Product Feature Summary

MemorEyes HD High Definition Digital Video Recorder

MemorEYES
SOLID STATE VIDEO RECORDERS

*"Solid state digital
HD video recorders -
recall your vision."*

A New Level of Interactive Recording

The MemorEyes solid-state digital video recorder offers an unprecedented level of versatility and interactivity for those conducting intelligence-gathering operations.
You can record video any time any place: military and police surveillance, monitoring, evidence acquisition, and so on.

Installation/Operation Options

MemorEyes may be installed and operated in several different ways.

When used in conjunction with Laserdyne's Black Opal family of display systems, the operator may:
- set different video channels for recording or playback;
- control playback; and
- set event markers;

all without ever touching the MemorEyes device – so there is a wide choice of installation sites within the vehicle. The device may be installed:
- in series with a Black Opal display (when in close proximity to it – only one short cable extra required, no other cabling changes); or
- peripheral to a Black Opal display (when remote from it – some extra cables and cable modifications required).

MemorEyes may also be installed in series with or peripheral to other brands of display, depending upon their video connections and other features.

MemorEyes may be installed in a stand-alone fashion, if replacing an existing recorder or installing without a display. Its on-board control features allow for completely independent operation.

On-Board Controls & User Interface

The MemorEyes Graphic User Interface (GUI) puts system control at the operator's fingertips. The five modes of operation and simple graphical presentations mean that, in any mode, only 3 buttons are required to perform any function.
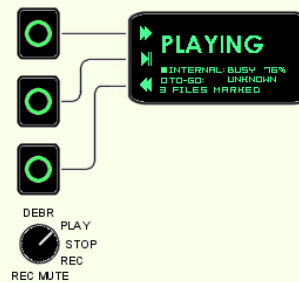
Debrief Mode:

DEBRIEF
INTERNAL BUSY 76%
TO-GO: BUSY 80%
3 FILES MARKED

DEBR
PLAY
STOP
REC
REC MUTE
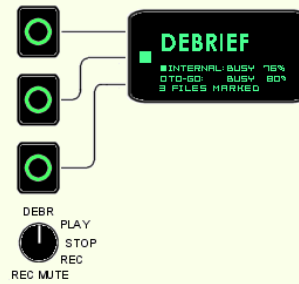
Allows the operator to access and download files stored on the fixed internal storage medium.

Controls: start/stop debrief.

Play Mode:

PLAYING
INTERNAL BUSY 76%
TO-GO: UNKNOWN
3 FILES MARKED

DEBR
PLAY
STOP
REC
REC MUTE

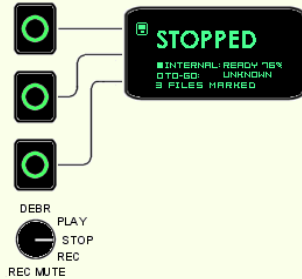Allows the operator to play back recorded files.

Controls: start/stop playback; variable speed fast forward; variable speed rewind; pause; skip (next or previous); frame step (next or previous).

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Stop Mode:

STOPPED
■INTERNAL: READY 76%
0 TO-GO: UNKNOWN
3 FILES MARKED

Stops any current action and finalises current file.

DEBR
PLAY
STOP
REC
REC MUTE

Controls: select storage medium.

Record Mode:

RECORD
■INTERNAL: BUSY 76%
0 TO-GO: UNKNOWN
3 FILES MARKED

Allows the operator to record video and associated audio.

DEBR
PLAY
STOP
REC
REC MUTE

Controls: select storage medium; start/stop recording; mark Event.

Record Mute Mode:

RECORD
■INTERNAL: BUSY 76%
0 TO-GO: UNKNOWN
3 FILES MARKED
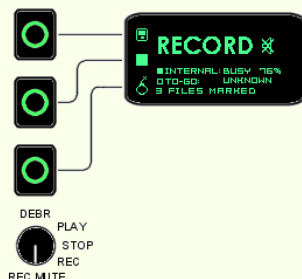
Allows the operator to record video without audio.

DEBR
PLAY
STOP
REC
REC MUTE

Controls: select storage medium; start/stop recording; mark Event.

Configurable Operating Parameters

MemorEyes features an on-board, web-page-based interface for configuration. A PC with Ethernet connection and web-browser is all that is required to be able to set MemorEyes parameters to your preferences.

Configurable Operating Parameters (cont'd)

Configurable parameters include:

- input video format (PAL, NTSC, 720p, 1080p/i);
- input channel selection (choose one from multiple inputs);
- output channel selection (for playback on a compatible device such as a Black Opal display);
- watermark on/off (when on, the watermark is imposed on every frame as part of the picture);
- set record file size (video is recorded in separate files for manageability, the length of the files may be set anywhere from 1 to 30 minutes);
- configure filename convention [e.g. for MM/DD/YY or DD/MM/YY date method used in filename);
- set Event context duration (specifies the recording time after an Event that is to be included in the file before recording is allowed to go to the next file, it may be set anywhere from 0 to 2 minutes);
- date/time set (to adjust to local time or compensate for drift);
- IP address change (in case a different address is required for the MemorEyes when hooked into a local network);
- image adjustment (in case hue, saturation, contrast or brightness values need to be set to suit individual camera characteristics); and
- recording time versus data rate/recording quality.

Surveillance Suitable Compression

The MemorEyes HD employs the H.264 scheme, which was developed for HD video formats, and is a much more efficient (i.e. less stored data is required to maintain video quality) compression scheme than MJPEG or MPEG-2.

Convenient File Management

The MemorEyes operating system presents the recorded data in convenient files for the operator to download selectively or entirely. All files are contiguous (no frames are lost between files).

Each file contains the video run-time that was preset during configuration, although some may be longer if an Event was marked.

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What is an Event?

An Event is a time-based marker which influences the way the recorded video files are managed. The user should mark an Event whenever activities of critical interest are observed and being videoed during the mission. Marking Events influences the way files are managed so that critical video footage is retained, and surrounding (in time) footage is readily identified.

Should the current file be too close to ending when an Event is marked, then the file will be extended beyond the Event marker by the Context duration value that has been preset.

For example, consider the case where the file size has been set at 20 minutes, and the Context duration at 2 minutes. If an Event is marked closer than 2 minutes to the end of the file, that file will be extended to contain 2 minutes of video past the Event marker rather than finish at 20 minutes. (So if the Event marker was 19 minutes into that file, the file would become 21 minutes long.) The next 20 minute file will then commence from that time. The Event-marked file would keep on extending out if yet more Events are marked within 2 minutes of the first.

If an Event is marked within the Context duration from the beginning of a file, then the previous file is included in the list of Event-marked files, either for selection during PC download, or for automatic recording to the MemorEyes-to-Go.

Example 1: Event marker is set early in a file.
Presets: File Length 600s; Event Context 50s.
Total file length will be 600s.
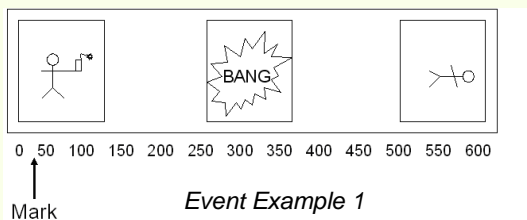
Event Example 1

What is an Event? (cont'd)

Example 2: Event marker is late in a file.
Presets: File Length 600s; Event Context 50s.
Total file length will be 650s.

Event Example 2
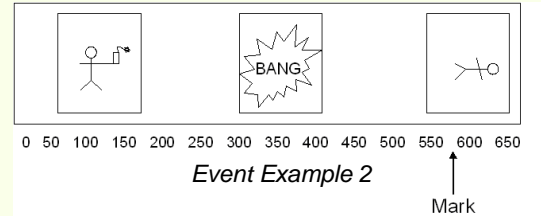
An event may be marked while recording by pressing the Event button on the front face of the MemorEyes when in Record or Record Mute modes, or selecting the Event item from the DVR/record menu of a Black Opal display.
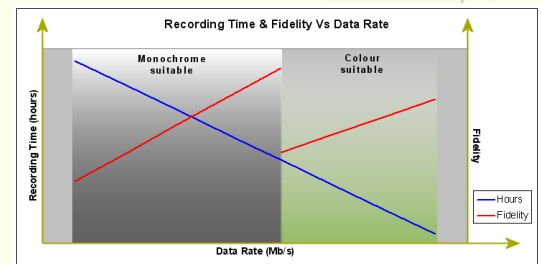
An event may also be marked after recording by selecting the Event item from the DVR/playback menu of a Black Opal display during playback.

All of this is transparent to the operator – just hit Event, and all of the file management occurs automatically behind the scenes.

Storage Capacity Vs Image Quality

MemorEyes offers recording times in excess of 6 hours using either the fixed internal storage medium or the removeable memory, at the highest data rates (highest quality). Much more recording capacity is available at lower data rates.

Lower data rates are generally unsuitable for colour video, but monochrome video may be recorded with adequate quality. The chart is indicative of the trade-off between data rates and recording times.