

DFM TX 300-1500

FM Digital Transmitter



Main Characteristics

- Direct-to-Channel RF frequency generation for superior RF and audio performance
- Up to 1500 watt for flexible deployment
- The full complement of audio inputs L&R analog, composite, mono analog and AES are concurrently available for primary and backup source assignment
- Ethernet connectivity links for programming and data service transmission
- Universal power supply with power factor correction (PFC) and high/low voltage detection
- External frequency reference input for locking to GPS or other external source
- A basic RDS Encoder is included, the connection for external SCA or RDS encoder are provided.
- RF output low-pass filter is included for use directly on air
- LCD menu system eases setup, operation, and maintenance
- 1 ASI input (PID Filtering) optional



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Audio Inputs: Audio Inputs: Audio Inputs: Audio Inputs: Modulation Type: Modulation Capability: Asynchronous AM S/N Ratio: Synchronous AM S/N Ratio: Spurious and Harmonic: AES/EBU Operational Modes: Impedance: Input Level: Input Level: Amplitude Response: Y- 0.01dB, 20Hz to 15kHz Sold B or better below 100% modulation (a) 400Hz Stereo Separation: AUdio Input: +/- accuracy of reference source AES/EBU Output: +/- accuracy of reference source AES/EBU (wire), L&R analog, MPX, SCA/RBDS/ RDS, internal RBDS/RDS generator Internal stereo encoder generator Digitally generated FM Digital direct Up-conversion Up to 300kHz 80dB below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. deemphasis with no FM modulation present 60dB below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. deemphasis with FM modulation +/- 75kHz at 400Hz Spurious and Harmonic: 85dB or better; low pass filter standard AES/EBU Operational Modes: Stereo, mono Input Level: -24- 0 dBfs for 100% modulation; typ6dBfs Impedance: Ill 0 ohms Connector: BNC Amplitude Response: +/- 0.0IdB, 20Hz to 15kHz THD: 0.006% or better 80dB or better below 100% modulation (a) 400Hz Stereo Separation: 80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	GENERAL		
VSWR: Rated power into 1.5:1 VSWR. Open and short circuit protected at all phase angles 87.5MHz to 108MHz; 100kHz increments, 50kHz-10kHz when specified Internal VCXO: +/-IHz, -10° C to +50° C, External Output: +/- accuracy of reference source AES/EBU (wire), L6R analog, MPX, SCA/RBDS/RDS, internal RBDS/RDS generator Internal stereo encoder generator Modulation Type: Modulation Capability: Up to 300kHz Asynchronous AM S/N Ratio: Synchronous AM S/N Ratio: Spurious and Harmonic: BodB below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. deemphasis with no FM modulation present 400Hz BodB below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. deemphasis with FM modulation +/- 75kHz at 400Hz Spurious and Harmonic: Stereo, mono Input Level: 110 ohms Connector: BNC Amplitude Response: 110 ohms Connector: BNC Amplitude Response: 17HD: 0.006% or better 80dB or better below 100% modulation (a) 400Hz Stereo Separation: 80dB, 20Hz to 15kHz Linear Crosstalk: 80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	RF Power Output:	Up to 1500W	
circuit protected at all phase angles 87.5MHz to 108MHz; 100kHz increments, 50kHz-10kHz when specified Internal VCXO: +/-IHz, -10° C to +50° C, External Output: +/- accuracy of reference source AE5/EBU (wire), LBR analog, MPX, SCA/RBDS/ RDS. internal RBDS/RDS generator Internal stereo encoder generator Modulation Type: Modulation Capability: Digitally generated FM Digital direct Up- conversion Modulation Capability: Dy to 300kHz 80dB below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. de- emphasis with no FM modulation present 60dB below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. de- emphasis with FM modulation +/- 75kHz at 400Hz Spurious and Harmonic: 85dB or better; low pass filter standard AE5/EBU Operational Modes: Stereo, mono Input Level: 10 ohms Connector: BNC Amplitude Response: +/- 0.0IdB, 20Hz to 15kHz THD: 0.006% or better SodB or better below 100% modulation (a) 400Hz Stereo Separation: 80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	Output Impedance:	50 ohms nominal	
Frequency Stability: Frequency Stability: Internal VCXO: +/-IHz, -IO° C to +50° C, External Output: +/- accuracy of reference source AES/EBU (wire), LGR analog, MPX, SCA/RBDS/RDS. internal RBDS/RDS generator Internal stereo encoder generator Modulation Type:	VSWR:		
Audio Inputs: Audio Inputs: Audio Inputs: Audio Inputs: Modulation Type: Modulation Capability: Asynchronous AM S/N Ratio: Synchronous AM S/N Ratio: Spurious and Harmonic: AES/EBU Operational Modes: Impedance: Input Level: Input Level: Amplitude Response: Y- 0.01dB, 20Hz to 15kHz Sold B or better below 100% modulation (a) 400Hz Stereo Separation: AUdio Input: +/- accuracy of reference source AES/EBU Output: +/- accuracy of reference source AES/EBU (wire), L&R analog, MPX, SCA/RBDS/ RDS, internal RBDS/RDS generator Internal stereo encoder generator Digitally generated FM Digital direct Up-conversion Up to 300kHz 80dB below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. deemphasis with no FM modulation present 60dB below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. deemphasis with FM modulation +/- 75kHz at 400Hz Spurious and Harmonic: 85dB or better; low pass filter standard AES/EBU Operational Modes: Stereo, mono Input Level: -24- 0 dBfs for 100% modulation; typ6dBfs Impedance: Ill 0 ohms Connector: BNC Amplitude Response: +/- 0.0IdB, 20Hz to 15kHz THD: 0.006% or better 80dB or better below 100% modulation (a) 400Hz Stereo Separation: 80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	Frequency Range:	50kHz-10kHz when specified	
Audio Inputs: RDS. internal RBDS/RDS generator Internal stereo encoder generator Modulation Type: Modulation Capability: Asynchronous AM S/N Ratio: Synchronous AM S/N Ratio: Synchronous AM S/N Ratio: Synchronous AM S/N Ratio: Spurious and Harmonic: Spurious and Harmonic: Spurious and Harmonic: Stereo, mono Input Level: Impedance: Il0 ohms Connector: Amplitude Response: H/- 0.0IdB, 20Hz to 15kHz THD: Sold Below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. deemphasis with FM modulation +/- 75kHz at 400Hz Stereo Separation: BNC Amplitude Response: H/- 0.0IdB, 20Hz to 15kHz THD: Sold Bold or better Sold Bold Bold Response: H/- 0.0IdB, 20Hz to 15kHz Sold Bold Robert Bold Ro	Frequency Stability:	Internal VCXO: +/-1Hz, -10° C to +50° C, External Output: +/- accuracy of reference source	
Modulation Capability: Asynchronous AM S/N Ratio: BOdB below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. deemphasis with no FM modulation present 60dB below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. deemphasis with no FM modulation present 60dB below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. deemphasis with FM modulation +/- 75kHz at 400Hz Spurious and Harmonic: 85dB or better; low pass filter standard AES/EBU Operational Modes: Stereo, mono Input Level: -24- 0 dBfs for 100% modulation; typ6dBfs Impedance: 110 ohms Connector: BNC Amplitude Response: +/- 0.0IdB, 20Hz to 15kHz THD: 0.006% or better 80dB or better below 100% modulation (a) 400Hz Stereo Separation: 80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	Audio Inputs:	RDS. internal RBDS/RDS generator Internal	
Asynchronous AM S/N Ratio: 80dB below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. deemphasis with no FM modulation present 60dB below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. deemphasis with FM modulation at 400Hz, 75usec. deemphasis with FM modulation +/- 75kHz at 400Hz Spurious and Harmonic: 85dB or better; low pass filter standard AES/EBU Operational Modes: Stereo, mono Input Level: -24- 0 dBfs for 100% modulation; typ6dBfs Impedance: 110 ohms Connector: BNC Amplitude Response: +/- 0.01dB, 20Hz to 15kHz THD: 0.006% or better S/N Ratio: 80dB or better below 100% modulation (a) 400Hz Stereo Separation: 80dB, 20Hz to 15kHz Linear Crosstalk: 80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	Modulation Type:		
Asynchronous AM 5/N Ratio: 100% AM modulation at 400Hz, 75usec. demphasis with no FM modulation present 60dB below rated power reference carrier with 100% AM modulation at 400Hz, 75usec. demphasis with FM modulation +/- 75kHz at 400Hz Spurious and Harmonic: 85dB or better; low pass filter standard AES/EBU Operational Modes: Stereo, mono Input Level: -24- 0 dBfs for 100% modulation; typ6dBfs Impedance: 110 ohms Connector: BNC Amplitude Response: +/- 0.01dB, 20Hz to 15kHz THD: 0.006% or better S/N Ratio: 80dB or better below 100% modulation (a) 400Hz Stereo Separation: 80dB, 20Hz to 15kHz Linear Crosstalk: 80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	Modulation Capability:	Up to 300kHz	
Synchronous AM S/N Ratio: 100% AM modulation at 400Hz, 75usec. demphasis with FM modulation +/- 75kHz at 400Hz Spurious and Harmonic: 85dB or better; low pass filter standard AES/EBU Operational Modes: Stereo, mono Input Level: -24- 0 dBfs for 100% modulation; typ6dBfs Impedance: 110 ohms Connector: BNC Amplitude Response: +/- 0.01dB, 20Hz to 15kHz THD: 0.006% or better S/N Ratio: 80dB or better below 100% modulation (a) 400Hz Stereo Separation: 80dB, 20Hz to 15kHz Linear Crosstalk: 80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	•	100% AM modulation at 400Hz, 75usec. de-	
AES/EBU Operational Modes: Stereo, mono Input Level: -24- O dBfs for 100% modulation; typ6dBfs Impedance: 110 ohms Connector: BNC Amplitude Response: +/- 0.01dB, 20Hz to 15kHz THD: 0.006% or better S/N Ratio: 80dB or better below 100% modulation (a) 400Hz Stereo Separation: 80dB, 20Hz to 15kHz Linear Crosstalk: 80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	•	100% AM modulation at 400Hz, 75usec. de- emphasis with FM modulation +/- 75kHz at	
Operational Modes:Stereo, monoInput Level:-24- O dBfs for 100% modulation; typ6dBfsImpedance:110 ohmsConnector:BNCAmplitude Response:+/- 0.01dB, 20Hz to 15kHzTHD:0.006% or betterS/N Ratio:80dB or better below 100% modulation (a) 400HzStereo Separation:80dB, 20Hz to 15kHzLinear Crosstalk:80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to mainPilot Stability:+/- 0.1Hz, 0 degrees C to +50 degrees C	Spurious and Harmonic:	85dB or better; low pass filter standard	
Operational Modes:Stereo, monoInput Level:-24- O dBfs for 100% modulation; typ6dBfsImpedance:110 ohmsConnector:BNCAmplitude Response:+/- 0.01dB, 20Hz to 15kHzTHD:0.006% or betterS/N Ratio:80dB or better below 100% modulation (a) 400HzStereo Separation:80dB, 20Hz to 15kHzLinear Crosstalk:80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to mainPilot Stability:+/- 0.1Hz, 0 degrees C to +50 degrees C			
Input Level: -24- O dBfs for 100% modulation; typ6dBfs Impedance: IIO ohms Connector: BNC Amplitude Response: +/- 0.0ldB, 20Hz to 15kHz THD: 0.006% or better S/N Ratio: 80dB or better below 100% modulation (a) 400Hz Stereo Separation: 80dB, 20Hz to 15kHz BodB below 100% modulation; 20Hz to 15kHz; main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	AES/EBU		
Impedance:110 ohmsConnector:BNCAmplitude Response:+/- 0.01dB, 20Hz to 15kHzTHD:0.006% or betterS/N Ratio:80dB or better below 100% modulation (a) 400HzStereo Separation:80dB, 20Hz to 15kHzLinear Crosstalk:80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to mainPilot Stability:+/- 0.1Hz, 0 degrees C to +50 degrees C	Operational Modes:	Stereo, mono	
Connector: BNC Amplitude Response: +/- 0.01dB, 20Hz to 15kHz THD: 0.006% or better S/N Ratio: 80dB or better below 100% modulation (a) 400Hz Stereo Separation: 80dB, 20Hz to 15kHz Linear Crosstalk: 80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	Input Level:	-24- O dBfs for 100% modulation; typ6dBfs	
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THD: O.006% or better 80dB or better below 100% modulation (a) 400Hz Stereo Separation: BodB, 20Hz to 15kHz 80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	Connector:	BNC	
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Stereo Separation: BodB, 20Hz to 15kHz BodB below 100% modulation; 20Hz to 15kHz; main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	THD:	0.006% or better	
Linear Crosstalk: 80dB below 100% modulation; 20Hz to 15kHz; main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	S/N Ratio:		
main to sub and sub to main Pilot Stability: +/- 0.1Hz, 0 degrees C to +50 degrees C	Stereo Separation:	80dB, 20Hz to 15kHz	
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MECHANICAL Dimensions (WxHxD) Weight (approx.)	Pilot Stability:	+/- 0.1Hz, O degrees C to +50 degrees C	
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mm /9/y00y550	MECHANICAL	Dimensions (WxHxD)	Weight (approx.)

AC MAINS		
AC Input:	90 to 264VAC; 47-63Hz	
Power Consumption	2100VA (a) max power output	
Power Factor:	> 0.97	
Surge Protection:	Tested with IEEE C62.41-1991 recommended waveforms for location category B3 and IEC 801-4 standard waveforms for severity level 4	
Regulatory:	FCC; DOC; CE; CCIR; IEC 215 Safety	
ENVIRONMENTAL		
Temperature Range:	-10° C to +50° C	
Altitude:	10,000 ft (3048 m)	
Humidity:	95% maximum, non-condensing	
MPX		
Input Level:	O-12 dBu typ. 6dBu for 100% modulation	
Impedance:	Unbalanced: 2k ohms	
Connector:	BNC	
Amplitude Response:	+/- 0.02dB; 20Hz to 53kHz; 0.ldB; 53kHz to 99kHz	
Phase Response:	+/- 0.1 degree from linear phase; 53kHz to 100kHz	
THD:	0.02% or less	
FM S/N Ratio:	80dB below 100% modulation @ 400Hz	
STEREO/MONO Analog Input		
Operational Modes:	Stereo, Mono (L only)	
Input Level:	O-12 dBu typ. 6dBu for 100% modulation	
Impedance:	600 ohms or 2k ohms	
Connector:	Mini XLR	
Amplitude Response:	+/- 0.2dB; 20Hz to 15kHz	
THD:	0.02% or less; 20Hz to 15kHz	
Linear Crosstalk:	80dB below 100% modulation; 20Hz to 15kHz;	
FM S/N Ratio:	70dB below 100% modulation @ 400Hz	

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