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Telemetry Dynamic Simulator (TDSIM)

Options

The Dynamic application is a very modular application to allow the user to output PCM data (either RF and/or cable). Similar to LDPS, nobody is happy with a single way to do things, so there are options to configure how you want the program to act.

There are several program options you can set up. Click on the System-Options menu button and an options window will appear. There are 4 sections for the options.

1) Directories – You are allowed to set the directories where certain files are stored and retrieved
    a. Setup Configuration – These are configuration files for operation.
    b. LDPS Archive Root – For playback of archive files, you can point this to where you have LDPS archive files.
    c. Hardcopies – Where hardcopy files are stored.
    d. Word Algorithm Functions – If you have functions you (or someone else) has written, the dll and its help file will be stored here.
    e. Playback Functions – Playback of files operates just like LDPS does. It requires a playback function dll. The LDPS native format is supplied. If you wish to playback another file format, then the dll for that format is also stored here.
    f. Decom Import Setup – Directory where you have decom setup files so you can just import the decom setup file and it will set up the PCM frame the same way.
    g. PDBase – Directory where you have LDPS PDbase files so you can drag/drop parameters on the WdAlg frame and it will assign the hardware information for you.
    h. Special Archive/Playback Function – This is where you choose the playback function to use (if you have multiple playback formats).
    i. Output Archive Root – This is where your archive files will go if you enable the archive output option.
2) Operation – Options that deal with the overall operation
    a. Hardcopy as BMP – If this option is checked, hardcopy files will be the Windows BMP format. Otherwise they are JPG format.
    b. Do Not Use Day Of Year for IRIG Time – You can elect to have every day the 1st of January as far as IRIG time goes.
    c. Clock Out Only Use All Ones – If you select Clock Out Only on the control, then the data will be all 1's, else the data will be all 0's.
    d. Use Hardware PRN Generator – This option offloads the PRN data onto the LS7x card so no PC interaction required after it is started.

Use this mode if you have fast data rates or have multiple tasks going on so you don't miss a bit if you're overloading Windows.

e. Multiple Stream Output Control – If this box is checked, and you have more than one stream, then the Output Data on any stream controls the Output Data on all streams. Useful to start/stop data flow on all streams at the same time.
f. Startup Load Last Setup – If this is checked, the last file configuration is loaded when you start the program again.
g. Wd Alg Defaults – Set the defaults you want the WdAlg routine to use if the word you are assigning to a WdAlg is not defined as RAW.
h.

3) Utility – Options not covered on the other three sections.
    a. DLL Operations – This is for debug purposes.
        i. IRIG Gen Use Microsecond Time – Older cards could not get microsecond time accuracy from the generator, only millisecond time. If you choose this option, and you have an older card, your time will not be correct (garbage).
        ii. DLL Write Timestamps of Callback – For troubleshooting purposes, this will make a log entry in the LS70V2Dll.log file every time an interrupt was generated by the card.
    b. Colors – This lets you set the colors of the application to your desires.
4) Network – UDP Output.
    a. TMoIP UDP Control – Output Enable – This affects all streams. This allows you to disable all streams, or enable all streams selected for UDP output. This is normally left Enabled if you are using any UDP for any stream. It is mainly for user troubleshooting purposes on the network, to temporarily stop all network traffic going out
5) Network – Stream Control
    a. Although the TDSim supports up to 8 streams, the first 4 are the only ones you can edit for UDP output.
    b. Set the Dest Addr to send the data to. This can be a multicast address (224.xxx.xxx.xxx to 239.xxx.xxx.xxx)
    c. Set the UDP Port it will use
    d. Use IRIG Reader for TimeStamp – Only applies to Native format, and only if the device used has an IRIG reader
    e. Enable – Check this box if you want this streams data to go out the network.
    f. Format – The data can be output in any of the following formats
        i. Native – This is the native TDSim format. Contact Lumistar for documentation.
        ii. GDP Normal – This is the GDP Normal that is used for their devices, like the M2350 box.
        iii. PCM Packed – This just takes the data, packs the bits (throughput) and sends them out. No header or trailer, just the raw PCM bits.
        iv. TMoIP 218-07 – This is the RCC 218-07 specification version.

v. Ls28/68 – This is the Lumistar Ls28M and Ls68M tmoip formats
vi. Sandia Livermore – This is a format defined for Sandia, and includes timestamping of the packet data.
vii. Apogee TMoIP+Time (throughput with time) RCC-218 Header, with 3 timestamp words. Up to 16000 payload words. Has Time Data.
viii. Zodiac zRTR Cortex (throughput with time)
Relatively large UDP header, but does have time. Up to 16000 payload words. UDP ports restricted to ports 3070 and 3080 on the RTR so that is what should be used when simulating.