

halo

digital SFN repeaters

TYPES

HALO 500 mW
HALO 1 W
HALO 2 W
HALO 5 W
HALO 10 W
HALO 25 W
HALO 50 W
HALO 100 W
HALO 200 W



CE1304

Elti has developed ...

... the new range of HALO digital SFN repeaters to fill the gaps and optimise DVB network coverage

The HALO series of digital SFN repeaters features a state-of-the-art echo canceller to guarantee optimised transmission and extremely low degradation in signal quality. Automatic mode detection allows the entire SFN network cell to be switched instantaneously. Compact designs up to 100 W, an output power range up to 200 W and no required measurement during installation makes HALO an unbeatable solution for rapid gap-filling and digital network optimisation.

the Elti advantage

- 5 years warranty
- Fully compliant with EN 300 744 (DVB-T) and EN 302 304 (DVB-H)
- State-of-the-art Echo canceller, loop interference is completely removed
- High flexibility with dynamic transmitted power level
- Adoptable to channel characteristic changes with real time channel estimation
- No need for GPS receiver
- Diagnostics for monitoring the quality of transmission and the status of the equipment
- Plug and play installation with automatic mode detection and synchronization
- Low signal quality degradation
- High signal quality with preccorection included

exciter/compact versions

Compact versions are housed in 19" rackmounts; up to 5 W in 3U and up to 100 W in 4U. The built-in state-of-the-art echo canceller guarantees optimised transmission and extremely low degradation in signal quality. 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).

power amplifier

External amplifier is available in model supplying 200 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 to the whole SFN repeater. Housed in a 19" rackmount complete with power supply, the amplifier ensures the required redundancy.

control and monitoring

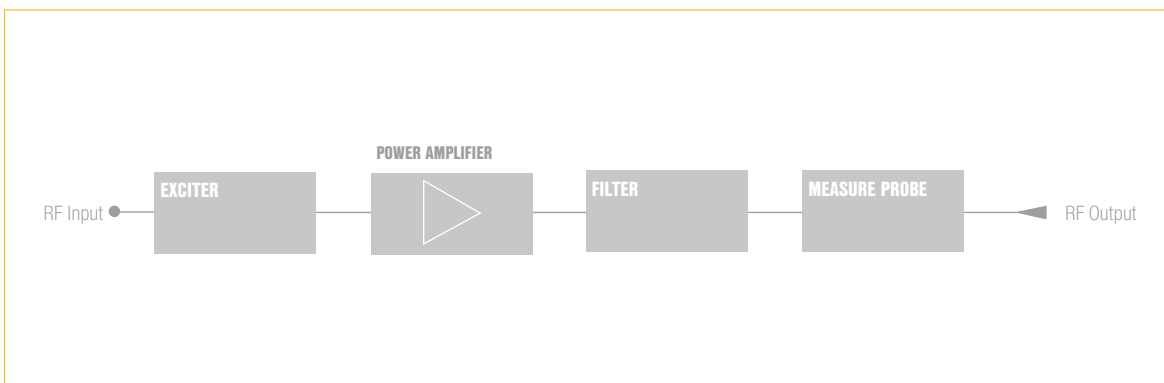
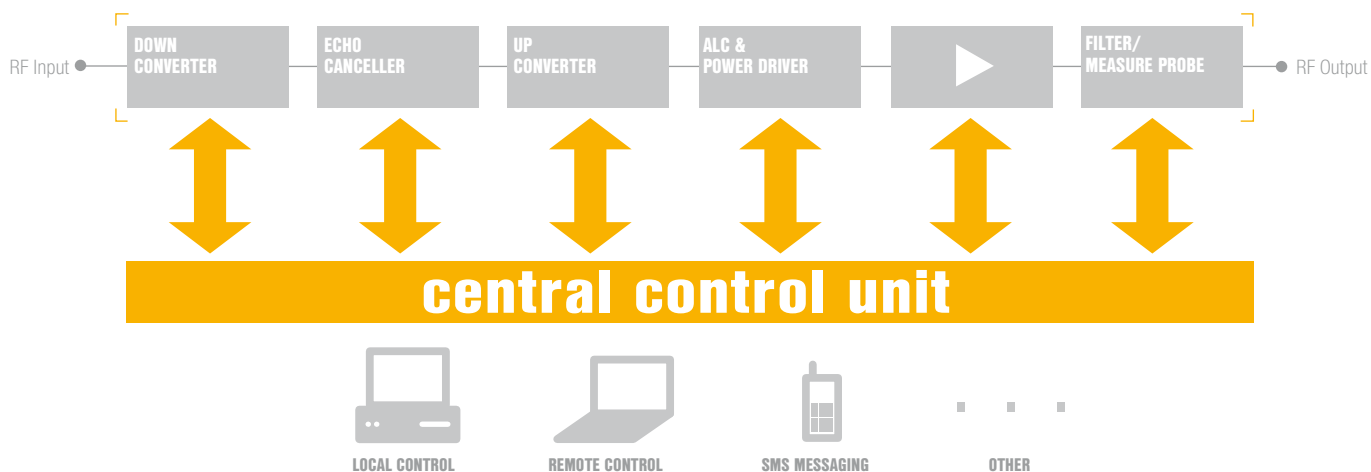
The integrated control unit provides full control over the assembly and additional options/features. PC based control software EDM (Elti Device Manager) with a user friendly graphic interface comes as standard for all Elti DVB-T and DVB-H products. It features:

- 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

SFN Repeater with Echo canceller

GENERAL DATA	
Standard	Supporting DVB-T and DVB-H modes according to EN 300 744 and EN 302 304
Channel bandwidth	8 MHz, 7 MHz (Optional)
Oscillator phase noise	60 dBc/Hz @10 Hz 85 dBc/Hz @100 Hz 95 dBc/Hz @1 kHz 105 dBc/Hz @10 kHz 115 dBc/Hz @100 kHz 130 dBc/Hz @1 MHz
ECHO CANCELLER	
Loop gain (LG)	up to +12 dB
Intermediate frequency	36,15 MHz
Internal delay	≤ 7 μs
MER degradation	≤ 2 dB
INPUTS	
RF input	N, 50 Ω
Level range	From - 60 dBm to - 5 dBm
Noise figure	< 5 dB at max gain
GSM modem and antenna	Optional
Frequency range	UHF (470 ÷ 862 MHz)
RF OUTPUTS	
Output frequency range	UHF (470 ÷ 862 MHz)
RF output power (W rms) ¹	0.5, 5, 10, 25, 50, 100, 200
Return loss	> 18 dB
Power stability	< ± 0,5 dB
Output spectrum meets the requirements of non critical 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
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

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				
50	0,62	25		19" x 4U x 670 mm		
100	1,3	195	1	19" x 23U x 900 mm	EIA 7/8", 50 Ω	1 x DVB-400-861A
200	1,7	205	1	19" x 23U x 900 mm	EIA 7/8", 50 Ω	1 x DVB-400-861A