



OnePower 800 OnePower 1200C OnePower 1500C

High Efficiency Broadband Doherty



OnePower 1500CU2

OnePower is the most outstanding last engineering achievement from ONEtastic. In a compact 3+1U Rack, and with 2 power supplies OnePower delivers up to 2000 W rms of high efficiency digital output power or up to 2500 W p.s. when operating with analogue signals.

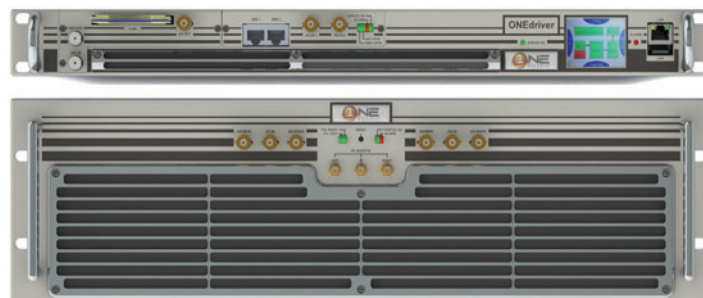
The system is composed by 1 or 2 OneDriver exciter/s (1RU) and an RF amplifier (3 RU), which makes a DVB-T/H/T2, ISDB-T/Tb, DAB/DAB+/T-DMB, ATSC, PAL or NTSC complete transmitter with native adaptive pre-correction circuits, built in GPS

/ GLONASS receiver for accurate synchronization and SFN operations, and multiple input interfaces (Satellite Receiver, ASI, Gigabit Ethernet or RF) so to be configured as Terrestrial or Satellite fed transmitter or even transposer.

OnePower final stage embeds 2 hot swappable power supply units, as well as a built in ASI and RF matrix, so 2 OneDriver can be connected to it to ensure a maximum level of redundancy and avoid the use of an additional external switch over unit.

MAIN FEATURES

- Compact 3+1U (or 3+2 in dual driver configuration) 19" Rack chassis
- Output power up to 1500W rms (COFDM), up to 2000W rms (ATSC) or up to 2500W p.s. (analogue)
- High efficiency broadband or wideband amplifier technology
- Built in ASI/RF matrix for automatic switch over, without the need of using an external switch over unit
- 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:
 - 4 x ASI inputs (TS, BTS, T2MI, SMPTE-310M) + Analog input
 - 2 x ASI inputs and 2 x Gigabit Ethernet
 - 1 x DVB-S/S2 Satellite Receiver input with integrated CAM
 - 1 x RF input
- Easy connection to 1 or 2 OneDriver exciters



Single driver version



Dual driver version

SPECIFICATIONS

SYSTEM

UHF digital output power:	from 800 W to 1500 W rms @ MER 38 dB typ. (DVB, ISDB) from 1200 W to 2000 W rms (ATSC)
UHF analogue output power:	2500 W p.s.
VHF digital output power:	from 900 W to 1300 W rms @ MER 37 dB typ. (DVB, ISDB) from 1300 W to 1600 W rms (ATSC)
VHF analogue output power:	2300 W or 2500 W p.s.
Configurations:	Single or dual driver
RF connector:	7/16 (f), 50 Ohm (OnePower 800) 7/8" (f), 50 Ohm (OnePower 1200C and 1500C)
Frequency agility:	UHF Band IV and V or VHF Band III
Frequency resolution:	1 Hz
Pre-correction:	Adaptive
Exciter:	Onedriver Series

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[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-OG "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
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:	PCM CIA DVB-CI Common Interface
CAM 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)

MECHANICAL

Exciter

Chassis:	1U rack 19"
Width:	482 mm
Height:	43.6 mm
Depth:	460.5 mm without fans
Weight:	7.5 kg

RF Amplifier

Chassis:	3U rack 19"
Width:	482 mm
Height:	132.5 mm
Depth:	558.5 mm (OnePower 800), 710 mm (OnePower 1200C and 1500C)
Weight:	26 kg (OnePower 800), 35 kg (OnePower 1200C and 1500C)

CONTROLS

TFT touchscreen

Web GUI
SNMP
GPIO

ENVIRONMENTAL

Operating temperature range:	-5°C ÷ 40°C
Max. relative humidity:	90% non condensing
Max. operating altitude:	2500 m. a.s.l. (>2500 m. optional)

ELECTRICAL

Power supply:	2 hot swappable power supplies feeding one half of the amplification stages each
Exciter:	Single Phase 100-240 V~ 50/60 Hz, IEC320 C14 Plug
Amplifier:	Single Phase 185-264 V~ 50/60 Hz, IEC320 C20 Plug
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	OUTPUT POWER ¹			
	COFDM (rms)		ATSC (rms)	ATV (p.s.)
	Broadband	Wideband		
ONEPOWER 800HU	800 W	900 W	1200 W	2500 W
ONEPOWER 1200CU	1100 W	1200 W	1800 W	2500 W
ONEPOWER 1500CU	1300 W	1500 W	2000 W	2500 W

¹ Before bandpass filter

VHF BAND III	OUTPUT POWER ¹		
	COFDM (rms)	ATSC (rms)	ATV (p.s.)
ONEPOWER 800V	900 W	1300 W	2300 W
ONEPOWER 1200CV	1300 W	1600 W	2500 W

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



OneAmpli 800H rear panel



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