



FA10K 10 KW LDMOS FM POWER AMPLIFIER



The FA10K FM Amplifier is designed to provide more reliable high power FM transmitters using the LDMOS transistors for the FM broadcast market.

RGUI (Remote Graphical User Interface) system allows control, monitoring, fault analysis, and event logging using an I.P. based tool.

FA10K Amplifier has been designed to operate in the whole FM frequency range (87.5 to 108.0 MHz), able to deliver an output power adjustable from 0 to 10KW.

This unit is factory calibrated therefore it does not require any adjustment or calibration in place before starting its operation.

It consist of high efficiency latest generation LDMOS BLF574 transistors from NXP.

This LDMOS technology allows higher performance compared to the traditional MOSFET transistors:

- Higher efficiency.
- Higher gain (thanks to high transconductance value and low internal reaction capacitance of MOS transistors).
- Higher thermal stability (negative coefficient for drain current).
- Smaller dimensions at the same RF output power.

An output low pass filter guarantees a clean signal spectrum at any selected operating frequency. In case of fault of the Amplifier or antenna system, a protection board lowers automatically the output power, in order to bring back the operating conditions to a safe area without causing a system shut down.

The protection board reduces the output power in case of:

- V.S.W.R. too high.
- Room temperature too high or cooling stops (OVER HEAT).

An automatic gain control circuit on the same board allows limiting the output power at an adjustable desired level ($\pm 1\%$ tolerance)

The switch-mode power supply is largely oversized and guarantees a regular operation even in the presence of wide main voltage fluctuations: the switching converters contribute to obtain a very high AC to RF efficiency (**> 67%**).

A front panel meter combined with LED indicators enable the quick checking of the most important parameters of the equipment.

The system cooling is achieved by means of a heat sink and in order to guarantee a safe operation even in hard climatic conditions.



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TECHNICAL SPECIFICATIONS

RF Data

Operating Frequency	87.5-108.0 MHz
RF Power Input	50W
RF Power Output	10,000W
RF Input Connector	N
RF Output Connector	EIA 1-5/8
In/Out Impedances	50 Ω
RF Probe	-50 dB, 50 Ohm, BNC
Power Stability	< 1%
Overall Efficiency	67%
Spurious and harmonic suppression (ref. to carrier)	< - 80 dBc
Synchronous AM (ref. 100% mod.)	< - 58 dB
Asynchronous AM (ref. 100% mod.)	< - 50 dB

Measured Values

Forward power
Reflected power
DC supply voltage of each RF stage
DC supply current of each RF stage
Heat sink Temperature
Environmental Temperature
AC Mains voltages

Environmental

Cooling	forced air by internal fans
Service	continuous 7/24 h
Operating temperature	15 to +45 °C/ 5 to +104 °F
Max. Installation altitude	4000m on sea levels

Power

AC Voltage	3 Ph. 320/450VAC – 47-63 Hz
Power Consumption	15000VA

Physical Features

Height	33U (147 cm)
Width	60 cm Rack Mountable.
Depth	110 cm deep including connectors.
Weight	260 kg.