SOUTHERN AVIONICS COMPANY

MANUFACTURERS OF LOW FREQUENCY RADIOBEACONS AND ASSOCIATED PRODUCTS

Using Comrod AT100D/S Whip Antennas with Southern Avionics Company NDB Systems

A standard practice using radiating antennas is to add series inductance to decrease the antenna's resonant frequency. Southern Avionics Company has used this concept with their PC1000 series Antenna Tuning Units (ATU) and the Comrod AT100D/S Whip antenna to achieve resonance at frequencies much lower than 1.6MHz.

The PC1000 series ATU (which includes the PC1000C, C2, C3 and C4 models) is a variable inductor capable of developing an inductance between 3.6mH - 22uH thus allowing antenna resonance between 300KHz and 1800KHz.

Using the correct inductance with the AT100D/S along with proper installation techniques, it is common for pilots to receive high quality signals at 100NM. Since every vessel is different, a 60NM received range is used for navigation applications using ground wave signal propagation during daylight hours.

For this or any omnidirectional antenna to operate at peak performance a mandatory separation of 1m must be utilized between the antenna and any metal surface. Also, the amount of superstructure shading of the RF navigation signal must be limited in the main approach direction, and the transmitter's output power must be limited to 100 Watts between 300KHz to 350KHz due to the large reactive voltage present at the ATU's output.

For more information on Southern Avionics Company's NDB systems utilizing the Comrod AT100D/S and proper installation techniques, please contact Southern Avionics Company at +1.409.842.1717 or www.southernavionics.com.

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