arx
digital repeaters

TYPES

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

Elti has developed ...

... the new range of ARX digital repeaters for complete restoration as the DVB signal is received and re-transmitted

The ARX series of regenerative digital repeaters features built-in error correction via the intelligent COFDM modulator that provides error-free retransmission of multi frequency DVB networks. The error-corrected transport stream is also available via ASI output for local re-multiplexing, or monitoring purposes. The modulator allows the repeater to function as a transmitter.

Low power applications are available in compact designs up to 100 W; the range of LDMOS power amplifiers offers scalable solutions up to 9,6 kW.
Repeaters 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
- High sensitivity input tuner
- Local re-multiplexing
- 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 high sensitivity input tuner provides optimised reception of the RF DVB signal. The DVB signal is completely demodulated to MPEG-2 or MPEG-4 TS and error-corrected before retransmission in a fresh COFDM spectrum. Error-corrected MPEG-2 or MPEG-4 TS is available via ASI output for local re-multiplexing, and the ASI input allows the repeater to function as a transmitter. To optimise repeater 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 Manager software (EDM).

The compact repeater 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 assures continuous operation and uninterrupted service.

control and monitoring

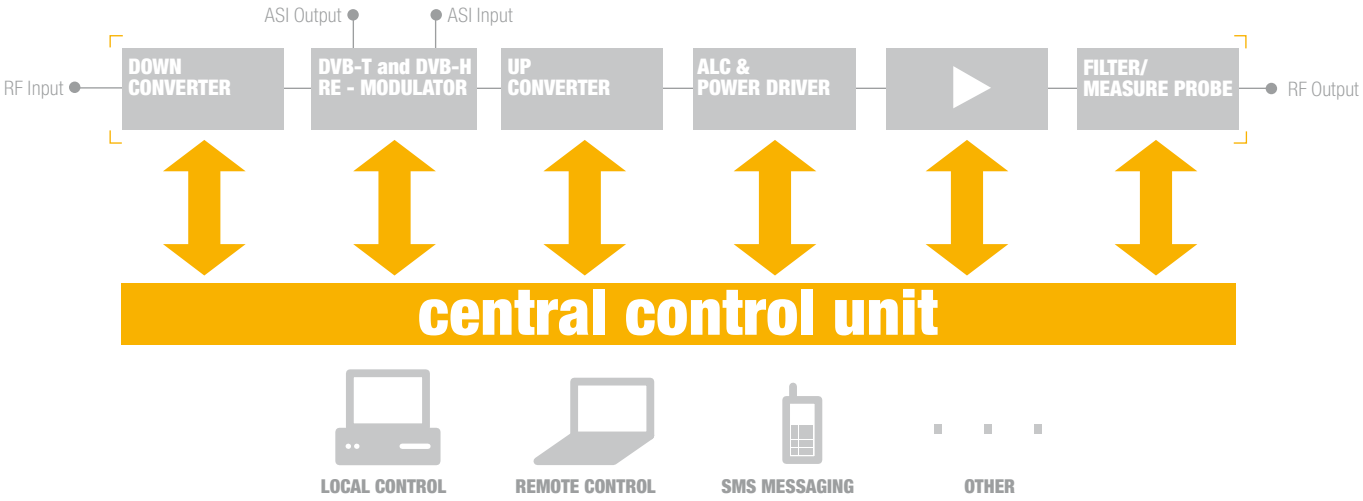
The integrated control unit provides full control over the assembly and additional options/features. PC based control software EDM (Elti Device Manager) with a user friendly graphic interface comes as standard for all Elti DVB-T and DVB-H products. It features:

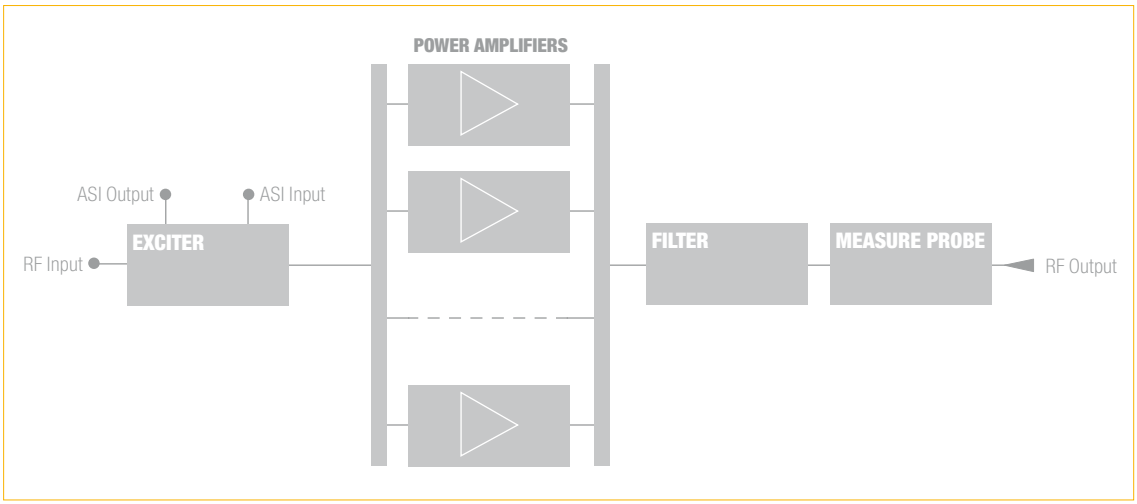
- Control of all parameters related to operation
- Password protection and access control
- Measurement and display of power, voltage, current, temperature
- Alarm
- Management of device history
- Save and restore function
- Remote upload of software

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

	DVB-T and DVB-H repeater
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 µs (2k), 447 µs (4k), 896 µs (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
INPUTS	
RF input	N, 50 Ω
Level range	From - 70 dBm to + 13 dBm (37dBµV to 120dBµV)
GSM modem and antenna	Optional
GPS receiver and antenna	Optional
Frequency range	VHF (174 ÷ 230 MHz) , UHF (470 ÷ 862 MHz)
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	< ± 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 from -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 ≥ 33dB 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				2 x DVB-400-861A
800	5,1	300	1	19" x 30U x 900 mm		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	EIA 1 5/8", 50 Ω	4 x DVB-400-861A
2.400	17,0	820	2	19" x 30U x 900 mm		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