DVR3-540
Digital Video & Data Recorder with 4 camera inputs & VBR

ST9379 PAL/NTSC

Overview

Stack's new range of Digital Video Recorders (DVRs) can be used as a conventional DVR to record video and audio. They can also record data as well as video, in one compact unit, for the ultimate in Synchronized Video-Logging.
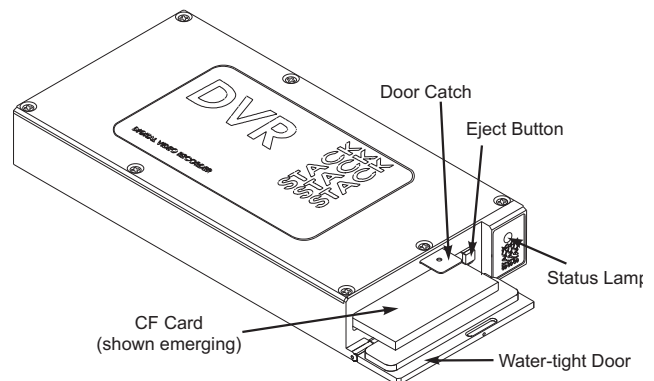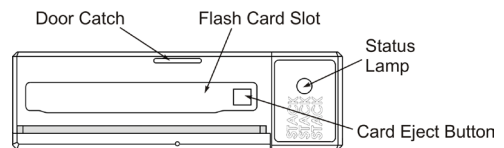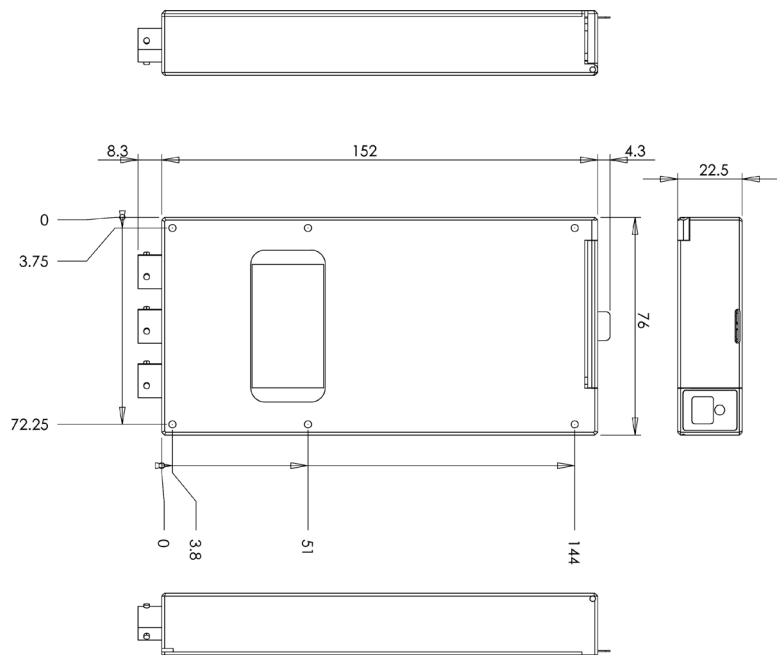
Stack DVRs can be connected directly to any Stack Dash Display or Data logging system by CAN Bus. Up to 128 channels of data, including GPS and the internal 3-axis G-sensor channels, can be recorded together with high quality MPEG-2 video and audio direct to a Compact Flash (CF) card. The video and data recordings can be analysed together in the supplied Stack DataPro analysis software. Video recordings can also be played back by any PC media player or archived and viewed on a DVD player.

Stack's range of DVRs combine ruggedness, reliability and recording quality with a slim, lightweight design that's perfect for all harsh environment applications.

Highlights

- Video-Logging with synchronized recording of vehicle data channels.
- CAN bus interface for direct connection to Dash Displays and Logging Systems or ECUs.
- Data recording of up to 128 data channels at 1-500Hz sampling rates.
- Solid-state, no moving parts, ensuring reliable operation year after year.
- User configurable bit-rate up to 20 Mbps + Variable Bit Rate (6 Quality levels up to 50 Mbps peak)
- Intra-frame (I-frame) only record mode
- Up to 4 camera inputs (composite PAL or NTSC).
- 16:9 Widescreen or 4:3 screen ratios.
- -20 to +70ºC (-4 to 158ºF) operating temperature range.
- 128 GB maximum card size.
- Over 36 hrs of high quality, full res. recording (subject to card size).
- 9 to 20V DC powered.
- Fully sealed to IP67.
- Mil-type "AS" connectors.
- External status LED.
- Sealed memory card door (when closed).
- Real-Time date & time overlay.
- 3 axis g-sensor data overlay.
- GPS data overlay option (NMEA 0183 Interface).
- Up to 2 secs. (Supercaps) Brownout Protection option.
- Continuous Loop Recording modes.
- Event Recorder mode, with pre- and post-trigger record periods.
- Automatic "Alarms" start/stop recording using built-in g-sensor or any data channel.
- Connectors: 3 x 9W DDAS.

Dimensions

Specifications: DVR3-540

RECORDING - VIDEO

Number of camera inputs	4
Video input multiplexing options	Any format of 1 to 4 cameras on one screen
Video Standards Supported	PAL/NTSC
Composite Video Input	Composite 1V pk-pk
Video Frame Rate	30 fps (NTSC); 25 fps (PAL)
Video Monitor Output	1 V pk-pk Composite
Compression Format	MPEG-2 MP@ML compression Program Stream
Resolutions Supported	PAL: 720x576; 720x400; 480x576; 352x576, 352x288 NTSC: 720x480; 720x400; 480x480; 352x480; 352x240
Quality - bitrate	User configurable bit-rate up to 20 Mbps + Variable Bit Rate (6 Quality levels up to 50 Mbps peak). "I" frame only recording supported.
CF Record Time	3-140 Mins/Gbyte

RECORDING - AUDIO

Number of audio channels	2
Input Level	Mic or Line Level +3 to -30dB
Active Gain Control (AGC)	Yes
Compression Format	MPEG1 Layer II, 2 ch. 16 bit, 48 kHz

RECORDING - DATA

Data Recording	128 data channels at 1-500Hz sampling rates

DISK INTERFACE

Disk Interface	Compact Flash; FAT32
Maximum Card Size	128GB
Maximum File Size	2GB
File Format	MPEG-2; Windows Media Player & DVD compatible

MISCELLANEOUS

Power up to Record start time	<20 Sec
Record Switch to Record start/stop time	<0.1 Sec (in ready to record state)
Lost recording time between 2GB files	None
Max video loss if power lost while recording	<last 1 Sec (see Brownout Protection option below to extend record time after power loss).
Brownout Protection option	Up to 2 Secs (dependant on camera load). Extends recording by up to 1 Sec
Configuration	Via USB
Real-Time Date & Time Overlay	1 Sec resolution (0.001 Sec Option)
GPS Data Overlay (Option)	1-20 Hz
3 axis G-sensor Data Overlay	12.5 Hz
GPS Receiver Interface (Option)	1-20 Hz (NMEA 0183 Interface)
CAN-bus Interface (option)	Yes (up 1 Mbps)
Continuous Loop Recording	Yes
Event Recording Mode	Yes
Pre-trigger Period	0 - 60 Mins
Post-trigger Period	0 - 24 Hours
Event Counter Data Overlay Option	Yes

ENVIRONMENTAL

Operating Temperature Range	-20ºC to +80ºC (-4 to 176ºF)
Storage Temperature Range	-40ºC to +80ºC (-40 to 176ºF)
Sealing	IP67
Humidity	0-100% RH Condensing
Vibration	20g 50-2000 Hz swept sinusoidal 12 hour x 3 axes**
Shock	50 G, 15 ms**
Radiated Emissions	EN55022B CiSPR22**
Conducted Emissions	EN55022B CiSPR22**
Radiated Immunity	EN55024B CiSPR24, 50 V/m**
Conducted Immunity	DIN40839 Cat IV**
RoHS Compliant	Yes

GENERAL

Mechanical Size	151 x 76 x 21mm
Finish	Hard Anodised Aluminium
Weight (without Memory Card)	380g
Operating Voltage Range	9V to 20V DC (option for 20V-50V DC)
Reverse/Over-voltage Protection	-60V to +60V DC
Power Consumption (@ 12VDC)	~5W
Standby Battery	Life > 5 Years
Connectors	3 x 9W DDAS

Standard Components

DVR3-540 Module	ST99006X	1
Power Lead	ST918078	1
System Harness	ST918118	1
Video Input Harness	ST918107	1
Monitor Harness	ST918114	1
Switch & LED Harness	ST918105	1
CAM Plug to BNC Video Connector & Power Plug (2.1mm)	ST918106	4
Configuration Software	ST920039	1
DataPro Software	ST920033	1
DVR3 User Guide	ST542103	1

Optional Components

Bullet Camera- PAL, 560 TVL, 0.1 Lux	ST8393
Bullet Camera- NTSC, 560 TVL, 0.1 Lux	ST8394
Microphone	ST8397
CAM plug to BNC & Power lead	ST918106
GPS Receiver and Data Overlay Option (5Hz)	ST8398
4GB Ruggedised High-Speed Metal Housing (-40ºC to +85ºC) CF Card	ST390053
8GB Ruggedised High-Speed Metal Housing (-40ºC to +85ºC) CF Card	ST390054
16GB Ruggedised High-Speed Metal Housing (-40ºC to +85ºC) CF Card	ST390055
32GB Ruggedised High-Speed Metal Housing (-40ºC to +85ºC) CF Card	ST390057
8GB High-Speed Metal Housing (0ºC to +60ºC) CF Card	ST390064
16GB High-Speed Metal Housing (0ºC to +60ºC) CF Card	ST390065
32GB High-Speed Metal Housing (0ºC to +60ºC) CF Card	ST390067
64GB High-Speed Metal Housing (0ºC to +60ºC) CF Card	ST390088
128GB High-Speed Metal Housing (0ºC to +60ºC) CF Card	ST390089
128 Channel Sync-Video Metadata Recorder option	ST8336-PIN
GPS Data Overlay option (20Hz)	ST9398

Note

* Specifications quoted dependent on use of appropriate CF cards and are guaranteed only with Stack supplied Harsh Environment cards.

** Environmental specification is for the DVR unit only. When combined with a CF card, the specifications will be reduced to the lesser of the two.