

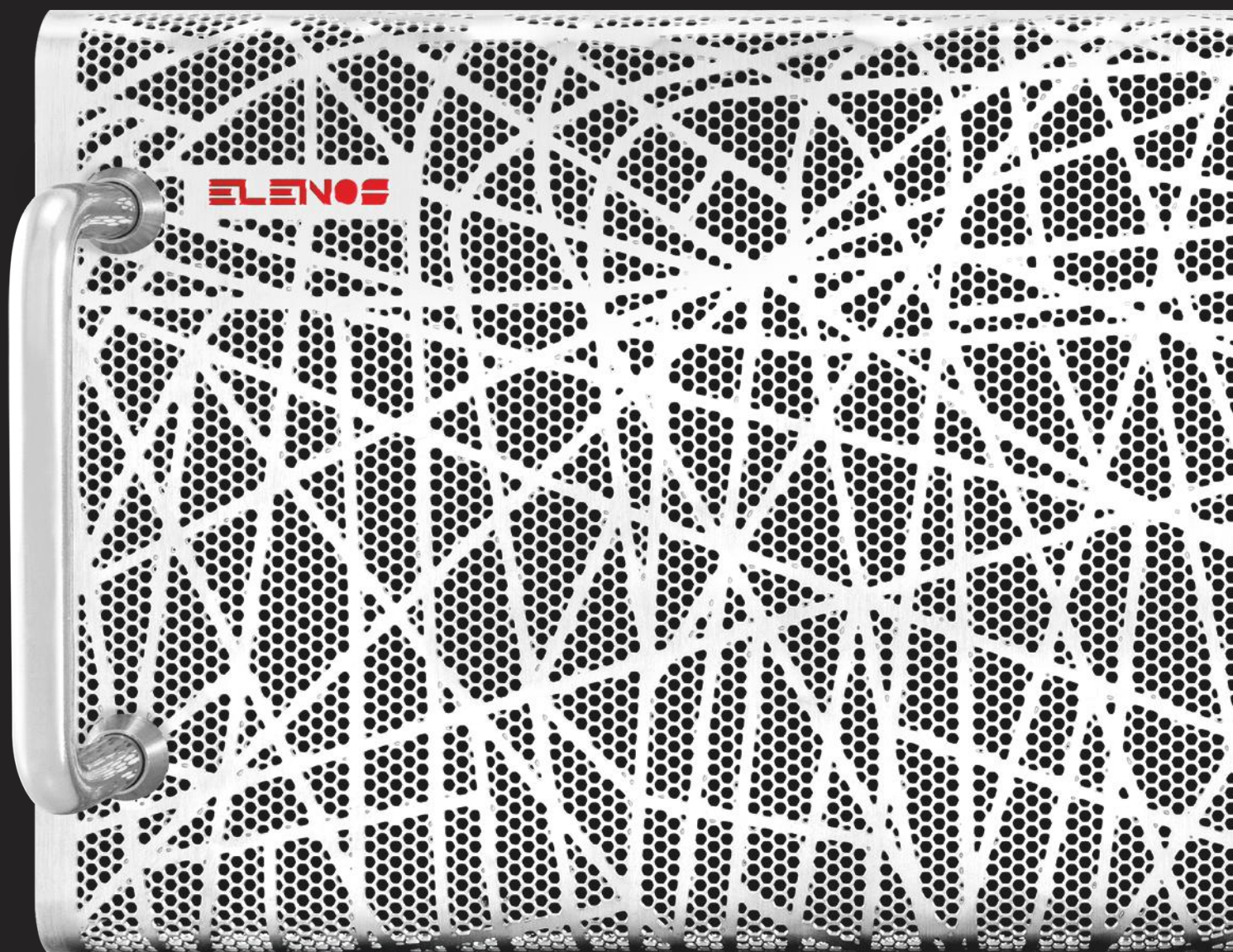
# E10000X

## 10kW4U

FM AMPLIFIER

READY FOR CDR  
AND DIGITAL STANDARDS

**ELENOS**<sup>®</sup>  
World Broadcast Experience



\*All images are proprietary from Elenos and are for indicative purposes only.  
Technical data can be subject to change without notice.





```
Temp.U.:CELSIUS  Time base (10MHz):INTER.
Show D.:ALWAYS  Fwd Pwr Cal. (%) : 100
BBmodel: 0      SWR Foldback : ENABLE
PwDscChk: FALSE  IFA Bias Tires (U) : 8 00
UPS T(W): 2500   Refl Pwr T.N.<10% : TRUE
MENU <=====  PAbias (U) : 5 10
                Max Target Pwr (W) : 5000
```

our technologies



Indium



Icefet



Ecosaving



Life Extender



Brochure

## FM AMPLIFIER **HIGH** POWER - READY FOR CDR AND DIGITAL STANDARDS

### THE RESULT OF 10 YEARS OF RESEARCH IN ENERGY SAVING

The new E10000X amplifier is the latest of a series of Elenos devices, from the Italian manufacturer that proudly boasts a world record: being the first, ever, to concern itself with energy conservation in the context of broadcasting.

Attention is paid to the environmental impact of transmitting stations and it has now also become very important for energy conservation of radio broadcasters.

As early as 2003, with the project in the "IceFet" series (amplifiers and E3000 and ETG3000 transmitters integrated in 4 RU), the highest possible energy efficiency was being targeted with the available technology at the time.

The market trend for limiting consumption and costs was apparent, which is why the planning staff have prioritized this opportunity. In 2007 the economic crisis arrived, but at that time Elenos had already improved its products and had a complete catalogue with a very high energy efficiency range, which was ideal for adopting energy saving policies on consumption. The possibility of programming power, already present in the original projects, was then further improved, allowing for an even more significant saving on electricity.

## REVOLUTIONARY

It is the result of a long investment in research and of the very high competence of Elenos' Team. So the revolutionary E10000X has finally arrived! It is a highly powerful FM amplifier that can boast an unbeatable range of compactness, electrical efficiency and weight.

The apparatus can be contained in just 4 rack units, but can provide 10kW of RF power in the 87.5-108 MHz range with a total electrical efficiency within 70% and 75% in FM transmission.

E10000X is a highly versatile and effective solution, and can be installed in stand-alone mode, or used as a reserve for more powerful systems, but can also be used as a base module for very powerful amplifiers.



Brochure

FM AMPLIFIER **HIGH** POWER - READY FOR CDR AND DIGITAL STANDARDS

## CRISIS BREEDS OPPORTUNITY

Elenos is an Italian company based in the city of Ferrara and the leader of a group that includes brands such as ITELCO and Electrosys.

For Elenos, being an Italian company means knowing how to combine excellence and flexibility and knowing how to transfer these qualities to its products.

Elenos's care for the environment, that from the start of the 2000's attracted the interest of broadcasters more sensitive to these issues, with the arrival of the economic crisis from 2007 onwards became successful as a response to the growing need to manage budgets, but without compromising on the quality of the equipment and their capacity of coverage.

Today E10000X is the heir to this business philosophy that has two concepts at its roots: responsibility and innovation. This equipment looks to the future of international broadcasting because it represents a real and convenient solution, both to the problems of business management, and to the challenges that the world imposes on us.

## CDR Ready

E10000X is designed to be ready for digital standards as CDR.

With a simple command, the apparatus can be switched to analog mode, and will meet all required performance parameters.

## Features:

### **Smart Design**

Extremely small dimensions, lightweight, clean layout, easy maintenance and servicing.

### **Low energy consumption**

Highly reduced electricity consumption and operating costs thanks to innovative and accurate design techniques.

### **Reliability**

Very high reliability and a capacity to maintain operating functionality even under extreme conditions, thanks to intelligent protection systems, Icefet technology and Lifextender algorithms.

### **Total control**

Accurate, detailed data on the device's operation, available at an analytical level (voltages, currents, powers, temperatures, efficiency, protection settings, audio levels, communications).

Remote connection possible via SMS, GPRS, SNMP and WEB.

### **Digital ready**

The FM Amplifier is ready for analog+digital or fully digital transmissions. With the new Elenos FM Amplifier you will catch the best opportunity to face future FM digital challenges.



Datasheet

## FM AMPLIFIER HIGH POWER | E10000X READY FOR CDR

E10000X

FM AMPLIFIER HIGH POWER

### GENERAL DATA

|                                     |   |
|-------------------------------------|---|
| Output Nominal Power                | 10000 W Analog Mode; 3000 W Mixed Mode; 1300 W Full Digital |
| Operating band                      | 87.5 ÷ 108 MHz  |
| RS232/RS485                         | Yes. Connector DB9 female                                   |
| Points of measure                   | RF Sample   |
| Displayed Parameters                | More than 50 parameters displayed on a wide graphic OLED    |
| Adjustments                         | From the frontal panel through OLED/from PC                 |
| Number of L-DMOS in amplifier stage | 14 x BLF188XR   |
| RF power stage technology           | ICEFET & ECOSAVING  |
| Dimensions: Rack units              | 4U  |
| Dimensions: W - H - D               | 48.5 - 17.6 - 74 cm   |
| Weight                              | 45 Kg   |
| Number of power supplies            | 3 (93 % of efficiency)                                      |
| Number of cooling fans              | 6 Controlled speed  |
| RF Output connector                 | 1 + 5/8"  |
| RF Input connector                  | N   |

### RF PERFORMANCE

|                                   |   |
|-----------------------------------|---|
| Output impedance                  | 50 Ω  |
| Automatic RF power control        | Stabilizes the output power at the set value  |
| Overall output power RF stability | +/- 0,1 dB  |
| VSWR                              | 2:1 at full power. Automatic power reduction beyond 1.7:1 in foldback mode. High speed protection against open and short circuit. |
| Driving power                     | 1.8W *  |
| Protections                       | Proportional protection against excess of temperature, currents, VSWR. Smart protections against the propagation of faults.       |



## FM AMPLIFIER HIGH POWER | E1000X READY FOR CDR

### INSTALLATION REQUIREMENTS

|   |                                  |
|---|----------------------------------|
| Power supply                                    | 230/400 VAC 50 ÷ 60 Hz           |
| Power consumption (typical)                     | 13.7 KW Analog Mode              |
| Overall efficiency (typical from -3 dB to Pnom) | 70 ÷ 75 % within 87.5 ÷ 108 MHz  |
| Power factor                                    | > 0.95                           |
| Current Consumption @ 230VAC/single phase       | 60 A                             |
| Current Consumption @ 400VAC/three phase        | 20 A                             |
| Cooling system                                  | Forced air-cooling variable flow |

### ENVIRONMENT

|                                   |                              |
|-----------------------------------|------------------------------|
| Temperature range (operating)     | -5 ÷ +45 °C, 23 ÷ 113 °F     |
| Temperature range (non operating) | -20 ÷ +55 °C, -4 ÷ 131 °F    |
| Humidity range (operating)        | 95% @ 40 °C, 104 °F          |
| Humidity range (non operating)    | 90% @ 55 °C, 131 °F          |
| Altitude range (operating)        | <3000 meters / <9840 Feet    |
| Altitude range (non operating)    | <15000 meters / < 49200 Feet |

### TELECONTROL & TELEMETRY

|                              |     |
|------------------------------|-----|
| Remote control               | Yes |
| Remote control, dry contacts | Yes |
| SNMP option                  | Yes |
| Web option                   | Yes |





