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**DIGITAL
TRANSMITTERS**
POWER RANGE:
DVB FROM 250 TO 400 W
ATSC FROM 400 TO 600 W



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 102UM
UHF TRANSMITTER
WITH DUAL DRIVER OPTION**



**DBT/DTT 132TM
VHF TRANSMITTER
WITH DUAL DRIVER OPTION**

I trasmettitori digitali prodotti da Screen Service, sono il frutto di una costante ricerca tecnologica e di un'accurata selezione dei materiali. Gli apparati di questa serie sono composti da uno o due amplificatori di potenza accoppiati tra di loro mediante uno speciale sistema brevettato che permette basse perdite ed un'eccellente linearità su tutta la banda, oltre a garantire la continuità del servizio anche in caso di avaria di parte della catena di amplificazione.

Ogni singolo apparato è al suo interno ridondante sia nei circuiti di alimentazione che in quelli di amplificazione e di raffreddamento.

Gli stadi pilota comprendono i modulatori digitali ad alte performance della serie DBT o DTT che garantiscono prestazioni ottimali ed una flessibilità senza precedenti permettendo di configurare gli apparati come trasmettitori, ripetitori rigenerativi e non rigenerativi o gap fillers oltre a permettere anche la trasmissione di segnali analogici grazie all'opzione DUAL-MODE.

I circuiti di controllo e protezione consentono la visualizzazione di tutti i parametri di funzionamento dell'apparato e permettono la remotizzazione delle funzioni di gestione e misura per mezzo delle apposite interfacce analogiche, seriali e TCP/IP.

Screen Service's digital transmitters are the result of constant technological research and their accurate selection of materials.

The units in this series consist of one or two power amplifiers coupled together by means of a specially patented system that allows low losses as well as an excellent linearity over the entire band, in addition to guaranteeing continuity of duty even in cases of faults in the amplification chain.

Each individual unit is internally redundant both in its power supply circuits and in its amplification and cooling circuits.

The driver stages consist of DBT or DTT series high-performance digital modulators which guarantee optimal operating characteristics and an unprecedented flexibility allowing the configuration of units such as transmitters, regenerative and non-regenerative transposers or gap fillers as well as permitting the transmission of analogue signals thanks to its DUAL-MODE option.

The control and protection circuits make it possible to visualize all operating parameters of the unit as well as remote monitoring and measurement, thanks to special analogue, serial and TCP/IP interfaces.

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	
132FB	VHF I	1 x 15 RU	1	320 W	500 W	1.3 kW
132FM	VHF I	1 x 30 RU	2	320 W	500 W	1.3 kW
132TB	VHF III	1 x 15 RU	1	320 W	500 W	1.3 kW
132TM	VHF III	1 x 30 RU	2	320 W	500 W	1.3 kW
102UB	UHF	1 x 15 RU	1	250 W	400 W	1 kW
102UM	UHF	1 x 30 RU	2	250 W	400 W	1 kW
132UB	UHF	1 x 15 RU	1	400 W	600 W	1.3 kW

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

Specifications and characteristics are subject to change without notice.



DBT/DTT 102UB UHF TRANSMITTER



Los transmisores digitales fabricados por Screen Service son el fruto de una constante investigación tecnológica y una cuidadosa selección de materiales. Los aparatos de esta serie incorporan uno o más amplificadores de potencia, acoplados entre sí mediante un sistema especial patentado, que permite pérdidas bajas y una linealidad excelente en toda la banda, además de garantizar continuidad en el servicio incluso en caso de avería en la cadena de amplificación.

Cada uno de los aparatos es redundante en su interior, ya sea en los circuitos de alimentación, como en los de amplificación y refrigeración. Las etapas piloto incluyen los moduladores digitales

de alto rendimiento de la serie DBT o DTT que garantizan óptimas prestaciones y una flexibilidad sin igual permitiendo configurar aparatos como transmisores, repetidores regeneradores y no regeneradores o gap fillers así como la transmisión de señales analógicas gracias a la opción DUAL-MODE.

Los circuitos de control y protección permiten la visualización de todos los parámetros de funcionamiento del aparato así como la remotización de las funciones de gestión y medida por medio de las específicas interfaces analógicas, serie y TCP/IP.



DBT/DTT 102UB REAR VIEW

DIGITAL TRANSMITTERS

POWER RANGE:
DVB FROM 250 TO 400 W
ATSC FROM 400 TO 600 W

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	7/16
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)



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