Compatible **SMARTFM**

BEST of SHOW 2019 RADIOWORLD

Ecreso FM 3kW Transmitter
Efficient. Redundant. Feature-Packed.

Ecreso FM 3kW is a fully digital transmitter for analog FM and is the new flagship product in WorldCast Systems' Ecreso portfolio.

Engineered to meet the needs of the most demanding network operators and stations, it combines reliable performance, efficiency, and state-of-the-art innovation into a compact, yet modular 3U chassis design.

With the Ecreso FM 3kW, broadcasters benefit from built-in redundancy, easy maintenance, a multitude of onboard features and the first patented Artificial Intelligence for FM radio, SmartFM.

This advanced broadcasting solution is the result of decades of experience and a mission to bring to market the best FM transmitters in terms of total cost of ownership and audio quality.

up to **10** YEARS WARRANTY

Digital Exciter

Control

Efficiency

5 band SOUND processor

Ecreso FM 3kW Benefits:

Market-Leading Expertise
60 years of expertise developing RF solutions and deploying several thousands of systems worldwide enables WorldCast Systems to accompany Ecreso FM 3kW with a range of services and warranties.

Lowest Operating Costs
Thanks to cutting-edge innovations and an intelligent design, Ecreso FM 3kW offers high efficiency, reduced consumption and easy maintenance. All-in-all the lowest Total Cost of Ownership.

Highest Quality To Listeners
Ecreso FM 3kW brings amazing audio to your radio broadcasting thanks to the direct-to-channel digital modulator, 5-band sound processor, and MPX over AES compatibility. It's built-in redundancy also keeps you on-air, at all times.

www.worldcastsystems.com

Market-Leading EXPERTISE

Customer support: Expert technical support team to accompany you for installation, configuration, maintenance, repairs, and on-site field operations

Turnkey solutions: Ecreso FM 3kW is available as a stand alone unit or as a system, including peripherals and rack integrations

Project assistance: Site visits, factory acceptance tests, team trainings, installation support

Up to 10-year warranty

Turnkey Solutions & Rack Integrations

Lowest OPERATING COSTS

Up to 76% efficiency thanks to state-of-the-art technology such as 6th generation MOSFET and Planar Design **+ SmartFM**

Many onboard functions: Sound Processor, Dynamic RDS Encoder, Digital Stereo Encoder, Audio Backup, MPX Power Limiter, GPIO...
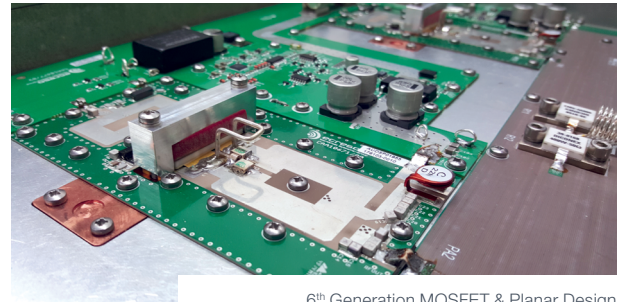
High reliability: The product undergoes Highly Accelerated Life Tests (HALT), Parts Stress Analysis (PSA), Failure Mode Effects and Criticality Analysis (FMECA), burn-in...

Simple control and monitoring thanks to a user-friendly web interface, Advanced Measurement Interface (AMI), 24h graphical history log and Expert Maintenance Reporting (EMR)
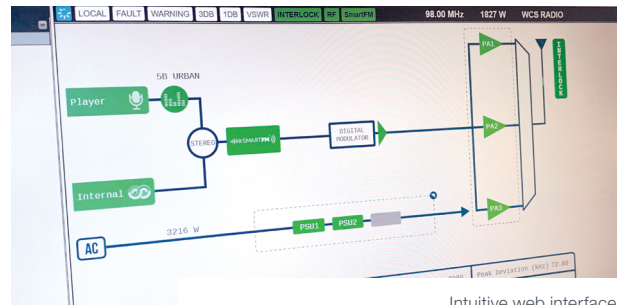
Full SNMP management
⋯→ Up to 4 SNMP managers
⋯→ Control and monitor all parameters
⋯→ Alarms by SNMP traps and e-mails

Reduced maintenance with hot-swappable power supplies and fans

6th Generation MOSFET & Planar Design

Intuitive web interface

Highest QUALITY TO LISTENERS

Built-in redundancy that keeps you on-air
⋯→ Up to 3 power supplies with load sharing
⋯→ Active redundancy RF amplification
⋯→ Passive coupler with maximum robustness
⋯→ Oversized coupling loads for unlimited operation on fault
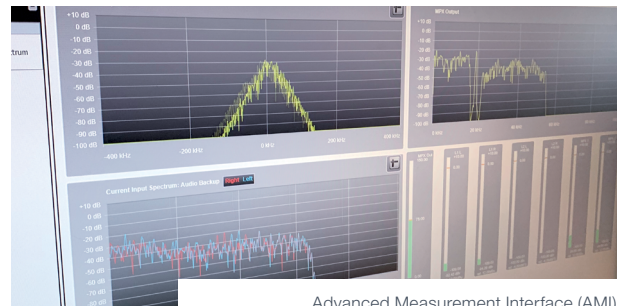
Direct-to-channel digital modulator
⋯→ Highest signal quality / Perfect audio fidelity
⋯→ Several built-in broadcast tools
⋯→ Control of all signal parameters

5-band sound processor

Digital MPX over AES

Audio Backup
⋯→ Silence detect on all program inputs
⋯→ Intelligent automatic auto-switch and recovery
⋯→ Internal player from µSD card

Advanced Measurement Interface (AMI)

Redundant & Hot-swappable Power Supplies and Fans

10-Year Warranty

up to 10 YEARS WARRANTY

Ecreso offers a standard warranty of 3 years on all FM transmitters and up to 10 Years, yes TEN YEARS Warranty, for a small additional charge. No other FM Transmitter Manufacturer even comes close to that commitment or confidence!

This 10-year warranty, unique on the market, is possible thanks to:
⋯→ **Exceptional product design** ⋯→ **Outstanding transmitter efficiency** ⋯→ **Advanced diagnostic capabilities**

SmartFM ARTIFICIAL INTELLIGENCE

Worldwide patented technology for FM transmitters which revolutionizes FM radio broadcasting and brings massive benefits to broadcasters, radios, and their audience of listeners.

⸱⸱⸱> **Lowers energy costs up to 40%**
thanks to electricity savings and reduced cooling

⸱⸱⸱> **Reduces CO$_2$ emissions**
for a cleaner, more sustainable environment

Up to 40% Energy Cost Savings

5-Band SOUND PROCESSOR
Craft Your Own Amazing Sound

- Hosted in direct-to-frequency digital modulator
- Highest quality processing from audio input to RF output
- Powerful DSP-based processing
- Complete 5-band architecture
- Factory presets for all formats
- Easy to fine-tune through intuitive Graphical User Interface
- Real-time meters at each stage
- No additional hardware: maximum reliability, no maintenance
- MPX Power Limiter (ITU 412)
- Wideband sound processor comes standard; 5-Band optional

Sound Processor Interface

Dynamic RDS Encoder

Supports PI, PS, TP, TA, MS, PTY, PTYN, DI, CT, AF, RT
Dynamic PS scrolling
Pure and stable signal thanks to Digital Modulator
Built on Audemat's RDS expertise

Alarm Notifications

Alarm delivery by email (SMTP) & SNMP
Easy configuration of each notification

Scheduler

Schedule any parameter of your ECRESO FM
Automatic preset changes
Schedule RF power to reduce consumption

Single Frequency Network (SFN)

10 MHz input for RF Carrier synchronization
Adjustable program delay (on audio / MPX inputs)

Expert Maintenance Reporting (EMR)

FREE EMR 6 months

EMR is a proactive cloud service which sends regular reports on the status of key parameters such as temperatures, currents and voltages, plus information on the performance and lifespan of components such as the fan and the power supply of the transmitter.

Thanks to a powerful firewall-friendly Web protocol, EMR works securely over a regular Internet connection (ADSL, 3G, ...) even when the connection bandwidth is limited.

ECRESO FM 3 kW

Frequency Range	87.5 to 108 MHz in 10 kHz Steps
Frequency Stability	$< 10^{-6}$ per Year
HF Output	EIA 7/8 type, 50 Ω
Power range	0.3-3.3 kW
Power setting	0-3.5 kW
Power factor	> 0.95
VSWR	< 1.35, optimal performance: < 1.1 , protection : > 1.5
Spurious and harmonic suppression	> 82 dBc
Efficiency	up to 76%
Voltage	3 phase wye + neutral, 340-457 VAC or Single phase 184 VAC to 264 VAC, 47-63 Hz (other configurations on request)
Analog input (LINE1)	2 XLR connectors, balanced, > 10 kΩ (600 Ω jumpers selectable), Software adjustable level (-18/+18 dBu range)
AES Input (LINE2)	1 XLR connector, balanced, > 110 Ω, software adjustable level (-20 to 0dBFS range), AES 16, 24, 32 bits, up to 192 kHz
2 Composite (MPX/SCA/RDS) inputs	2 BNC type, unbalanced, > 5 kΩ, Software adjustable level (-18/+18 dBu range)
Composite operation	
Bandwidth	> 40 Hz to 53 kHz @ 0.1 dB, > 20 Hz to 60 kHz @ 0.2 dB, > 60 kHz to 80 kHz @ 0.4 dB
Intermodulation distortion	< 0.05%
FM S/N ratio	> 80 dB RMS @ 75 kHz deviation
AM noise	> 55 dB, weighted/unweighted, sync/async, RMS/CCIR (20-20 000 Hz)
Stereo operation	
Bandwidth	> 20Hz to 15kHz @ 0.1dB
38 kHz discontinuance	> 50 dB
Stereophonic crosstalk	> 50 dB
Mono operation	
Bandwidth	> 40 Hz to 15 kHz @ 0.1 dB
Out of band rejection	> 40 dB @ 19 kHz
Preemphasis	0 µs, 50 µs or 75 µs
Environmental / Physical specifications	
Overall dimensions	3U x 19" x 700mm
Weight	Main unit: ~27kg, ~60 lbs - PSU's: 2.18/module
Operating temperature	Nominal: 5°C to 45°C, 41°F to 113°F - Maximum: 0°C to 50°C, 32°F to 122°F
Warehouse temperature	-20°C to +70°C, -4°F to 158 °F < 10 years
Humidity	5 - 95 % non-condensing relative humidity
Altitude	Up to 3900 m - 12795 ft
Cooling	4 fans, 1.92 m³ / min per fan (max)
Marking	CE, FCC
Directive and standards	RED 2014/53/UE, EN 301 489-1, EN 60215, EN 301 489-11, EN 302 018-2, EN 50581

Technical specifications are subject to change without prior notice - On a project, WorldCast Systems may offer distinct specifications. Specifications on the offer prevail those in this document.

Order information

Standard Version

REF	DESCRIPTION
TF01072	ECRESO FM 3kW
TF01113	1+1 ECRESO FM 3kW
Several redundancy configurations available: contact us!	
Software Options	
CD01003	SmartFM
CD00106	Dynamic RDS
CD01001	5 Band Sound Processor
Hardware Options	
ST01792	SFN Option
On request	External Surge Protector
TFS01036	3rd hot-swappable power supply
10 year warranty	
EMR3K	10-year warranty for ECRESO FM 3kW
EMR6	Expert Maintenance Reporting

On-Demand Services

Dummy loads, adapters, cables
Cavity filters, combiners and antenna systems
Coverage Study
Turnkey solutions for broadcasting site

afaq
ISO 9001
Qualité
AFNOR CERTIFICATION