

# LPV Series™ Transmitters/Translators

Video/Data Transmitter, Digital Service (Analog Compatible)

Models LPV-100, LPV-200, LPV-300, LPV-400, LPV-500, LPV-600, LPV-750, LPV-1000

The new EMCEE LPV Series™ represents the highest evolution in a low power VHF 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



LPV-1000<sup>PLUS</sup>

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 A 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. Remote control interfacing for critical transmitter functions and monitoring is available via the rear chassis connections (optional). The LPV Series is the perfect choice for transition into digital service and for low power analog.

## Features

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

## Benefits

- LDMOS Technology
- Ease of Maintenance
- Versatility
- Built-in Channel Agility
- Power Increases Without Replacement
- Simplified Operation

**SERVING THE BROADCAST INDUSTRY SINCE 1960**

## **SPECIFICATIONS – LPV SERIES TRANSMITTERS**

# Models LPV-100, LPV-200, LPV-300, LPV-400, LPV-500, LPV-600, LPV-750, LPV-1000

## ANALOG (VISUAL) SERVICE

## DIGITAL SERVICE

Output Power	30, 60, 90, 125, 150, 190, 225, or 300 Watts Peak Visual Power	Output Power	10, 20, 30, 40, 50, 60, 75, or 100 Watts Average (DTV) Power
Emission	5M75C3F	Emission	6M00D7W
Color Transmission	NTSC, PAL, SECAM	Modulation Mode	QPSK/16/64/256QAM, 8 OR 16 VSB
Output Frequency	170-230 MHz	Output Frequency	170-230 MHz
Frequency Stability	±1 KHz	Frequency Stability	±1 KHz, <1Hz with GPS input
Spurious Products <sup>1</sup>	-60 dB	Spectral Mask <sup>1</sup> 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 <sup>1</sup>	±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%	<b>GENERAL/MECHANICAL CHARACTERISTICS</b>	
ICPM	3°	<b>(Specific to Both <u>Analog &amp; Digital</u> Service)</b>	
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	
<b>ELECTRICAL CHARACTERISTICS</b>		LPV-100	43 lbs. 10.50"Hx19"Wx24.25"D
<b><u>ANALOG</u> (AURAL) SERVICE</b>		LPV-200	56 lbs. 10.50"Hx19"Wx24.25"D
Output Power	-13 dB Ref. to Visual	LPV-300	72 lbs. 10.50"Hx19"Wx24.25"D
Emission	250KF3E	LPV-400	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 ±15%, 47~63 Hz Power Consumption/PF
Audio Distortion	1.0%	LPV-100	400 Watts/0.95
FM Noise	-60 dB	LPV-200	650 Watts/0.95
AM Noise	-60dB	LPV-300	900 Watts/0.95
Frequency Response	±1 dB	LPV-400	1150 Watts/0.95
Deviation	25KHz Mono, 50 KHz Stereo or per CCIR Requirements	LPV-500	1400 Watts/0.95
		LPV-600	1650 Watts/0.95
		LPV-750	1900 Watts/0.95
		LPV-1000	2150 Watts/0.95
<sup>1</sup> Measured with Output Filter			
Specifications Subject to Change			