

Gryphon S-3[®]

Wireless Automotive
Network Analysis Tool
with WiFi by Dearborn Group, Inc.



Key Benefits

- ✓ The new Gryphon S-3 is a universal network Bus Analyzer for: CAN, Single Wire CAN, LIN, ISO 11992, ISO 11898, J1939, J1850 (Class 2, SCP, PCI), KWP2000, CANopen and Honda UART.
- ✓ 3rd generation Gryphon: with Linux O/S, AMD Elan CPU.
- ✓ Out of the box: it provides instant nodes on your network.
- ✓ Use competitive databases such as Vector .dbc and GM UEF.
- ✓ Useful for development, end-of-line testing, system service, Data Acquisition and Hardware-in-the-Loop simulation.
- ✓ Economical personality cards - 2 CAN nodes are built-in.
- ✓ WiFi (802.11a,b,g) plus 10/100 Ethernet connection to host PC.
- ✓ Diagnostics support: GMLAN, J1939, ISO 15765, OBDII.
- ✓ Built-in digital I/O ports: 3 inputs, 2 FET (hi side to ground).
- ✓ Portable - requires a 6 to 32 volt DC supply. Temp -10 to 80 C
- ✓ Designed and Made in the USA. Supported everywhere.



s3.p65 Ver 2.6

Introduction

Take the best of the original Gryphon and the S-CAT2, combine them, add built-in digital I/O and you get the new wireless Gryphon S-3 Bus Analyzer. It connects your PC to various busses such as CAN, LIN and J1850. It monitors these busses and provides access to them and to the data on them. Hercules 4.0 is the newly upgraded optional user interface software.

S-3 has two CAN channels built-in (dual wire and single wire or two dual wire) and one slot for a standard Gryphon personality card to add other protocols. S-3 connects to a host PC via WiFi or Ethernet and connects to the busses through its front panel.

Gryphon S-3

S-3 is an updated and lower cost version of the Gryphon. It adds separate and independent WiFi 802.11 and 100 Mbits/s Ethernet channels. It has one personality card slot and a new advanced motherboard and is electrically the same.

S-3 acts as a gateway hence can connect to and communicate to different and multiple busses at the same time. It can pass messages from one protocol to a different one.

S-3 can read and write messages to and from the busses as specified and these messages can be filtered, triggered, created, manipulated and stored by the S-3 hardware.

The S-3 is controlled either by the user interface Hercules or a customer written application using provided Windows DLLs. Most processing is done in the S-3 hardware providing response times much faster than if done in the PC.

S-3 is a x86 PC running Linux on a 128 M FLASH disk and any Compact Flash Type 1 can be used. Root access is provided. S-3 can run stand-alone for remote operation or with a host PC.

Hercules 4.0 NEW! LIN and I/O support added

Hercules provides access to the S-3's internal functions and features. Hercules has intuitive menus to easily and quickly configure the S-3. Hercules specifies the messages to be transmitted, their formats and what to do with received messages such as save to a file or to trigger other frames.

Data collected is manipulated and stored according to specifications set with Hercules. Configuration setups can be saved as well as various data files containing messages.

The user is able to write their own application to access the S-3 directly using provided Windows DLLs using Visual Basic, C, C++, Visual C or Labview. S-3 supports SAE J2534 function and IOCTL calls and comes with a J2534 SDK.

Hercules has powerful diagnostic and database capabilities. Systems with internal diagnostic systems are easily developed and debugged with Hercules and S-3. GMLAN, ISO Diagnostics and OBDII are integrated in Hercules and additional proprietary systems are easily installed. J1939, a SAE heavy truck and bus protocol, is also supported.

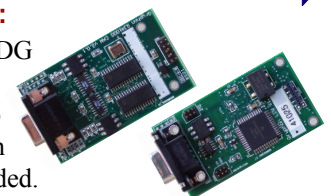
High level messages can be converted from raw numbers to plain English acronyms by using the Hercules database.

S-3, S-CAT2, Gryphon and Hercules are qualified for most major automotive companies and their suppliers.

more...

Gryphon Personality Cards:

Shown are Dual CAN and LIN. DG has over 15 cards now available plus many custom models. Two CAN channels are included with the S-3 and two more can be added.



Dearborn Group, Inc.

Phone (248) 488-2080 www.dgtech.com sales@dgtech.com
27007 Hills Tech Court, Farmington Hills, Michigan 48331

Hercules 4.0:

Transmit Frame Table

Frame Identifier

Frame Acronym

Data

Hot-Key

Scrolling Monitor

Timestamp

Frame Acronym

Statistics Graph

Average Bus Load

The screenshot displays the Hercules 4.0 software interface. The main window is titled 'Hercules - Scrolling Monitor - Configuration = screen.her'. It features a menu bar (File, Display, Scroll Monitor, Configuration, FilterMode, Monitoring, Playback, Diagnostics, Database, View, Window, Help) and a toolbar. The 'Transmit Frame Table' window shows a table with columns: Line No, Frame ID, Protocol, Frame Acronym, Data, Channel, Hot Key, Type, Interval, and ms. The 'Scrolling Monitor' window shows a table with columns: Line No, TimeStamp, Channel, Frame ID, Frame Acronym, Protocol, Data, and Rx/Tx. The 'Statistics Graph' window shows a line graph of Average Bus Load (ABL) in percentage over time. The 'Diagnostic Configuration' window shows settings for Address Type, Channel, Tester Present, ID, Interval, Physical, Functional, UUDT Resp ID, and USDT Resp ID. The 'Information View' window shows current status, trigger status, transmission status, error report level, and system messages.

Tool Bar

Frame IDs found on bus

Status Indicators

Error Report

System Messages

Diagnostics Configuration

Tester Status

Diagnostic Services Available

PIDs Supported

Sending and Receiving Messages with Hercules 4.0:

The S-3 sends and receives messages on the bus like any node. Transmitted messages are specified by the user and sent periodically, by a hot-key or as a result of a specified message being received (the Responder). The S-3 can emulate nodes or modules that are not yet physically present in the system by using the Responder function.

Viewing CAN Messages:

Messages can be viewed in several ways and one is to display the CAN message identifier, timestamp, data (if any) and acronym as shown above. This data can be recorded to be sent to third party software for detailed analysis. Statistics and bus information can also be displayed in various formats.

The above screen shows some captured CAN traffic. Both 11 bit and 29 bit frames are shown on the same network. The frames are sent out on S-3's Channel A and received on Channel B. These frames to be transmitted are specified in the Transmit Frame Table.

Transmit Frame Table (TFT):

This table is specified by the user and contains the frames that are transmitted to the CAN bus by a hot-key or periodic action or by the Responder. Multiple tables can be saved for recall.

Filters:

Hercules can filter messages to be displayed and recorded. Up to 50 filters can be specified and the identifier and data can be selected as a 1, 0 or Don't Care. Each filter can be set as a block or pass and can be individually activated and saved in a configuration file.

Triggers:

When Hercules 4.0 detects a condition such as an error, a specified identifier or data pattern, or a time-out, a trigger occurs if this is specified. Actions include stopping the buffer or sending special S-3 commands. Triggers are configured similar to Filters. The buffer will contain messages before and after the event and this ratio can be changed. These messages can be filtered if desired and saved to a text file. This recorded file can be played back on the bus.

Diagnostic Mode:

Network systems have two modes of operation. Normal mode is where ordinary traffic flow is present on the bus. Diagnostic mode is when a module sends out information relating to its diagnostics and will allow a device to query it.

Hercules has powerful diagnostic capabilities and supports both public and proprietary diagnostic systems. Proprietary databases can be created and loaded into Hercules. Acronyms, identifiers and other useful information will be displayed on the PC screen and can be saved to files. GMLAN, ISO 15765, J1939 and OBDII are supported.

Responder:

The Responder sends a frame or frames in response to a user specified frame being received. Filtering configuration is the same as in the filters. Each responder frame will activate a specified entry or entries in the Transmit Frame Table (TFT).

UCS and Blocks:

UCS and Blocks are two embedded programming utilities. UCS is a simple text system to transmit messages in sequences. Blocks is more powerful and flexible, using C statements to make calls to Hercules using a built-in editor and compiler.

Acronyms and the Database:

Each frame consists of an identifier, from 0 to 8 data bits and various housekeeping bits. Hercules uses a database to substitute acronyms for a particular message frame or data. A database can be easily constructed by the user for proprietary and confidential systems. Hercules directly supports Vector .dbc and GM UEF database files. Hercules can decode information embedded in the data bytes no matter how they are encoded even if on a bit by bit basis and also span bytes.

For more information:

For more information regarding the Gryphon S-3, S-CAT2, Gryphon, Hercules 4 and other products, to find technical specifications, pricing or to locate your local representative, please contact Dearborn Group at sales@dgtech.com, www.dgtech.com or call at (248) 488-2080.

Dearborn Group, Inc.

Phone (248) 488-2080 www.dgtech.com sales@dgtech.com
27007 Hills Tech Court, Farmington Hills, Michigan 48331