

THOMSON

by  **WORLDCAST
SYSTEMS**

POWERFUL **PERFORMANCE**
CONTROL
SAVINGS
SERVICES



Compatible


NEO FM 5-10kW

Efficient. As Solid as a 1+1. Feature-Packed.

NEO FM 5-10kW is a fully digital transmitter for analog FM and is the most powerful flagship product in Thomson by Worldcast Systems' NEO portfolio.

Engineered to meet the needs of the most demanding network operators and stations, it combines reliable performance, highest efficiency, and state-of-the-art innovations. Truly revolutionary, NEO 5-10kW has a built-in 1+1 redundancy which ensures it stays on-air with minimal or no power loss.

With the NEO FM 5-10 kW, broadcasters benefit from reduced maintenance thanks to hot swappable power supplies, power amplifiers and fans, as well as a multitude of onboard features such as SmartFM, an AI technology bringing from 10 to 40% energy cost savings.

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 quality, total cost of ownership, and audio quality.



Digital Exciter



Control



Efficiency



NEO FM 5-10kW Benefits:



Market-Leading Expertise

60 years of expertise developing RF solutions and deploying several thousands of systems worldwide enables Thomson by Worldcast Systems to accompany NEO FM 5-10kW with a range of services and warranties.



Lowest Operating Costs

Thanks to cutting-edge innovations and an intelligent design, NEO FM 5-10kW offers high efficiency, reduced consumption and easy maintenance. All-in-all the lowest Total Cost of Ownership.



Highest Quality To Listeners

NEO FM 5-10kW 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 1+1 built-in redundancy also keeps you on-air, at all times.

www.thomsonbroadcast.tv

NEO FM 5-10kW Key Benefits

Market-Leading EXPERTISE

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

Turnkey solutions: NEO FM is available as a standalone 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, Scheduler, SFN compatibility, GPIO...

High reliability: The product undergoes Highly Accelerated Life Tests (HALT), Parts Stress Analysis (PSA), Failure Mode Effects and Criticality Analysis (FMECA), burn-in...

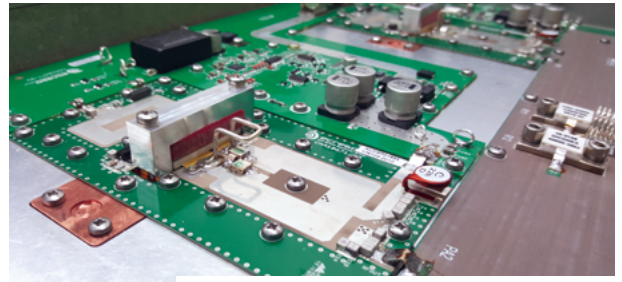
Simple control and monitoring thanks to a user-friendly web interface, Advanced Measurement Interface (AMI), 24h graphical history log and Expert Maintenance Reporting (EMR)

Full SNMP management

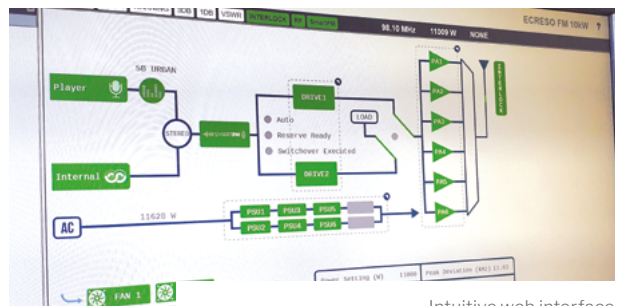
- Up to 4 SNMP managers
- Control and monitor all parameters
- Alarms by SNMP traps and e-mails

Reduced maintenance with hot-swappable power supplies, power amplifiers and fans

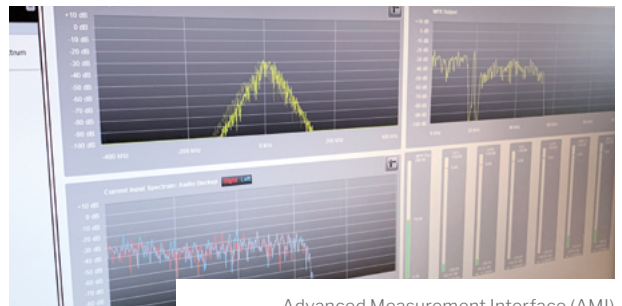
Customized air flow configurations



6th Generation MOSFET & Planar Design



Intuitive web interface



Advanced Measurement Interface (AMI)

Highest QUALITY TO LISTENERS

Built-in 1+1 level of redundancy that keeps you on-air

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



Redundant & Hot-swappable Power Supplies, Power Amplifiers and Fans

10-Year Warranty



NEO 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**

NEO FM 5-10kW **Built-In Features**

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 CO₂ emissions**
for a cleaner, more sustainable environment



**Up to 40%
Energy Cost Savings**

AS SOLID **AS A 1+1**

Unrivalled RF output recovery scenarios:

- 1 PSU loss: 10kW on air
 - 1 MOSFET loss: 10kW on air
 - 1 Fan loss: 10kW on air
 - Control unit loss: 10kW on air
-
- Dual mains breakers
 - Up to 8 x 3.5kW power supplies with load sharing
 - Up to 6 x 2.3kW power amplifiers
 - Passive coupler with maximum robustness and oversized coupling loads for unlimited operation on fault
 - Redundant digital exciters
 - Redundant fans cross fed by redundant PSU's



Figures given in this chapter may vary depending on the transmitter power level and version

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

Expert Maintenance Reporting (EMR)



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.

Technical specifications

	NEO FM 5kW		NEO FM 10kW	
Frequency Range	87.5 to 108 MHz in 10 kHz Steps			
Frequency Stability	< 10 ⁻⁶ per Year			
HF Output	EIA 1"5/8 type, 50Ω			
Power range	0.5kW-5.5W		1kW-11kW	
Power setting	0-6kW		0-12kW	
Power factor	> 0.95			
VSWR	< 1.35, optimal performance: < 1.1, protection : > 1.5			
Spurious and harmonic suppression	> 82 dBc		>85dBc	
Efficiency	up to 76%			
Voltage	3 phase wye + neutral, 340-457 VAC (other configurations on request)			
Fuses	10AT (Exciter and Control unit)			
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	29U x 600 mm x 1040 mm			
Weight	~330 kg, ~727 lbs		~400kg, ~881 lbs	
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	Customized external or Internal air cooling configurations			
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, Thomson by Worldcast Systems may offer distinct specifications. Spécifications on the offer prevail those in this document.

Order information

Standard Version	
REF	DESCRIPTION
TF01205-RT01	NEO FM 5kW - Standard version - room/top
TF01205-RT03	NEO FM 5kW - Full redundancy - room/top
TF01205-TT01	NEO FM 5kW - Standard version - top/top
TF01205-TT03	NEO FM 5kW - Full redundancy - top/top
TF01206-RT01	NEO FM 10kW - Full Standard - room/top
TF01206-RT03	NEO FM 10kW - Full redundancy - room/top
TF01206-TT01	NEO FM 10kW - Full Standard - top/top
TF01206-TT03	NEO FM 10kW - Full redundancy - top/top
Several redundancy configurations available: contact us!	
Software Options	
CD01003	SmartFM
CD00106	Dynamic RDS
CD01001	5-Band Sound Processor

Hardware Options	
SP02167	Mains power on/off switch
ST01276 or ST01615	Digital or Analog GPIO board
AL00122	Additional Power Supply 3500W
ST01792	SFN Option
On request	External Surge Protector
10-year warranty	
EMR7	10-year warranty for NEO FM 5kW
EMR8	10-year warranty for NEO FM 10kW
EMR6	Expert Maintenance Reporting
On-Demand Services	
Dummy loads, adapters, cables	
Cavity filters, combiners and antenna systems	
Coverage Study	
Turnkey solutions for broadcasting site	

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