

GENERAL

Transmitter Type

Medium wave, 100% solid state

Configuration

Eight broadband RF amplifiers and four modulators mounted in a plug-in RF Module

Dual DDS exciters and modulation encoders.
Full automatic changeover

Second redundant spare module with full automatic changeover (optional)

RF Output Power

Maximum: XR3 - 3.75 kW
XR6 - 7.5 kW

Max average power:

XR3 - 4.5 kW
(3 kW + 100% modulation)

XR6 - 9 kW
(6 kW + 100% modulation)

Range: XR3 - 50 W to 3.75 kW
XR6 - 50 W to 7.5 kW

Six programmable preset power level profiles, selectable locally or remotely

RF Output Connection

$\frac{7}{8}$ " or $1\frac{5}{8}$ " standard

RF Output Impedance

50 ohms, unbalanced

Efficiency

83% typical

RF Load VSWR

XR3 - 500 peak reflected watts 1.5:1 VSWR at 3 kW, 100% modulation

XR6 - 1,000 peak reflected watts 1.5:1 VSWR at 6 kW, 100% modulation

Frequency Range

531 kHz to 1,710 kHz. Supplied, tuned and tested to one frequency as specified

Frequency Stability

± 2 ppm; less than 4 Hz over temperature range
External GPS for increased stability

Modulation Type

Nautel Wideband Interphase Pulse
Duration Modulator

Modulation Capability

XR3
155% positive peak modulation at 2.5 kW
145% positive peak modulation at 3 kW
120% positive peak modulation at 3.75 kW

XR6

155% positive peak modulation at 5 kW
145% positive peak modulation at 6 kW
120% positive peak modulation at 7.5 kW

Spurious and Harmonic

Exceeds FCC, IC and ITU requirements
80 dB relative to carrier

AC INPUT

Voltage

200 to 260 V ac, 1 phase
50 Hz or 60 Hz to customer specifications

Power Supply Variation

$\pm 10\%$ voltage, 47 Hz to 63 Hz

Power Consumption

XR3
3.0 kW typical at 2.5 kW, 0% modulation
4.5 kW typical at 2.5 kW, 100% modulation
3.6 kW typical at 3 kW, 0% modulation
5.4 kW typical at 3 kW, 100% modulation

XR6

6 kW typical at 5 kW, 0% modulation
9 kW typical at 5 kW, 100% modulation
7.2 kW typical at 6 kW, 0% modulation
10.8 kW typical at 6 kW, 100% modulation

Power Factor

0.85 typical, 1 phase

ENVIRONMENTAL

Temperature Range

0°C to +50°C
Derate 3°C per 500 m above sea level
(2°C per 1,000 ft)

Humidity Range

0% to 95% non-condensing

Altitude

0 m to 3,000 m (0 ft to 10,000 ft)

Cooling Air Requirements

340 m³/hr (200 CFM)

PHYSICAL

Dimensions

184 cm H x 58.4 cm W x 80.5 cm D
(72.5" H x 23" W x 31.7" D)

Weight

XR3 - 217 kg (477 lbs)
XR6 - 235 kg (517 lbs)

AUDIO PERFORMANCE

Audio Input

600 ohms balanced

+10 dBm nominal (adjustable from 0 dBm to +12 dBm)

Frequency Response

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

Referenced at 1 kHz, 95% modulation

Total Harmonic Distortion

Better than 0.8% (THD), 30 Hz to 10,000 Hz.

XR3

1.25% @ 1,250 W

1.5% @ 500 W (typical)

XR6

1.25% @ 2,500 W

1.5% @ 500 W (typical)

Intermodulation Distortion

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

SMPTE standards at 95% modulation.

Transient Intermodulation Distortion

0.5% at 80% modulation, 2.96 kHz/8 kHz,

30 kHz BW

Square Wave Overshoot

1.0% or less at 400 Hz (100 μ S risetime)

Square Wave Tilt

0.5% or less at 40 Hz

Carrier Shift

1% or less at 25, 50, 85 & 100% modulation

Hum and Noise

-65 dB or better below 6 kW, 100% modulation, 3 phase

-60 dB or better below 6 kW, 100% modulation, 1 phase

DIGITAL COMPATIBILITY

HD Radio™

Compatible with NE IBOC - HD Radio signal generator

Exceeds all regulatory requirements for AM HD Radio operation

DRM

Compatible - Consult factory

Notes:

Specifications defined in a laboratory environment with high grade source and demodulation equipment. Standard factory measurement does not include all items.

