

sky

digital transmitters

TYPES

Air cooled
SKY 500 mW
SKY 1 W
SKY 2 W
SKY 5 W
SKY 10 W
SKY 25 W
SKY 50 W
SKY 100 W
SKY 200 W
SKY 400 W
SKY 600 W
SKY 800 W
SKY 1,2 kW
SKY 1,6 kW
SKY 2,4 kW
SKY 3,2 kW
SKY 5 kW
SKY 6,4 kW
SKY 9,6 kW



CE1304
CE0678

Elti has developed ...

... the new range of SKY digital transmitters to integrate more than 50 years of experience with the latest digital technology

The SKY series of digital transmitters combine Elti's reputation for robust equipment with the latest digital technology: a COFDM modulator providing DVB-T streams in 2k and 8k mode, and DVB-H stream in 4k mode.

They are scalable and flexible, supporting applications from 500 mW up to 9,6 kW; low power applications are available in two compact versions, up to 5 W in 3U and up to 100 W in 4U and combined with the Elti range of power amplifiers they offer transmission solutions up to 9,6 kW.

Transmitters are air-cooled or liquid cooled.

the Elti advantage



- 5 years warranty
- Fully compliant with EN 300 744 (DVB-T) and EN 302 304 (DVB-H)
- IFFT 2k, 4k and 8k mode
- LDMOS technology
- Remote management and control via TCP/IP, HTTP and SNMP interface
- Settings fully adjustable by software
- Flexible, scaleable and upgradeable
- Plug-and-play installation
- Adaptive digital precorrection and clipping function

exciter

The exciter is housed in a compact 19" 3U rackmount, and, with the A class amplifier, provides 5 W of output power. The built-in COFDM modulator features two inputs with the option of two more, and provides 2k, 4k and 8k IFFT operation mode. If the primary transport stream source fails the exciter can switch between the two ASI inputs manually or automatically. Unit is supporting MFN and SFN operation, featuring an integrated GPS receiver (optional). To optimise transmitter performance a digital precorrector is included with an option of adaptive digital precorrection (optional) to correct linear error and non-linear distortion of RF power amplifiers. Various interfaces provide connectivity to the supervisory systems and a remote/local connection to the PC base that features user friendly Elti Device Managing software (EDM).

The compact transmitter includes the exciter functions, the power amplifier and output filter internally.

power amplifier

External amplifiers are available in models supplying 200 W and 400 W of output power. All amplifiers are designed for broadband and employ LDMOS technology to guarantee linearity, compact design and high efficiency. Self-protection circuits assure continuous operation and uninterrupted service.

control and monitoring

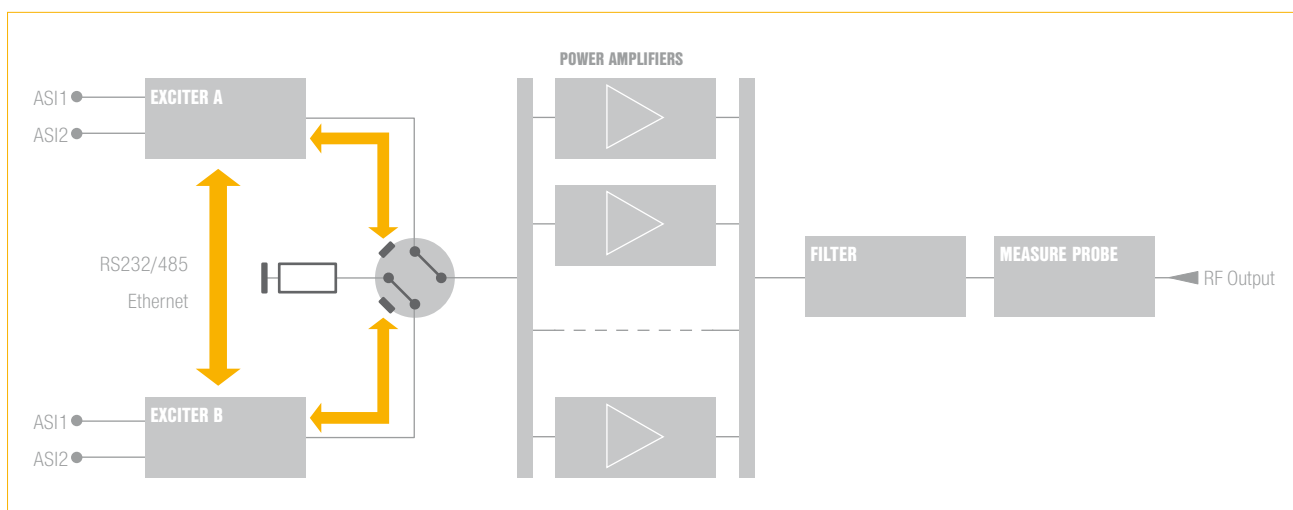
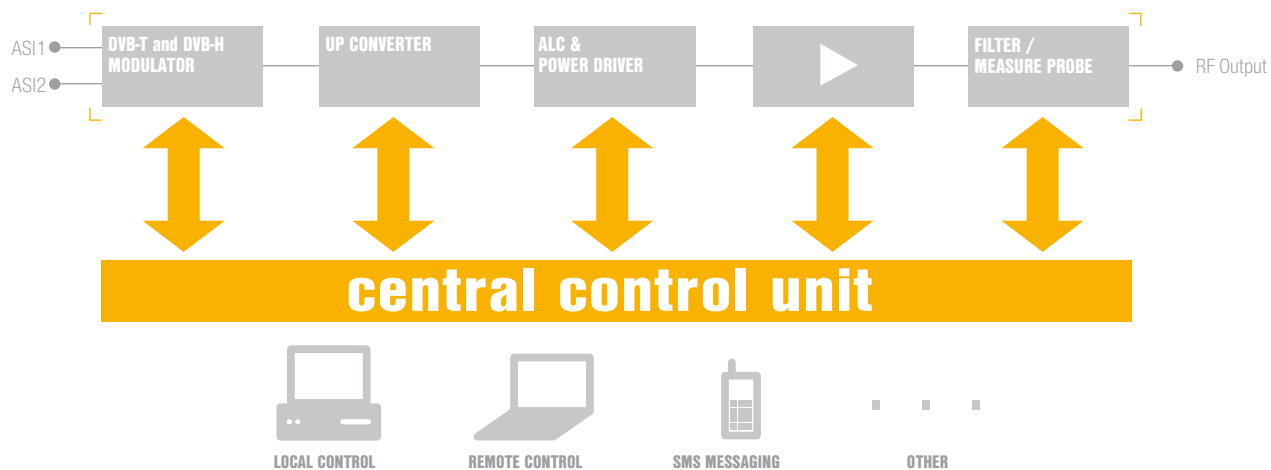
The integrated control unit provides full control over the assembly and additional options/features. PC based control software EDM (Elti Device Manager) with a user friendly graphic interface comes as standard for all Elti DVB-T and DVB-H products. It features:

- Control of all parameters related to operation
- Password protection and access control
- Measurement and display of power, voltage, current, temperature
- Alarm
- Management of device history
- Save and restore function
- Remote upload of software

The control software offers the same comprehensive functionality whether used locally or remotely via TCP/IP, SNMP or GSM networks. External connections are provided by:

- Ethernet LAN/WAN for local/network access
- RS 232 for local access

The central control unit allows integration into telemetry system or other supervisory systems. It also offers the control of third party equipment and integration into a single system at the transmission site.



specifications

SKY digital transmitters

STANDARD		DVB-T/H
Coding and modulation	Supporting each mode according to EN 300 744 and EN 302 304	
IFFT mode	2k, 4k, 8k	
Useful symbol period	224 μ s (2k), 447 μ s (4k), 896 μ s (8k)	
Modulation	QPSK, 16QAM, 64QAM	
Guard interval	1/4, 1/8, 1/16, 1/32 of useful symbol period	
Inner code rate	1/2, 2/3, 3/4, 5/6, 7/8	
Channel bandwidth	8 MHz, 7 MHz, 6 MHz (Optional), 5 MHz (Optional)	
Hierarchical coding	Included	
GENERAL DATA		
Spectrum polarity	Inverted and non-inverted	
Digital pre-correction	Included	
SFN support	Included	
INPUTS		
ASI input	2 x BNC, 75 Ω ; additional 2 x BNC, 75 Ω (Optional)	
Reference frequency input	10 MHz, 1 PPS	
GSM modem and antenna	Optional	
GPS receiver and antenna	Optional	
Input data	MPEG-2 TS bit rate up to 31,67 Mbps and MPEG-4	
RF OUTPUTS		
Output frequency range	VHF (174 ÷ 230 MHz), UHF (470 ÷ 862 MHz)	
RF output power (W rms) ¹	0.5, 1, 2, 5, 10, 25, 50, 100, 200, 400, 600, 800, 1.200, 1.600, 2.400, 3.200, 5.000, 6.400, 9.600	
Return loss	> 18 dB	
Power stability	< \pm 0,5 dB	
Output spectrum meets the requirements of non critical and critical (Optional) mask according to EN 300 744		
OPERATING CONDITIONS		
Nominal temperature range	In accordance with ETS 300 019-1-3 (class 3.2) - 5 °C to + 45 °C	
Relative air humidity	In accordance with ETS 300 019-1-3 (class 3.2) 95 % @ 30 °C, no condensation [8 % - 100 % for transportation and storage]	
Max altitude	2.800 m	
MAINS CONNECTION		
Single phase supply	110/230V -15% to +10% 50/60Hz (for devices up to 800 W rms)	
Triple phase supply	3/N/PE~ 400/230V -15% to +10% 50/60Hz (for devices from 1.200 W up to 9.600 W rms)	
PFC	> 0,95	
CONTROL AND MONITORING INTERFACES		
Local control	RS 232, Ethernet	
Remote control	Ethernet, RS 232/422/485 (Optional)	
Supported protocols	TCP/IP, HTTP, SNMP (Optional)	
GSM control	SMS messaging, GPRS (Optional)	
PROTECTION		
Output power, Reflected power, Over current, Over temperature, Over voltage		
CE CONFORMITY		
Low voltage directive	73/23/EEC	
EMC directive	89/336/EEC	
CE Marking directive	93/68/EEC	

MER \geq 33 dB at all powers in all configurations!

Power (W rms)	Consumption (kVA)	Weight (kg)	No of racks	External Dimensions	RF output connectors	No. of external amplifiers
0,5	0,24	16	standalone	19" x 3U x 670 mm	N, 50 Ω	Not Available
1, 2 and 5	0,26	17				
10	0,35	25				
25	0,52	25		19" x 4U x 670 mm		
50	0,62	25				
100	0,72	28				
200	1,7	205	1	19" x 23U x 900 mm	EIA 7/8", 50 Ω	1 x DVB-200-861A
400	2,4	220				1 x DVB-400-861A
600	4,8	280	1	19" x 30U x 900 mm		2 x DVB-400-861A
800	5,1	300				2 x DVB-400-861A
1.200	8,8	420	1	19" x 30U x 900 mm		3 x DVB-400-861A
1.600	11,6	520		19" x 42U x 900 mm		4 x DVB-400-861A
2.400	17,0	820	2	19" x 30U x 900 mm	EIA 1 5/8", 50 Ω	6 x DVB-400-861A
3.200	23,8	960		19" x 42U x 900 mm		8 x DVB-400-861A
5.000	36,0	1.600	3	19" x 42U x 900 mm	EIA 3 1/8", 50 Ω	12 x DVB-400-861A
6.400	48,0	1.800	4			16 x DVB-400-861A
9.600	74,2	3.200	6			24 x DVB-400-861A