

LPU Series™ Transmitters/Translators

Video/Data Transmitter, Digital Service (Analog Compatible)

Models LPU-300, LPU-500, LPU-750, LPU-1000, LPU-1250, LPU-1500, LPU-1750, LPU-2000

The new EMCEE LPU Series™ represents the highest evolution in a low power UHF triple conversion design transmitter or translator using LDMOS technology. Inherently low distortion minimizes the need for extensive corrective circuitry and provides for excellent performance in lower power digital and analog applications. Broadband circuitry complemented by modular packaging enables simplified maintenance with reduced spare requirements and at the same time provides a path for channel flexibility. A new generation, EMCEE designed, low phase-noise synthesizer/local oscillator chain provides built-in channel agility together with GPS/NAVSTAR or LORAN synchronizing capability for high precision frequency control and co-channel interference reduction. The new chassis design incorporates the capability to increase output power by adding power blocks to the chassis. No need to replace the transmitter for channel changes or power increases, the flexibility is designed in, eliminating the need for additional chassis or rack space. The Class AB amplifier design incorporates soft-fail technology, so one failed amplifier does not constitute a service outage. Hot-swappable plug-in power supplies provide for simple change out and optional N+1 redundancy. Front panel monitoring of all internal voltages and forward and reflected power is provided in an easy to read LCD display. Web based Remote Control interfacing for critical transmitter functions and monitoring is available via the rear chassis connections. The LPU Series is the perfect choice for transition into digital service and for low power analog.



LPU-2000^{PLUS}

Features

- High Reliability
- Modular Design
- Analog & Digital Compatible
- Fully Synthesized
- Modular Upgradeable Design
- Minimum Operator Adjustments

Benefits

- LDMOS Architecture
- Ease of Maintenance
- Versatility
- Built-in Channel Flexibility
- Power Increases Without Replacement
- Simplified Operation

SPECIFICATIONS – LPU SERIES TRANSMITTERS

Models LPU-300, LPU-500, LPU-750, LPU-1000, LPU-1250, LPU-1500, LPU-1750, LPU-2000

ANALOG (VISUAL) SERVICE

DIGITAL SERVICE

Output Power	75,125, 175, 250, 300, 375, 550, or 625 Watts Peak Visual Power w/-10dB Aural Carrier	Output Power ¹	30, 50, 75, 100, 125, 150, 175, or 200 Watts Average (ATSC) Power (-3dB for DVB-T)
Emission	5M75C3F	Emission	6M00D7W
Color Transmission	NTSC, PAL, SECAM	Modulation Mode	QPSK/16/64/256QAM, 8 OR 16 VSB
Output Frequency	470-806 MHz	Output Frequency	470-806 MHz
Frequency Stability	±1 KHz	Frequency Stability	±1 KHz, <1Hz with GPS input
Spurious Products ¹	-60 dB	Spectral Mask ¹ Per FCC	-37dB @ channel edge, -100 dB @ ±6 MHz Ref Channel edge below Average Power (Watts/5.4 MHz)
Intermodulation (IM3)	<-56dB	Spurious Products	<-60dB
Differential Phase	±2°	Envelope Delay	±5ns
Differential Gain	3%	Frequency Response	±0.5dB
Low Frequency Linearity	3%	Error Vector Magnitude	≤3%, SNR >30dB
Envelope Delay	Better than FCC 73.687 (a) (3)	Output Power Stability	±0.3dB
Sideband Response	Better than FCC 74.936 (b)	Digital Signal to Noise	34dB
Frequency Response ¹	±0.5 dB	Hum & Noise	<-60dB
Output Power Stability	±0.3dB	Phase Noise (Synth)	≤-104dBc/Hz @ 20 KHz
RF Regulation	2%	Harmonic Output	<-60dB
Signal to Noise	55dB	IF Input Level	-5 to -15 dBm
Hum and Noise	-55 dB	Input Impedance	75 Ohm/BNC, 44Mhz
Phase Noise (Synth)	-100 dBc/Hz @ 10 KHz	Output Impedance	50 Ohm/N
K Factor (2T)	2%	GENERAL/MECHANICAL CHARACTERISTICS	
ICPM	3°	(Specific to Both <u>Analog & Digital</u> Service)	
Harmonic Output	-65dB	Operating Temperature, Alt.	0° to +50°C, 10,000 Ft. AMSL
Input Impedance (Composite)	75 Ohm/BNC	Maximum Relative Humidity	95%
Output Impedance	50 Ohm Type N	Weight/Dimensions	
ELECTRICAL CHARACTERISTICS		LPU-300	43 lbs. 10.50"Hx19"Wx24.25"D
<u>ANALOG</u> (AURAL) SERVICE		LPU-500	56 lbs. 10.50"Hx19"Wx24.25"D
Output Power	-10 dB Ref. to Visual	LPU-750	72 lbs. 10.50"Hx19"Wx24.25"D
Emission	250KF3E	LPU-1000	84 lbs. 10.50"Hx19"Wx24.25"D
Frequency Tolerance	NTSC +4.5 MHz ±100 Hz CCIR+5.5 & 6.5 MHz ±100 Hz	Power Requirements	85~264 VAC, 47~63 Hz Power Consumption/PF
Audio Distortion	1.0%	LPU-300	295 Watts/0.98
FM Noise	-60 dB	LPU-500	525 Watts/0.98
AM Noise	-60dB	LPU-750	760 Watts/0.98
Frequency Response	±1 dB	LPU-1000	990 Watts/0.98
Deviation	25KHz Mono, 50 KHz Stereo or per CCIR Requirements	LPU-1250	1225 Watts/0.98
		LPU-1500	1455 Watts/0.98
		LPU-1750	1685 Watts/0.98
		LPU-2000	1920 Watts/0.98
¹ Measured at Output of Mask Filter			
Specifications Subject to Change			