250W COFDM, 250W ATSC, 350Wps, 300W DAB

300 W rms DAB TRANSMITTER

HIGH EFFICIENCY

MULTI-PLATFORM

MULTI INPUT

MULTI-STANDARD

DVB-T/T2 ATSC/ATSC 3.0
ISDB-Tb DTMB NTSC (analog)

WIDE BAND

AIR COOLED

GNSS
(GPS, GLONASS, BEIDU, GALILEO)

MONITORING

SNMP, WEB BASED GUI,
DRY CONTACTS

- ☐ Multistandard: ATSC (including ATSC 3.0), ISDB-T, DTMB, DVB-T/T2, Analog, DAB.
- ☐ 2x ASI with Hitless switch, 2x IP Ethernet, 2x ETI/EDI + 1xSFP (optical/electrical), A/V for analog broadcasting.
- ☐ The most advanced manual, automatic and adaptive linear and nonlinear pre-corrector.
- ☐ Fully frequency agile without need for any tuning or trimming.
- ☐ ON Board GNSS receiver (GPS, GLONASS, BEIDU, GALILEO).
- ☐ USB input to fast save/load configurations.
- ☐ Highest performances in terms of MER, BER and shoulders.
- ☐ Nr. 2 Independent temperature controlled low-noise fans.
- ☐ Front Panel hot swappable power supply
- ☐ Use of tools is reduced almost to zero including pallets replacement.
- ☐ Remote control via SNMP, friendly web browser GUI, no need of plug-in or apps, dry contacts.

SYes

TV/DAB TRANSMITTER

The PCM 250 VHF is the air cooled UHF TV/DAB Transmitter PCM line.

250 Wrms COFDM, 250 Wrms ATSC, 350 W p.s. and 300 Wrms DAB.

Low Consumption, Compact and Easy to maintain, with a clear and intuitive design, it is Syes next generation of air cooled transmitters, available in band I, III and IV-V.

The PCM family is designed to be the most efficient, robust and high performance transmitters of the digital era.

TV

AIR COOLED

sales@syes.eu | www. syes.eu

250W COFDM, 250W ATSC, 350Wps, 300W DAB

300 W rms DAB TRANSMITTER

TV
AIR COOLED

TECHNICAL SPECIFICATIONS	
RF OUTPUT	
Output power*	• 250 Wrms COFDM • 250 Wrms ATSC • 350 Wp.s. ANALOG • 300 Wrms DAB
Spurious / Harmonics	EN 302-296-2
Shoulders/MER	Typical: >35dB (TV) / >30db (DAB)
Connector	N(f), other available
Bandwidth	VHF Band BIII (170MHz-230MHz)
Frequency stability	1 Hz
Final Stage	N° 2 final pallets.
Amplification Class:	HE class
GENERAL	
Mechanical	
Composition	Stand alone transmitter 2 S.U.
Dimensions (WxHxD mm)	482 mm / 88 mm / 500 mm
Weight	12 kg
Cooling	
Cooling System	Air Cooled
Cooling redundancy	Dual fan
Environmental	
Relative humidity	95% max. (non-condensing)
Operation temperature range Storage temperature range	0° to 50°C -20° to 70°C
Max. installation altitude	4.800 m a.s.l. (higher altitudes kit on request)
Power supply & Safety	
Voltage	90-264 Wide Range @ 47 to 63 Hz (auto range p.s.) power factor > 0.98
Safety /EMC	EN 60215 (IEC 21S), EN301-489-53, FCC-73, IS09001-2010. RED 2014/53/UE, RoHS 2002/93/EC

*: Power outputs are subject to change due to out-of-band regulations and the required shoulder attenuation / MER, voltage, channel of operation and type of RF output filter.

**: Efficiency depends on several parameters such as operating standard and frequency, output power settings, spectrum performances, environmental conditions etc.

SY.E.S. S.r.l. • Via Zanella, 21
20851 Lissone (MB) Italy Tel.+39.039.9897.1
Fax +39.039.9897.363 C.F. / P.IVA 06358330964
sales@syes.eu | www. syes.eu

250W COFDM, 250W ATSC, 350Wps, 300W DAB
300 W rms DAB TRANSMITTER

TV/DAB TRANSMITTER

DTV MODULATIONS	
ATSC 3.0	
Standard	ATSC 3.0: TG3/S32 Physical Layer. STL
Inputs ***	2xASI BNC (H) , ohm / 2x TSoiP 10/100/1000 RJ45.
Guard interval	192, 384, 512, 768, 1024, 1536, 2048, 2432,3072, 3648, 4096 and 4864

Code Rate/	2 /	3 /	4 /	5 /	6 /	7 /	8 /	9 /	10 /	11 /	12 /	13 /
Costellation	15	15	15	15	15	15	15	15	15	15	15	15
QPSK	✓	✓	✓	✓	✓	✓	✓	✓		✓		
16QAM			✓	✓		✓	✓	✓		✓		
64QAM		✓	✓	✓	✓	✓	✓	✓	✓	✓		
256QAM			✓	✓		✓	✓	✓	✓	✓	✓	✓
1024QAM				✓		✓	✓	✓	✓	✓	✓	✓
4096QAM						✓		✓		✓	✓	✓

DVB-T/-H-T2	
Standard	EN300744. EN302304. EN302755. TS 102831. TS 102 773 (T2-MI)
Inputs ***	2*ASI BNC, 75 ohm / 3xTSolP 10/100/1000 RJ45.
FFT Slze	1K (DVB-T2), 2K, 4K. 8K, 16K (DVB-T2), 32K (DVB-T2) incl. ext. carrier modes
Code rate	1/2. 2/3. 3/4. 5/6. 3/5 (DVB-T2). 4/5 (DVB-T2) plus 1/3, 2/5 for T2 Lite
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. 2S6QAM (DVB-T2). Rotated and no rotated (DVB-T2)
ISDB-Tb	
Standard	ARIB STB-B31, TR-B14
Inputs ***	2xASI BNC, 75 ohm / 3xTSolP 10/100/1000 RJ45
FFT Size	2K, 4K, 8K
Code rate	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/4, 1/8, 1/16, 1/32
Hierarchical Transmission	Up to 3 layers
Constellation	QPSK, 16QAM, 64QAM
ATSC	
Standard	ATSC A/53. A/S4. A/64. A/1S3. A/110B. SMPTE-310M
Inputs ***	2xASI BNC (F)>. 75 ohm /2xTSolP 10/100/1000 RJ45.
Constellation	8VSB
Symbol rate	0.76 Msmblos/s
Data rate	19.39 Mbits/s
Trellis coding	2/3
Reed-Solomon encoder	207 / 187 / 10
DAB	
Standard	DAB, DAB+
Ref. Standard	EN 3000401, EN 302077-2, EN 300799, DMB, TS 102428
Inputs	2xASI hitless switching (SFN), 2xGBE (EDI ProMPEG COP3) - Electrical + 1xSFP GBE (Opt./Elec)
DAB modes	I, II, III, IV
RF channel Bandwidth	1.536 MHZ blocks
Efficency	Better than 40%
DIGITAL ADAPTIVE PRECORRECTION	
Type	Linear / non linear; selectable
Clipping	12 dB
Operation mode	Continuous / Automatic (triggering: time/shoulder level)
Precorrection status	Running/Stopped
PAPR	Provided

*** Type and number of inputs depends on Exciter HW configuration

TV
AIR COOLED

sales@syes.eu | www. syes.eu

250W COFDM, 250W ATSC, 350Wps, 300W DAB

300 W rms DAB TRANSMITTER

TV

AIR COOLED

ANALOGUE MODULATIONS	
Standard	PAL std. B/G, H, K, 1, 11, M, N - NTSC Std. M - SECAM D/K
Ref. Standard	ITU-R BT.470-6
Audio	Stereo or Mono IRT
Modulation /amplification	Common
Video input	1V pp (0.5 to 2 V) (OC component level in thè range -5 to 5 V) - Ret. loss better than -30 dB (0 to 6 MHz) (75 W)
Audio input	6 dBm ± 6 dB (Df= 25 to 50 kHz) - Ret. loss: better than -30 dB (40 Hz to 15 kHz) (600 W, bai.)
Video Connector	1xBNC female. 75 Ohm
Audio Connector	DB9 with patch cable for 2xXLR female, 600 W (IRT config.: 2 inputs)
REPEATER	
Type	SFN gap filler, transposer and MFN re transmitter
RF input	N-Connector
Rfm frequency range	146 to 861 MHz
Input levet	-10dBm to -60dBm (SFN Gap filler) -20dBm to -70dBm (QEF reception)
Input ret. Loss	better than -16 dB
RF in connector	N type . 50 Ohm
Echo cancellation	Resilient to static and dynamic echoes
Residual echo suppression	up to more than 30 dB (30dB are obtained at 0dB input echo)
Noise figure	max 10 dB (SFN Gap filler) max 8 dB (Transposer)
Immunity to other channel	
N+1	OFDM/OFDM > 30 dB
others	OFDM/OFDM > 40 dB
SATELLITE TRANSPOSER	
SatTV standard	DVB-S - DVB-S2 - EN300421
Frequency range	950 - 2150 MHz (Ku band)
Signal level	-65 to -25 dBm
Connector	SMA f - CAM slot (Cond. Access)
LNB control	Available through RF input. PS, polarity / band selection: by standard 13/18VDC and 22kHz signaling
CLOCK AND SYNCHRONIZATION	
Interna clock	OCXO single oven or dual oven (optional)
External 10 MHz reference	BNC (F). Impedance: 50 ohm / high (selectable). Level: -5 to +10 dBm
External 1pps reference	BNC (F). Impedance: 50 ohm / high (selectable)
SFN	SFN resolution 1100 ns SFN configurable delay ±500 ms
Stability	time: max ±10-7 /year - temperature: max ±2.5 10-8 (-20°C to +70 °C)
MONITORING	
LC Display	Local operation through LCD display and keyboard located on the front panel
Front RJ-45	Local operation through a Web Server Graphical User Interface, Remote Network management (via SNMP)
Rear RJ-45	Local operation through a Web Server Graphical User Interface, Remote Network management (via SNMP)
GUI	Web Server Graphical User Interface xHTML based
SNMP	V2c / V3 provided

SY.E.S. S.r.l. • Via Zanella, 21
20851 Lissone (MB) Italy Tel.+39.039.9897.1
Fax +39.039.9897.363 C.F. / P.IVA 06358330964
sales@syes.eu | www. syes.eu