



FM1K0S/E

FM 1KW TRANSMITTER

YOUR RADIO CONNECTED
AROUND THE **WORLD**



BT Broadcast Transmitters

25 years developing and producing radio transmitters
integrating technology and innovation.



FM1K0S/E

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GET TO KNOW OUR TRANSMITTERS EQUIPMENTS

Developed with state-of-the-art technology, the new FM1K0S/E of 1kW Premium Series FM transmitters are revolutionary in their category.

With innovative concepts, the BT transmitters allow the user to integrate with the world wide web through the new HTML interface.

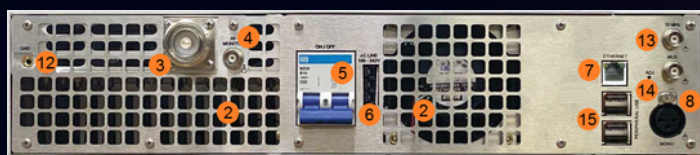
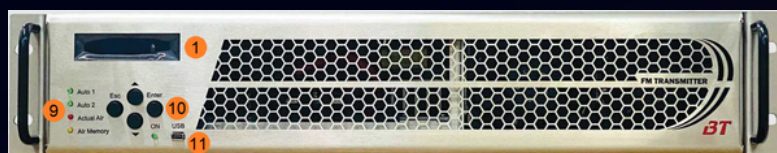
Designed with **LDMOS** technology, the BT transmitters offer excellent performance that translates into electricity savings.

Built in aluminum and with external finish in stainless steel, besides the beautiful appearance, they present a reduced weight.



- Separation and shielding between transmitter stages
- Coaxial cables with Teflon dielectric and silver conductors;
- Aluminum mechanical parts perfectly matched and screwed;
- The RF boards are produced with a Teflon-based substrate and plated with ENIG (nickel-gold alloy), which, in addition to durability and thermal stability, present a low electrical resistance minimizing undesirable losses;

ABOUT OF EQUIPMENT



1. Multi-informative display;
2. Air output;
3. Transmitter power output;
4. RF monitor connector;
5. Protection circuit breaker;
6. AC power connector
7. Telemetry connections (optional)
8. Input signal connections
9. LEDs - Operating Status
10. Menu navigation keys
11. USB communication port
12. Grounding system connection;
13. Input for external 10MHz synchronism;
14. Adjustment of modulation level;
15. USB peripherals for keyboard and mouse;

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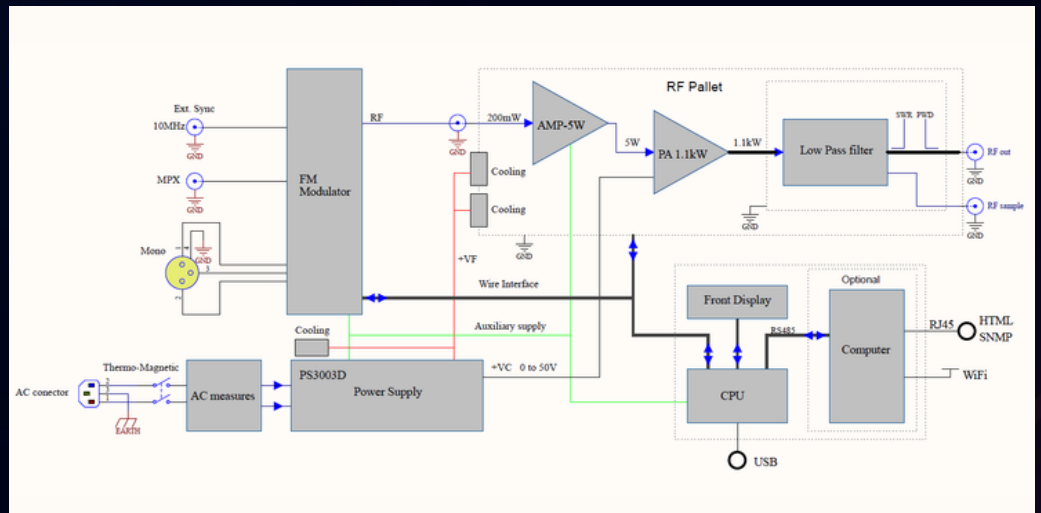
BLOCK DIAGRAM

The block structure allows a simple way to have an idea of the distribution of the transmitter parts. The LDMOS amplifier provides 1000W in its output and has as a highlight the output power control that is made from the voltage variation of the PS3003D source over the power supply of the RF amplifier drains programmed via the transmitter CPU.

We highlight this detail that we consider important, because the transmitters can vary their output power from values near zero to their nominal power. In this way, we guarantee a high and stable output stage performance, even at low programmed power.

We also highlight the fan rotation control that is commanded by the existing temperature sensors. Thus, in less hot environments, the fans work with lower rotation, ensuring greater energy savings and longer life for the entire set.

In the block where the CPU is located, we have the optional inclusion of the computer responsible for the connectivity of the transmitter. It generates the HTML page, SNMP interface and WiFi used for wireless connection inside the room where the equipment is installed and also the physical accesses such as RJ45 and HDMI interface used to connect to an external monitor.

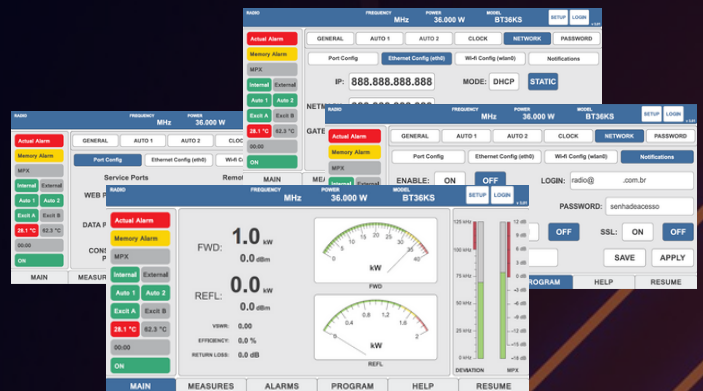


Without the optional computer, we still have a USB interface as standard on all models that by connecting to an external computer and using Windows, we can access all of the transmitter's measurements and controls.

On the front panel we have the display and the four buttons that are used to navigate and control the transmitter independently of the mentioned accessories.

IoT Internet of things HTML connectivity

HTML interface with fixed IP for each transmitter allowing the user free access to the equipment from any point with the Internet.



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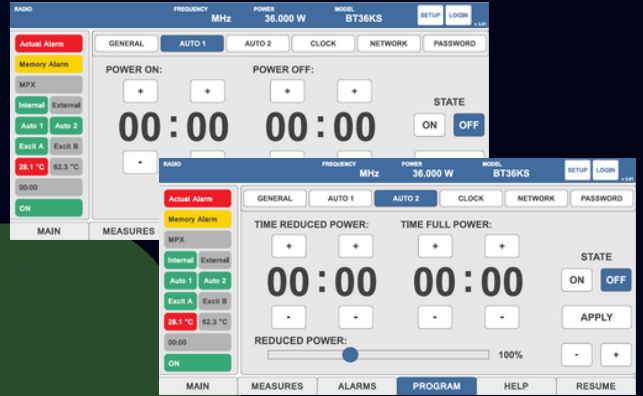
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SAVE MORE ENERGY

You can have significant electricity savings by reducing the power of your transmitter during periods when it is not interesting to maintain high power, for example, during the early morning.

Its FM transmitter does all this automatically without the need for an operator.



Attitudes that
make all the
difference



IoT - Internet of Things



LDMOS Technology



Finishing and
Ruggedness



100% Brazilian product

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TECHNICAL SPECIFICATIONS

AC LINE PARAMETERS

Power supply with $\pm 10\%$ tolerance: **220V AC input voltage**
Frequency: **50 / 60Hz $\pm 5\%$**
Power factor: **0,98 (with power factor corrector - PFC)**
Nominal power consumption: **< 1,4 kW**
Overall efficiency: **$\geq 72\%$**

RF PARAMETERS

RF Carrier frequency range: **76,1 MHz - 87,5 MHz (FM1K0E Model)**
87,7 MHz - 107,9 MHz (FM1K0S Model)
Emission: **Monophonic 180K F3EGN**
Stereophonic 256K F8EHF
Stereophonic + secondary chain 340K F8EWF
Digital DRM e HD Radio®

Frequency stability with ambient temperature
between 0°C and $+50^{\circ}\text{C}$: **$\leq \pm 200$ Hz (with local oscillator)**
Adjustable output power: **0,05 to 1,1 kW**
Modulation deviation: **± 150 kHz (max)**
Range Attenuation: **$\leq \pm 0,1$ dB**
Spurious and Harmonics: **≤ -80 dBc**

AUDIO PARAMETERS

Audio frequency range: **20 Hz - 15 kHz**
Basic band frequency range (MUX): **20 Hz - 200 kHz**
Audio response to frequencies 50Hz to 15kHz: **According to the pre-emphasis drops of 25, 50 and 75 μs (programmable)**

Total distortion at audio frequencies in the range 50 to 15,000 kHz for 25, 50 and 100% modulation: **$\leq 0,1\%$**

Frequency modulation noise level in the range 50 Hz to 15 kHz relative to 100% modulation on 400 Hz signal: **≤ -60 dB**

Amplitude modulation noise level in the range 50 Hz to 15 kHz with respect to 100% modulation: **≤ -70 dB**

ACCESS CONNECTORS

Output antenna connector RF (RF Out): **EIA 7/16" 50 Ω**
Monitor frequency connector (RF Monitor): **BNC 50 Ω**
10 MHz Synchronism (Sync 10MHz): **BNC 50 Ω**
MONO (L): **XLR 600 Ω**
Composite signal (MUX): **BNC 10 k Ω**
Connectivity: **Universal Serial Bus (USB)**

OPTIONS

Pilot (Pilot): **BNC 50 Ω**
stereo (L + R) **XLR 600 Ω**
AES / EBU: **XLR 110 Ω**
RDS / SCA: **BNC 50 Ω**
Connectivity: **Interface HTML**
SNMP

PHYSICAL DIMENSIONS

Height: **90 mm**
Width: **435 mm**
Depth: **635 mm**
Weight (kg): **13 kg**