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**DIGITAL  
TRANSMITTERS**  
625 W (DVB)  
1 000 W (ATSC)



### PRINCIPALI CARATTERISTICHE:

- > Rispondente alle specifiche ETS 300 744 (DVB) e A53 (ATSC).
- > Tutte le modalità DVB-T e DVB-H a 2k, 4k e 8k uniformi, gerarchiche e non.
- > Adattatore SFN integrato.
- > De-jitter sul segnale in ingresso prima della trasmissione.
- > Up-converter agile integrato.
- > Ingressi ASI e LVDS.
- > Compensazione automatica del ritardo di rete (SFN).
- > Aggancio a segnale di riferimento GPS.
- > Virtual Elastic Store.
- > Decodificatore MIP per configurazione automatica.
- > Offset di precisione automatico.
- > Eccellente apertura dell'occhio.
- > Intervallo di guardia fino a 1/32.
- > BER = 0.
- > Opzione "dual-mode" (PAL/DVB - NTSC/ATSC).
- > In modalità DVB-H:  
Modo native o in-depth interleaving.  
Time-slicing per High e Low priority stream.  
MPE FEC per High e Low priority stream.
- > Costruzione modulare.
- > Raffreddamento forzato.

### MAIN FEATURES:

- > Complies with ETS 300 744 (DVB) and A53 (ATSC) specifications.
- > All uniform, hierarchical and non-hierarchical 2k, 4k and 8k DVB-T and DVB-H modes.
- > Integrated SFN adapter.
- > De-jitter on input signal prior to transmission.
- > Agile integrated up-converter.
- > ASI and LVDS inputs.
- > Automatic network delay compensation (SFN).
- > GPS reference signal lock.
- > Virtual Elastic Store.
- > MIP decoder for automatic configuration.
- > Automatic precision offset.
- > Excellent eye aperture.
- > Guard interval up to 1/32.
- > BER = 0.
- > Dual mode option (PAL/DVB - NTSC/ATSC).
- > In DVB-H modes:  
Native or in-depth interleaving modes.  
Time-slicing for High and Low priority stream. MPE FEC for High and Low priority stream.
- > Modular construction.
- > Forced air cooling.

### CARACTERÍSTICAS PRINCIPALES:

- > Cumple con las normas ETS 300 744 (DVB) y A53 (ATSC).
- > Todos los modos DVB-T y DVB-H de 2k, 4k y 8k uniformes, jerárquicos o no.
- > Adaptador SFN integrado.
- > "De-jitter" en la señal de entrada antes de la transmisión.
- > Up-converter ágil integrado.
- > Entradas ASI y LVDS.
- > Compensación automática del retraso de red (SFN).
- > Enganche a la señal de referencia GPS.
- > "Virtual Elastic Store".
- > Decodificador MIP para configuración automática.
- > Offset de precisión automático.
- > Excelente apertura del ojo.
- > Intervalo de guardia hasta 1/32.
- > BER = 0.
- > Opción "dual-mode" (PAL/DVB - NTSC/ATSC).
- > En modo DVB-H:  
Modo native o in-depth interleaving.  
Time-slicing para High y Low priority stream. MPE FEC para High y Low priority stream.
- > Construcción modular.
- > Ventilación forzada.



DBT/DTT 202UB UHF TRANSMITTER

Gli apparati digitali di questa serie sono disponibili in tutte le bande di frequenza VHF e UHF in versioni ultra-compacte o con amplificatori ridondanti, con singolo e doppio eccitatore, in modo da soddisfare ogni esigenza.

L'altissima qualità dei modulatori, la linearità degli stadi finali e la tecnologia impiegata nei circuiti di pre-correzione garantiscono prestazioni ottimali ed un'elevata efficienza degli amplificatori sia nelle versioni in standard DVB che in ATSC.

L'interfaccia SFN integrata permette operazioni in condizione di offset di precisione, di aggancio in frequenza ad un segnale di riferimento GPS e la compensazione del ritardo di rete.

Ognuna delle unità parte del sistema è provvista di alimentatori e di circuiti di protezione e controllo indipendenti così da assicurare il più alto livello di affidabilità e di continuità del servizio oltre ad una semplice e veloce manutenzione.

Un pannello di controllo generale raccoglie i dati da tutti i componenti del sistema e provvede a fornire i parametri di funzionamento ad un pratico display nonché ad instradare gli stessi alle interfacce per la monitoraggio remota, disponibili per diversi protocolli di comunicazione.

*The digital units in this series are available in all VHF and UHF frequency bands in ultra-compact versions with redundant amplifiers, and with single or double exciters in order to meet each individual need.*

*The excellent quality of the modulators, the linearity of the final stages and the technology applied to pre-correction circuits guarantee high-performance and efficiency in amplifiers both in standard DVB and ATSC versions.*

*The integrated SFN interface permits operations in precision offset conditions with frequency lock onto GPS signal and compensation of network delay.*

*Each of the system's units includes power supply and independent protection and control circuits to ensure substantial lasting reliability in addition to quick and easy maintenance.*

*A main control panel collects data from all system components and furnishes operating parameters through a practical display, sending them to interfaces for remote monitoring, available for different communication protocols.*

**MODEL-SPECIFIC DATA**

Model	Output band	Dimensions	Number of amplifiers	Digital output power (rms) without filter (Shoulders -36 dB @ $F_0 \pm 4.3$ MHz)		Nominal analog output power (p.s.) with dual mode option
				DVB-T	ATSC	
252FB	VHF I	1 x 30 RU	2	640 W	1000 W	2.5 kW
252TB	VHF III	1 x 30 RU	2	640 W	1000 W	2.5 kW
202UB	UHF	1 x 15 RU	1	625 W	1000 W	2.5 kW
202UM	UHF	1 x 30 RU	2	625 W	1000 W	2.5 kW

\* DBT Series = Digital DVB-T transmitters  
 DTT Series = Digital ATSC transmitters

*Specifications and characteristics are subject to change without notice.*



**DBT/DTT 202UB REAR VIEW**



**DBT/DTT 202UM  
 UHF TRANSMITTER  
 WITH DUAL DRIVER OPTION**



**DBT/DTT 202UM REAR VIEW**



Los aparatos digitales de esta serie disponen de todas las bandas de frecuencia VHF y UHF en versiones ultra-compactas o con amplificadores redundantes, con excitador individual y doble, para satisfacer toda exigencia.

La altísima calidad de los moduladores, la linealidad de las etapas finales y la tecnología utilizada en los circuitos de pre-corrección garantizan óptimas prestaciones y una elevada eficiencia de los amplificadores tanto en las versiones con estándar DVB como ATSC.

La interfaz SFN integrada permite operaciones en condición de offset de precisión, de enganche en frecuencia a una señal de referencia GPS y la compensación del retraso de red.

Cada una de las unidades del sistema está provista de alimentadores y circuitos de protección y control independientes para asegurar el más alto nivel de fiabilidad y continuidad del servicio así como un mantenimiento sencillo y rápido.

Un panel de control general recoge los datos de todos los componentes del sistema y procede a suministrar los parámetros de funcionamiento a un práctico display así como a enviarlos a las interfaces para la monitorización remota, quedando disponibles para varios protocolos de comunicación.

# DIGITAL TRANSMITTERS

625 W (DVB)  
1 000 W (ATSC)

DIGITAL

## TECHNICAL CHARACTERISTICS

### COFDM MODULATOR (DVB-T / DVB-H)

Serial data input	4 x BNC 75 Ω: 4 x ASI or 2 x ASI + 2 x SDI for dual mode option
Parallel data input	LVDS, Sub-D 25, 100 Ω
Input signal	MPEG2 transport stream
Input data rate	3.73 to 31.67 Mbits/s (according to selected BW and mode)
Modulation	QPSK, 16QAM, 64QAM
Bandwidth	5, 6, 7 or 8 MHz
Transport packet length	188 bytes - 204 bytes (SPI)
IFFT	2k, 4k and 8k
Guard intervals	1/4, 1/8, 1/16, 1/32
Code rates	1/2, 2/3, 3/4, 5/6, 7/8
Precision offset	Integrated (Exact 1 Hz steps @ all BW)
Frequency reference input	10 MHz, BNC 50 Ω
Time reference input	1 PPS, BNC 50 Ω
SFN function	Integrated
Network delay compensation	Manual or automatic
Hierarchical mode	All modes supported
BER	Zero over five hours period before RS decoding, typical
MER	> 47 dB typ.
Eye aperture on vector constellation w/o I.F. filter	> 32 dB
Virtual elastic store function to prevent data overflow	Integrated
Spectrum inversion	Supported
Test functions	Carrier packet removal, CW, PRBS
PCR restamping	Included
Del. Null Packet mode	Included

#### SOFTWARE-ADJUSTABLE PARAMETERS IN ANALOG MODE (DUAL MODE OPTION)

Video modulation level, sync level, video group delay, audio modulation levels, audio pre-emphasis, audio carriers level, sound modes (mono single carrier, mono dual carriers, stereo, dual sound)

### ATSC MODULATOR

Serial data input	4 x BNC 75 Ω: ASI, SMPTE-310M, SDI for dual mode option (according to customer's request)
Parallel data input	LVDS, Sub-D 25, 100 Ω
Input data rate	Up to 19.39 Mbits/s
Channel bandwidth	6 MHz
Modulation	8VSB (16VSB optional)
Trellis coding	2/3
Symbol rate	10.762 Msymbol/sec.
Bandwidth efficiency	3 Bits/symbol
Digital/analog converter	14 bits
Precision offset	Integrated, 1 Hz steps or 0.999000999 Hz for NTSC operation with dual mode option
Frequency reference input	10 MHz, BNC 50 Ω
Time reference input	1 PPS, BNC 50 Ω
Reed-Solomon encoder	207/187/10
SFN function	Included (proprietary)
Digital pre-correction	Included
Adaptive digital pre-correction	Optional
Test functions	PRBS, CW
PCR restamping	Included for ASI input
Del. Null Packet mode	Included for ASI input

#### SOFTWARE-ADJUSTABLE PARAMETERS IN ANALOG MODE (DUAL MODE OPTION)

Video white level, video pedestal level, video group delay, sync level, audio modulation level, audio pre-emphasis, audio carrier level.

### GENERAL

Integrated GPS receiver	Optional
Output connector	7/8" EIA
Output impedance	50 Ω
Working class	AB
Protections	Overpower Adjustable exciter power limiter VSWR Overvoltage Overcurrent Overtemperature RF fold-back on HI-VSWR (optional)
Frequency stability	1 ppm or locked to external reference
Harmonics (with output filter)	-60 dB or better
Spurious emissions (with output filter)	-60 dB or better
External control and monitoring interfaces	logic and analog signal outputs, enable input, RS 485 TCP/IP (optional) with web based Java interface and Telnet access via Ethernet SNMP (optional)
Cooling	Forced air
Operating temperature	-10°C to +45°C
Maximum relative humidity	90%, non condensing
Maximum operating altitude	2500 m a.s.l. (> 2500 m on request)
Mains power supply	90-135 V AC or 185-264 V AC or 220 / 400 V AC ±15% 3-phase (according to the model or request)



## Screen Service

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