

LPV Series™ VHF Transmitters/Translators

Model LPV-3000 Video/Data Transmitter, Digital Service (Analog Compatible)

Other Models and Configurations Available

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 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 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 or N+2 redundancy. Front panel monitoring of all internal voltages and forward and reflected power is provided in an easy to read LCD display. A front panel color LED matrix provides an “at a glance” determination of the transmitter status and alarm modes. Web based remote control interfacing for critical transmitter functions and monitoring is available via the rear chassis connections. A standard browser is all of the software that is needed to remotely monitor and control the transmitter. The LPV Series is the perfect choice for transition into digital service and for lower power analog.



Shown with DRP-1000

Features

- High Reliability
- Modular Amplifier Design
- Analog & Digital Compatible
- Fully Synthesized
- Modular Power Supply Design
- Minimum Operator Adjustments
- Low Power Consumption

Benefits

- LDMOS Technology
- Ease of Maintenance
- Versatility
- Built-in Channel Agility
- Plug-In Hot-Swap Replacement
- Simplified Operation
- Reduced Cost Of Operation

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SPECIFICATIONS – LPV SERIES TRANSMITTERS

Model LPV-3000 (Other Configurations Available)

| <i>ANALOG (VISUAL) SERVICE</i> | | <i>DIGITAL SERVICE</i> | |
|--------------------------------------|---|---|---|
| Output Power | 1000 Watts Peak Visual Power | Output Power ¹ | 300 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 | Band 1/3 54-88/170-230 MHz | Output Frequency | Band 1/3 54-88/170-230 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/7/8" EIA |
| 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 | | LPV-3000 | 150 lbs. 30"H x22"Wx30.25"D |
| <u>ANALOG</u> (AURAL) SERVICE | | | |
| Output Power | -10 dB Ref. to Visual | | |
| Emission | 250KF3E | | |
| 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% | LPV-3000 | 3080Watts/3.11kVA/0.98 |
| FM Noise | -60 dB | | |
| AM Noise | -60dB | | |
| Frequency Response | ±1 dB | | |
| Deviation | 25KHz Mono, 50 KHz Stereo or per CCIR Requirements | | |

¹Measured at Output of Mask Filter

Specifications Subject to Change