



DIGITAL BROADCAST

FM

Mozart NEXT



**Mozart NEXT Series**

Innovative Technology for NEXT generation FM Transmitters

# Mozart NEXT Series Specifications



## Innovative technology for NEXT generation FM transmitters

*Evolution of the latest audio excellence in the FM Broadcasting Industry*

### Instant replacement of the power supplies

Easy maintenance, without off-air. The power supply plug-in modules can be safely removed from the front panel without interrupting the transmission.

### Automatic Current Sharing (ACS)

Automatic current balancing system, perfect load distribution, best power supplies operating conditions.

### Maximum Redundancy

Due to optimized ACS system, extremely low output power loss in case of power supply failure. In Mozart NEXT 2000, for example, with dual power supply configuration the power loss in case of one power supply failure will be less than 35% (/DPS1) or even 0% (/DPS2)!!

### High efficiency cooling system

The air cooling system limits the heat-sink temperature rise only max 10° C above ambient temperature. This guarantees perfect functioning even in sites with extreme climate conditions and high temperature.

### Web control

Extremely detailed web control with all main parameters fully controllable and adjustable, available without proprietary tools. Weekly scheduler page with up to 4 events for each day for energy consumption optimization management. E-mails configuration available (sent in case of alarms).

### Remotely upgradable

Firmware remotely upgradable by TCP/IP for modulator board

### GREEN RF™ technology

The GREEN RF™ technology, combined with the new 65:1 devices, is the latest evolution of the world-famous patented COLD-FET™ technology applied on DB's transmitters. The main advantages are:

- High RF efficiency (>70%)
- Higher safety
- Higher reliability
- Lower heating
- Lower AC power consumption

### AAD™ technology

It prevents corrosion from air moisture and increases reliability:

- Components are made in anticorrosional aluminium.
- Air is ducted to avoid contact with electronic parts.
- All electronic boards are tropicalized with a special resin to protect the circuits against salt air.

### Uninterrupted service

An intelligent protection system reduces the output power without on-air interruption, keeping the RF devices always within the safe operating parameter in case of:

- Load mismatching
- Environmental over-temperature
- Cooling failure
- Amplifier breakdown

# Human Interface, Connectivity and Web Remote Control

Main parameters are fully controllable and adjustable by Web and SNMP. The following parameters are available on GUI interface:

- ▶ Operation Frequency.
- ▶ Output power.
- ▶ Input connector impedance
- ▶ Insertion and adjustment of the limiter.
- ▶ Configuration of audio priority
- ▶ Automatic audio switch in case of missing audio input
- ▶ Audio sensitivity of all the inputs.
- ▶ Pre-emphasis value.
- ▶ Audio mode selection.
- ▶ Foldback VSWR threshold setting (in % value).
- ▶ Deviation for:
  - ▶ Left & Right signals
  - ▶ MPX signal
  - ▶ RDS signal
  - ▶ AoIP signal
  - ▶ AUX signal
  - ▶ AES/EBU signal
- ▶ Phase and level of 19 kHz pilot
- ▶ Warning levels for:
  - ▶ audio lower than a specific threshold set by the customer
  - ▶ audio over a specific threshold set by the customer
  - ▶ low power (the output power is lower than a specific threshold set by the customer)
  - ▶ VSWR (the reflected power is higher than a specific threshold set by the customer)
- ▶ Audio low times (how much time the audio remains lower than the specific threshold)
- ▶ Audio over times (how much time the audio remains higher than the specific threshold)
- ▶ Weekly scheduler page
- ▶ Network parameters settings:
  - ▶ MAC address (read only)
  - ▶ IP address
  - ▶ Subnet mask
  - ▶ Gateway
  - ▶ DNS
- ▶ SNMP parameters settings:
  - ▶ TRAP IP addresses
  - ▶ read community
  - ▶ write community
  - ▶ Sysname
  - ▶ Syslocation
- ▶ 2 levels of WEB access (guest and administrator):
  - ▶ user name
  - ▶ password
- ▶ NTP parameters settings:
  - ▶ time zone
  - ▶ status
- ▶ E-mails configuration (e-mail sent in case of alarm reporting the complete status of the unit and, as attachment, the log file in .txt format):
  - ▶ station ID (label to identify the station)
  - ▶ account Username
  - ▶ account Password
  - ▶ server SMTP URL
  - ▶ server SMTP port
  - ▶ destination Addresses (up to 5 different addresses can receive the notification)

Parallel Remote Control Connector Interface with dry contact relay outputs and opto-isolated inputs with the following signals available: on/off, local/remote, alarm status, RF higher than a preset threshold, reset of alarms, change between 6 available memories (for 6 different configurations of the unit).

REMOTE CONTROL	
Parallel Remote Control Connector Interface:	Available with dry contact relays outputs and opto-isolated inputs
Parallel Remote Signals (TLS):	On Local/remote Audio presence in the input Alarm status RF higher than a preset threshold Status of each of the 6 available memories (active / not active)
Parallel Remote Controls (TLC):	On Off Reset alarms Choice of the active memory among 6 possible configurations
Web log file	<ul style="list-style-type: none"> <li>Up to 200 events stored in the web board</li> <li>The log file is saved in the PC in common text format (.txt)</li> </ul>
SNMP	SNMP v2c with Traps and Informs
Weekly scheduler page	Available for the modification of the basic parameters of the unit up to 4 times for each day
SOFTWARE	
Update:	Available without proprietary tools Firmware remotely upgradable by TCP/IP Received software automatically controlled before being installed
Configuration download	The configuration of the active memory can be downloaded and stored in the PC. This file can be uploaded in another unit to set it with the same configuration without any other adjustment





# Maximum Redundancy & Efficiency

Due to optimized ACS system, extremely low output power loss in case of power supply failure. In dual power supply configuration, the power loss in case of one power supply failure can be less than 35% or even 0% !

Maximum Efficiency: Mozart NEXT design was optimized to get minimum 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: 5 minutes maintenance time, no need to open or switch off the unit.



Hot-plug power supplies (for transmitters of more than 1kW): 2 minutes maintenance time, no need to open or switch off the unit.

## ● GREEN RF™

Latest generation LD-MOS devices increase DC to RF efficiency up to 85%, with a drastic reduction of energy consumption. Overall AC to RF efficiency is over 70%.

## ● COLD-FET™

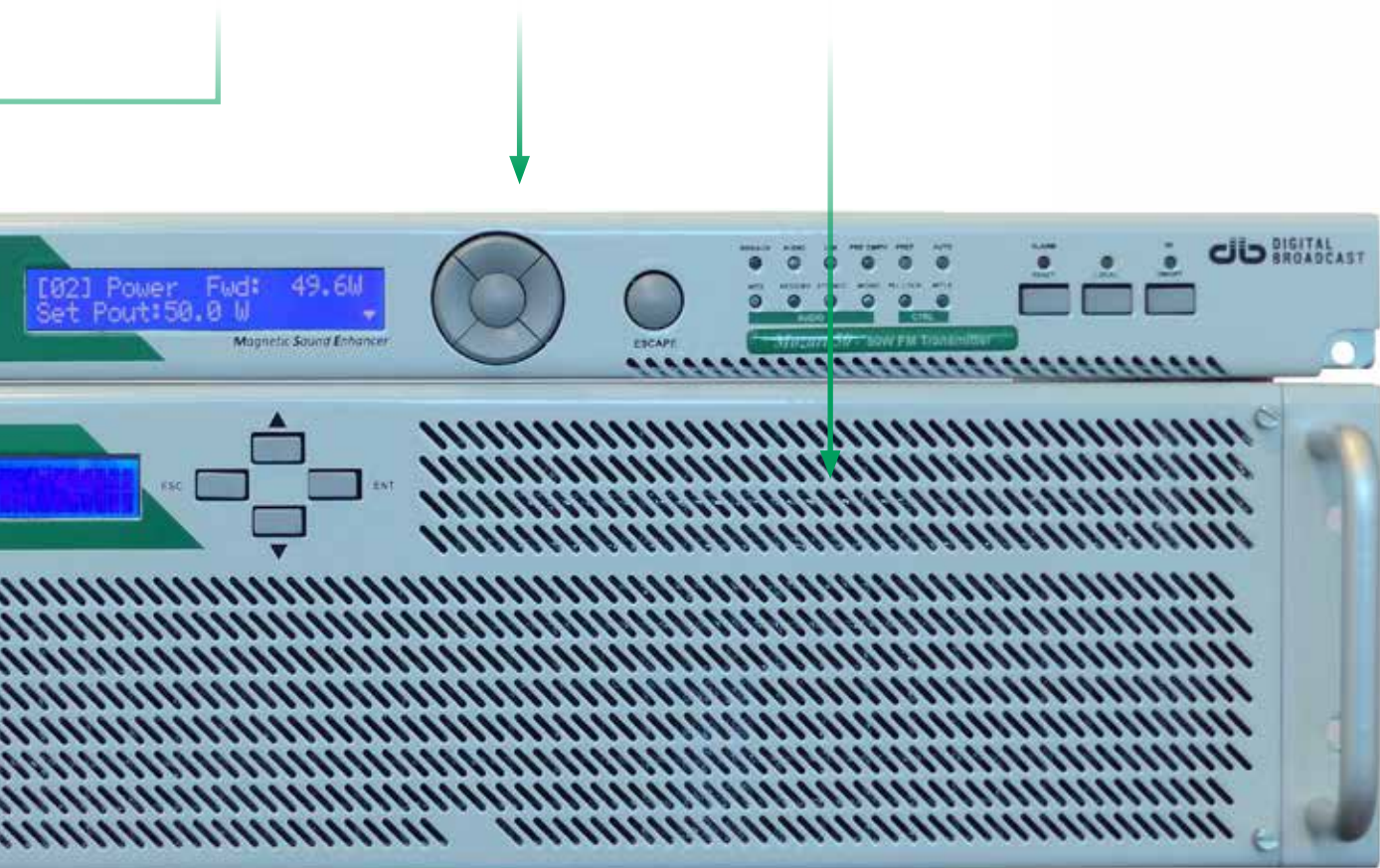
Lower heating + High RF efficiency  
= Longer device's life.

## ● MSE™ Magnetic Sound Enhancer

A magnetic barrier protects the VCO, the heart of FM modulator.

## ● 65:1

No more load mismatch failures: all devices are with VSWR 65:1 built-in protection.



## GENERAL

Frequency range	87.5 to 108 MHz adjustable with 10kHz step
Output impedance	50 $\Omega$ unbalanced
Deviation capability	$\pm 75$ kHz, up to $\pm 200$ kHz with distortion < 0.5%
Short term stability	$\pm 1$ ppm from -5 to +45 °C
RF harmonics	Exceeds CCIR/FCC requirements
RF spurious	Exceeds CCIR/FCC requirement
Pre-emphasis	0, 25, 50, 75 $\mu$ s (selectable)
Modulation monitoring	BNC connector
Pilot tone	19 kHz $\pm 1$ Hz Phase and Amplitude adjustable from display and WEB interface
Log file	Up to 200 dated events available from display and from web interface

## AUDIO INPUTS

Modulating input signal	Mono, Stereo (Left, Right, Left + Right), Encoded stereo (MPX), SCA, RDS, AUX, Digital AES/EBU (optional), AoIP (optional)
Input sensitivity adjustment	With 0,05dB steps by front panel display interface or by WEB interface
Limiter	It can be enabled/disabled and adjusted from 30 kHz to 180 kHz by front panel display and WEB interface
Internal RDS coder	Synchronized with the 19kHz pilot of the internal stereo coder or the 19kHz pilot of an external MPX signal

### MONO

Audio input levels for $\pm 75$ kHz deviation	Adjustable from -9 to +18 dBu
Audio response	$\pm 0.3$ dB (30 Hz to 15 kHz)
THD+N on encoded channels	< 0.06% ( typ. 0.03% ) (30 Hz to 15 kHz)
Audio Impedance	10 $\Omega$ Balanced or 600 $\Omega$ balanced
Audio connector	XLR
FM S/N	>85 dB

### STEREO

Audio input levels for $\pm 75$ kHz deviation	Adjustable from -9 to +18 dBu
Audio response	$\pm 0.3$ dB (30 Hz to 15 kHz)
THD+N on encoded channels	< 0.03% (30 Hz to 15 kHz)
Audio Impedance	10 k $\Omega$ Unbalanced or 600 $\Omega$ Balanced
Audio connector	XLR (Left & Right)
FM S/N	>80 dB

### MPX (External coder)

Audio input levels for $\pm 75$ kHz deviation	Adjustable from -9 to +12 dBu
Audio response	$\pm 0,15$ dB (30 Hz to 100 KHz)
THD+N on encoded channels	< 0.03% (30 Hz to 100 kHz)
Audio Impedance	> 5 k $\Omega$ Unbalanced
Audio connector	BNC
FM S/N	>80 dB

### RDS/SCA/AUX (with separated connectors)

Audio input levels for $\pm 75$ kHz deviation	Adjustable from -6 to +12 dBu
Audio Impedance	2.2 k $\Omega$ (others on request) Unbalanced
Audio connector	BNC

### AES/EBU

Audio input levels for $\pm 75$ kHz deviation	Adjustable from -15 to 0 dBFS
Audio Impedance	110 $\Omega$
Audio connector	XLR
Sample Rate	32, 44.1, 48, 96 kHz automatically selected



## FRONT PANEL

Front panel menu	Accessible from LCD display
Direct function push buttons	Available on the front panel for the following functions: <ul style="list-style-type: none"><li>▶ ON/OFF (Stand-by)</li><li>▶ Local/Remote</li><li>▶ Reset Alarms</li></ul>
Status leds	Presence of leds to indicate the status of the unit at the first glance
Working parameters leds:	Audio Status: <ul style="list-style-type: none"><li>▶ RDS/AUX input signal present</li><li>▶ Audio presence on the input (Left or Right)</li><li>▶ Limiter inserted</li><li>▶ Pre-emphasis inserted</li><li>▶ MPX input signal active</li><li>▶ AES/EBU input signal active</li><li>▶ STEREO operation with internal stereo coder</li><li>▶ AoIP input signal active</li><li>▶ MONO operations</li></ul> Control Status <ul style="list-style-type: none"><li>▶ Interlock</li><li>▶ PLL locked</li></ul>

## AC POWER REQUIREMENTS

AC supply voltage	115 or 230 VAC $\pm 15\%$ single phase, 400 VAC $\pm 10\%$ three-phase
AC supply frequency	50 Hz or 60 Hz, $\pm 5\%$
Power factor	> 0.9

## ENVIRONMENT

Cooling	Forced air
Service	Continuous 24/24h
Operating temperature	-5°C to +45°C Derate 3°C per 500 m above 2000 mt asl
Relative humidity	Up to 95%

## AVAILABLE OPTIONS

/AEBU	Digital audio input, AES-EBU
/RDS	Fully PC programmable built-in Radio Data System
/DPS1	Dual Power Supply option for Mozart NEXT 2000. Redundant Switching Supply system composed of 2x2000W power supply units to guarantee an RF output power of 1300W in case of one power supply failure.
/DPS2	Dual Power Supply option for Mozart NEXT 2000. Redundant Switching Supply system composed of 2x3500W power supply units to guarantee an RF output power of 2000W even in case of one power supply failure.
/AOIP	IP Audio Streaming option. IP Streaming via TCP, UDP, RTP, Multicast. Including USBFlash Memory Interface for backup .
/AOIP67	IP Audio input option for Dante Audio over IP, AES67 RTP.

MODEL	OUTPUT POWER (W)	CONNECTOR	DIMENSION
MOZART NEXT 30	30	N	19" x 1U
MOZART NEXT 50	50	N	19" x 1U
MOZART NEXT 100	100	N	19" x 2U
MOZART NEXT 300	300	N	19" x 2U
MOZART NEXT 500	500	N	19" x 2U
MOZART NEXT 1000	1000	DIN 7/16	19" x 2U
MOZART NEXT 2000	2000	7/8"	19" x 3U
MOZART NEXT 3000	3000	7/8"	19" x 3U
MOZART NEXT 3500	3500	7/8"	19" x 3U
MOZART NEXT 6000	6000	7/8"	19" x 4U
MOZART NEXT 7000	7000	1+5/8"	19" x 5U

All specifications are subject to change without notice.

## Contact Information

### DB Elettronica Telecomunicazioni S.p.A.

Riviera Maestri del Lavoro 20/1  
35127 Padova - Italy

Ph +39 049 8700588  
Fax +39 049 8700747

info@dbbroadcast.com  
www.dbbroadcast.com

