



NewStream

Multi-mode News Hub Transmission Platform



The NewStream is the next generation newsgathering platform capable of supporting IP transmission for ENG. It combines the power and flexibility of multiple transmission modes thereby maximizing quality of service and enabling highly reliable delivery of live news feeds under any circumstance.



The platform supports the simultaneous transmission over 3G/4G cellular networks and satellite services. A unique software application is used to aggregate both signal paths and automatically balances the video throughput. The combination of the two transmission paths provide a reliable bi-directional video over IP solution with studio network extension capabilities from the broadcast facility to field assets.

The NewStream platform is flexible and versatile enough to allow users to use the mast-mounted CNG head for a combination of services.

The NewStream can be configured as required and expanded in the future as desired:

- Cellular + IP - KA/KU
- Cellular + Microwave
- KA/KU Satellite + Microwave
- Cellular + IP + KA/KU Satellite + Microwave

The NewStream Advantage

Compact:

- Space-efficient 2RU x 19" EIA all-inclusive rack mount design for ENG, CNG and SNG control.

Backwards Compatibility:

- Use existing ENG Nycoil Assemblies configured for Type 'N,' Triax connections.

Expandable:

- Purchase a NewStream system initially configured for ENG operation and then add CNG and/or SNG functionality at a later time.

Space Efficient ENG ODU:

- 2, 4, 7, 13, 2/7 GHz mast-mounted single enclosure with built-in RF coaxial relay for omni-directional antenna selection.

Broadband Cellular ODU:

- Lightweight mast or roof-mounted cellular ODU equipped with multiple bonded cellular modems and integral high-gain broadband cellular antennas.

Key Features

- User-Friendly Front Panel Control
- Industry-First Cellular ODU
- Backwards Compatibility
- Future-Proof Platform with Support for Next Generation Bi-Directional RF
- Space Efficient 2 rack Unit

HD/SD Broadcast Video Quality:

- User selectable MPEG-2 or H.264 (AVC) encoding available in 4:2:0 and 4:2:2 profiles.

CNG Encoding:

- H.264 AVC high-profile @ level 4.1 adaptive bit-rate coding (ABR) encoding.

SNG:

- DVB-S and DVB-S2 modulation with optional 10 MHz.

Future-proof:

- NewStream is based upon a software defined platform employing high capacity dual-core ARM® Cortex-A9™ FPGA's (field-programmable gate arrays) which allow for the future implementation of emerging communication technologies.

Typical Applications

- Electronic Newsgathering
- Satellite Newsgathering
- Cellular Newsgathering



Outdoor Unit (ODU) RF

ODU	ENG	Cellular	SNG
-	Mast-mounted (single enclosure)	Mast-mounted (single enclosure)	Optional: Roof-mounted NewSwift, Mantis
2-2.5 GHz	8 Watts (typ.) +/- 1dB @ QPSK, 64 QAM	N/A	N/A
4.5-5.0 GHz 6.4-7.1 GHz 6.9-7.5 GHz	5 Watts (typ.) +/- 1dB @ QPSK, 64 QAM	N/A	N/A
12.7-13.25 GHz	1.5 Watts (typ.) +/- 0.5 dB @ QPSK	N/A	N/A
CDMA, UMTS, HSPA+, LTE	N/A	6-modems, Bonded	N/A
IDU to ODU Interconnection	RG-6/U minimum or better	RG-58/U or RG-59/U	LMR-400 or equivalent
Size and Weight, ODU	7" w x 10" l x 6" h 16 lbs. (max. @ 2/7 GHz)	10" w x 14" l x 5" h (10 lbs.)	TBD
Temperature	-20o to +50oC		TBD

Indoor Unit (IDU)

Rack-mount chassis, single			
Operator Controls	(5) Programmable OLED (organic light-emitting diode) push-button switches, (2) rocker-style switches, (3) LED push-button switches, (1) On/Off push-button switch		
Displays	(1) Capacitive color touch TFT 5.0" diagonal 800 x 480 white LED backlight display, (2) 16 x 2 segment mono-chromatic blue OLEDs		
Presets	Up to 99 User configurable	3 Operating Modes: Interview/Standard/Mobility	Up to 99 User configurable
Rear panel I/O	BNC - (ASI In, ASI Out, SDI In, CV in, 75 Ω audio, spare) Weidmuller - (analog audio 1L/1R, 2L/2R, digital audio D1, D2, MW ODU power, Ant.) Type 'N' or Triax (ODU 2/7 GHz or 2 GHz and 7 GHz legacy MTX ODUs) Type 'N' - (L-band Mod. & L-band Mon.); TNC - (to cellular ODU) Miscellaneous- (1) SMA Wi-Fi, (3) RJ45 Ethernet, (1) 115 VAC IEC C14, (1) DB-9 data, (1) USB		
Size and Weight, IDU	17.0" W x 16.2" L x 3.5" H (2RUx 19" EIA standard rack-mount), 16 lbs./45 kg		
Prime operating power	115/230 VAC, 2.0 A (typ)		
Temperature	-10° to +40° C		

Modulation

	COFDM (DVB-T)	OFDMA, CDMA	DVB-S QPSK, DVB-S2 QPSK
Optional Modulations	LMS-T 10/20	N/A	DVB-S2 8PSK, 16/32 APSK
Video Input Formats	HD/SD-SDI	HD/SD-SDI	HD/SD-SDI
Video Resolutions	HD & SD	HD & SD	HD & SD
High Definition	1080i, 1080p, 720p	1080i, 1080p, 720p	1080i, 1080p, 720p
Standard Definition	720 x 480i (NTSC) 720 x 576i (PAL)	720 x 480i (NTSC) 720 x 576i (PAL)	720 x 480i (NTSC) 720 x 576i (PAL)

Video Encoding Profile

	MPEG-2 H.264 HD/SD, 4:2:2/4:2:0	H.264 AVC HD/SD 4:2:0 High Profile @ Level 4.1	MPEG-2, H.264 HD/SD, 4:2:2/4:2:0
HD Encoding Rate @ 4:2:2 (MPEG-2)	8.0 to 30 MbpsWW	N/A	8.0 to 80 Mbps
HD Encoding Rate @ 4:2:0 (MPEG-2)		N/A	
SD Encoding Rate @ 4:2:2 (MPEG-2)	2.0 to 50 Mbps	N/A	2.0 to 50 Mbps
SD Encoding Rate @ 4:2:0 (MPEG-2)	1.5 to 15 Mbps	N/A	1.5 to 15 Mbps
HD Encoding Rate @ 4:2:2 (H.264)	1.5 to 20 Mbps	750 Kbps to 10 Mbps	1.5 to 20 Mbps
HD Encoding Rate @ 4:2:0 (H.264)		128 Kbps to 10 Mbps	
SD Encoding Rate @ 4:2:2 (H.264)		750 Kbps to 10 Mbps	
SD Encoding Rate @ 4:2:0 (H.264)	W1.5 to 15 Mbps	128 Kbps to 10 Mbps	1.5 to 15 Mbps

Audio Encoding

	2-analog stereo/4-mono, AES/EBU (up to 4 pairs embedded in SDI)	1-analog stereo/2-mono, AES/EBU (AAC) (up to 2 pairs embedded in SDI)	2-analog stereo/4-mono, AES/EBU (up to 2 pairs embedded in SDI)
Audio Input (Analog)	+8 dBm (avg.) @ 600 Ω bal.	+8 dBm (avg.) @ 600 Ω bal.	+8 dBm (avg.) @ 600 Ω bal.
THD @ 1 KHz TT	<.1% to +18 dBm max.	.3% to +18 dBm max.	<.1% to +18 dBm max.
S/N (Signal to Noise)	>66 db RMS	>65 db RMS	>66 db RMS
Frequency Response	.03-18 KHz ± 1.0 dB	0.03-12 KHz ± 1.0 dB	0.03-18 KHz ± 1.0 dB
AES Input (digital)	1.0 V P/P @ 75 Ω unbalanced	N/A	1.0 V P/P @ 75 Ω unbalanced