

E-Compact EC602MP VHF-B3 Digital TV Transmitters

E-Compact TV • High Efficiency • VHF B3 • Air Cooled • Doherty Technology

350 Watts RMS ATSC 1.0
300 Watts RMS ATSC 3.0
300 Watts RMS ISDB-T



Highlights:

- 450 Watts RMS ATSC 1.0 (Before Filter);
- 400 Watts RMS ATSC 3.0 (Before Filter);
- 380 Watts RMS ISDB-T (Before Filter);
- VHF-B3: 174 to 216 MHz
- Single 2U Compact Power Amplifier Drawer;
- Power Amplifier Drawer with Doherty Technology Transistors, efficiency up to 38%;
- Compact structure, 19" 8U cabinet mounting;
- Easy Maintenance concept, Powers Supply Units featuring Plug-In connection, no wiring or cables required;
- Air Cooled: Cooling fans with rotation control as a function of temperature, increasing life span and reducing acoustic noise. Easy access for fan cleaning. Washable Protective Screens;
- Real Time A-DPD, Automatic digital pre-correction applied whenever changes occur in the output power of the equipment, recovering MER values in less than two seconds;
- Highly versatile, it operates in SFN and MFN;
- Inputs: ASI, TSolP, Satellite Tuner and Terrestrial Tuner;
- Configurable BTS decompression function;

Included:

- Main Control Software, WEB Server and SNMP⁷;
- USB Communications Driver;
- RF Output with Sample Probe to monitor the RF Output signal after the RF Mask Filter;
- Sample probe before RF Mask Filter inside Power Amplifier Drawer;
- Control Module or Exciter Drawer;
- User Guide in digital media;

Optional:

- VHF B3 8-Pole 100mm Bandpass Filter;
- Telesupervision Module, Telemetry though GPRS;
- Double Exciter. Two Control Module or Two Exciter (Main and Backup) for Exciter Redundancy;
- Ethernet¹ Switch Module (Double Exciter);
- Instrumental embedded via software;
- Reference clock by GPS time base;
- UHF terrestrial tuner receiver (ISDB-T);
- DVB-S / DVB-S2 Satellite tuner receiver;
- DVB-S / DVB-S2 Satellite tuner receiver CAS⁶ (Conditional Access System);
- License for BISS-1 decryption with up to eight services available on the display.
- Printed user Guide;



E-Compact
Less energy. More power.

Empresa Certificada
ISO 9001
10 anos de certificação

General Specifications

- One Power Amplifier Drawer: 450W @ ATSC 1.0 / 400W @ ATSC 3.0 / 380W @ ISDB-T;
- High efficiency with Doherty technology;
- Transistor AGING compensation via exciter's front panel;
- Automatic GM compensation with temperature;
- Air cooled;
- Fans speed rotation automatic control: decrease noise levels, saving of electrical energy and life span increase;
- Powers Supplies featuring Plug-In connection, no wiring or cables required;
- Power Factor Correction better than 0.95;
- Measurements and alarms through front display and keypad or remotely (via WEB)⁷;
- Main Control Software, WEB Server and SNMP⁷;
- USB communication Drivers;
- Hardware Protection of VSWR and overdrive;
- Software Protection against module' overheat;
- Ethernet¹ port for Web and SNMP management⁷;
- Telemetry: Web server and SNMPv2 for local or remote management⁷ (optional);
- SFN Operation;
- Automatic Digital Pre-distortion (Linear and Non-Linear);
- Configurable BTS decompressor compatible with most compression standards;
- IP Input: Ethernet¹ port for TS over IP streaming;
- 2 ASI inputs;
- 2 ASI outputs;
- RF output connector: N female or DIN 7/16 or EIA 7/8;
- Passive elements: Low-pass filter, before and after-filter probes;
- Rack 19" standard mount. 8U;
- Double Control Module or Exciter (optional);
- Ethernet¹ Switch Module (optional for Double Exciter);
- Software Instrumental embedded (optional);
- Reference clock by GPS time base;
- UHF terrestrial tuner receiver, ISDB-T UHF receiver and demodulator for terrestrial signal retransmission;
- Satellite Tuner Receiver, DVB-S / DVB-S2 L-band receiver and demodulator for satellite signal retransmission;
- Conditional Access System (Satellite Tuner Receiver) with four simultaneous services and display availability of up to eight services on display, compatible with IRDETO, CONAX, NAGRAVISION and VERIMATRIX cards. (cards not included)⁸;
- Optional license for BISS-1 decryption with up to eight services available on the display.
- VHF B3 8-Pole 100mm Bandpass Filter;

RF Performance

Modulation Standard	ATSC 3.0 A/300 ATSC 1.0 A/53 ISDB-Tb
Output Power (Before Filter)	ATSC 1.0 450 Watts ATSC 3.0 400 Watts ISDB-T 380 Watts
Output Power (After Filter)	ATSC 1.0 350 Watts ATSC 3.0 300 Watts ISDB-T 300 Watts
Minimum operating power (after filter)	10% of rated power
RF Output Regulation	± 0.1 dB
Operation Frequency	174MHz to 216MHz (VHF-B3) Channel 7 to Channel 13
Bandwidth	6 MHz / 8MHz
ATSC 1.0 MER Performance ⁵	≥36dB
ATSC 3.0 MER Performance ⁵	≥35dB
ISDB-T MER Performance ⁵	≥35dB
Harmonics/Spurious	better than -60dBc
Output Impedance / Connector	50Ω / N-female or DIN 7/16" or EIA 7/8"

Notes:

¹Ethernet is a trademark of Xerox Corporation.

²Above 8200ft on request.

³ASL: Above Sea Level.

⁴Electric grid on request

⁵May change depending on MER value, channel and output power.

⁶ SMARTCARD not included. Compatible with IRDETO, CONAX, NAGRAVISION an VERIMATRIX systems.

⁷Consult factory when using transmitter's web interface on same network as a multicast stream.

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Electrical Features

Power Requirement (specify configuration at equipment purchase order)	Single-Phase (M220) Biphasic (B220)		
AC Power	180~254VAC		
AC mains Frequency	43 to 63Hz		
Power Factor Correction	Typical 0.95, minimum 0.9		
Typical Consumption ⁵ (Single Drive, ATSC 1.0)	TPO 350 W	DC 960 W	AC 1.05 kVA
Typical Consumption ⁵ (Single Drive, ATSC 3.0)	TPO 300 W	DC 830 W	AC 900 W
Typical Consumption ⁵ (Single Drive, ISDB-T)	TPO 300 W	DC 830 W	AC 900 W
Typical Heat Dissipation ⁵	ATSC 1.0 2390 BTU/h ATSC 3.0 2050 BTU/h ISDB-T 2050 BTU/h		

Inputs: BTS, TS, TSolP and Sync

ASI	DVB-ASI 188 / 204 bytes BNC-F 75Ω
IP	Ethernet ¹ (IEEE 802.3u 10 Base-T / 100Base-TX RJ45)
10MHz (reference)	BNC-F 50Ω
1PPS (reference)	
GPS Antenna (optional)	SMA-F 50Ω
Sample Before Filter	
Sample After Filter	
Satellite Tuner (optional)	L Band DVB-S / DVB-S2 Connector: SMA-F Impedance: 75Ω
UHF Tuner Terrestrial (optional)	UHF Band ISDB-T Connector: SMA-F Impedance: 50Ω

Interfaces


Monitor / Control Interface	Web GUI and SNMP: Ethernet ¹ via RJ-45
Communication Interfaces	USB / Ethernet ¹ / SNMP
Format	Ethernet ¹ (IEEE 802.3u) 10Base-T/100Base-TX

Mechanical Features

Equipment Weight (8U)	136,7lbs / 62,0Kg
Dimensions (in): Width x Length x Height	22,44 x 35,43 x 19,44 (19" 8U Cabinet)

Environment Features

Operation altitude	up to 8200ft ² ASL ³
Environment temperature range	+32°F to +113°F (+77°F recommended) 0°C to +45°C (+25°C recommended)
Environment humidity range	0 to 95% (non-condensing)
Power Amplifier Cooling	Forced ambient air, front to back flow using integral high volume fans

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