nautel

HD Radio®
Digital AM & FM

NV*LT* Series

Digital/Analog FM

3.5 kW – 40 kW
FM Transmitters

NO COMPROMISE TRANSMISSION

ALL FOR LESS THAN YOU'D EXPECT

The NV^{LT} Series packs more value than any comparable transmitter in its class. We've optimized each design to build in the features you want without extra cost for external combiners, exciters, control systems, instrumentation and system racks.

COOL STUFF AWARD
RADIOWORLD

NV^{LT} Series

3.5 – 40 kW Analog FM

- Proven Architecture
- Intelligent Features
- Outstanding Efficiency
- Exceptional Value
- Upgradable to HD

"The most intelligent transmitters ever designed"

Nautel's NV^{LT} Series transmitters offer broadcasters worldwide an unprecedented level of functionality, the efficiency of the latest amplifier technologies, a robust and serviceable transmission platform and exceptional value.

Nautel engineers based the new design on the proven and reliable NV Series architecture with its integrated digital exciter(s), parallel power amplifiers, parallel power modules and switching power supplies. They also included Nautel's award winning local/remote control and user interface. Next they added unmatched intelligent features including Audio over IP, Omnia Direct MPX over AES, local audio content, audio back-up automation and the optional Orban Inside. Add Nautel's optimized LD-MOS amplifier design, the highest efficiency in its class, and you get unprecedented value in the 3.5 kW – 40 kW power range. That's the new NV^{LT}.

INNOVATIVE EFFICIENT DESIGN

Powerful Building Block

In order to take solid state transmitter design to a new level of performance, Nautel engineers developed a building block that integrates the cooling systems, combiners and amplifiers into a compact, easy-to-handle and service, vertically oriented module. The NV^{LT} Series power module has 4 amplifiers, each capable of providing 750 Watts, for 2500 Watts nominal power and 3000 Watts maximum power per module. The module provides a single RF input, a single RF output, and allows for optimal cooling and air flow with 6 cooling fans and a heatsink.

Integral Exciter for Outstanding FM Performance

The NV^{LT} Series utilizes one of the most advanced FM exciters available today. Direct to-channel digital modulation at more than 600 MSPS eliminates microphonics and spurious outputs. Consider these additional class leading capabilities:

- Combiner equalization
- Spectrum analysis
- Redundant digital and analog audio inputs
- 100% digital setup: no potentiometers
- Flexible RDS/RBDS encoder and SCA encoders

The NV^{LT} Series even has the ability to correct for group delay in a multi-station combiner system.

ROBUST AND RELIABLE

Rugged and Robust with ON-AIR Serviceability

NV^{LT} Series transmitters are ruggedly engineered to provide easy on-air service and maintenance. Power modules and their associated switching power supplies are hot-pluggable and form the basis of the NV^{LT}'s extremely redundant architecture. Two redundant switching power supplies are associated with each module. The power modules and power supplies plug in to the front of the transmitter, making service easy. The NV^{LT} design is resistant to very short power drops which make up the majority of outages.

Ease of Installation

Every Nautel NV^{LT} transmitter is shipped as a complete unit with all modules installed. Siesmic anchoring is standard. A quiet 65dB typical sound level makes your NV^{LT} easy to live with.

Flexible Power Configuration

Select three phase AC inputs from 180 – 264 Vac or 312 – 457 Vac or single phase AC from 180 – 264 Vac. Bottom AC power entrance comes standard. The NV^{LT} can also take advantage of a connected UPS. To ensure fast start-up, the exciter and controller can remain powered in the event of an external power failure.

Nautel Reliability

With over forty years of worldwide transmitter experience and one of the industry's most recognized reliability track records, your Nautel NV^{LT} Series transmitter can be counted on for years to come.

N+1

N+1: Cost Effective Automated Transmitter Backup

For facilities that broadcast multiple programs from a single site, N+1 capability can provide even higher levels of redundancy that is both automated and cost effective. Nautel N+1 configurations can support up to six identical main transmitters plus a backup.

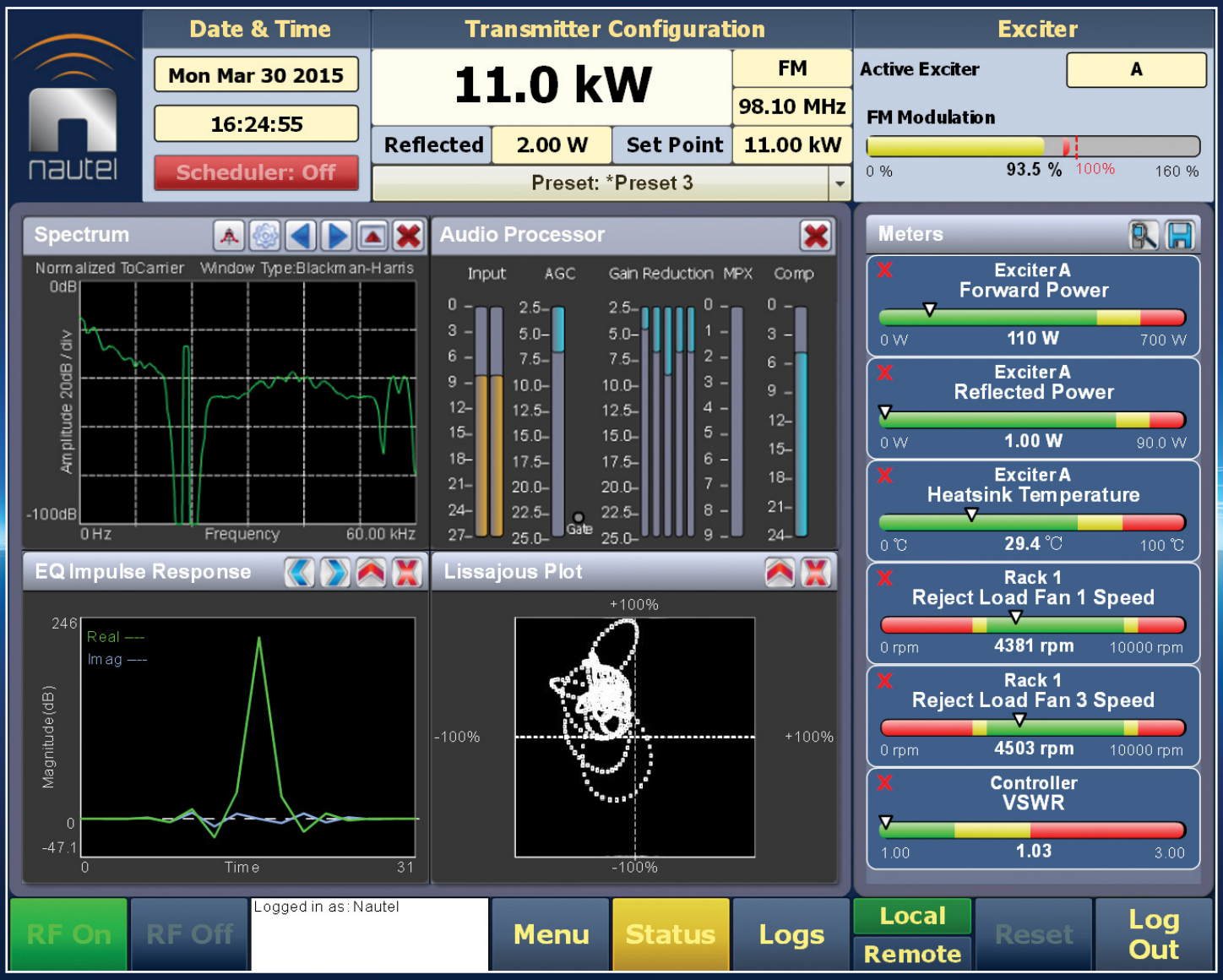
MORE EFFICIENCY **ORBAN INSIDE**

VALUE FROM DAY ONE AND EVERY DAY AFTER

The NV^{LT} Series transmitters achieve up to 72% overall efficiency. That is the best in the industry and it is calculated with the full featured exciter included. Over the life of your transmitter that can translate into thousands of dollars of power and air conditioning savings.

OPTIONAL CARD FOR ORBAN™ AUDIO PROCESSING

Orban's premier audio processing can be integrated directly into an NV^{LT} transmitter via an optional $1,200 plug-in DSP card. Nautel's Orban Inside offers features of the Optimod 5500 Series digital processor with 5 band processor and dual band window-gated AGC. Utilizing the Nautel AUI, users have full control over processing functions.



MORE CONTROL

AWARD WINNING ADVANCED USER INTERFACE (AUI)

In addition to a front panel LCD that offers quick control of key functions, NV^{LT} transmitters support Nautel's renowned Advanced User Interface (AUI). An extensive array of parameters is available in real time at your fingertips. Imagine knowing in advance what parts and tools you'll need at the transmitter site. Having that much control remotely can help you avoid trips, save time and save money.

Advanced control features include:

- RF and audio spectrum analyzers
- Comprehensive monitoring and control
- Extensive logging of all events
- Email notifications
- SNMP Support

REAL TIME BUILT-IN INSTRUMENTATION

NV^{LT} Series transmitters include built-in instrumentation that would cost tens of thousands of dollars if purchased separately.

NULLSOFT SHOUTcast

icecast

RDS GENERATOR

Powerful Presets

Scheduler

INSTRUMENTATION

Play lists

LD-MOS

MOD MONITOR

UPS Interface

Audio Spectrum Analyzer

SCA CODER

BACKUP AUDIO AUTOMATION

AUTOMATIC "FAIL-SAFE" SWITCHOVER OF AUDIO SOURCES

NV^{LT} Series transmitters accept a broad variety of IP, digital and analog inputs and give you the opportunity to define automatic fail-over modes should an input be disrupted. As a final level of backup, a playlist can be configured to play from a connected USB device.

STREAMING INPUT

NEW INPUT OPTIONS

SHOUTcast™ and IceCast streaming input provides even more audio source options. Consider that over 40,000 stations worldwide stream their audio to the Internet using SHOUTcast and IceCast. Now the NV^{LT} Series gives you added flexibility by supporting these streaming services as a transmitter playout option. Streaming support opens up many new possibilities for broadcasters including the option to stay on-air by transmitting the stations SHOUTcast stream in the event of a failed STL.

EVEN MORE FEATURES

MORE FEATURES GIVING YOU MORE OPTIONS

NV^{LT} Series transmitters are unlike any other. There are more useful time saving capabilities than there is room in this brochure to describe. Please contact your representative for more information about the features highlighted above.

nautel

Worry Free Transmission

Nautel is the world's largest manufacturer of FM and AM radio broadcast transmitters with more than 20,000 deployments in 177 countries.

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NV^{LT} SERIES		Upgradeable NV3.5^{LT}	NV5^{LT}	Upgradeable NV7.5^{LT}	NV10^{LT}	Upgradeable NV15^{LT}	NV20^{LT}	NV30^{LT}	Upgradeable NV30^{LT}	NV40^{LT}
Analog	Max power (kW)	4.1	5.5	8.3	11	16.5	22	33	33	44
	Rated Power (kW)	3.5	5	7.5	10	15	20	30	30	40
	Typical Efficiency**	71%	72%	71%	72%	71%	72%	72%	71%	72%
FM + HD* -20dB	Total Avg Power MP1[1]	3.9 kW	5.2 kW	7.8 kW	10.4 kW	15.5 kW	20.7 kW	31.1 kW	31.1 kW	41.4 kW
	Analog Power MP1[1]	3.8 kW	5.1 kW	7.7 kW	10.3 kW	15.4 kW	20.5 kW	30.8 kW	30.8 kW	41.0 kW
	Analog Power MP3[1]	3.8 kW	5.0 kW	7.5 kW	10.0 kW	15.0 kW	20.0 kW	30.0 kW	30.0 kW	40.0 kW
	Typical Efficiency	70%	70%	70%	70%	70%	70%	70%	70%	70%
FM + HD* -14dB	Total Avg Power MP1[1]	3.6 kW	4.8 kW	7.2 kW	9.6 kW	14.4 kW	19.2 kW	28.9 kW	28.9 kW	38.5 kW
	Analog Power MP1[1]	3.5 kW	4.6 kW	6.9 kW	9.3 kW	13.9 kW	18.5 kW	27.8 kW	27.8 kW	37.0 kW
	Analog Power MP3[1]	3.4 kW	4.5 kW	6.8 kW	9.0 kW	13.5 kW	18.0 kW	27.0 kW	27.0 kW	36.0 kW
	Typical Efficiency	60%	60%	60%	60%	60%	60%	60%	60%	60%
FM + HD* -10dB	Total Avg Power MP1[1]	2.8 kW	3.7 kW	5.6 kW	7.4 kW	11.1 kW	14.9 kW	22.3 kW	22.3 kW	29.7 kW
	Analog Power MP1[1]	2.5 kW	3.4 kW	5.1 kW	6.8 kW	10.1 kW	13.5 kW	20.3 kW	20.3 kW	27.0 kW
	Analog Power MP3[1]	2.5 kW	3.3 kW	5.0 kW	6.6 kW	10.0 kW	13.0 kW	20.0 kW	20.0 kW	26.0 kW
	Typical Efficiency	55%	55%	55%	55%	55%	55%	55%	55%	55%
HD Only* -20dB	Max Power MP3[1]	2.1 kW	2.8 kW	4.1 kW	5.5 kW	8.3 kW	11.0 kW	16.5 kW	16.5 kW	22.0 kW
	Typical Efficiency	56%	56%	56%	56%	56%	56%	56%	56%	56%
HD Only* -14dB	Max Power MP3[1]	1.7 kW	2.3 kW	3.4 kW	4.5 kW	6.8 kW	9.0 kW	13.5 kW	13.5 kW	18 kW
	Typical Efficiency	54%	54%	54%	54%	54%	54%	54%	54%	54%
HD Only* -10dB	Max Power MP3[1]	1.5 kW	2.0 kW	3.0 kW	4.0 kW	6.0 kW	8.0 kW	12.0 kW	12.0 kW	16.0 kW
	Typical Efficiency	52%	52%	52%	52%	52%	52%	52%	52%	52%
AC Input 50/60 Hz		1 phase 180 – 264V or 3 phase 180 – 264V / 312 – 457V								
Power Modules		2		4		8		12	16	
Switching Power Supplies		4		8		16		24	32	
Power Factor		0.98 (unity power factor corrected)								
Height (in/cm)		72.5 (184.2)								
Width (in/cm)		23 (58.4)				36 (91.4)		51 (129.5)	66 (167.6)	
Depth (in/cm)		32 (81.3)								
Weight (lbs/kg)		333 (151)		421 (191)		860 (390)		1235 (560)	1620 (735)	

[1] Typical Power measured with 1.1:1 VSWR

Specifications subject to change. Please refer to individual product specification sheets for full product details.

* NVLT with HD upgrade. For HD upgrade requirements and considerations, please contact Nautel Sales.

** Including the exciter. Approximately 73–74% excluding the exciter.

Some early versions of NV^{LT} transmitters may require upgraded power modules to support HD capability. Please contact Nautel customer service to confirm your upgrade requirements.

Power outputs vary with injection level, frequency, VSWR, MP operating mode, and symmetrical vs. asymmetrical sidebands. Please contact your Nautel representative to discuss your specific HD power requirement.

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