

Impressive Functionality in a Portable Module

This small module, about the size of a paperback book, provides a highly portable solution to your Mil-Std-1553 testing, stimulation or monitoring needs.

GSS Avionics have been providing high performance Mil-Std-1553 interface cards to the avionics industry for more than 10 years. We have worked closely with engineers to understand the features they need.

All of our experience has gone into our latest range of databus analyser hardware which is available in PCI, cPCI or Gigabit Ethernet Bus box format as shown here.

These boxes provide a very portable solution, requiring just a DC power supply

and an Ethernet connection to a controlling PC.

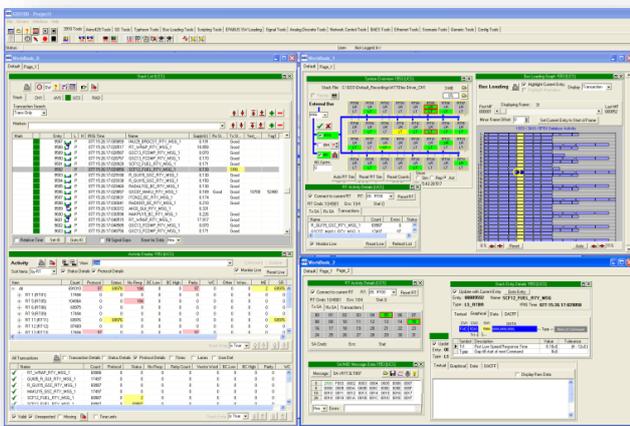
Multiple data boxes can be connected together using a switch to create a highly configurable system. Other protocols are provided by ourselves and our partner MBS-Electronics, please consult your local representative for details.



Hardware Specification

- Dual Redundant Mil-Std-1553 Interface in a Box
- Concurrent Bus Monitor, RT and BC Simulation
- Low level error injection and detection
- Realtime functions applied to data.
- Replay of recorded activity
- Connects via GB Ethernet to controlling PC
- Connect multiple devices through switch
- Time synchronised via Precision Time Protocol
- Control through low level API library or GSS100 Analyser Software

A Powerful range of Tools to support the Mil-Std-1553 Protocol

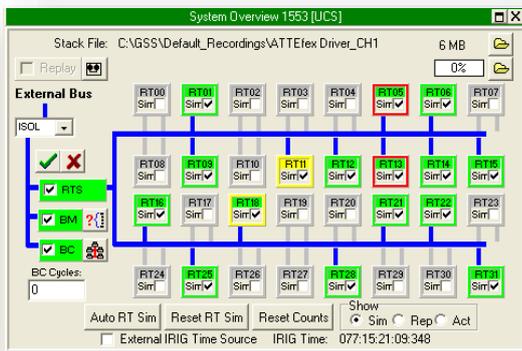


GSS have been working for almost 10 years with some of the world’s leading databus test engineers to develop this comprehensive set of tools to stimulate, monitor and analyse the Mil-Std-1553 databus protocol.

The resulting tool package runs as part of the acclaimed GSS100 Databus Analyser Application from GSS.

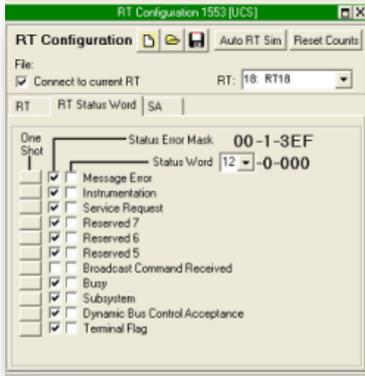
This datasheet describes some of the main tools that comprise this Tool Package.

System Overview Tool



This tool gives a graphical representation of the overall state of the 1553 databus. From here you can control the RT Simulation, Bus Monitoring and Bus Controller functions. Each of the RTs is represented by its own box that can be selected for simulation or replay. The colour coding of each RT represents its current and historical activity.

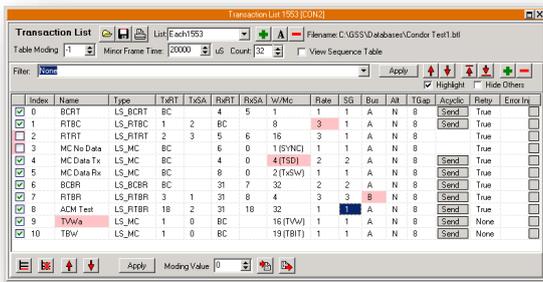
RT Configuration Tool



This tool provides the user with detailed access to the configuration of a selected Remote Terminal. Three separate Tabs are provided for General RT parameters, Status Word control and SA related configuration and status.

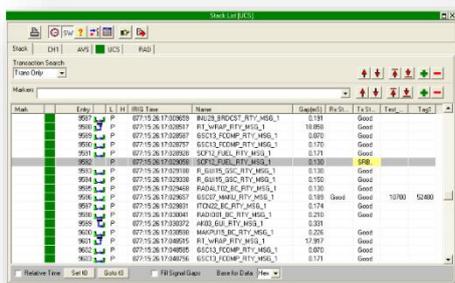
The screen shot shown here is of the Status Word page, where individual status bits can be set as one shot, or permanently latched.

Transaction List Tool



This tool enables you to define the transfers that you want to simulate (or, that you expect to monitor). Apart from the name and the obvious source / destination parameters, you can also define the rate, sub-group, retry and error-injection behaviour.

Stack List Tool



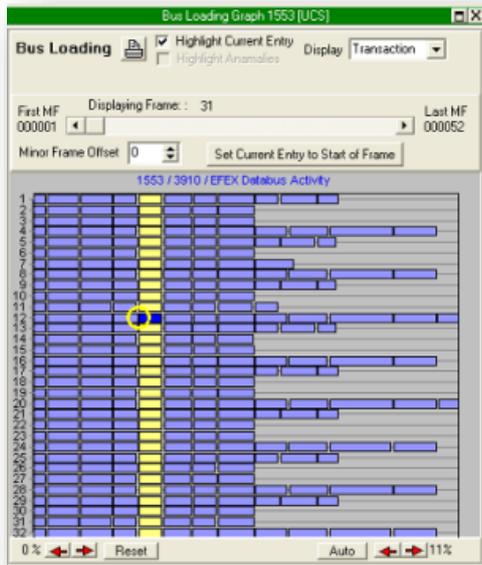
This tool displays a chronological list of a recorded stack. Multiple channels (not just 1553) can be displayed in the same list with entries being arranged in time order.

The name of the transfer is taken from the Transaction List and many columns are

available to display a great deal of information about each entry. It is also possible to display both raw data and user defined scaled signals in the list.

Apart from the main 'Stack' tab, a separate tab exists for each of the databus channels in your system. These tabs display a summary of all the unique transfers contained in the recording and the number of times they were seen. This list can also be used to filter which transactions are displayed in the main Stack tab.

Bus Loading Tool



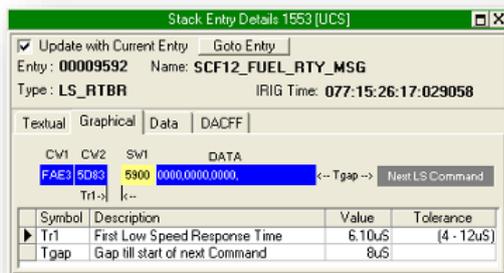
This tool provides an alternative view of a stack recording. Each row represents a minor frame, with the complete chart representing a major frame. A slider at the

top enable you to scroll through the entire recording.

Each bar on the chart represents an individual stack entry, with its colour representing the status of that transfer. The Yellow circle highlights the currently selected transfer (used by other tools). This tool provides an alternative view of a stack recording. Each row represents a minor frame, with the complete chart representing a major frame. A slider at the top enable you to scroll through the entire recording.

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Entry Details Tool

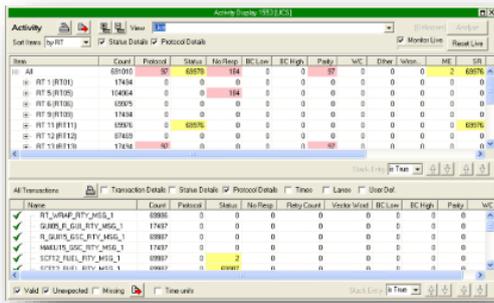


This tool displays a detailed view of the currently selected stack entry (as selected on either the Stack List or Bus Loading tool).

The 'Graphical' tab displays a block diagram of the selected stack entry, colour coded to indicate the status of each element and annotated with timing parameters, the values for which are displayed in the table below.

The 'Textual' tab presents much of the same data, but displayed as a detailed text list. The 'Data' tab can be used to examine the raw bus data associated with this stack entry.

Activity Tool



This tool is used to display either the live activity counts, or the activity counts for a stack recording. The top half of the tool displays the activity for each RT as an expandable tree view, with lower branches showing Tx/Rx activity, with individual SA counts on the lowest level.

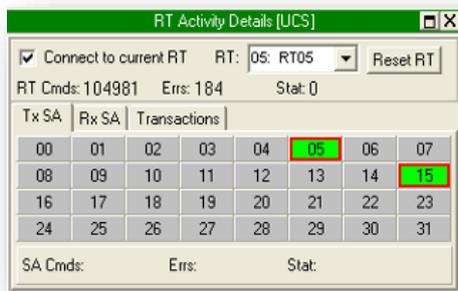
The lower part of this tool displays the activity counts for each unique Transaction. This list is compared with the currently

define Transaction List. Apart from displaying the matching transaction names, it is also possible to highlight Missing and Unexpected transfers.

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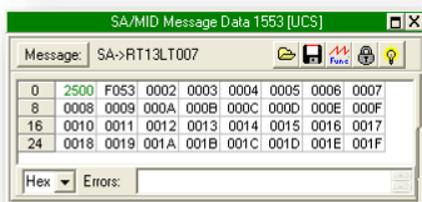
RT Activity Tool



This tool gives a detailed view of the activity related to a specific RT. The tool consists of three tabs, the TxSA and RxSA tabs displaying the current and historical activity status of individual SAs.

The third tab displays a list of those transactions related to this RT along with activity counts showing total, error and status count

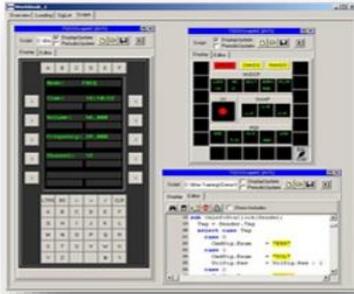
Raw SA/BC Data Tool



This tool can be used to monitor or edit the data in a raw SA or BC buffer.

Dynamic functions can also be applied to specific words using the 'Func' button.

Other GSS100 Tool



Apart from the above protocol specific Tools, the GSS100 application provides many other Tools that can be used by all databus protocols.

Please contact us for further details.

