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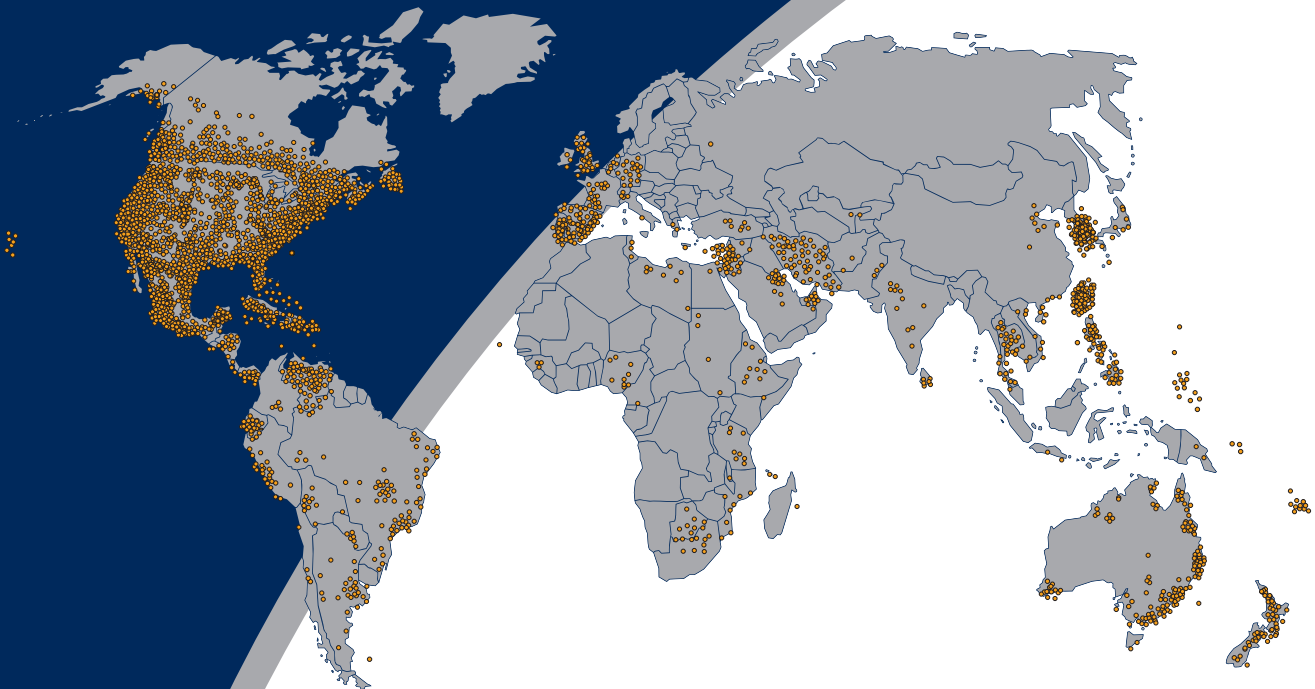
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• Nautel installed transmitters



QUICK SPECS

- XR3 RF Output Power – 3 kW (rated)
3.75 kW (capable)
- XR6 RF Output Power – 6 kW (rated)
7.5 kW (capable)
- 145% positive peak modulation
at rated power
- Dual DDS exciters with automatic
changeover
- 1.5:1 VSWR at rated power,
100% modulation
- Plug and play integration with Nautel's
NE IBOC AM HD Radio signal generator
- Built-in preset scheduler allows for six
preset power levels
- Programmable user interface facilitates
custom profiles for each preset
- Second spare power module provides
full main/standby feature
- XR3/XR6 dimensions 58.4 cm W x
184 cm H x 80.5 cm D

Making Digital Radio **Work.**

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XR3 / XR6



3 kW & 6 kW AM Broadcast Transmitters

XR3 / XR6

3 kW & 6 kW AM Broadcast Transmitters



XR6 with Door Open

THE TRANSMITTERS

The XR3 and XR6 extend the XR series AM transmitters from 3 kW to 60 kW with full module compatibility. Tens of millions of hours of real world operational experience is reflected in the design and construction of the XR series. The result is unparalleled performance and reliability.

POWERFUL BUILDING BLOCK

The building block for the XR3 and XR6 transmitters is a power module integrating multiple RF amplifier units. The individual RF amplifiers and modulator units are connected to the power modules using standard plug-in industry standard "D" connectors and bolted directly to a heatsink. Servicing consists of simple exchange, using only a screwdriver. Component level repair can be performed at a workbench or near the transmitter using a convenient test cable that provides all test signals from the host transmitter.



XR Series Power Module

Making Digital Radio Work.



EXTRA POWER

The XR3 and XR6 are purposely designed for demanding AM broadcast applications that require reserve power. This extra power overcomes antenna system losses such as those encountered in complex directional arrays. It allows aggressive audio processing and high levels of asymmetrical modulation to produce more sideband energy and a louder signal. Extra power also makes it possible to maintain full power AM transmission while transmitting a digital signal or simultaneous phase-coded data.

OPERATING CONVENIENCE

The XR3 and XR6's graphic user interface and soft-keys give you simple menu control of operating modes. Six power level selections are continuously adjustable over the full range using raise/lower commands. Programmable system profiles let you define schedules for changes to power and modulation settings. An LED diagnostic status flow diagram continually monitors the system and an advanced control, alarm and 128 event time stamped logging system allows service personnel to easily identify problems.



DIGITAL PERFORMANCE ADVANTAGES

The XR3 and XR6 have been specifically designed to support the digital transmission formats now available and being developed for use on existing AM channels. Nautel employs an ultra linear extended band filter that maintains an envelope bandwidth of 40 kHz. The RF drive design optimizes IPM to ensure minimal phase error. This provides superior spectral performance when transmitting a digitally encoded signal using digital modulation techniques such as HD Radio and DRM. The XR3 and XR6 transmitters' digital performance is outstanding, even with the limited bandpass performance of real-world antenna systems. This combination of compatibility, performance and flexibility makes the XR3 and XR6 excellent choices for digital broadcasters.

AUTOMATIC STANDBY

The most critical part of a transmitter is the exciter section, which provides the coherent drive to the power modules. These low level circuits generate the RF carrier and modulation control signals. A unique feature of Nautel transmitters is the complete duplication of these circuits. Should a failure occur in the RF drive or

modulation encoder, the transmitter automatically switches over to the standby DDS exciter and modulation encoder. This dramatically enhances the already high operational reliability inherent in the modular design.

UNATTENDED OPERATION

The XR3 and XR6 transmitters are built to stay on the air without human supervision. The transmitters maintain rated power with 100% modulation even with an antenna mismatch of up to 1.5:1 VSWR. With more extreme VSWR, power is automatically reduced to a safe level. A unique circuit dynamically stabilizes power output against AC line voltage variations. After an AC power loss, overvoltage or RF overload, prior operating status is automatically restored. The XR3 and XR6 are ideally suited for unattended automatic or remote controlled operation.



XR3 AM Transmitter

MAXIMUM REDUNDANCY

In addition to the excellent feature of a fully redundant exciter section, a second complete RF power module is also available. This additional power module facilitates the requirement to have a main/standby configuration with automatic changeover at a very economical cost. Should a power module changeover occur, the module requiring servicing can be safely removed for repair without any interruption in output power.