- **BIT ERRORS:**

  5/12 volt fails: Both AC inputs NOT connected, Fuse

  5/12/ OK, Program OFF. Link to "Reprogramming the NAVLABS device manager.pdf"

- **BOOTING PROBLEMS:**

  CPU Fan is loose
  NO POWER - power supply rocker switch

- **COMPUTER SETTINGS**

  System colors are = 32 Bit. Don't change this setting

  Resolution 1920 x 1200 resolution. A lesser resolution will not display data forms in their entirety.

  You can place the simulator on a network.

  Running under an account OTHER THAN TAPESTRY / Changing the System Privileges & Account Setting (EXTREMELY ADVANCED - do this only for Classified Operation)

  1. Create a GPSSIM local group.
  2. Create local accounts for each user and assign those accounts to the GPSSIM Local group.
  3. Give that GPSSIM Local group the same permissions as the domain GPSSIM Users group.
  4. Give Local GPSSIM Group permissions for modifications to:

     C:\Windows\TapRci.ini
     C:\Windows\Voyager.ini
     C:\Tapestry (including all child objects)
     C:\windows\system32\cmd.exe

  5. Remove the machine from the domain and add it to the network workgroup.
  6. For the "Local Security Policy" and under the "User Rights Assignment", add the GPSSIM Local group to "Increase Scheduling Priority".

  Disable the screen saver and any other automatic timeout applications that may interfere with a running scenario.

- **MANUALS AND DOCUMENTS:**

  C:\tapestry\documents\manuals
  C:\tapestry\documents\Addendums

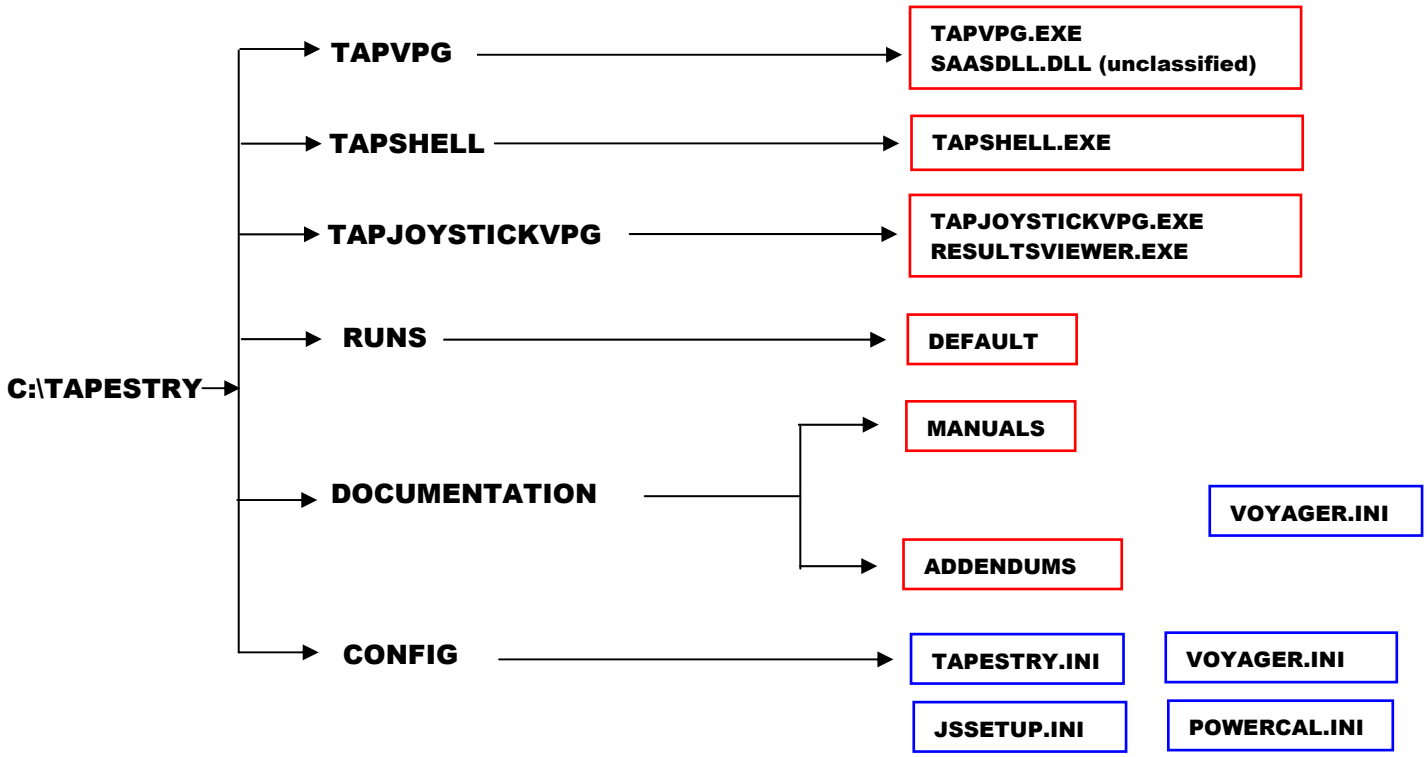
  Browse these folders as there are numerous documents of general interest that are not included in the manuals etc.

BUILDING SCENARIOS ON ANOTHER COMPUTER

You must RUN the Simulation on the NAVLABS Hardware Computer, however you may BUILD Scenario's on a different computer.

1. **NOTE**: You must have a monitor and video card capable of running true1080P (or higher) and you must set colors to the Highest (32 bit). If you don't have at least this resolution you cannot see all of the menu items in the application.

2. On the NEW computer create the following directory structure (folders).



Create the folder structure shown above on the TARGET Machine – all **RED** items are File Folders and you should copy the entire contents to your machine. – **BLUE** items are FILES that must be copied.

Set the resolution on your machine to **1900 x 1200**.

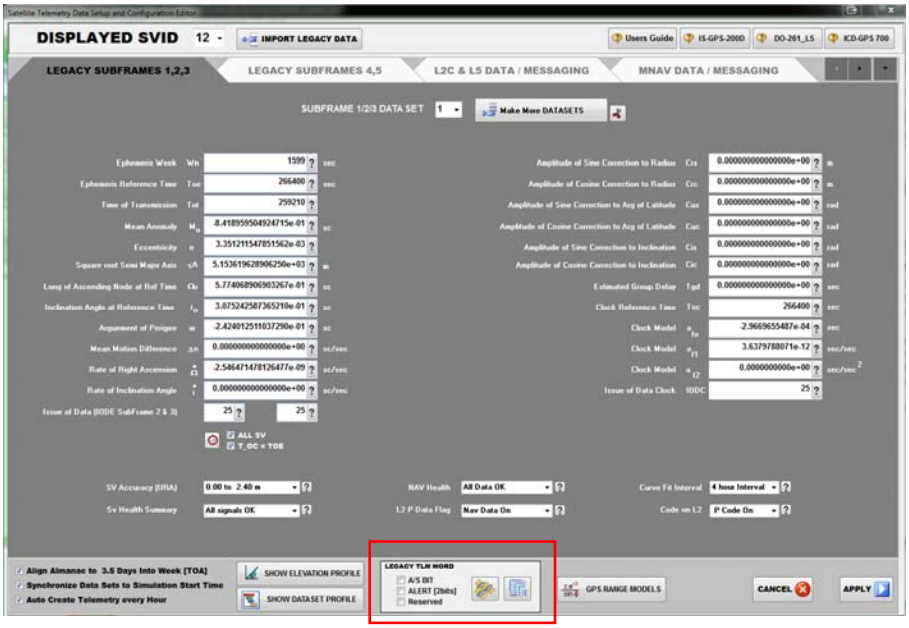
- NEW Tapestry, EDIT TAPESTRY.INI. Update the Adobe path as required.

- Copy any SCENARIO FOLDERS from the HOST machine to the TARGET machine as desired. They must hang off the RUNS folder. DEFAULT is required.

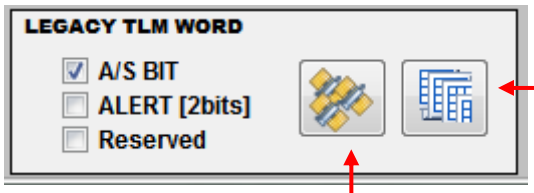
- **RECEIVER UNDER TEST ACQUIRES L1 C/A AT NOMINAL POWER AND DROPS IT FOR ALL SVIDS AS THEY ARE ACQUIRED.**

  If the receiver can track PCODE, it is trying to handover after acquiring L1 C/A. If you purchased a LABPRO 1000, 1200 without L1 P, then the handover will fail.

  Open the TELELEMTRY DATABASE EDITOR with BUILD SCENARIO. Find and CHECK the ANTISPOOF BIT and apply it to all data sets and SVIDS. Rebuild the Scenario.



CHECK IF YOUR SIMULATOR HAS NO PCODE



COPY TO ALL LEGACY DATA SETS

COPY TO ALL SVIDS

- **IMPORTING VEHICLE MOTION**
- **IMPORTING EVENT FILES**
- **IMPORTING ALMANAC / DES / CON / NAV**

If you want to **import your own data** bypassing the TAPESTRY GUI, follow the format as defined in the following document.

C:\TAPESTRY\DOCUMENTATION\MANUALS\IMPORTSHELL.PDF

- **SIMULATING A LEAP SECOND EVENT**

This example works. Change the dates appropriate to your Scenario.

1. Using the Telemetry Data Editor within BUILD SCENARIO find SUBFRAME 4/5

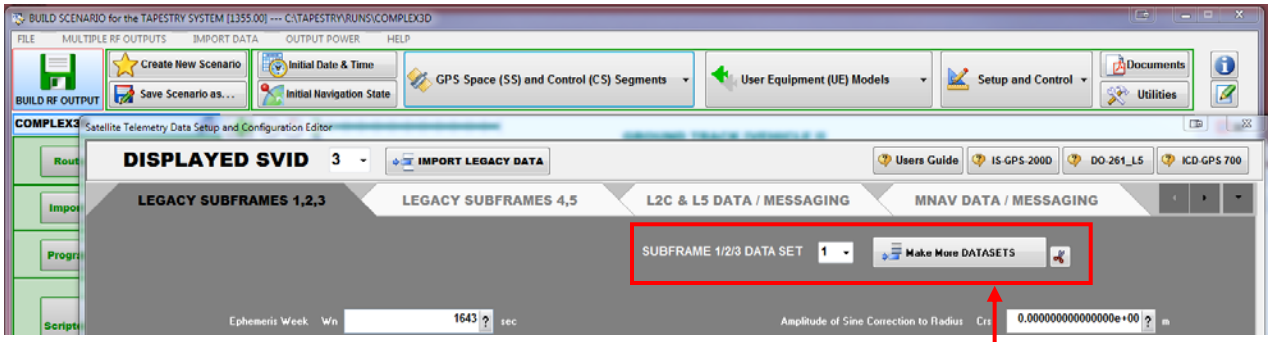
WN_t	=	1509	(week in early December)
WN_{lsf}	=	1512	(week number when the leap second event was to take place)
DN	=	4	(Wednesday night/Thursday morning)
ΔT_{lsf}	=	14	(number of leap seconds back in December '08)
ΔT_{ls}	=	15	(number of leap seconds after Dec. 31, '08)

- **RECEIVER DROPS ALL SVS AFTER 4 HOURS**

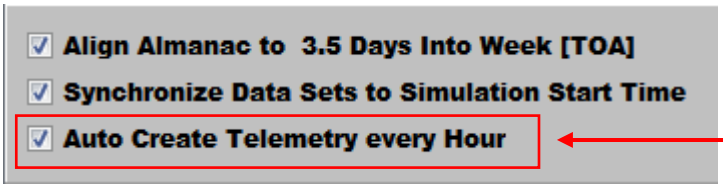
In the real world, every hour on the hour a new GPS Data Set is uploaded and broadcast to users. If the TOE is more than 2 hours past the current time, the according to ICD-GPS-300D the receiver should drop the satellite. It works out this happens for **four or more hour simulations**.

If this is not your intent, then stop this behavior as follows.

In BUILD SCENARIO locate GPS Telemetry Data Editor. Find the **EPHEMERIS SET** control on SUBFRAME 123 page. When you click on the control it will expand



CLICK and 4 more hours of Data is created



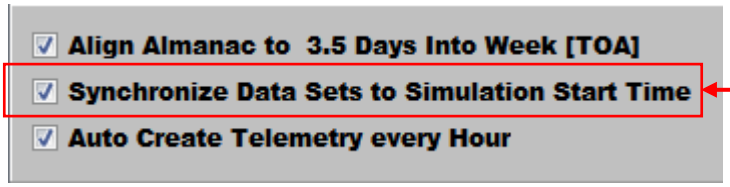
on the bottom of the page, check this setting

- **Ques:** Changes were made to TapControl.ini while Build scenario was Open. Not only was the change not noticed, but, when the TapControl.ini file was examined after the Scenario was Built the changes were gone.

Ans. Build Scenario overwrites TapControl.ini when Build is pressed. Make changes to TAPCONTROL.INI before starting Build Scenario – Or don't Build After you've made the changes to TAPCONTROL.INI – just shut down and then start Build Scenario again.

- **Ques:** Import a YUMA Almanac and NO satellites are generated.

Ans. Likely the setting to "Align Telemetry to Simulation Start Time" is not checked. Check this item. You still have to fix the current data set such that it applies to the "Current Simulation Time" and not to the time within the YUMA file. Easiest approach, CHECK the Synchronize box and IMPORT the Almanac again.!



Access these settings in the Satellite Telemetry Editor with BUILD SCENARIO.

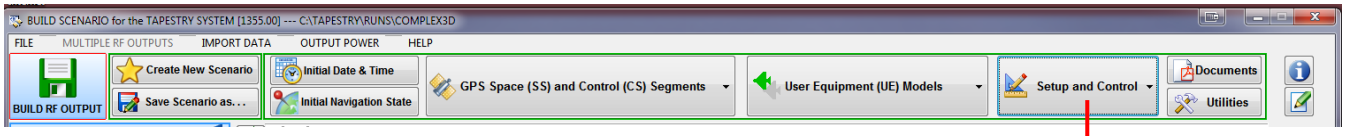
Or, go to the "Data & Time" button on the Main Screen. When the form pops-up, click "Finished" and the GPS Legacy and Modernized Data will be propagated to be consistent with the Simulation Start Time and synchronized.

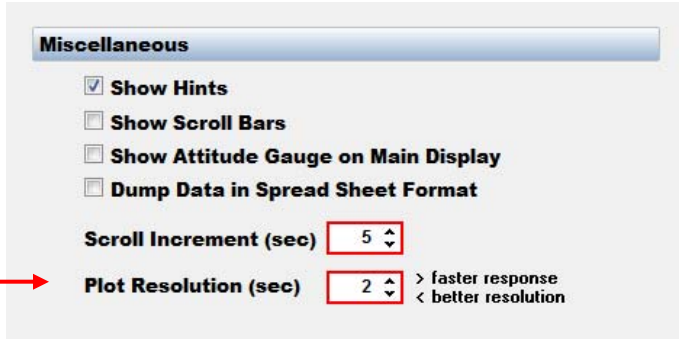
- **Ques**: why do the NAVDATA BIT (as shown in the NAVDATA BIT EDITOR or the real-time RUN SCNEARIO Display) appear to have (some of) the data bit signs flipped ?

Ans. In IS-GPS-200D, page 133 Section 20.3.5.2 "User Parity Algorithm" the bits of each word are exclusive or'd with the last words last bit, i.e. D30. So if you are looking at the raw bits being decoded, you need to look at the previous words last bit. If it is set, then all the information carrying bits of the current word are flipped. This is shown in IS-GPS-200D, Table 20-XIV, page 134. The real time display shows the navigation bits that are sent out. So if you are looking at something, like Toe, or iono parameters, etc., you may see the sign flipped compared to what you expect to see. But you should also see that D30 (the last bit) from the previous word, is set to 1. Also, the first two words of every subframe are constantly updated in real time. This is not shown in the real time display.

- **Ques**: Very slow response when Clicking on trajectory using the time sliders.

Ans.

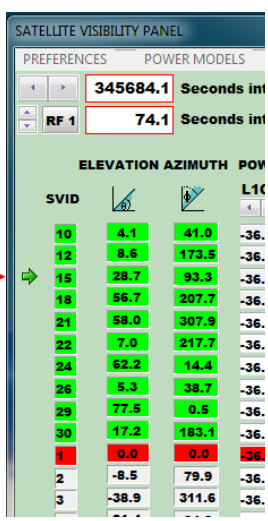




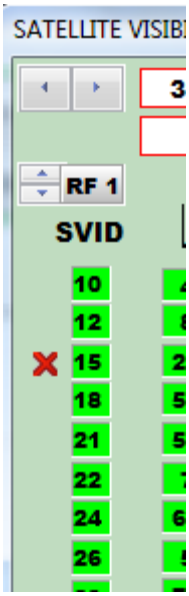
Make this # bigger (10)

- **Ques**: Change Satellite Broadcast Settings

<Click> Set SVID / POPUP

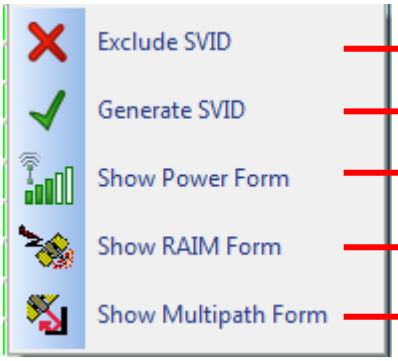


Exclude SVID

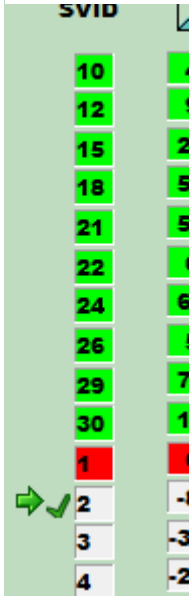


Excluded SV will be **Removed*** from the tracking output file [SATPOWERPRO].

*The Health bits associated with the SV will ***not*** be modified. To modify health settings, use the **Telemetry Data Editor**

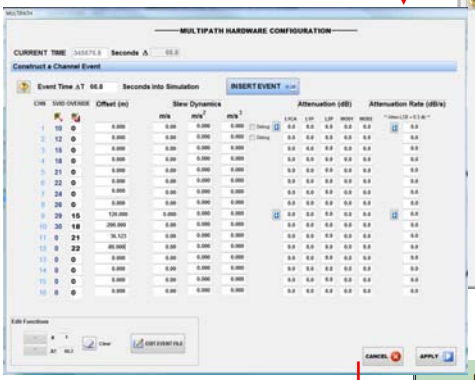


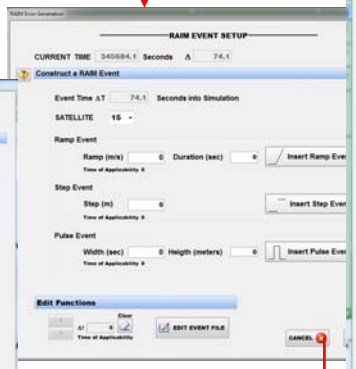
Generate SVID

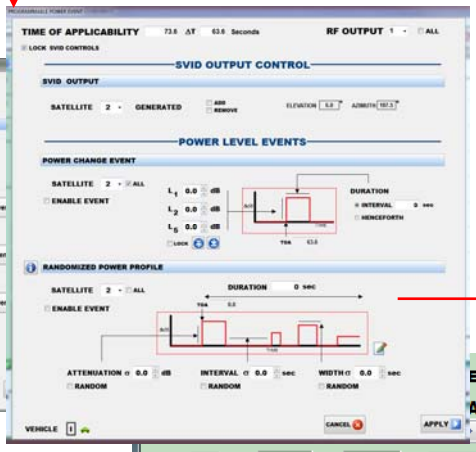


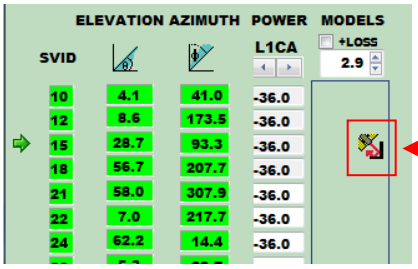
Generated SV will be **Added*** to the tracking output file.

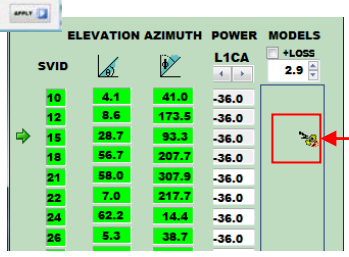
*The Health bits associated with the SV will ***not*** be modified. If initially unhealthy the SV will remain unhealthy. To modify health settings, use the **Telemetry Data Editor**



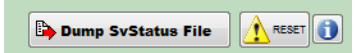








(hint): Remove effects by going to UTILITIES /

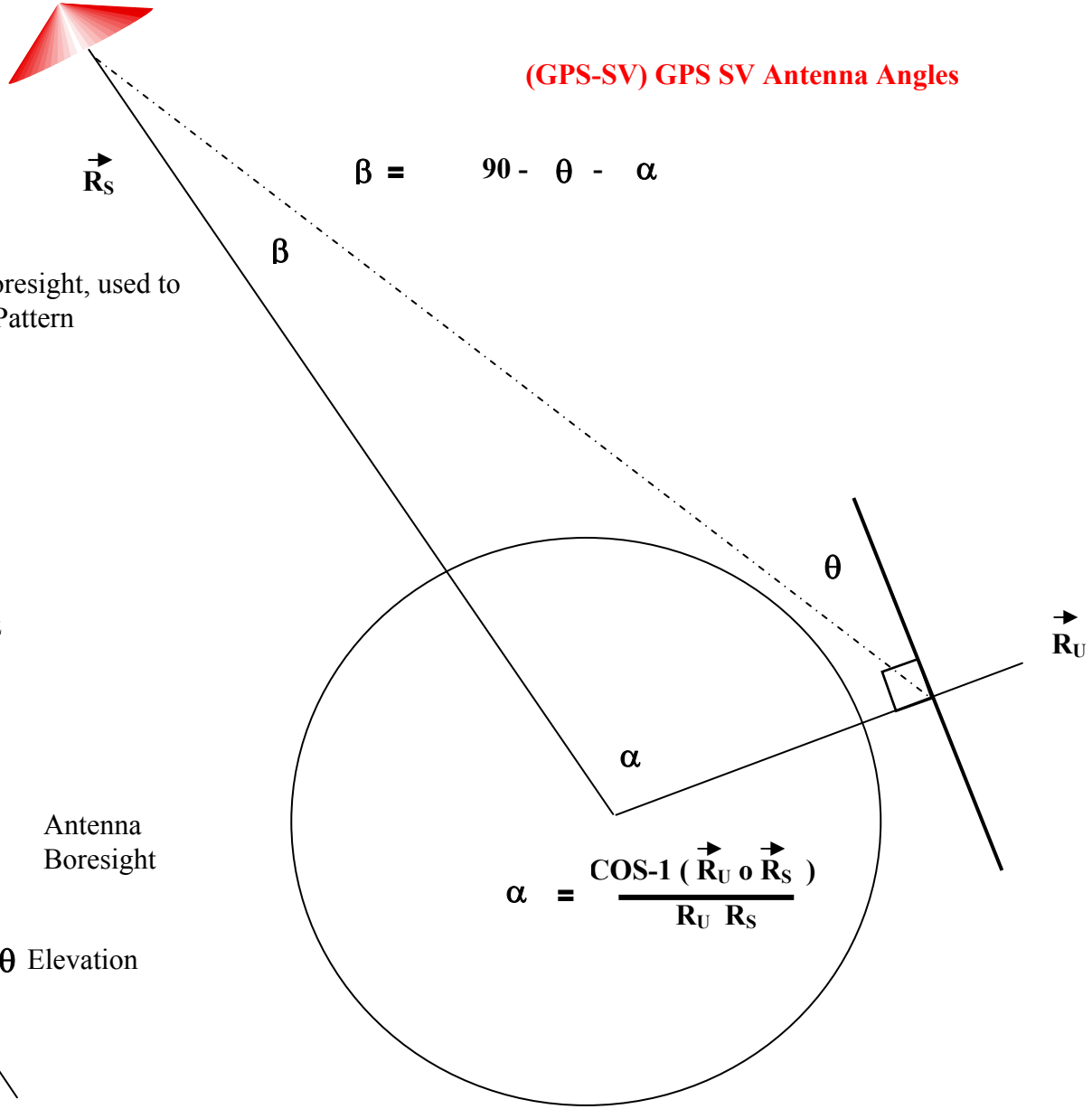


- **Ques**: Clicking the PRINT Control in Build Scenario and and no print or PDF files result.

  Ans. There is No Default printer assigned on the computer. The printer can be either a physical defive or a "PDF Printer". See Control Panel : Printers to setup your print device.

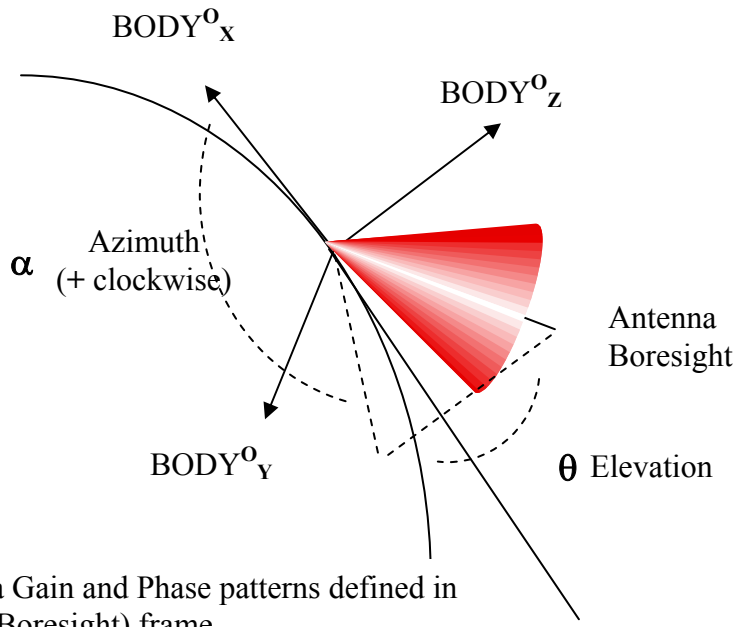
- Antenna Coordinates and Boresight Definition

(GPS-SV) GPS SV Antenna Angles



β Angle off of **GPS SV** boresight, used to Index into **SV** Antenna Pattern

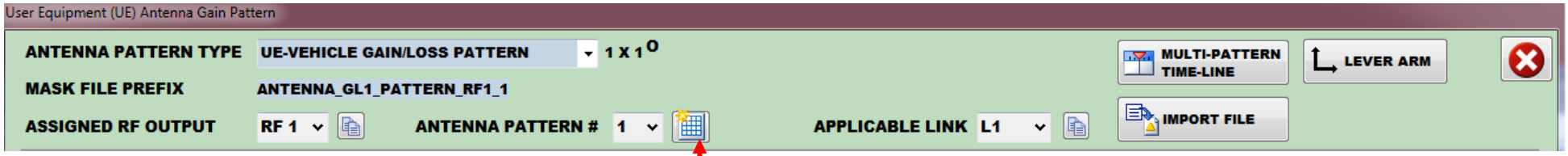
(UE) User Equipment Antenna Angles

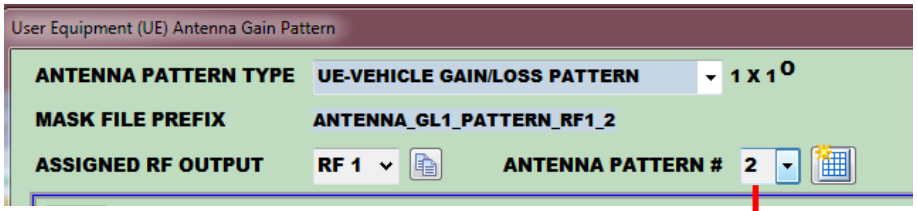


(UE) Antenna Gain and Phase patterns defined in ANTENNA (Boresight) frame.

α and β computed in BODY frame and transformed into ANTENNA (Boresight) frame.

IMPORTING MULTIPLE ANTENNA PATTERNS



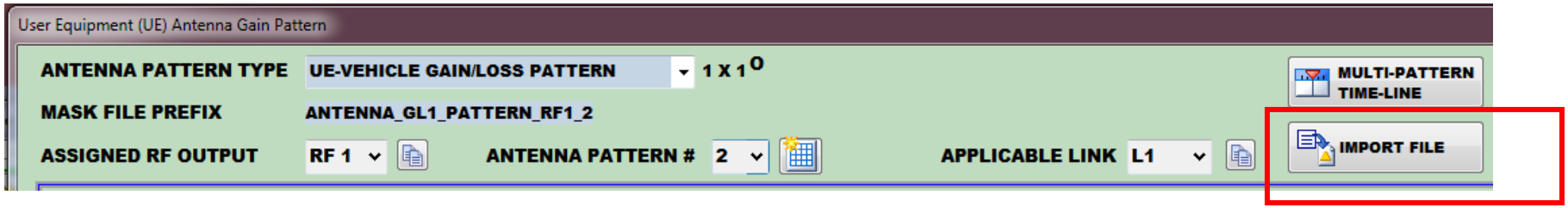


To IMPORT the 2nd and subsequent patterns.

1. Create NEW Pattern of the desired type

    TAPVPG will create the pattern a "0" fill it.

2. import PATTERN # 2



TAPVPG will create and fill ANTENNA_GL1_PATTERN_RF1_2.tmp, _3.tmp etc.

(I MUST use TMP files so the user can back-out of the changes. When you BUILD the program copies the TMP files to the SCN files. The # of Files has to match the setting in TAPCONTROL.INI so be careful manually copying them in yourself.