

# 2K10

## 10KW FM BII SOLID STATE TRANSMITTER

### ELECTROLINK FM BII TRANSMITTERS LINE

2K10 Transmitter belongs to Electrolink high power FM product family. Electrolink FM transmitter generation covers a power range from 50W to 40 kW (higher output power available on request up to 100kW). Each transmitter includes the following components:

- Exciter (analog or digital available)
- Power Amplifiers (horizontal and vertical line)
- Stainless steel transmitter rack with cooling system
- Power combiner
- Power distribution
- Control unit (for local/remote control)
- Step-down transformers (complete protection).

All transmitters can boast outstanding technical parameters, optimum cost/benefit ratio, maximum reliability and ease of servicing. The transmitter can be equipped with analog or digital FM exciter and also dual exciter with automatic change-over unit is available on request.

The transmitter control logic unit, equipped with a touchscreen display, can handle all the parameters and diagnostic about the equipment status and its related sub-units, providing all control functions. All transmitter and amplifier parameters required for diagnostics can be retrieved locally or remotely via standard (IP) protocol and standard software (web browser and lab-view application). Each power amplifier is self-protected and self-controlled.

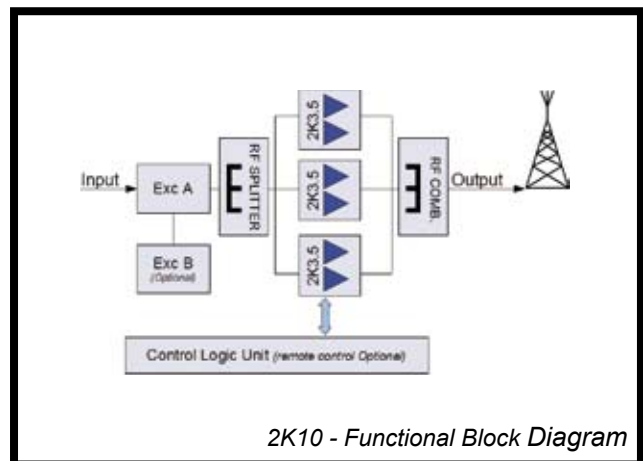
Three step-down transformers, used to provide a total redundancy and protection, are mounted on slide-out wheels in order to get ease installation and maintenance operations.



2K10 - 10KW FM Solid State Transmitter

### KEY FEATURES

- ❑ Analog or digital exciter
- ❑ "State of the Art" solid state technology
- ❑ MOSFET transistors
- ❑ 19" standard rack clearly arranged and easily accessible
- ❑ Hotpluggable power amplifiers (with extender included)
- ❑ Ultra-high redundancy thanks to modular configuration
- ❑ Low junction temperatures of the RF power transistors
- ❑ Three Step-down transformers for complete protection
- ❑ Each final stage disposes of its own power supply unit
- ❑ Remote/local control
- ❑ Protective circuits for the RF power transistors
- ❑ High suppression of intermodulation products
- ❑ Efficient low noise forced air cooling (liquid cooling available on request)



2K10 - Functional Block Diagram



## 2K10 - Technical Data

Frequency range	87.5 to 108 MHz
Output Power	10kW
Homologation RF-AF performances	ETSI ETS 300 384
Homologation EMC standard	ETSI ETS 300 447
Homologation safety standard	UNI EN 60215
RF Output connector	1"5/8 EIA
Input/Output impedance	50Ω
Harmonic suppression	>80 dB
Intermodulation products	<1μW
Remote control	via serial interface RS232
Power Supply:	3-phase 230 - 380 - 415Vac ±15% with neutral 47 to 70 Hz
RF Input Connectors	N type
Input driver power	250W (100W on request)
Power consumption at 10 kW RF	17,8 kVA (all included)
Power factor cos .	≥0.95
Harmonic and spurious suppression	meet or exceed all CCIR & FCC req.
Dimensions (mm)	580 x 1230 x 1662(H)
Weight	500Kg
Ambient temperature	- 5 to +45°C
Storage temperature	-20 to +70°C
Humidity	95 % (non-condensing)
Installation height	up to 3.000 m (asl)

**EXCITER** High performance, compact, reliable and easy maintenance. Adjustable output power from 0W to maximum power with automatic APC control and protection. Safe operation in any working conditions. Completely microprocessor-controlled. It complies with all EC, FCC and CCIR standards. In addition to the analog exciters, Electrolink can also provide Digital FM exciters in order to avoid the needing for analog up-conversion, noise and filtering requirements, bringing up to digital quality standards at very low distortion.

**POWER AMPLIFIERS** Fully solid state and fully broadband all over FM Band (from 87.5 up to 108MHz). For complete redundancy, each final stage (6 final stages per each power amplifier) has its own power supply. The outpower is displayed in the front panel by means of a multifunction display. 3 blowers ensure the complete cooling of the power amplifier. The power amplifiers can be taken out the equipment without turning off the transmitter, thanks to the already included extender: this allows personnel to work into the power amplifiers with complete output power of the transmitter and in safe conditions (only 48V).

**CONTROL LOGIC UNIT** Thanks to it, you can control the status of the transmitter and have a complete control of the equipment. The touch-screen display is very user-friendly and help monitoring all the parameters of the complete system. On the right side, a needle meter always shows the output power.



Note: highest output power available on request - Max 100KW

TRANSMITTER MODEL	OUTPUT POWER	NUMBER OF POWER AMPLIFIERS	DUAL EXCITER (OPTION)
Orchestra	0-250W	-	YES
2K0.5	500W	1 (HORIZONTAL)	YES
2K1	1KW	1 (HORIZONTAL)	YES
2K2	2KW	1 (HORIZONTAL)	YES
2K3	3KW	2 (HORIZONTAL)	YES
2K4	4KW	2 (HORIZONTAL)	YES
2K5	5KW	2 (HORIZONTAL)	YES
2K10	10KW	3 (VERTICAL)	YES
2K20	20KW	6 (VERTICAL)	YES
2K30	30KW	9 (VERTICAL)	YES
2K40	40KW	12 (VERTICAL)	YES

**MAINS DISTRIBUTION** In order to ensure the complete power supply voltages, the transmitter is equipped with 3 step-down isolation transformer (7kVA each) with electrostatic shield that can guarantee 100% redundancy. In case of fault phase lack or one/



two transformers fault, the transmitter keeps on working automatically reducing the output power, but not turn off at all. This allows continuous on-air condition.