

# DFM LC HPA 10K-40K

*High Power Liquid Cooled FM Transmitter with Integrated Cooling System*

## Main Characteristics

- High efficiency, low power consumption
- Configurations: Stand Alone, Dual Drive, 1+1, N+1 up to 7+1.
- Available in band II (88 - 108Mhz)
- Inputs: L-R, MPX, SCA, Optical, AES/EBU
- Integrated cooling system with redundancy dual pump with temperature flow control
- Anti-Condensation protection system
- High Efficiency Heat exchange ( $\Delta t < 6^\circ$ )
- Air detector in the hydraulic system
- Hot swap pluggable RF power amplifiers
- Unbalanced liquid cooled dummy load
- Broadband frequency synthesizer, without any other tuning or alignment.
- Monophonic & Stereophonic emission, according to CCIR, FCC or OIRT
- RDS & SCA subcarriers input capability
- Hi-Fi Quality modulated signal, with low residual noise and distortion.
- RF Signal free from spurious and harmonic signals
- Redundant 8x 5 kW power amplifier and power supply
- Remote Operation compliant to IEC 864-1 rule  
(all options are available)
- Quick installation (4 man-hours)
- Low acoustic noise, <55dbA
- Web Server, SNMP protocol



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## RF

<b>Emissions</b>	According to CCIR, FCC or OIRTV
<b>Frequency Deviation</b>	± 75kHz standard Up to 300K
<b>Resolution</b>	10kHz step programmable
<b>Frequency stability</b>	± 100Hz, -10°C to +50°C, External Output: ± accuracy of ref. Source
<b>Output Power</b>	5kW to 40kW (configurable)
<b>Harmonic Emission</b>	≤ 76 dBc
<b>Spurious emission</b>	≤ 90 dBc
<b>Residual AM noise level</b>	≤ 60 dB
<b>Synchronous AM</b>	≤ 50 dB
<b>RF Output impedance</b>	50Ω; 3" 1/8" EIA connector

## ENVIRONMENTAL

<b>Temperature Range:</b>	-10° C to +50° C
<b>Altitude:</b>	10,000 ft (3048 m)
<b>Humidity:</b>	95% maximum, non-condensing

## AC MAINS

<b>AC Line Voltage</b>	3-phase 50/60 Hz, 380 to 415 V
<b>AC Line Variation</b>	10% to -15%
<b>Power Factor</b>	> 0.97
<b>Cooling Method</b>	Liquid
<b>Acoustic Noise</b>	< 65 dBA (measured 1 m in front of cabinet)

## REMOTE CONTROL

<b>Parallel interface</b>	Start, stop, standby, alarms, status, interlock
<b>Serial Interface</b>	RS-232 or others on request

## PROGRAM INPUT

<b>Mono/Stereo</b>	L & R program input
<b>Connector</b>	XLR type
<b>Impedance</b>	600Ω or 5kΩ balanced
<b>Level</b>	-4 to 12 dBm
<b>Preemphasis</b>	0; 25; 50; 75 μs selectable
<b>Audio frequency response</b>	40 to 15000 ± 0.3 dB
<b>19 kHz suppression</b>	≥ 50 dB
<b>RDS and AUX</b>	Subcarrier program input
<b>Connector</b>	BNC
<b>Impedance</b>	≥ 2kΩ unbalanced

## TRANSMISSION CHARACTERISTICS

<b>Mono Operation ± 75 kHz deviation</b>	
<b>Total harmonic distortion</b>	≤ 0.03 %
<b>Intermodulation</b>	≤ 60 dB
<b>Signal to noise unweighted</b>	≥ 80dB
<b>Signal to noise weighted</b>	≥ 78dB
<b>Stereo Operation ± 75 kHz deviation</b>	
<b>Total harmonic distortion</b>	≤ 0.1 %
<b>Intermodulation</b>	≤ 60 dB
<b>Signal to noise unweighted</b>	≥ 78dB
<b>Signal to noise weighted</b>	≥ 72dB
<b>Crosstalk L&amp;R (45 to 15k Hz)</b>	≥ 70dB
<b>38 kHz subcarrier suppression</b>	≥ 70dB
<b>Attenuation above 53 kHz</b>	≥ 70dB

Power Table		
Number of Amplifiers	FM Analogic	
	Post-Filter	Efficiency
2	10000	75%
3	15000	75%
6	30000	75%
8	40000	75%

MECHANICAL	Dimensions (WxHxD)	Weight (approx.)
DFM LC HPA 5K	mm 600x2100x1200	Kg 274
DFM LC HPA 10K	mm 600x2100x1200	Kg 335
DFM LC HPA 15K	mm 600x2100x1200	Kg 373
DFM LC HPA 20K	mm 600x2100x1200	Kg 413
DFM LC HPA 40K	mm 600x2100x1200	Kg 580