NV20

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

GENERAL

Transmitter Type
FM Broadcast, 100% solid state

Configuration
8 hot swappable RF power modules with integrated IPA PA's
16 switching power supplies (2 per RF power module)
1 IPA power supply

Integrated exciter

Standard Features
- Redundant IPA power supply
- Redundant low voltage power supplies
- Redundant fan power supply

Power supplies are hot-swappable

Optional: standby exciter

RF Output Connection
3-1/8 inch EIA, female

RF Output Impedance
50 ohms unbalanced

RF Load VSWR
1.5:1 with automatic power reduction into higher VSWR

Protected from open and short circuits at all phase angles

RF Frequency Range
87.5 MHz to 108 MHz
No tuning required

Turn Around Loss
Better than 20 dB

Spurious and Harmonic
Meets or exceeds all FCC/IC/CE requirements

RF Output Power and Efficiency

	Analog Mode	HD Radio Hybrid (-20dB)	HD Radio Hybrid (-14dB)	HD Radio Hybrid (-10dB)
Analog TPO (W)	600 - 22,000	18,000	14,400	10,350
Typical Efficiency	64%	55%	48%	42%

*Typical power measured at midband in MP1 mode with better than 1.2 VSWR. Compliant with NRSC measurement standards. Power outputs vary with injection level, frequency, VSWR, MP operating mode, symmetrical vs. asymmetrical sidebands. Numbers shown do not include HD PowerBoost which can provide up to 30% additional hybrid mode power and up to 5% increased efficiency. Efficiency shown at rated power. Please contact your Nautel representative to discuss your specific HD power requirement.

SPECIFICATIONS SUBJECT
TO CHANGE WITHOUT NOTICE

Phone: +1.902.823.2233 Fax: +1.902.823.3183 **www.nautel.com | info@nautel.com**

HD Radio is a trademark of iBiquity Digital Corp. All rights reserved.

NV20

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

AC INPUT

Voltage
180 V ac to 264 V ac, 3 phase, 50/60 Hz
312 V ac to 457 V ac, 3 phase, 50/60 Hz
180 V ac to 264 V ac, 1 phase, 50/60 Hz

Power Consumption

Analog mode:
31.3 kW at 20.0 kW RF output (31.6 kVA)

HD Radio™ **Hybrid** Mode (-20dB)
33.1 kW at 18.2 kW RF output (33.4 kVA)

HD Radio™ **Hybrid** Mode (-14dB)
31.2 kW at 15.0 kW RF output (31.5 kVA)

HD Radio™ **Hybrid** Mode (-10dB):
27.1 kW at 11.4 kW RF output (27.4 kVA)

Power Factor
Unity Power Factor Corrected (typically 0.99)

Power Line Harmonics
IEEE 519-1992

AUDIO PERFORMANCE

Asynchronous AM S/N Ratio
Better than 55 dB below reference carrier with 100% amplitude modulation using 75 µs de-emphasis (no FM modulation present)

Synchronous AM S/N Ratio
Better than 50 dB below reference carrier with 100% amplitude modulation using 75 µs de-emphasis

ENVIRONMENTAL

Temperature Range
0°C to +50°C
Derate 3°C per 500 m above sea level (2°C per 1000 ft)

Humidity Range
0% to 95% non-condensing

Altitude
0 m to 3000 m (0 ft to 10,000 ft)

Cooling Air Requirements
2546 m^3/hr (1500 cfm)

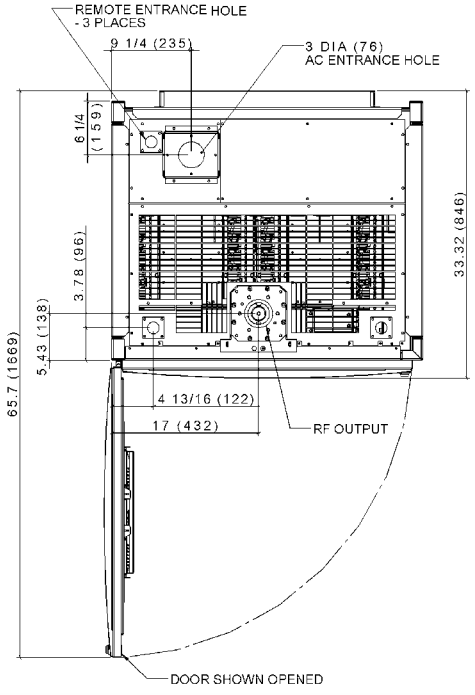
PHYSICAL

Dimensions
Open ventilation configuration:
184.2 cm H x 91.4 cm W x 81.3 cm D
(72.5" H x 36" W x 32" D)

Note: total depth 84.2 cm (33.1") with air filters fitted

Closed ventilation configuration - consult factory

Weight
386 kg (850 lbs)



Notes:
Specifications established at rated power unless otherwise noted.

All measurements into 50 ohm resistive load.

AC input voltage at nominal level.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

HD Radio Pure Digital. Clear Radio.

Phone: +1.902.823.2233 Fax: +1.902.823.3183 www.nautel.com | info@nautel.com

HD Radio is a trademark of iBiquity Digital Corp. All rights reserved.