



RF SAFETY STATEMENT

Date: December 15, 1999

RE: Waverider NCL-1100 with Conifer 26T-2400 parabolic antenna.

General statement of compliance

According to CFR47 part 15.247 b (4), a statement of RF exposure to the public population is required. By reference to part 1.1307 b (1), the above listed equipment does not require an environmental evaluation. This equipment classification is not present within table 1 of part 1.1307 and is not listed in section 1.1307 b (2). Further, the above referenced equipment is neither mobile or portable, and therefore does not fall within the categories covered under part 2.1091 and part 2.1093. Included with this statement is a set of general calculations that determine the minimum distance (R) from the transmitter antenna that will ensure an exposure limit at or below the guidelines given in table 1 of part 1.1310 for the general population. This information was developed from OET Bulletin 65, edition 97-01, August 1997; "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields"

Calculations

For RF power density on Boresite:

Where $P=17 \text{ dBm}=50 \text{ mw}$.

Where $G=24\text{dBi}=251 \text{ numerical gain}$

Where $S=1 \text{ mW/cm}^2$

Using formula (3) from OET Bulletin 65, Edition 97-01:

$S = \frac{PG}{4\pi R^2}$, yields $R=31.6 \text{ cm}$

For RF power density off Boresite, at worst case sidelobe at 15 degrees (-12 dB)

Where $P=17 \text{ dbm}=50 \text{ mW}$

Where $G=24\text{dBi}-12\text{dB}=12\text{dBi}$, or 15.85 numerical gain

Where $S=1 \text{ mW/cm}^2$

$S = \frac{PG}{4\pi R^2}$, yields $R=7.9 \text{ cm}$

CONCLUSION:

The above calculations show that the power density around the specified transmitter antenna, will be fairly low, and a separation distance of a foot in front of the antenna will be sufficient to allow levels below the general population limits. Even less separation is sufficient on the sides and back of the antenna. Attached to this statement is a specification sheet for the commercial antenna supplied with the Waverider system, and a polar plot showing the worst case sidelobe distribution.

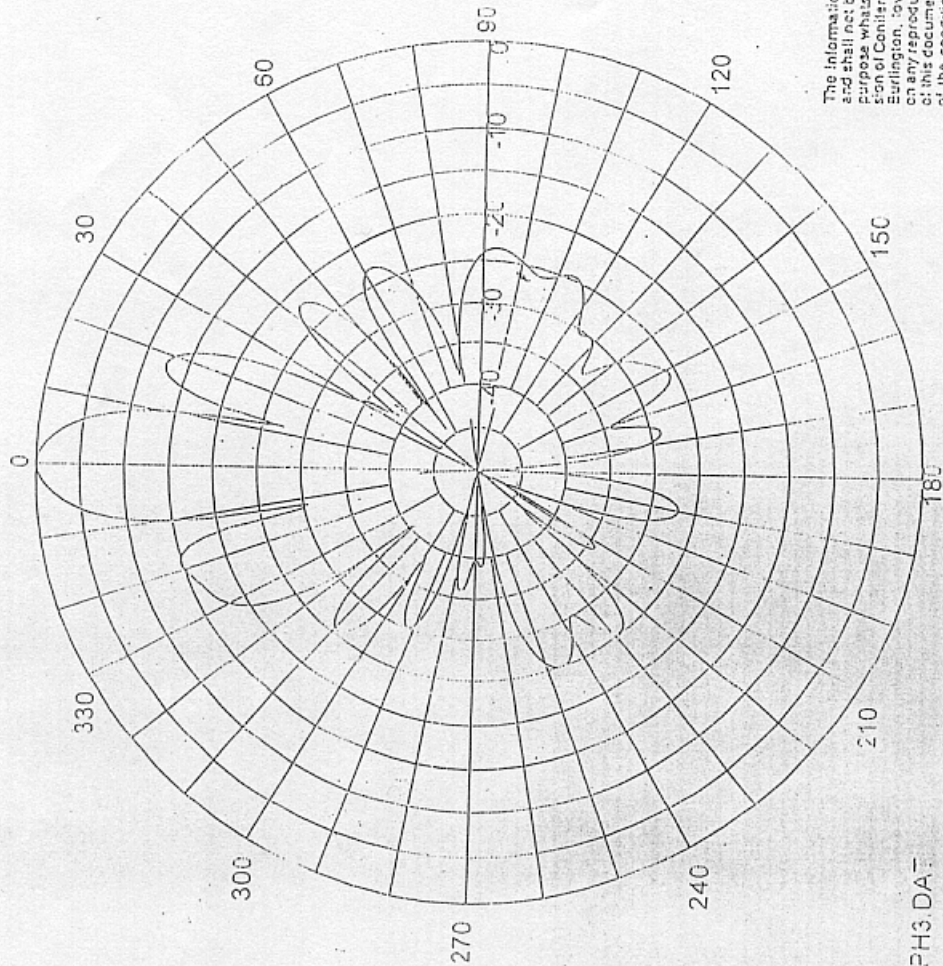
PERFORMANCE SPECIFICATIONS*		
	MODEL 18T-2400	MODEL 26T-2400
Input Frequency	2400 - 2500 MHz	2400 - 2500 MHz
Gain	18 dBi	24 dBi
-3 dB Beam Width	14°	7.5°
Front to Back Ratio	>23 dB	>31 dB
Polarity	Dual	Dual
Cross Polarity Rejection	>23 dB	>26 dB
VSWR (Average)	1.3:1 @ 2400-2500 MHz	1.3:1 @ 2400-2500 MHz
Impedance @ Output	50 OHMS	50 OHMS
Connector "N" Type**	Male	Male
Coaxial Pigtail - RG8**	24 inches	24 inches
Input Power	50 Watts	50 Watts
Windloading		
@ 100 MPH	39.4 lbs.	97.0 lbs.
@ 140 MPH	77.9 lbs.	199.5 lbs.
Elevation Adjustment	60° in 10° Increments	60° in 10° Increments
Size	16 x 20 x 15 inches (40.64 x 50.80 x 38.10 cm)	23.5 x 39.25 x 15 inches (60.95 x 91.44 x 38.10 cm)
Weight	2.7 lbs. (1.22 Kg)	5.4 lbs. (2.43 Kg)
Reflector Material	Cast Magnesium Alloy	Cast Magnesium Alloy
Mounting Hardware	Stainless Steel	Stainless Steel
Mounting	1" - 2" O.D. Mast (2.54 - 5.08 cm)	1" - 2" O.D. Mast (2.54 - 5.08 cm)

*Specifications subject to change without notice.
 **Contact factory for other options.

MANUFACTURED IN BURLINGTON, IOWA © CONIFER 1/95, 2/98

Conifer Corporation Polar Plotter

in = 22.98 dBi
 quency = 2.5 GHz
 IS BW = 17.4 Deg.
 3 BW = 10 Deg.



Name = J:\RANGE\25-PPPH3.DAT
 Units: Horiz. 25T-2400 w/500 fd

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