6 & 7GHz)
- DTC Narrowband allow users to share scarce spectrum allocation efficiently

Designed to offer maximum flexibility in the pressurised and rapidly-changing OB environment, the unit has a variety of video input options including composite, 3G-SDI and HDMI – particularly useful when accessing material in the field from prosumer and semi-professional equipment. Balance audio inputs feature variable gain and 12/48V microphone power. SDI or HDMI embedded audio inputs are also supported as standard. ASI interfaces enable the unit to be used as a stand-alone encoder or modulator.

The SOLO7 OB Transmitter has an integrated control panel with sunlight-readable OLED display covering all major functions and has 16 user-defined presets. A wide range of RF frequency bands are available from 200MHz to 8.9GHz. Users can upgrade the RF section to an alternative frequency band as a low-cost option.

Integrated UHF band Camera Control is available as an extra. This is directly compatible with the DTC Broadcast Camera Control System and would replace the stand-alone Camera Unit.



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Specification:

IO

HDMI	HDMI Type A
SD/HD/3G-SDI	BNC
ASI Input	DIN 1.0/2.3
ASI Output	DIN 1.0/2.3
Composite / S-Video / RS232	7-way OB Lemo
Balanced Stereo Audio	5-way OB Lemo (CA0579 2x XLR3)
USB Control	6-way OB Lemo (CA0343 Type-A USB)
External Power	4-way OB Lemo (CA0002 2x Banana)
External PA	3-way 00 Lemo
Battery Pass-through	V/AB/PAG plates (optional)
RF Output	N-Type (100mW/50mW/10mW modes)

IO (with Camera Control)

Camera Interface	10-way Circular Hirose
Tally	5-way OB Lemo
USB Upgrade	Micro-B USB
RF Input	SMA (403-473MHz)

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 Guard Interval	1/4, 1/8, 1/16, 1/32
DVB-T Bitrates	3.732Mbps to 31.668Mbps

Narrowband/UMVL Modulation

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

Camera Control Demodulation

CC Bandwidth	12.5kHz, 20kHz and 25kHz modes
CC Constellation	4PSK, GMSK
CC Sensitivity	-114dBm @ 25kHz Bandwidth -111dBm @ 12.5kHz Bandwidth

Video

SD Input Format	PAL, NTSC (with or without pedestal) 720x576i 50Hz 720x480i 59Hz
HD Input Format	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
3G Input Format	1920x1080p 60/59.94/50Hz** (via Level A or Level B Dual Link)
H.264 Compression	AVC / H.264 / MPEG-4 Part 10 High profile level 4.0 4:2:0 or 4:2:2 (optional)
ASP Compression	ASP / MPEG-4 Part 2 with NB modulation and SD 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 10ms (mode dependant)
Encoder Bitrates	0.25Mbps to 32Mbps
Low Latency	15ms to 100ms (setting dependant)

Audio

Analogue Audio Input	Balance analogue stereo pair +18dBu Max input level (up to 63dB gain)
Analogue Phantom Power	Off, 12V or 48V selectable
Digital Audio Input	SD/HD/3G-SDI 2 digital stereo pairs HDMI 1 digital stereo pair
Sample Rate	32kHz, 48kHz
Coding Modes	4 channels stereo or mono MPEG Audio Layer 1 64-448kbps MPEG Audio Layer 2 32-384kbps

Other

RS232 Data Input	1k2 to 115k2, 7/8 bit, no/odd/even parity
Remote Control	RS232 & USB Control from PC GUI Application or other device
Front Panel	Built in FCON field controller

Encryption

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

Dimensions	L 170mm (142mm excluding connectors), W 97mm (94mm excluding connectors), H 35mm (without battery plates) or H 71mm (with V-lock or PAG plates) or H 62mm (with Anton Bauer plates)
Weight	520g to 870g depending on options

Power

DC Input	9.2V to 17.8V reverse polarity protected
Power Consumption	Typically 10.0W @ 100mW RF power with additional 2.0W for >6.0GHz and additional 0.5W for Camera Control

Environment

Temperature Range	-10 to +50 °C
Humidity	Less than 85% Non-Condensing

Product Codes:

Please see configurator table on the following page.

* feature in development

** 3G-SDI support subject to maximum encoder resolution limitations in initial software release of 960x1080p60/59.94 or 1280x1080p50

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

Please enter required codes

DTC Sales Code

SOL7OBTX

Code	Battery Plates
	None
V	V-lock
AB	Anton Bauer
PAG	PAG

Code	Expansion Option
	None
CCCAM	Camera control

Code	Frequency
100150	1.00-1.50GHz
198270	1.98-2.70GHz
300370	3.00-3.70GHz
440500	4.40-5.00GHz
550600	5.50-6.00GHz
640700	6.40-7.00GHz
700750	7.00-7.50GHz
810890	8.10-8.90GHz
<i>other bands available on request</i>	

Code	License	Software License Code Includes
S	Silver	DVB-T, Ultra Mobile Video Link (UMVL), MPEG-4 H.264 (SD)
G	Gold	Silver plus MPEG-4 H.264 (HD)
P	Platinum	Gold plus MPEG-4 H.264 (4:2:2)
F	Film Assist	Only Narrowband 2.5MHz, MPEG-4 H.264 (HD)

Product Code Includes	
CA0002	12V DC Power lead Lemo-wire 3m
CA0343	USB Control Cable
CA0579	XLR Audio Input Cable
SA3688	OBTX Support USB Stick

CCCAM Expansion Includes	
AP008822	1/4 Wave Antenna SMA 433MHz

Related Accessories (sold separately)	
OBTX-V-OEM	Additional V-Mount battery plates
OBTX-AB-OEM	Additional Anton Bauer battery plates
OBTX-PAG-OEM	Additional PAG battery plates
OBTX-xxxxxx-OEM	Additional RF module
OBTX-CCCAM-RMA	Factory fit Camera Control RX upgrade
OBTX-CCCAM-SUP	Sony Control protocol and cable
OBTX-CCCAM-PUP	Panasonic Control protocol and cable
OBTX-CCCAM-TUP	Grass Valley Control protocol and cable
OBTX-CCCAM-IUP	Ikegami Control protocol and cable
OBTX-CCCAM-HUP	Hitachi Control protocol and cable
Antennas	Various frequencies available

Compatible Products (sold separately)	
PRORXD-xRU	Professional Receiver Dual Decoder
SOL7NNVHD-xxxxxx	NanoVue Handheld HD Reciever
SOL7HDRX-xxxxxx	HD Receiver
CCIDU / CCODU	Broadcast Camera Control System

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