

GPS Test

Power up all components of the AVAPS rack. Wait for 15 min before testing the AVAPS reference GPS receiver since it may take up to 12 minutes to receive proper UTC time after satellite signal lock has been acquired.

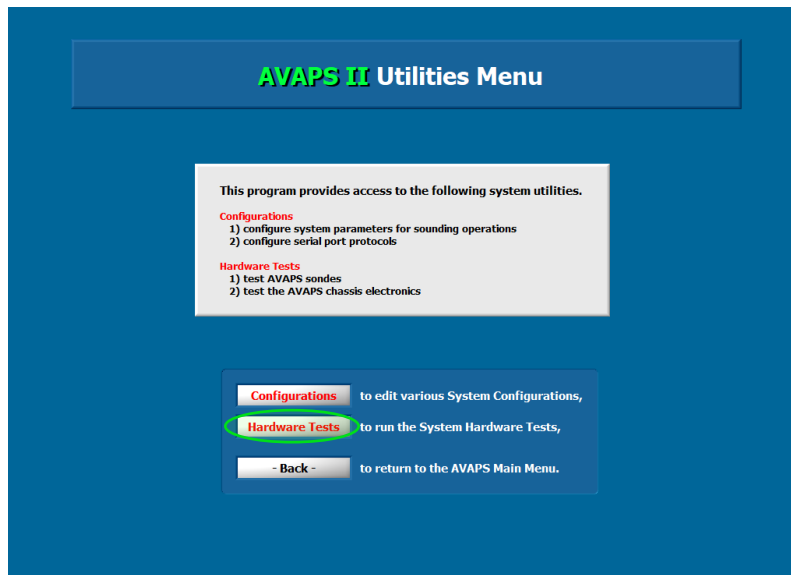
Note: The AVAPS computer clock may be synchronized to UTC manually. The deviation from UTC should not be larger than 1 second. Deviations larger than 3 seconds may already lead to data loss.

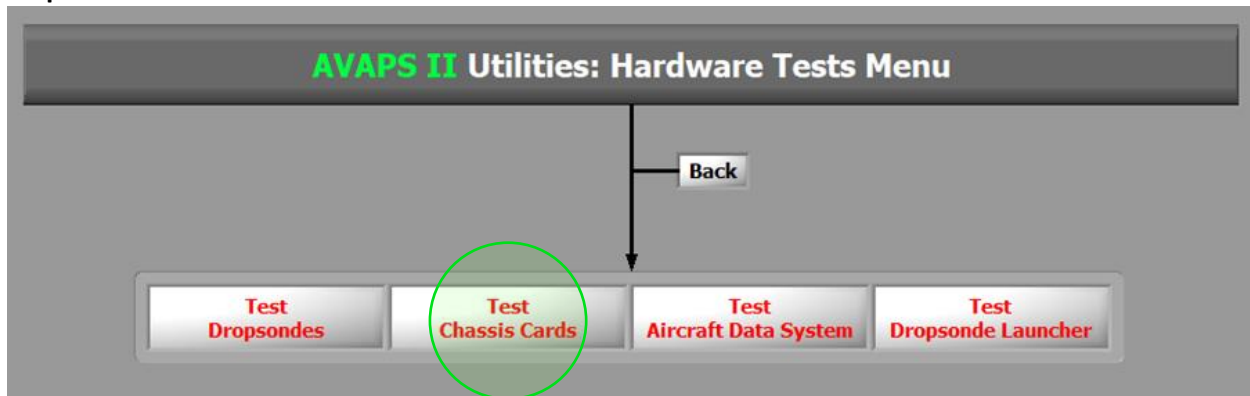
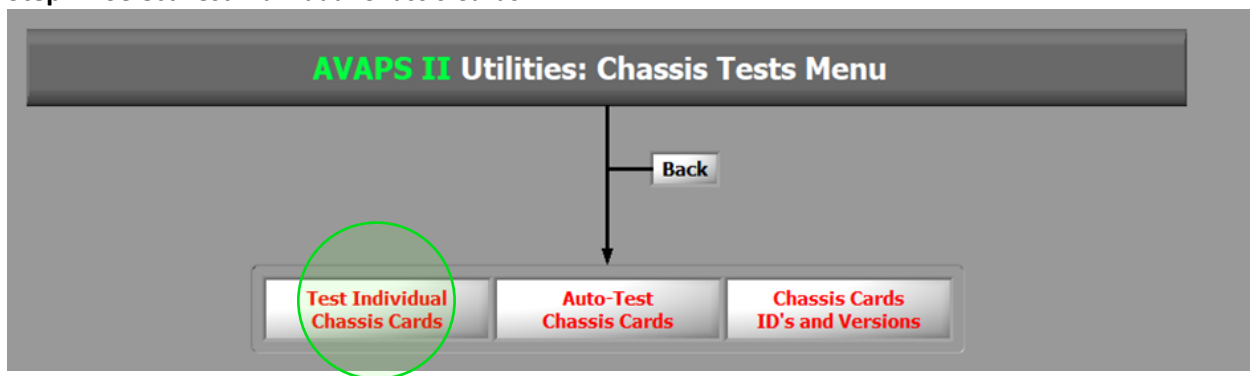
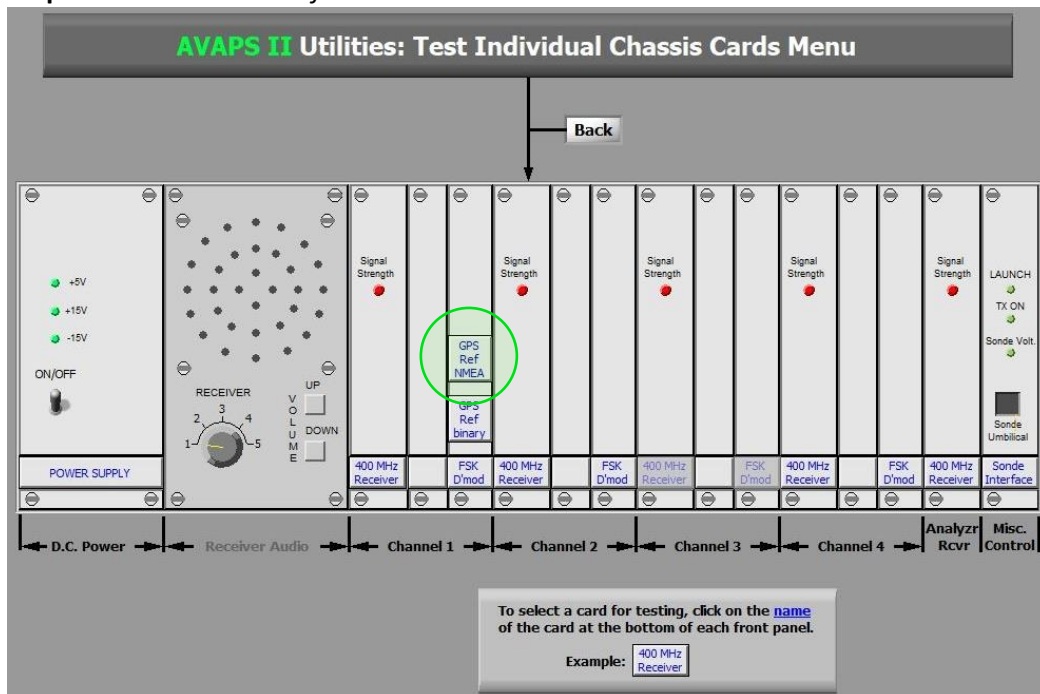
The following steps verify that the GPS is working properly.

Step 1: Select *Utilities*



Step 2: Select *Hardware Tests*



Step 3: Select Test Chassis Cards**Step 4: Select Test Individual Chassis Cards****Step 5: Select the GPS Ref NMEA card**

Note that in this example the GPS time and PC clock are not in sync.

AVAPS II Utilities: Read GPS Reference Receiver UART 1 (NMEA)

Hardware Selected

Card Type: **GPS Reference Rcvr on Demod Card**

COM: **11**

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GPS Reference Receiver NMEA-0183 Sentences

	Bytes	Err?
\$GPRMC,155931.00,A,4002.27228,N,10514.48414,W,0.039,,110621,,,D*65	68	
\$GPVTG,,T,,M,0.039,N,0.073,K,D*28	35	
\$GPGGA,155931.00,4002.27228,N,10514.48414,W,2,12,0.73,1625.1,M,-21.3,M,,*5B	77	
\$GPGSA,A,3,24,21,19,06,14,17,28,13,51,44,30,01,1.18,0.73,0.93*02	66	
\$GPGSV,5,1,17,01,25,045,33,02,02,199,,03,04,085,19,06,26,179,30*71	68	
\$GPGSV,5,2,17,13,20,237,30,14,58,077,37,15,11,267,24,17,76,017,36*74	70	
\$GPGSV,5,3,17,19,69,255,31,21,07,036,25,22,06,060,30,24,24,313,29*71	70	
\$GPGSV,5,4,17,28,70,040,36,30,29,160,31,44,42,197,31,48,39,209,31*7B	70	
\$GPGSV,5,5,17,51,44,183,33*41	31	
\$GPGLL,4002.27228,N,10514.48418,W,155930.00,A,D*7E	52	

GPS Reference Receiver Data

GPS Satellites: **12** GPS Ref Tracking?

GPS Longitude: **-105.241402** degrees

GPS Latitude: **40.037871** meters

GPS MSL Altitude: **1625.1** meters

GPS Reference UTC Date/Time

2021-06-11 15:59:31

Current PC Clock UTC Date/Time

2021-06-11 15:59:02

Set PC Clock to GPS Time (uses \$GPRMC message)

Display is: ASCII

Step 6: Select *Set PC Clock to GPS Time (uses \$GPRMC message)*

This should synchronize the computer time to the reference GPS:

AVAPS II Utilities: Read GPS Reference Receiver UART 1 (NMEA)

Hardware Selected

Card Type: **GPS Reference Rcvr on Demod Card**
COM: **11**

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GPS Reference Receiver NMEA-0183 Sentences

Sentence	Bytes	Err?
\$GPRMC,155931.00,A,4002.27228,N,10514.48414,W,0.039,,110621,,D*65	68	
\$GPVTG,,T,,M,0.039,N,0.073,K,D*28	35	
\$GPGGA,155931.00,4002.27228,N,10514.48414,W,2,12,0.73,1625.1,M,-21.3,M,,*5B	77	
\$GPGSA,A,3,24,21,19,06,14,17,28,13,51,44,30,01,1.18,0.73,0.93*02	66	
\$GPGSV,5,1,17,01,25,045,33,02,02,199,,03,04,085,19,06,26,179,30*71	68	
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\$GPGSV,5,5,17,51,44,183,33*41	31	
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Display is: ASCII

GPS Reference Receiver Data

GPS Satellites: **12** GPS Ref Tracking?

GPS Longitude: **-105.241402** degrees

GPS Latitude: **40.037871** degrees

GPS MSL Altitude: **1625.1** meters

GPS Reference UTC Date/Time
2021-06-11 15:59:39

Current PC Clock UTC Date/Time
2021-06-11 15:59:39

Set PC Clock to GPS Time (uses \$GPRMC message)

If the PC clock does not update to agree with the GPS time, then the system may not be properly configured to allow AVAPS to update the system clock. Check that AVAPS has permissions to update the PC clock or set the PC clock manually.

Step 7: Select the *Back* button to return to the Start Menu