



DIGITAL BROADCAST

FM

Mozart DDS EVO



**Mozart DDS EVO Series**

Compact FM Transmitters with Direct Digital Synthesis technology

# Mozart DDS EVO Series: Compact FM Transmitters with Direct Digital Synthesis technology

## The best possible audio quality and the highly improved frequency stability in FM Broadcasting thanks to DDS Technology

*Mozart DDS EVO FM Transmitter / Exciter is the evolution of the Mozart DDS line with the Direct Digital Synthesis technology to grant the highest audio quality and the best optimization for SFN integration.*



## Main Benefits

**Superior audio quality and sound purity** thanks to the Direct Digital Synthesis technology.

**Suitable for SFN (Single Frequency Network) application**, with internal modulation phase adjustment to optimize SFN network setting.

**The highest AC efficiency**, reaching over 70%, obtained by GREEN RF™ technology combined with 6th MOSFET generation.

**Energy saving**: higher efficiency means less energy and operational costs, less heat generated and cooling costs.

**Low maintenance costs**, thanks to the easy access to all components, externally accessible cooling air filters to allow instant cleaning and replacement, 5 minutes replaceable fans without stopping the transmitter to keep you always on air.

**High Reliability**: very high MTBF for RF and power supply modules.

**Reduction of transport costs and simplified logistics**: compact design and low weight.

**Highest frequency stability** due to DDS technology.

**New user-friendly remote management**: built-in Web server and SNMP, no software to install, easy access to setup and monitoring of all main parameters to grant the full control of the equipment even from remote and to save your time.

**Built-in Dynamic RDS encoder**: supports PI, PS, TA, TP, MS, PTY, PTYN, TA custom, up to 25 AF, DI, Dynamic PS scrolling. Synchronized with UECP serial protocol.

**Customized Warnings and Alarms**: easy user configuration for warnings and alarms.

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## Main Features

**Automatic audio switch**: easy setting of priority list of audio sources to grant the automatic switch to audio input backup.

**Powerful modulation limiter**, keeping the maximum frequency deviation within international standards requirements, to avoid over modulations and adjacent channels interferences (the limiter can be soft or hard, threshold easily adjustable via web GUI interface).

**Ideal for N+1 configuration use**: the presence of multiple memory profiles allows the customer to store the main configuration parameters, with easy user recall. This is ideal in case of N+1 systems for a quick recover of the failed transmitter configuration to setup the reserve.

**Storing configuration**: actual configuration can be downloaded, stored and uploaded in another unit for easy recovery.

**Firmware upgradeable remotely** (by WEB GUI).

**Log file**, with every TX alarm event tracked. The Log file can be saved in the PC in common text format.

**Switch-mode power supply**, highly efficient and widely over-rated power supply modules ensuring low heating, low AC power consumption and superior reliability. The PFC circuitry meets all international requirements for mains network disturbances.

**High efficiency air cooling system**, with heat-sink temperature rising only max 10°C above ambient temperature. This guarantees perfect functioning even in sites with extreme climate conditions and high temperatures.

## Efficiency Enhancement

Mozart design was optimized to get minimum RF losses of the passive elements and excellent performances of the active elements in order to increase the AC efficiency up to more than 70%.



Latest generation LD-MOS devices increase DC to RF efficiency up to 85%, with a drastic reduction of energy consumption.



Hot-plug fans: less than 5 minutes maintenance time, no need to open, reduce power or switch the unit off.

## Mozart FM Transmitters



Over 70% RF Efficiency



High Scalability



Remote Control

## RF FEATURES

RF Output impedance	50 $\Omega$
Frequency range	87.5 to 108 MHz in 10 kHz steps
Type of modulation	F3E / F8E direct FM at the carrier frequency
Modulation mode	Mono, Stereo, Multiplex, SCA, RDS/DARC, AUX, AES/EBU (input selected by front panel)
Frequency deviation	$\pm 75$ kHz =100 %, $\pm 150$ kHz capability
Frequency generation	NCO (Direct Digital Synthesis)
Frequency stability	$\pm 1$ ppm/year
RF harmonics	Exceeds CCIR/FCC requirements
RF spurious	Exceeds CCIR/FCC requirements
Pre-emphasis	Flat/50/75 $\mu$ s selectable
Stereo operation	CCIR 450/S2 "pilot tone system"

## STEREO OPERATION

Audio Response	(30Hz $\div$ 15kHz) <0.3dB
Modulation distortion	< 0.3% @ 75kHz deviation
SNR	> 80 dB @ 75kHz deviation
Common mode rejection	> 60 dB
Crosstalk	> 60 dB (30Hz $\div$ 15kHz)

## MONO OPERATION

Audio Response	(30Hz ÷ 15kHz) <0.3dB
Modulation distortion	< 0.3% @ 75kHz deviation
SNR	> 80 dB @ 75kHz deviation

## MPX OPERATION (External coder)

Audio response	30Hz – 65 kHz	<0.1 dB
	65 kHz - 95kHz	<0.5 dB
Modulation distortion	< 0.3%	
SNR	> 75 dB	

## AUDIO INPUTS

Function	Input level / Adjustment range	Impedance	Type	Conn.
L	-6 ÷ +6 dBu	20 k Ω 600 Ω	Unbal. Bal.	XLR
R	-6 ÷ +6 dBu	20 k Ω 600 Ω	Unbal. Bal.	XLR
Composite MPX	-6 ÷ +12 dBu	20 k Ω	Unbal.	BNC
AES/EBU	-24 ÷ 0 dBFS	110 Ω	Unbal.	XLR

## ENVIRONMENT

Storage temperature	-5 °C TO + 50 °C
Operating temperature	0 °C TO + 45 °C
Relative non-condensing humidity	90 % MA
Max operating altitude	2500 mt.

## SIZE & ELECTRICS

Power supply	230V single phase AC (+/-15 %) 50-60Hz/ ± 5%
Cooling	Forced air, with external fan
Service	24/24h

MODEL	OUTPUT POWER	OUTPUT CONNECTORS	DIMENSIONS
MOZART DDS EVO 30	30 W	N	1U
MOZART DDS EVO 50	50 W	N	1U
MOZART DDS EVO 100	100 W	N	2U
MOZART DDS EVO 300	300 W	N	2U
MOZART DDS EVO 500	500 W	7/16	2U
MOZART DDS EVO 1000	1000 W	7/16	3U

All specifications are subject to change without notice.



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