

# NEW

NX5  
NX10



# “The NX 5 and 10kW – the latest in a proud line of high performance, high efficiency AM transmitters”

Proven

Efficient

Compact

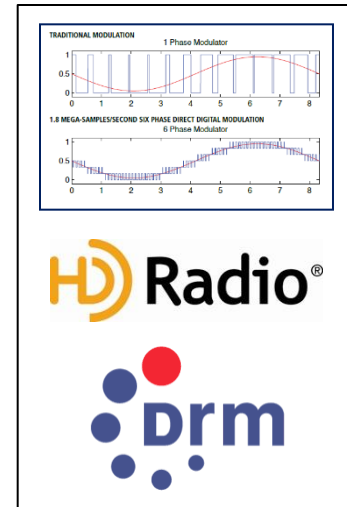
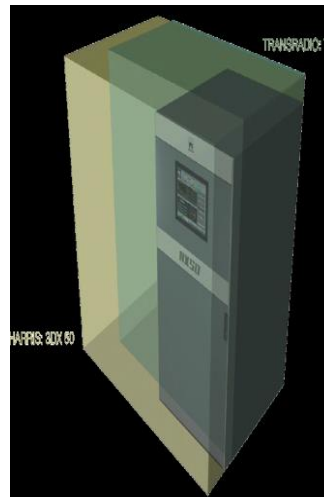
Advanced

Digital

**20**  
**MW**  
**of**  
**NX**  
Deployed



**86%\***  
EFFICIENCY



**NX** 5kW 10kW

Making Digital Broadcasting **Work.**

# NX Series: No-compromise AM

## NX Innovation

- Industry's top efficiencies
- Proven robustness
- Adaptive pre-correction
- RF spectrum analyzer
- 1.8 MHz Direct digital modulation
- Intuitive AUI
- Ultra-compact
- Digital: All DRM modes + HD Radio



NX5/10



NX25



NX50



NX100



NX200



NX300



NX400



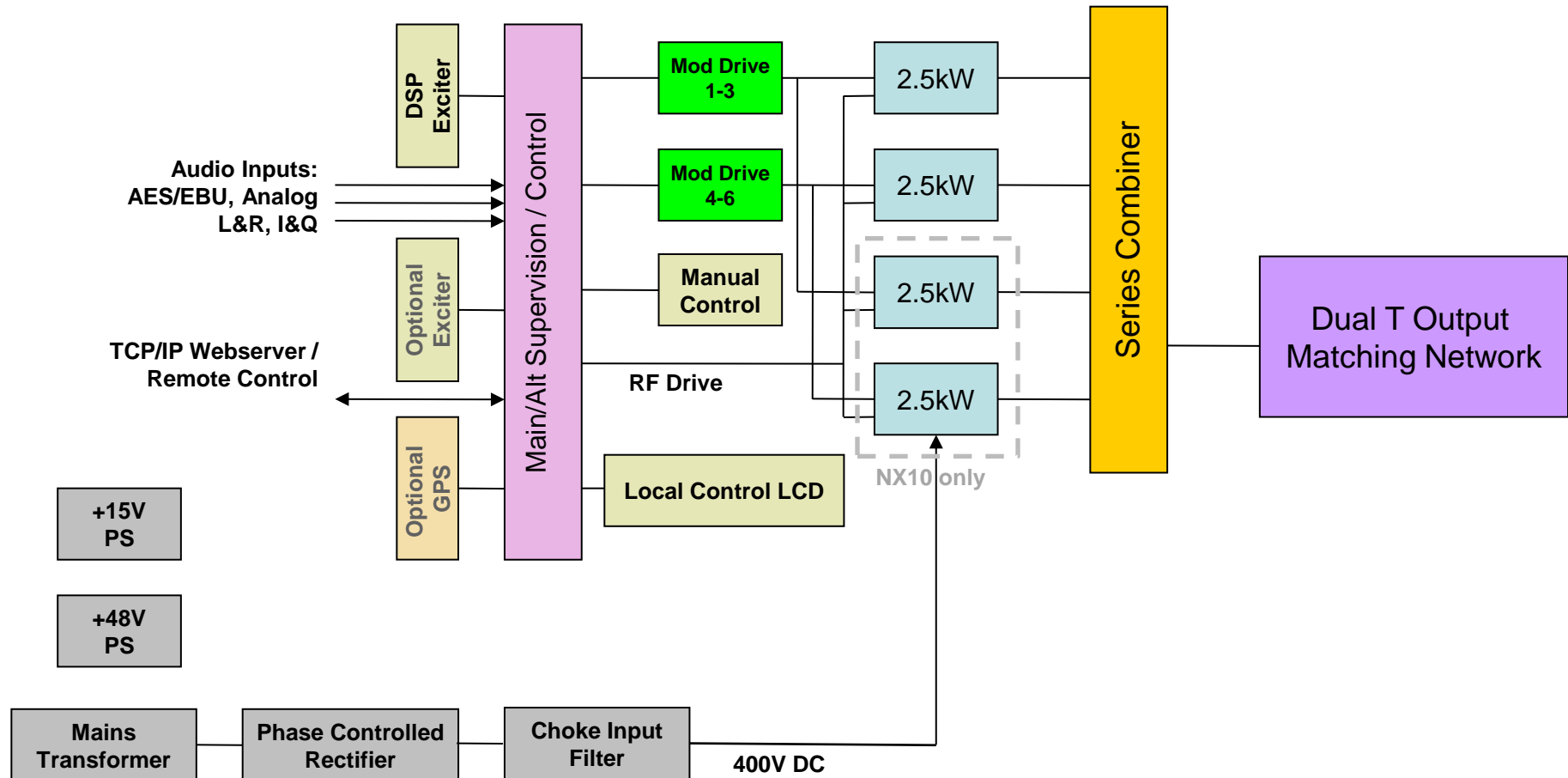
Combined Solutions up to 2MW



**NX** 5kW 10kW

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# NX5/10: Block Diagram



# Supervision & Control

- Interfaces two digital exciters (2<sup>nd</sup> optional)
- Provides precise and reliable RF and audio drive
- Dual AES/EBU inputs, Analog L&R, and I&Q inputs.
- Optional GPS input card for ultimate frequency accuracy.
- Parallel remote control
- Full web server TCP/IP control.



**NX** 5kW 10kW

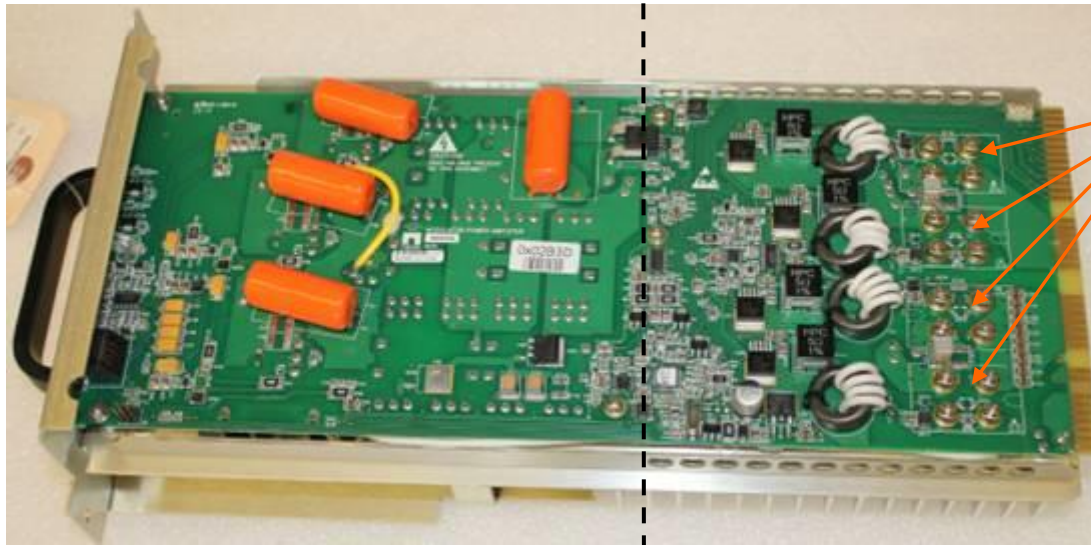
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# RF Amplifier / Modulator Module

**98%**

PA Efficiency



**200A FET's**

**Replaceable with  
just a screwdriver**

**Modulator**

- Broadband with no adjustments
- Hot pluggable
- Heavy gold connectors both sides

**RF Amplifier**

- Heat sink is 2.5x required size
- Balanced RS422 modulator and RF drive.



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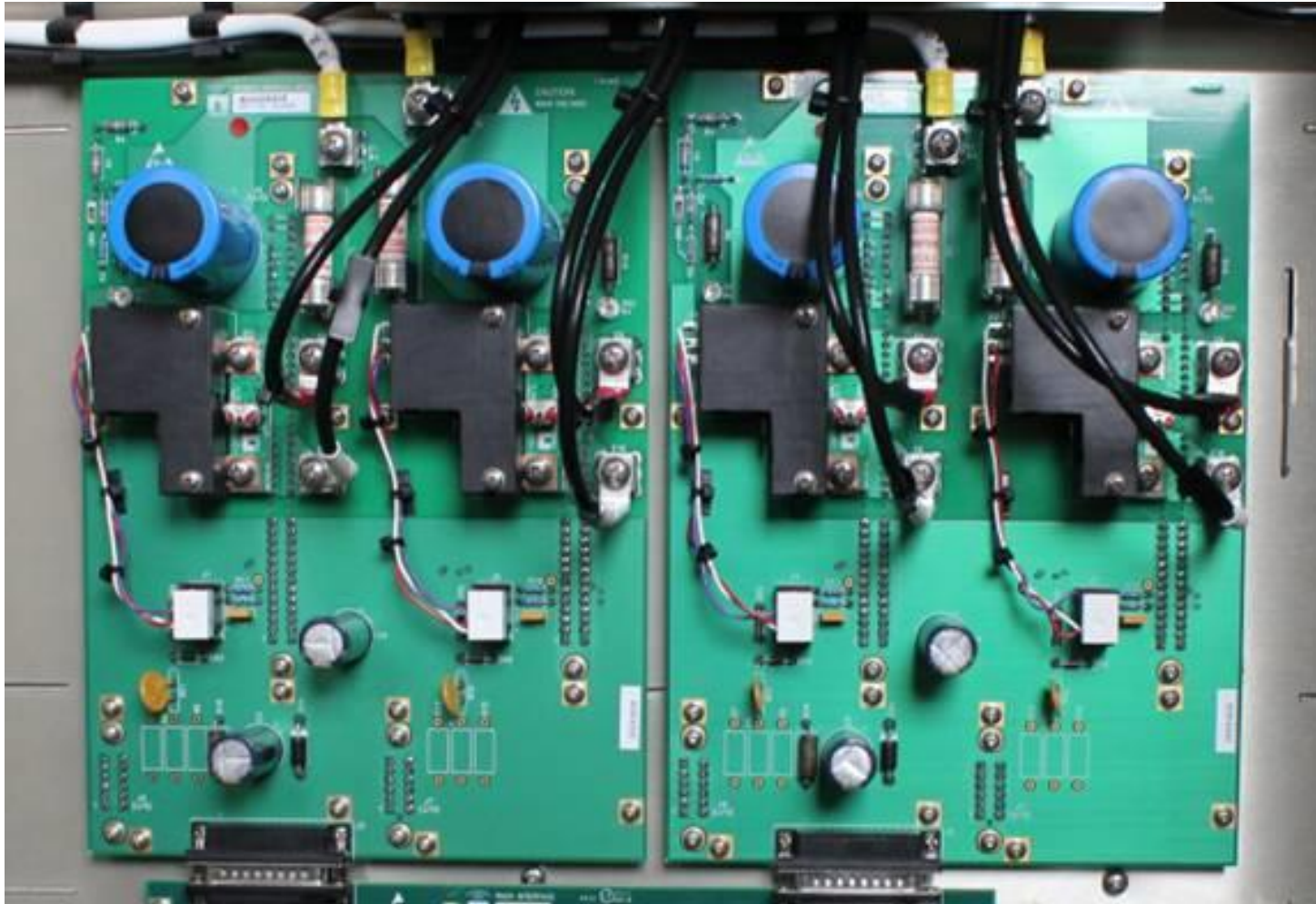
# Series Combiner



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# Power Module Interface



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# Output Network

- The Output Network is the ONLY frequency dependent section in the NX Series.
- Consists of two T networks, with a shunt 3<sup>rd</sup> harmonic notch.
- Frequency change may be accomplished in just a few hours.

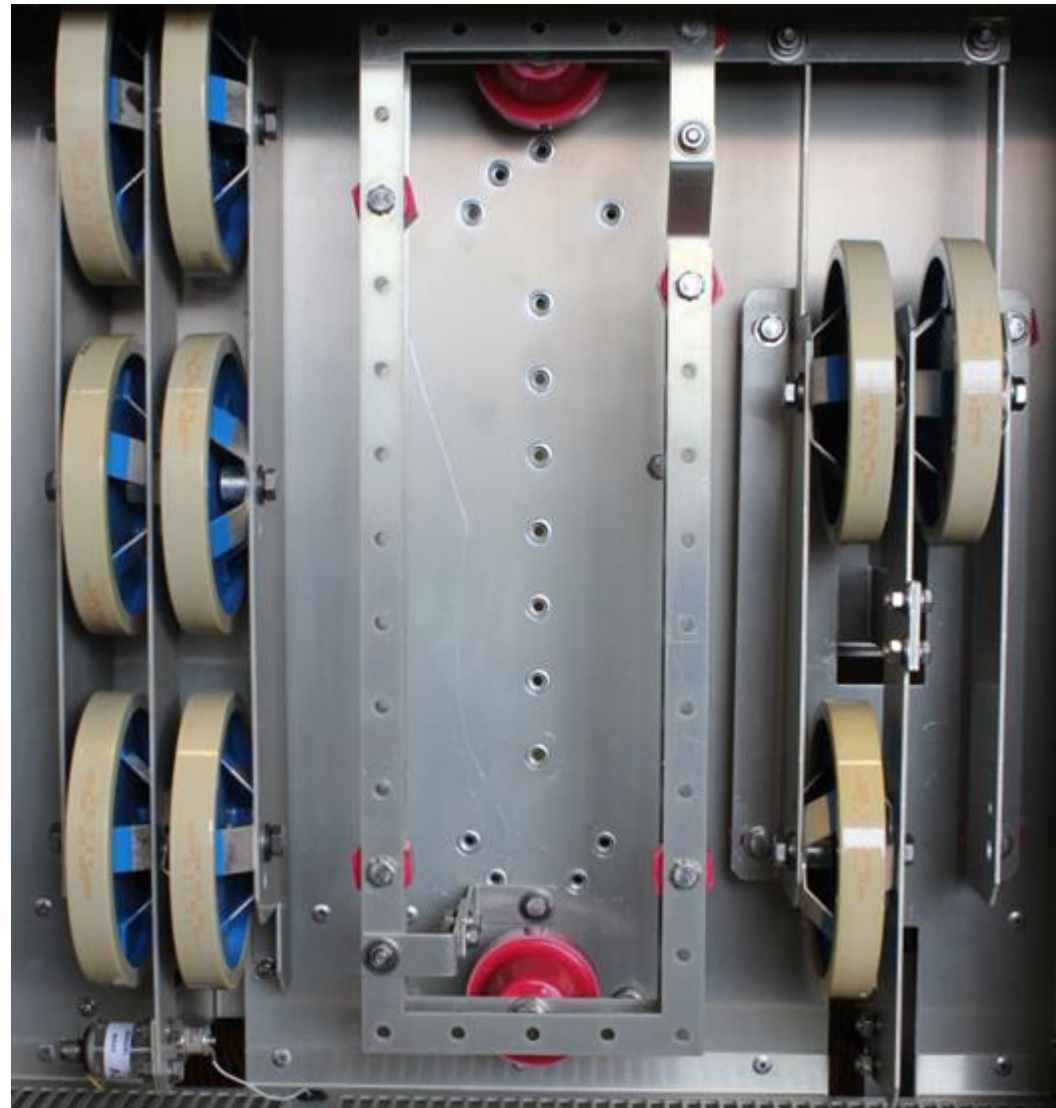


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# Combiner/Filter & Transient Protection

Voltage and Current  
Measurement for Active  
Protection

Harmonic Filter

Series Resonant High Pass Section

RF Amplifiers

PA\_n

PA\_2

PA\_1

Calibrated Fast Spark Gap  
(Pressurized Tritium)

Combiner Transformers

Output

Adjustable Carbon Ball Gap

Forward and Reflected  
Directional Coupler Ports for  
Spectrum Verification

~50 ns VSWR shutback time

Static Drain Choke

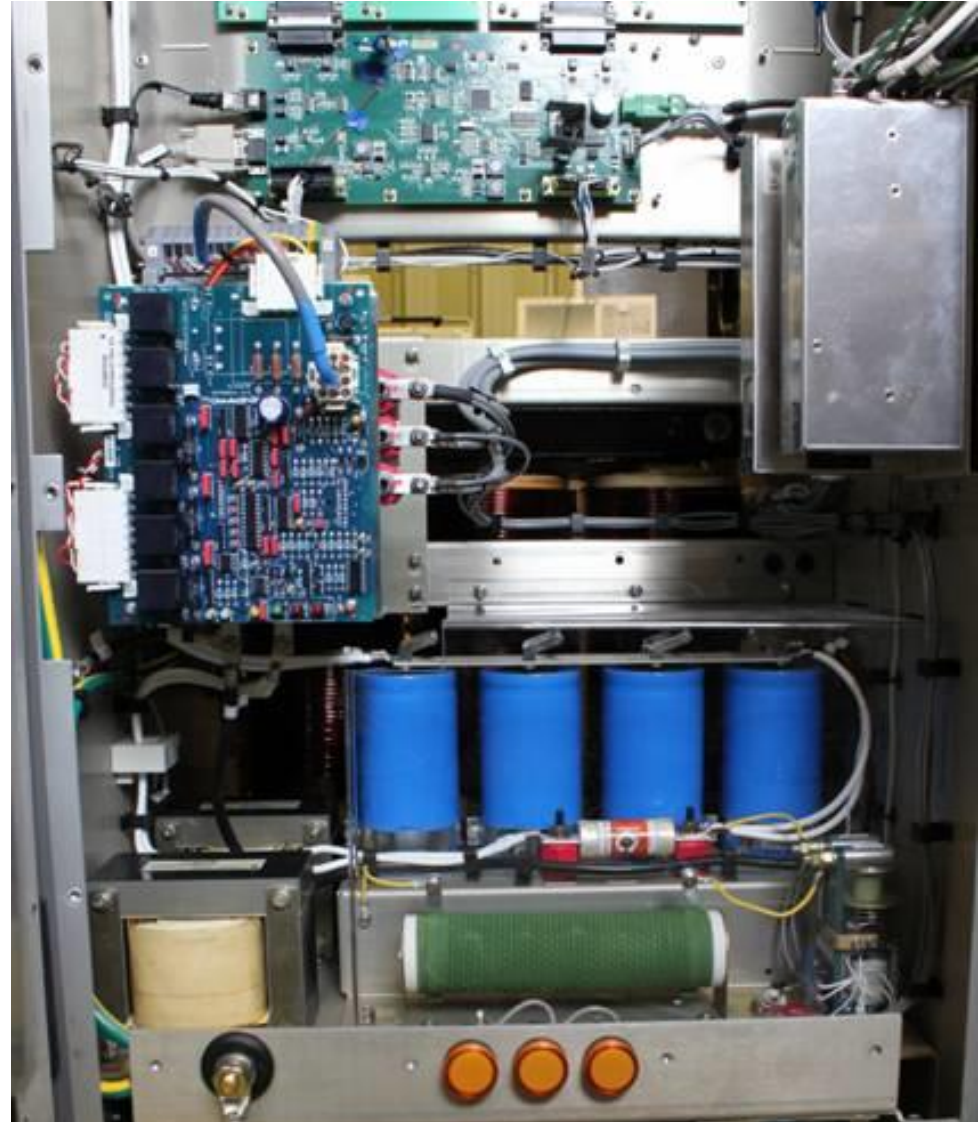


**NX** 5kW 10kW

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# Power Supplies

- Three phase AC power fed through a high efficiency transformer.
- The 320V secondary is rectified through a phase controlled three phase rectifier bank which provides voltage control and soft start.
- Low voltage SMPS utilized for powering control logic and fans.



**NX** 5kW 10kW

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# NX10 Power Transformer



**Standard 208V and 380V/480V configurations available**



**NX 5kW 10kW**

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# Cooling

- 2 Ball Bearing DC Fans per RF module arranged in hot pluggable trays.
- Typical fan life is over 9 years.
- Fan operation and speed is monitored by each power module.
- Air is drawn in from the rear, through a disposable paper air filter.



# 5,000 AUI installed worldwide



**NXSeries MW**  
5 kW–2.0 MW

Advanced User Interface (AUI)



**VSSeries FM**  
300 W–2.5 kW



**NTSeries UHF**  
150 W–1000 W



**NVSeries FM**  
3.5 kW–88 kW



**NV<sup>LT</sup> Series FM**  
3.5 W–40 W



**GVSeries FM**  
3.5 kW–88 kW

# NX AUI Advanced Capabilities

- Spectrum analyzer
- Impedance analyzer
- Nautel Phone Home
- HD Radio MER Metering
- Audio Player supporting Livewire, Shoutcast & Icecast
- Support TLS secured SMTP servers
- SNMP traps
- Scheduler
- Network Time Protocol
- Unique OS password enabled
- Add Call Sign to AUI banner
- Multi phase PDM cancellation routine resulting in improved RF spectrum
- Summary alarms for remote interfacing
- 'take action' on audio loss

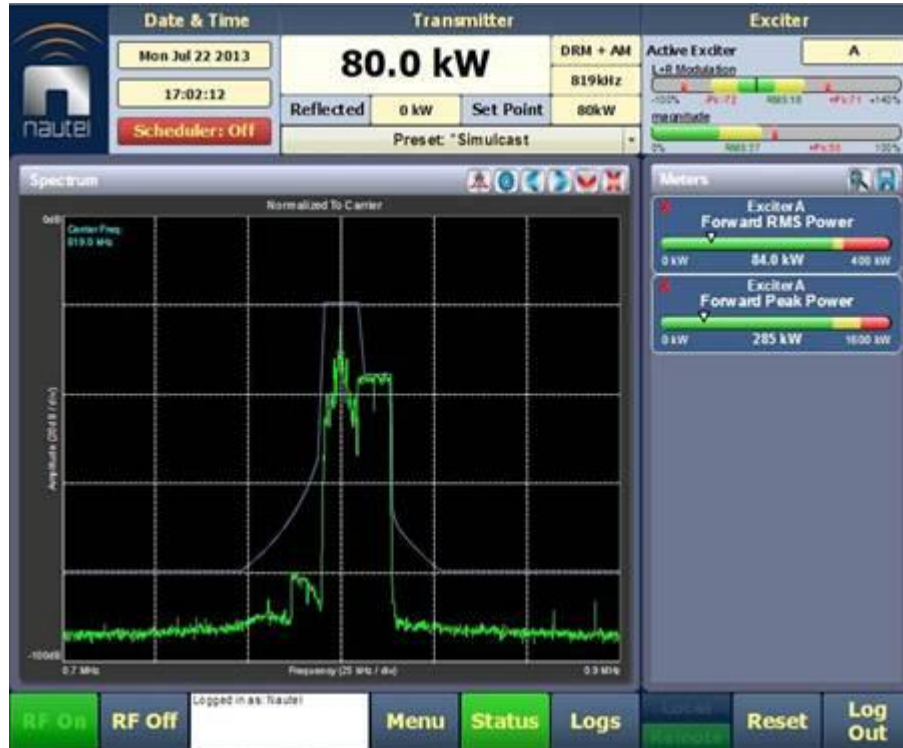


**NX** 5kW 10kW

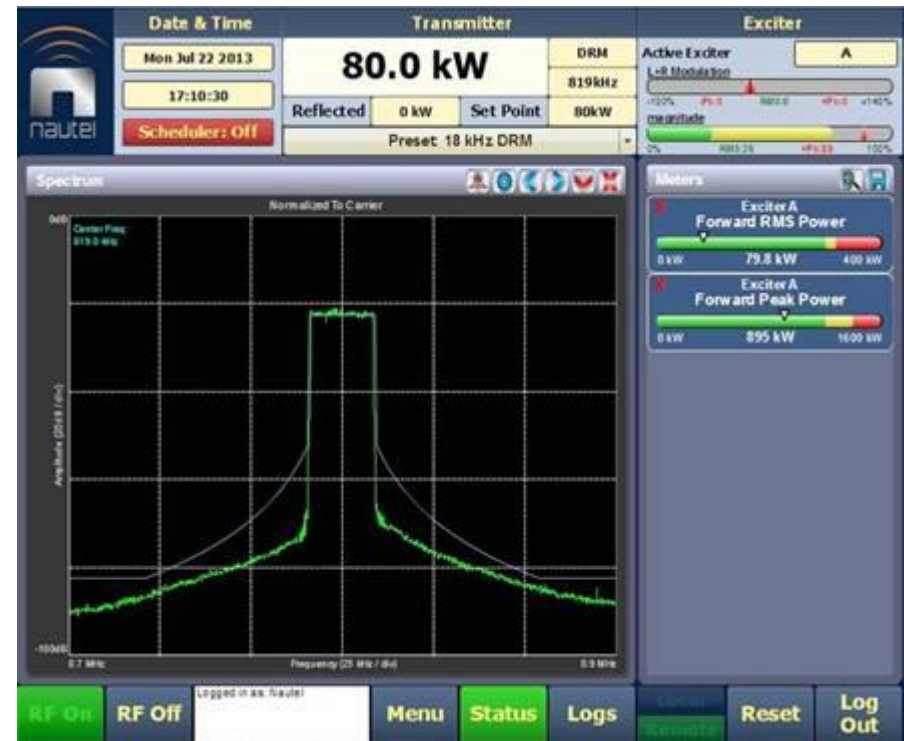
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# Advanced DRM modes



Simulcast



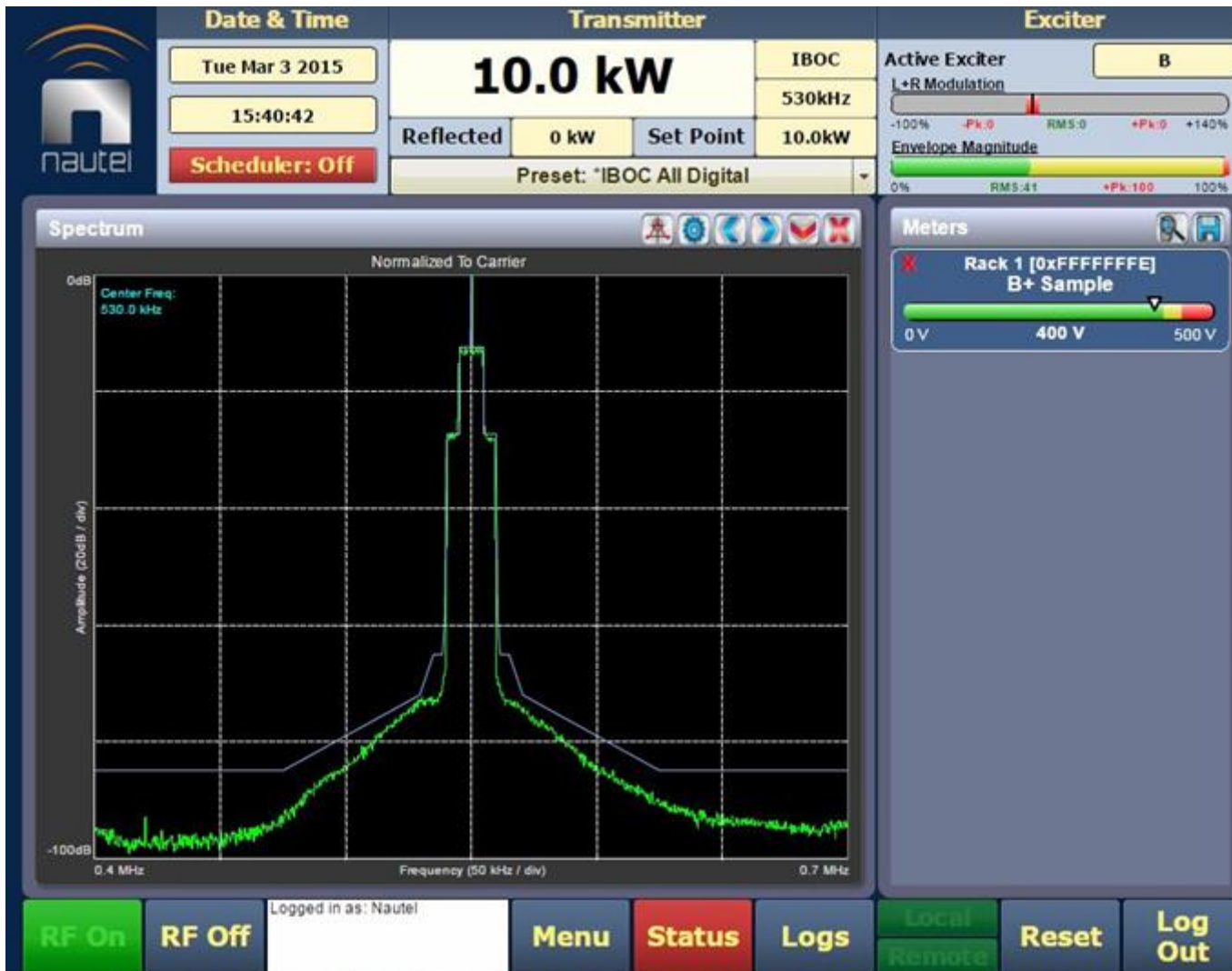
20 kHz DRM



NX 5kW 10kW

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# NX Series: All digital HD Radio

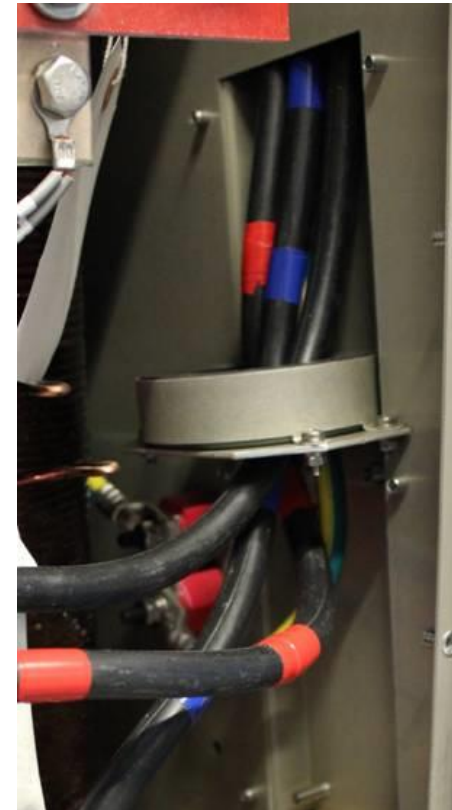


NX 5kW 10kW

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# Easy Installation

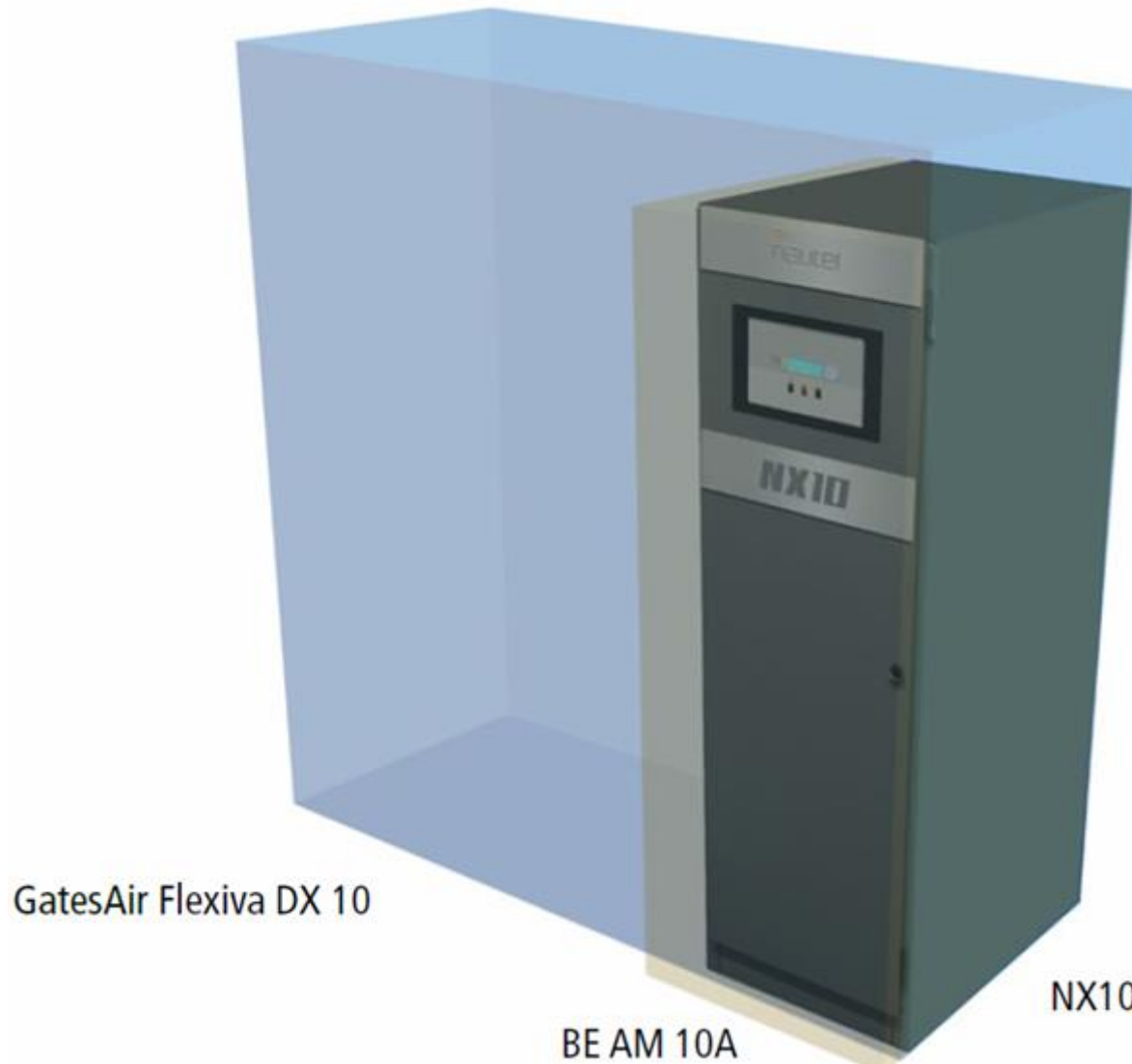
- Pre-installed ferrite on AC cabling
- Integrated pallet
- Castors can be installed for easy positioning
- Transformer shipped installed



**NX** 5kW 10kW

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# Space and energy saving!



GatesAir Flexiva DX 10

BE AM 10A

NX10



**NX** 5kW 10kW

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Even more power savings  
with MDCL:

- up to an additional **30%** savings in electrical costs
- no discernable coverage or performance reduction.

**86%\***  
EFFICIENCY

# And they're less expensive!

- The new NX 5 and 10 cost less than the XR transmitters they replace



**NX** 5kW 10kW

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# NX5 & NX10 Summary

- Proven, efficient, compact, advanced control and capabilities, digital.

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Efficient

Compact

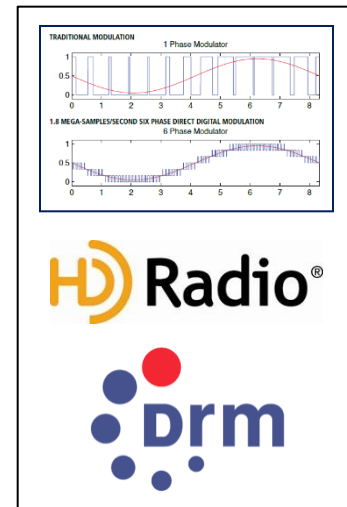
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