SUMMARY GUIDE FOR NETmc MARINE

IDS X-Ops-Peli

digital video recorder c/w camera/lamp controller and overlay

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Contents

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1. Introduction

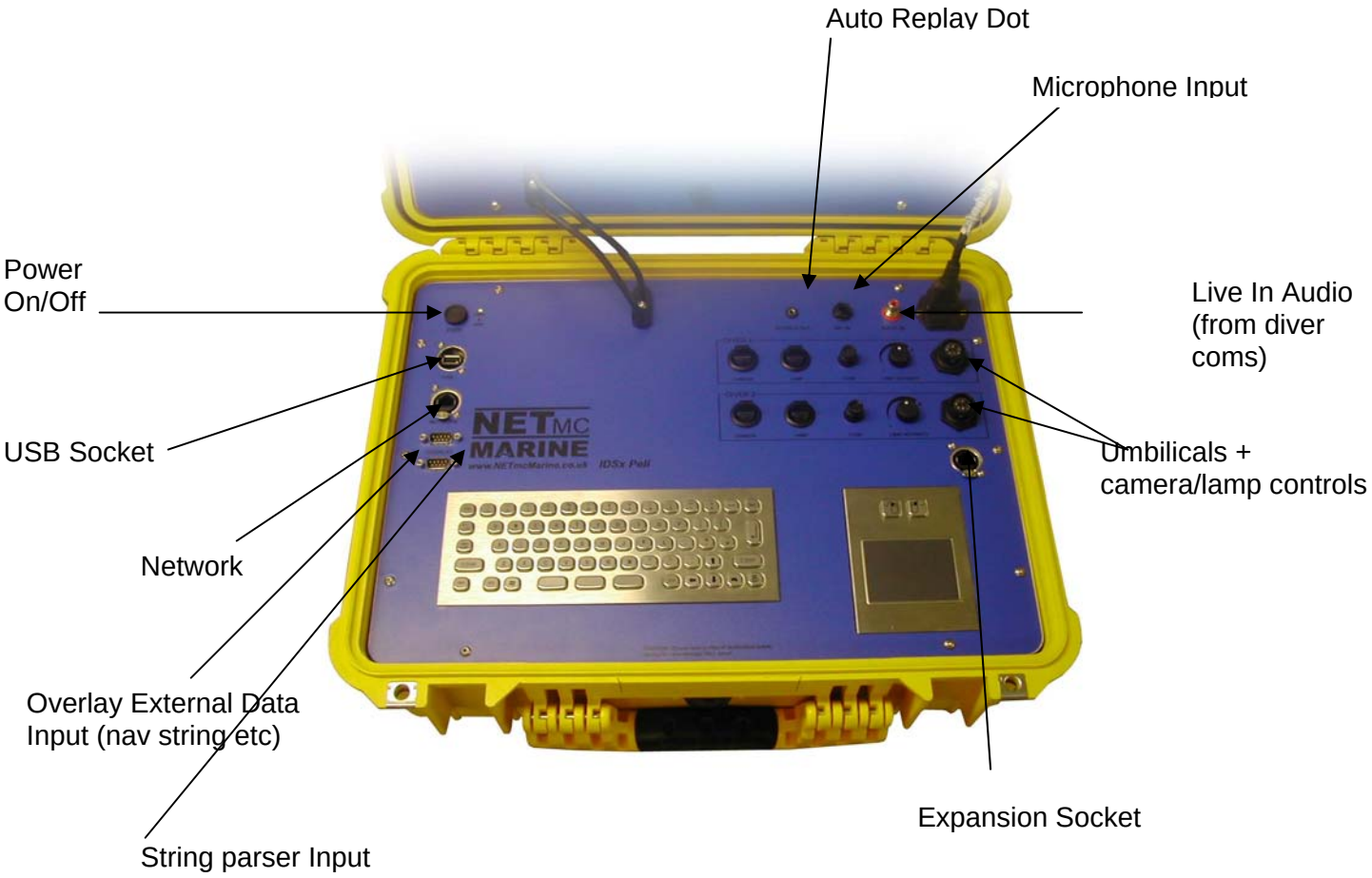
The ***IDS X-Ops-Peli*** is a two-channel, Windows based video acquisition system with camera / lamp controller and overlay. Each video channel has its own individual module; so if one channel goes down it does not take down the whole system.

The ***X-Ops*** is supplied with an intuitive user interface that displays each of the video streams in a live view. Clicking on any of the live views expands the image to full screen. The set-up screen allows for manually configuring store paths and other configurable parameters.

2. Hardware Description and Connections

X-Ops – Peli Integrated Diver System

Portable X-Ops digital video recorder complete with videoPWR camera and lamp controller and overlay



* Mains input

VideoPWR camera/lamp controllers are designed to work with our customer's own camera/lamps as requested:

Where a Souriau umbilical connector is fitted (see Appendix 4), the ***videoPWR*** unit has been designed specifically for use with Novasub underwater cameras parts CAMSS2.3TP and CAMSS2.4C, and Novasub LED lights part LUX6LSS1.4-12.

If a different or no connector is fitted please contact us to find out which camera/lamps systems the ***videoPWR*** is designed to work with.

Power Button:
Used to switch on the PC – green LED beside to indicate power is on, red LED shows hard drive activity) Monitor is switched on separately with a similar button below the screen.

USB Socket:
For the connection of USB peripherals' (keyboard / mouse / hard drive / flash stick etc)

Network Socket:
Connection to external network for file storage / sharing / web access

Overlay Socket (top):
For the insertion of external overlay serial data at 9600,8,N,1
Data injected must be intended for a classic overlay device, with the appropriate control codes to home cursor, clear screen etc. All NAV packages can do this.

Overlay Socket (bottom):
For the injection of serial data not specifically designed for an overlay (ROV system string etc). Use of the installed MST Parser software will be required to pick out the required sections of this string for on screen display.

Stereo Out Socket:
For the connection of headphones / speakers to listen to the audio during file replay. Will also output and time lagged version of the live audio

Mic In Socket:
For the connection of a commentary microphone. Generic band / karaoke low impedance (600 Ohms) model is ideal

Audio In Socket:
For line level audio input to the recorder – e.g. from the output from a diver coms unit

Expansion Socket (looks like Network socket):
This is for the connection of additional video modules, to take the unit from a 2 channel to a 4 channel recorder

Electrical
The units operate from 90 to 260 VAC input.

Lamp output 0-24v DC variable.

Camera output typically 24v DC

Camera signal should be via co-ax unless unit has been ordered specifically with twisted pair line drivers – this is indicated on the product bar code.

3.Software Settings

Launch Overlay Writer

Launch String Parser

Launch X ops

Click on the X-ops icon on the desktop to load the video recording software.

In the set-up page the user can select:
- the video input source (PAL/NTSC)
- video quality (by experiment / customer specification
- where files are to be saved
- what the file names should be.

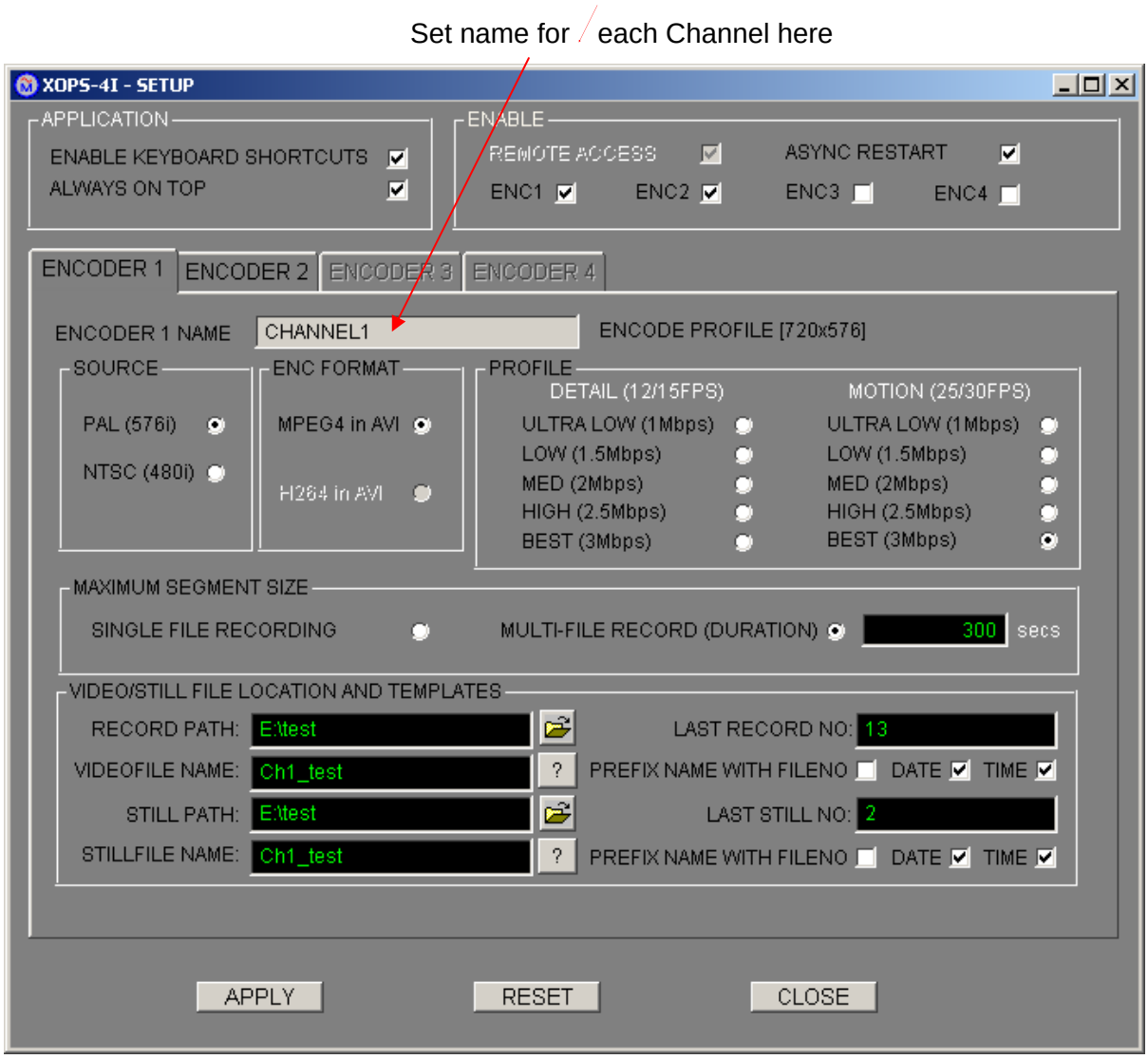
3.Software Settings

An example of the set-up screen for a 2-channel X-Ops is shown below.

The user should enter the relevant details for each channel by clicking on “Encoder 1” and “Encoder 2” in turn.

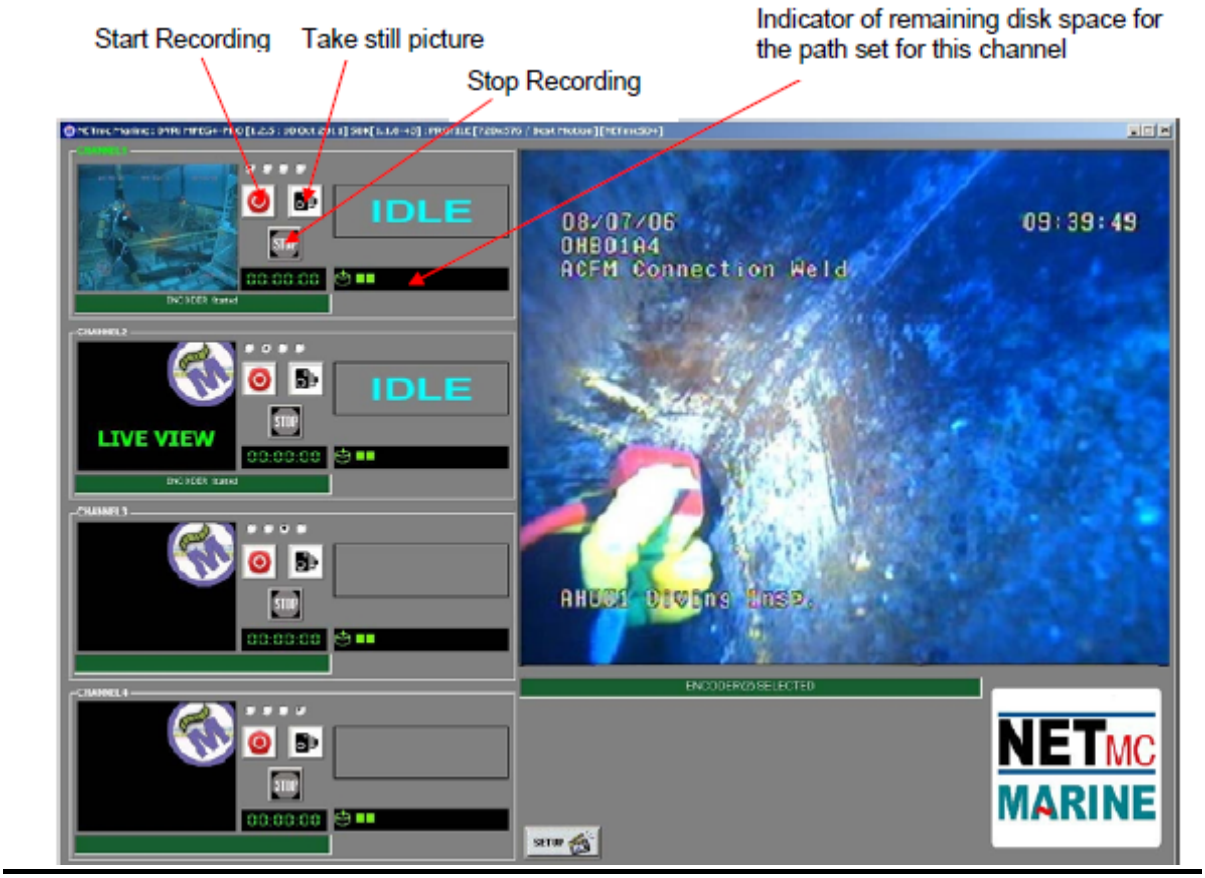
A friendly name can be given to each encoder to facilitate identification of the images shown on the screen – in this example we have chosen Channel1 and Channel2.

Note: All of the information is completely independent for each of the channels, so for example, the video and stills for Channel 1 can be saved to a different location from those for Channel 2.



4. Recording

4.1 Multi-channel video recording – independent channels



To start recording any channel, simply click on the RECORD button for that channel.

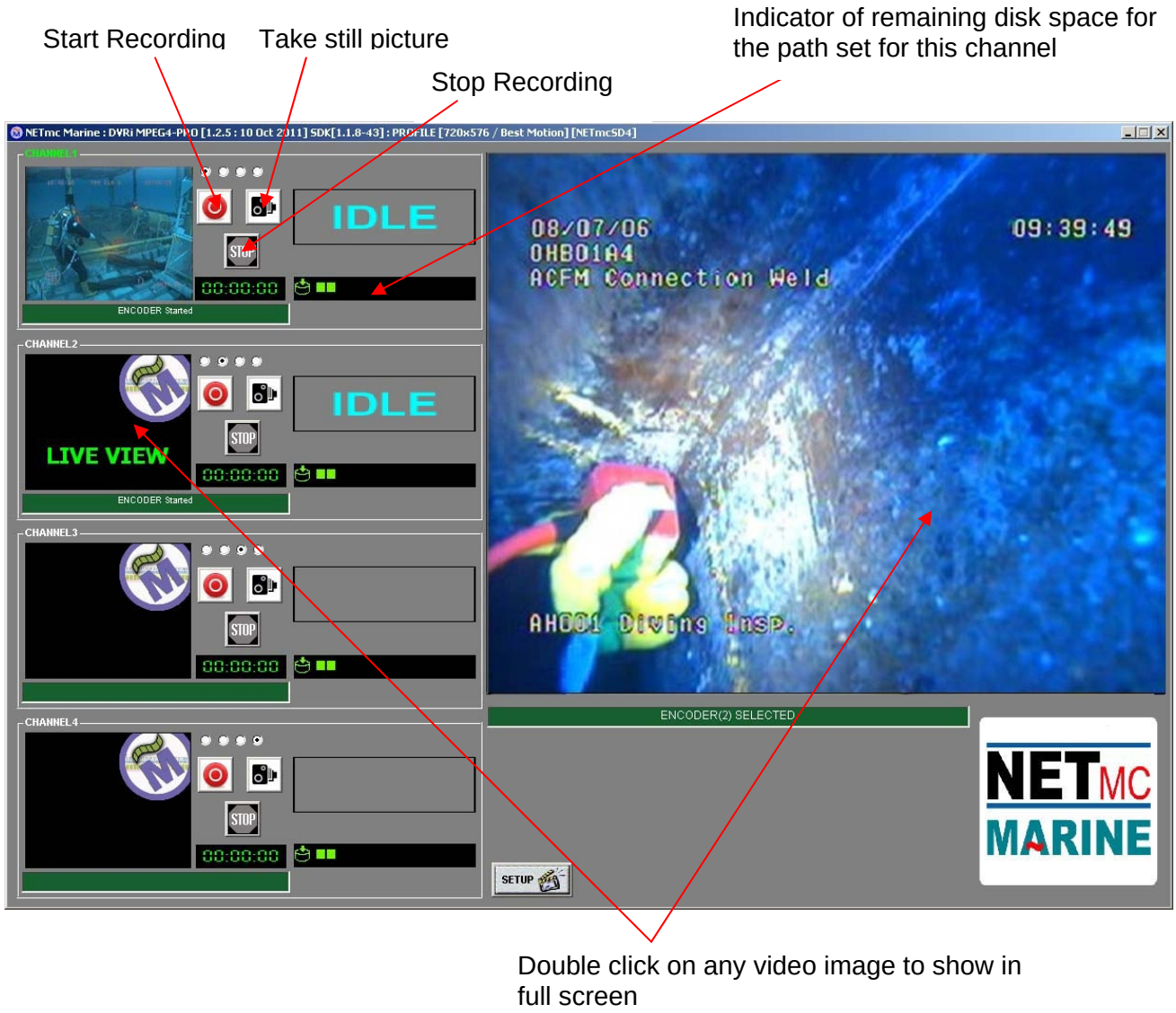
When recording has started, the status indicator changes to “REC” instead of “IDLE”, the REC button will become depressed and the minute counter will start to increment:

The image on the screen shows the video signal that is being input to the DVR.

Once the desired footage has been recorded, simply click on the STOP button to end recording.

To resume logging, simply click the RECORD button again.
The system will automatically create a new file, automatically named as per the configuration in the SETUP page.

4.1Multi-channel video recording – independent channels



The above image shows a 2-channel X-ops where the signals are being recorded independently. (which is why there Is a blank screen and no text in the Channel 3 and 4 spaces)

To start recording any channel, simply click on the RECORD button for that channel.

When recording has started, the status indicator changes to “REC” instead of “IDLE”, the REC button will become depressed and the minute counter will start to increment:

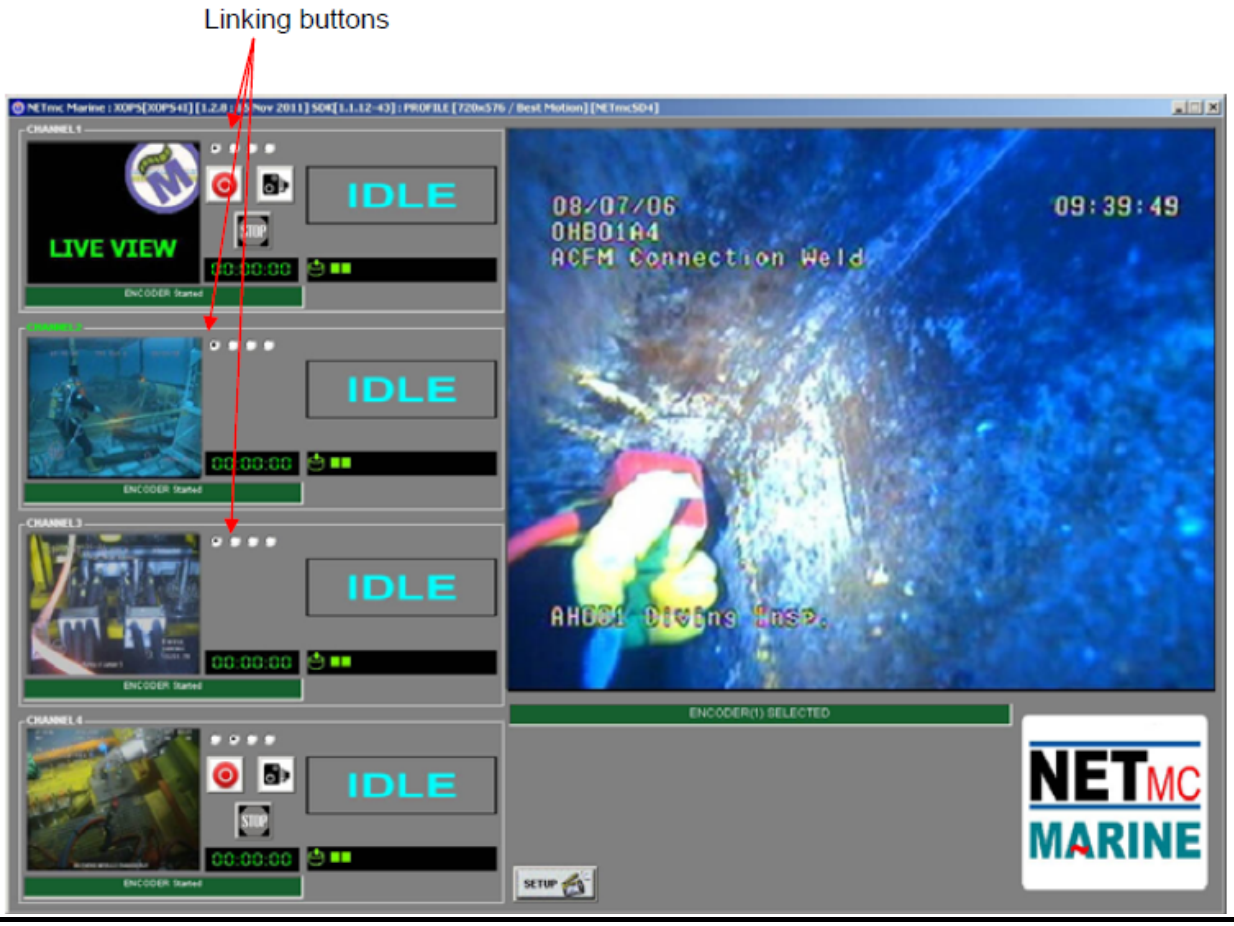
The image on the screen shows the video signal that is being input to the DVR.

Once the desired footage has been recorded, simply click on the STOP button to end recording.

4.2 Multi-channel video recording – some linked channels

The example below shows a 4-channel X-Ops where Channels 1 to 3 are linked together and Channel 4 is operating independently.

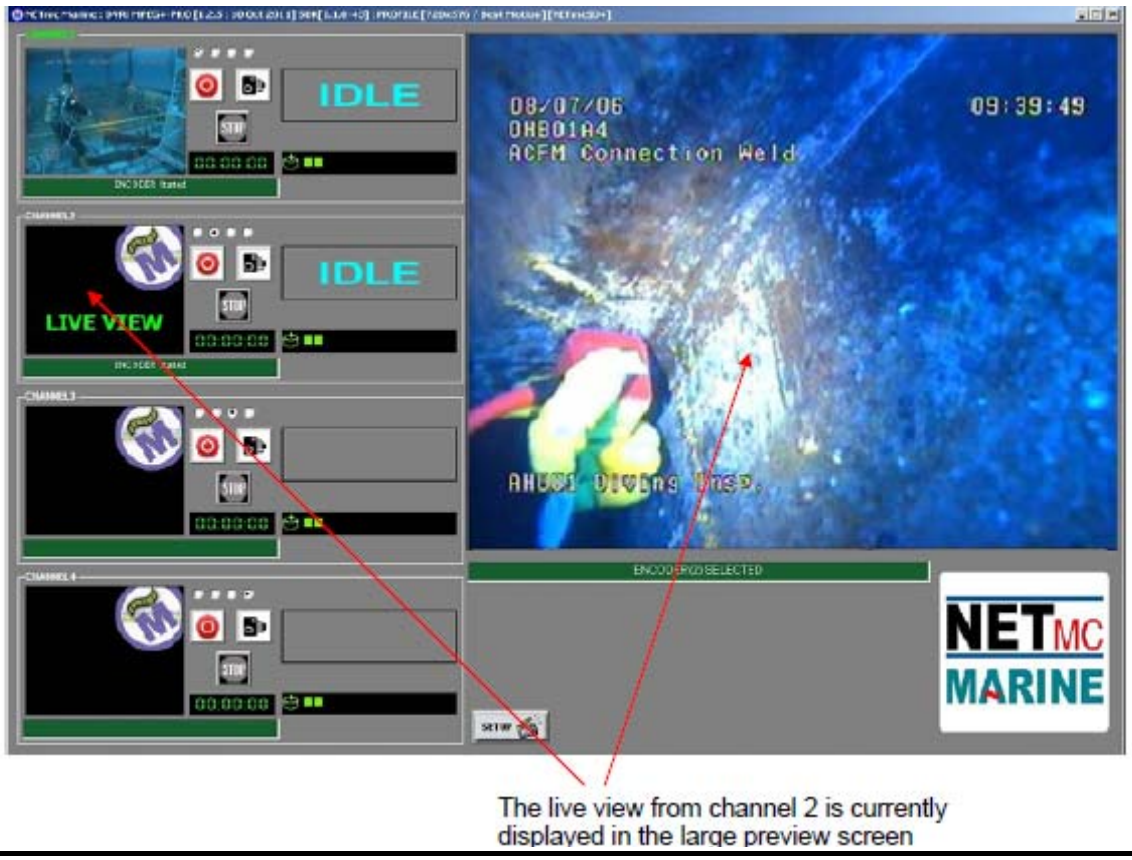
The user has selected this mode of operation by clicking in the first of the “linking buttons” for each of the first three channels.



Note: There is now only one set of controls (Record, Stop, Stills Grab) which controls the recording for all of the first three Channels.
The image being recorded for each channel is displayed – and can be taken to full-screen by double-clicking on that image.

5. Live View

The image below shows a 2-channel X-ops where the signals are being recorded independently. (Which is why there Is a blank screen and no text in the Channel 3 and 4 spaces)



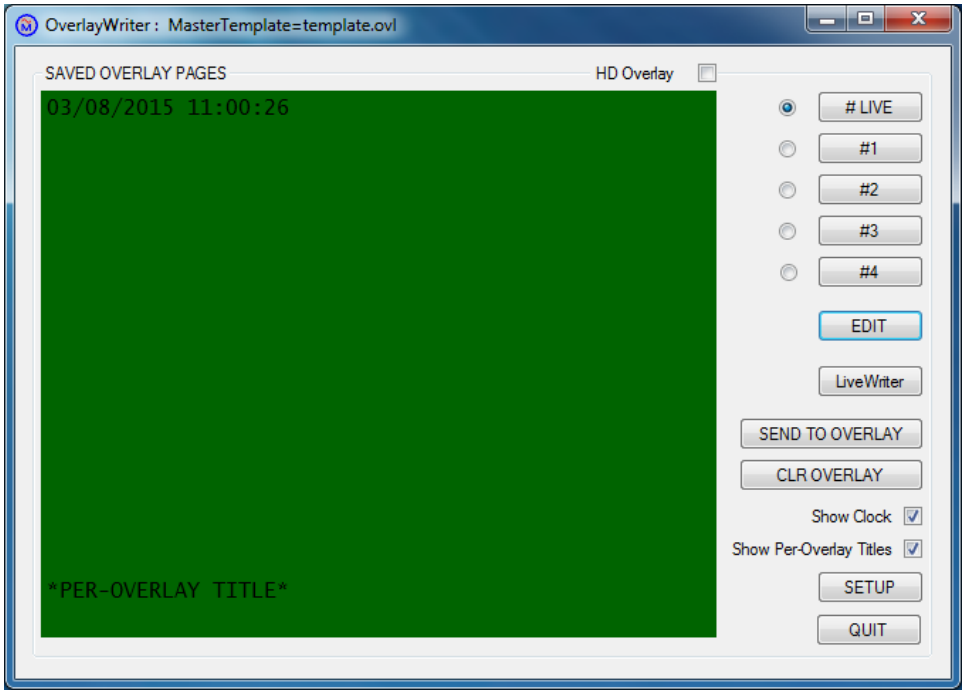
- A single click on any of the small preview screens, moves the image to the larger preview window.
- A single click on the large preview window takes it back to the appropriate small window.
- Double-click on any of the small preview screens to get a full screen image.
- Press ESC to go back to the normal preview screens as shown above.

6. Overlay Writer Software

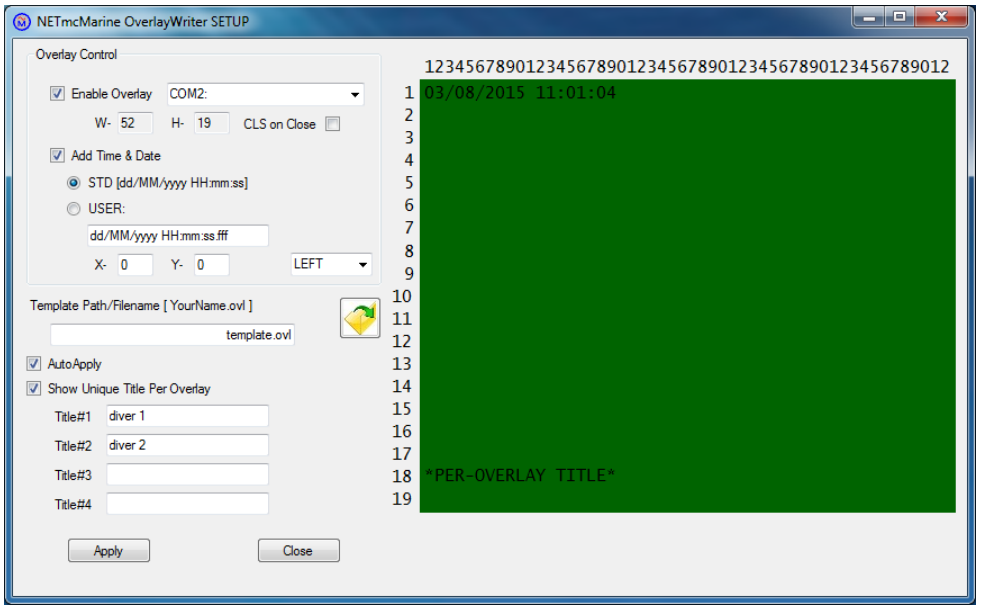
Launch Overlay Writer

Click on the overlay writer shortcut to load the overlay control program.
The overlay will only update while this program is open.

6. Overlay Writer Software



The Overlay Writer allows 1 x live typewriter page and 4 x pre-written “SAVED PAGES”.
Multi channel recorders/overlays have the facility to put a unique title on each channel and this is done via the SETUP page.



Ensure that the serial port is set to Com 2.

7. Playback of files

To replay individual files on the *X-Ops*

Open the drive where the video files have been stored (e.g. c: video\). Simply double-click on any file and the media player will open and the video file will play.

To replay triple video files on the *X-Ops*

Right-click on any file, select the three related files, click on “send to” , and choose “mps file.”

Then double-click the mps file and triple video launches and is synchronised.

To replay video files on another PC

You will need to install a codec pack from our website: www.netmcmarine.co.uk

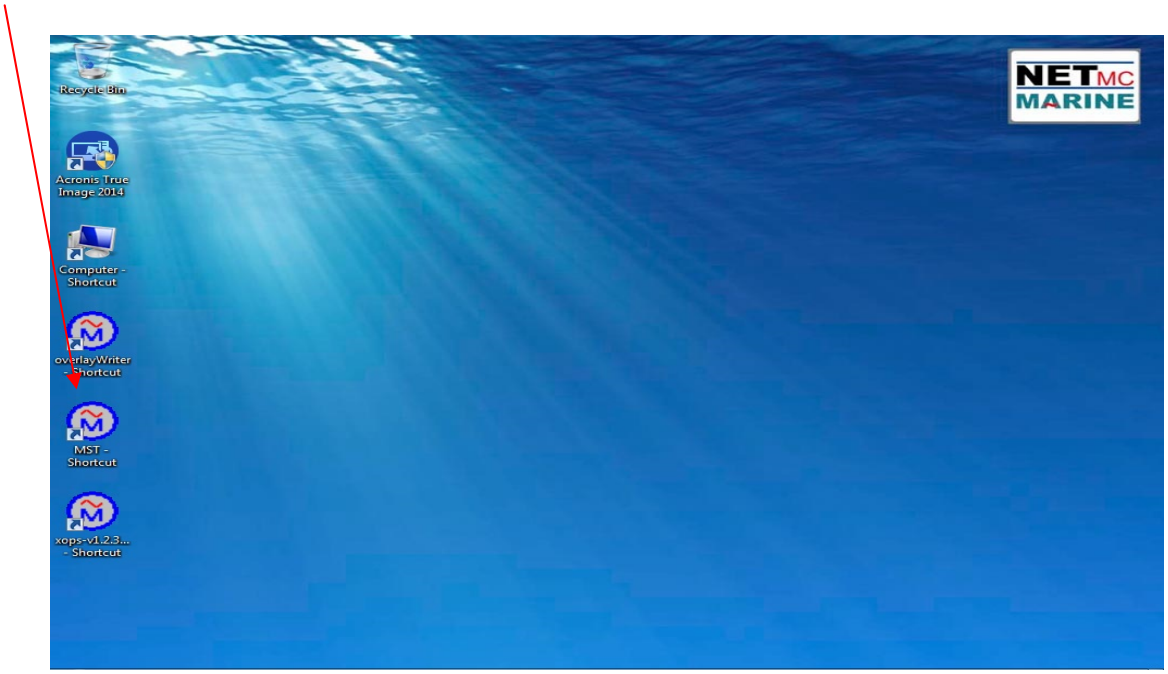
Select “Support” from the top bar, click on “File downloads” and choose “HD / XOPS / Triops Codec Pack”.

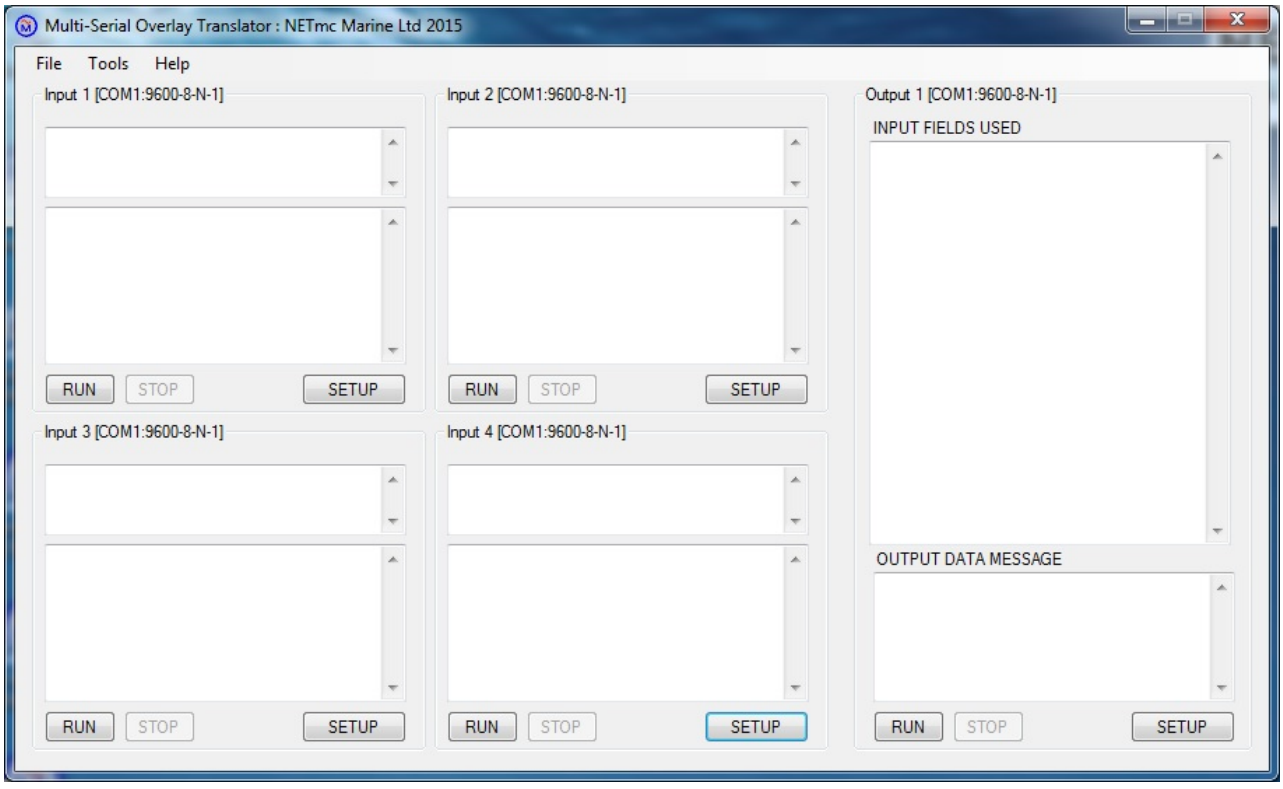
8. Compatibility with EIVA software

To enhance the operation of the system, NETmc Marine has partnered with EIVA A/S of Denmark, developers of marine navigation software, to interface the ***X-Ops*** with EIVA’s suite of software including their NaviEvent package. NaviEvent allows for both online and offline eventing of pipeline inspections, with video being associated by time, thus enabling a jump to video facility when used with the NETmc Marine ***X-Ops*** system.

9. Serial String Parser Software

Launch Serial Parser





9. Serial String Parser Software

The string parser software allows up to 4 x strings to be input (depending on the number of serial ports available on IDS-X-ops: the incoming serial port is com 3 and the output port is com 2 – this cannot be used at the same time as the overlay writer) – parts of those strings selected and used to build a new output string, which may also contain user text and/or other commands.

An example of the ideal application is to take a generic ROV system string – pull out heading, depth, pitch, roll and send to an overlay along with a job title, time, date etc. etc.

If you are new to serial strings and their manipulation, it may be best to contact NETmc Marine support for help and advice before starting.

10. How to contact NETmc Marine Support

Should any problems occur with your ***IDS X-Ops*** Peli that are not addressed by this manual please contact our Support Team:

Email: support@netmcmarine.co.uk.

Tel: +44 1771 644001

Should your call be outside office hours, please leave a message on the answering machine, which will be forwarded to one of the support engineers. Although we cannot guarantee 24/7 availability, we endeavour to respond as quickly as possible to any query – regardless of when the support call is made.

Notes:

1. Whilst every effort has been made to ensure that the information contained in this manual is accurate, no liability can be accepted for errors and omissions.

2. Should this product be modified in any way by anyone other than a qualified NETmc Marine employee, then NETmc Marine cannot be held liable for any consequences.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

Appendix 4

Wiring Pin-Out of Umbilical Connector for 73fifty-Peli Integrated Diver System

Item	Plug	Umbilical		Camera connector			Wire	Camera	Light connector			Light	Comms connector		
Brand	Souriau	Novasub		Birns / Subconn			-	Novasub	Birns / Subconn			Novasub	Birns / Subconn		
Type	UTS6JC1210P	DLR-3P25-2C100		MCIL4F			0.25 mm²	-	MCIL2F			-	IL2F		
GND Light	A	Black							Blue	Black	Pin 1	GND			
Vcc Light	B	White							Brown	White	Pin 2	Vcc			
GND Cam	C	Black	TSP2	Black		Pin 1	Black	GND							
Vcc Cam	D	Red		Green/yellow	White	Pin 2	Red	Vcc							
Video +	E	Green	TSP1	Brown	Red	Pin 3	Green	Video +							
Video -	F	Black		Blue	Green	Pin 4	Yellow	Video -							
Video shield	G	Drain													
Comms -	H	Black	TSP3										Blue	Black	Pin 1
Comms +	J	White											Brown	White	Pin 2
Comms shield	K	Drain													

Spare parts:

Umbilical: Novasub. Type DLR-3P25-2C100
Umbilical Plug: Brand Souriau, type UTS6JC1210P, RS part 191-428
Crimp pin : Souriau SM20WL3S25UK RS 233-2703