



SKY16000L – 16kW Liquid-Cooled Transmitter

Key Features

- **Extraordinary power headroom for high reliability**

The JM 16000W liquid cooled transmitter is designed to deliver reliable, long-term operation with superior MER performance. Enough headroom above operating power is resulting in extraordinary MTBF.

- **Best-in-class ProTelevision modulator**

- **Wideband Doherty Amplifier for maximum efficiency**

- **Exceptional cooling system**

JM's unique "Crisscross Cooling" nearly eliminates cold plate temperature differentials. For this reason, HPA Heatsink Temperature is stable and RF Power Phase Balance is good.

- **Fast VSWR shutdown makes the JM transmitter unconditionally safe at any phase angle and power level**

- **Superior MER performance (35dB) improves reception**

- **High performance Digital Linear & Nonlinear Auto-correction**

- **Complete SFN packages and support available**

- **Seamless input source changeover (2 ASI & 2 TSoIP – 3.0 STL on ethernet)**

- **Custom systems configurations available**

JM can produce and supply customized transmitter tailored to your needs and circumstances. In addition to the external design and size of the transmitter, custom software is available from JM, where we have dedicated full time software engineers on staff. Other custom adaptations can meet your special requirements.

- **ATSC 1.0, ATSC 3.0, DVB-T2, ISDB-T, DMB are selectable with appropriate software license**

- **All metering remotely available**

- **LDM capable**

- **User-friendly Web GUI control**

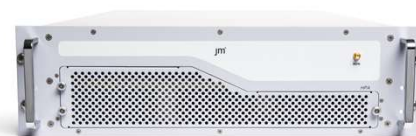
- **Deep Logging for Root Cause Analysis and trending**

The number of event logging is large, it is easy to understand the state of the equipment and it is easy to solve the problem because it is possible to identify the specific cause when a problem occurs.

- **Cool and quiet operation**



16kW Liquid Cooled DTV Transmitter System



Hot Pluggable UHF Liquid Cooled HPA

Specifications in brief

Description	Specifications	
General		
Transmit frequency band	Designated channel between 470 ~ 810MHz	
AC input	380V _{AC} ± 10%, 3Phase, 50/60Hz	
Operating temperature	0°C ~ +45°C	
Permissible relative air humidity	≤ 85%	
Max altitude	2,500m a.s.l.	
Dimensions (transmitter rack)	19" Standard rack type (600 x 1100 x 2000mm)	
Cooling system	Liquid cooling – dual pump	
The number of HPA	10	
HPA output power	1,800W	
Data input	2 ASI, 2 TSoIP (ATSC 3.0 STL on ethernet)	
GPS Ant input connector	TNC-female	
Data input connector	BNC-female	
RF output impedance	50Ω	
RF output connector	3-1/8" EIA Flange	
Remote/Alarm	RJ-45 / 25PIN D-SUB	
Performance		
Output power	16kW before Mask Filter	
Frequency stability	GPS	
Spurious & Harmonics	≤ -60dBc	
Power stability	≤ ±5%	
MER	≥ 35dB	
Frequency response	≤ ±0.5dB	
Total system AC power consumption (post mask filter)	54kW	
Crest factor	8 ~ 20dB	
Output VSWR	≤ 1.15	
Digital Modulation		
ATSC3.0	ref. standards	ATSC A/322, 324, 331
	RF bandwidth	6MHz
DVB-T	ref. standards	ETS 300 744 / EL 50083-9 / TR 101 190 / TR 101 891
	RF bandwidth	6MHz, 7MHz, 8MHz
DVB-T2	ref. standards	EN 302 755, TS 102 831, T2-MI
	Streams	Single stream with System A or Multiple PLP with System B
	RF bandwidth	6MHz, 7MHz, 8MHz
ISDB-T	ref. standards	ABNT NBR 15601 - ARBI STD B31
	Multiple segment operation	Total 13 segments, distributed over the existing layers (1seg supported)
	RF bandwidth	6MHz
ATSC 8VSB	Standards	
	Modulation mode	8VSB
	Channel spacing	6MHz
DAB/DMB	ref. standards	TS 102 428, ETSI300401 Ref.TTASKO-07.0024
	RF bandwidth	1.536MHz Block