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**DIGITAL
TRANSMITTERS**
5 kW (DVB)
8 kW (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 203UM UHF TRANSMITTER
WITH DUAL DRIVER OPTION**

Questa nuova serie di apparati per la trasmissione digitale in standard DVB o ATSC con potenza d'uscita da 4 a 8 kW rms si basa su una struttura di amplificatori RF indipendenti collegati in parallelo tra loro in modo da assicurare una piena ridondanza ed un elevato livello di affidabilità.

La tecnologia impiegata permette l'esclusione di uno o più amplificatori "a caldo" per consentire le operazioni di manutenzione senza interrompere il servizio.

La riduzione della struttura di cablaggio interna rende questi apparati facili da installare e mantenere e minimizza le probabilità di guasto raggiungendo altissimi livelli di MTBF.

Un sistema di raffreddamento ridondante, assicura il buon funzionamento dei trasmettitori anche in caso di avaria di una ventola di estrazione dell'aria. Un bus seriale raccoglie i dati di funzionamento di ogni componente del sistema per renderli disponibili al pannello di controllo locale, al web server interno consultabile tramite connessione LAN o, tramite le opportune interfacce, verso sistemi di controllo remoto.

L'elevata qualità degli eccitatori impiegati assicura prestazioni elevatissime e flessibilità nelle configurazioni grazie alla completa modularità di costruzione ed alla disponibilità di una vasta gamma di accessori ed opzioni.

This new series of digital transmission units in DVB or ATSC standards available in 5 to 8 kW power output versions is based on a structure of independent RF amplifiers connected in parallel in order to assure full redundancy and a high degree of reliability.

The technology applied provides "hot-swappable" amplifiers to allow maintenance operations without interrupting duty.

The reduced internal wiring makes these units easy to install and maintain, and even minimizes the probability of failure achieving high MTBF levels.

A redundant cooling system ensures high performance of transmitters also in the case of air extraction fan failure.

A serial bus collects all operational data from each system component and sends them to local control panels, to an internal Web server which can be browsed through LAN connections or, through specific interfaces, to external remote monitoring systems.

The high quality exciters ensure high levels of performance and flexibility in configuration thanks to a modular construction and the availability of a vast array of accessories and options.

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	
DBT, DTT *						
203FB	VHF I	5 x 36 RU	16	5 kW	8 kW	20 kW
203TB	VHF III	5 x 36 RU	16	5 kW	8 kW	20 kW
203UM	UHF	2 x 44 RU or 3 x 40 RU	8	5 kW	8 kW	20 kW
203UB	UHF	4 x 40 RU or 5 x 36 RU	16	5 kW	8 kW	20 kW

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

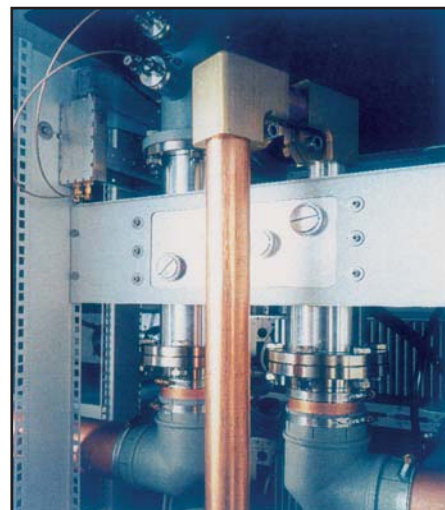
Specifications and characteristics are subject to change without notice.



DBT/DTT 203UB UHF TRANSMITTER WITH DUAL DRIVER OPTION

Esta nueva serie de aparatos para la transmisión digital con estándar DVB o ATSC con potencia de salida de 5 a 8 kW rms se basa en una estructura de amplificadores RF independientes conectados en paralelo entre sí para garantizar una plena redundancia y un elevado nivel de fiabilidad. La tecnología utilizada permite quitar o poner uno o más amplificadores con el transmisor en operación al aire para efectuar las operaciones de mantenimiento sin interrumpir el servicio. La reducción de la estructura interna de cableado facilita la instalación y mantenimiento de estos aparatos y reduce al mínimo las probabilidades de avería alcanzando altísimos niveles de MTBF. Un sistema de refrigeración redundante garantiza

el buen funcionamiento de los transmisores incluso en caso de avería de un ventilador de extracción de aire. Un bus serie recoge los datos de funcionamiento de cada componente del sistema para enviarlos al panel de control local, al servidor web interno consultable mediante conexión LAN o, por medio de oportunas interfaces, hacia sistemas de control remoto. La elevada calidad de los excitadores utilizados asegura prestaciones elevadísimas y flexibilidad en las configuraciones gracias a la completa modularidad de construcción y a la disponibilidad de una vasta gama de accesorios y opciones.



DIGITAL TRANSMITTERS

5 kW (DVB)
8 kW (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	3+1/8" 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	220 / 400 V AC ±15% 3-phase



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