

E-Compact Low Power-AT1 ATSC 1.0 UHF Digital TV Transmitters

E-Compact TV • High Efficiency • UHF Broadband • Air Cooled • Low Power



EC705LP-AT1
ATSC 1.0 50W

EC720LP-AT1
ATSC 1.0 125W

Compact and efficient

The Low Power E-Compact Transmitter has up to 24% energy efficiency, integrated amplification and driver system with high robustness. The low power line consists of air-cooled transmitters with output powers ranging from 50W up to 125W (power after mask filter, for ATSC 1.0 standard).

Highly versatile, it can operate as a transmitter or a translator.

Software update (remotely) via WEB page.

Cooling fans with fan speed control as a function of temperature, increasing the service life and reducing acoustic noise. Easy access to fans for cleaning. Washable Protective Screens.

SoC Technology (System-on-Chip)

SoC hardware integrates multiple system elements on a single chip making a compact system with high processing power and great reliability. SoC embeds powerful software such as MER measurements, intermodulation measurements, linear and non-linear pre-correction. All measurements and user controls are accessible through the transmitter's front panel graphic display or via the WEB interface, without the need of other high cost test and measurement devices.

Embedded Graphic Web Interface Server

The equipment has an embedded WEB server accessed through an Ethernet connection¹. This graphical interface provides the user with remote access to the monitoring and management of the transmitter.

Real Time A-DPD

Automatic digital pre-correction (A-DPD) can be applied whenever changes occur in the output power of the equipment, recovering the MER values in less than two seconds.

Easy Maintenance concept

Power supplies and power modules with plug-in connection (without cables and wiring). Allows for quick and convenient replacement.

OPTIONAL:

DC Power Supply

The power supply system can optionally have DC-DC ± 48 VDC converter sources, ideal for shared power systems in telecom shelters or solar backup systems.

Backup power supply

The EC720LP model features a slot to accommodate a backup power supply, making the device 100% redundant. If the main power supply fails, the system switches automatically to the backup unit.

GPS time base (reference clock)

High accuracy time base synchronization device via GPS. Provides high performance in SFN (Single Frequency Network - systems with multiple transmitters operating in the same channel, at the same time and with overlapping coverage areas). Features external GPS antenna and surge protector.

Remote Telemetry by GPRS

Transmitter remote monitoring using the GPRS cellular telephone network. Through its application it allows the remote monitoring of all transmitter parameters.



E-Compact
Less energy. More power.

Empresa Certificada
ISO 9001
10 anos de certificação

GENERAL SPECIFICATIONS

- Exciter, Driver, and Amplifier in the same chassis;
- Configuration, monitoring, and equipment alarms are accessed by the display located on the front panel or remotely by the built-in WEB interface;
- Forced air cooling;
- Automatic control of fan speed: decreased noise levels, saves electrical energy and increase life span;
- AC sources with Power Factor Correction ≥ 0.9 ;
- Power Supply with Plug-in connection;
- Power Amplifier module with Plug-In connection;
- Graphic web Interface:
 - Export and import configurations (preset);
 - Export of event logs and alarms;
 - Navigation through block diagrams;
 - Remote Software update by file upload;
 - Setup of different users with distinct access privileges
 - Constellation chart with the measure of the MER value;
 - Intermodulation with power spectral density graph;
 - Graphs for monitoring user-defined real-time measurements;
- Hardware Protection of VSWR and overdrive;
- Software Protection against module overheat
- Automatic Digital Pre-distortion (Linear and Non-Linear);
- Telemetry: Web server and SNMPv2 for local or remote management;
- Ethernet¹ port for TS over IP streaming (input);
- Ethernet¹ port for Web and SNMP management;
- 2 ASI inputs;
- 2 ASI outputs;
- Start time less than 50 seconds;
- RF output connector: N female or DIN 7/16 or EIA 7/8

STANDARD

- General control software, WEB Server and SNMP;
- Passive elements: Mask filter⁶, RF probes before and after the filter (50 Ω impedance for the entire UHF range);
- Digital English User's Manual;

OPTIONAL

- UHF 6 or 8-Pole Bandpass Filter;
- Off-air receiver for use as a translator;
- Bidirectional Ethernet¹ port for TS over IP streaming (input and output);
- Time base by internal GPS;
- Redundant Power Supply (only on EC720LP);
- DC power supply ± 48 Vdc;
- Printed English User's Manual;
- Equipment rack (10RU)

RF Performance

Modulation Standard	ATSC 1.0 A/53
Minimum operating power (after filter)	10% of rated power with 1 Watt step
Operation frequency	470MHz to 608MHz (UHF) Channel 14 to Channel 36
Bandwidth	6 MHz
Spurious and Harmonic	Better than -60dBc
Intermodulation	-47dB @ ± 3.25 MHz (BW=6MHz)
Oscillator / Frequency Stability	Synthesized by PLL / ± 1 Hz (with internal GPS)
RF Output / Impedance	N-female or DIN 7/16 or EIA 7/8 50 Ω
AC mains	100~254Vac (43~63Hz)
DC input (optional)	± 48 Vdc
PFC (AC power supply)	Better than 0.90
Communication Interface	Ethernet ¹ / SNMP

MODEL CHARACTERISTICS

	EC705LP-AT1	EC720LP-AT1
ATSC 1.0 Output Power before the filter (Watts)	68	155
ATSC 1.0 output power after the filter (Watts)	50	125
MER⁴ typical (dB)	40	40
Typical AC consumption ⁴ (Watts)	500	780
Typical thermal dissipation in the environment ⁴ (BTU/h)	1316	2053

DIMENSIONS⁵

	EC705LP-AT1	EC720LP-AT1
	Standard	Standard
Width (in)	19"	19"
Height (in)	1.75" (1RU)	3.5" (2RU)
Depth (in)	23.6"	25.0"
Weight (lb)	23.8	34.4

INPUTS

ASI	BNC female 75 Ω
IP	Ethernet ¹ (IEEE 802.3u 10 Base-T / 100Base-TX – connector RJ45)
10MHz (reference)	BNC female 50 Ω
1PPS (reference)	
GPS Antenna (optional)	SMA female 50 Ω
Sample Before Filter	
Sample After Filter	

ENVIRONMENTAL CHARACTERISTICS

Operation altitude	up to 8200 ft ² ASL ³
Environment temperature range	+32°F to +113°F (+0°C to +45°C)
Environment humidity range	0 to 95% (non-condensing)
Power Amplifier Cooling	Forced ambient air, front to back flow using integral high volume fans

Notes:

- ¹ Ethernet is a trademark of Xerox Corporation.
- ² Rated power up to 8200ft. Higher altitudes upon request.
- ³ ASL: Above Sea Level
- ⁴ Varies by channel.
- ⁵ Drawer dimension;
- ⁶ Only EC705LP-AT1

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