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CEBALL CAMERA

OPERATING MANUAL



CAISSON CAMERA INSPECTION SYSTEM

CONTROLLER CE-510PC/04LS

CHALCO ELEVEN LIMITED

Doc Title: CE-510PC/04LS

Date: 06 03 12

Doc Ref:

Rev: 4

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1.0 GENERAL

The CE-510PC/04LS System is designed to inspect the Riser internally from 18" to 60" ID (46cm to 81cm) and externally from 2" to 60" to a maximum depth of 300 MSW. The Topside Controller allows the user to control a high resolution Camera CE19-071901 which is fully enclosed and has a built in 12:1 optical zoom with continuous panning. The Camera also offers auto near focus 50mm from the Lens with manual override. This allows the user to inspect finer fractures and defects along with corrosion and record it to the hard drive of the PC.

The Camera is connected directly to the Umbilical utilising an Acrylic Collar. Once the internal connector to the Camera and Umbilical is connected and the Locking Collars are screwed together the Camera carrying Collar is slid over gently until the 5mm holes are aligned on the Brass Securing Ring. Then 4 x pan head hexagon screws are inserted. These screws are lightly tightened with the Allen Key provided. Also 4 x spare Bolts are provided.

A specially designed Topside Controller will utilise a 15.4" 2 Duo Core Laptop Windows Vista Operating System which will receive a digital video via the Chalco Firewire Interface allowing the user to burn high quality DVDs via the Adobe Elements 4 Software with full editing facility for record keeping. The software allows the user to render any type of video format ie MPEG, AVI, FlashPlay and burn to SD Card, USB Stick or alternatively transmit via Bluetooth or Wi-Fi.

The Topside Controller also has a facility where a measuring Laser can be installed. The Laser is intended for guiding purposes. The two laser beams are placed 35mm apart. This allows the user to be able to measure defects or pitting in pipes and estimate their size.

Optional facilities such as GPS show the top of the screen, longitude, latitude and time to three decimal places.


The System is made up of 6 parts, however, the System can function as an Editing Suite just by utilising the Topside Controller.

Complete System

1 off Camera CE19-071901
1 off Topside Controller CE-510PC/04LS
1 off 100M Umbilical CE2C/8-100UC
1 off 1.5M 110V AC EXD Lead
1 off 1.5M 220V AC Lead
1 off 30M EXD Armoured Cable Reel

Documentation

1 off Operating Manual
1 off Certificate of Conformity
4 off PAT Certificate
1 off Delivery Note

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2.0 SPECIFICATIONS

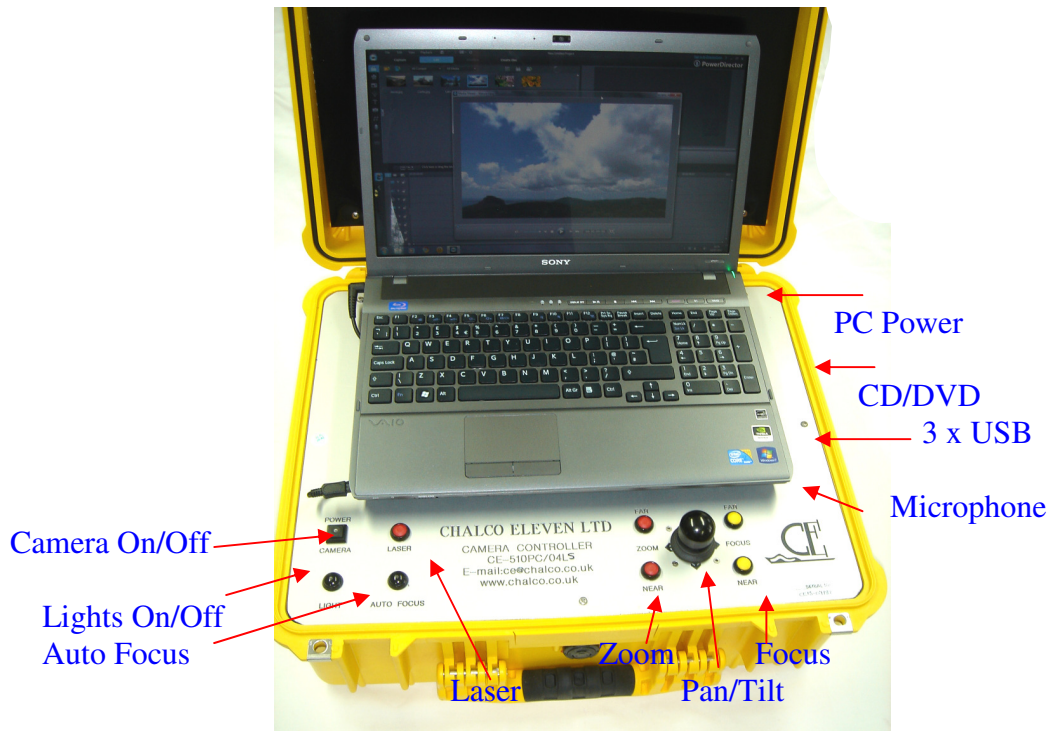
CAMERA CONTROLLER CE-510PC/04LS

SUPPLY VOLTAGE	100 - 240V AC 50/60 Hz
OUTPUT VOLTAGE CAMERA	24V DC
OUTPUT VOLTAGE IEEE	5V DC
INPUT SIGNAL CE INTERFACE	IEEE 1324
OUTPUT SIGNAL	S-Video, VGA, HDMI, USB 2.0
OPERATING TEMPERATURE	-5°C to +23°C
WIRELESS LAN	802.11
BLUETOOTH	TX Data

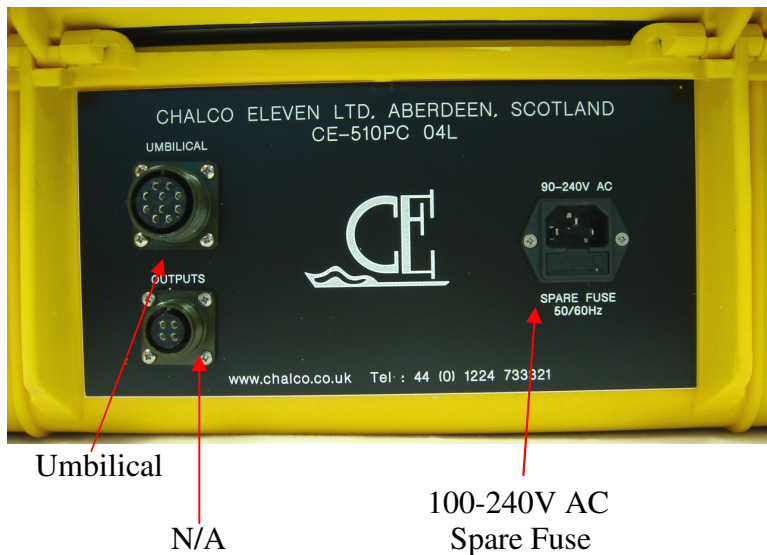
CAMERA


OPERATING VOLTAGE	24V DC
OUTPUT SIGNAL	CE Interface i.LINK 1324
OPERATING DEPTH	300ft
OPERATING TEMPERATURE	-5°C to +25°C

3.0 OPERATING CONTROLS



Back



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4.0 CONNECTING DETAIL

INTERCONNECT

100M MAIN UMBILICAL

<u>10 Way Male Connector</u>	<u>Cable Core</u>	<u>Function</u>
A	Coax Outer	
B	Red	24V
C	Yellow	Telemetry
D	Coax Inner	Video
E	N/A	
F	Blue	Tilt Down
G	Blue	Pan Left
H	N/A	
I	Blue	Pan Right
J	Red	Tilt Up

BACK OF CONTROLLER INTERNAL CONNECTION


A	Coax Outer		
B	Red	24V	1.0mm ²
C	Yellow	Telemetry	0.5mm ²
D	Coax Inner	Video	
E	N/A		
F	Blue	Tilt Down	0.5mm ²
G	Blue	Pan Left	0.5mm ²
H	N/A		
I	Blue	Pan Right	0.5mm ²
J	Red	Tilt Up	0.5mm ²

UMBILICAL

10 Pin Connector Male

A	Coax Outer			2
B	Red	24V	0.5mm ²	5
C	Yellow	Telemetry	2.5mm ²	8
D	Coax Inner	Video		1
E	N/A			
F	Blue	Tilt Down	0.25mm ²	7
G	Blue	Pan Left	2.5mm ²	6
H	N/A			
I	Blue	Pan Right	0.5mm ²	4
J	Red	Tilt Up	2.5mm ²	3

8 Pin Connector Female

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5.0 QUICK SET-UP PROCEDURE

- 1 Connect the System and switch on the Computer.
- 2 Windows icon page appears and the cursor has stopped rotating.
- 3 Switch on the Camera. Wait until Power Director 9 loads up.

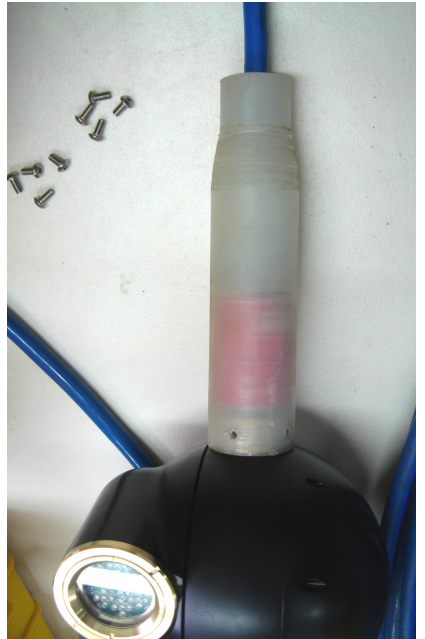
VIDEO SOFTWARE - Power Director 9

- 1 To use Power Director 9 close all other software. Click on to the **Chair Icon** or **Film Icon**.
- 2 Once the opening page appears, on top left hand corner click in to **Capture**.
- 3 Click on to **DV Camcorder** with the Dome Camera active. You will see the video from the Dome.
- 4 Click on to the **Red Button** on left hand side of screen mid way down for capturing video.

For more detailed functions please read the Power Director 9 User Guide which is placed on the Desktop as a PDF File.

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CAMERA PICTURES



6.0 BLOCK DIAGRAM



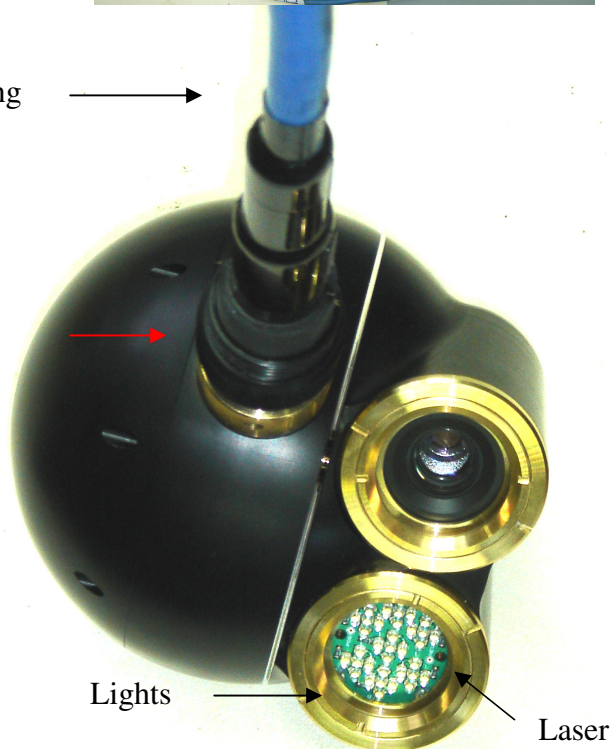
AC IN 100-240V AC

100M Main Umbilical




Fixing →

Fixing →

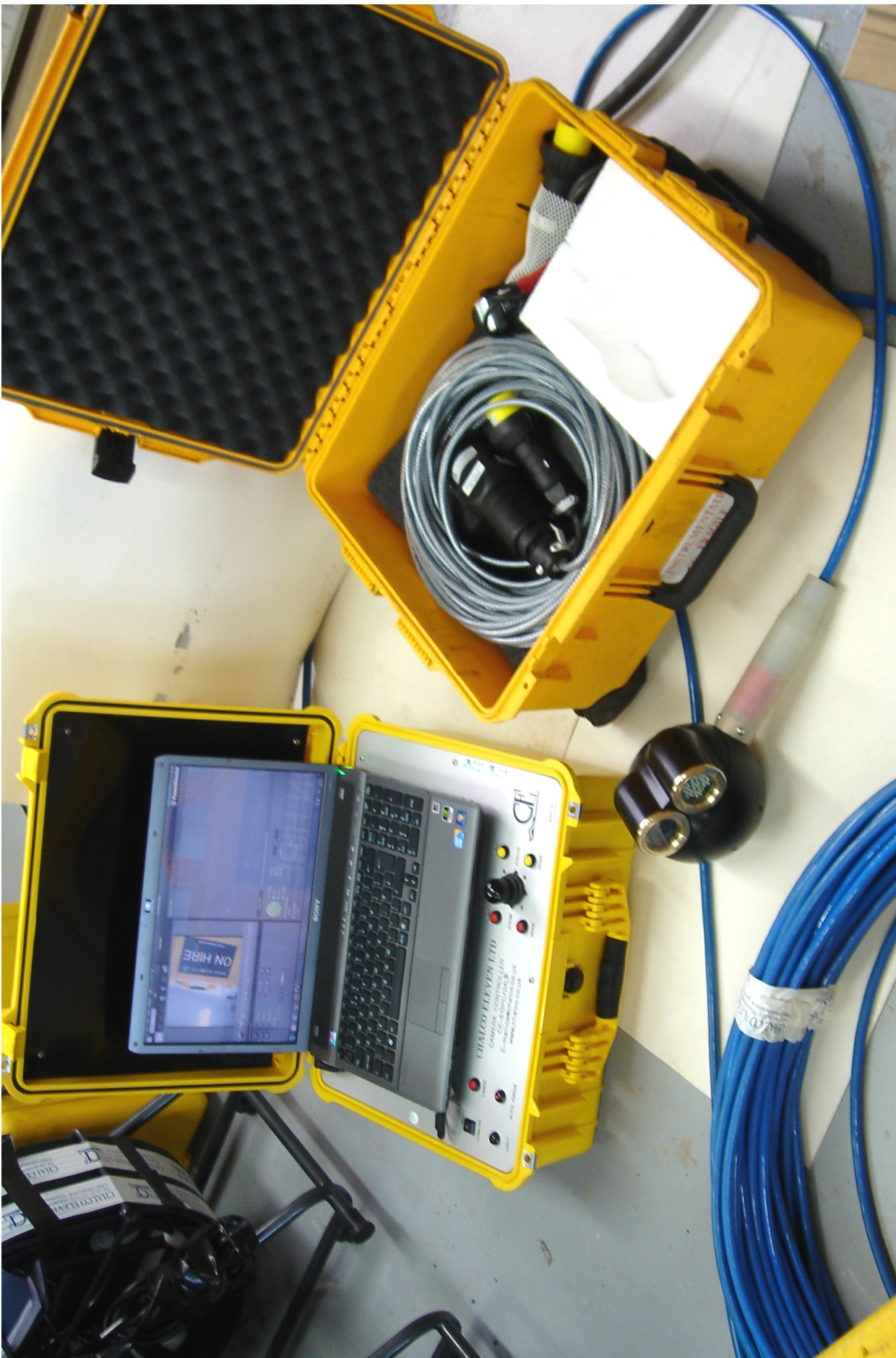


Lights →

Laser →

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CASSION CAMERA INSPECTION SYSTEM



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7.0 DATA SHEET

100m Umbilical CE2C/8-100UC

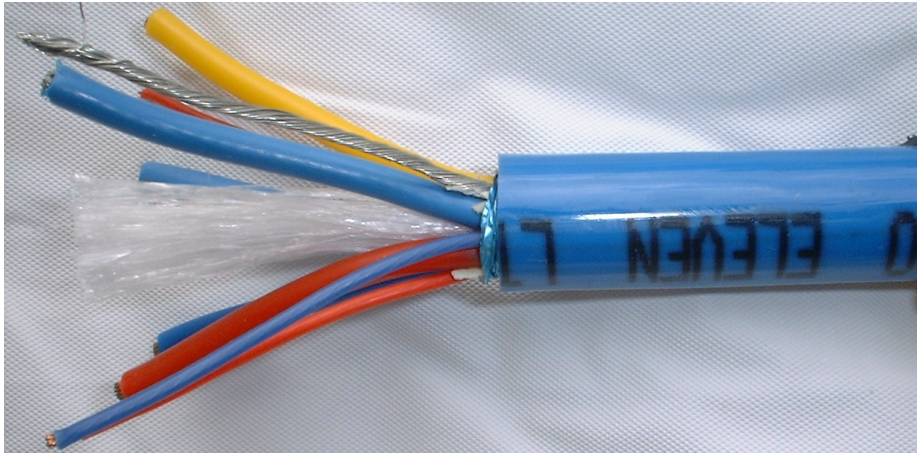
Certificate of Conformity

PAT Certificates

Delivery Note

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SUB-SEA CABLES



DESCRIPTION : SUB-SEA CAMERAS TELEMETRY CABLE CE2C/8-100UC 2.00MM
BLUE POLYURETHANE SHEATHED 13MM OUTSIDE DIAMETER

Physical Detail


2 x 75Ω Low Loss Mini Coax
3 x 1.5mm² Copper Conductors
2 x 0.5mm² Copper Conductors
2 x 0.22mm² Copper Conductors
1 x 1mm² Overall Screen

Inner Cable voids filled with water blocking silicon rubber/glass micro-spheres compound.
If the outer sheath is cut, the compound stops the water from travelling up the Cable.

Mechanical Properties

Outer Sheath	Blue Polyurethane
Final Outside Diameter	13mm
Outer thickness of sheath	2.0mm
Weight of Cable in air	220kg/km
Weight of Cable in seawater	85kg/km
Minimum static bend radius	85mm
Minimum dynamic bend radius	130mm
Maximum continuous length	5000 metres
Assuming seawater density of	1026kg/m ³

8.0 NOTES

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