

XXL-VISION

Air and Liquid cooled high power TV transmitters

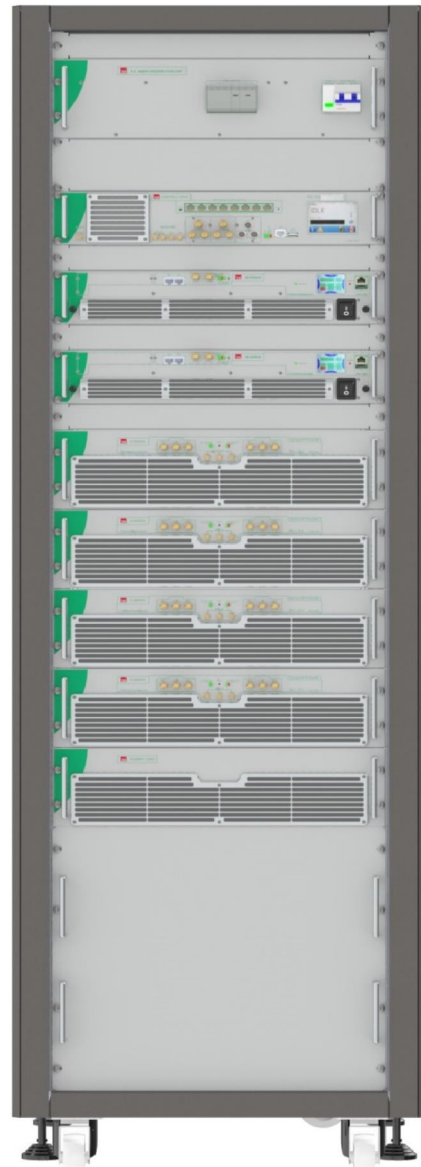
High Efficiency Broadband Doherty

XXL-VISION Series represents the state of the art of the worldwide TV transmitter technology. In a compact 19" Rack, it covers a power range up to 12000W rms / 22500W p.s. and supports DVB-T/H / T2, ISDB-T/Tb, DAB/DAB+/T-DMB, ATSC, PAL and NTSC modulations. Of course, Dual Cast analog and digital configuration is also supported.

XXL-VISION offers adaptive pre-correction in both analog and digital configuration.

Equipment of **XXL-VISION** are composed of some main subparts:

- An exciter (dual driver as an option), with native adaptive pre-correction circuits, bringing multiple input interface (ASI,IP,Satellite).
- Several amplifier stages (from 2 to 8 depending on the model and the output power level).
- A control and monitoring unit, with embedded change over system
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- An innovative and highly efficient Liquid cooling system



MAIN FEATURES

- Compact dimensions (single rack 19", including output filter)
- Output Power up to 12000W rms in digital or up to 22500 W p.s. in analogue
- High efficiency wideband or broadband amplifier technology
- Single or Dual driver
- PSU enhanced redundancy
- DVB-T/H/T2, ISDB-T/Tb, DAB/DAB+/T-DMB, ATSC, PAL, NTSC modulations fully supported
- Embedded Re-Multiplexer/Layer Combiner/TS to BTS (188 to 204 byte) converter for ISDB-Tb
- Adaptive pre-correction circuits
- On-board high stability GPS / GLONASS receiver with battery
- Flexible input interfaces (ASI/BTS/SMPTE-310M, IP, Satellite)
- Control and monitoring Logic Unit with embedded change over and switching system



SPECIFICATIONS

SYSTEM

UHF digital output power:	from 1500 W to 12000 W rms @ MER 38 dB typ. (DVB, ISDB) from 2400 W to 15000 W rms (ATSC)
UHF analogue output power:	from 5000 W to 22500 W p.s.
VHF digital output power:	from 1800 W to 5000 W rms @ MER 37 dB typ. (DVB, ISDB) from 2500 W to 6000 W (ATSC)
VHF analogue output power:	from 4600 W to 10000 W p.s.
Configurations:	Single or dual driver
RF output connector:	7/8" (f) or 1-5/8" (f) or 3-1/8" (f) or 4-1/8" (f), EIA, 50 Ohm (according to output power and frequency band)
Frequency agility:	UHF Band IV and V or VHF Band III
Frequency resolution:	1 Hz
Precorrection:	Adaptive
Exciter:	Onedriver or Onecomact Series (according to the model)
Integrated matrix circuits:	ASI/BTS/Video (dual), audio and RF
BTS/ASI/Video matrix connectors:	BNC (f), 75 Ohm
Audio matrix connectors:	Tini-QG "Mini XLR", 6 Pin (m), 600 Ohm

MODULATOR

DVB-T/-H/-T2	
Standard:	EN300744, EN302304, EN302755 V1.3.1 (DVB-T2-Lite), TS101191, TS102773 (T2-MI), TS102034
Inputs:	4x ASI BNC (f), 75 Ohm or 2x ASI BNC (f), 75 Ohm and 2x RJ45 TS oIP 10/100/1000 Switch seamless between ASI inputs. Hierarchical and not hierarchical (DVB-T)
FFT:	1K (DVB-T2), 2K, 4K, 8K, 8K ext. (DVB-T2), 16K & 16K ext. (DVB-T2), 32K & 32K ext. (DVB-T2)
Code rate:	All modes available according to the standard Block Short or Normal (DVB-T2) DVB-T: Reed-Solomon (204, 188) DVB-T2: BCH, LDPC
Guard Interval:	1/32, 1/16, 1/8, 1/4, 19/256 (DVB-T2), 19/128 (DVB-T2), 1/128 (DVB-T2)
Constellation:	QPSK, 16QAM, 64QAM (DVB-T2). Rotated and non-rotated (DVB-T2)
MISO processing:	Supported

ISDB-Tb

Standard:	ABNT NBR 15601, ABNT NBR 15603
Inputs:	4x ASI TS/BTS BNC (f), 75 Ohm or 2x ASI TS/BTS BNC (f), 75 Ohm and 2x RJ45 TS/BTS oIP 10/100/1000
FFT:	Mode 1 (2K), Mode 2 (4K), Mode 3 (8K)
Code rate:	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval:	1/4, 1/8, 1/16, 1/32
Hierarchical modulation:	Up to 3 layers
Constellation:	QPSK, 16QAM, 64QAM
Time interleaver:	Fully supported
Partial reception:	Supported

DAB/DAB+/T-DMB

Standard:	EN 300401, ETS 300 799
Inputs:	4x ETI (NI[G703], NA5376[G704] or NA5592[G704]) BNC (f), 75 Ohm
Transmission modes:	Mode I, II, III, IV (Automatically detected from the ETI stream, or user selectable)
Operation:	MFN or SFN operations

ATSC

Standard:	A/53, A/110
Inputs:	4x ASI / SMPTE-310M BNC (f), 75 Ohm or 2x ASI / SMPTE-310M BNC (f), 75 Ohm and 2x RJ45 TS oIP 10/100/1000
Modulation:	8-VSB
Input bit rate:	19.39 Mbit/s
Bandwidth:	6 MHz
Max processing delay:	Up to 1 second (programmable)

Analogue

Standard:	B, G, D, K, M, N, I
Inputs:	Video BNC (f), 75 Ohm, audio Tini-QG "Mini XLR", 6 Pin (m), 600 Ohm
Color system:	PAL, NTSC

SATELLITE RECEIVER

Standard:	ETSI EN 300 421 (QPSK) (DVB-S) ETSI EN 302 307 (QPSK, 8PSK, 16APSK) (DVB-S2) ETSI EN 50083-9 (ASI) ETSI EN 50221 (Common Interface)
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DVB-S2:	VCM, CCM, Multi Stream and Single Stream, Normal & Short FEC frames
Symbol rate:	1 - 45 Msym/s (DVB-S) 2 - 45 Msym/s (DVB-S2)
Constellation:	QPSK, 8PSK, 16APSK
FEC:	Automatic, all modalities available according to the standard Block Short or Normal DVB-S: Reed-Solomon (204,188) DVB-S2: BCH, LDPC
Roll-Off:	0.2, 0.25, 0.35
Input connector:	F (f), 75 Ohm
Frequency:	L-band 930-2250 MHz
LNB control voltage:	Off, +13/18 Vdc, 22 kHz, 0.25 A (overload protection)
RF input level:	40 ÷ 100 db/µV (with attenuator)
Output connector:	BNC (f), 75 Ohm
Modality:	188 bytes
Max input bit rate:	80 Mbps (CAM limit: 72 Mbps)
CAM interface:	PCMCIA DVB-CI Common Interface
CA mode (Conditional Access):	Multicrypt, Simulcrypt
CAS support:	Mediaguard, Viaccess, Irdeto, Conax, BISS with Professional multiprogram CAM (descrambling of up to 24 Elementary Streams) Betacrypt, Cryptoworks, Nagravision with standard consumer CAM (descrambling of up to 4 services)

GPS / GLONASS

Input connector:	N (f), 50 Ohm
Input/Monitor output 10 MHz:	BNC (f), 75 Ohm
Input/Monitor output 1 PPS:	BNC (f), 75 Ohm
Phase noise:	-140 dBc/Hz @ 10 kHz -150 dBc/Hz @ 100 kHz
Stability:	1e-12 / 24 H with disciplined OCXO
Hold-over stability:	5 µs after 5 hours (optional 1 µs after 24 hours)

MECHANICALS

Rack:	See table on next page (other configurations are available on request)
Width:	600 mm
Rack height:	1530 mm (XXL-VISION 1500U, 3000C, 1500V, 2500CV) 1800 mm (XXL-VISION 2200U, 4500C, 2200V, 3800CV, 3000L, 4500L, 6000L) 2000 mm (XXL-VISION 3000U, 6000C, 3000V, 5000CV) 2070 mm (XXL-VISION 9000L and 12000L)
Depth:	800 mm (U and V versions) 1000 mm (C and L versions)

CONTROLS

TFT touchscreen
Web GUI
SNMP
GPIO

ENVIRONMENTAL

Operating temperature range:	-5°C ÷ 45°C
Max. relative humidity:	90% non condensing
Max. operating altitude:	2500 m. a.s.l. (>2500 m. optional)

ELECTRICAL

Power supply:	Energy distribution system with different options: <ul style="list-style-type: none"> • Line 380-400 V3N-, 50/60Hz • Line 220 V3N-, 50/60Hz • Line 220-240 V-, 50/60 Hz
Efficiency:	Up to 40% efficiency in digital (UHF models)

NOTES

To comply with the applicable standards and limit values for the suppression of out-of-band emissions (and in the case of digital standards, also for maintaining the required shoulder distance), the transmitter may only be operated with suitable filters at the RF output.

Specifications are subject to change without notice.