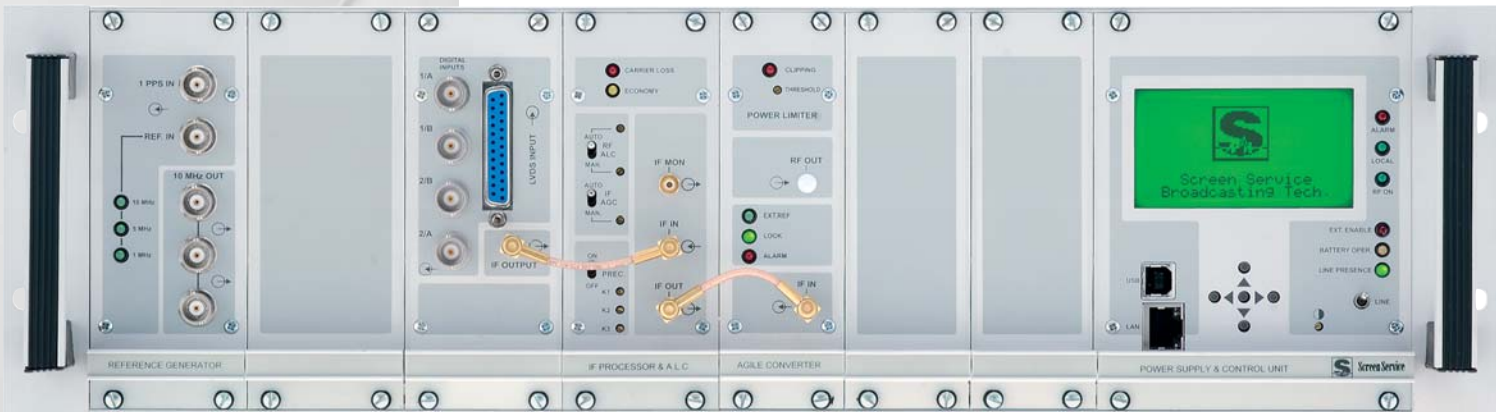


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**DIGITAL
TELEVISION
EXCITERS**





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 convezionale o 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.
- > Convectional or forced 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 o enfriamiento por convección.

UHF DIGITAL TELEVISION TRANSMITTER

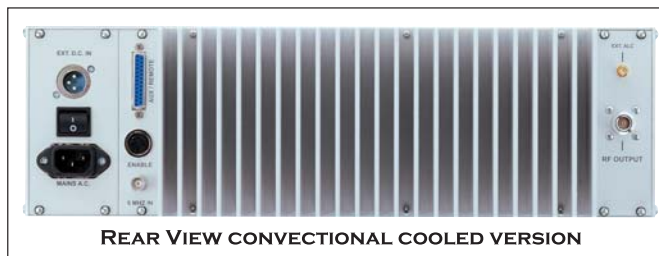


DVB-S RECEIVER OPTION

DVB-T RECEIVER OPTION

AUDIO/VIDEO DIGITIZER OPTION

DEMODULATOR/DECODER OPTION



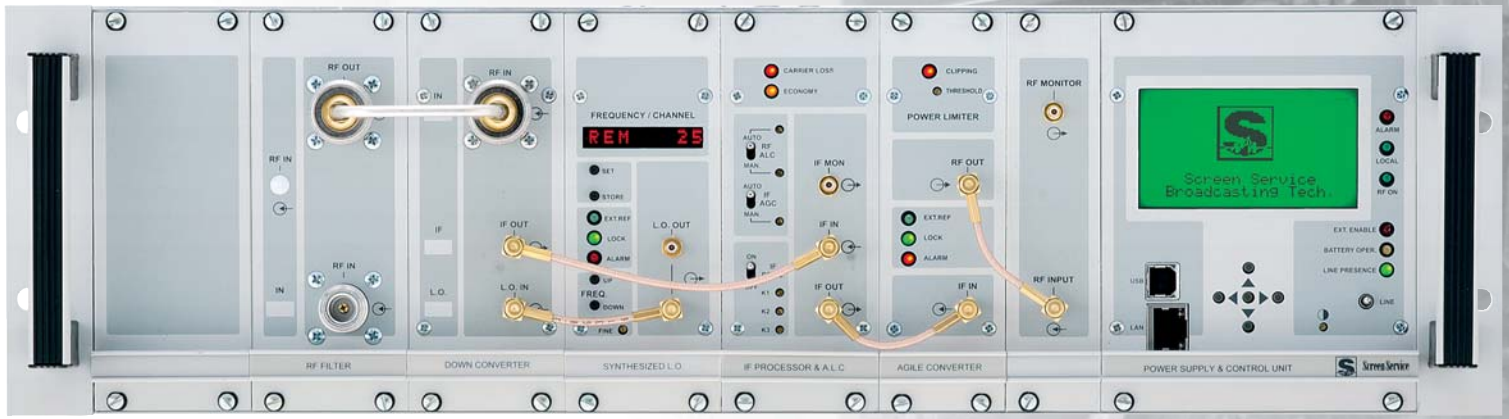
REAR VIEW CONVECTIONAL COOLED VERSION



REAR VIEW FORCED AIR COOLED VERSION

Le nuove serie DBT e DTT sono costituite da una nuova generazione di trasmettitori televisivi digitali ad altissima integrazione per reti SFN e MFN in standard DVB-T, DVB-H e ATSC. Un'ampia gamma di modulatori e di accessori permette di configurare questi apparati come trasmettitori, ripetitori, gap-fillers con o senza echo-canceller digitale e ripetitori rigenerativi. I trasmettitori di questa serie dispongono di adattatore SFN integrato e di una avanzatissima funzione DUAL-MODE. Con questa opzione è possibile, utilizzando lo stesso hardware, generare digitalmente anche portanti di tipo analogico e scegliere se trasmettere in DVB-T o PAL (ATSC o

NTSC) mediante una semplice commutazione effettuabile localmente, mediante la semplice pressione di un pulsante sul pannello frontale, in remoto, utilizzando un contatto pulito e/o per mezzo di un comando dedicato inserito nel transport stream. Un innovativo firmware permette, grazie ad un processo interno a 32 bit, l'elaborazione del segnale ad errore zero. Sono disponibili interfacce per il controllo remoto degli apparati tramite protocolli seriali o porte TCP/IP e grazie al web server interno si può facilmente monitorare e configurare l'apparato utilizzando una connessione LAN ed un web browser standard.



UHF DIGITAL TELEVISION TRANSPOSER



ECHO CANCELLER OPTION

MODEL-SPECIFIC DATA

Model	Output band	Digital output power (rms) without filter (Shoulders -40 dB @ F ₀ ± 4.3 MHz)		Nominal analog output power (p.s.) with dual mode option
		DVB-T	ATSC	
DBT, DTT*				
020F	VHF I	0.5 W	1 W	2 W
100F	VHF I	5 W	7 W	15 W
020T	VHF III	0.5 W	1 W	2 W
100T	VHF III	3 W	4 W	10 W
200T	VHF III	5 W	7 W	20 W
020U	UHF	0.5 W	1 W	2 W
050U	UHF	1.5 W	2 W	5 W
100U	UHF	3 W	4 W	10 W
200U	UHF	5 W	7 W	20 W

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

Specifications and characteristics are subject to change without notice.

The new DBT and DTT series consist of a new generation of digital television transmitters with a very high degree of integration for SFN or MFN networks according to DVB-T, DVB-H and ATSC standards.

A broad range of modulators and accessories allows the configuration of these units as transmitters, transposers, gap-fillers, with or without digital echo-cancellers, and regenerative transposers.

The transmitters belonging to this series are equipped with integrated SFN adapters and a highly advanced DUAL-MODE function. With this option it is possible, using the same hardware, to digitally reproduce analogue carriers and choose whether

to transmit in DVB-T or PAL (ATSC or NTSC) by means of a simple locally activated push-button on the front panel, remotely using a clean contact and/or by means of a dedicated command inserted in the transport stream.

Innovative firmware permits the elaboration of the signal at zero error, thanks to an internal 32 bit process.

The units are equipped with interfaces for the remote control checks of the equipment through serial protocols or TCP/IP ports. Thanks to internal Web server the user can monitor and configure the equipment using a LAN connection and a standard Web browser.

Las nuevas series DBT y DTT cuentan con una nueva generación de transmisores de televisión digital de altísima integración para redes SFN y MFN con estándar DVB-T, DVB-H y ATSC. Una amplia gama de moduladores y accesorios permite configurar estos aparatos como transmisores, repetidores, gap-fillers con o sin echo-canceller digital y repetidores regeneradores.

Los transmisores de esta serie disponen de adaptador SFN integrado y de una avanzadísima función DUAL-MODE. Con esta opción, utilizando el mismo hardware, es posible generar digitalmente incluso portadoras de tipo analógico y escoger entre transmitir en DVB-T o PAL (ATSC o NTSC) mediante una conmutación a efectuar localmente, mediante la sencilla presión de un pulsador en el panel frontal, en remoto, utilizando un contacto limpio y/o por medio de un mando dedicado insertado en el transport stream.

Un software innovador permite, gracias a un proceso interno a 32 bits, elaborar la señal con errores cero.

Hay disponibilidad de interfaces para el control remoto de los aparatos mediante protocolos serie o puertos TCP/IP y gracias al servidor web interno se puede monitorizar y configurar fácilmente el aparato utilizando una conexión LAN y un navegador web estándar.

DIGITAL TELEVISION EXCITERS

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	N female
Output impedance	50 Ω
Working class	A
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	Convectional or 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 to 264 V AC, 24 V DC (24 or 48 V DC floating, optional)
Dimensions	3 RU (19" rack)



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