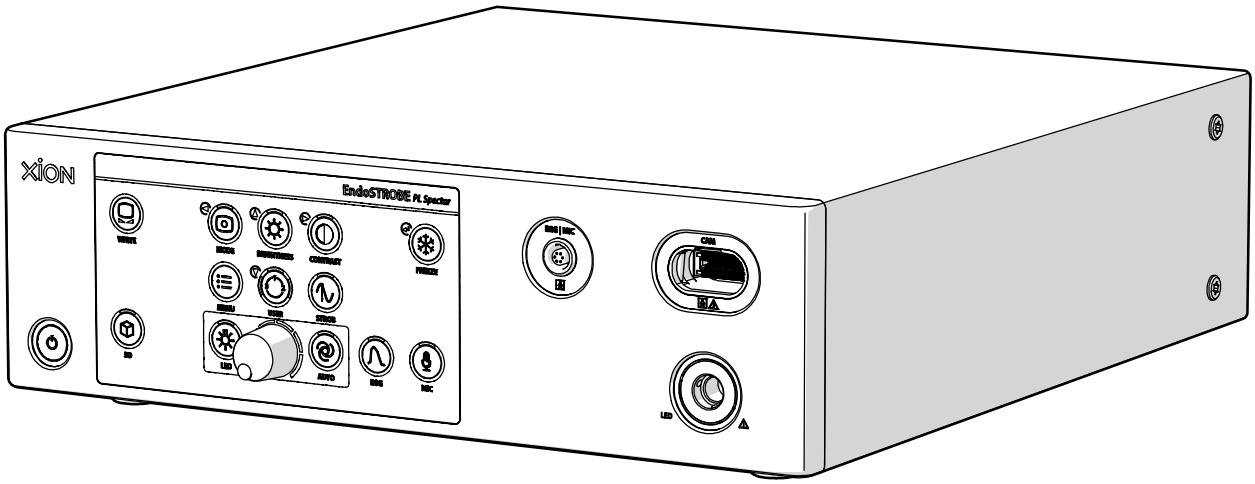
EndoSTROBE Spectar

Camera Processors



Instruction for Use

EndoSTROBE PL Spectar
EndoSTROBE EL Spectar

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General

The product names and names of companies used in this User Manual are in most cases registered trade marks, and as such they are subject to the relevant legal provisions. XION GmbH lays no claims whatsoever to these trademarks.

CE 0482

XION GmbH
Pankstrasse 8
13127 Berlin
Germany

Fon: +49 (0)30 / 47 49 87 – 0
Fax: +49 (0)30 / 47 49 87 – 11
Email: info@xion-medical.com
https://www.xion-medical.com/en/

5.5 Technical Data

Camera processor	EndoSTROBE EL Spectar camera processor	EndoSTROBE PL Spectar camera processor
Article number	329 159 001	329 131 001
Interfaces		
• Video		
3G-SDI	4 x Video format 2D: 1080p@60Hz	4 x Video formats 2D: 1080p@60Hz, 2160p@60Hz Video formats 3D: 1080p@60Hz (LbL, SbS, Sim.)*, 2160p@60Hz (LbL)*
DVI-D	2 x Video format 2D: 1080p@60Hz	2 x Video format 2D: 1080p@60Hz Video format 3D: 1080p@60Hz (LbL, SbS, Sim.)*
• Audio		
Line Out (Audio Out)	3.5 mm stereo jack socket	
• Control		
FOOTSWITCH	Foot switch or receiver Radio foot switch	
Remote 1 and 2	Control of external recording devices; 2 x 3.5 mm mono jack socket	
• Miscellaneous		
Application parts	1x Spectar application part (camera head/video endoscope)	
Light guide connector	Universal adapter system, STORZ/XION standard type	
Electrical Data		
Frequency	50 Hz - 60 Hz	
Voltage	100 - 240 V ~	
Current consumption	1.5 A	
Fuse	2 x micro-fuse T2.5 AH/250 V	
Mechanical Data		
Dimensions (W x H x D)	350 x 108 x 364 mm	
Weight	6,600 g	
Light source		
Power consumption illuminant	max. 75 W	
Ambient conditions operation		
Altitude	≤ 2,000 m	
Relative humidity	30% to 90%, non-condensing	
Temperature	+10°C to +40°C	
Ambient conditions storage and transport		
Relative humidity	30% to 90%, non-condensing	
Temperature	-10°C to +60°C	
Classification		
Type of protection	IP20	
Protection class	I	
Conformity	CE 0482	
Norm conformity	IEC 60601-1; IEC 60601-1-2	

Table 1: Technical data EndoSTROBE EL and EndoSTROBE PL Spectar Camera Processors

*

LbL (Line-by-Line)

SbS (Side-by-Side)

Sim. (Simultan)

8 Application

8.1 Switching on the EndoSTROBE EL/PL Spectar

After you turn on the Camera Processor, instructions or status messages are displayed on the monitor screen. The diagram explains the background of the instructions and symbolizes the different login procedures (depending on the application part and camera processor type).

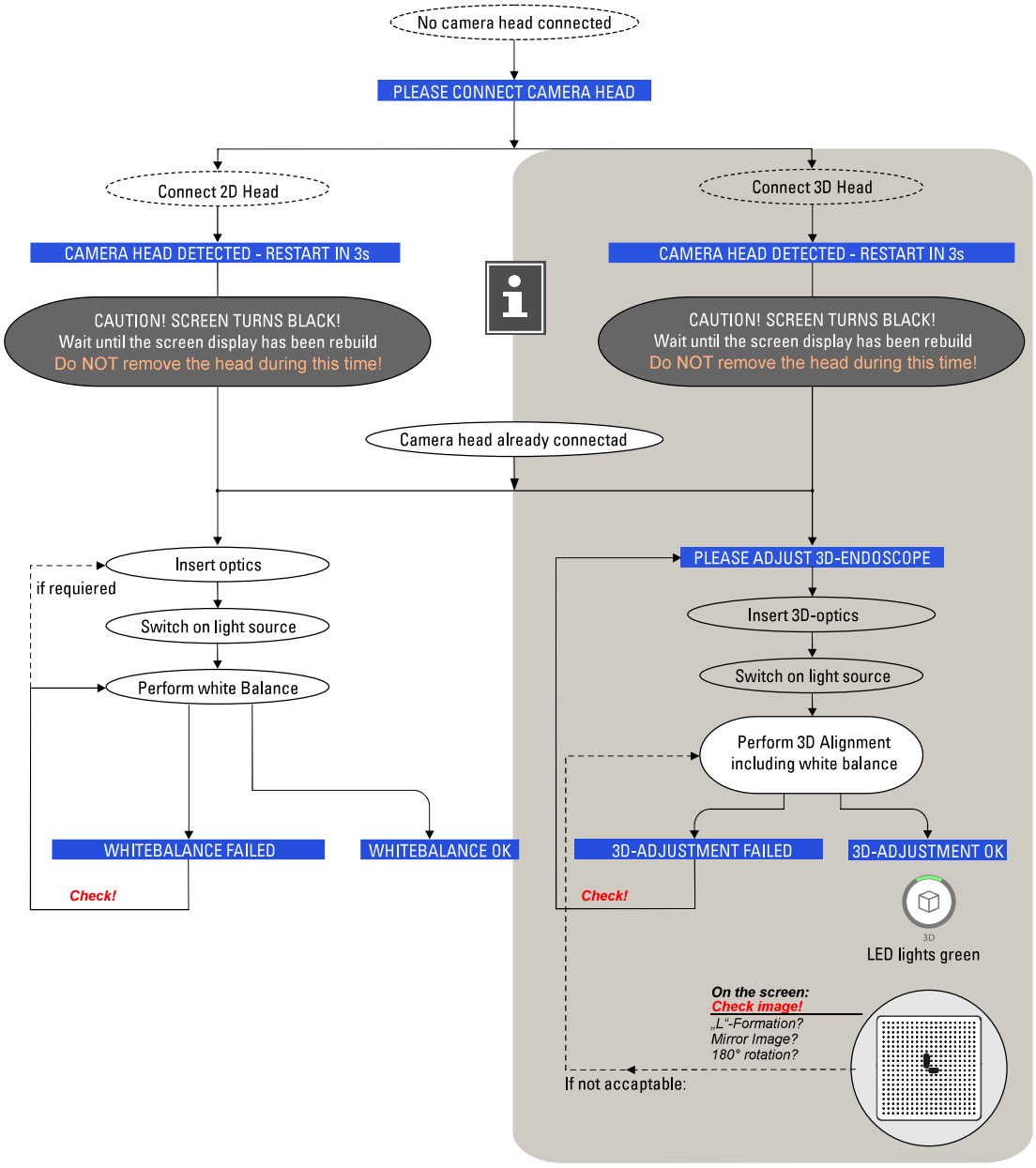

Illustration 17: Switching on EndoSTROBE EL/PL Spectar Camera Processors. Shaded in grey: 3D applications only with EndoSTROBE PL Spectar

8.8 PIET - Professional Image Enhancement Technology

The Professional Image Enhancement Technology (PIET) expands the system with three additional visualization technologies for improved tissue differentiation.

In the Setup menu you can determine the PIET options that you want to use. Application profiles for 2D application parts [▶ 43].

PIET lumino

Both bright and dark areas of the operation area are represented in an equally clear manner.

WARNING
Considerable change in image contrast and sharpness!

PIET chromo

Details are highlighted, and the colour contrast is intensified.

WARNING
Considerable change in image contrast and sharpness, as well as a displacement of the colour space! The display deviates greatly from reality

PIET spectro

By shifting the colour spectrum, tissue structures are displayed in a more differentiated manner.

Caution
The natural image is distorted in these modes! Diagnoses based solely on PIET are not permitted!

8.11.3 2D video functions

Illustration 30: Setting options in the Video MENU

Video output format		
DVI-D1 DVI-D2 SDI1 SDI2 SDI3 SDI4	2D (Full HD) 2D (Full HD) 2D (Full HD) 2D (Full HD) 2D (Full HD) 2D (Full HD)	• Settings for the video outputs of the Camera Processor. When using 2D cameras, there is a 2D-Full-HD video signal available on all video outputs. This configuration cannot be changed.
Backup channel		
DVI-D2 SDI1	INACTIVE ACTIVE	• Set the video output that is to serve as the backup channel to ACTIVE. In the presence of a video sink at DVI-D1, this video channel is then disabled. When the video sink on DVI-D1 is no longer present, this video output is activated.

15 Declarations concerning EMC

Guidelines and Manufacturer Declaration

Electric medical devices are subject to particular precautionary measures with regard to electromagnetic compatibility (EMC) and must be installed and commissioned according to EMC guidelines.

The device is intended for use in the following specified electromagnetic environments. The customer or user should ensure that it is only used in these environments.

Electromagnetic environment

The device uses HF energy exclusively for its internal function. For this reason, its RF emissions are very low and it is improbable that neighbouring electronic devices are affected.

The device is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.

Lines tested according to IEC 60601-1-2

Type	Shield	Length
Power cable	No	1.5 m
Functional grounding	No	1.0 m
SDI (1 through 4)	Yes	2.0 m
DVI (1 and 2)	Yes	3.0 m
USB	Yes	2.0 m
Audio out	Yes	1.0 m
Endoscope camera	Yes	3.0 m
microphone	Yes	2.0 m
Remote (1-2)	Yes	1.0 m
Footswitch to external Receiver	Yes	0.1 m