June 2017

SOL7BNTX

SOLO7 Broadcast Nano Transmitter

Overview:

The SOLO7 Broadcast Nano Transmitter is a development of the original Nano now incorporating a control panel, robust broadcast standard connectors and forced cooling, providing much improved thermal performance. It enables production teams to offer viewers stunning high definition images using H.264 encoding with ultra-low latency, in situations not previously possible due to equipment size and battery run-time constraints.

The small size and ultra-low power consumption make the Broadcast Nano Transmitter ideal for a range of uses from Point of View to body worn video applications. Whether it be live sports, live events, on-board motor sport applications or UAV drone installations, the Broadcast Nano provides true long range rugged HD broadcasting from these increasingly popular applications for the first time. Optional lightweight, low power consumption amplifiers are also available for even greater range capability.

Features and Benefits:

- Ultra-low latency High Profile H.264 SD and HD encoding
- Video formats up to 1080p60 and optional 4:2:2 Chroma sampling
- Balanced stereo audio input with switchable phantom power
- Industry standard DVB-T modulation for interoperability with existing systems
- Domo Broadcast UMVL modulation for enhanced high frequency / high speed performance
- Controlled via USB or Bluetooth, and integrated sunlight-readable OLED display
- Ideal for unmanned vehicles, point of view, on-board camera and video assist applications
- Very low power consumption: typically 5.0 to 8.0W
- Exceptionally small size: 76mm x 60mm x 23mm
- Weighs only 139g

Product Information:

Product Includes:

AP007377	Micro-B USB Cable
CA0002	12V DC Power lead Lemo-wire 3m
CA0579	XLR Audio Input Cable
CA2152	Type D Male to Type A Female HDMI Cable
CA2396	DIN 1.0/2.3 to BNC Female Cable
SA4068	SOL7BNTX Support USB Stick

Accessory Options (sold separately):

AP008399	Type D Micro HDMI Male 30cm Cable
NTXBAT	NTX 7.4V Battery Pack (2250mAh)
NTXBATCH	NTX Battery Charger (multi region)
SOL7NAMP1W	1W Nano PA, 3-5W Power Consumption
AES128TX	AES 128-bit Encryption License
AES256TX	AES 256-bit Encryption License

Related Documents:

100145	SOLO7 User Guide

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SOL07 Broadcast Nano Transmitter

Technical Specification:

IO

HDMI	Micro HDMI Type D
SD/HD/3G-SDI / ASI	DIN 1.0/2.3 (or BNC via CA2396)
Balanced Stereo Audio	5-way 0B Lemo (CA0579 2x XLR3)
Power	4-way 0B Lemo (CA0002 2x Banana)
USB Control	Micro-B USB
RF Output	SMA (100mW/50mW/10mW modes)

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

Video

SD Input Format	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 3G-SDI Level A/B or HDMI)
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

Audio

Analogue Audio Input	Balanced 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

Remote Control	USB Control from PC GUI Application or other device
Wireless Control	DTC Application (Windows/iOS/Android) via Bluetooth BLE4
Front Panel	Integrated

Encryption

Type	ABS 32-bit as standard
Licensable	AES 128/256-bit (subject to export control)

Physical

Dimensions	L 76mm, W 60mm, H 23mm
Weight	139g

Power

DC Input	5.9V to 17.0V reverse polarity protected
Power Consumption	Typically 5.0W to 8.0W @ 100mW RF power with additional 2.0W for >6.0GHz
	Consumption varies depending on RF power, temperature and frequency variant

Environment

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

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Technical Specification (con't):

Frequency

020030	200-300MHz
030047	300-470MHz
045060	450-600MHz
100150	1.00-1.50GHz
165240	1.65-2.40GHz
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

Software License Code Includes

Silver (included)	DVB-T, Ultra Mobile Video Link (UMVL), MPEG-4 H.264 (SD)
Gold	Silver plus MPEG-4 H.264 (HD)
Platinum	Gold plus MPEG-4 H.264 (4:2:2)
Film Assist	Only Narrowband 2.5MHz, MPEG-4 H.264 (HD)

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

Export of encrypted products is subject to United Kingdom regulatory export controls.

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