

## HSD Series™ Transmitters

**Video/Data Transmitter, Digital Service (Analog Compatible)  
Models HSD-1250, HSD-2500, HSD-3750, HSD-5000, HSD-10000**

The new EMCEE HSD Series™ represents the highest evolution in a dual conversion transmitter. Inherently low distortion minimizes the need for extensive corrective circuitry and provides for excellent performance in high 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 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 in analog operations. 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 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 HSD Series is the perfect choice for transition into the new EBS/BRS band plan and meet all requirements of FCC Rule Part 27.



### Features

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

### Benefits

- Minimum Downtime
- Ease of Maintenance
- Versatility
- Built-in Channel Flexibility
- Power Increases Without Replacement
- Simplified Operation

## SPECIFICATIONS – HSD SERIES TRANSMITTERS

### Models HSD-1250, HSD-2500, HSD-3750, HSD-5000, HSD-10000

#### *ANALOG (VISUAL) SERVICE*

#### *DIGITAL SERVICE*

Output Power	50,100, 150, 200, or 400 Watts Peak	Output Power	12.5, 25, 37.5, 50, or 100 Watts Average
Emission	5M75C3F	Emission	6M00D7W
Color Transmission	NTSC, PAL, SECAM	Modulation Mode	QPSK/16/64/256QAM
Output Frequency	2.5 - 2.7 GHz	Output Frequency	2.5 - 2.7 GHz
Frequency Stability	±1 KHz	Frequency Stability	±1 KHz
Spurious Products <sup>1</sup>	-60 dB	Spectral Mask	Per FCC 27.53
Intermodulation (IM3)	Unmeasurable	Spurious Products	<-60dB
Differential Phase	±2°	Envelope Delay	±5ns
Differential Gain	3%	Frequency Response	±0.5dB
Low Frequency Linearity	3%	Error Vector Magnitude	≤1.5%
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) (Osc/Mult)	-100dBc @ 10 KHz -110dBc @ 10 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
Phase Noise (Synth) (Osc/Mult)	-90 dBc @ 10 KHz -110 dBc @ 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	0° to +50°C
Input Impedance (Composite)	75 Ohm/BNC	Maximum Relative Humidity	95%
Output Impedance	50 Ohm Type N	Weight/Dimensions	
<b>ELECTRICAL CHARACTERISTICS</b>		HSD-1250	43 lbs. 10.50"Hx19"Wx24.25"D
<b><u>ANALOG</u> (AURAL) SERVICE</b>		HSD-2500	56 lbs. 10.50"Hx19"Wx24.25"D
Output Power	-16 dB Ref. to Visual	HSD-5000	72 lbs. 10.50"Hx19"Wx24.25"D
Emission	250KF3E	HSD-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 ±15%, 47~63 Hz
Audio Distortion	1.0%	Power Consumption/PF	
FM Noise	-60 dB	HSD-1250	550 Watts/0.7
AM Noise	-60dB	HSD-2500	750 Watts/0.7
Frequency Response	±1 dB	HSD-5000	1250 Watts/0.7
Deviation	25 KHz Mono, 50 KHz Stereo or per CCIR Requirements	HSD-1000	1750 Watts/0.7

<sup>1</sup>Measured at Output of Channel Combiner

Specifications Subject to Change, FCC Type Acceptance Pending