

DVB-T / DVB-H Transmitter & Regenerative Transposer

EK 50-DU – 50 W

The EK 50-DU Series digital transmitter is designed to convert a Transport Stream into a Coded Orthogonal Frequency Division Multiplex (COFDM) with an output power of 50 W rms. The generation and transmission of COFDM signals at 2k, 4k or 8k is possible with QPSK, 16QAM or 64QAM modulation with payloads from 3,73 to 31.67 Mbits/s. Thanks to an internal 32-bit processor, the innovative software implemented in the equipment allows the elaboration of a zero error signal. The integrated SFN interface allows operations in precision offset conditions with frequency lock onto

the GPS reference signal and compensation of the network delay.

The unit includes a standard hierarchical capability and it is equipped with four ASI inputs in Dual ASI both for uniform modulation and hierarchical modulation.

The friendly use of this digital transmitter, the sturdiness of the modular construction and its high performance capability, open up new perspectives about the realization of DVB-T/H networks both in SFN and MFN applications.

A WEB interface that allows remote control through TCP/IP on Ethernet is available as an option.



Complies with ETS 300 744 requirements
Channel Bandwidth 6, 7, 8 MHz all uniform
DVB-H support thanks to 4k IFFT mode, Cell-id and 8k symbol interleaver
Superior linear and non linear digital pre-corrector.
Integrated Dual ASI for each input (LP & HP)
MIP decoder for automatic configuration
De-jitter on input signal prior to transmission
GPS reference signal lock
Superior MER performance (designed to meet 45 dB)
All redundancy configurations available on request (Dual driver; active reserve; N+1; 1+1)

CODE	MODEL	DESCRIPTION
F885.05	EK 50-DU	50 W rms UHF DVB-T/H Digital Transmitter COMPACT
AVAILABLE OPTIONS	6 MHz Bandwidth - 5 MHz Bandwidth - RF Agile converter – GPS Receiver - WEB Browser - SNMP client - Precision TCXO (0,01 ppm).	

Technical data

FREQUENCY	
Range	UHF (470-860MHz) VHF Band III (174-260 MHz)
Internal Setting mode	1 Hz steps
Output frequency stability	Frequency stability Locked to external reference or 1 ppm reference or 1 ppm
In band flatness	± 0.1 Db
RF OUTPUT SPECIFICATIONS	
Output Power stability	± 0.5 dB
Intermodulation distortion	< -60 dB at rated output power (With pre-correction inserted)
Harmonics emission	< -75 dBc (with output filter)
Spurious emission	< -75 dBc (with output filter)
Impedance RF Connector	50 Ohm
BER	Zero over five hour period before RS decoding
MER	> 37 dB
Protections	Overpower, Over voltage, Over current, Over temperature
Probe	IF monitor SMA connector (36.15 Mhz)
TRANSPOSER / REGENERATIVE VERSION	
Input Frequency	UHF (470-860MHz) - VHF Band III (174-260 MHz) - VHF Band I (45-90 MHz)
Input Impedance	50 Ohm N (Female) connector
Input Matching	> 26dB
Input Level Amplitude	-30 to -75 dBm
COFDM MODULATOR	
Input signal	MPEG Transport Stream
Input data	rate 3.73 to 31.67 Mbits/s (according to selected BW and mode)
Transport packet length	188 bytes - 204 bytes (SPI)
IFFT	2k, 8K and 4k (DHB-H)
Guard intervals	1/4, 1/8, 1/16, 1/32
Code rates	1/2, 2/3, 3/4, 5/6, 7/8
Modulation	QPSK, 16QAM, 64QAM
Precision offset	Integrated (Exact 1 Hz steps @ all BW)
SFN function	Integrated
Network delay compensation	Automatic
Bandwidth	8 MHz, 7MHz, 6 MHz, 5 MHz
Eye aperture on vector constellation w/o I.F. filter	> 32 dB
Virtual elastic store function to prevent data overflow	Integrated
Serial data input	4 x ASI, BNC 75 Ohm
Frequency reference input	10 MHz, BNC 50 Ohm
Time reference input	1 PPS, BNC 50 Ohm
Reference output	TS clock signal
Hierarchical mode	Integrated, all modes supported
Spectrum inversion	Supported
Test functions	Programmable carrier packet removal CW mode Null packet only stream
REMOTE CONTROL	
Output Connector	RS232 interface Connector DB9 Male – Two DB9 Female programmable connectors - Alarms via separate relays
Input Connector	Reset and muting control activated by ground closure
Ethernet interface (option)	Connector RJ 46 WEB browser or SNMP client
STANDARDS COMPLIANCE	
Frequency Spectrum	EN 302 296 – EN302 297
EMC	EN 300-489-1 EN 301 489-14
Safety	EN 60215
TEMPERATURE	
Temperature Operating range	0° to 45° C (Meets ETS 300 019 requirements)
Maximum relative Humidity	90% non condensing
Max Operating Altitude	2500 mt. a.s.l.



SPECIFICATIONS	EK 50-DU
RF output power	50W rms
Output Connector	N Type Female
Dimensions (W x H X D) mm	482 x 132 (+ 44) x 450
Weight	28 Kg
Power consumption	Approx. < 600 VA
Nr. of power supply boards	1; 230 Vac ± 20%
DC Power Supply	48 V (36-60 V)