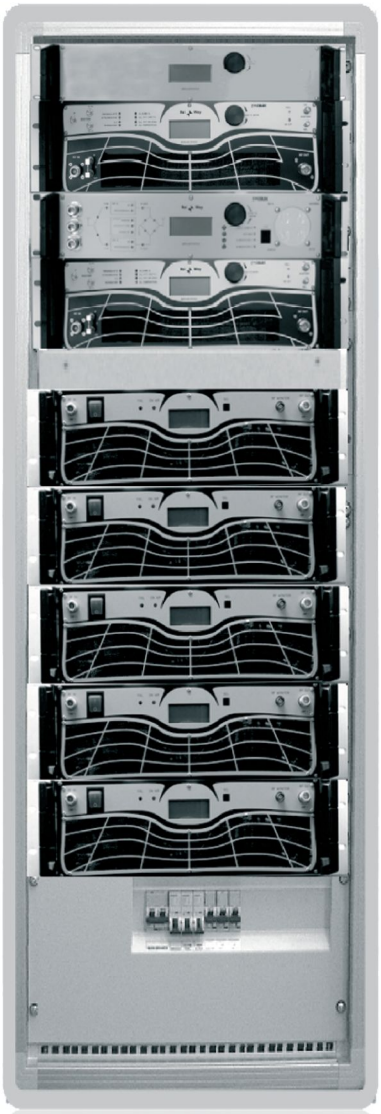
5KW TV Transmitter

The Broadstones 5 kW TV Transmitter is available for the bands III and UHF with common amplification process of the Vision and Sound carriers. These transmitters are ready for the Digital TV signal process in the different standard emissions, as well:

- DVB-T (Digital Video Broadcasting Terrestrial)
- ATSC (Advanced Television System Committee)
- ISDB-T (Integrated Service Digital Broadcasting Terrestrial)



Key Features

- Broadband frequency synthesizer, without any other tuning or alignment.
- Analogue and Digital emission according to the standards
- High Quality modulated signal, with low residual noise and distortion.
- RF signal free from spurious and harmonic components.
- Output Filter built-in
- MOSFET and LDMOS technology to obtain reliability, high linearity and efficiency
- Redundant 5 x 1.2 kW RF power amplifier with own power supply.
- Hot pluggable RF power amplifiers
- Dual Drive ; 1+1 ; N+1 Redundancy configuration capability
- High Tolerance mains voltage (± 20 %) is accepted by the transmitter
- Remote Operation compliant to IEC 864-1 rule (all options are available)
- Air Cooling System fully integrated
- Very low acoustic noise -64dBA
- Very low heat room dissipation less than 500W with inlet and outlet air ducts conveyed out.

Transmitter Model	Band	Output Power Capability		
		Analogue	DVB-T / ISDB-T	ATSC
SPARK 5000VBIIITV TX/H	III	5kW peak sync +500 W mono sound or 250+50W dual sound	1200 Wrms	2500 Wrms
SPARK 5000TV TX/H	UHF			

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5KW TV Transmitter

Common technical specifications for Band I, III and UHF

RF

Output power:	5kW peak sync
Vision/Sound power ratio:	10/1 single sound 20/1/0.2 dual sound
Vision - Sound amplification:	Common
Standards:	B, D, G, K, I, M, N
Modulation class:	C3F, F3E
Sound transmission:	FM single-sound dual-sound coding IRT NICAM 728
Harmonics emission:	≤ 1mW
Spurious emission:	≤ 1mW
Intermodulation products from vision and sound:	≤ 60 dB
Frequency stability:	± 200 Hz / 6 months ± 2 Hz / month (option)
External drive frequency:	5 MHz, 1V /50Ω
Offset capability:	25 Hz step up to ± 24 kHz

VISION

Video input:	BNC 75 Ω connector
Nominal input level:	1 Vpp ± 6 dB
Return loss:	≥ 30 dB
DC restoration:	clamped to the blanking level without affecting the burst
White limiter:	at 90% picture signal without affecting the chrominance

TRANSMISSION CHARACTERISTICS

Sideband spectrum response:	according to the standard request
Amplitude-frequency response:	according to the standard request
Group delay variation without Receiver equalizer:	≤ ± 35 ns
Non linearity (black- white):	≤ 5 %
Differential gain:	≤ 5 %
Differential phase):	≤ ± 3°
Signal to hum ratio (f ≤ 1kHz):	≤ 50 dB
Signal to random noise ratio (unweighted 0.2 to 5 MHz):	≥ 56 dB
Blanking level variation:	≤ 2%
2T k factor:	≤ 2%
ICPM (picture range)	≤ 2°
Intermodulation products (three tones test):	≤ 60 dB

SOUND

Nominal input level :	-10 to + 6 dBm
Input impedance:	.600 Ω balanced (or ≥ 5 kΩ)
Pre-emphasis:	50 µs 75 µs (on request)

TRANSMISSION CHARACTERISTICS

Amplitude-frequency response:	40 to 15000 Hz ± 0.5 dB
Total harmonic distortion:	≤ 0.5%
FM signal to noise ratio (referred to 100% modulation):	≥ 60 dB (unweighted)
AM signal to noise ratio:	≥ 46 dB (referred to 100%)
AM synchronous modulation:	≤ 40 dB (referred to 100%)

REMOTE CONTROL

Parallel interface:	start, stop, standby, alarms, status, interlock
Serial interface:	RS-232 or other on request (Full control and management)

GENERAL

Voltage power supply:	3 x 230 VAC ± 15 % 3 x 400 VAC ± 15 % (others on request)
Frequency:	50 - 60 Hz ± 5 %
Temperature operating range:	0 to 45 °C
Altitude:	up to 2.500 meters (≥ 2.500 m with additional cooling system)
Power consumption (cooling system included):	≤ 18 kW (black level)
Power factor:	≥ 0.9
Cooling:	forced air
Acoustic noise:	≤ 65 dBA
Dimensions:	602 x 1900 H x 900 mm
Weight:	600 kg approx.

Design and specifications are subject to change without notice

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