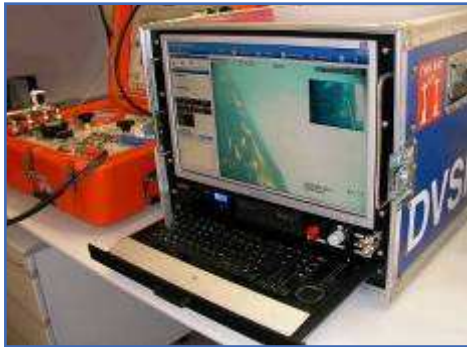


# Computer Based Diving Monitoring System

ProDiving 2008 ©



## HIGHLIGHTS

This unit was design to improve the Diving Operations, giving the best video footage ever seen, with Broadcast Quality and real-time diving telemetry acquisition.

Diving Supervision task are now much easier, real time reading such, diving time, depth, no DECO time and all DECO Stops were shown automatically, base on most common used Air Decompression Diving Tables.

Reports are no longer a hard task, as soon you finish the job, just one click to have the Daily Report done.

DivX© movie and JPEG snapshot can be easier sent to USB-Flash Memory, PDF reports and Dive Profile Graph too.

All existent type of cameras can be used, so your Umbilical can be used without any changes, just the surface termination need to be adapted.



All items on screen were fully customizable, including company logo.

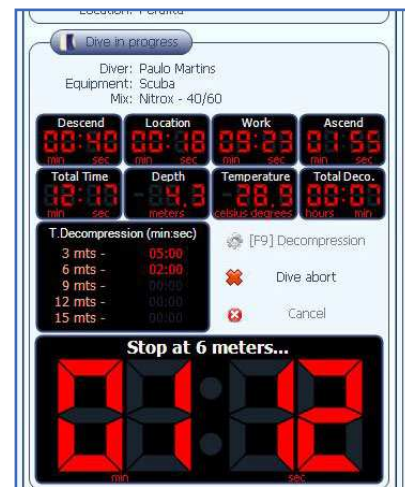
Any language can be used, Portuguese and English are ready to use. Translations tables for all Menus and Function are available.

Heavy Duty Case with removable covers that carry all cables needed for operation.



## SPECIFICATIONS

- ✓ 2 Channels - PAL/NTSC Composite Video Input.
- ✓ Real time Video 25/30 fps per channel Broadcast Quality.
- ✓ One or Two Video Channel simultaneous or PIP (Picture in Picture) recording with DivX© quality.
- ✓ DivX© Video recorded at 640x480 (4:3) 25/30 frames per sec.
- ✓ MPEG2 Sound at 56kb/s sample rate Join Stereo.
- ✓ 2 SATA 230Gb Hard disks, one for OS and System Files and other for Data recording.
- ✓ 130 hours HDD recording or 2 hours in 4,7GB DVD.
- ✓ COMMS Interface 2-Wires Mode, Kirby Morgan© Standard Air Intercom.
- ✓ Absolute Pressure Transmitter for Deepness Measurement from 0 to 10 bar (max depth 90 m of Sea Water) with integrated Pt100 Water temperature Measurement.
- ✓ Serial GPS Input or any Standard NMEA device, with automatic valid position check.
- ✓ US Navy or MN90 French Air Decompression Tables can be use. DCIEM Table could be loaded too.



## PRINCIPLES OF OPERATION

This unit was design based with latest Microsoft .NET© tools to create Windows© Based Applications. An INTEL© CORE 2 DUO E6600 2,4GHz CPU drives all system. A Video Capture PCI cards specially engineered for real-time encoding and archiving, capable to capture two independent audio and video signals up to 640x480 resolution and 25 fps per channel.

A proprietary USB based interface PCB was design to acquire all signals from telemetry (Depth and Temperature) and Control 2 independent 12Vdc 35W Diving lights.

A Watchdog circuitry was include in case of system crash, give manual control to diving light and keep audio working in a separately battery operated COMMS panel.

There are 2 umbilical connections that can be use to have 2 Divers in water, Video, Light and Sound can be adjusted separately for each Diver.



Auxiliary Video and Audio Input for ROV operations recording is also available.

All signals were carried by a standard umbilical cable:

- 1 x 75 Ohm Low Loss Coax Core - Video Signal
- 1 x 1.34mm<sup>2</sup> Conductors - +24Vdc Camera Power
- 1 x 1.34mm<sup>2</sup> Twisted Screen Pair - 12 Vdc Light
- 1 x 0.5mm<sup>2</sup> Twisted Screen Pair - 2 Wire COMMS
- 1 x 0.22mm<sup>2</sup> Twisted Pair - Telemetry
- 1 x 0.22mm<sup>2</sup> Overall Screens - Protective Ground



One All-in-one bay was added to proper CPU monitoring and Fan failure detect. Easy front access to USB, FireWire, SATA disk and all type of Memory Cards ports were available too.

This Unit was developed based on MULTISUB – Professional Divers requirements, using their know-how and facilities for off-shore test and prototype approvals.

