



J1000



1 kW AM Transmitter

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GREAT THINGS REALLY DO COME IN SMALL PACKAGES.

The J1000 transmitter provides excellent functionality and flexibility for the broadcaster. The advanced PDM modulation correction and automatically adjusted power supply operation voltages yield low distortion figures from 10 watts to 1100 watts. Direct digital synthesis technology ensures a pure and stable RF carrier frequency that can be interfaced to a GPS reference.

The transmitter features a simple bandpass RF filter network with ferrite-tuned inductors and a frequency synthesizer with dialup frequency selection, allowing quick tuning to a new carrier frequency. With its compact size and ease of frequency change, the J1000 is an ideal solution for a mobile back up transmitter.

Making Digital Radio Work.



REDUNDANT ARCHITECTURE

The redundant modular design has two complete and independent 500 watt broadband power modules, each with its own high efficiency RF amplifier, modulator, switch mode power supply and integral ventilation fan. A dual exciter system with automatic switchover is available to suit the highest redundancy requirements. Exciters feed two completely independent and redundant signal chains from AC to RF.

EXCELLENT SOUND QUALITY

The universal switch mode power supplies automatically adjust operating voltage to optimize performance at any power level. A synthesized exciter, using advanced DDS technology produces RF drive at the desired operating frequency ensuring the best possible signal reproduction.

Feed an external GPS reference clock signal to the J1000 controller for synchronous operation.

BUILT-IN SCHEDULER

Built-in power preset scheduler allows for 6 preset RF power levels, selectable from 0 to 1,100 watts. The J1000's controller can program a full year of automatic, timed power level selections for "day timer" applications.

SIMPLE FREQUENCY CHANGE

An optional field kit can be added to the J1000 to facilitate simple frequency change between 531 kHz and 1610 kHz. This features makes the J1000 ideal for multi-station backup.

PLUG AND PLAY

Linear extended band performance supports both HD Radio™ and DRM digital transmission formats.

COMPACT AND LIGHTWEIGHT

The J1000 is 19" rack mountable for quick, cost-effective delivery and minimal space requirements.



OPERATING CONVENIENCE

Intuitive control and monitoring are provided through a 240 x 64 graphic LCD, diagnostic flow diagram and a comprehensive 128-event log. An LED diagnostic status flow diagram continuously monitors the system. The menu-driven graphic user interface screen allows control and monitoring of the unit's critical parameters and operation modes. Push-button switches provide convenient access to the transmitter's RF status and operator control source.

For further information, please contact us at:

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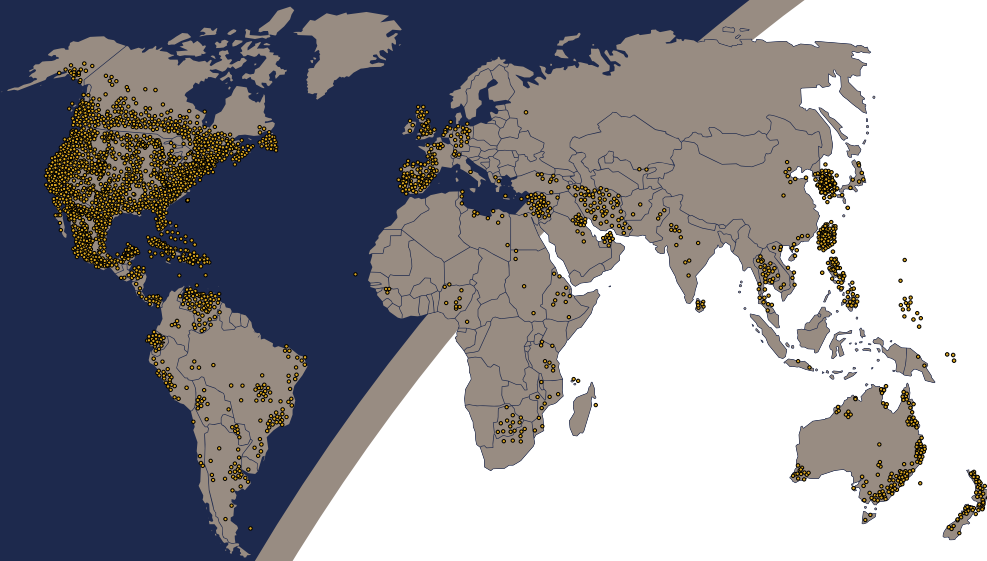
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• **Nautel installed transmitters**



QUICK SPECS

- High operating efficiency
- Critical parameters can be set and monitored with the convenient graphic user interface
- Six programmable presets for audio source, power and frequency configurations are selectable via local or remote control
- Standard 19" EIA rack mountable
- Universal switch mode power supply automatically adjusts operating voltage to maintain optimal performance at any power level
- A synthesized exciter with advanced DDS technology ensures the best possible signal quality
- Synchronous operation can be achieved using an external GPS reference clock signal with the J1000 controller
- Go digital any time – just add an HD Radio™ or DRM signal
- Dimensions: 19" high x 23" wide x 20" deep
- Weight: 50 lbs/ 23 kg

Making Digital Radio **Work.**



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Nautel J1000

TECHNICAL SUMMARY
www.nautel.com | info@nautel.com

Nautel Family Name

Jazz

Nautel Model Number

J1000

Configuration

Two 500 watt RF power modules

RF Output Power

Rated – 1000 watts

Operating Range - 10 to 1100 watts

Six preset levels, selected locally or remotely

RF Frequency Range (supplied to one frequency as ordered)

531 kHz to 1610 kHz

RF Terminating Impedance

50 ohms, unbalanced

Maximum Reflected Power

150 peak reflected watts

RF Termination

Type N

Audio Frequency Response

30 Hz to 10,000 Hz, +0.2 dB, -0.8 dB

Audio Frequency Distortion

Better than 0.8% (THD) at 95% modulation
30-10,000 Hz at 1000 watts

Better than 1.2% (THD) at 95% modulation
30-10,000 Hz at 100 watts.

Reduced antenna bandwidth may degrade specification

Audio Intermodulation Distortion

1.0% or less, 60/7000 Hz 1:1 ratio

SMPTTE Standards at 85% modulation

Transient Intermod Distortion

0.5% @ 80% modulation 2.96 kHz/8 kHz,
30 kHz BW

Squarewave Tilt

0.5% 40 Hz 60% modulation

Squarewave Overshoot

1.0% 400 Hz 70% modulation
(100 μ S Risetime)

Incidental Quadrature Modulation

-36 dB reference 95% modulation 1 kHz

Modulation Capability

125% positive peak modulation

Carrier Shift

0.5% or less

RF Harmonics

-73 dB relative to carrier

Spurious Outputs

-73 dB relative to carrier

OBE Compliance

Meets FCC and Industry Canada requirements, and CCIR recommendations.

Noise and Hum

65 dB or more below 100% modulation

Frequency Stability

Internal:

\pm 2 ppm over temperature range

External:

GPS 10 MHz dependent on external source

Audio Input (600 ohms active balanced)

+10 dBm nominal

(adjustable from 0 dBm to +12 dBm)

Power Input

170 Vac - 270 Vac 50/60 Hz single phase

AC Supply Connector

Universal mate supplied

Permissible Power Supply Variations

170 Vac - 270 Vac, 47 to 63 Hz frequency

Efficiency

75%

Digital Display

Forward/reflected output power, VSWR

Dc input current/Dc voltages

Fault diagnostics

128 event log

HD Radio™

Compatible with NE IBOC - HD Radio™ signal generator

DRM

Compatible with 9 kHz mode of operation

Ambient Temperature

0°C to +50°C

Derate 3°C per 500 m

(2°C per 1000 ft above sea level)

Humidity Range

0-95% non-condensing

Altitude

0 m to 4000 m (0 ft to 12,000 ft)

Dimensions

19 inches W x 23 inches H x 20 inches D
(48 cm W x 58 cm H 51 cm D)

Weight

50 lbs (23 kg)

Specifications subject to change without notice.

