

Compact, Air-Cooled L-Band Multimedia Transmitter

TELEVISION TRANSMISSION // L-BAND TRANSMITTERS



The Harris® LAX air-cooled L-Band solid-state transmitter incorporates the Apex M2X™ multimedia exciter to provide today's broadcaster unmatched performance, reliability and quality. Designed with future broadcasting needs in mind, the LAX transmitter is a single-transmitter platform capable of multiple modulation schemes.

As the world leader in modulation and broadcast RF technology, Harris and the LAX transmitter is an ideal partner for companies planning new multimedia broadcast services in the 1450 to 1492 MHz band.

PRODUCT DETAILS

Harris® PowerSmart® Technology Inside

With PowerSmart® technology in its transmitter architecture, the LAX offers superior power and efficiency. New 50-volt LDMOS device technology delivers a dramatic increase in power density, lower operating costs and reduced cost of ownership over the life of the transmitter.

Software-Defined Apex M2X Exciter

The LAX includes the Apex M2X exciter, which supports a range of analog, digital and mobile standards. This flexibility, coupled with the exclusive Real-Time Adaptive Correction (RTACT™), provides superior performance with a flexible transition path to fit your needs today and tomorrow.

Maximum Efficiency for Cost-Effective Operation

The LAX transmitter offers market-leading power efficiency, lower operating costs and reduced cost of ownership over the life of the transmitter.

Compact Footprint

As the most compact air-cooled L-Band transmitter, the LAX is ideal for crowded, shared transmitter sites. The LAX transmitter reduces facility space requirements, simplifies installation, lowers shipping costs and allows for easier maintenance.

Powerful, Straightforward Monitoring and Control

Distributed control architecture provides for outstanding reliability, soft failure operation and simple serviceability.

Improved Uptime and Reduced Service Costs

Redundant power amplifier (PA) and universal power supply (PS) modules make on-air servicing simple and eliminate costly interruptions. Lightweight pallets and modules facilitate overnight/same day shipping for simple, cost-effective spares holding. With lightweight subassemblies, LAX virtually eliminates any two-person lift requirements for routine maintenance and troubleshooting.

FEATURES

- Best-in-class power efficiency and lowest operating costs
- Increased power density over previous models, resulting in the world's most compact digital L-Band transmitter
- Rugged, reliable design and construction
- Small footprint with single cabinet power levels up to 1.2 kW
- Multiple cabinet support for higher power requirements
- Includes Harris Apex M2X multimedia exciter, allowing easy migration between standards
- All-digital linear and nonlinear pre-correction
- Fully broadband PA modules — 1450 to 1492 MHz
- 1:1 PA module to power supply redundancy
- Hot-pluggable, air-cooled linear RF amplifier modules and universal power supplies
- Automatic restart after AC mains interruption; returns to previous operational mode
- Modular central control system for straightforward monitoring and in-depth diagnostics
- Incorporates eCDi® web-enabled remote GUI interface
- Modular design enables outdoor deployment, such as rooftop or tower space

SPECIFICATIONS

Specifications are subject to change without notice.

General

Frequency Range	1450 to 1492 MHz, in 8 kHz increments
RF Load Impedance	50 ohms, 1.1:1 VSWR over any single TV channel
RF Output Connector	Type-N, female or 1-5/8 in. EIA (dependent upon power level)

AC Mains

AC Mains Requirement:	Up to 750 W: 90 to 264 V AC, 47 to 63 Hz, dual IEC C20 inlets; 500 to 3000 W: 200 to 264 V AC 47 to 63 Hz, triple IEC C20 inlets for each 1500/3000 W chassis Configurable on-site for single- or three-phase connection: 200 to 264 VAC single phase, 200 to 264 VAC delta, 200 to 264 VAC wye, or 350 to 450 VAC wye Optional in-rack AC distribution chassis provides individual circuit breaker protection for each AC input
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Power Factor	>0.90
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Mechanical

Dimensions	Standard EIA rack 19 in. (48.3 cm) 1RU = 1.75 in. (4.45 cm)
LAX 100	9RU (single drive); 13RU (dual drive), 23.6 in. (60 cm) depth
LAX 200	13RU (single drive); 17RU (dual drive), 23.6 in. (60 cm) depth
LAX 400	17RU (single drive); 21RU (dual drive), 23.6 in. (60 cm) depth
LAX 800	84 in. (213 cm) height; 31.5 in. (80 cm) depth
LAX 1200	84 in. (213 cm) height; 31.5 in. (80 cm) depth

LAX

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Weight (single drive), all modules installed

LAX 100	420 lbs (190 kg)
LAX 200	485 lbs (220 kg)
LAX 400	549 lbs (250 kg)
LAX 800	778 lbs (325 kg)
LAX 1200	840 lbs (381 kg)

DVB-T/H//DAB/DMB/FLO™

Power Output (average)	300 to 1,200 W models available; measured before mask filter output
Systems	FLO, DVB-T/H, DAB/DMB standard
ASI Inputs	4 BNC, female; 75 ohms acc. to EN 50083-9 (2 main/2 hierarchical)
Output Power Reduction	0 dB to -6 dB
Crest Factor	Maximum 13 dB
Shoulder Level	<-36 dB (before mask filter)
MER	>33 dB

Group Delay Amplitude Response . . . <±0.5 dB

Harmonics and Spurious Compliant with CE Specification EN 302 296
Emissions (external reference)

<36 us/hr for duration of 24 hrs

Frequency Offsets 2 MHz resolutions

Remote Control

Parallel Remote	DB-37, female
Relay Contacts	25 mA @ 24 VDC
Digital Inputs (TTL level)	Pulse duration ≥100 ms or permanent signal
Ethernet/SNMP (optional)	RJ-45, twisted pair

Monitoring Outputs

ETI OUT, ETI (NI), ETI-frame, COFDM-frame, LO, RF monitor (low power stage), 1 Hz (1 pps signal), reference frequency (10 MHz), incident and reflected Tx output (optional)

Compliance RoHS: 2002/95/EC
R&TTE: 1999/5/EC
Safety: EN 60215
EMC: EN 301-489-1

Power Levels

	LAX 100	LAX 200	LAX 400	LAX 800	LAX 1200
Power Before Filter (watts)	30-100	100-200	200-400	500-800	600-1200
Output Connector	"N" female	"N" female	"N" female	1-5/8" EIA	1-5/8" EIA
Rackspace (single drive)	9RU	13RU	17RU	1 cabinet	1 cabinet
Rackspace (dual drive)	13RU	17RU	21RU	1 cabinet	1 cabinet
PA Modules	1	2	4	8	12
PS Modules	1	2	4	8	12

Block Diagram

