

NEWMAR CORPORATION WARRANTY DEPARTMENT

TECHNICAL SERVICE BULLETIN							
DATE ISSUED	MODEL YEAR(S) AFFECTED	MODEL(S) AFFECTED	TSB #				
12/21/99	2000	Optional Equipment	184				
BRAND		TYPE					
All <input checked="" type="checkbox"/>	American Star <input type="checkbox"/>	Kountry Star <input type="checkbox"/>	Dutch Star <input type="checkbox"/>	All <input checked="" type="checkbox"/>	T T <input type="checkbox"/>	F W <input type="checkbox"/>	
NewAire <input type="checkbox"/>	Mountain Aire <input type="checkbox"/>	Kountry Aire <input type="checkbox"/>	London Aire <input type="checkbox"/>	C A <input type="checkbox"/>	D P <input type="checkbox"/>	D B <input type="checkbox"/>	
<input type="checkbox"/> Air Conditioning & Heating				<input type="checkbox"/> Electrical Components			
<input checked="" type="checkbox"/> Appliances & Accessories				<input type="checkbox"/> Exterior Components			
<input type="checkbox"/> Cabinets & Furniture				<input type="checkbox"/> Interior Components			
<input type="checkbox"/> Chassis Components				<input type="checkbox"/> Plumbing & Bath Components			
<input type="checkbox"/> Construction Components				<input type="checkbox"/> Windows, Awnings, Vents, & Doors			
DESCRIPTION OF PROBLEM							
Optional equipment: Datron Satellite System.							
RECOMMENDED SOLUTION							
See the attached diagnostic bulletin #35.							

If you have any questions regarding this T.S.B., please contact a Warranty Service Representative at Newmar Corporation.

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November 18, 1999

DBS Technical Bulletin #35

Subject:

Instructions for using a computer to perform diagnostics on the DBS-4500-100 series Land antenna system.

Purpose:

To decrease down time of the antenna system by decreasing the time required to diagnose a DBS-4500-100 antenna system.

Detailed Description:

The DBS-4500 antenna system is designed with a feature which will allow the technician to communicate with the antenna and monitor various system status registers on the Antenna Control Unit (ACU). Using these registers, it is possible to quickly diagnose the DBS-4500 ACU, LNB, and wiring problems.

Equipment required

1. PC compatible 386 or newer computer with COM port communication software such as Hyper Terminal, Procom or equivalent.
2. Computer must be able to communicate at 9600 BAUD through a COM port.
3. Download cable, Datron P/N 43150-1

Connecting the Download Cable:

1. Disconnect the existing Plug & Play connector from the antenna radome base.
2. Insert the Download cable P/N 43150-1 between the existing cable and the antenna radome.
3. Run the 25 foot DB-9 serial cable down the side of the vehicle to the download computer.
4. Connect the 9 pin serial cable to COM1 of the PC. Note: if COM1 is not available use COM2 but make sure to change the Current Settings in Hyper Terminal to "9600,N,8,1,COM2, or the antenna will not communicate with the PC.

HYPER TERMINAL PROGRAM SETUP PROCEDURE

Enter Hyper Terminal program (Hyper Terminal. EXE). Under the File pull down, enter a new connection name, for example "4500 LAND"

Choose an icon to represent this new connection. Click on "OK"

CONNECT TO SCREEN

The next screen you see is the "Connect To" screen
Set the "Connect Using" to "Direct to Com1"
Do not enter any other data on this screen.
Now click on OK.

The next screen you see is "COM1" Properties

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Enter in the following for each pull down menu:

Bits per second: 9600
Data bits: 8
Parity: None
Stop bits: 1
Flow Control: NONE

Now click on OK

READING THE ANTENNA DATA

Make sure the 9 pin download cable is connected to COM1 of the computer and turn on the antenna power. You will see the following in the Hyper Terminal window. Some versions of software will only display the "TESTING RAM" and "Hit <Enter> repeatedly..." text.

```
TESTING RAM
RAM OK
Testing Command Register
Command register is OK
Hit <Enter> repeatedly to bring up the command mode
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Note: If you do not see "RAM TESTING", but instead see illegible characters, then the DBS-4500 is operating at 38400 baud. If you would like to change the default baud rate of the antenna to 9600, you must install a shunt at JP9 on the ACU PCB. See Figure 1 at the end of this document for JP9 location information. This change is not necessary at this time.

Do not press any keys until the PC screen reads:

DBS 4500:REVD 09-14-1999

You may see several lines of data beginning with the I.D. "S72," This is status information that you will halt by typing the following command:

<C34,1> <Enter>

This command will reset the antenna to the new factory default settings.

Now type the following:

- 1) First type **C70,1,0,1<enter>** (Sets readout to once per second)
- 2) Next type **C71,1,2,33,69<enter>** (Displays the following test data)
- 3) (C71,1) displays the time in seconds
(C71,2) displays the system mode:
 - 1= Initialization Mode
 - 2= Search Mode
 - 3= Acquired Mode
 - 4=Cable Unwrap Mode
 - 5= error Mode

The system will start in Mode 1, then change to Mode 2. When a satellite is located the system will go to Mode 3. If the system goes to mode 3 and you are not on the correct

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signal it should go back to Mode 2 in 24 seconds. If the system does not return to Mode 2, there may be a problem with the receiver or the ACU. Try resetting the receiver by unplugging the 120 AC plug for one to two minutes, then retest the system.

(C71,33) displays the AGC. While in search mode, the AGC should be read in the range of -40 dB. After the antenna acquires you should read between -25db to -33db. If the readings are not in this range the LNB or the connections to the LNB may be bad. It is also possible that the ACU Wide Band Detector (WBD) may be bad. Check the coax connections and or install a new LNB. If the problem persists, replace the ACU board.

(C71,69) displays the signal strength. The signal strength should in the 50s or 60s to track well. If the signal strength is -1, then the antenna is not communicating with the receiver. Check the DB-9 connector to the receiver and make sure the wires are connected correctly per installation manual M-01334. Also if there is still a problem, buzz out the serial communication wires to the ACU board using the Table 1 and Figure 1:

Plug & Play connector	DB-9 at receiver
Pin 8	DB9 pin 2
Pin 9	DB9 pin 3
Pin 10	DB9 pin 5

TABLE 1

If the wiring is correct, try replacing the receiver. If a new receiver does not fix the problem, replace the ACU board (P/N 130892-101).

To see what elevation the antenna will start its search at type (S7). See example below:
S7 = 23.00,63.00,2.50,44.00

25.00 indicates that the antenna is limited by software to a minimum elevation of 23 degrees. 63.00 indicates that the antenna is limited to a maximum elevation of 63 degrees. 2.50 indicates that the antenna will search the sky in a 2.5 degree wide search pattern and 44.00 indicates that the antenna will begin the search pattern at an elevation of 44 degrees.

It is possible to manually change the starting elevation with your laptop by typing in C7 then four commas and then the elevation that you want.

Example : C7,,,,43.6<enter>

Now the antenna will start searching at 43.6 degrees. (The four comma's move your elevation entry to the fourth memory location in the S7 register).

For additional information please contact Datron Technical Support at: (800) 287-5052

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