



OnePower

**High
Efficiency
Broadband
Doherty**



Onepower is ONETastic's Air Cooled High Power transmitter range, available in different versions with different output powers from 1500 to 8000 W rms (from 2500 to 10000 W p.s. when operating in analogue standards).

Equipment of the Onepower series are composed of some main subparts:

- An exciter (dual driver as an option), with native adaptive pre-correction circuits, bringing multiple input interfaces (ASI, IP, Satellite) and on-board GPS / GLONASS receiver for accurate synchronization in SFN environments;
- Several amplifier stages (from 2 to 4 depending on

the model and the output power level);

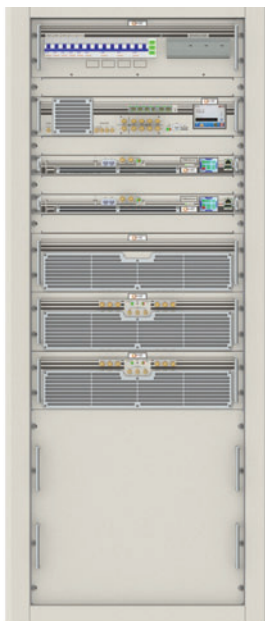
- A control and monitoring unit, with embedded change over system (Onellogic).

Onepower transmitters support several digital modulation standards (DVB-T/H/T2, ISDB-T/Tb, DAB/DAB+/T-DMB, ATSC), as well as dual-cast analog operation (supporting PAL and NTSC).

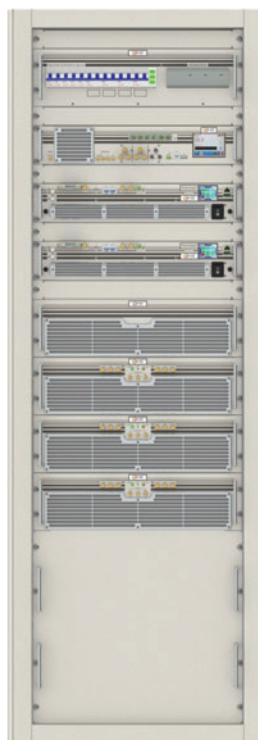
Onepower obviously incorporates the innovative and distinctive engineering that has made the success of the low/medium power range of ONETastic transmitters, allowing unparalleled ease of use and maintenance.

MAIN FEATURES

- Compact dimensions (single 19" Rack)
- Output Power up to 6000W rms (COFDM), up to 8000W rms (ATSC) or up to 10000W p.s. (analogue)
- High efficiency broadband or wideband amplifier technology
- Single or Dual driver
- 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)
- ONELOGIC control and monitoring unit with embedded change over and switching system



OnePower 1500H
OnePower 3000C
OnePower 1500V
OnePower 2500CV



OnePower 2200H
OnePower 4500C
OnePower 2200V
OnePower 3800CV



OnePower 3000H
OnePower 6000C
OnePower 3000V
OnePower 5000CV

SPECIFICATIONS

SYSTEM

UHF digital output power:	from 1500 W to 6000 W rms @ MER 38 dB typ. (DVB, ISDB) from 2400 W to 8000 W rms (ATSC)
UHF analogue output power:	from 5000 W to 10000 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) from 4600 W to 10000 W p.s.
VHF analogue output power:	Single or dual driver
Configurations:	7/8" (f), 50 Ohm or 1-5/8" (f), 50 Ohm or 3-1/8" (f), 50 Ohm (according to output power and frequency band)
RF output connector:	UHF Band IV and V or VHF Band III 1 Hz
Frequency agility:	Adaptive
Frequency resolution:	Onedriver or Onecompact Series (according to the model)
Pre-correction:	ASI/BTS/Video (dual), audio and RF
Exciter:	BNC (f), 75 Ohm
Integrated matrix circuits:	Tini-QG "Mini XLR", 6 Pin (m), 600 Ohm
BTS/ASI/Video matrix connectors:	
Audio matrix connectors:	

MODULATOR

DVB-T/H-T2	
Standard:	EN300744, EN302304, EN302755, 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 modalities 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, 256QAM (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(6703), NA5376(6704) or NA5592(6704)] 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)
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 0.2, 0.25, 0.35 F (f), 75 Ohm L-band 930÷2250 MHz Off, +13/18 Vdc, 22 kHz, 0.25 A (overload protection) 40 ÷ 100 db/μV (with attenuator) BNC (f), 75 Ohm 188 bytes 80 Mbps (CAM limit: 72 Mbps) PCMCIA DVB-CI Common Interface Multicrypt, Simulcrypt 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)
Roll-Off:	
Input connector:	
Frequency:	
LNB control voltage:	
RF input level:	
Output connector:	
Modality:	
Max input bit rate:	
CAM interface:	
CA mode (Conditional Access):	
CAS support:	

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 1e-12 / 24 H with disciplined OCXO 5 μs after 5 hours (optional 1 μs after 24 hours)
Stability:	
Hold-over stability:	

MECHANICALS

Rack:	30U rack 19" (Onepower 1500H, 3000C, 1500V, 2500CV) 36U rack 19" (Onepower 2200H, 4500C, 2200V, 3800CV) 40U rack 19" (Onepower 3000H, 6000C, 3000V, 5000CV) (other configurations are available on request)
Width:	600 mm
Height:	1530 mm (Onepower 1500H, 3000C, 1500V, 2500CV) 1800 mm (Onepower 2200H, 4500C, 2200V, 3800CV) 2000 mm (Onepower 3000H, 6000C, 3000V, 5000CV)
Depth:	900 mm connectors included (H and V versions) 1100 mm connectors included (C versions)
Max weight:	240 Kg (Onepower 1500H, 3000C, 1500V, 2500CV) 290 Kg (Onepower 2200H, 4500C, 2200V, 3800CV) 340 Kg (Onepower 3000H, 6000C, 3000V, 5000CV)

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: • 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.

ORDERING INFO

UHF BAND IV & V MODEL	OUTPUT POWER ¹				Number of amplifiers	Rack cabinet dimensions
	COFDM (rms)		ATSC (rms)	ATV (p.s.)		
	Broadband	Wideband				
ONEPOWER 1500HU	1500 W	1500 W	2400 W	5000 W	2	30U 19"
ONEPOWER 2200HU	2300 W	2500 W	3500 W	7500 W	3	36U 19"
ONEPOWER 3000CU	2600 W	3000 W	4000 W	5000 W	2	30U 19"
ONEPOWER 3000HU	3200 W	3500 W	4800 W	10000 W	4	40U 19"
ONEPOWER 4500CU	3900 W	4500 W	6000 W	7500 W	3	36U 19"
ONEPOWER 6000CU	5000 W	6000 W	8000 W	10000 W	4	40U 19"
¹ Before bandpass filter						

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VHF BAND III MODEL	OUTPUT POWER ¹			Number of amplifiers	Rack cabinet dimensions
	COFDM (rms)	ATSC (rms)	ATV (p.s.)		
ONEPOWER 1500V	1800 W	2500 W	4600 W	2	30U 19"
ONEPOWER 2500CV	2500 W	3000 W	5000 W	2	30U 19"
ONEPOWER 2200V	2700 W	3800 W	6500 W	3	36U 19"
ONEPOWER 3000V	3600 W	5000 W	9000 W	4	40U 19"
ONEPOWER 3800CV	3800 W	4500 W	7500 W	3	36U 19"
ONEPOWER 5000CV	5000 W	6000 W	10000 W	4	40U 19"

¹ Before bandpass filter

OPTIONS	
Opt. 2	Dual redundant exciter
Opt. G	GPS / GLONASS integrated receiver
Opt. KA	26 dB LNA GPS / GLONASS antenna including mounting kit and 25 mt. coaxial cable
Opt. S	DVB-S/S2 integrated receiver board, single and multistream, with CAM slot
Opt. IA	Additional input board, 4x ASI
Opt. IG	Additional input board, 2x ASI + 2x GbE
Opt. R	Additional input board, RF in
Opt. L	Software option for ISDB-Tb Remux/Layer Combiner/TS to BTS (188 to 204 byte) converter
Opt. T	Dual-cast software option, adds DVB-T modulation
Opt. T2	Dual-cast software option, adds DVB-T2 modulation
Opt. I	Dual-cast software option, adds ISDB-T modulation
Opt. AT	Dual-cast software option, adds ATSC modulation
Opt. P	Dual-cast software option, adds PAL modulation
Opt. N	Dual-cast software option, adds NTSC or PAL-M modulation



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