

# Flight Dental Systems

## G.Comm I-VIEW INSTALLATION GUIDE





Arm

Monitor

LED Light  
and Camera

Ipad

## Other Components of the System

Aside from the iView camera and light itself there are various devices that are needed to allow the system to video-record and capture images correctly. Here is a short presentation about them.

### 1 – CONVERTER (component to HDMI video converter)

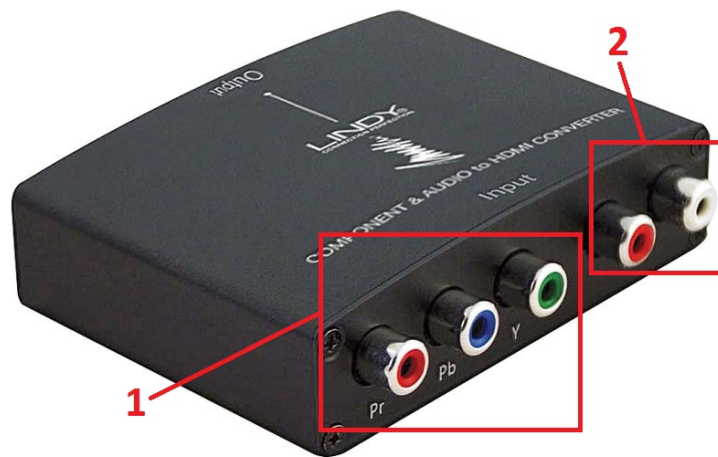


fig.1



fig.2

This device is used to transform the signal coming from the lamp from **YPbPr** (see fig.1 point 1) to **HDMI** (see fig.2).

It needs to be connected to a power supply to work.

**The device can transmit an audio signal too via the HDMI cable (see fig.1 point 2).**

## 2 - AVERMEDIA EZ RECORDER 530



The AVermedia EZ Recorder 530 is a device which function is to record the images transmitted with iView camera.

It can work both as a recorder and as a video converter since it has connections for the **YPbPr**, **1 HDMI input** and **1 HDMI output**.

It needs to be connected to a power supply and it always transmit the output signal via **HDMI**.



Avermedia has sockets that can be used to connect a microphone if recording the audio is needed.

If you are connecting a microphone directly in the device be sure that it has the following features:

Frequency response: 20 -16 kHz

Impedance: 2.0 k $\Omega$

Working Voltage: 3V

Connector: 3,5 mm jack



1	HDMI source LED indicator	2	YPbPr source LED indicator
3	Record status LED indicator	4	Power status LED indicator

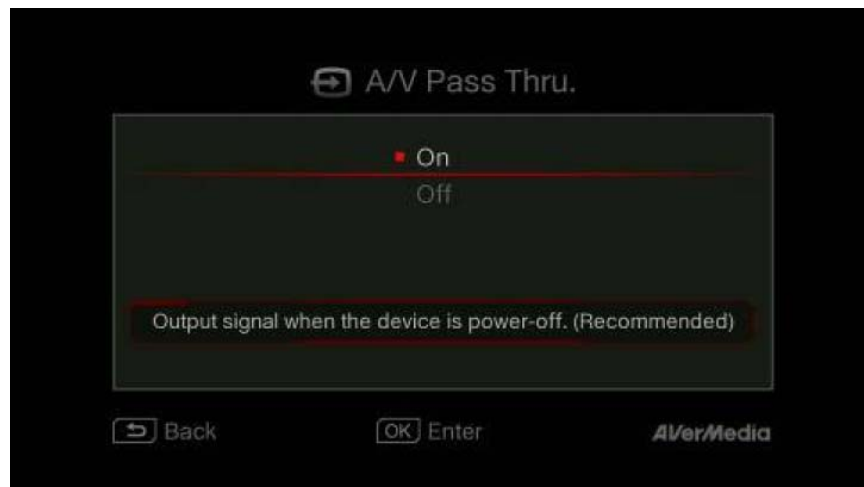
Condition	Source	Record	Power
Powered on			Glow s solid green
Ready to record /snapshot	S olid green		S olid green
Recording	S olid green	Breathing	S olid green
Take a snapshot	Flashes red once	Flashes red once	Flashes red once
Unable to record /snapshot	S olid green		Flashes green continuously
No source			Flashes green continuously
Source is available	Glow s solid green		
Power off in progress	S olid green		Flashes green continuously
Pass through ON	S olid orange		
When powering off			
Pause recording	S olid red	S olid red	S olid red
Record finish in progress	S olid green	Flashes red continuously	S olid green
Storage space is low	S olid green	Glow s at a slowly pace	S olid green
Device is not ready			Flashes green continuously
Problems like no storage / no signal / protected content			Flashes green continuously
Accepting a remote control command			Flashes green once

## 2a – AVERMEDIA's Setup

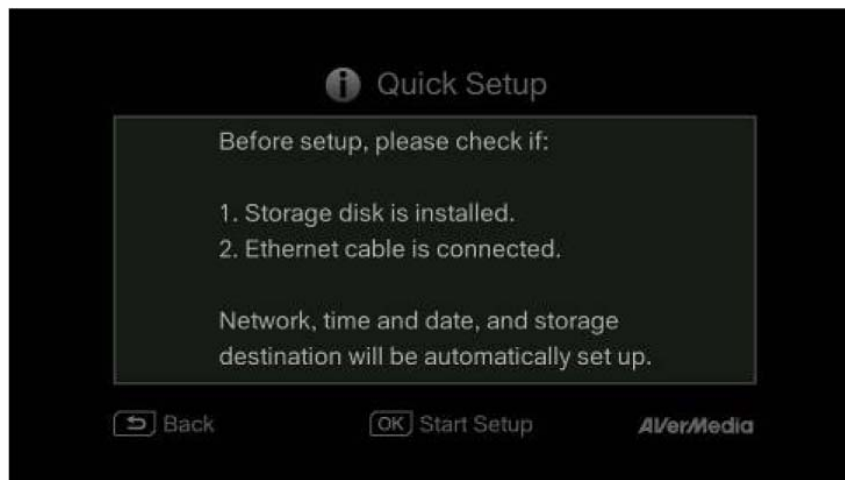
When you setup the Avermedia for the first time there are a few passages that you must do before using the device.



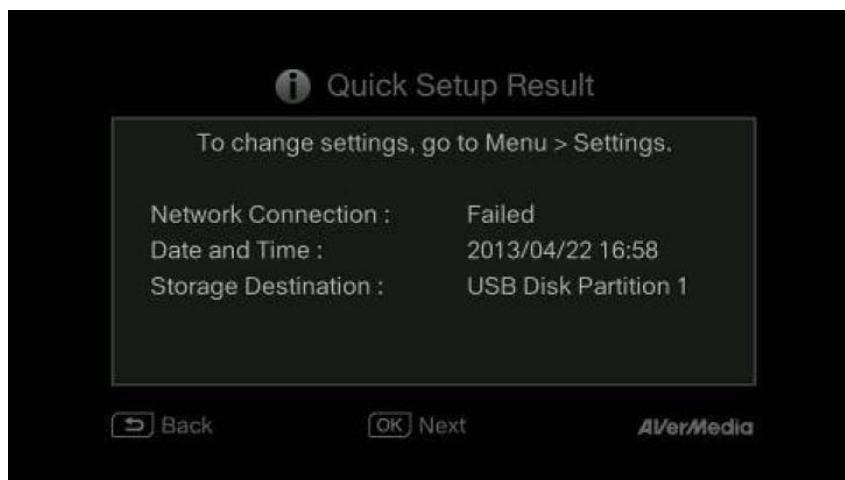
1 – Select language



2 – Activate the pass through of the signal. In this way the video recorder can work as a converter too and you can see the images on the screen even if you are not recording anything at the moment.



3 – The program will ask you to check if the HD and Ethernet are connected. Flight Dental Systems will provide a device that has the internal disk mounted already.



Usually there will be no Ethernet connected but you can continue anyway.

✓ Settings Complete

Game Capture HD II is ready to use.  
Main Operations:

- ☰ Open/close menu
- ⏹ Start/stop recording
- 📷 Snapshot

⏮ Back

OK Start using

AI VerMedia

Finally the first setup will be done and you will see the following message appearing on the screen.



## 2 - MICROPHONE



The user can also use a microphone **to record a voice comment** or to **speak to an audience** during the operation.

In this example we are seeing a wireless microphone that has a transmitter and a receiver.

It is possible to connect two different connections to **the line out** of the microphone:

- the 3,5 mm jack (*fig.1*)
- an audio cable (*fig.2*)



*fig.1*



*fig.2*



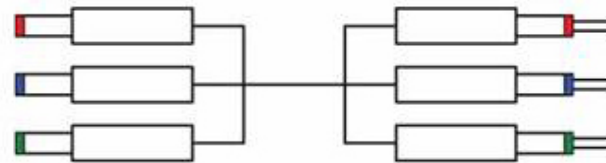
If a video converter is used you just need to connect the audio cable to it and then the HDMI cable will transmit the audio along with the image.



If you are using the Avermedia is possible to record an audio comment too. The user just needs to connect the 3,5 mm jack to the mic socket in front of the Avermedia recorder.

### 3 – VIDEO BALLOON FILTER

The video balloon filter should be used in case the video signal is disturbed. It must be put between the cable coming out from the lamp and the converter or recorder.



CONVERTER

RECORDER

MONITOR

## 4 – HDMI SPLITTER



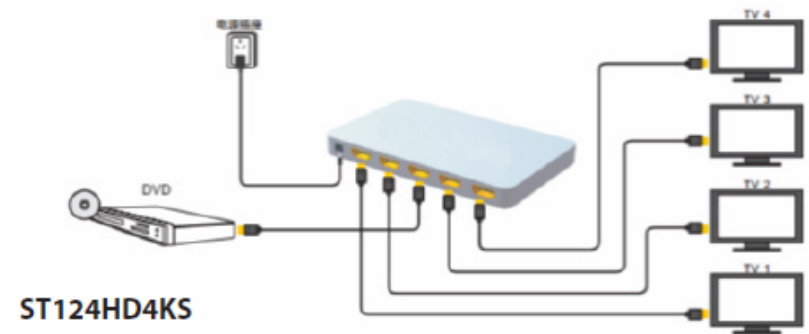
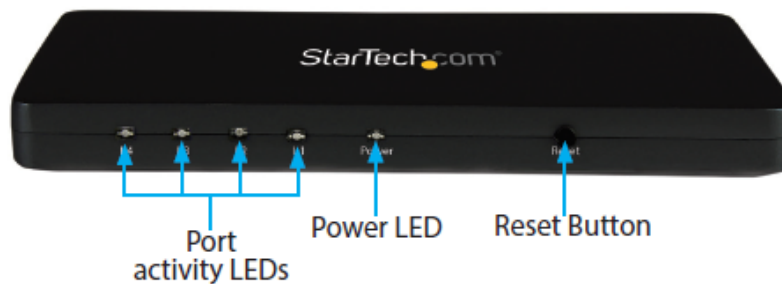
The HDMI splitter is used to divide the signal coming from the **converter** or the **recorder** to send it on different devices (usually a monitor and a projector simultaneously).

It needs a power supply to work.

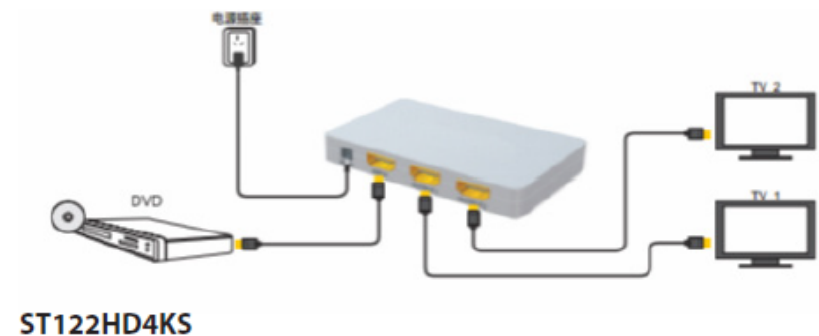
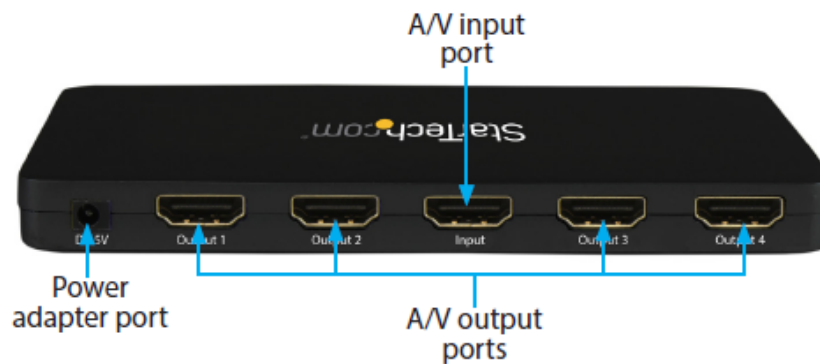
## 4 – HDMI SPLITTER

### Product Overview

#### Front View - ST124HD4K



#### Rear View - ST124HD4K



## 5 – HDMI EXTENDER

When the distance between the source of the video signal (iView camera) and the monitor (or projector) exceed the distance of 10m we suggest to start using an extender for the signal.

Flight Dental Systems can supply two different types of extenders: WI-FI extenders and LAN extenders.

### 5a – LAN EXTENDER

This extender is constituted by two devices: a transmitter and a receiver. **Both must be connected to a power supply.**

The transmitter will receive the video signal via HDMI cable and will send it to the receiver via **CAT 5** or **CAT 6** cable.

**The distance covered by the CAT5/6 cable mustn't be over 100m** , in that case another type of device is needed to transmit the signal.

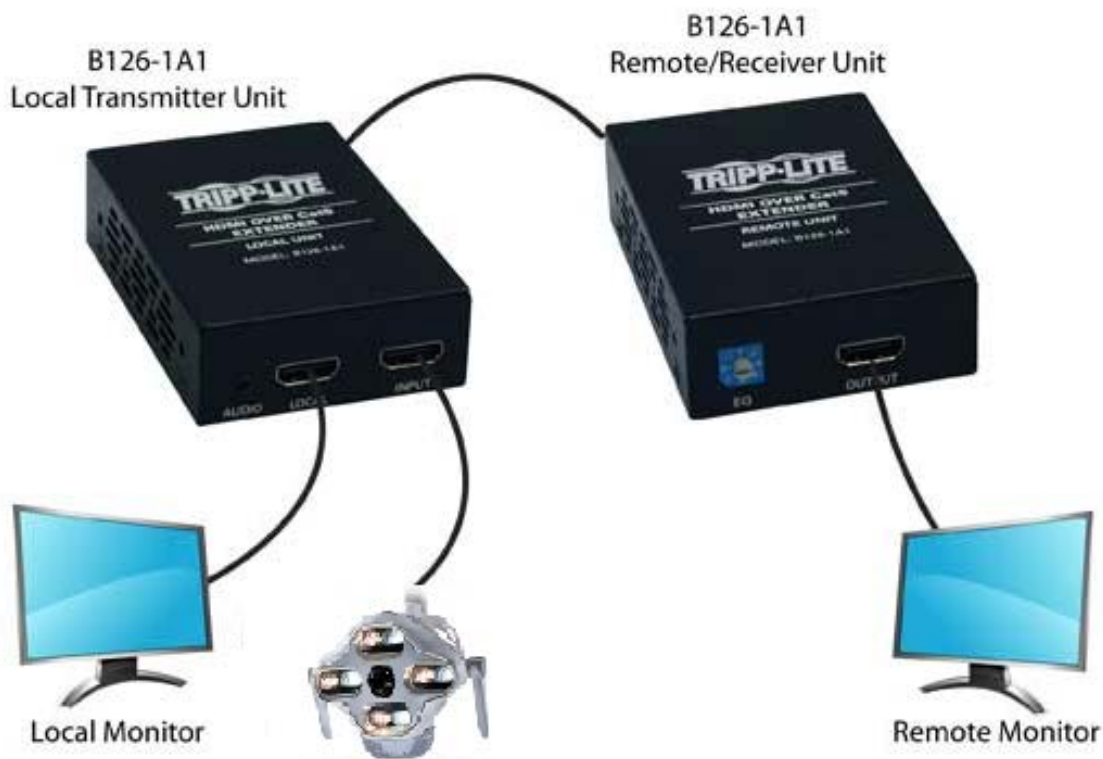




### HDMI Over Cat5 Active Extender Kit

Tripp Lite Model: B126-1A1

**Extend an HDMI signal up to 200 ft.  
over Cat5e/6 cabling.**



## 5a – WI-FI EXTENDER

It works the same as the one with the LAN cable (is constituted by a transmitter and a receiver ), but it's wireless.

Both transmitter and receiver must be connected to a power supply and the **maximum distance it can cover is 20 m.**

It can also be used in cases when the wiring is difficult.

## 5c –EXTENDER above 100 m



*encoder and decoder front and back*

This system must be used if the distance that must be covered is above 100m. It works again with an encoder and a decoder for the signal that must be connected with a power supply.

This system can work both using a pre-existing network or via direct connection with a CAT 5/6 cables.

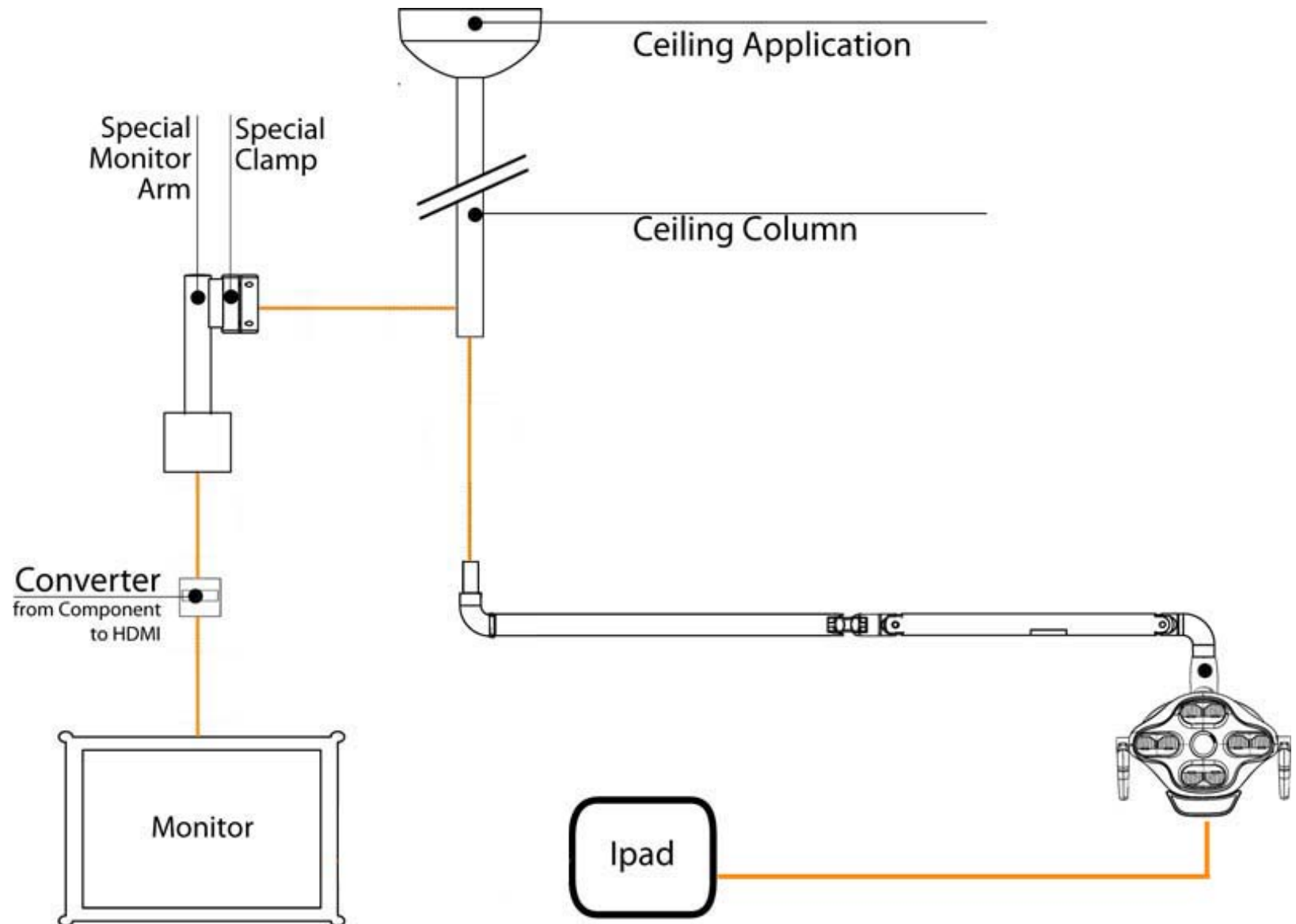
In case of direct connection the important thing is that the distance covered by the cables is not above 100 m. In that case is necessary to put a switch in between (a switch that need a power supply too).





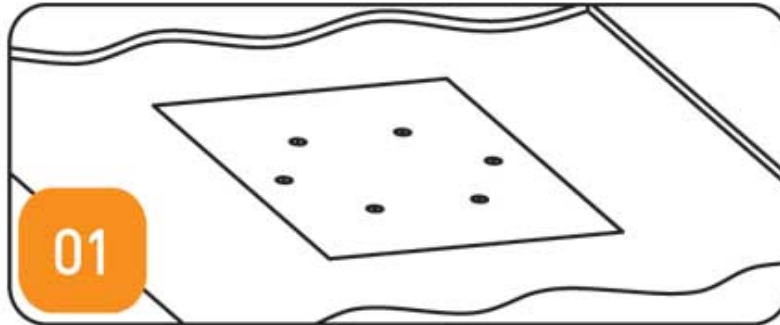
# 1\_ Installation of the Operation light

## A\_Ceiling Application



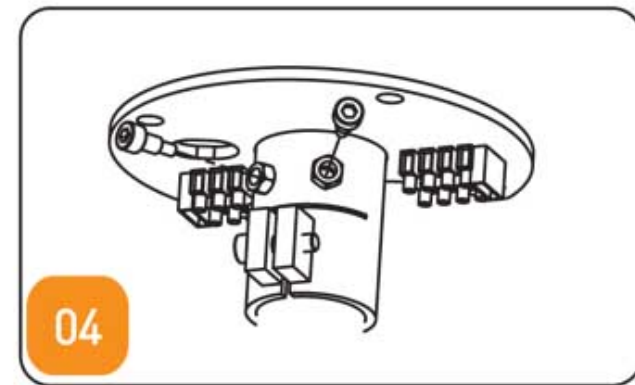
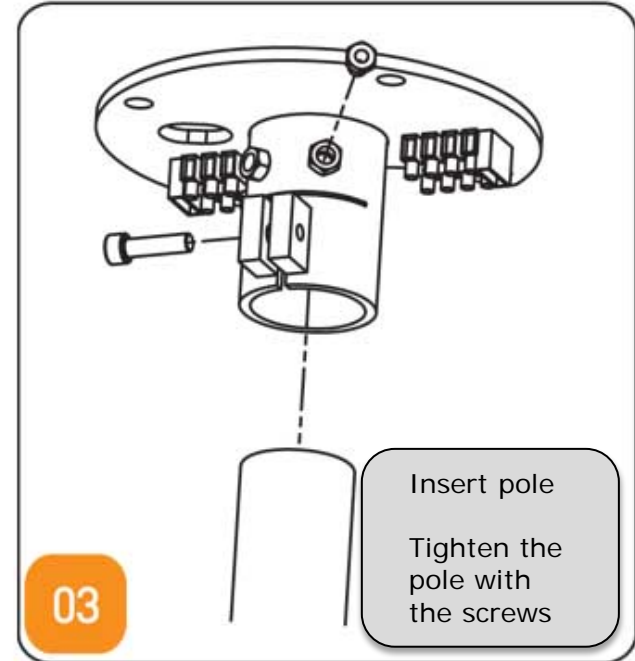
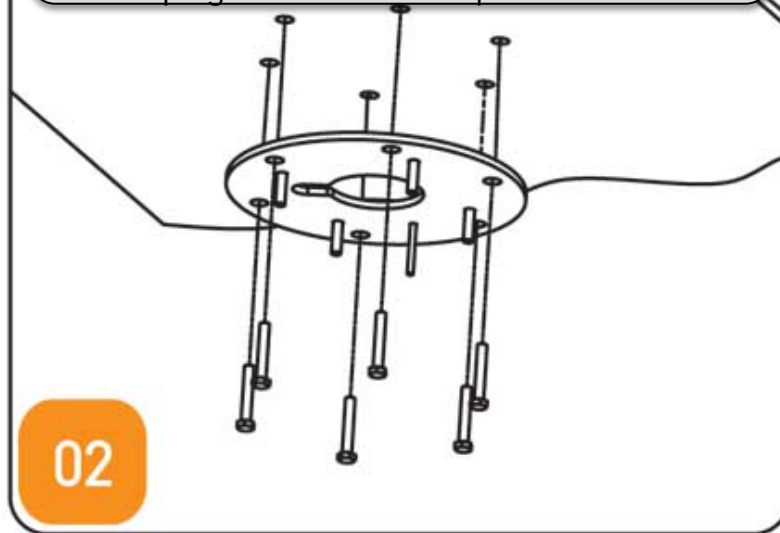
# 1\_ Installation of the Operation Light

## A\_ Ceiling Application



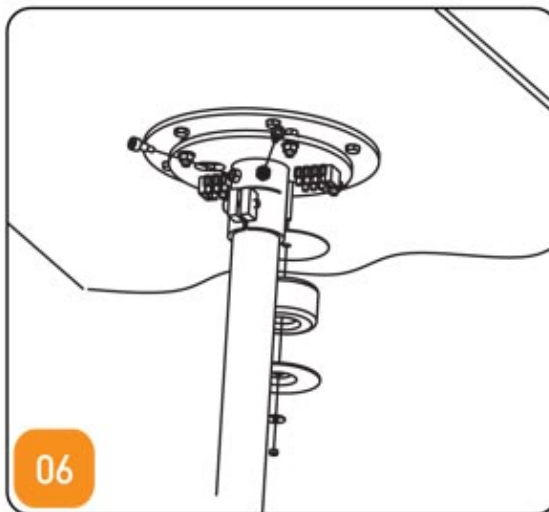
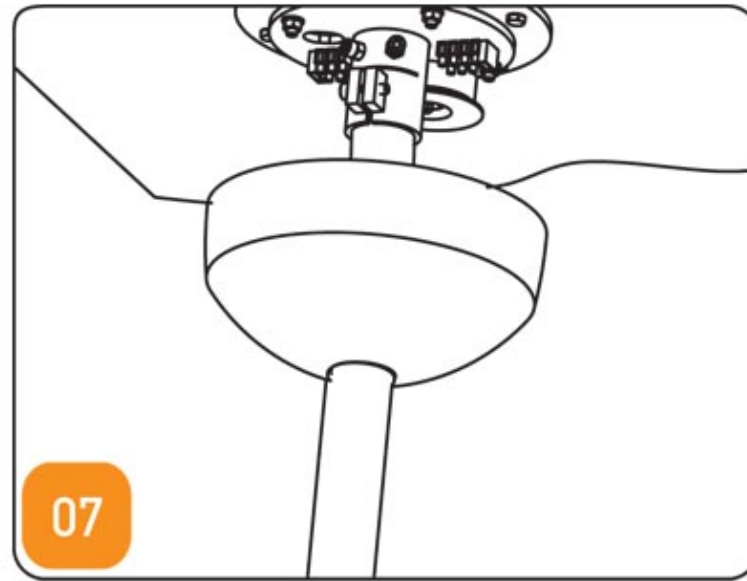
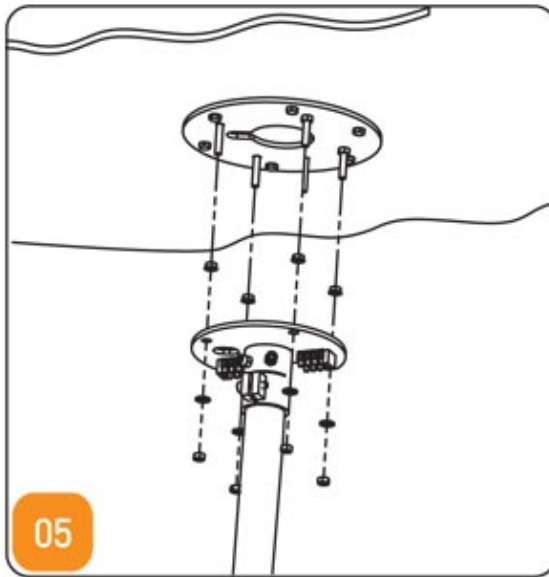
Fasten the drilling template to the roof and make 6 holes.

Insert plugs and fasten the plate



# 1\_ Installation of the Operation Light

## A\_ Ceiling Application, and Cautions



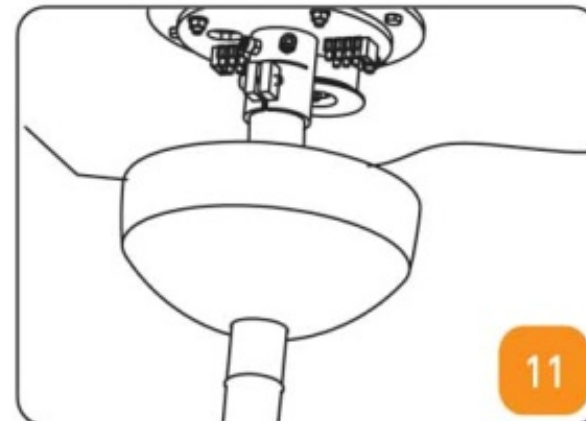
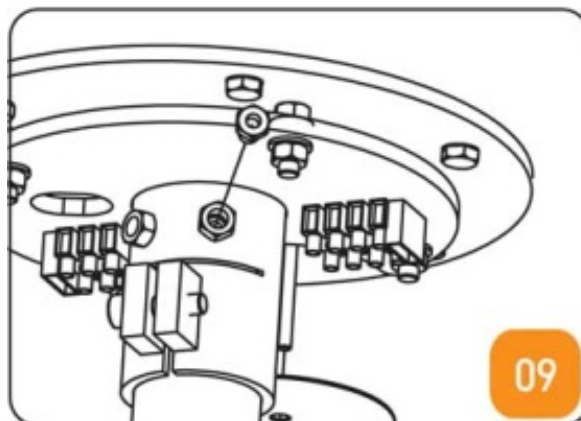
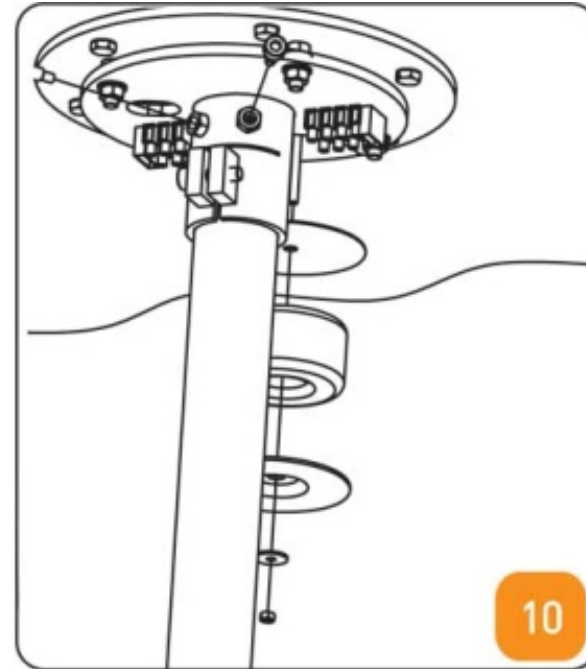
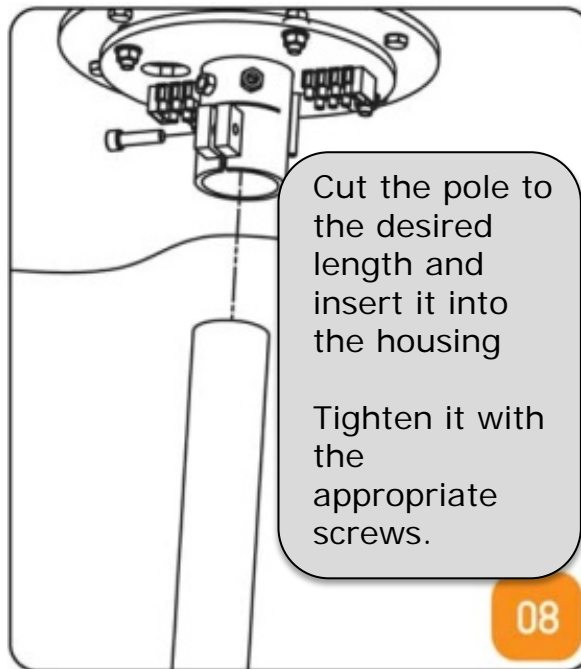
Insert the M8 flanged nuts in the adjustable plate and adjust the proper flatness of the two plates

Insert a lead line to hook the cable to the arm

Insert the crown and the o-ring to tighten everything on the pole

# 1\_ Installation of the Operation Light

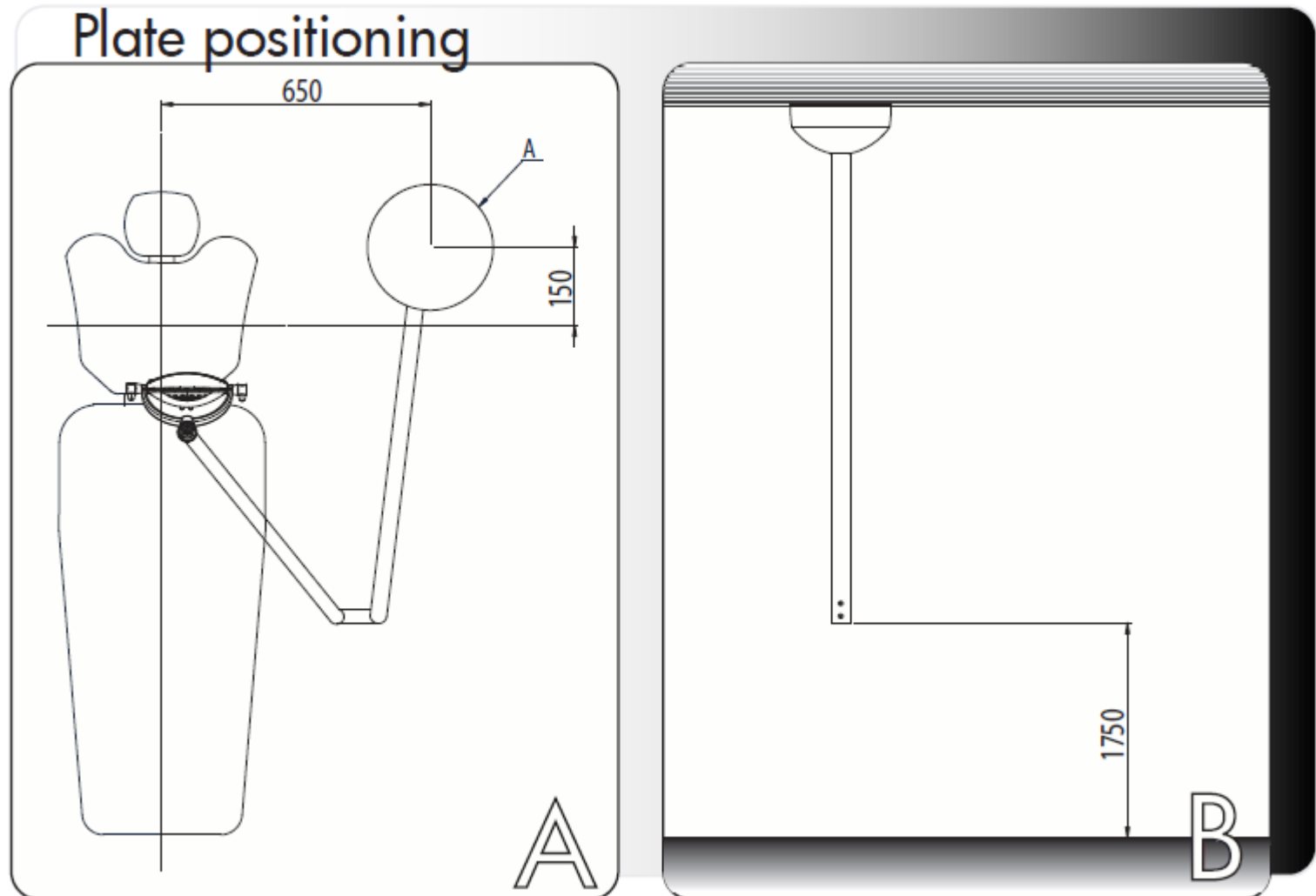
## A\_ Ceiling Application: Column Length





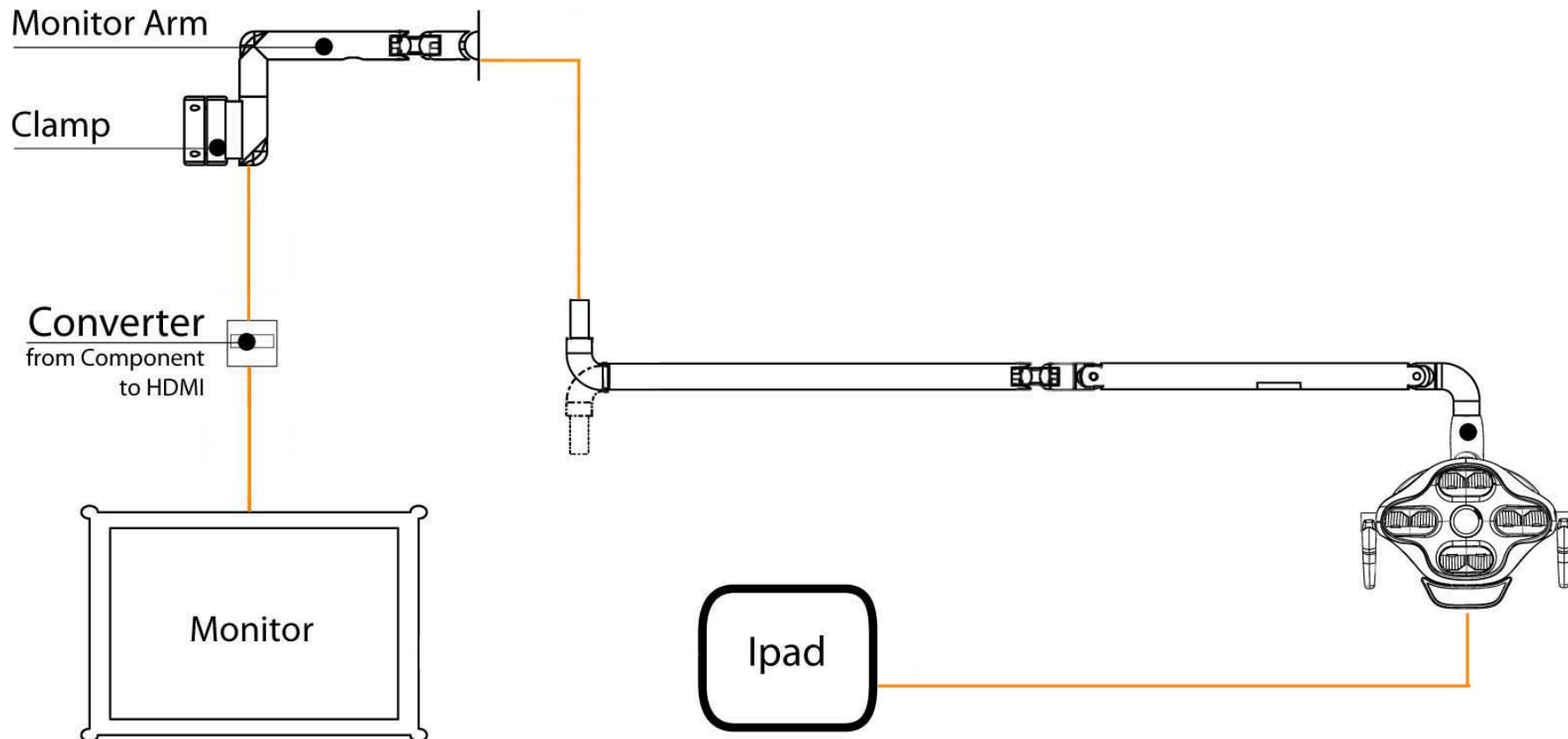
# 1\_ Installation of the Operation light

## A\_ Ceiling application: Column Length



# 1\_ Installation of the Operation Light

## B\_ Wall Application



# 1\_ Installation of the Operation Light B\_ Wall Application

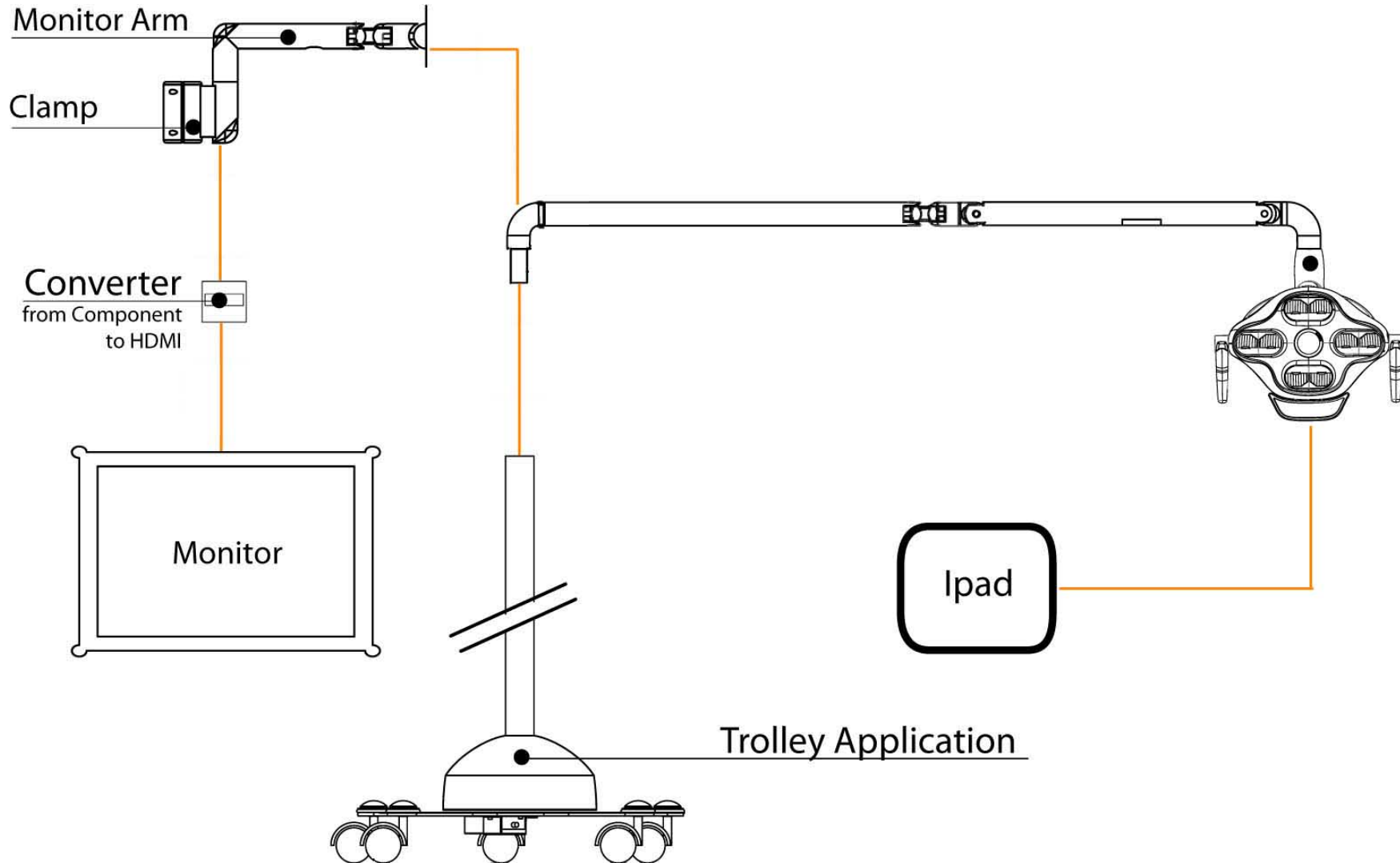


Fasten the drilling template to the wall and make 3 holes.

Insert plugs and fasten the wall application

NOTE: In the actual wall application the transformer is outside of the application itself

# 1\_ Installation of the Operation Light C\_ Trolley Application



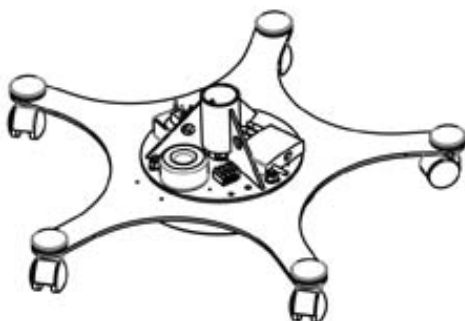




# 1\_ Installation of the operation Light C\_ Trolley application

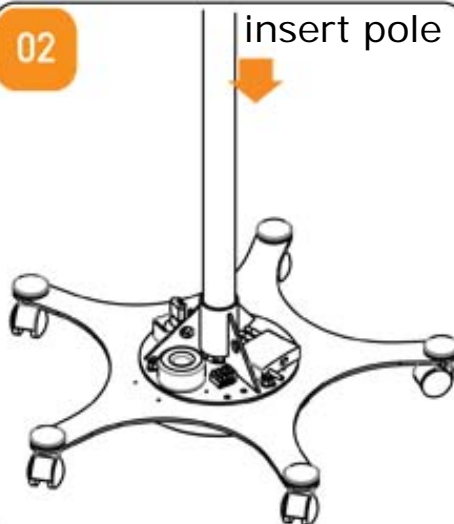
01

Position the  
trolley on the  
ground



02

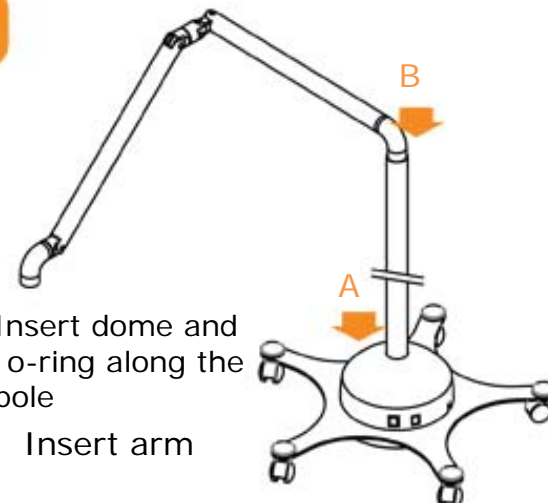
insert pole



03

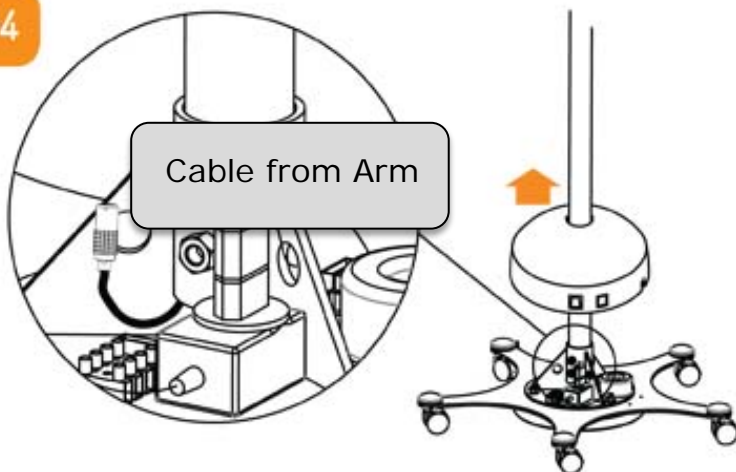
A) Insert dome and  
o-ring along the  
pole

B) Insert arm



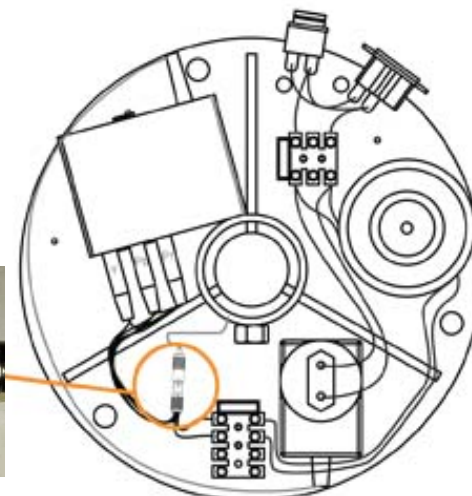
04

Cable from Arm



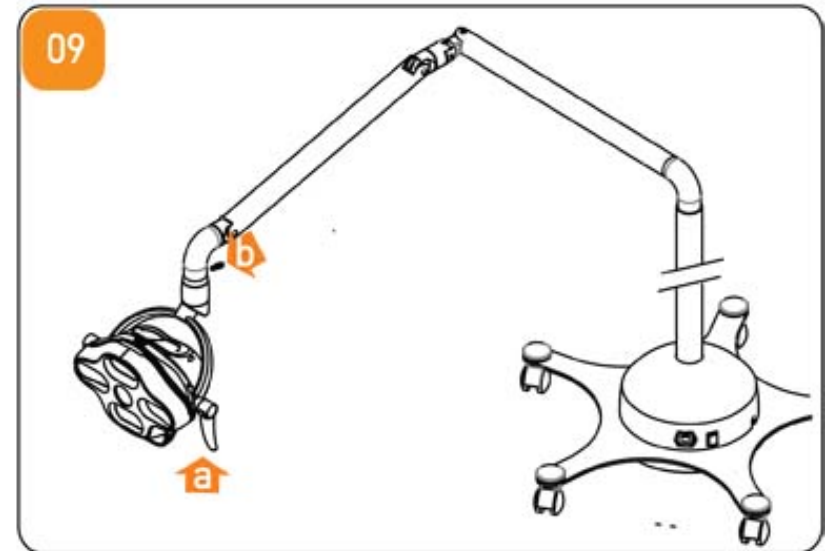
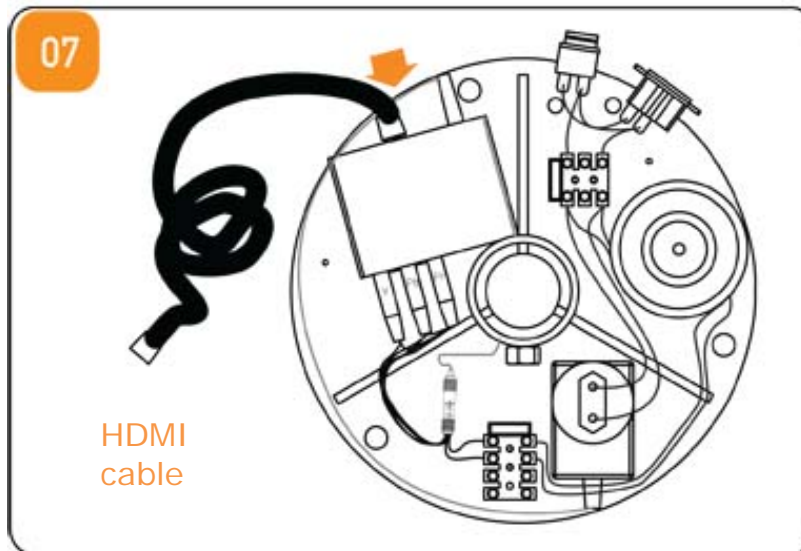
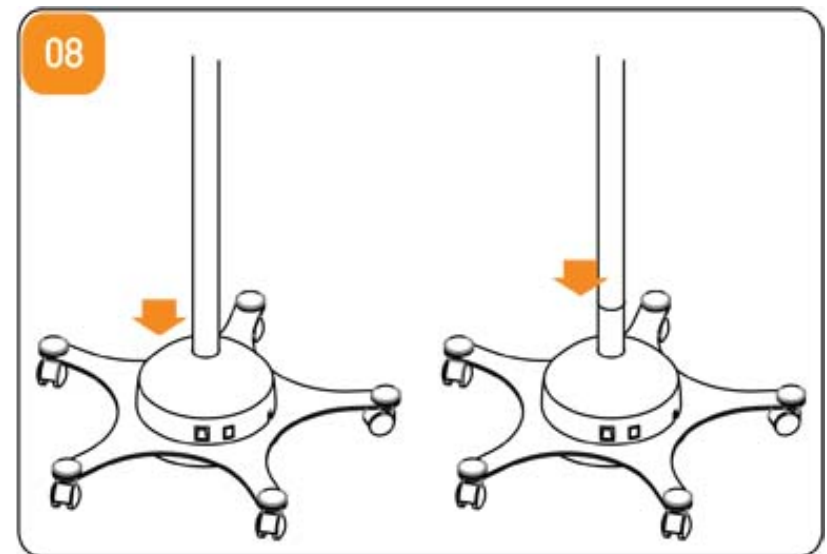
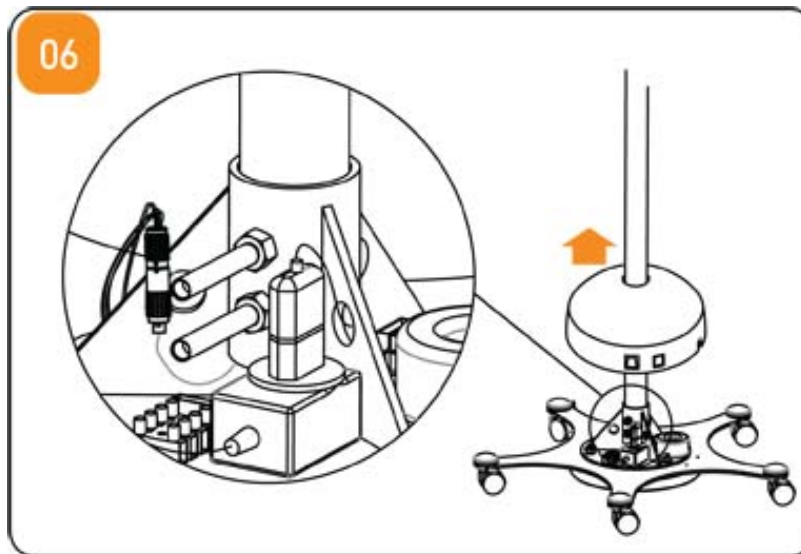
05

The two red dots  
must be aligned



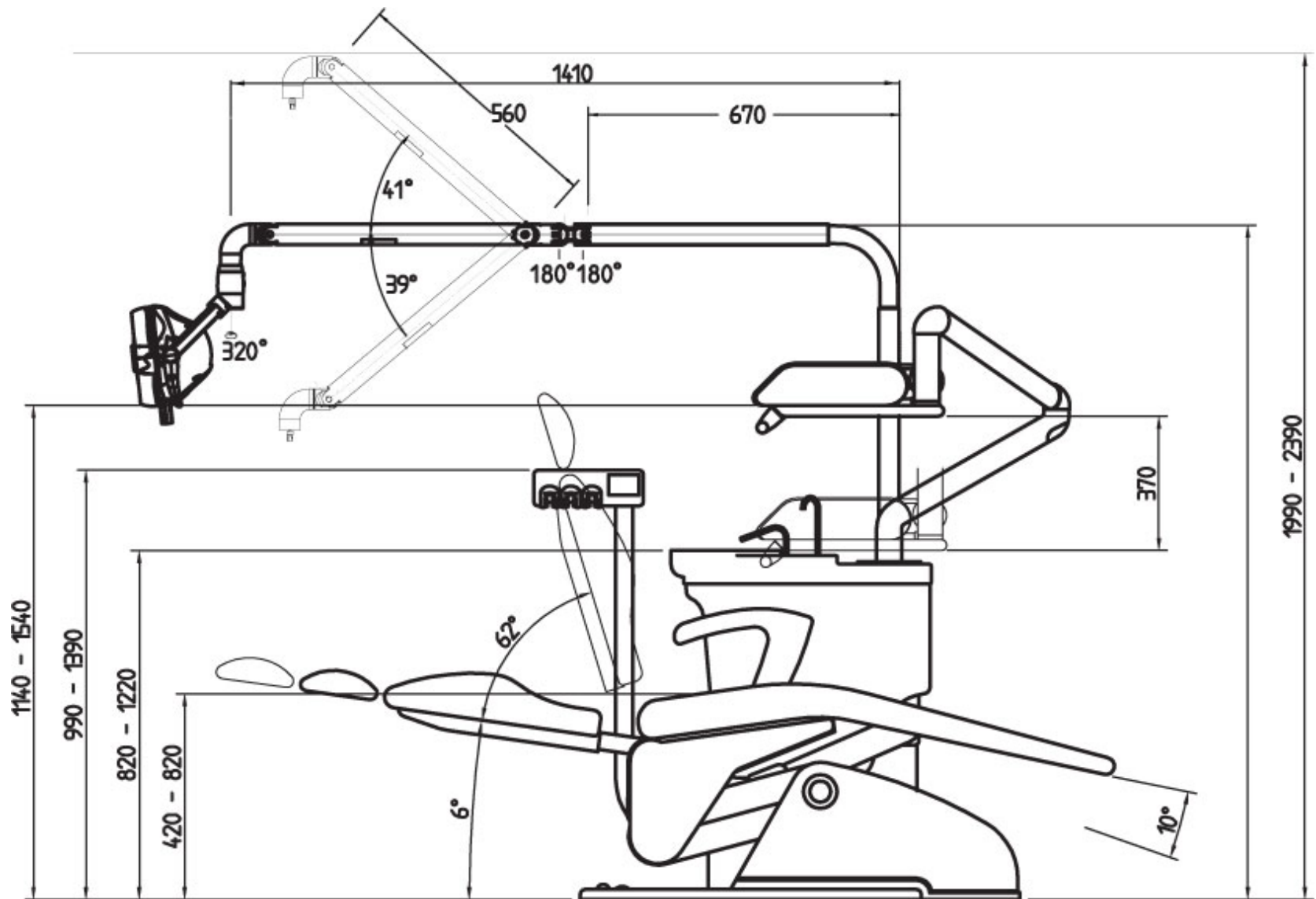


# 1\_ Installation of the Operation Light C\_ Trolley application



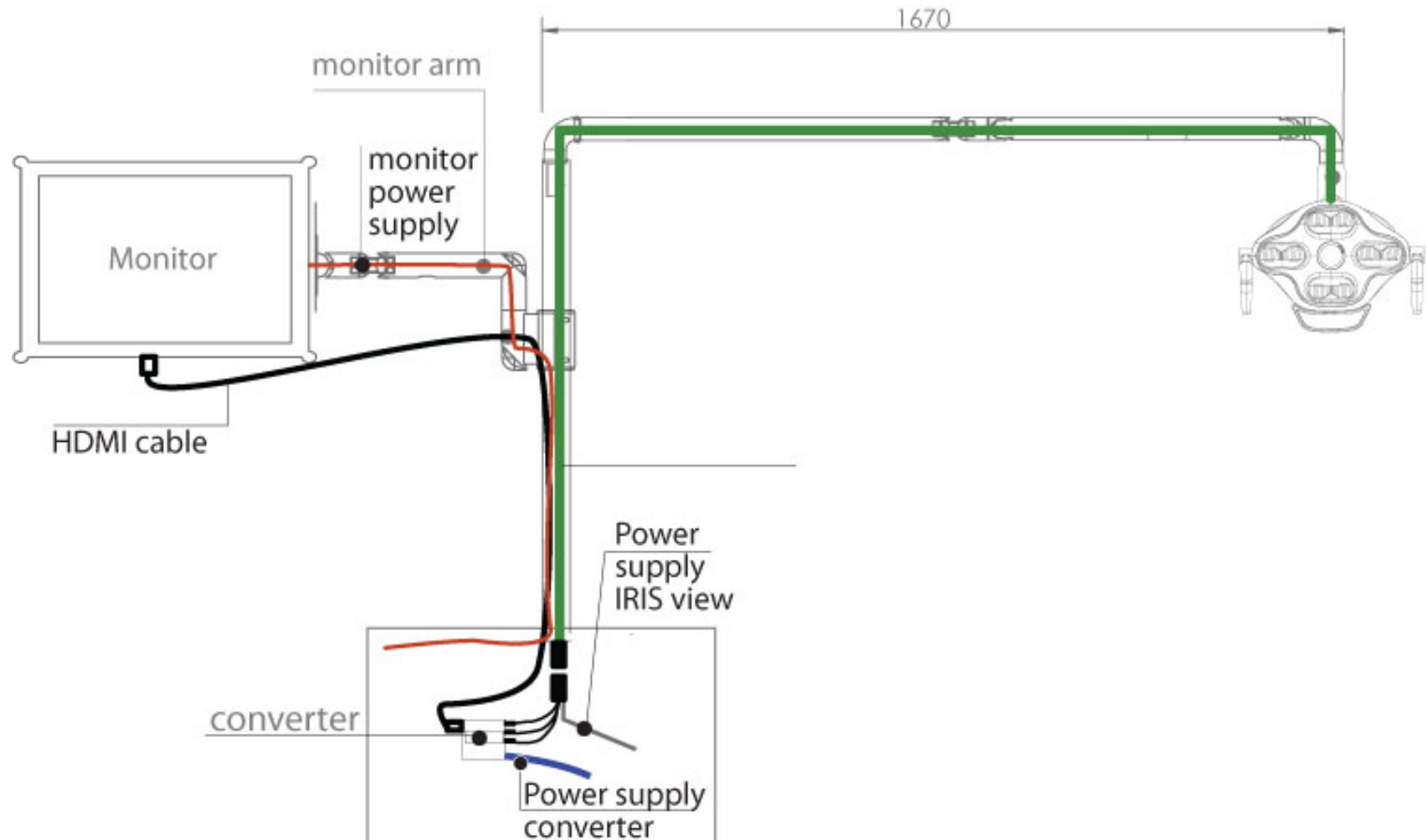


# 1\_ Installation of the operation light D\_ Dental Unit



# 1\_ Installation of the Operation Light D\_ Dental Unit

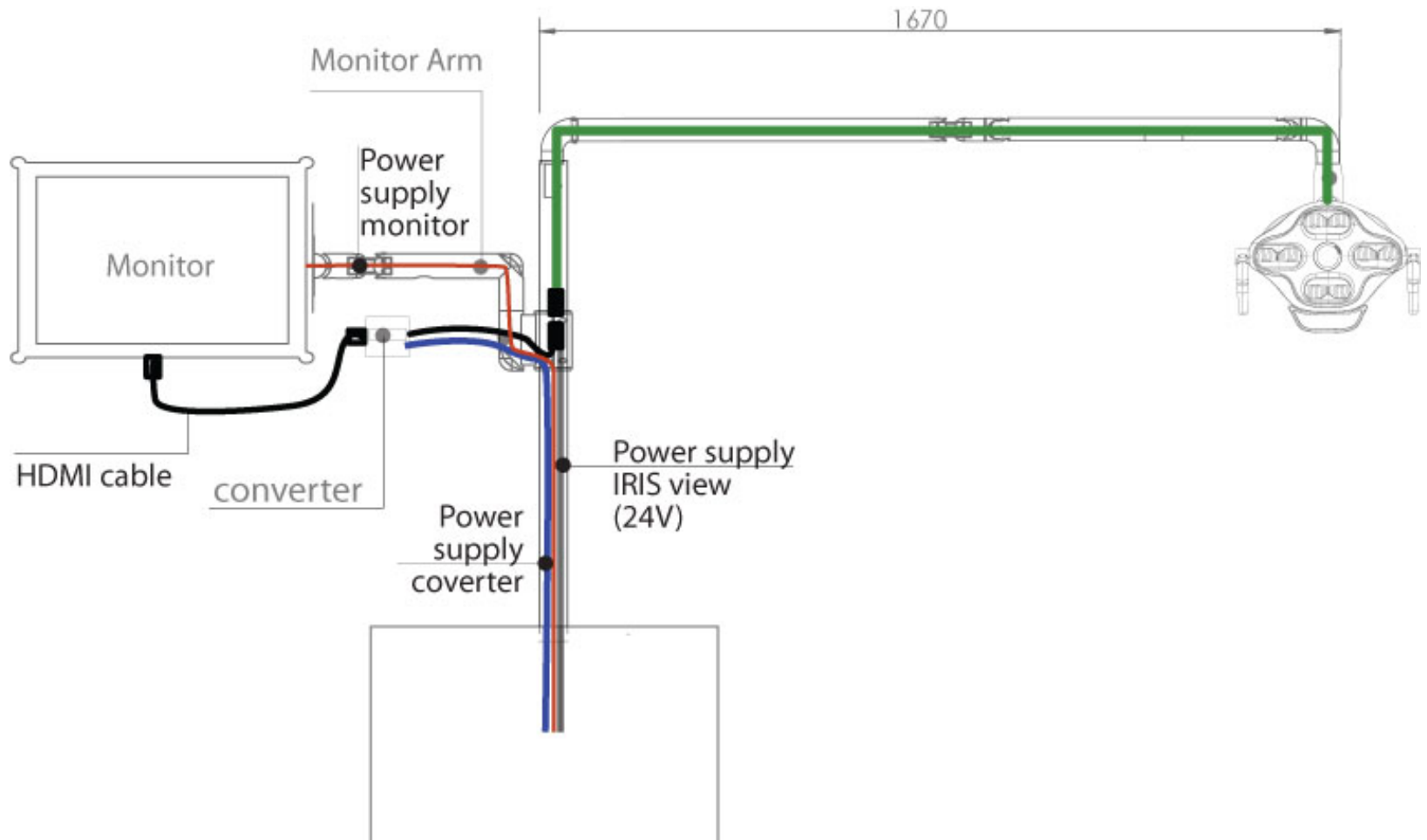
## Version 01: With converter



# 1\_ Installation of the Operation Light D Dental Unit

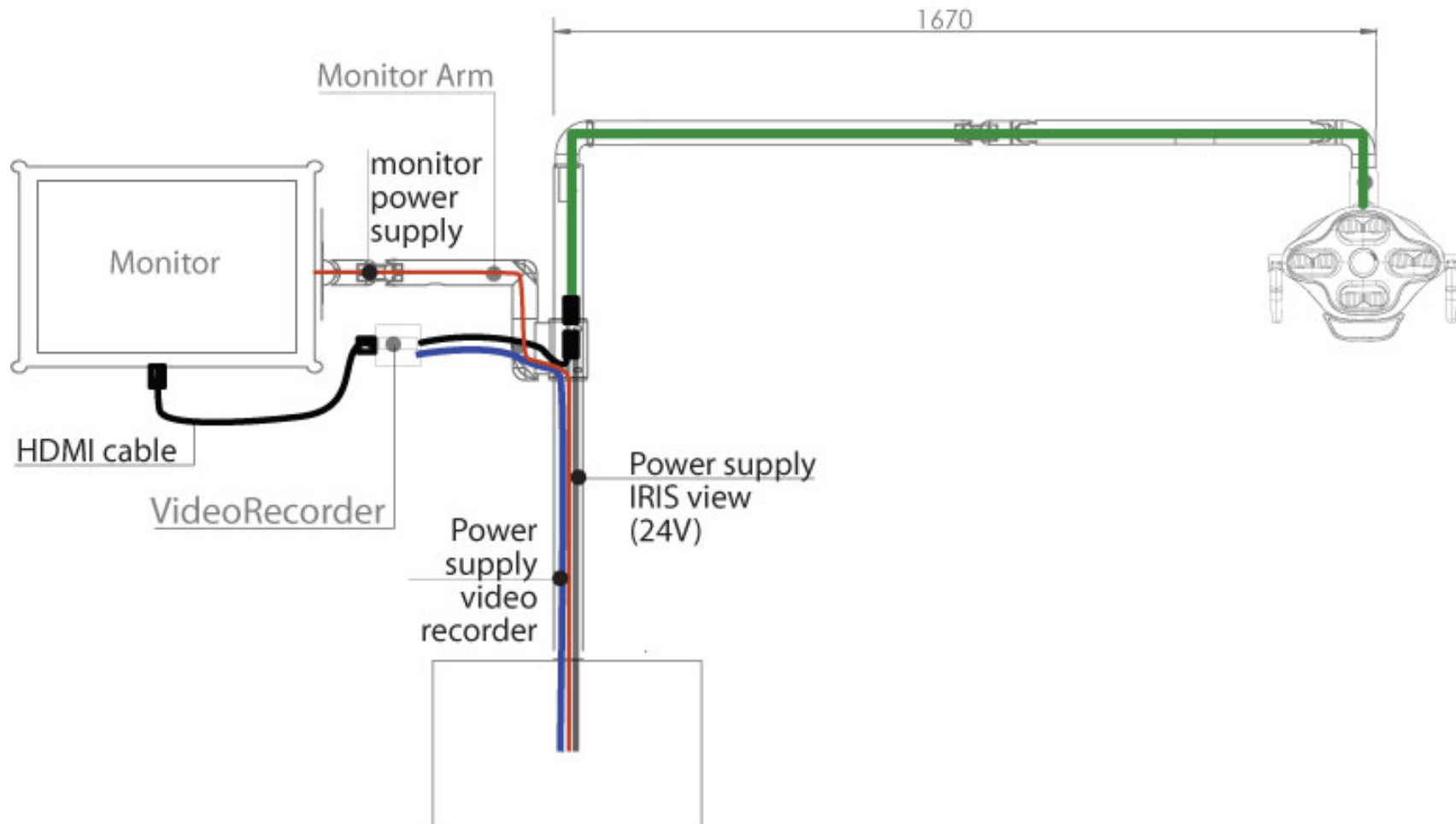


## Version 02: With converter



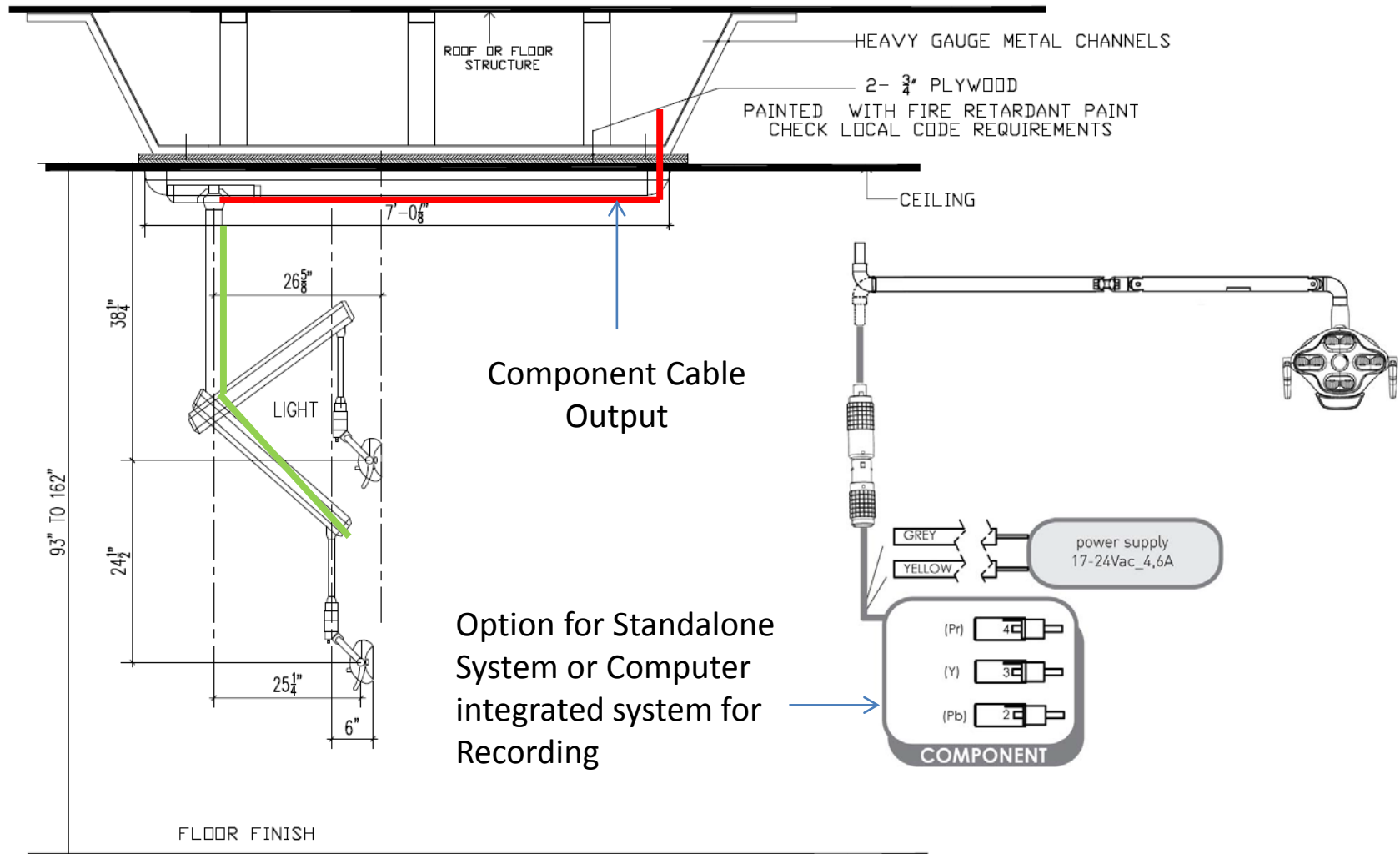
# 1\_ Installation of the Operation Light D Dental Unit

Version 03: With video recorder



# 1- Installation of the Operation Light

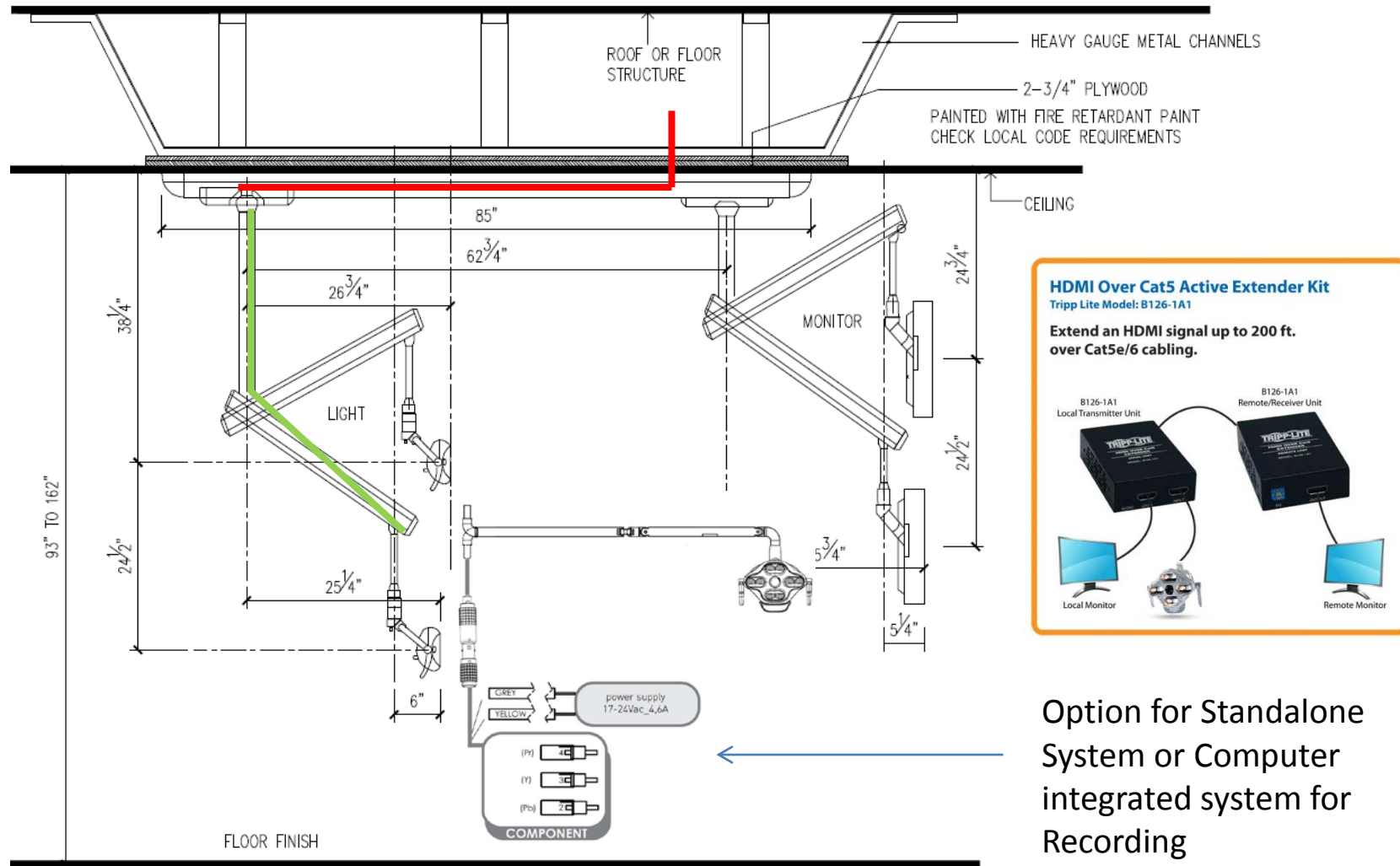
## Single or Dual Track Light





# 1- Installation of the Operation Light

## Single or Dual Track Light





# 1- Installation of the Operation Light Single or Dual Track Light



Monitor Connection \*Pre-Wired at Factory

- 1) HDMI Extender via Cat 5/6
- 2) Power Supply for Monitor \*Barrel connector
- 3) Power Supply for Receiver Unit on Extender

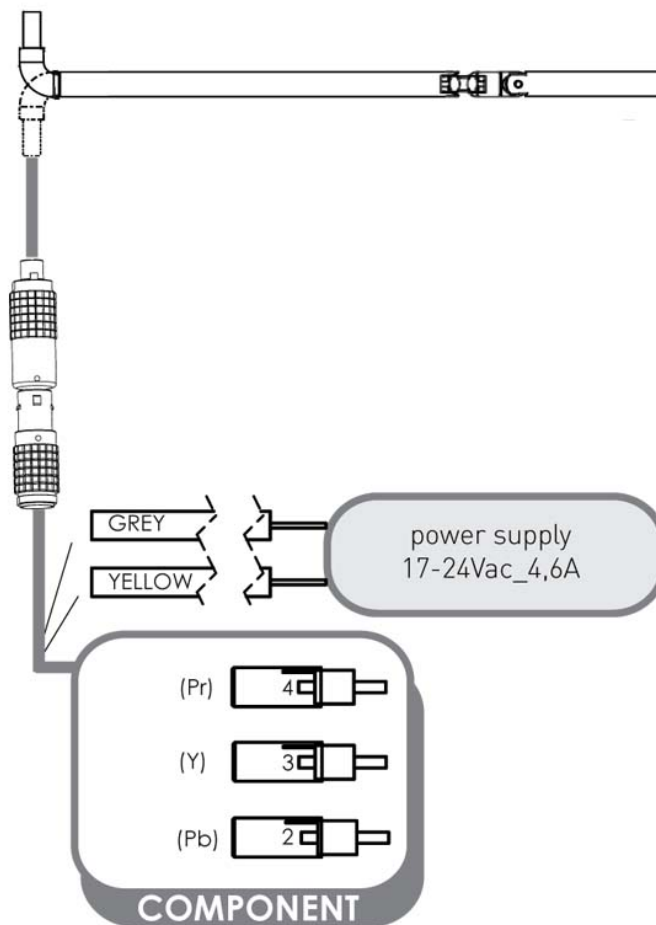


# 1\_ Installation of the Operation Light

## E – Video Recording

The iView lamp is able to record via camera, with every version the technician need to:

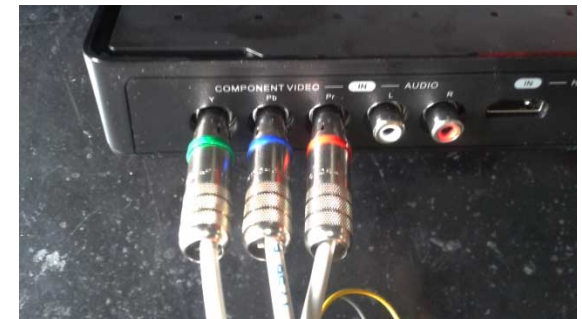
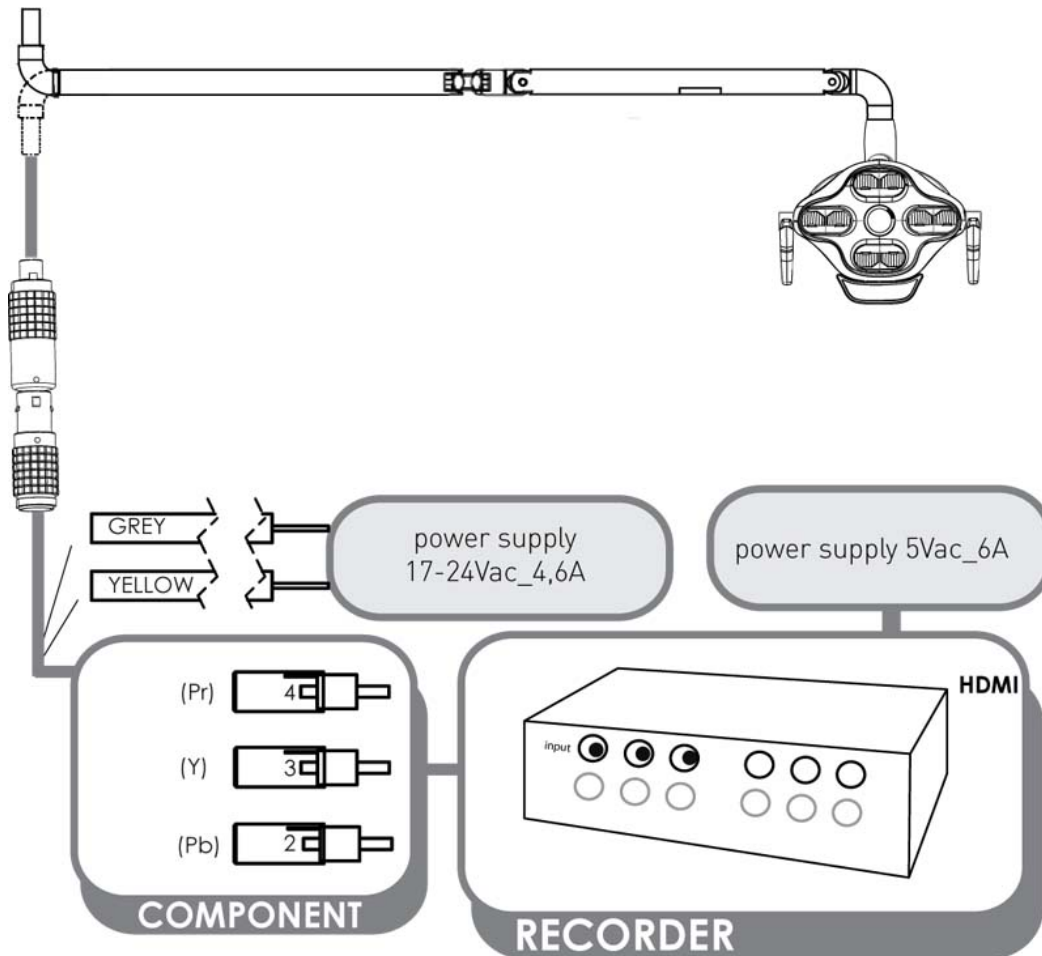
- Connect cable provided with the one on the dental light



# 1\_ Installation of the Operation Light

## E – Video Recording

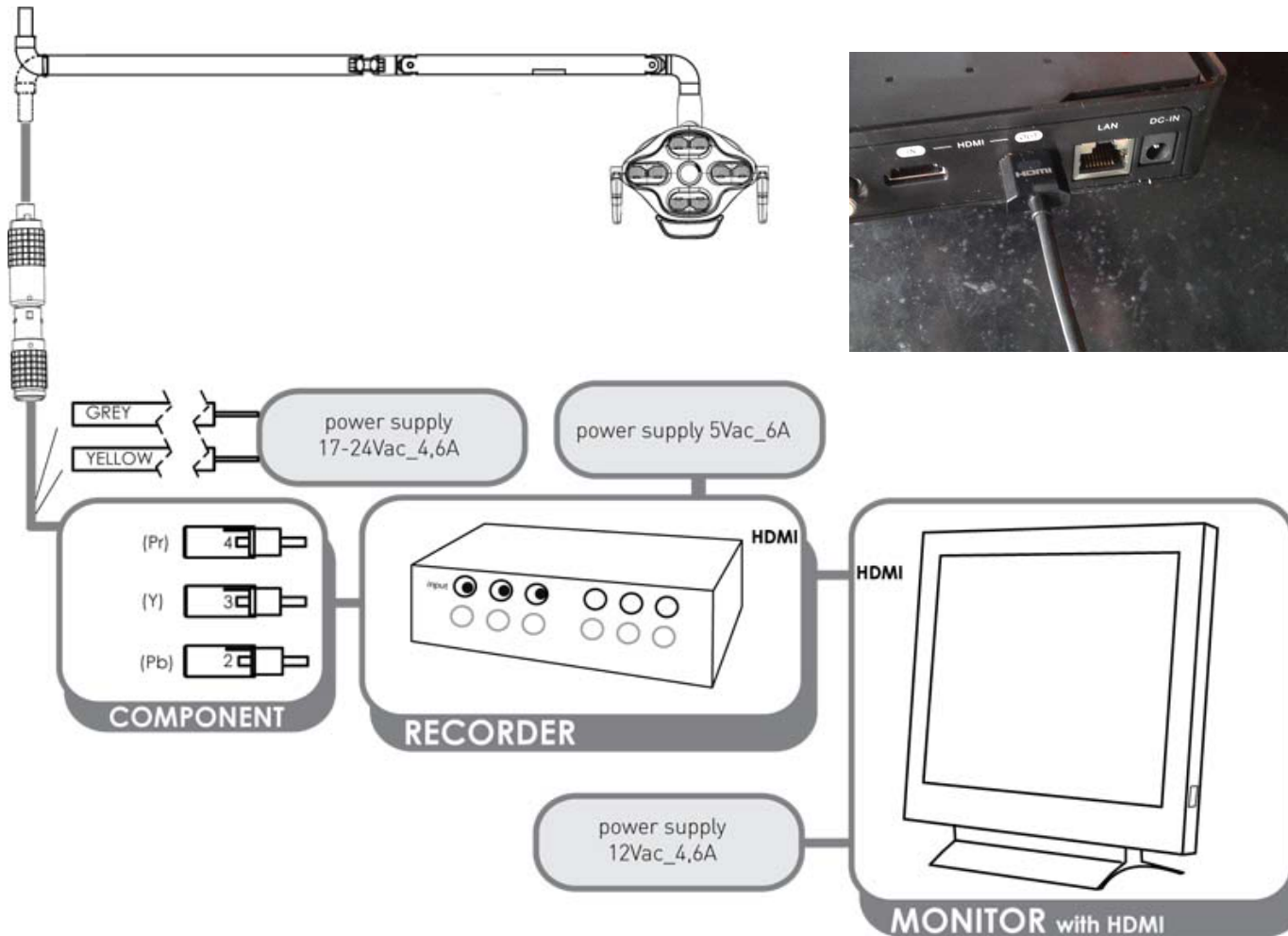
- Connect the component cable to the recorder



# 1\_ Installation of the Operation Light

## E – Video Recording

- Connect the monitor and the recorder with an HDMI cable



# 1\_ Installation of the Operation Light

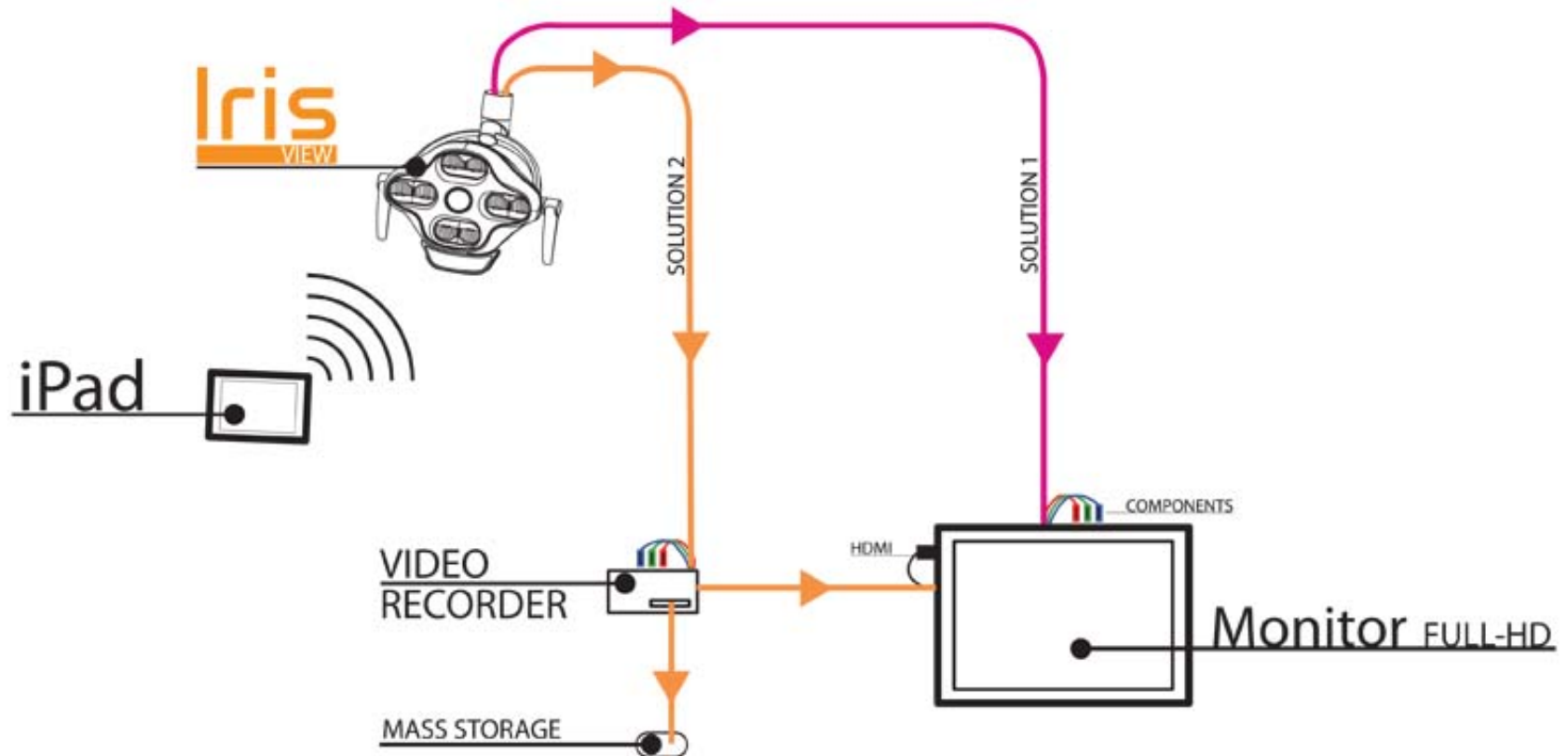
## E – Video Recording



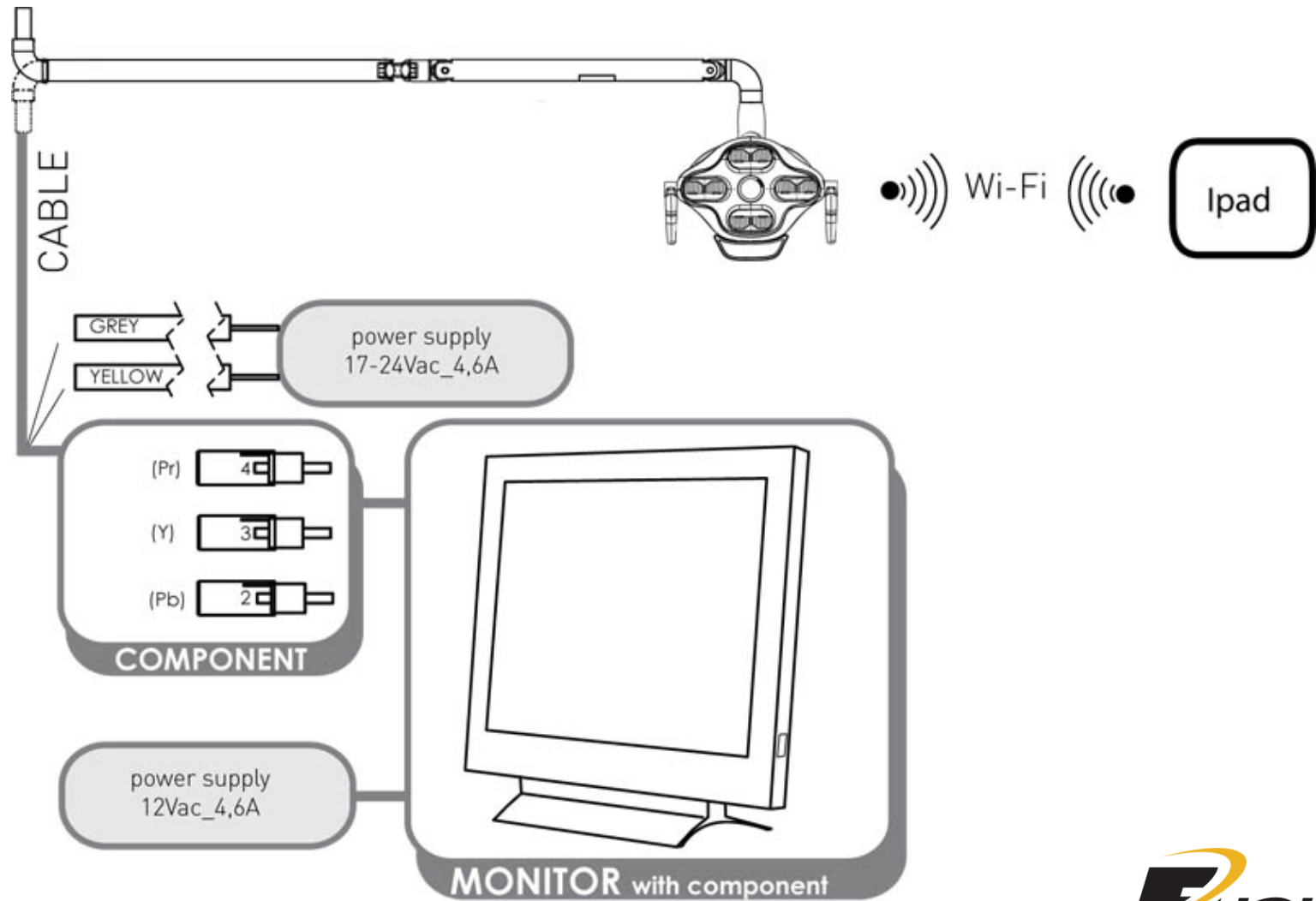
Finally you need to turn on the videorecorder and press REC to start the registration



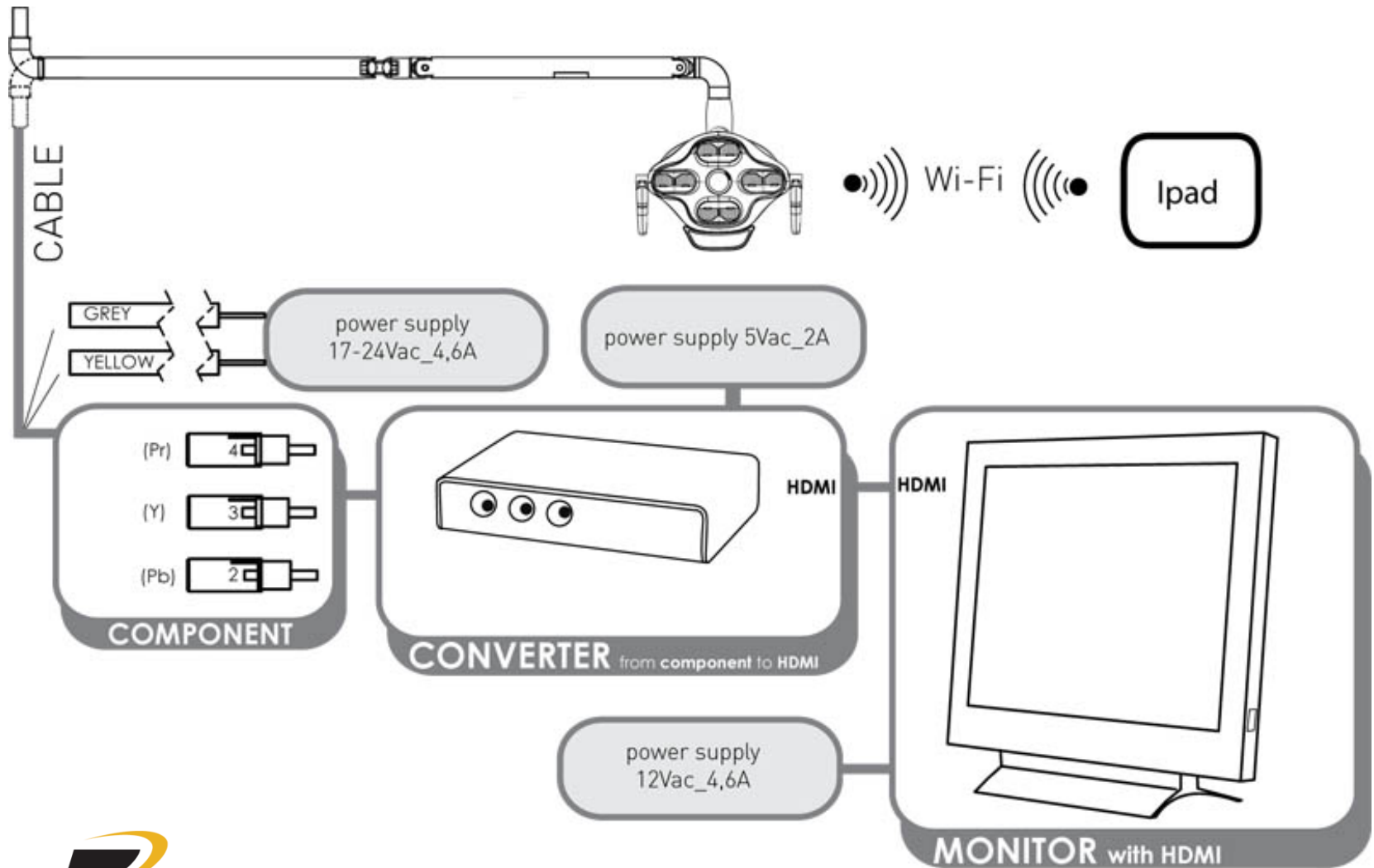
## 2\_Different Accessories and Adjustments between Different Applications



## 2\_Different Accessories and Adjustments between Different Applications

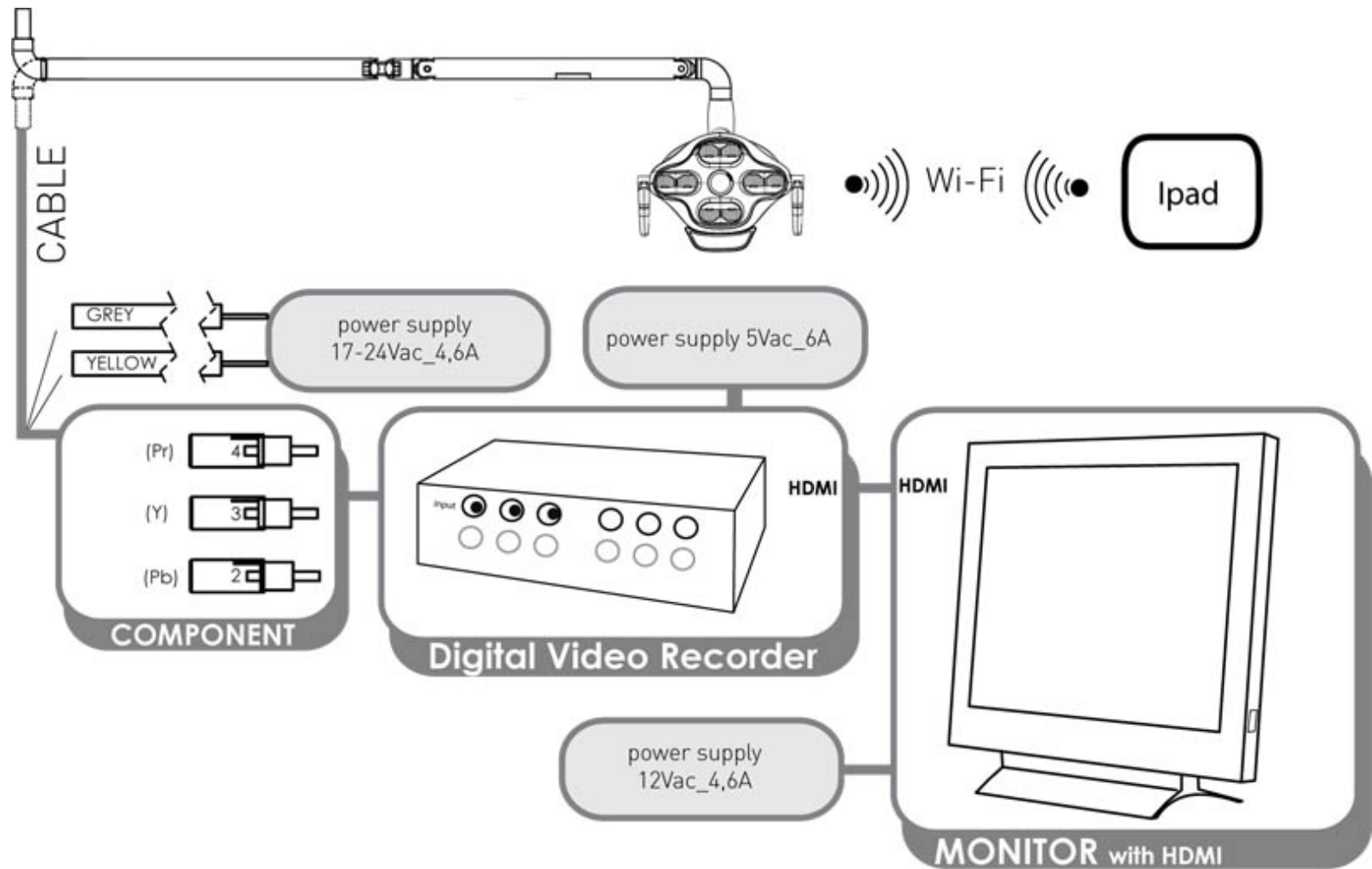


## 2\_Different Accessories and Adjustments between Different Applications





## 2\_ Different Accessories and Adjustments between different Applications – Standalone Application



## 2\_ Different Accessories and Adjustments between different Applications – Computer Integrated System



The advertisement features a black AVerMedia DarkCrystal 750 CD750 device. A laptop is connected to the front-left USB 3.0 port. The back-right ports are shown with two options: a FireWire 800 connection (labeled 'or') and a video camera connection. The AVerMedia logo is visible on the top-left of the device. The background is a dark grey triangle with an orange diagonal stripe.

**AVerMedia**

**DarkCrystal 750** CD750  
Tailor Your 1080p 60fps Raw Data with SDK

USB 3.0  
Full HD  
1080p 60

## 2\_ Different accessories and adjustments between different applications – Computer Integrated System

DarkCrystal 750 is the first USB 3.0 capture box packaged with an exclusive capture SDK that supports a range of programming languages, including VB, VC, Delphi, VB.Net, and C#. In addition, DarkCrystal 750 also offers excellent flexibility with DirectShow-compliant software and compatibility with other third-party video software. With **VESA resolution support** and extreme low latency, it provides a number of editing features for 1080p 60fps uncompressed videos specific for developers. DarkCrystal 750 represents a complete package for simplifying the process of recording and streaming full HD videos.

### Features

- Captures video in 1080p 60fps
- Bundled with exclusive capture SDK
- Works with popular video editing software
- Enables HDMI and/or component input
- 3rd party plug-ins: Adobe Premiere Pro CS6, Sony Vegas Pro, ImageJ
- Software compatibility: DirectShow-compliant software: XSplit, OBS, VLC media player, Potplayer, Graph Edit, Adobe Flash Media Live Encoder, AMcap, Windows Media Encoder 9

## 2\_ Different accessories and adjustments between different applications – Computer Integrated System

### System Requirements

- For SD Video Capturing (MPEG-2)
  - Intel Core™ i3-3210 3.2 GHz
- For Full HD Video Real-Time Capturing (MPEG-2)
  - Intel Core™ i5-3570 3.4 GHz
- For Full HD Video Real-Time Capturing (H264)
  - Intel Core™ i5-3570 3.4 GHz
- For Full HD Video Real-Time Capturing (WMV)
  - Intel Core™ i5-3570 3.4 GHz
- For Full HD 1920×1080 Video Capturing (AVI)
  - SSD Read/Write: 300 MB/s or above

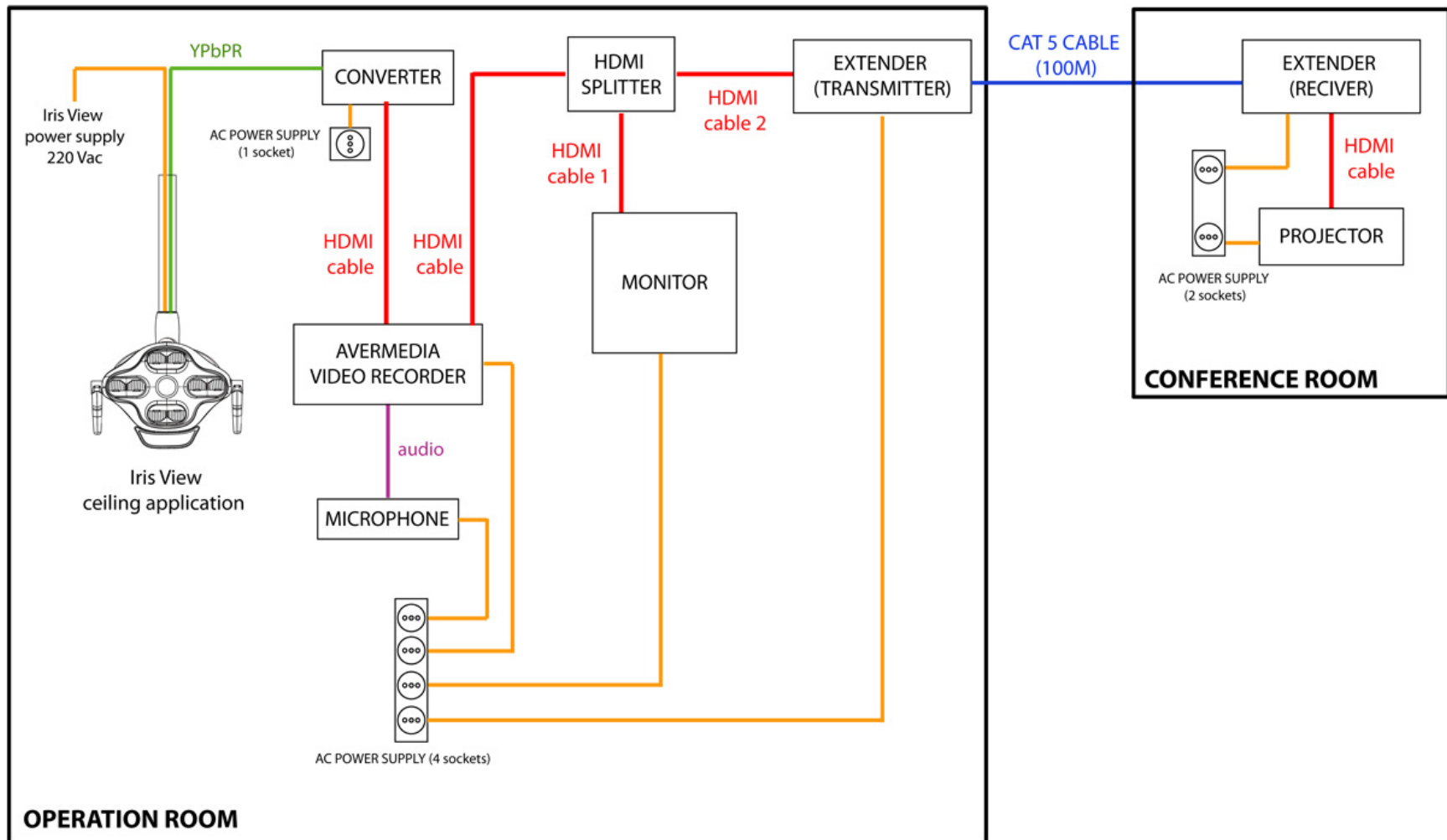
- Memory with dual channel architecture
- 4 GB RAM or above
- CPU with Ivy Bridge platform or newer
- NVIDIA GT630 or above and with support for DirectX 10 or above
- Windows 8.1 (32 / 64 bit) / 7 (32 / 64 bit)
- Intel chipset with native USB 3.0 host controller (Verified chipsets: Intel, Renesas, Fresco, VIA, ASMedia\*)

\* With ASMedia chipset, 1080p 60 FPS recording is only supported when running Windows 8.1 with Microsoft's built-in USB 3.0 driver

Interface	USB3.0	HW Scaler (Frame rate conversion only)	60[fps] (input source) to 60 or 30[fps] 50[fps] (input source) to 50 or 25 [fps]
Input	HDMI (1.3/HDCP 1.3) Component Audio (L/R)	Record Format	MPG, AVI, WMV, MP4 (codec: H.264, AAC)
Resolution	Input resolutions: CE: 480i@60, 576i@50, 480p@60, 576p@50, 720p@50/60, 1080i@50/60, 1080p@24/25/30/50/60 VESA (HDMI only): VGA@60, SVGA@60, XGA@60, WXGA@60, SXGA@60, WXGA+@60, WSXGA+@60  Capture resolutions: 480p@30/60, 576p@25/50, 720p@25/30/50/60, 1080p@24/25/30/50/60 VGA@60, SVGA@60, XGA@30/60, WXGA@30/60, SXGA@30/60, WXGA+@30/60, WSXGA+@30/60  *For complete list of supported resolutions, please refer to the product page on the official website.	Pixel Format	YUY2 (4:2:2)
		Power Requirement	3.7W
		Operating Environment	Temperature: 0 to 50°C Humidity: 15—90% RHNC
		Storage Environment	Temperature: -30 to 65°C Humidity: 15—90% RHNC
		Dimensions	137.2 (w) x 84.8 (d) x 18.55 (h) mm
		Weight	182g

### 3\_ Example of a More Complex Application

Here below is an example of a more complex installation of iView where the signal is seen both on a screen in the same room as the lamp and on a conference room at 100 m of distance.



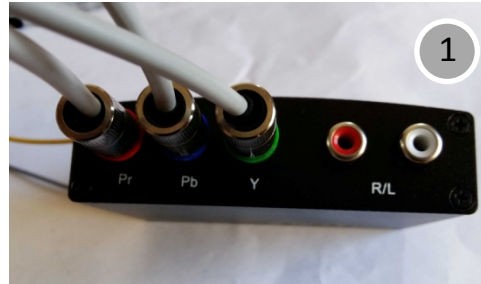
## 4\_ Troubleshooting

Here is a list of the most common problems for the iView dental light and camera and the way to resolve them.



## 4\_ Troubleshooting

**PROBLEM: The colours on the monitor are not shown correctly / one colour is missing**



Check if the position of the component cables is correct.

***Put the cables in the correct position.***

Check if the single component cable is working correctly

Check if the pins on the connector of the light head hasn't been damaged during the installation (example: one or more pins are down).

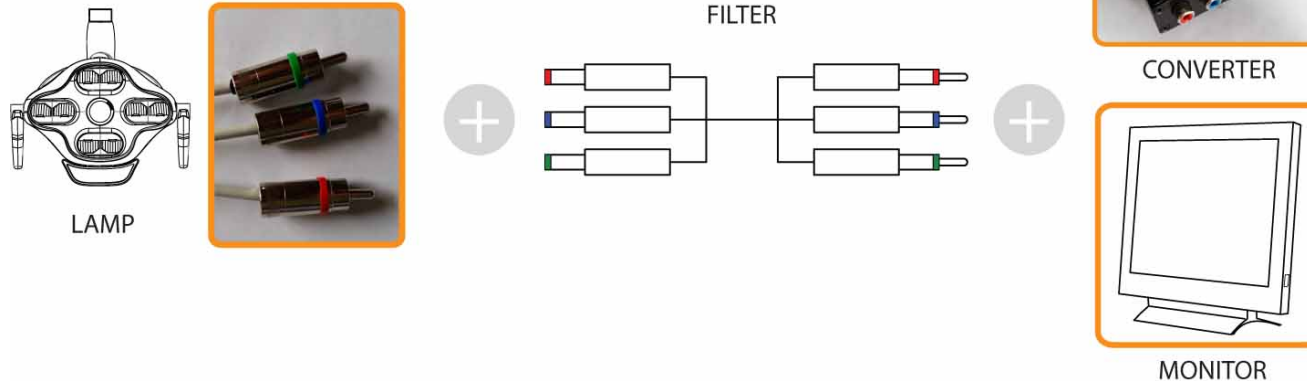
***Replace the cable in the arm or the control board with the terminal connections on the light head.***

Try to bypass the cable in the arm connecting the light head directly to see if the problem is in the cable or in the arm itself.

***Replace the cable in the arm.***

## 4\_ Troubleshooting

**PROBLEM:** The image on the monitor have disturbances



Check if the cables are connected correctly.

***Connect the cables correctly. If the problem persist use the Flight Dental Systems filter.***

**PROBLEM:** The image on the monitor stops working the moment another product of the dental unit is working (example: adjusting the chair movement)

***Use the Flight Dental Systems filter.***



## 4\_ Troubleshooting

**PROBLEM: The Wi-Fi is not working (completely not working, connection is not stable)**



Check if the Wi-Fi connection on the iPad is switched on.

***Switch on the connection. Reboot the connection and try to connect the lamp again.***

## 4\_ Troubleshooting



**PROBLEM: Video signal is not coming out at all.**

Check if simply the camera isn't switched on.

***Push the ON/OFF button multiple times on the control keyboard to scroll through the various settings.***

Check if cables are connected correctly

Check if the pins on the connector of the light head hasn't been damaged during the installation (example: one or more pins are down).

***Replace the cable in the arm or the control board with the terminal connections on the light head.***

Try to bypass the cable in the arm connecting the light head directly to see if the problem is in the cable of the arm itself.

***Replace the cable in the arm.***

Try to bypass the converter or the DVR unit and connect the lamp directly to the monitor to see if they are not working correctly.

***Replace the converter or the DVR unit.***

### Parallelism Regulation

In the arm it is important that the two areas indicated in the figure are parallel.

To do so you need to:

- 1 - Open the cover indicated in *figure 1*
- 2- Unlock the two nuts as indicated in *figure 2*
- 3- Adjust the nut indicated in fig. 2 until you reach the parallelism of the two parts indicated in fig. 1
- 4 - Put the cover back

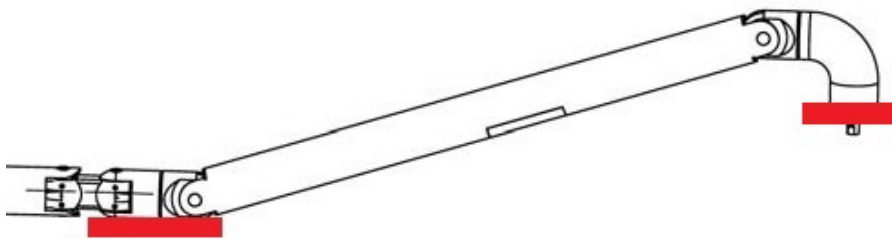


Fig.1

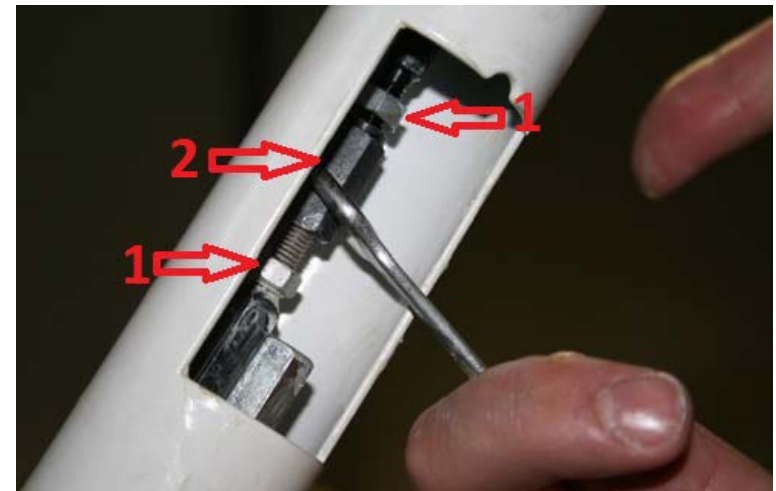


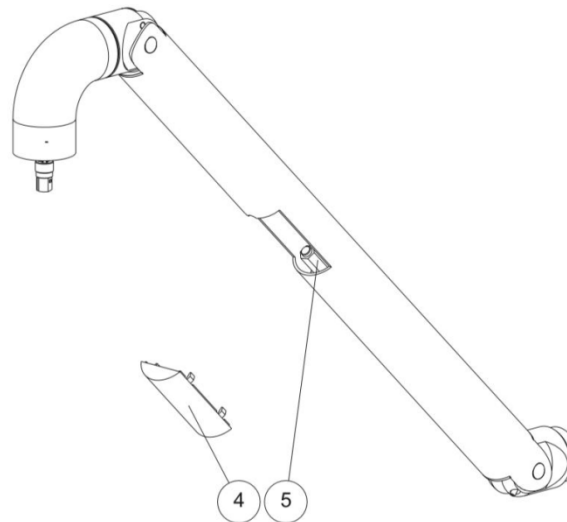
Fig.2

### ARM SPRING REGULATION

If the light arm is not able to correctly sustain the weight of the light. It is necessary to adjust the light arm spring tension.

To do so you need to:

- 1 - Raise the arm as indicated in the figure
- 2- Open the cover indicated in 4
- 3- Turn the nut Clockwise to increase tension and counterclockwise to decrease the tension of the light arm
- 4 - Put the cover back



## 4\_ Troubleshooting



In case of problems that aren't shown in this section contact Flight Dental Systems technical assistance to solve the problem.

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International Calling: +1-905-799-0517

Email: [customerservice@flightdentalsystems.com](mailto:customerservice@flightdentalsystems.com)

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