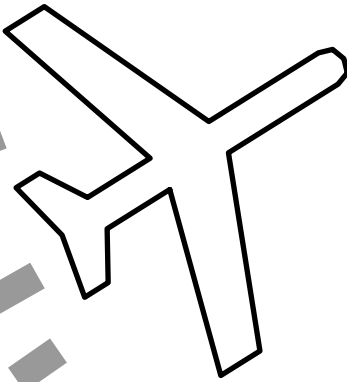


Flags, Abnormal Conditions and Messages



Flags and Abnormal Conditions

The SN3308 detects abnormal conditions such as flagged navigation receivers and failed directional gyro or fluxgate. It also monitors its own internal temperature and provides warnings for over-temperature or loss of cooling conditions.

Condition	Display
<p>NAV flag</p>	<p>HSI display: large red "X" through the CDI scale, and the deviation bar is not displayed. Numeric bearing display shows "- - -".</p> <p>RMI display: bearing pointers are not shown. Numeric bearing displays show "- - -".</p> <p>Note: CDI pointer will be visible under "x" for two minutes after power-up to allow testing for certain GPS receivers.</p>
<p>GS (glideslope) flag</p>	<p>Large red "X" through glideslope scale, glideslope pointer is not displayed.</p>
<p>Directional gyro failure</p>	<p>Compass rose color changes from white to amber. Heading data is obtained from fluxgate alone. Because fluxgate signals are averaged over time, heading response will lag the aircraft significantly.</p>
<p>Fluxgate failure</p>	<p>Compass rose color changes from white to amber, and the heading numbers are removed from the compass rose. The display can be used to determine relative headings for turns, but the magnetic compass should be used to determine absolute heading.</p>
<p>Loss of gyro & fluxgate</p>	<p>Loss of compass rose.</p>



Condition	Display
Switching relay failure	Redline through nav source such as NAV1 or GPS1. Indicates failure of the external switching relay associated with the source and that the deviation bar on the CDI is invalid.
Fast slave mode	423 Compass heading is redlined. Heading has not stabilized.
LNAV serial data loss	LNAV Indicates loss of data communication from the GPS or Ioran long-range nav receiver.
Invalid GPS data	LNAV Indicates invalid data is being received from the Airinc 429 GPS receiver. This is accompanied by the normal 'X' through the CDI at the bottom of the screen.
Map flag	MAP Indicates that map cannot be displayed because of loss of LNAV data or a flagged LNAV.
Stormscope Flag	WX Indicates loss of data communication from the BFG WX-500 Stormscope.



Messages

The Sandel SN3308 displays different messages to alert the pilot. The messages are initiated by the Pilot, the Built In Self Test (BIST), the Power On Self Test (POST) or by the System. Most of the Pilot initiated messages are shown on-screen for two seconds and are removed automatically. Error messages which are considered critical are placed on-screen permanently until acknowledged. The Acknowledgment is done using the ACK soft-key which will appear and flash when such a message appears. It also monitors its own internal temperature and provides warnings for over-temperature or loss of cooling conditions.

Display Item	Source	Notes
OVERTEMP SHUTDOWN	BIST	Note 2
+15v OVER VOLTAGE	BIST	Note 1
+15V UNDER VOLTAGE	BIST	Note 1
10 MINS TILL OVERTEMP	BIST	Note 1
-15V OVER VOLTAGE	BIST	Note 1
-15V UNDER VOLTAGE	BIST	Note 1
3 DEGREES TO SHUTDOWN	BIST	Note 2
3v OVER VOLTAGE	BIST	Note 1
3v UNDER VOLTAGE	BIST	Note 1
400HZ INVERTER LOSS	BIST	Loss of main inverter - Note 3
INVERTER FREQ TOO LOW	BIST	Problem with main inverter - Note 3
INVERTER FREQ TOO HIGH	BIST	Problem with main inverter - Note 3
5v OVER VOLTAGE	BIST	Note 1
5v UNDER VOLTAGE	BIST	Note 1
COOLING FAN FAILURE	BIST	Note 2



Display Item	Source	Notes
CRC Self-Test Failed	POST	Program CRC is not the expected value. The "CRC Self Test Failed" message must not appear on power-up if flight operations are predicated on the use of the SN3308 Navigational Display.
DEFAULT MEMORIES 1 TO 4	Pilot	Appears when map memory locations have been reset to their default settings by pressing and holding the "CLEAR" softkey while in the map setup mode.
DEMO MODE: NOT FOR FLIGHT	System	This message appears when the SN3308 has been placed in demo mode for use with the Sandel demonstrator box. In this mode, the SN3308 does not respond normally to signal inputs. To exit demo mode, power up the SN3308 while holding the [NAV], [MAP] and [BRG] buttons simultaneously.
EXT. SWITCH SET TO LORAN	Pilot	This message appears when pressing the "NAV" switch on the SN3308 when it is slaved to an external loran/NAV switch/annunciator panel. Instead of the SN3308 NAV switch use the external loran/NAV switch.



Display Item	Source	Notes
EXTERNAL SWITCH SET TO GPS	Pilot	This message appears when pressing the "NAV" switch on the SN3308 when it is slaved to an external GPS/NAV switch/annunciator panel. Instead of the SN3308 NAV switch use the external GPS/NAV switch.
FLUXGATE XYZ LOST	BIST	Fluxgate XYZ signal voltage too low or not received.
FLUXGATE EXCITATION LOST	BIST	Fluxgate excitation has failed. Check the gyro circuit breaker. Note 4
GPS SELECTED EXTERNALLY	Pilot	This message appears when the SN3308 is slaved to an external GPS/NAV switch/annunciator panel and it is first placed in GPS position changing the SN3308 display from NAV1 to GPS1.
GYRO XYZ LOST	BIST	Gyro XYZ (synchro) signal voltage too low or not received.
GYRO INVALID	BIST	Gyro valid flag asserted. Check the gyro circuit breaker. Note 4
LEG/AUTO (AUTO SLEW) IS ON	Pilot	Displayed when course knob is turned but course knob setting is over-written by Direct Track from Long Range Nav Receiver. Auto-slew operation can be disabled by entering the [SHFT]>[NAV] page and turning auto-slew ON or OFF with the softkey. If auto-slew is turned off you will have to turn the course pointer manually at every waypoint when flying a flight plan.



Display Item	Source	Notes
LORAN SELECTED EXTERNALLY	Pilot	This message appears when the SN3308 is slaved to an external loran/NAV switch/annunciator panel and it is first placed in loran position changing the SN3308 display from NAV1 to loran1.
Map Cntl SRC Check FAILED, Map Data CRC Check FAILED, Map Cntl Contains Errors	POST	These messages indicate that the upload of the map database to the unit was not completed successfully or the file was corrupted. Repeat the upload procedure. Contact Sandel technical support if the messages reoccur. Note 5
Map Format Conflict	POST	Indicates a mismatch between the operating software version and the map database. Check the Sandel website to ensure that you have the latest versions of operating software and database and repeat the upload procedure. Note 5
NAV1 TUNED TO ILS	Pilot	Appears when VHF NAV1 is tuned to an ILS frequency overriding and changing the SN3308 current NAV selection.
NavData Expires ddmmyy, BA	POST	Expiration date of internal Jeppesen database. The two letters following are an internal software code.
NAV2 TUNED TO ILS	Pilot	Same as above, except pertains to NAV2.
RS232 PORT-0 OVERFLOW	System	An internal error message which should never appear.



Display Item	Source	Notes
RS232 PORT-1 OVERFLOW	System	An internal error message which should never appear.
SCRATCHPAD CLEARED	Pilot	Appears when the map scratchpad memory has been cleared by pressing the "CLEAR" softkey while in the map setup mode.
SETUP USING <SHFT-BRG>	Pilot	This message is displayed when the Bearing Pointer is turned on but both bearing pointer source selections have been set to "OFF". Use [SHFT]>[BRG] to assign at least Bearing Pointer 1 to a source, usually AUTO.
Vers: xx.xx CRC: xxxxxxxx	POST	At power up shows Software Version and Cyclic Redundancy Check. Write down the Software Version Number prior to contacting Sandel with technical questions.
WX NOT INSTALLED	Pilot	Access to the [SHFT]>[WX] menu is attempted when the WX-500 Stormscope is not installed.
YOU ARE TUNED TO AN ILS	Pilot	This message appears when pressing the "NAV" switch on the SN3308 to select a GPS or Ioran and this action is overridden because an ILS is tuned on NAV1.



NOTE 1:

BIST is Built In Self Test. This runs continuously while the SN3308 is operating.

NOTE 2:

The internal temperature is continuously monitored. An overtemp condition will only occur if the cooling fan failure occurs first (the fan stops turning) or the cooling fan filter is clogged or obstructed. As the temperature rises a warning will be issued approximately 10 minutes prior to shutdown as a warning. If shutdown occurs the SN3308 will shut off the projection lamp and continue operating, and resume normal operation as the internal temperature falls.

NOTE 3:

The Inverter failure messages will only appear if a master inverter is installed.

NOTE 4:

Gyro Failures will only be annunciated if the installed Gyro has a valid flag output. If the "Fluxgate Failed" message appears check the Gyro circuit breaker which is usually the source of Fluxgate power.

NOTE 5:

All other functions of the SN3308 continue to operate normally when the map has failed.

