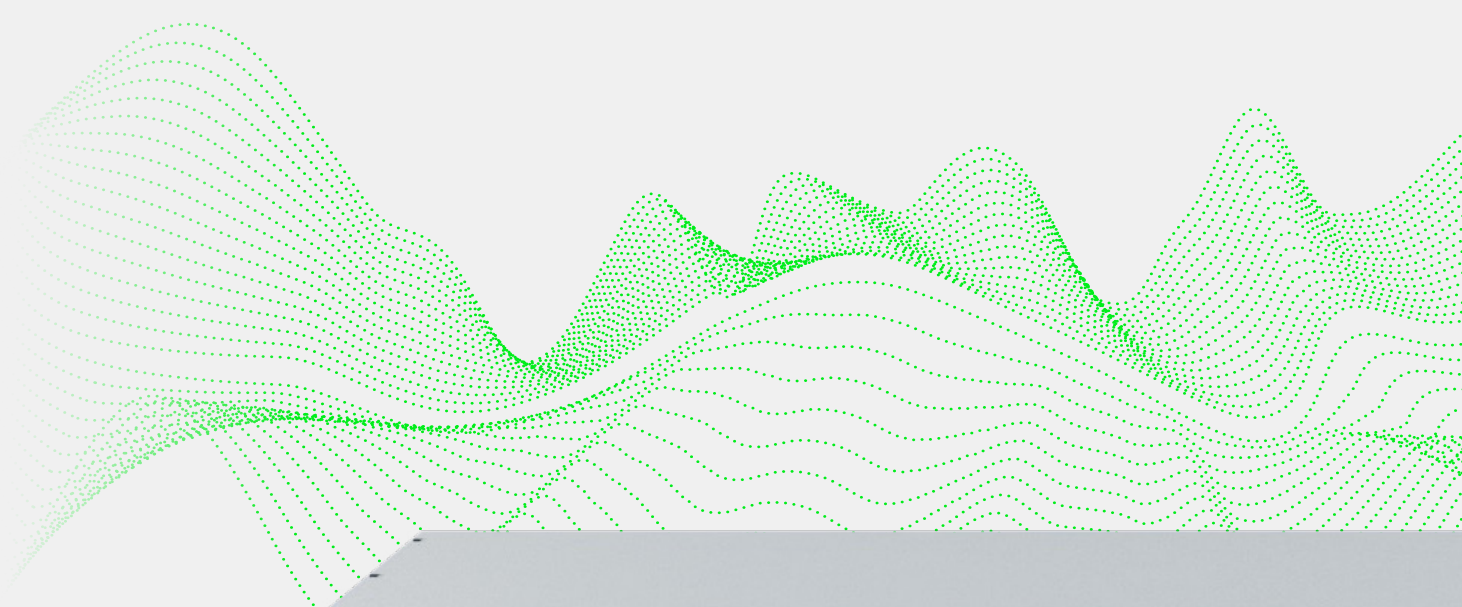


RFE

MAKING
BROADCAST
SMARTER

DS150/DDS

150W FM Transmitter - w/DDS





DS150/DDS - 150W FM Transmitter w/DDS



PRODUCT DESCRIPTION

The DS150/DDS FM Transmitter features in a very compact dimensions all of RFE's most innovative characteristics. An extremely reliable device, easy to be used and controlled, including the best performances in its class, in a small size.

The DS150/DDS transmitter is compatible for HD Radio and DRM+ mode for future technology upgrade with additional RF input for a modulated RF Digital signal.

The standard configuration includes various features, while others are available on request.

MAIN FEATURES

- Highest overall efficiency
- Large LCD color display with touch panel
- Nominal Output Power 150W
- UDAQ Ultimate Digital Audio Quality
- High stereo performance typ. 60 dB
- 6th LD-MOS generation VSWR 65:1
- CCIR & FCC Compliant
- DDS Direct Digital Synthesis
- Compatible for HD Radio and DRM+ mode

OPTIONS

- RDS/RBDS coder
- SNMP v2 remote control
- OIRT and JPN version
- Audio Over IP
- GSM Telemetry
- SFN Reference
- Deep Tropicalization
- Compatible for HD Radio and DRM+





GENERAL

Power Output	150W adjustable from 10% until to 110% of nominal power
RF Output Impedance	50 Ohm, unbalanced
RF Output Connector	'N' standard , others optional
Monitor RF	BNC connector.
VSWR max admissible	1.5:1 @full power - foldback activates beyond 1.5:1 @full power
Frequency Range	87.5 ÷ 108.00 MHz, Programmable in 10 kHz steps. (Other frequencies on request)
Frequency Stability	≤±1 ppm from -5 to 45°C Frequency accuracy best than± 50 Hz in short period ± 150 Hz max after one year
Off Lock Attenuation	≤ -80 dBc
Modulation Capability	max ±100kHz (nominal ±75 kHz±5%).
Power Good Detector	adjustable from 20÷90% of the power (switchover threshold)
Audio Presence Detector	adjustable level and time
Modulation Mode	Mono, Stereo, AES/EBU, Multiplex, SCA, RDS
Preemphasis	Flat/50/75µs selectable from front panel
Residual AM Synchronous	≤ -50 dB
Asynchronous AM S/N Ratio	≤-70 dB @100% AM without Modulation
Synchronous AM S/N Ratio	≤-60 dB @100% AM with Modulation
RF Harmonics	≥ 75dBc - Exceeds EBU/CCIR/FCC requirements.
RF Spurious	≥ 80dBc - Exceeds EBU/CCIR/FCC requirements.

**MONO
OPERATION**

Audio Input Impedance	600 ohm balanced - ≥10 kOhm.
Audio Input Level	-6 to +12 dBm adjustable
Input Connector	XLR female
Audio Frequency Response	±0.1 dB, 30 Hz to 15 kHz
Total Harmonic Distortion	<0.1% with or without pre-emphasis [range ±75KHz]
Total Harmonic Distortion + Noise	<0.1% with or without pre-emphasis [range ±75KHz]
FM S/N Ratio	≤-75 dB below ±75 kHz deviation (unweighted).

**STEREO
OPERATION**

Audio Input Impedance	600 ohm balanced -10 KOhm
Audio Input Level	-6 to +12 dBm adjustable
Input Connector	XLR female
Audio Frequency Response	±0.1 dB, 30 Hz to 15 kHz
Total HarmonicDistortion	<0.1% with or without pre-emphasis [range ±75KHz]
Total HarmonicDistortion + Noise	<0.1% with or without pre-emphasis [range ±75KHz]
FM S/N Ratio	≤-75 dB below ±75 kHz deviation (unweighted).
Stereo Separation	≥ 50dB from 30Hz to 15kHz (typ 60dB @ 1kHz)
Crosstalk attenuation	Main to Sub ≤-60 dB 30 Hz to 15 kHz
38 kHz Suppression	≤ -75 dBc
Pilot Frequency	19 kHz ± 2 Hz
Output Pilot	1 Vpp. (selectable), BNC female





MULTIPLEX
OPERATION

Composite Input Impedance:	>10k0hm unbalanced
Composite Input Level	-6 to +12 dBm
Input Connector	BNC Female
Composite Amplitude Response	±0.1dB, 30Hz to 100kHz.
FM S/N Ratio	≤ -75 dB below ±75 kHz deviation

AES/EBU
OPERATION

THD+N (30 Hz to 15 KHz)	< 0.1%
Input Connector	XLR female.
Input Impedance	110 ohm
Input Level	-12 to -0 dBfs
Data Format	24 bit (automatic)

SCA, RDS
OPERATION

Sampling Frequency	from 32 to 96 kHz (automatic)
Input Impedance	≥ 2 k0hm
Input Level	-6 to +12 dBm adjustable
Frequency Response	±0.1 dB, 50 kHz to 100 kHz
Input Connector	BNC female.

OTHER FEATURES

Power Reduction	permits the reduction of the output power. Time and power adjustable from the front panel.
Audio Changeover	permits the automatic switching of the main audio source to a backup audio source in case of the main audio absence.

AUXILIARY
CONNECTIONS

Digital Input	SMA Female for RF Digital input (Optional)
Telemetry Interface	connector DB25 back panel (I/O and Relay Contact)
LAN	RJ45 connector back panel (Web Interface)
MPX OUT	connector BNC back panel.

OPTIONS

	SNMP v2c
	Audio Over IP
	RDS Internal Coder

INTERNAL RDS
CODER
[optional]

Type	Dynamic, Compliant to CENELEC Spec. (EN50067)
Frequency	57 kHz ± 3 Hz
Synchronization	19kHz ± 3 Hz Internal or External (Software selectable)
Interface	RS232 Asynchronous (1200 to 19600 baud) LAN/IP using the RDS-IP-100 Optional Interface
Services	PI, PS, TP, TA, PTY, M/S, DI, CT, RT, AF, IH.
Memories	6 memory programs.
Coding	Differential and Bi-phase
Amplitude Modulation	Double band with Carrier Suppression
Other Feature	In case of RDS coder fault the Transmitter keep broadcasting.

ELECTRICAL

AC Input Power	230 VAC ± 10% 50/60 Hz± 4% single phase
AC Apparent Power Consumption	300VA @ 150W
Efficiency	≥ 50 %
CosΦ	> 0.98
Cooling	Forced air.
Acoustic noise	< 56 dBa @ 1 meter max.

ENVIRONMENTAL

Operating temperature	-10°C to +50°C
Max Operating Altitude	4500 mt. , derating applicable
Relative Humidity Range	0 to 95% (Non condensing)

PHYSICAL
DIMENSION

Mounting	Standard 19" chassis 2 U rack
Size	W x 483 mm. D x 520 mm. H x 88 mm
Weight	~ 6 Kg

