

Nav6

Nav6aplus User Manual

 **Electronics Limited**

Unit V Rudford Industrial Estate, Ford

West Sussex BN18 0BD England

Telephone +44 (0)1903 731101

Facsimile +44 (0)1903 731105

www.icselectronics.co.uk

AMENDMENT RECORD

Issue	Date	Amendments	Applicable Version
1	19/11/01	Original Issue	1.0

No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of ICS Electronics Ltd.

The information in this document is provided for reference only. ICS Electronics Limited does not assume any liability arising out of the application or use of the information or products described herein.

© 2002 ICS Electronics Limited. All rights reserved



CONTENTS	PAGE
About This Manual	4
NAV6APLUS 50 OHM NAVTEX RECEIVING SYSTEM.....	5
ANTENNA OPTIONS.....	5
Passive 50 ohm Antenna.....	5
Active 50 ohm Antenna with External PSU Interface Box	6
Active 50 ohm Antenna	6
Using a Back Stay as an Antenna	7
Using a Wire in the Cabin as an Antenna	7
CONNECTIONS TO THE DISPLAY/NAV6HUB	8
MOUNTING THE NAV6APLUS	8
FAULT FINDING.....	8
SPECIFICATION.....	8
NAV6APLUS CARRIER PCB OUTLINE	9



About This Manual

This manual is applicable to Nav6 systems that include the Nav6aplus 50 ohm receiver.

Nav6aplus 50 ohm NAVTEX Receiving System

The Nav6 and Nav6aplus are completely self-contained NAVTEX receiving systems - they do not require an external antenna.

Many larger vessels have an antenna array with a dedicated 50 ohm output for NAVTEX, or have an existing passive or active 50 ohm NAVTEX antenna. Some installers also prefer to use a long wire feed instead of a 50 ohm antenna. It is for these categories of customer that the Nav6aplus has been developed.

Please read this technical note in conjunction with the instructions contained with the Nav6/Navplus User Guide.

Antenna Options

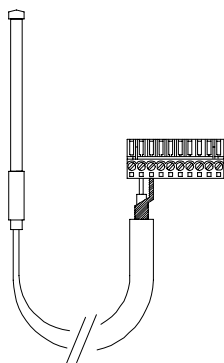
The Nav6aplus is not supplied with an antenna as standard, although ICS offer the following antenna options :

Passive 50 ohm 0.45metre tall ICS order code 904.02

Active 50 ohm 1metre tall ICS order code 905.02

Alternatively you may wish to use a backstay as an antenna or you may wish to run a wire around your headlining in the cabin. All of these options are catered for in the Nav6aplus, the suitability of each option will greatly depend upon your own circumstances. For instance, running a wire around the cabin in a steel boat may not be very successful.

Passive 50 ohm Antenna



ICS recommend using a passive 50 ohm antenna that has been specified for NAVTEX use. A suitable antenna is the ICS 904.02 although an equivalent antenna specified for operation at 490kHz and 518kHz would be acceptable.

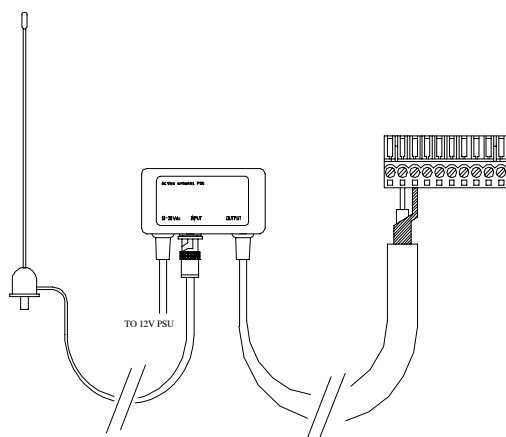
The Nav6aplus carrier pcb linker settings are :

LK100 should not be fitted

LK101 should not be fitted

The antenna should be connected to ANT+ (antenna coax centre) and ANT- (antenna coax screen) on the Nav6aplus connector.

Active 50 ohm Antenna with External PSU Interface Box



instructions)

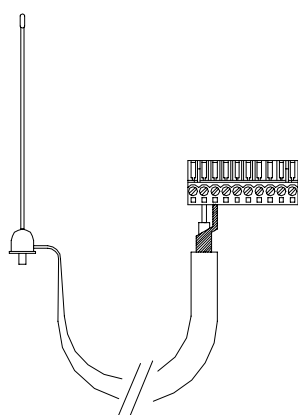
The antenna should be connected to ANT+ (antenna coax centre) and ANT- (antenna coax screen) on the Nav6aplus connector.

ICS recommend using an active 50 ohm antenna that has been specified for NAVTEX use. A suitable antenna is the ICS 905.02 although an equivalent antenna specified for operation at 490kHz and 518kHz would be acceptable. If the active antenna is supplied with an external PSU interface box which is used to inject 12V into the coax cable that goes to the antenna, then this should be used.

The Nav6aplus carrier pcb linker settings are :

- LK100 should not be fitted
- LK101 should be fitted in the '50ohm active antenna' position (see the pcb artwork for

Active 50 ohm Antenna



The antenna should be connected to ANT+ (antenna coax centre) and ANT- (antenna coax screen) on the Nav6aplus connector.

ICS recommend using an active 50 ohm antenna that has been specified for NAVTEX use at 490kHz and 518kHz. If the active antenna is not supplied with an external PSU interface then the following instructions should be used.

The Nav6aplus carrier pcb linker settings are :

- LK100 should be fitted
- LK101 should be fitted in the '50ohm active antenna' position (see the pcb artwork for instructions)

Using a Back Stay as an Antenna

A back stay may be used as an antenna if a suitable 50 ohm matching balun is fitted. ICS Technical Support may be able to offer advice on this point.

The Nav6aplus carrier pcb linker settings should be ;

LK100 should not be fitted

LK101 should not be fitted

The balun 50 ohm output should be connected to ANT+ (balun coax centre) and ANT- (balun coax screen).

On no account should the back stay be connected into the Hi-Z input on the Nav6aplus connector.

Using a Wire in the Cabin as an Antenna

A long wire routed safely out of harm's way (for instance under the headlining in your cabin) may be used as an antenna in some circumstances. ICS Technical Support may be able to offer advice on this point. (Note that this method of connection is not highly recommended, an antenna mounted above decks is the preferred approach).

The Nav6aplus carrier pcb linker settings should be ;

LK100 should be fitted

LK101 should be fitted in the 'Hi-Z antenna' position (see the pcb artwork for instructions)

The wire should be connected to the HI-Z ANT input on the Nav6aplus connector.

Connections to the Display/Nav6hub

Like the Nav6 and Nav6plus sensors, the Nav6aplus receiver communicates with the Nav6 display and Nav6hub products via RS485 serial communications. Power is supplied to it by the Nav6 display or by the Nav6hub.

The system block diagrams contained within the Nav6/Nav6plus User Guide and User Guide are equally applicable to this product. (Substitute the Nav6aplus receiver for the Nav6 or Nav6plus sensor in the diagrams and tables).

Mounting the Nav6aplus

The Nav6aplus should be fitted in a dry location and at least 0.5metre from any receiving/transmitting equipment or flux gate compass.

The Nav6 displays and sensors should be located following the guidelines in the Nav6/Nav6plus User Guide. Cable runs should be kept away from sensitive equipment, extreme heat, standing water and solvents. It may be necessary to purchase cable extensions to complete the runs back to the Nav6 display or Nav6hub.

Fault Finding

ANTENNA - general

Check the cable between the NAVTEX antenna and the Nav6aplus, ensure that it is not damaged. NAVTEX antenna must be mounted in an elevated position clear of obstructions

ACTIVE ANTENNA

Check that power is correctly applied to the centre of the coax cable. Power is supplied either from the Nav6aplus or from an external interface box (eg. The CA Active Whip).

Specification

For Display Specifications see Nav6/Nav6plus User Guide

Nav6aplus Receiver Specifications

Power Requirements

70mA at 12V (supplied by Nav6 display or Nav6hub).

Physical Dimensions

Height 180mm Width 122mm Depth 36mm

Mounting

Bulkhead mounting via two self tapping screws (supplied)

Connection

All connections made by 2 part screw terminal

Environmental

Not for outside use

Unit must be mounted below decks in a suitable dry location

Nav6plus Carrier PCB Outline

