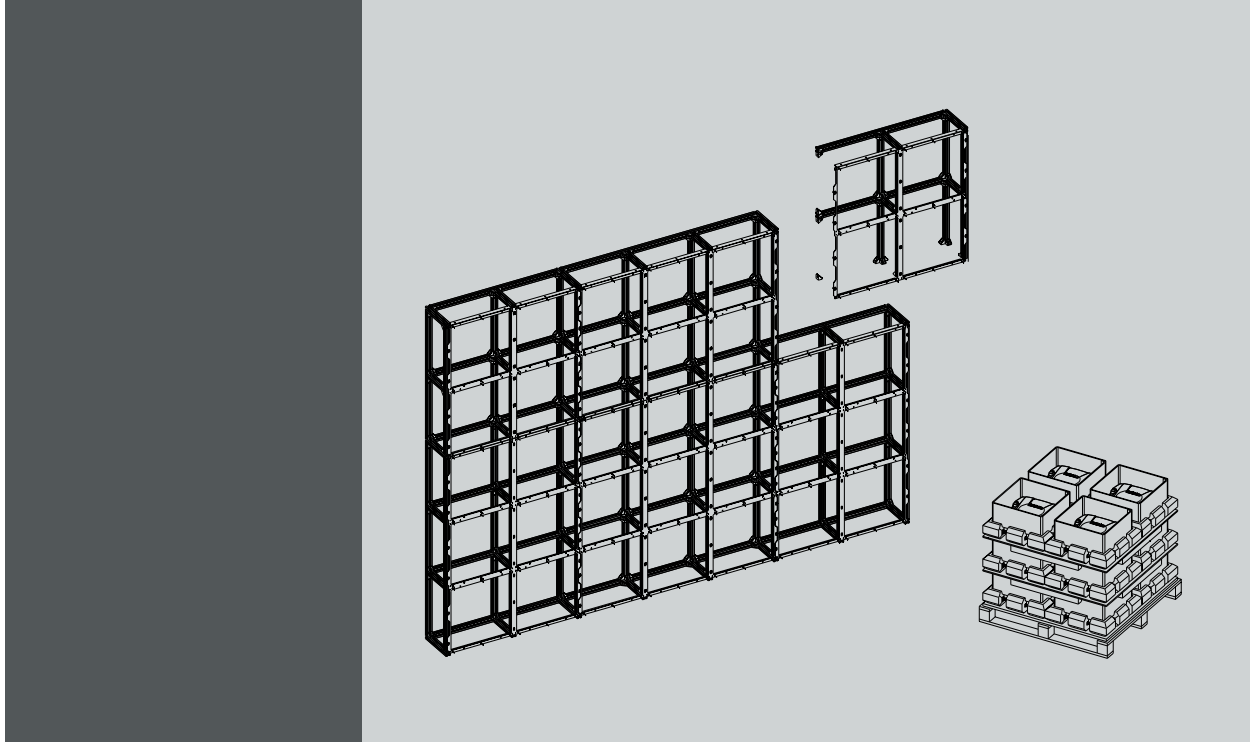


# Fixed I Lite display



## Installation manual

R5976522/03  
17/11/2006

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Visibly yours

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# 1. SAFETY

## About this chapter

Read this chapter attentively. It contains important information to prevent personal injury while installing an ILite display. Furthermore, it includes several cautions to prevent damage to the ILite tile. Ensure that you understand and follow all safety guidelines, safety instructions and warnings mentioned in this chapter before installing the ILite display. After this chapter, additional “warnings” and “cautions” are given depending on the installation procedure. Read and follow these “warnings” and “cautions” as well.

## Overview

- Safety guidelines
- Important safety instructions
- Important warnings

## 1.1 Safety guidelines

---

### Personal protection



**WARNING:** Ensure you understand and follow all the safety guidelines, safety instructions, warnings and cautions mentioned in this manual.

---



**WARNING:** Be aware of suspended loads.

---



**WARNING:** Wear a hard hat to reduce the risk of personal injury.

---



**WARNING:** Be careful while working with heavy loads.

---



**WARNING:** Mind your fingers while working with heavy loads.

---

### Installation personnel

This installation must be performed by authorized and qualified technical personnel only.

Accredited safety officers must ensure the safety of the site, construction, assembly, connection, use, dismantling, transport etc. of such safety critical systems.

### Caution

Installation should be performed only after you are thoroughly familiar with all of the proper safety checks and installation instructions. To do otherwise increases the risk of hazards and injury to the user.

Assembly parts are designed for intended use only in conjunction with Barco ILite displays.

Do not modify and/or replicate any component. Barco uses specific materials and manufacturing processes in order to achieve part strength. Consult Barco for assistance with custom applications.

Always follow Barco installation instructions. Contact Barco if you should have any question regarding the safety of an application.

The manufacturer assumes no liability for incorrect, inadequate, irresponsible or unsafe assembly of systems.

### Product care

Structural & mounting components should be kept dry, clean, lubricated (only if recommended), coated properly, and otherwise maintained in a manner consistent with part design. Barco products must be used in a manner consistent with their design and inspected on a routine basis for security, wear, deformation, corrosion and any other circumstances that may affect the load handling capability of the part.

Barco recommends inspections at regular intervals for all installations and increasing in frequency for more critical installations. If a part is found to have damage, which may cause a decrease in load capability, the part must be removed for service or replaced immediately.

Under no circumstances are Barco parts repairable by anyone other than Barco.



## 1.2 Important safety instructions

---

### Instructions:

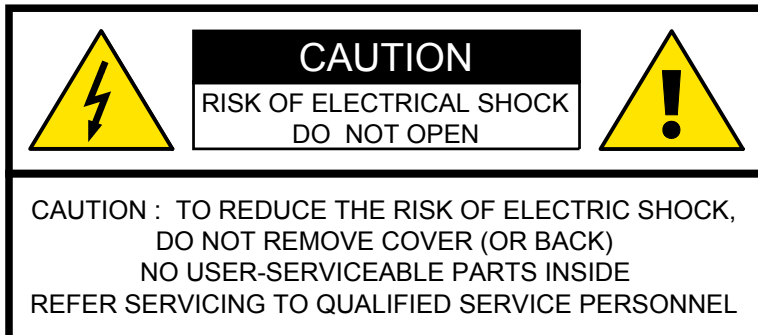
- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Clean only with materials or chemicals that are inert, nonabrasive, noncorrosive and non-marking. Consult the manufacturer for further advice should any doubts exist regarding any cleaning procedure.
- Do not block ventilation openings. Install in accordance with the manufacturers instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding type plugs/sockets. If the provided sockets/plugs are damaged then replacement of the defective parts must be undertaken immediately.
- Protect the power/data cords from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus. Replace damaged power/data cords immediately.
- Only use attachments/accessories specified by the manufacturer.
- Disconnect the power to this apparatus during lightning storms or provide suitable additional lightning protection. Unplug this apparatus when unused for long period of time.
- Refer all servicing to qualified service technicians/personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, the apparatus does not operate normally, or has been dropped.
- Use only with systems or peripherals specified by the manufacturer, or sold with the apparatus. Use caution during lifting/moving or transporting to avoid damage by possible tipping.

## 1.3 Important warnings

### Important warnings:

#### Risk of electric shock:

Do not open. To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Refer servicing to qualified service personnel.



The lightning flash with an arrowhead within a triangle is intended to tell the user that parts inside this product may cause a risk of electrical shock to persons.

The exclamation point within a triangle is intended to tell the user that important operating and/or servicing instructions are included in the technical documentation for this equipment.

#### Maximum and minimum ambient temperature:

The maximum ambient temperature for the LED wall is 40 °C, the minimum temperature is 0 °C.

#### High leakage current:

The combination of multiple tiles in an installation results in increased levels of leakage current. In order to avoid risk of electric shock due to high leakage current, proper grounding of the installation is required.

#### Flammable materials:

Keep flammable materials away from the installation (such as curtains). A lot of energy is transferred into heat. The installation should be such that the amount of air flow required for safe operation of the equipment is not compromised. Proper ventilation must be provided.

#### ESD and LED's:

LED components used in ILite display devices are ESD (Electro-Static Discharge) sensitive. To prevent the possibility of destroying LED components do not touch either in operation or while switched off.

**Risk of electric shock / Risk of fire:** To protect against risk of fire caused by overloading of power cables, MAXIMUM six (6) tiles may be connected in parallel. Each power source cable supplying maximum six (6) tiles should be protected by a circuit breaker or fuses rated 16 A / 250 VAC (15 A / 250 VAC in the USA and Canada). Note that one ILite tile requires 200-240 VAC, 50-60 Hz, 1.45 amps at 230 VAC.

#### Disconnect device:

When the appliance inlets of the individual tiles are not accessible, the socket outlets supplying the rack shall be installed near the equipment and be easily accessible, or a readily accessible general disconnect device shall be incorporated in the fixed wiring.

#### This equipment MUST be earthed:

In order to protect against risk of electric shock, the installation should be properly grounded. Defeating the purpose of the grounding type plug will expose you to the risk of electric shock.

#### Power system:

It is recommended to use a TN-S power distribution system (a power distribution system with a separate neutral and grounding conductor) in order to avoid large ground current loops due to voltage differences in the neutral conductor. The total electrical installation should be protected by an appropriately rated disconnect switch, circuit breakers and Ground Fault Current Interrupters. The installation shall be done according to the local electrical installation codes. In Europe special attention should be given to EN 60364, the standard for electrical installation of buildings. In Germany VDE 0100 should be adhered to.

#### Mains cords:

The power cords delivered with this system have special properties for safety. They are not user serviceable. If the power cords are damaged, replace them only with new ones. Never try to repair a power cord.

## 2. INSTALLATION REQUIREMENTS

### About this chapter

This chapter enumerates the mechanical requirements for the support structure, the electrical requirements to power up the ILite display and the system requirements to run the control software efficient.

### Overview

- Mechanical requirements
- Electrical requirements
- System requirements for the Control software

## 2.1 Mechanical requirements

### Support structure

The support structure has to be provided and installed by the customer because they vary from system to system. Although, the following must be taken into account and must be precisely calculated on individual basis:

1. **Weight tolerances** : Ensure that the support structure and the floor on which or the wall against which the support structure has to be installed, is able to handle the complete weight of the fixed ILite display.
2. **Environmental conditions** : Humidity, temperatures, etc.
3. **Location**
4. **Ground stability**
5. **Front clearances** : For optimal impact ensure that there is sufficient free area in front of the ILite display and respect the maximum viewing distance.
6. **Local regulations regarding such installations**



The ILite display has an average weight of 74 kg per square meter display or 14,8 kg per installed ILite tile.



**WARNING:** Never construct an ILite display if there is uncertainty regarding the stability of an installation or the load holding capabilities. If there are doubts on a systems viability, consult Barco for advice on professional rigging organizations.

### Example of support structure

The support structure in this example is pure illustrative for 7 x 5 ILite display. Several variants of support structures are possible for the same size of ILite display. Contact Barco for more information.

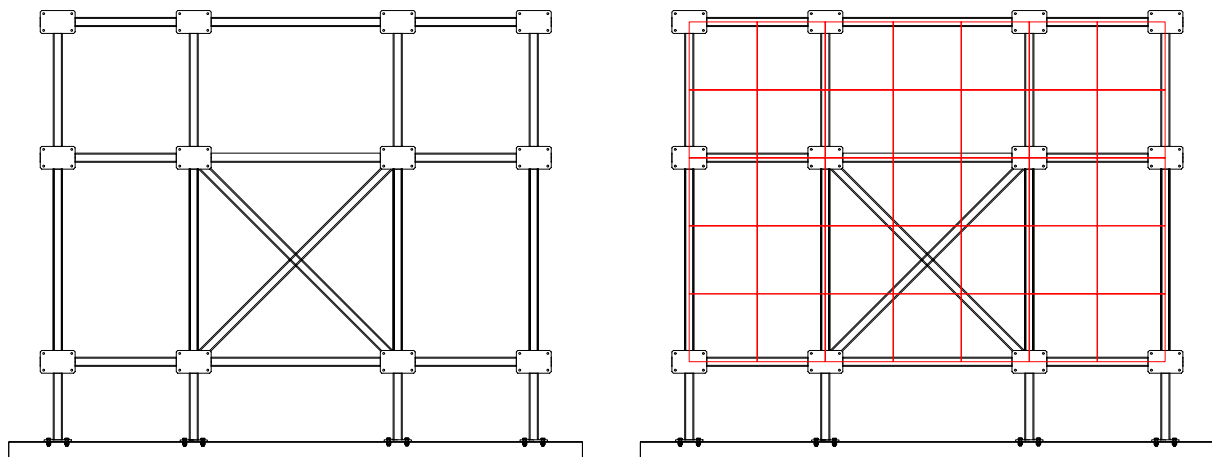


Image 2-1  
Support structure for ILite display (at the right with tile grid).

### Attachment points

Barco provides fixation plates and brackets to attach the ILite precision frames with the support structure. For that the support structure must be equipped with attachment points and it's obvious that the size of these attachment points must match the size of the fixation plate. The quantity and the location of the attachment points on the support structure depends on the height and the width of the ILite display. Consult Barco to know the amount and exact location of the attachment points for your ILite display.

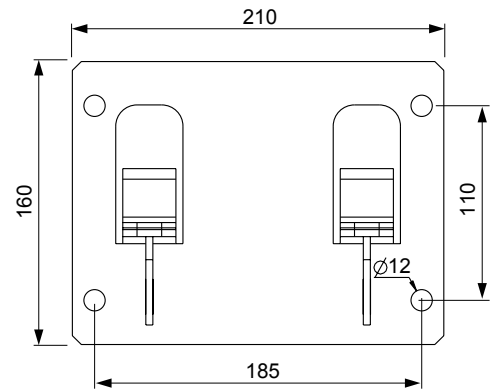
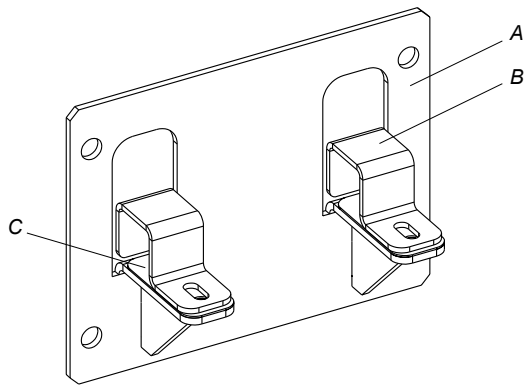


Image 2-2  
Fixation plate with fixation brackets and shim plates (2 pieces: R9851450). Dimensions given in millimeters.

- A Fixation plate.
- B Fixation bracket.
- C Shim plate.



It's recommended to integrate a service platform in the support structure. Such a platform allows a fast and easy intervention, if required.



**CAUTION:** A lot of energy is transferred into heat, which requires a certain amount of airflow at the rear of the ILite display. For that sufficient free space should be available behind the display to ensure a good ventilation. The higher the display the more free space is required.

## 2.2 Electrical requirements

---

### Power requirements

One ILite tile requires 200-240 VAC, 50-60 Hz, 1.45 amps at 230 VAC. Note that five ILite tiles correspond with a display surface of 1 m<sup>2</sup>. Power split cables are used to link the power from ILite tile to ILite tile. However, MAXIMUM six (6) tiles may be connected in parallel. So, one power source cable has to be provided per six (6) tiles. Every power source cable should be protected by a circuit breaker or fuses rated 16 A / 250 VAC (15 A / 250 VAC in the USA and Canada).



**Barco provides a range of power boxes, which meet the requirements of your ILite display. Contact Barco for more information about power boxes and power requirements for your fixed ILite display.**

---

### Power system:

It is recommended to use a TN-S power distribution system (a power distribution system with a separate neutral and grounding conductor) in order to avoid large ground current loops due to voltage differences in the neutral conductor. The total electrical installation should be protected by an appropriately rated disconnect switch, circuit breakers and Ground Fault Current Interrupters. The installation shall be done according to the local electrical installation codes. In Europe special attention should be given to EN 60364, the standard for electrical installation of buildings. In Germany VDE 0100 should be adhered to.

### Disconnect device:

When the appliance inlets of the individual tiles are not accessible, the socket outlets supplying the rack shall be installed near the equipment and be easily accessible, or a readily accessible general disconnect device shall be incorporated in the fixed wiring.

### This equipment **MUST** be earthed:

In order to protect against risk of electric shock, the installation should be properly grounded. Defeating the purpose of the grounding type plug will expose you to the risk of electric shock.

## 2.3 System requirements for the Control software

---

### Before you begin

Is assumed you are familiar with the Windows operating system at your site.

The CD-ROM in your package contains a Windows-based installation program. You can install the software from the CD-ROM.

### System requirements

Minimum specifications :

- Hardware
  - PC Pentium III or equivalent, 1 GHz
  - 512 Mb RAM
  - Free hard disk space: 300 Mb
  - XGA resolution (1024 x 768)
  - Serial communication port
- Software
  - Windows 2000, Windows XP Home or Windows XP Professional

Recommended specifications :

- Hardware
  - PC Pentium IV or equivalent, 2.4 GHz
  - 512 Mb RAM
  - 300 Mb hard disk free space
  - SXGA resolution (1280 x 1024) with 32 Mb video memory
  - Serial communication port
- Software
  - Windows XP Professional





## 3. COMPONENTS OF A FIXED ILITE DISPLAY

### System overview

The fundamental elements of a fixed ILite display are:

- Solid support structure (see "Mechanical requirements", page 8).
- ILite precision frames.
- ILite tiles.
- Power boxes.
- Digitizer.
- Control software.

### Block diagram of a fixed ILite display

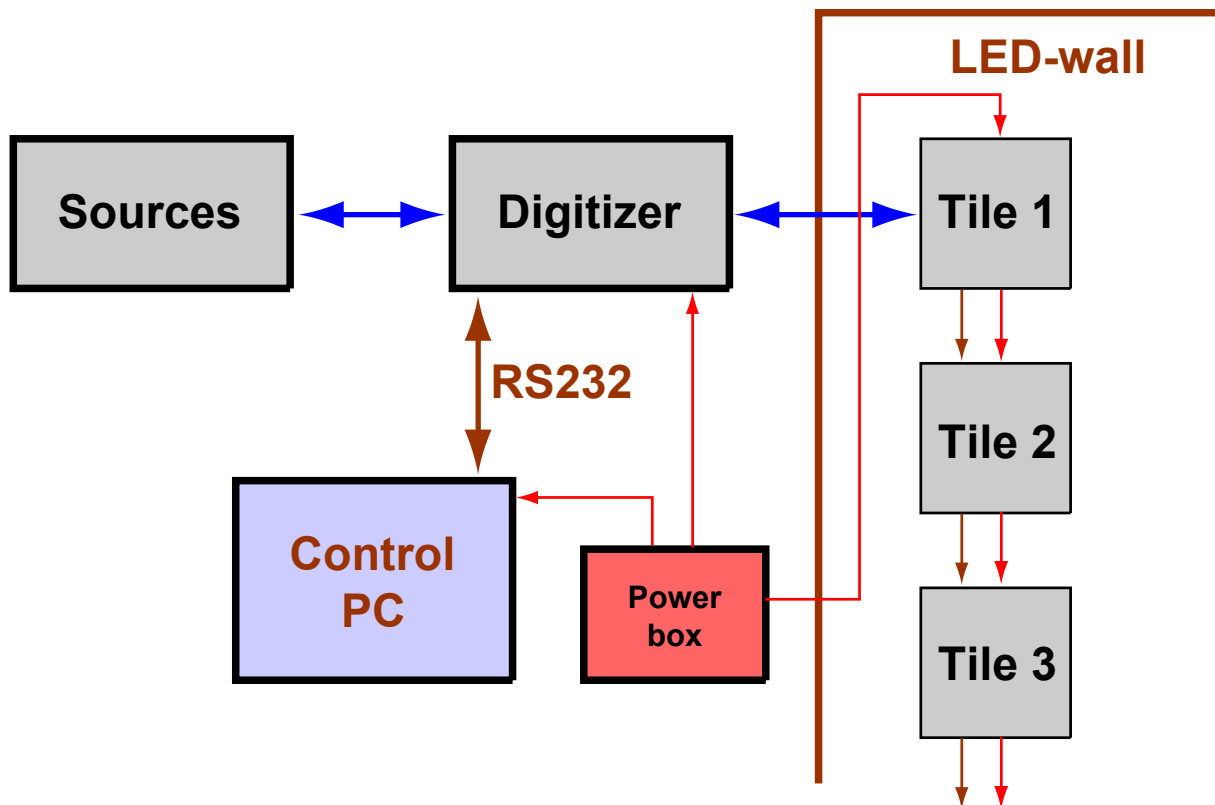


Image 3-1

### About this chapter

This chapter describes the typical components and accessories, used in a fixed ILite display, more in detail. For other, common used components in Barco LED displays like power boxes, digitizer, fiberlink, compact link and control software, we refer to the manual of these components for more information about use and installation.

### Overview

- ILite precision frames
- ILite tile
- Power boxes
- Digitizer
- Fiberlink system
- Control software

### 3.1 ILite precision frames

#### Introduction

The basic building blocks of an ILite display are the ILite precision frames. These precision frames, which are mounted and leveled upon a solid support structure, allow a fast and correct installation of the ILite tiles. Due to the multitude of possible screen sizes/configurations Barco offers six different sizes of precision frames. The size of the precision frames is expressed in a number of ILite tiles, which fit horizontally and vertically in such a frame:

- H2 x V2 (R9850780)
- H2 x V3 (R9850781)
- H3 x V2 (R9850782)
- H3 x V3 (R9850783)
- H3 x V4 (R9850784)
- H4 x V3 (R9850785)

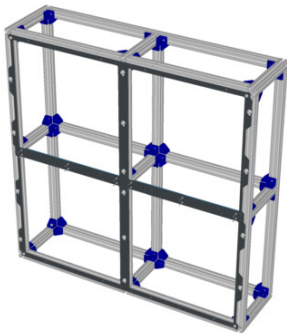


Image 3-2  
ILite precision frame H2 x V2 (R9850780)

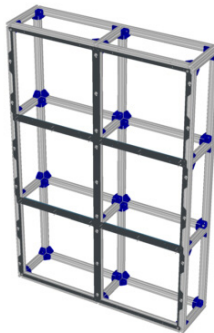


Image 3-3  
ILite precision frame H2 x V3 (R9850781)

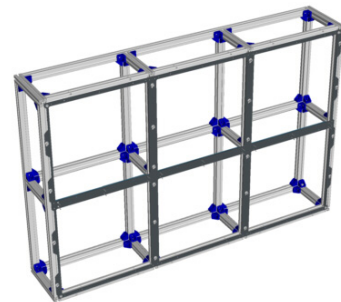


Image 3-4  
ILite precision frame H3 x V2 (R9850782)

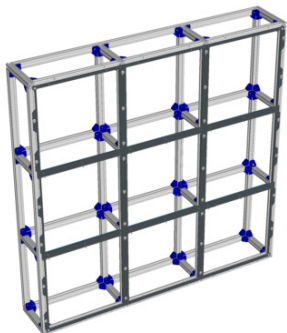


Image 3-5  
ILite precision frame H3 x V3 (R9850783)

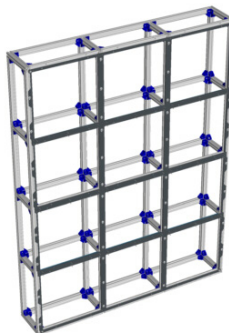


Image 3-6  
ILite precision frame H3 x V4 (R9850784)

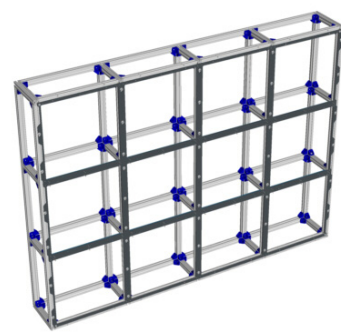


Image 3-7  
ILite precision frame H4 x V3 (R9850785)



**CAUTION:** ILite precision frames are only to be used in conjunction with Barco ILite tiles.



**CAUTION:** Handle the precision frames with care. Do not walk on or drop the frames. Never bang with a hammer or other heavy duty tools on the precision frames. Never use the precision frames to climb onto the ILite display.

### Recognizing the top side of the ILite precision frames

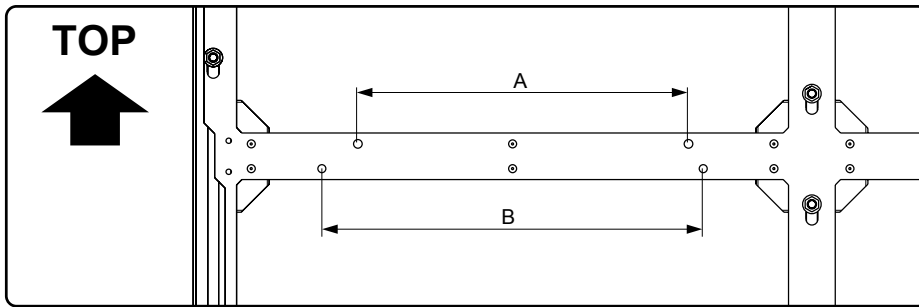


Image 3-8

### Fixation plate and brackets

Barco provides fixation plates to attach the ILite precision frames to the support structure. Each fixation plate is standard equipped with two brackets and six shim plates (0.5 mm, 1 mm and 2 mm thickness), which can be used to level the precision frames.

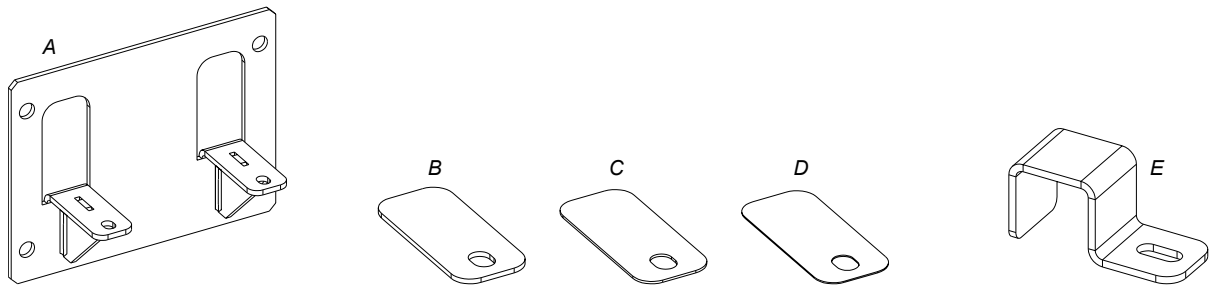


Image 3-9  
ILite fixation bracket (R9851450).

- A Attachment plate.
- B 2 mm shim plate.
- C 1 mm shim plate.
- D 0.5 mm shim plate.
- E Bracket.

### Understanding the positioning code of the ILite precision frames

Each precision frame is coded with a letter followed by two numbers. The letter indicates the ILite display to which this precision frame is part of (very useful in case there is more than one ILite display to install at the same location). The first number indicates the row in which to assemble, the second indicates the column. This code starts counting from the bottom left corner of the ILite display.

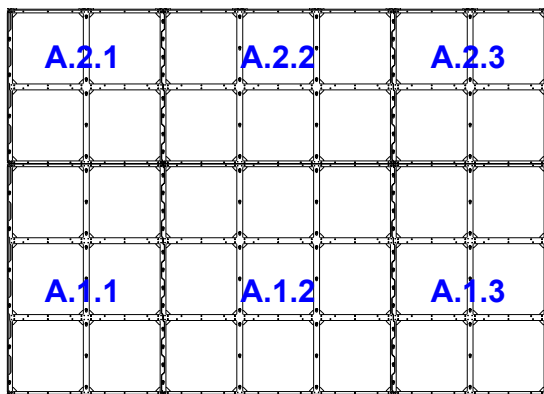


Image 3-10  
ILite display H7 x V5 precision frames positioning codes.

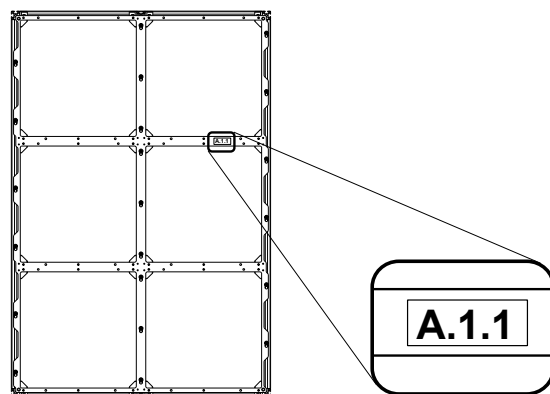


Image 3-11  
Location of positioning code on an ILite precision frame.

### Left and/or bottom side removal of the ILite precision frames

For transport reasons all the precision frames are delivered with all the sides attached. To join two assembly blocks together, one of the two sides at the adjoining edge, has to be removed.

Either none, one or two sides of the precision frame have to be removed, depending on its location in the complete wall assembly. The sides that need to be detached are either the left side or the bottom side or both, because the ILite display is build from left to right and bottom to top.

### 3. Components of a fixed ILite display

---

- No sides need to be detached from the first precision frame, which is located in the lower left corner of the ILite display.
- From the precision frames located in the bottom row of the ILite display only the left side needs to be detached.
- From the precision frames located in the left column of the ILite display only the bottom side needs to be detached.
- From all other precision frames in the ILite display as well the left as the bottom side need to be detached.

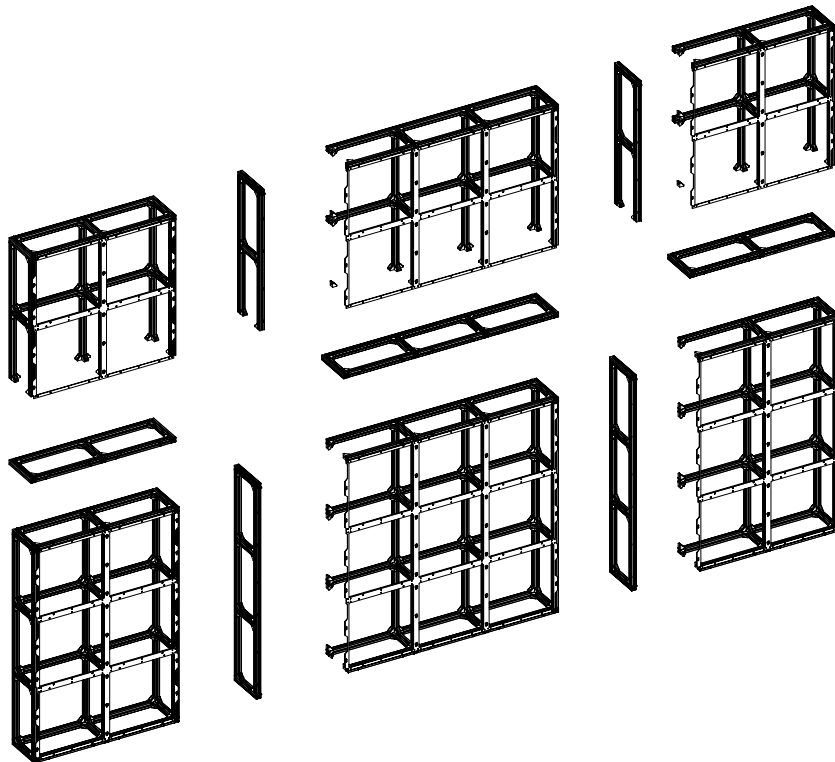


Image 3-12



**Keep one corner bracket available after removing the left and the bottom side of the same precision frame. You will need this corner bracket while installing the precision frame into the LED-wall assembly.**

---

## 3.2 I Lite tile

### Introduction I Lite tile

The I Lite display is delivering a quality picture of a video cube without its inherent technology limits as hotspot-effect, jailhouse-effect, alignment problems and low contrast level. But offering shallow depth, long lifetime, increased ruggedness and incredible picture dynamics. Built-in intelligence provides for auto-calibration of the full display, hot swap of tiles and diagnostic capabilities. An embedded PC equips every I Lite tile, providing it with intelligence and advanced logic handling capabilities. This PC is the host of a great deal of the added value offered by the I Lite. An extreme fill factor and high resolution offers a full color blended picture at distances smaller than 3 meters. Half of the full brightness is still perceived at angles of 145° from the surface of the display.

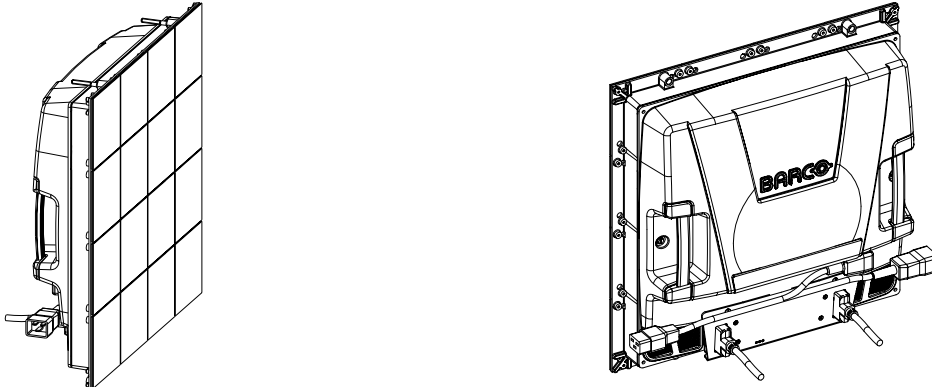


Image 3-13  
I Lite tile.

### Functionality

All tiles in an I Lite display are connected in series via a data path. The physical location of a tile in the data path does not matter because within the I Lite display all tiles are equal. But the data path must be created in a daisy chain manner. Each tile picks out a part of the video information of the data stream on the data path and processes this information for displaying on its LED's.

The I Lite tiles need to be powered up with a supply voltage of 200-240 VAC, 50-60 Hz, 1.45 amps at 230 VAC.

### Re-sync unit

Every tile contains a re-sync unit (A) which can easily be removed. The re-sync unit synchronizes the incoming data stream and sends it to the next tile. The data ports (B) on the re-sync unit are bidirectional. So, it doesn't matter on which port the data is coming in, the re-sync unit switches the functionality of the data ports spontaneously between input and output. Furthermore the re-sync unit is equipped with status LED's (C) for diagnostic purposes.

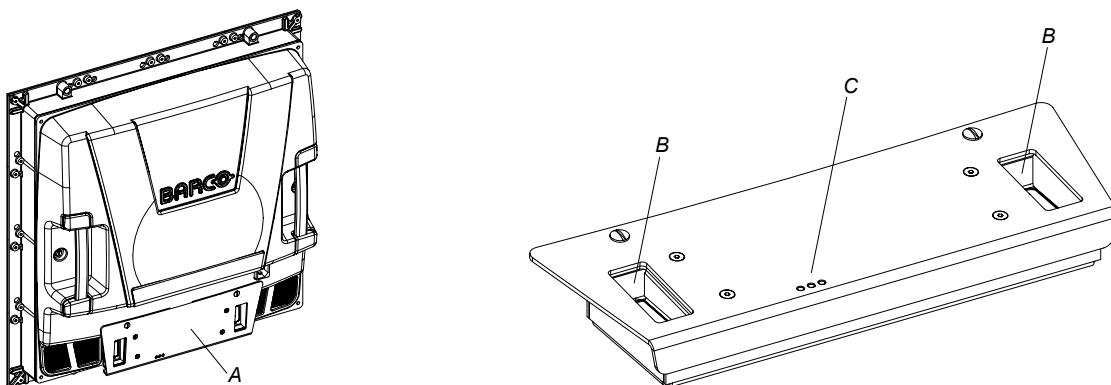


Image 3-14  
A Re-sync unit (R9851520); B Data ports; C Status LED's.



**The re-sync unit can easily be removed from the I Lite tile without disconnecting the data cables. This allows a hot swap of the I Lite tile.**

### Cables used with I Lite tiles

The display tile is provided with power via a power split cable with a C13 plug. Data cabling between tiles is done with a DVI-DVI data cable of 0,9 meter.

### 3. Components of a fixed ILite display

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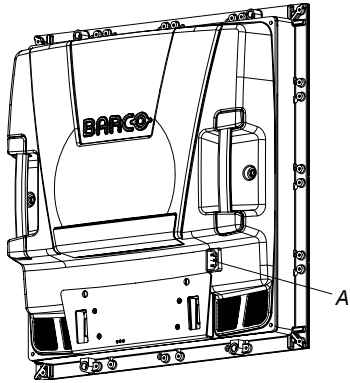


Image 3-15  
A : Power input (C14 socket).



Image 3-16  
Power split cable (R9851130).



Image 3-17  
DVI-DVI data cable of 0,9 meter (R9851211).

### 3.3 Power boxes

#### General

To ensure safe and reliable operation of the ILite display, a suitable system for AC power distribution must be used. Though 3<sup>rd</sup> party solutions may be used, several sizes and types of power distributions are available from Barco. For smaller system the "Mono Phase Power Box" can be used, medium sized system may use on of several custom power box solutions. We also offer power distribution systems in a flight case for rental and touring applications.



Image 3-18  
Mono phase power box.



Image 3-19  
Custom power box.



Image 3-20  
Rental power box.



**CAUTION:** Refer to the manual(s) of the used power box for more information about installation and usage guidelines.

### 3.4 Digitizer

---

#### General

The digitizer processes (image processing, conversion and conditioning) all source signals for digital distribution to every tile. The digitizer can be accessed directly or via the control software (e.g. Director toolset). This software is designed as a user interface to be used in conjunction with the digitizer and display. It can be used on a PC that's connected to the digitizer through a serial RS232 connection.

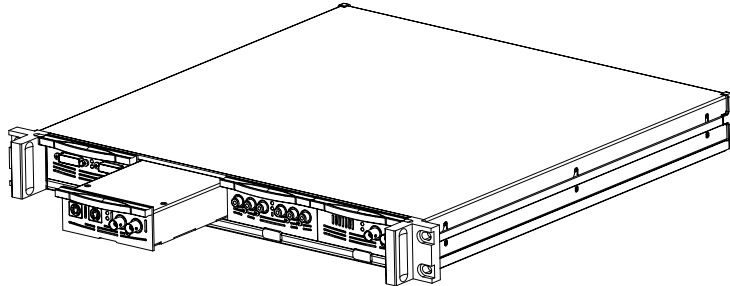


Image 3-21  
D320 PL digitizer.



**CAUTION:** Refer to the manual(s) of the used digitizer for more information about installation and usage guidelines.

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### 3.5 Fiberlink system

#### General

If the distance between the digitizer and the LED-wall exceeds 5 meters, a fiber optic connection must be used to ensure signal integrity and system reliability. Barco offers two complete system solutions including transmitter, fiber and receiver. The choice of system depends on the length of cable required.

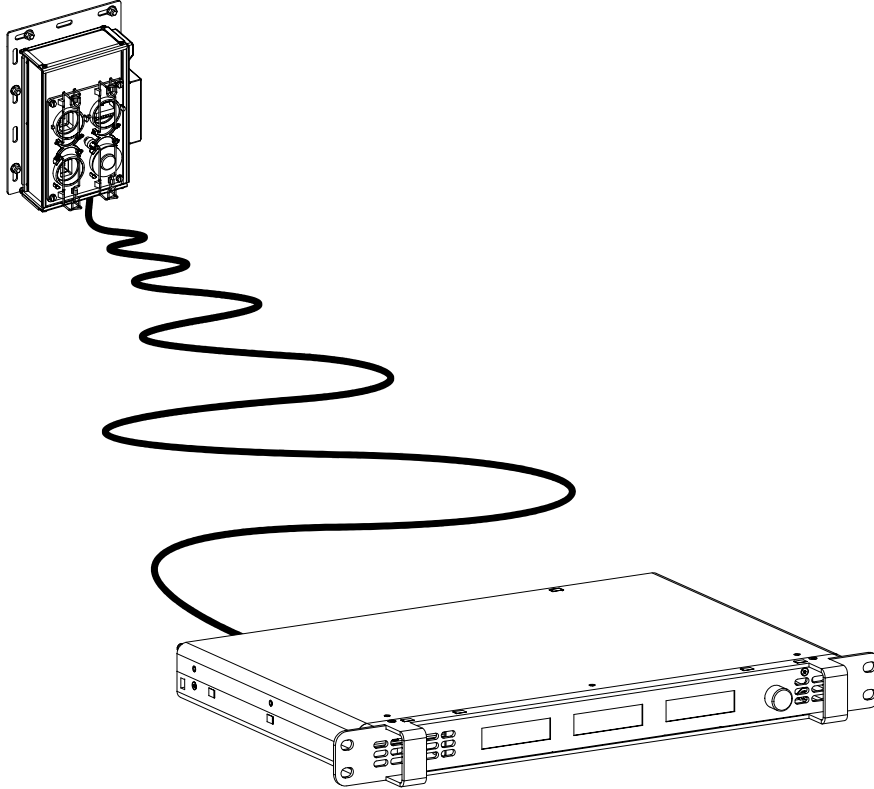


Image 3-22  
"Fiberlink 2" transmitter and receiver.



**CAUTION:** Refer to the manual(s) of the used fiberlink system for more information about installation and usage guidelines.

### 3.6 Control software

---

#### General

The control software is designed as a graphic user interface (GUI) and can be used to control and configure the digitizer as well as the Barco LED wall via a PC (e.g. Director toolset).

Minimum required software version: 1.06



Image 3-23  
Control software "Director toolset".



**CAUTION:** Refer to the manual(s) of the used control software for more information about installation and usage guidelines.

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## 4. PHYSICAL INSTALLATION

### About this chapter

The setup process below describes roughly the installation stages to follow to install the ILite display. Several stages refer to one or more detailed and illustrated procedures which are also described in this chapter.



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**WARNING: Safety first. Fence off the installation area before starting to install your ILite display. Ensure you read, understand and follow all safety instructions mentioned in the chapter "Safety", page 3, of this installation manual. Furthermore, make sure that all installation requirements for your ILite display are fulfilled, see "Installation requirements", page 7.**

---

### Setup process

1. The first stage in the process is the installation of all precision frames. This is done in three phases:
  - a) Fastening the fixation plates, which will support the precision frames, to the support structure. See detailed procedure "Installing the fixation plates", page 24.
  - b) Removing left and/or bottom side of precision frame. Either none, one or two sides of the precision frame have to be removed, depending on its location in the complete wall assembly. The sides that need to be detached are either the left side or the bottom side or both, because the ILite display is built from left to right and bottom to top. See procedures "Removing the left side of a precision frame", page 25, and "Removing the bottom side of a precision frame", page 27.
  - c) Positioning and securing of a precision frame. See chapter "Aligning and securing of an ILite precision frame", page 28.
2. The second stage in the process is the installation of the ILite tiles, see chapter "Mounting the ILite tiles", page 32.
3. The next stage is the power and data cabling of the ILite display, see chapter "Cabling of an ILite display", page 37.
4. Installation of the power boxes. Follow the installation guidelines in the manuals of these products.
5. Installation of the digitizer and, if required, the fiber link receiver or compact link. and/or AEC. Follow the installation guidelines in the manuals of these products.
6. Installation of the control software for the ILite display. See installation procedure described in the manual of the control software.
7. Energize the ILite display and start up the control software. For more information about showing content on the ILite display see manual of the control software.

### Overview

- Installing the fixation plates
- Removing the left side of a precision frame
- Removing the bottom side of a precision frame
- Aligning and securing of an ILite precision frame
- Installing the precision frames onto the support structure
- Mounting the ILite tiles
- Z-alignment of the ILite tiles

## 4.1 Installing the fixation plates

### Attachment points and fixation plates

As described in chapter "Mechanical requirements", page 8, the support structure has to be provided with attachment points, whereon fixation plates can be mounted, which will support the precision frames. Note that each fixation plate is equipped with two brackets and several shim plates.

### Necessary tools

17 mm wrench.

### Necessary parts

- One fixation plate per attachment point.
- Four M10 nuts and bolts (or equivalent) per fixation plate.

### How to install the fixation plates onto the support structure ?

1. Fasten the fixation plate (C) against an attachment point (B) of the support structure (A) as illustrated, using four M10 bolts and nuts.

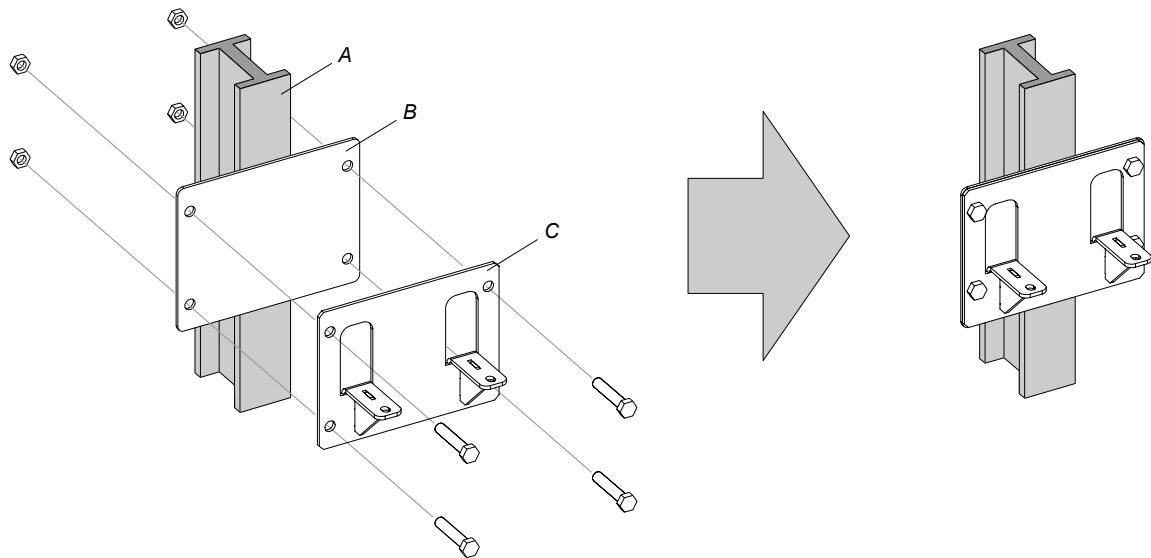


Image 4-1

2. Repeat step 1 until all attachment points are provided with a fixation plate.

## 4.2 Removing the left side of a precision frame



This procedure is applicable to all available sizes of ILite precision frames.

### Necessary tools

- 4 mm Allen key.
- 8 mm wrench.
- 10 mm wrench.

### How to remove the left side of a precision frame ?

1. Remove the hammer bolts at the left front side of the ILite precision frame, which secure the left side of the precision frame with the precision plate. Use for that a 10 millimeter wrench.

**Note:** Two hammer bolts have to be removed per tile height. So, for a 3 x 3 precision frame as illustrated below, 6 hammer bolts have to be removed.

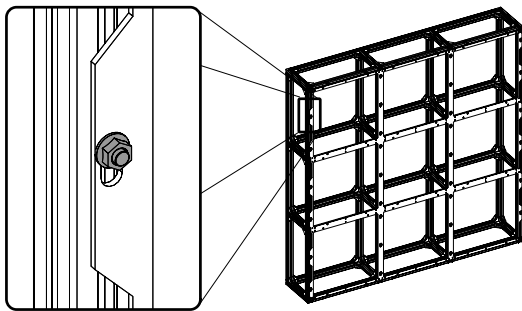


Image 4-2

2. Remove the self-drilling screw (B) in the left top and left bottom corner of the precision frame as illustrated. Use for that an 8 millimeter wrench.

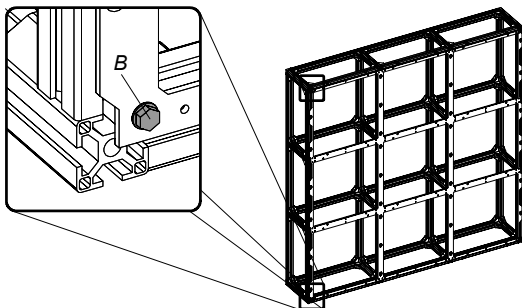


Image 4-3

3. Remove only the hexagon bolts in the corner brackets that secure the left side of the precision frame.
4. Remove the left side of the precision frame.

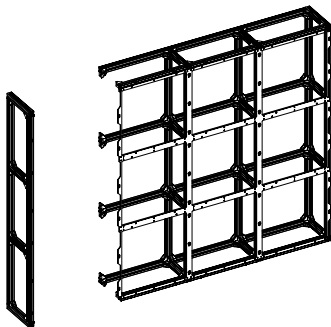


Image 4-4

5. Is the final destination of this precision frame located in the bottom row of the ILite display?  
If yes, do not shift the corner brackets.  
If no, shift all corner brackets at the left side of the precision frame about three centimeters to the right by loosening the hammer bolts.

#### 4. Physical installation

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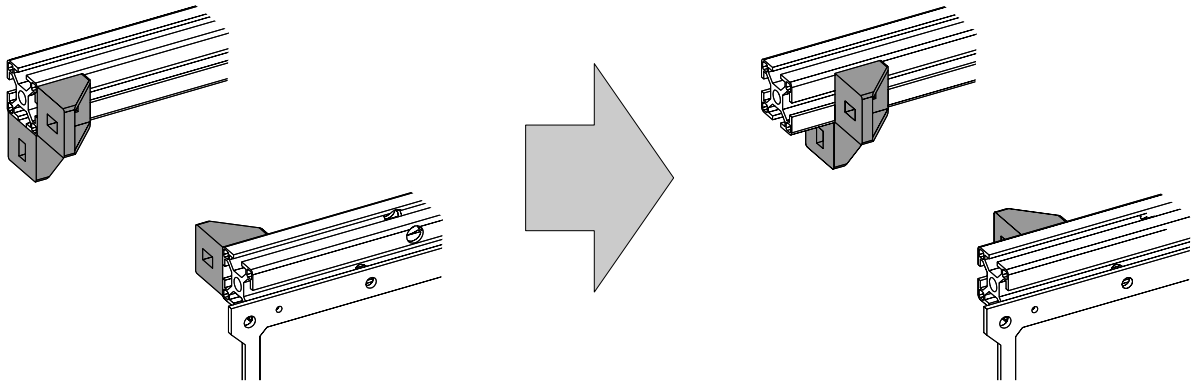


Image 4-5



The 3 cm shift is necessary because otherwise it would be impossible to place the precision frame against both (left and bottom) adjoining precision frames. After placement of the precision frame into the LED-wall, the corner brackets are replaced to their original position and secured with the adjoining precision frames.

### 4.3 Removing the bottom side of a precision frame



This procedure is applicable to all available sizes of ILite precision frames.

#### Necessary tools

- 4 mm Allen key.
- 8 mm wrench.

#### How to remove the bottom side of a precision frame ?

1. Remove the self-drilling screw (B) in the left bottom and right bottom corner of the precision frame as illustrated. Use for that an 8 millimeter wrench.

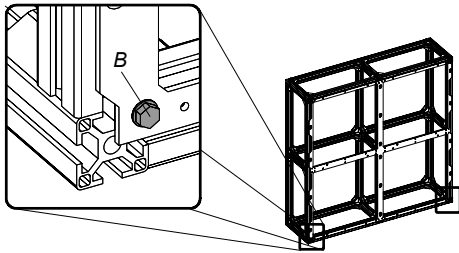


Image 4-6

2. Remove only the hexagon bolts in the corner brackets that secure the bottom side of the precision frame.
3. Remove the bottom side of the precision frame.

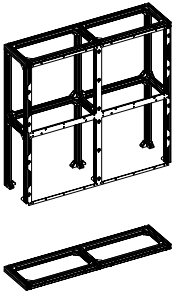


Image 4-7

## 4.4 Aligning and securing of an ILite precision frame

### What needs to be done ?

The first precision frame has to be levelled and secured to the support structure with fixation brackets. The next precision frames have to be aligned with the previous installed precision frame(s), then attached to each other and finally secured to the support structure with fixation brackets.

### Necessary tools

- 4 mm Allen key.
- 13 mm nut driver.
- Laser level.

### Necessary parts

- Two fixation brackets per fixation plate.
- Two M8 nuts and bolts per fixation plate.
- Shim plates.

### How to position and secure a precision frame on the support structure ?

1. Place the precision frame into position upon the fixation plates.
2. Is this the first precision frame?  
If yes, level out the precision frame (C) by placing shim plates (D) between the precision frame and fixation plate.

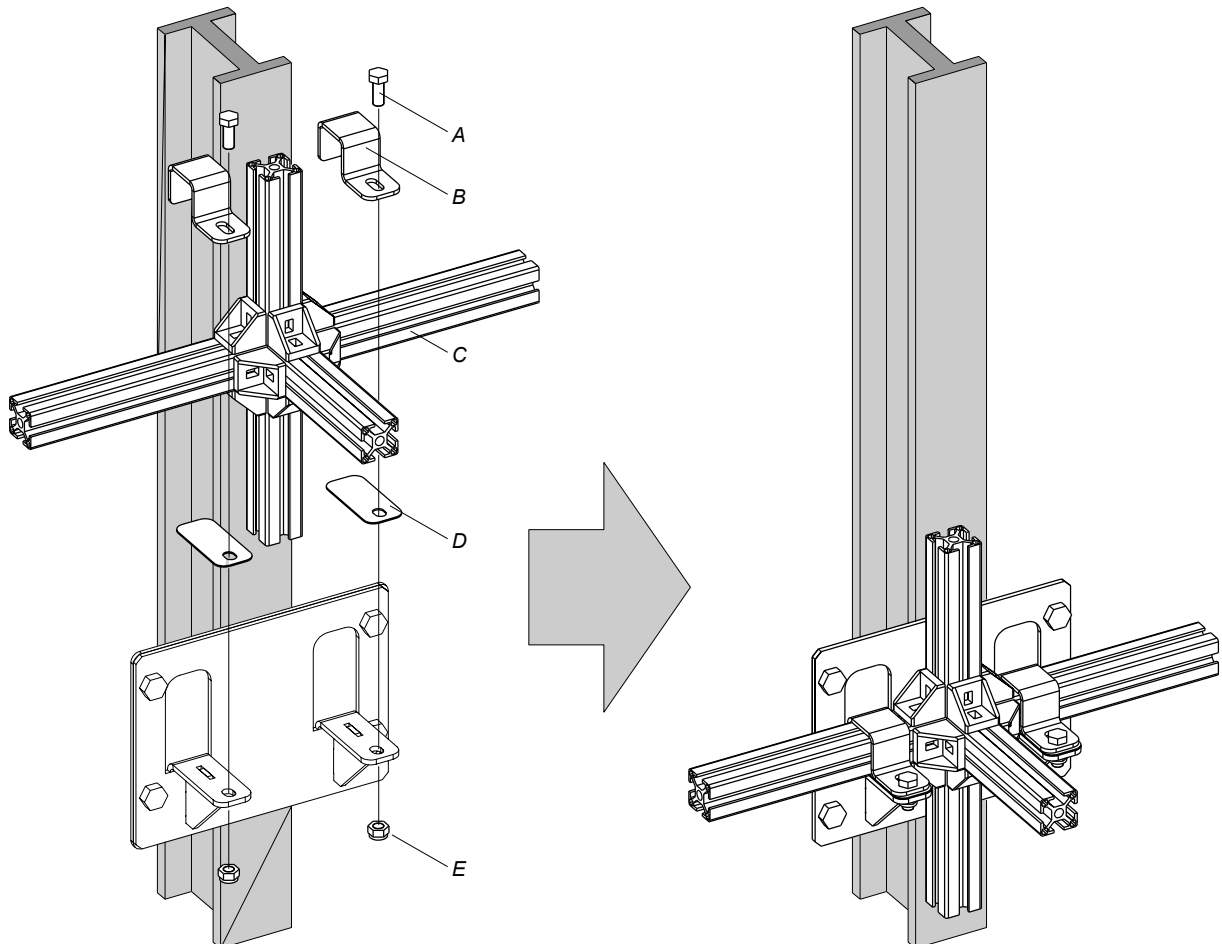


Image 4-8

If no, align the precision frame with the previous installed precision frame by placing shim plates between the precision frame and fixation plate. Ensure that the corner brackets of the precision frame match with the previous installed precision frame(s) at the left side and/or at the bottom side.

3. Install two fixation brackets (ref B image 4-8) per fixation plate using two M8 bolts (ref A image 4-8) and nuts (ref E image 4-8).  
**Caution:** Do not fasten yet. First align and secure the precision frame with the neighboring frames before fastening the precision frame with the fixation plates of the support structure.
4. Fasten all adjoining corner brackets (B) at the left side and/or at the bottom side of the precision frame. For correct alignment of the precision frames it is important that all basic connection joints between the precision frames are properly done. Such a basic connection joint consist of two aluminium profiles (D), one corner bracket (B), two hammer nuts (A) and bolts (C). Ensure that:



- a) both hammer nuts (A) have turned the complete 90 degrees.
- b) there is no gap between the two profiles (D).
- c) the sides of both profiles are in the same plane.
- d) the angle between the profiles is 90 degrees.

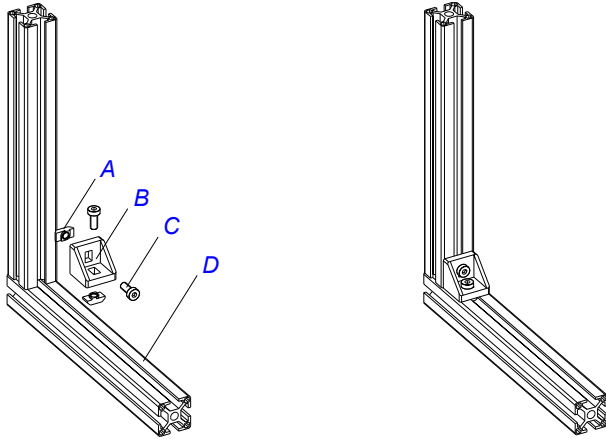


Image 4-9

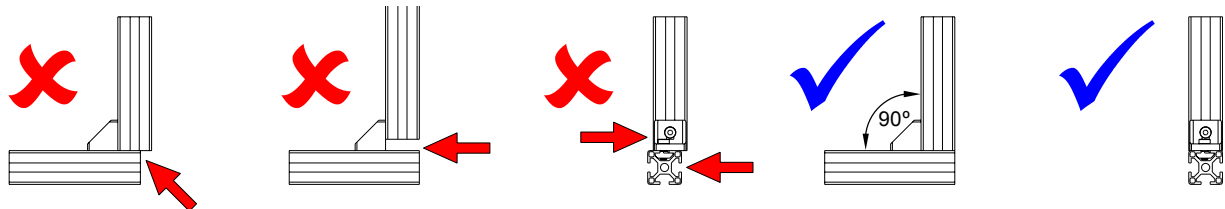


Image 4-10

**Note:** Do not forget to reinstall the two corner brackets, which were removed while detaching the **left and bottom side** of the precision frame.

5. Fasten the nuts (ref A image 4-8) and bolts (ref E image 4-8) of the fixation brackets (ref B image 4-8). Note that the fixation brackets have slots to allow depth alignment of the precision frame.

## 4.5 Installing the precision frames onto the support structure

### What needs to be done ?

After the support structure is correctly installed and provided with the necessary attachment points for the ILite precision frames, you can start with fastening the precision frames one by one to the support structure. This is done row by row from left to right and from bottom to top (facing the front of the ILite display to be built). The procedure below describes how to build up the framework for an 7 x 5 ILite display. Note that the same procedure is applicable for other sizes of ILite displays as well.



**CAUTION:** Handle the precision frames with care. Do not walk on or drop the frames. Never bang with a hammer or other heavy duty tools on the precision frames. Never use the precision frames to climb onto the ILite display.

### Necessary tools

- 4 mm Allen key.
- 17 mm nut driver.
- 13 mm nut driver.
- Laser level.

### How to install the precision frames to the support structure ?

1. Provide each attachment point of the support structure with a fixation plate. See detailed procedure "Installing the fixation plates", page 24.
2. Place the first precision frame upon the fixation plates in the lower left corner of the support structure, level out the precision frame in all directions and fasten with attachment brackets to the support structure. See detailed procedure "Aligning and securing of an ILite precision frame", page 28.

**Note:** Make sure that the top side of the precision frame is upwards oriented.

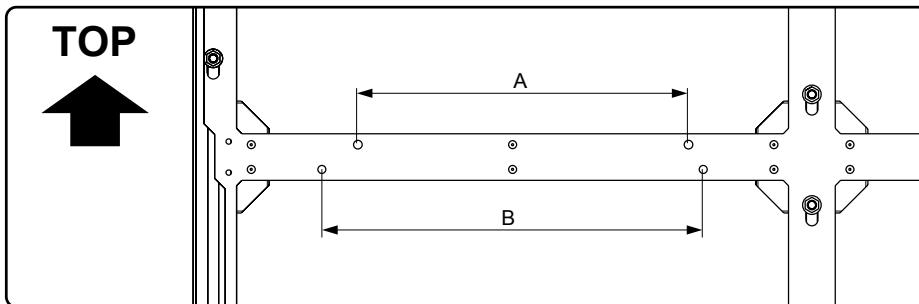


Image 4-11

3. Prepare the next precision frame by removing the left and/or bottom side of the frame, see procedure "Removing the left side of a precision frame", page 25, and procedure "Removing the bottom side of a precision frame", page 27.
4. Place the prepared precision frame into position on the support structure. See "Aligning and securing of an ILite precision frame", page 28. Remember that the precision frames are placed row by row from left to right.
5. Repeat from step 3 until all precision frames are installed.

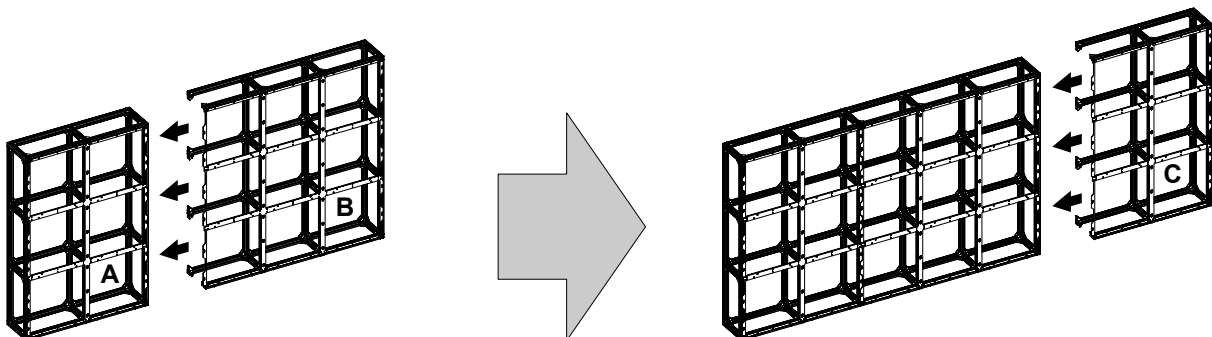


Image 4-12

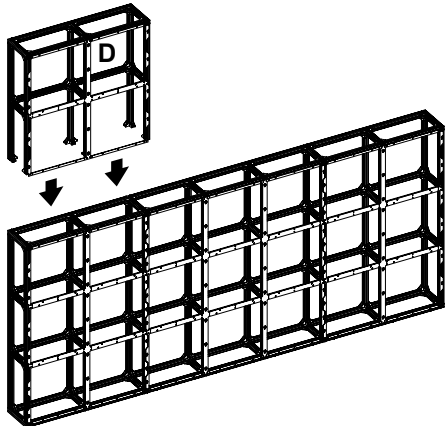


Image 4-13

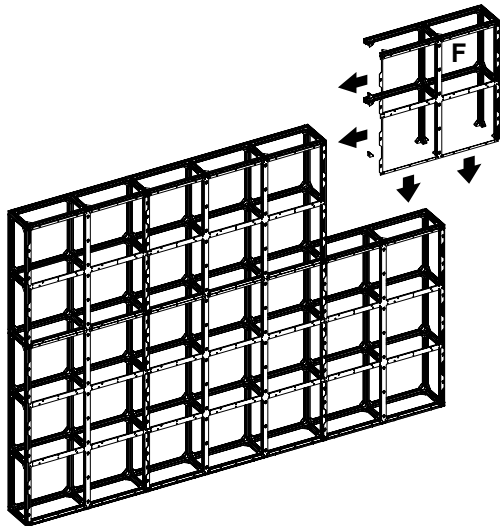
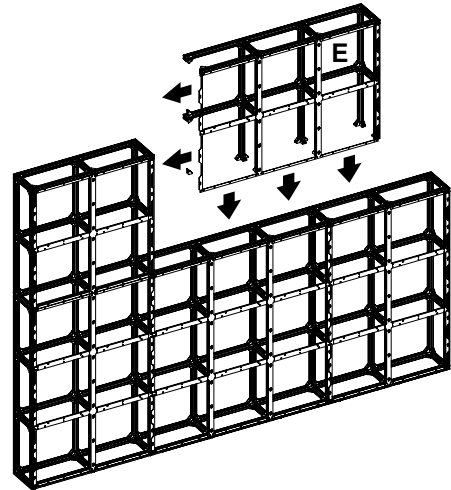
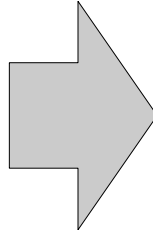
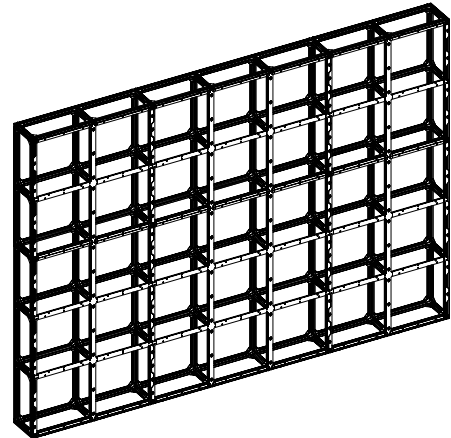
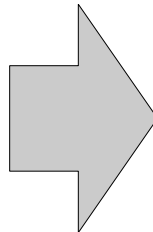


Image 4-14



## 4.6 Mounting the ILite tiles

### Necessary tools

- 13 mm wrench.
- 10 mm wrench.

### Necessary parts

- Four tile fixation bolts per tile (R822514).
- Four tile lock nuts per tile (R822208).

### How to mount the ILite tiles into the wall assembly ?

1. Is the ILite tile provided with four tile fixation bolts?  
If yes, proceed with next step.  
If no, insert four fixation bolts (A) at the back of the ILite tile as illustrated. One bolt in each corner. Use a 13 mm wrench to fasten the bolts.

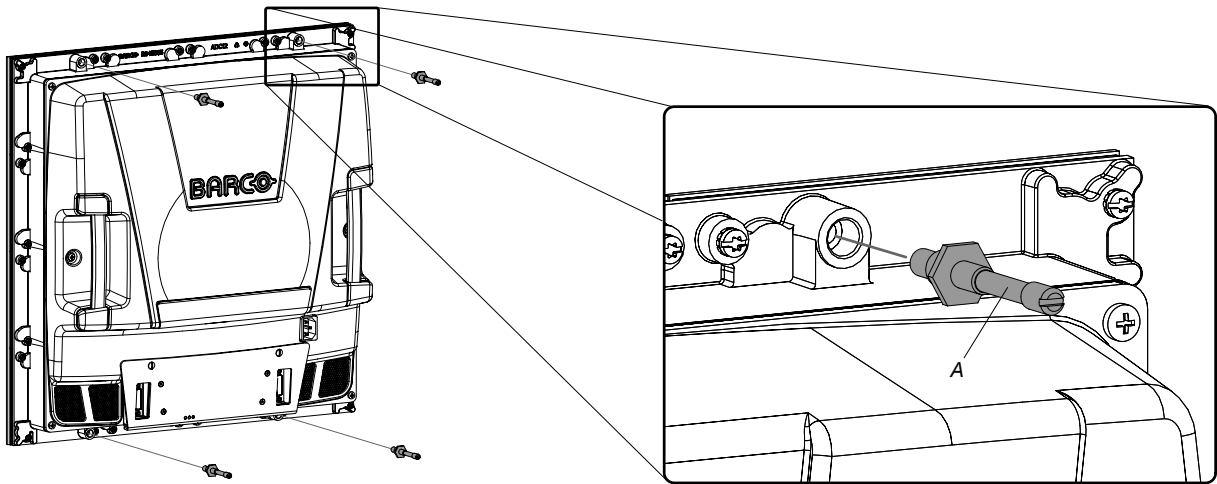


Image 4-15

2. Place the ILite tile into the wall assembly by guiding the fixation bolts (ref A image 4-15) through the corresponding positioning holes of the wall assembly.

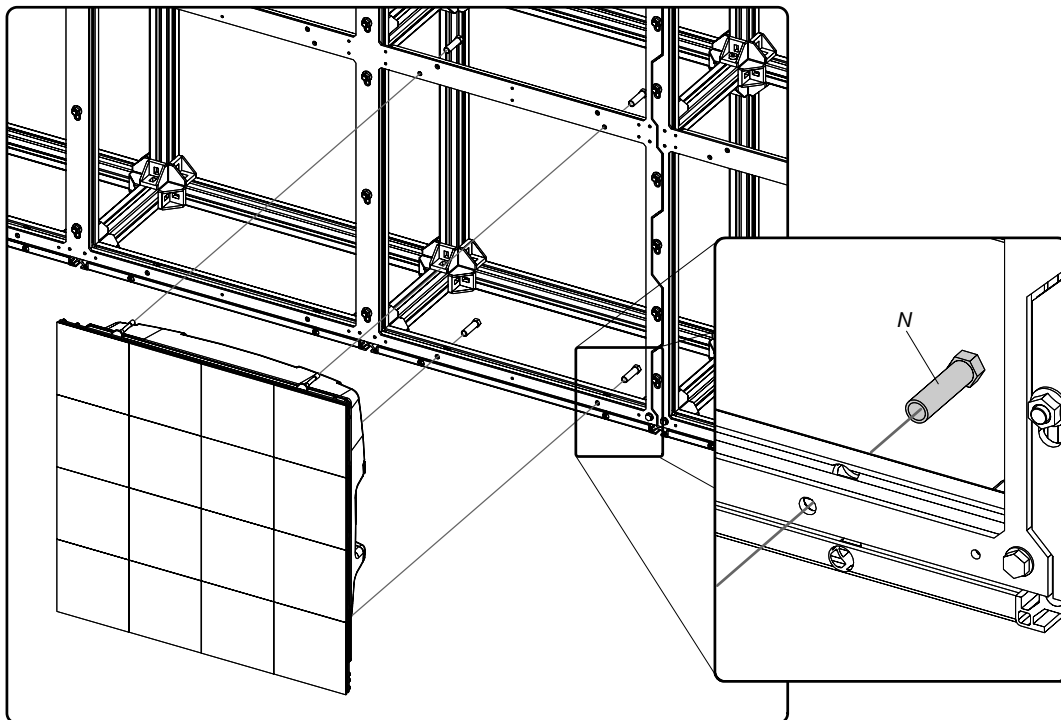


Image 4-16

**Caution:** The final approach of the tile into the precision frame must be at right angle.

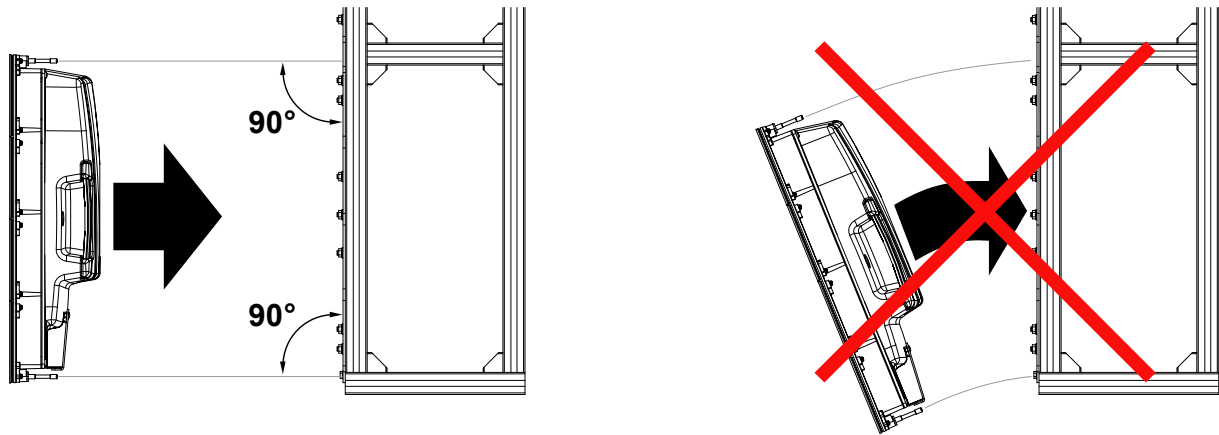


Image 4-17

3. Fasten the ILite tile with four tile fixation nuts (ref N image 4-16).
4. Repeat from step 1 until all ILite tiles are mounted.



In case there is no back access to the ILite display you have to realize the tile power and data cabling simultaneously while mounting the ILite tiles.



It can happen that after installation some tiles are not correctly aligned in depth due to tolerances. The design of the tile fixation bolt and tile fixation nut allows a small correction in depth. This correction is called "Z-alignment".

## 4.7 Z-alignment of the ILite tiles

### Z-alignment

It can happen that after installation some tiles are not correctly aligned in depth due to tolerances. The design of the tile fixation bolt and tile fixation nut allows a small correction in depth. This correction is called "Z-alignment".



Image 4-18  
A: Tile fixation nut, B: Tile fixation bolt with Z-alignment functionality.

The correction exists in moving the most inner corner of the tile in the LED-wall forward by adjusting the tile fixation bolt in the corresponding corner. The maximum allowed adjustment is 1 millimeter which corresponds with one full turn (360°) counterclockwise of the tile fixation bolt (seen from the rear of the tile).

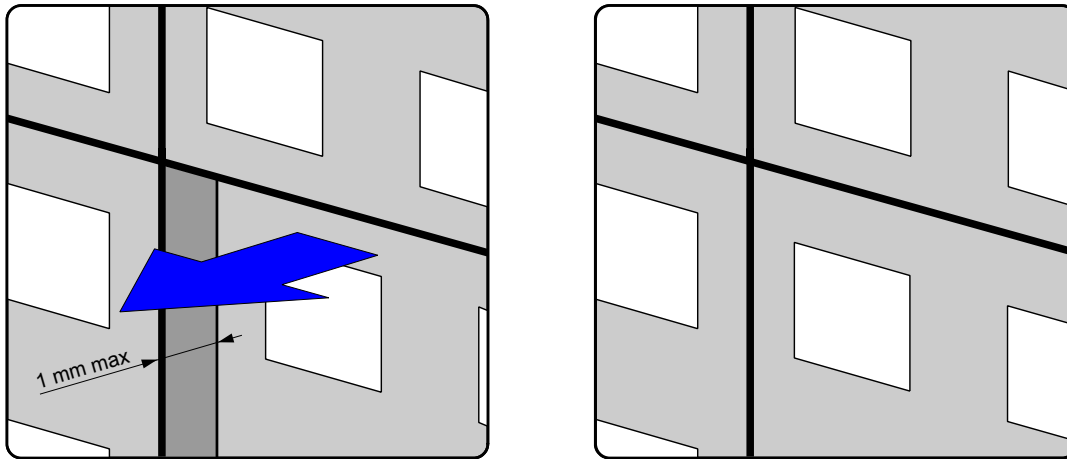


Image 4-19  
Maximum 1 millimeter adjustment of the most inner tile corner.

### Necessary tools

- Small flat blade screwdriver.
- 10 mm nut driver.

### How to align the ILite tiles in the Z-direction ?

1. Release the tile fixation nut of the most inner corner of the tile. Use 10 mm nut driver.

**Note:** It's not necessary to remove the tile fixation nut, just loosen.

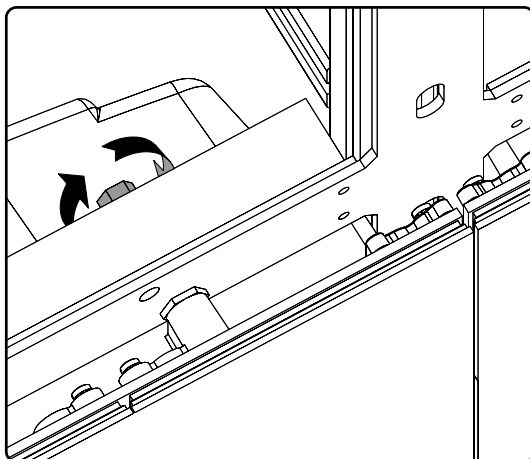
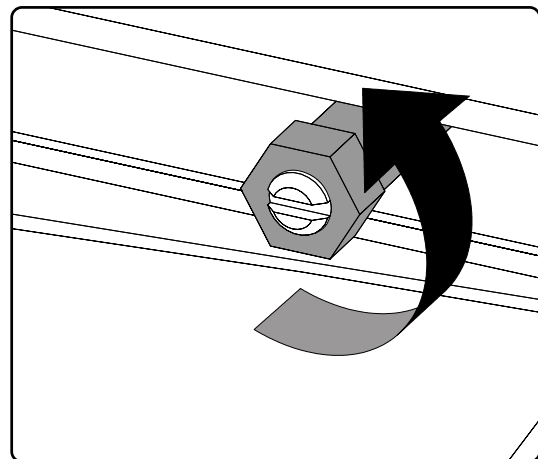


Image 4-20



- Turn the tile fixation bolt, with released fixation nut, counterclockwise until the front of the tile is aligned with the front of the neighboring tiles. Use a small blade screwdriver.

**Warning:** The maximum allowed adjustment range is 1 millimeter which corresponds with a 360° turn counterclockwise of the tile fixation bolt. Turn the tile fixation bolt as far as possible clockwise to know the start position of the 360° turn.

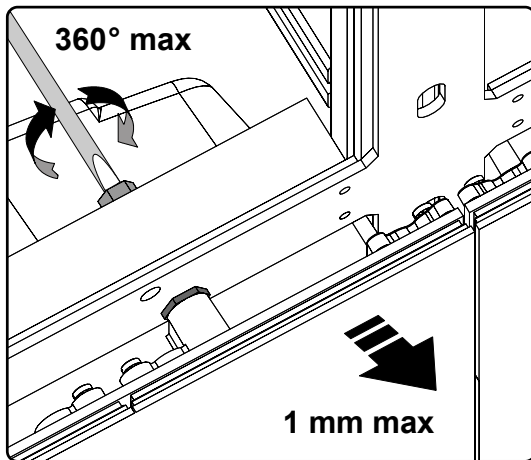
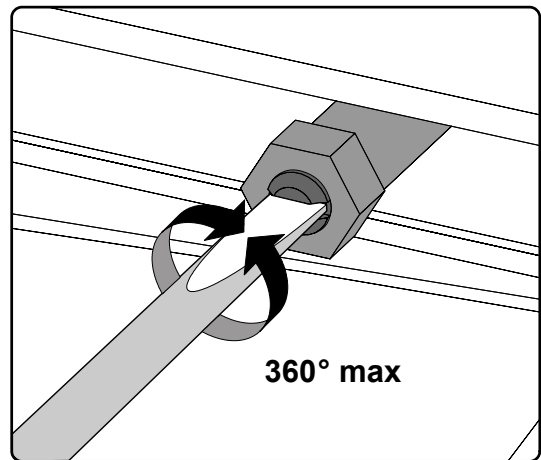


Image 4-21



- Fasten the tile fixation nut.

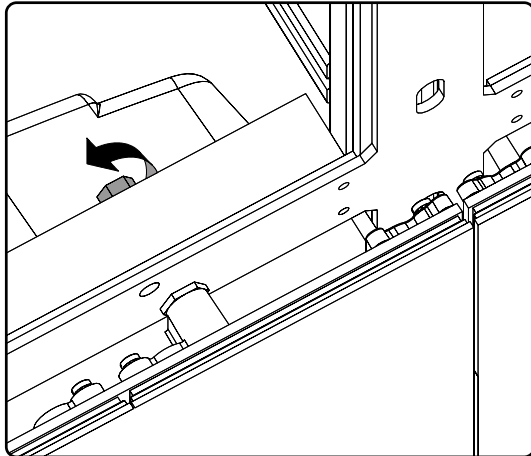
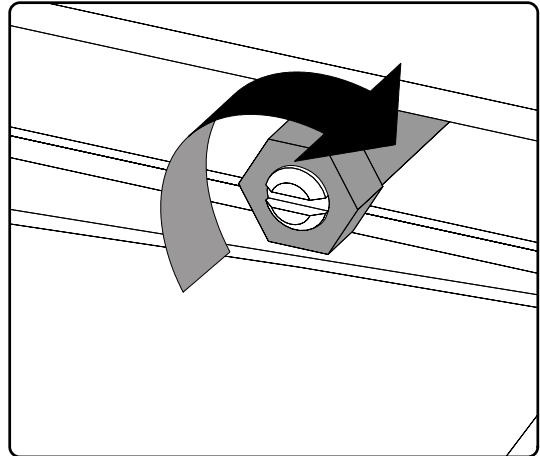


Image 4-22



In case one tile corner sticks out of the neighboring tiles, check if the tile fixation bolt of that corner is fastened (as far as possible turned clockwise). Sometimes, due to vibrations during transport, some tile fixation bolts can get loose.





## 5. CABLING OF AN ILITE DISPLAY

### Overview

- ILite tile connectivity
- Power cabling of an ILite display
- Data cabling of an ILite display

## 5.1 ILite tile connectivity

### Connectivity

There are three connection ports on the back of an ILite tile. One power input port and two bidirectional data ports. The data ports are located on the re-sync unit, which can easily be removed from the tile.

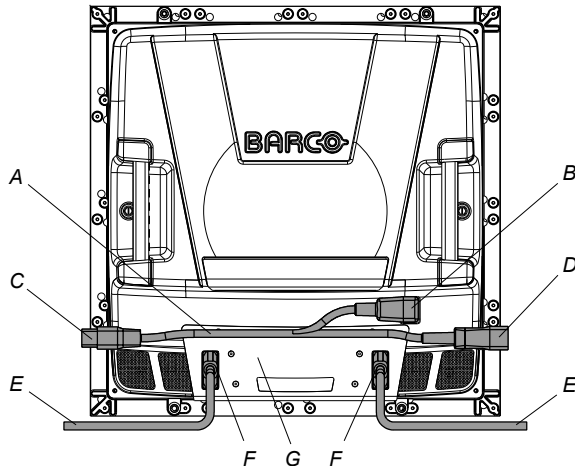


Image 5-1

- A Power split cable.
- B Power input port.
- C Power link to next tile (C19 plug).
- D Power link from previous tile (C20 plug).
- E Data linking cable.
- F Data input/output ports.
- G Re-sync unit.

The data ports consist of two DVI connectors (F). The re-sync unit (G) automatically detects the incoming signal on one of the two DVI connectors. The other DVI connector will automatically act as an output port. So, it doesn't matter on which DVI connector, left or right, the data is coming in. The ILite tile switches the functionality of the DVI connectors spontaneously between input and output. Barco provides short data linking cables with DVI plugs (E), which are used to realize the data path from tile to tile.

The power input connector consists of a C14 socket type. Barco provides ILite power split cables, which subdivide power from the power source to the ILite tile. One power split cable is required per ILite tile. The power split cable has a C13 plug (B), which fits directly into the power port of the tile, a C19 plug (C) and a C20 plug (D).

## 5.2 Power cabling of an ILite display

### Power boxes

Barco provides several types of power boxes. Depending on the size of the ILite display you can choose to use the mono phase power box or the custom made power box or the rental power box. The type of power box, does not influence the power cabling of the ILite display. See installation manual of the concerned power box for installation instructions.

### Plug types of power cables

The illustration below shows the three different kinds of plugs used on ILite power cables. Note that the ILite power split cable has all three different plug types (C13, C19 and C20).



Image 5-2

- A C13 plug. Fits into the C14 power socket of the ILite tile.
- B C19 plug (female).
- C C20 plug (male).



**WARNING: Risk of electric shock / Risk of fire: To protect against risk of fire caused by overloading of power cables, MAXIMUM six (6) tiles may be connected in parallel. Each power source cable supplying maximum six (6) tiles should be protected by a circuit breaker or fuses rated 16 A / 250 VAC (15 A / 250 VAC in the USA and Canada). Note that one ILite tile requires 200-240 VAC, 50-60 Hz, 1.45 amps at 230 VAC.**

### Necessary parts

- Power box(es) with matching cables.
- Power split cables.

### How to realize the power cabling of an ILite display ?

1. Install the power box nearby the ILite display. Ensure the power box provides as much power circuits as required to energize the display in a safe manner. If necessary, install several power boxes. See manual of the used power box for installation instructions.
2. Connect a power source cable coming from the power box with the C20 plug of an ILite power split cable.
 

**Note:** Depending on the type of used power box, a multi power cable in combination with a spider connector is inserted between the power box and the power source cable leading to the power split cable of the first ILite tile. See manual of the used power box to realize the cabling between power box and ILite display.
3. Connect the C13 plug of the power split cable with one of the tiles in the LED-display. Start with a tile at the bottom.
4. Connect another power split cable with the previously installed power split cable and plug the C13 plug into the power socket of the tile above.
5. Repeat step 4 until maximum six (6) tiles are connected with the same power source cable coming from the power box.
 

**Warning:** **Risk of electric shock / Risk of fire:** To protect against risk of fire caused by overloading of power cables, MAXIMUM six (6) tiles may be connected in parallel. Each power source cable supplying maximum six (6) tiles should be protected by a circuit breaker or fuses rated 16 A / 250 VAC (15 A / 250 VAC in the USA and Canada). Note that one ILite tile requires 200-240 VAC, 50-60 Hz, 1.45 amps at 230 VAC.

**Tip:** Create as much as possible vertical power branches of six (6) tiles high. Only include tiles of neighboring columns in case the power branch is less than six (6) tiles high.
6. Repeat from step 2 until all ILite tiles are provided with power.

Example of power cabling

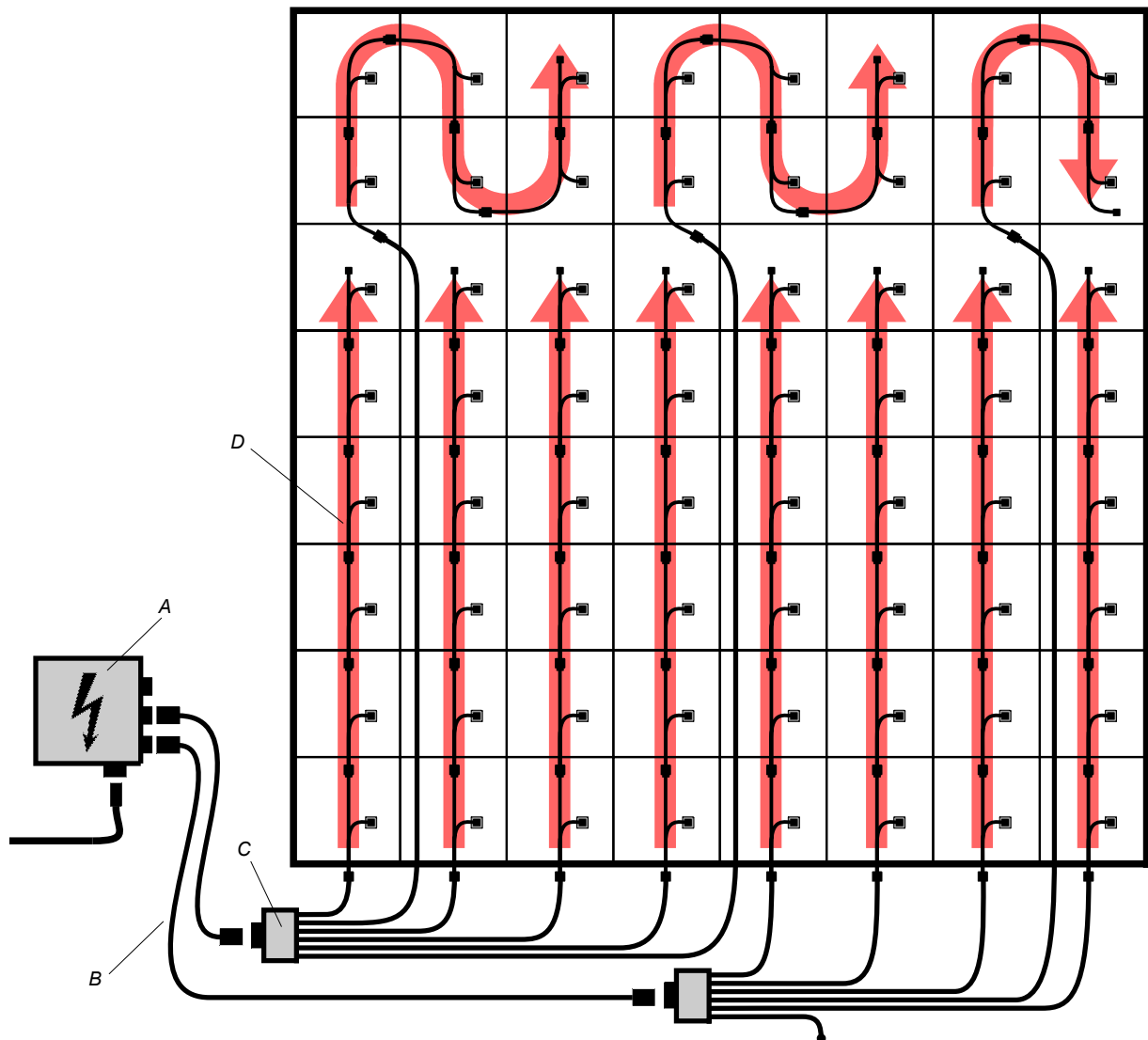


Image 5-3

The example above shows the power cabling of an eight by eight ILite display. The rental power box (A) is connected via a multi power cable (B) with a spider connector (C). Each spider output cable leads to a column of six (6) tiles. The power connection between the tiles is realized with power split cables (D). Note that the power branches of the two top rows exist of two or three columns of two tiles high.

### 5.3 Data cabling of an ILite display

#### Necessary parts

- One short data linking cable per tile.
- One long data linking cable (maximum 5 meter) per digitizer.

#### How to realize the data cabling of an ILite display ?

1. Connect the data linking cable, coming from the digitizer, with one of the two data ports on the re-sync unit of the first tile in the data path. The first tile must be one of the tiles in the corner of the ILite display.

**Note:** The maximum cable length between the digitizer and the first tile may not exceed 5 meter.

**Tip:** Use Barco's "Compact Link" or "Fiberlink" system to bridge a distance larger than 5 meter. For more information refer to the manual of these systems.

2. Complete the data path of the display by connecting all following tiles with data linking cables to each other in a daisy chain manner. This daisy chain linking can be realized either in horizontal, which is recommended, or in vertical direction.

**Note:** Only one data port is used of the last tile in the data path.

3. Specify in the setup controlling software how the data path is realized (horizontal or vertical) and which tile is the first in the chain.

#### Example of data cabling of an ILite display

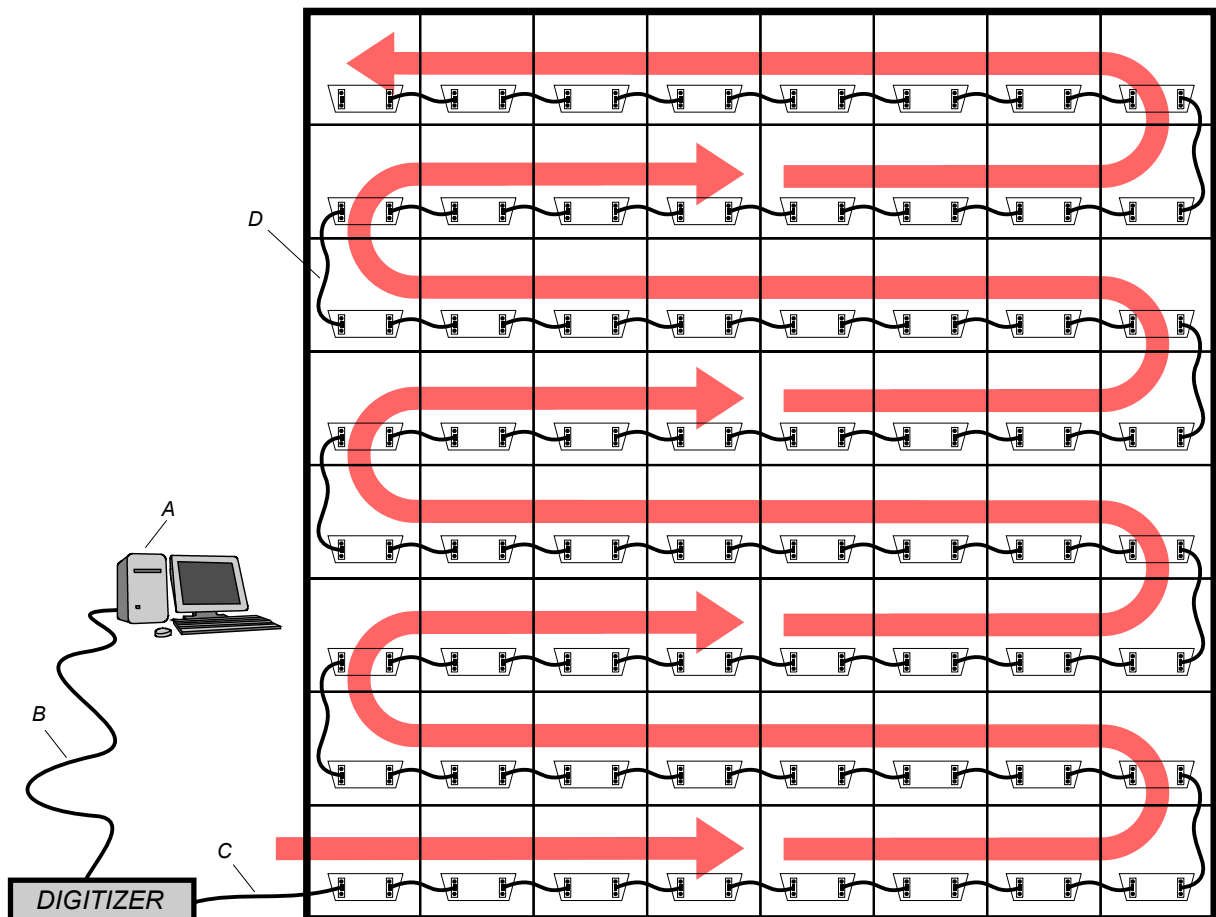


Image 5-4

- A Local PC with control software.  
 B RS232 connection cable between PC and digitizer.  
 C Data cable between digitizer and first tile (maximum 5 meter).  
 D Short data linking cable between tiles.

The example above shows the data cabling, seen from the rear, of an ILite display of eight tiles wide and eight tiles high. The data path is realized in horizontal direction and starts in the lower left corner, seen from the rear. The settings in the control software refer to the display seen from the front. So, the first tile in the data path has to be indicated as the lower right tile of the display.



## 6. MAINTENANCE

### About this chapter

This chapter contains maintenance information about the ILite display.

### Overview

- Cleaning the outside of the ILite display
- Software update
- Color calibration

---

## 6.1 Cleaning the outside of the ILite display

---



**WARNING: ISOPROPANOL ALCOHOL (200–661–7).**

Hazardous product. Irritating to eyes and skin. Always use in a well ventilated area. Vapors may cause drowsiness and dizziness. Avoid contact with skin and eyes. In case of contact with the eyes, rinse immediately with plenty of water and seek medical advise.

---



**CAUTION: ISOPROPANOL ALCOHOL (200–661–7).**

Hazardous product. Lightly flammable. Always use in a well ventilated area. Keep away from sources of ignitions. Do not smoke while working with isopropanol. Exclusive keep in original container tightly closed at a cool, well ventilated and fireproof storage space.

---



**CAUTION: LED components used in ILite devices are ESD (Electro-Static Discharge) sensitive. Take the necessary precautions to prevent damage to the LED's.**

---

### Necessary tools

- Compressed air.
- Isopropanol alcohol.
- Damp antistatic cloth.
- Vacuum cleaner.
- Mild detergent solution.

### How to clean the outside of the ILite display ?

1. Switch of the ILite display.
2. Blow away the dust from the display side (LED's) with compressed air.
3. Clean the display side (LED's) with a damp antistatic cloth. It's recommend to use isopropanol alcohol as a solvent for cleaning the LED's.  
**Warning:** *Ensure that the area is well ventilated.*  
*No smoking is allowed while working with isopropanol alcohol.*  
**Caution:** *LED components used in ILite devices are ESD (Electro-Static Discharge) sensitive. Take the necessary precautions to prevent damage to the LED's.*
4. Vacuum the ventilation grid at the rear of the ILite tile.  
**Tip:** *Use a soft brush nozzle to avoid scratches.*  
**Caution:** *Do not use the vacuum cleaner to clean the display side (LED's), because of ESD reason.*
5. Clean the housing of the ILite display with a damp cloth. Stubborn stains may be removed with a cloth lightly dampened with mild detergent solution.



**Always clean all tiles of the LED-wall to avoid brightness differences between cleaned and uncleaned tiles.**

---



**It's recommended to vacuum the ventilation grid at the rear of the ILite tile at regular intervals. For that, use a vacuum cleaner with a soft brush nozzle.**

---



## 6.2 Software update

### Software for ILite tiles

Software is stored on four different locations in the ILite tile:

1. On the FPGA of the re-sync unit : firmware re-sync unit (A).
2. On the FPGA of the controller unit : firmware controller (B).
3. On the FPGA of the LED driver (or second FPGA on the controller unit in case of ILite XP versions) : firmware driver (C).
4. On the CPU of the controller unit : program and boot software ( $\mu$ P).

Software location of the ILite display tile:

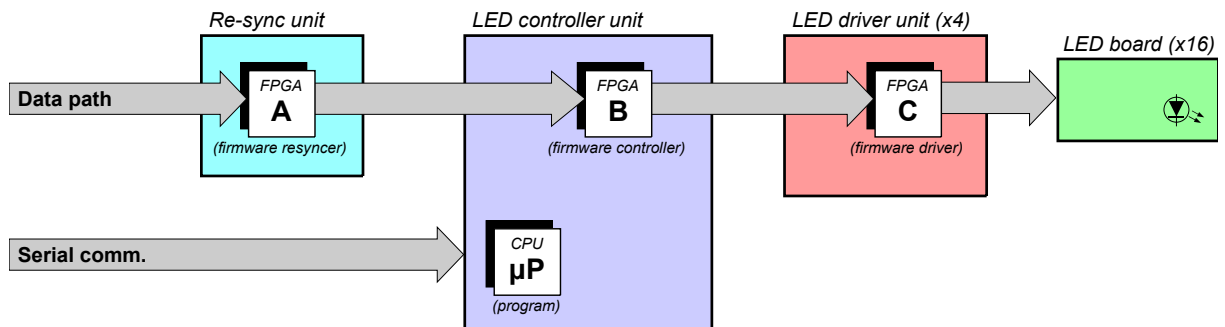


Image 6-1

Software location of the ILite 6 XP tile:

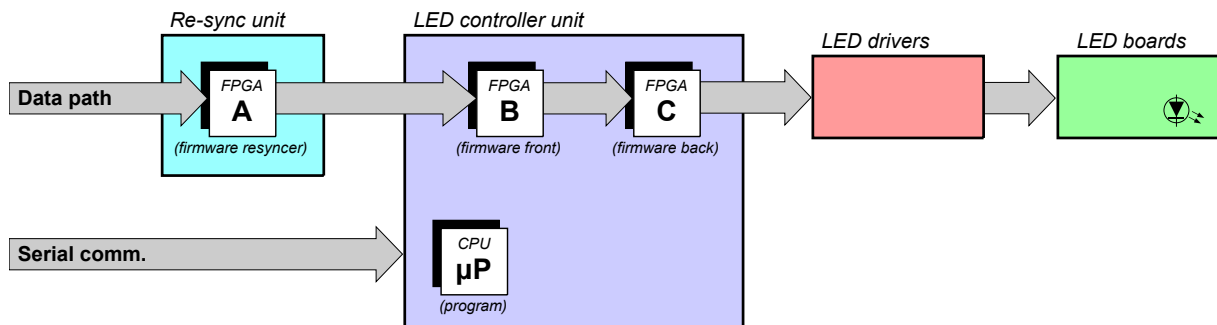


Image 6-2

Flash software like firmware re-sync unit, firmware controller, firmware driver and program code can be updated in the field if required. CPU boot software can not be upgraded (only factory programmable). New releases of flash software are available on the "Partner Zone" of the Barco web site [www.barco.com](http://www.barco.com). Refer to the user guide of the Director toolset for instructions on reading out the version of flash software and for uploading new versions.

## 6.3 Color calibration

---

### Color calibration of the ILite display

To achieve color uniformity among all tiles of the same display the tiles have to be color calibrated. This is done in factory but due to service intervention like replacing an ILite tile in the display it's recommended to re-calibrate the ILite display on site. Refer to the user guide of the Director toolset for more info about color calibration and calibration instructions.

## 7. SERVICING

### Overview

- Safety instructions
- ILite tile diagnostic
- Replacement of the re-sync unit
- Tile accessing
- Hot swap of an ILite tile

## 7.1 Safety instructions

---

### Personal protection



**WARNING:** Ensure you understand and follow all the safety guidelines, safety instructions, warnings and cautions mentioned in this manual.

---



**WARNING:** Be aware of suspended loads.

---



**WARNING:** Wear a hard hat to reduce the risk of personal injury.

---



**WARNING:** Be careful while working with heavy loads.

---



**WARNING:** Mind your fingers while working with heavy loads.

---

### Safety precautions

- Fence off a restricted area of at least 3 meters around the LED-wall using an eye-catching fence and "KEEP OUT" signs. This to prevent unauthorized persons coming near the LED-wall during servicing.
- Inspect the complete LED-wall for security, wear, deformation, corrosion, and any other circumstances that may affect the load handling capability of the part.
- Do not modify and/or replicate any component. Barco uses specific materials and manufacturing processes in order to achieve part strength. No other parts than Barco parts are allowed.
- Both hands must be free for servicing ILite tiles in an LED-wall. Therefore the use of a ladder to access a tile is forbidden. Only the use of a scaffold or a Z-lift is allowed.

## 7.2 I Lite tile diagnostic

### Status LED's re-sync unit

The re-sync unit of the I Lite tile is provided with three status LED's. One green and two red LED's. The LED's are horizontally mounted with the green LED in the middle. The green LED lights up indicating the SMPS has started and the re-sync unit is operating normally. The red LED's indicate the status of the sync pulses and the incoming data signal.

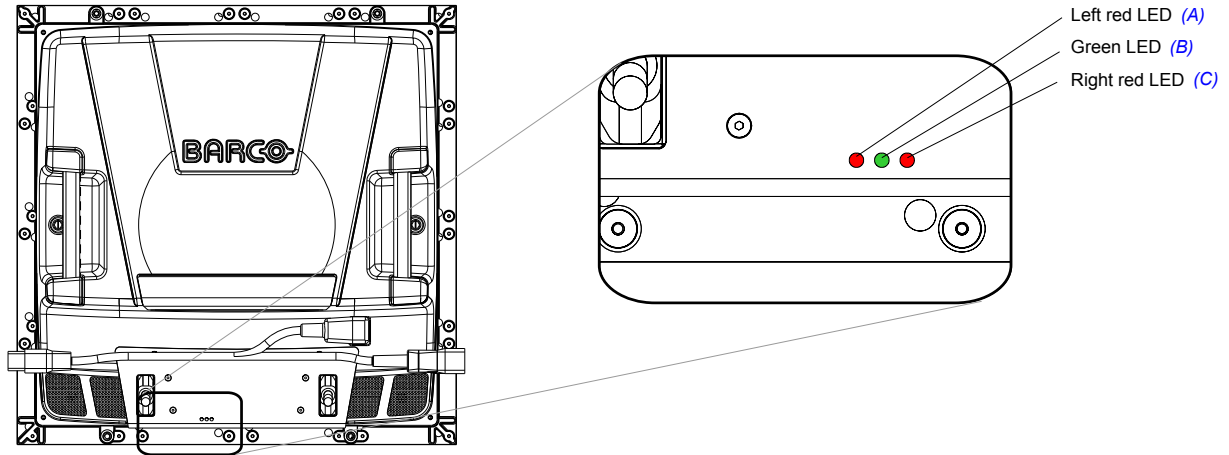


Image 7-1

- A Left red LED.
- B Green LED.
- C Right red LED.

Left red LED	Green LED	Right red LED	Diagnostic
Flashing	ON	OFF	I Lite tile receives start-up signal on the left I/O port but no sync is present on the data signal.
OFF	ON	Flashing	I Lite tile receives start-up signal on the right I/O port but no sync is present on the data signal.
Flashing	ON	Flashing	I Lite tile receives no start-up signal and no sync is present.
ON	ON	OFF	I Lite tile is functioning normal, data signal and sync are received on the left I/O port.
OFF	ON	ON	I Lite tile is functioning normal, data signal and sync are received on the right I/O port.
OFF	ON	OFF	The power unit of the I Lite tile is started but the re-sync unit is malfunctioning.
OFF	OFF	OFF	The power unit of the I Lite tile is not started or the resync-unit is malfunctioning.
ON	OFF	OFF	Re-sync unit receives data from the left but no power.
OFF	OFF	ON	Re-sync unit receives data from the right but no power.

### 7.3 Replacement of the re-sync unit

---

#### Necessary tools

Slot screwdriver (100 x 4 mm).

#### How to replace the re-sync unit of an ILite tile ?

1. Release the two captive screws of the re-sync unit (M) using a slot screwdriver.

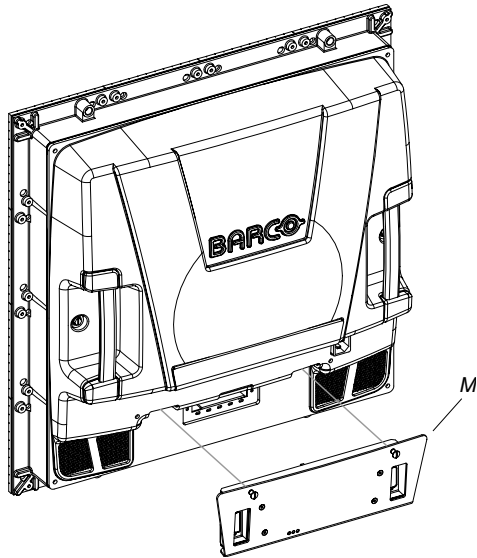


Image 7-2

2. Pull out the re-sync unit.
3. Place a new re-sync unit into position.
4. Fasten the two captive screws of the re-sync unit.



**CAUTION:** Be careful with the board to board connectors between the re-sync unit and the controller unit underneath.

---

---

## 7.4 Tile accessing

---

### What has to be done ?

Remove an ILite tile out of the assembly. To access an ILite tile after they have been installed can only be realized through back access. There exist a work around procedure in case there is insufficient space at the back of the ILite display to remove an ILite tile.

### Necessary tools

10 mm wrench.

### How to remove a tile by accessing it from the back ?

1. Read and heed the servicing safety instructions.
2. Safely disconnect the power and data cables to the tile.
3. Remove the four lock nuts on the ILite tile positioning bolts.  
**Warning:** *Be careful while removing the lock nuts that the tile doesn't drop out at the front of the ILite display. Hold with one hand the tile by one of the grip handles and remove with the other free hand the lock nuts.*
4. Grab the ILite tile with both hands by the grip handles and push the tile a little forwards out of the ILite display. Hold tile securely.
5. Lay the tile flat on both arms and rotate it diagonally 45°.
6. Remove the tile by pulling it out of the assembly from the back.

### Work around in case of insufficient space at the back ?

1. Read and heed the servicing safety instructions.
2. Start with the tile at the edge of the row where the tile you want to remove is located. The back of the tiles at the edge of the ILite display is accessible from the side when you stand in front of the ILite display.
3. Safely disconnect the power and data cables to the tile.
4. Remove the four lock nuts on the ILite tile positioning bolts of the unplugged tile.  
**Warning:** *Be careful while removing the lock nuts that the tile doesn't drop out at the front of the ILite display. Hold with one hand the tile inside the wall assembly and remove with the other free hand the lock nuts.*
5. Gently push the tile from the back a little bit out of the wall assembly until you can grip the tile at the front.
6. Remove the tile by pulling it out of the assembly from the front.
7. Repeat step 2 and followings on the next ILite tile in the row until the actually small function tile is removed. The back of the next tile is now accessible from his side.

## 7.5 Hot swap of an ILite tile

---

### Necessary parts

- Flat blade screw driver.
- Wrench 10 mm.

### How to hot swap an ILite tile ?

1. Read and heed the servicing safety instructions.
2. Disconnect the power cord to the tile. Do not remove the power linking cable out of the power branch.
3. Remove the resync-unit from the tile by releasing two screws on the resync-unit.
4. Replace the main function tile by accessing it from the back with an other tile (see "Tile accessing", page 51)
5. Place the resync-unit on the new tile and fasten with two screws.
6. Insert the power cord into the new tile.



## 8. DIMENSIONS

### About this chapter

This chapter contains mechanical drawings of the ILite tile and ILite accessories with the most important dimensions.

### Overview

- ILite tile dimensions
- Dimensions of the ILite precision frames
- Dimensions of the ILite fixation plate

## 8. Dimensions

### 8.1 I Lite tile dimensions

#### Dimensions:

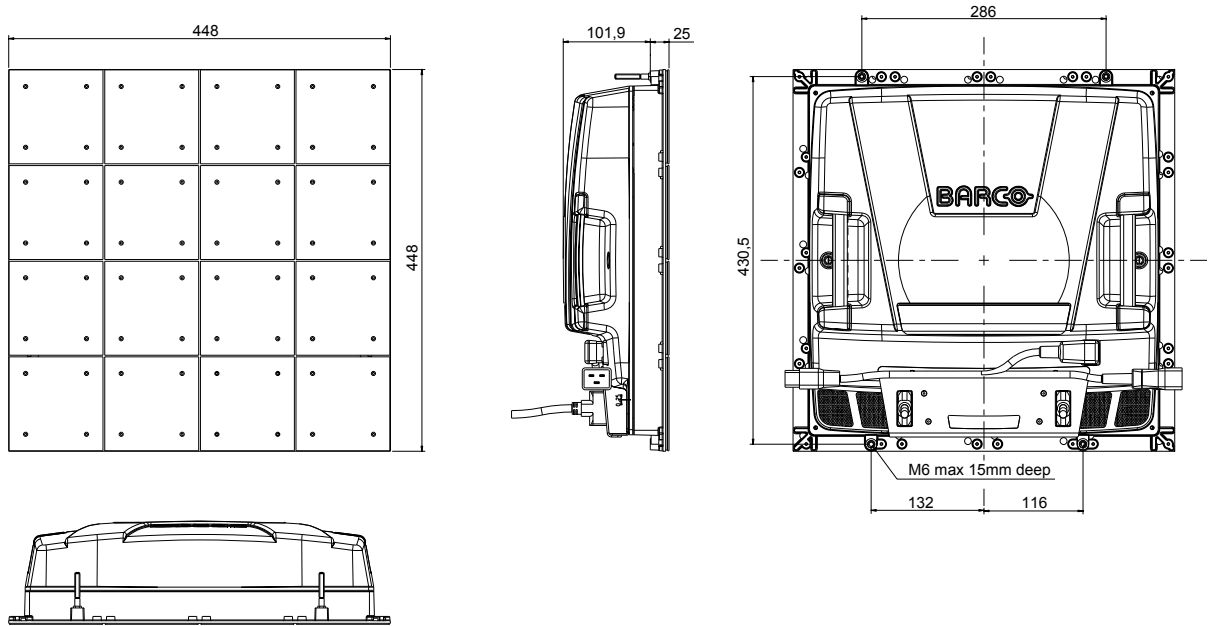


Image 8-1  
Dimensions given in millimeters.

## 8.2 Dimensions of the ILite precision frames

### Dimensions ILite precision frame H2 x V2

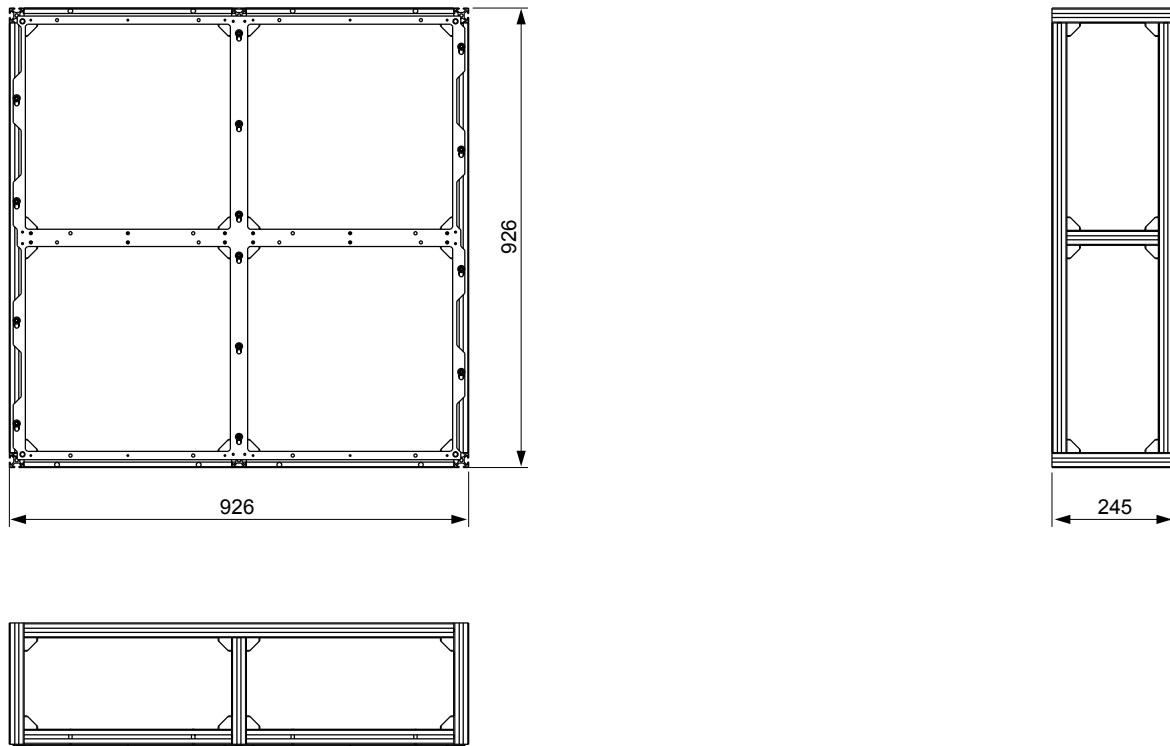


Image 8-2  
Dimensions given in millimeters.

8. Dimensions

Dimensions ILite precision frame H2 x V3

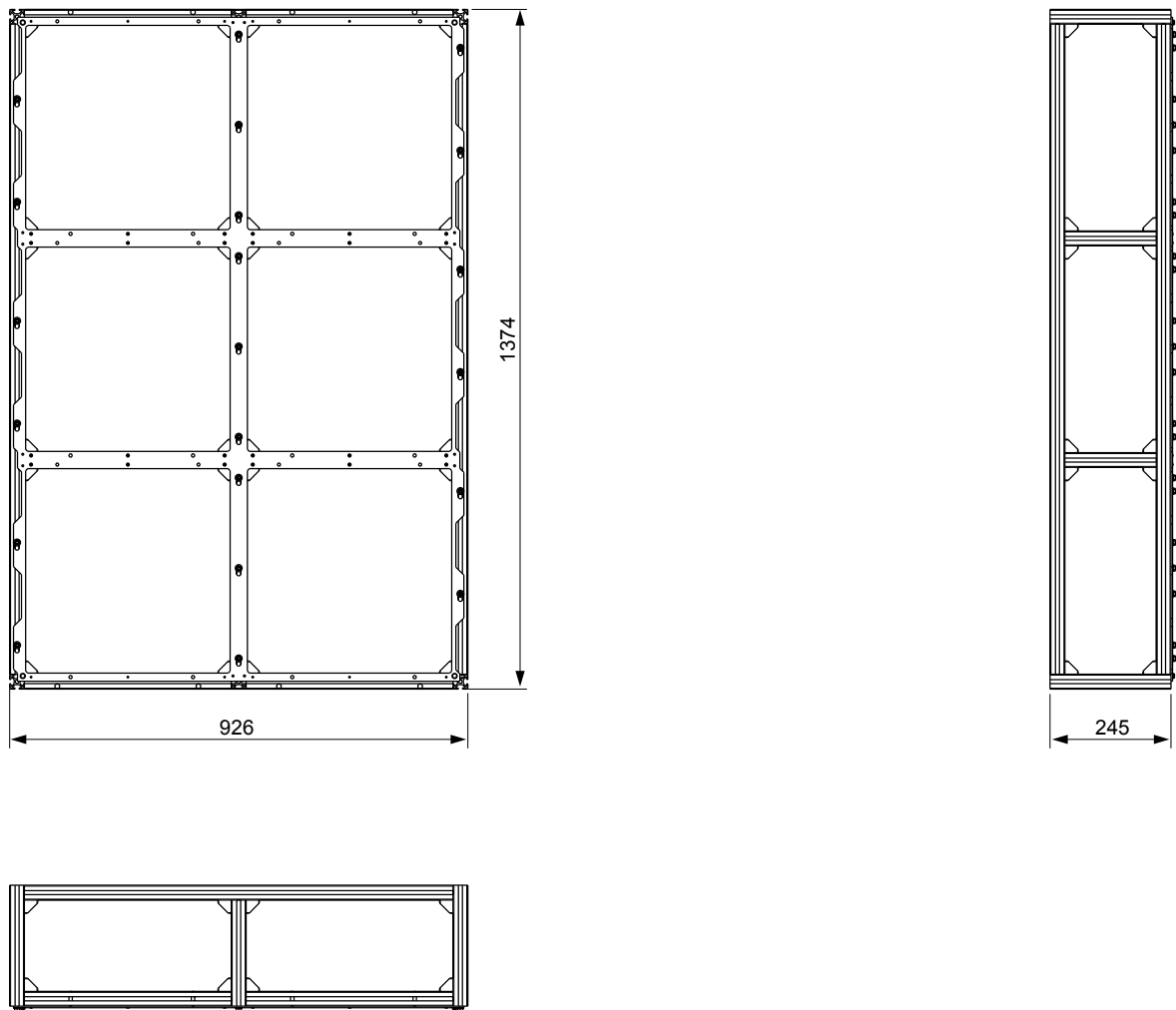


Image 8-3  
Dimensions given in millimeters.

Dimensions ILite precision frame H3 x V2

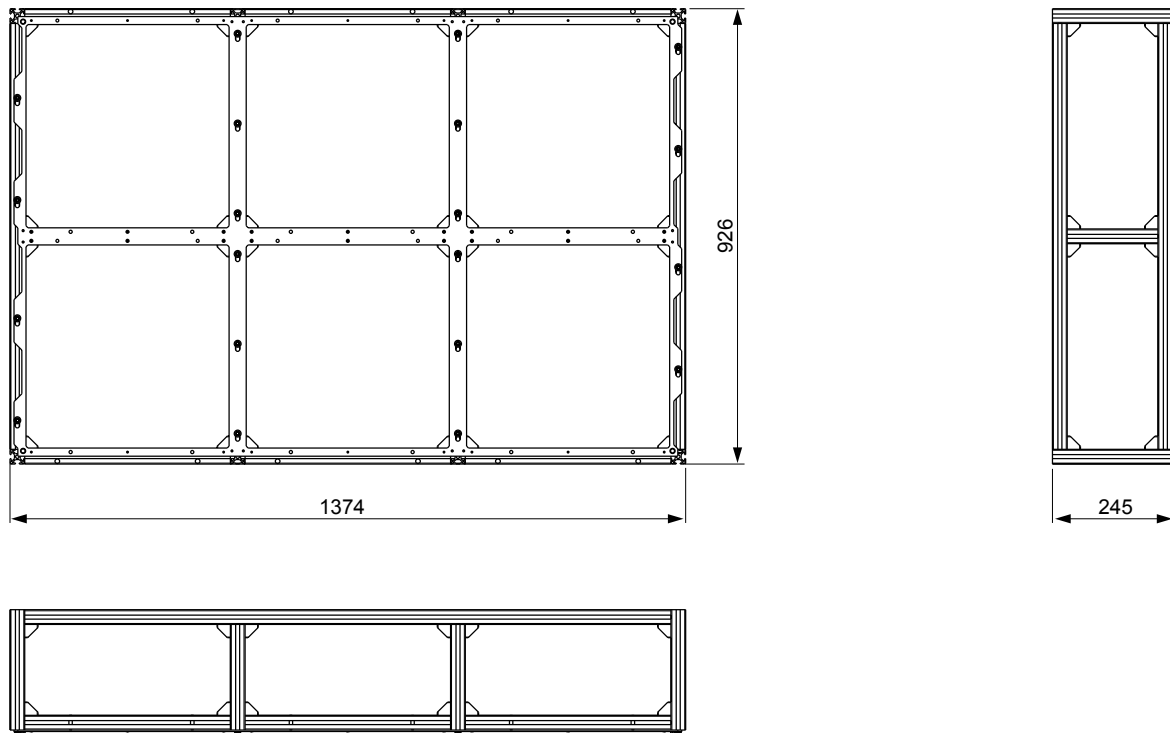


Image 8-4  
Dimensions given in millimeters.

Dimensions ILite precision frame H3 x V3

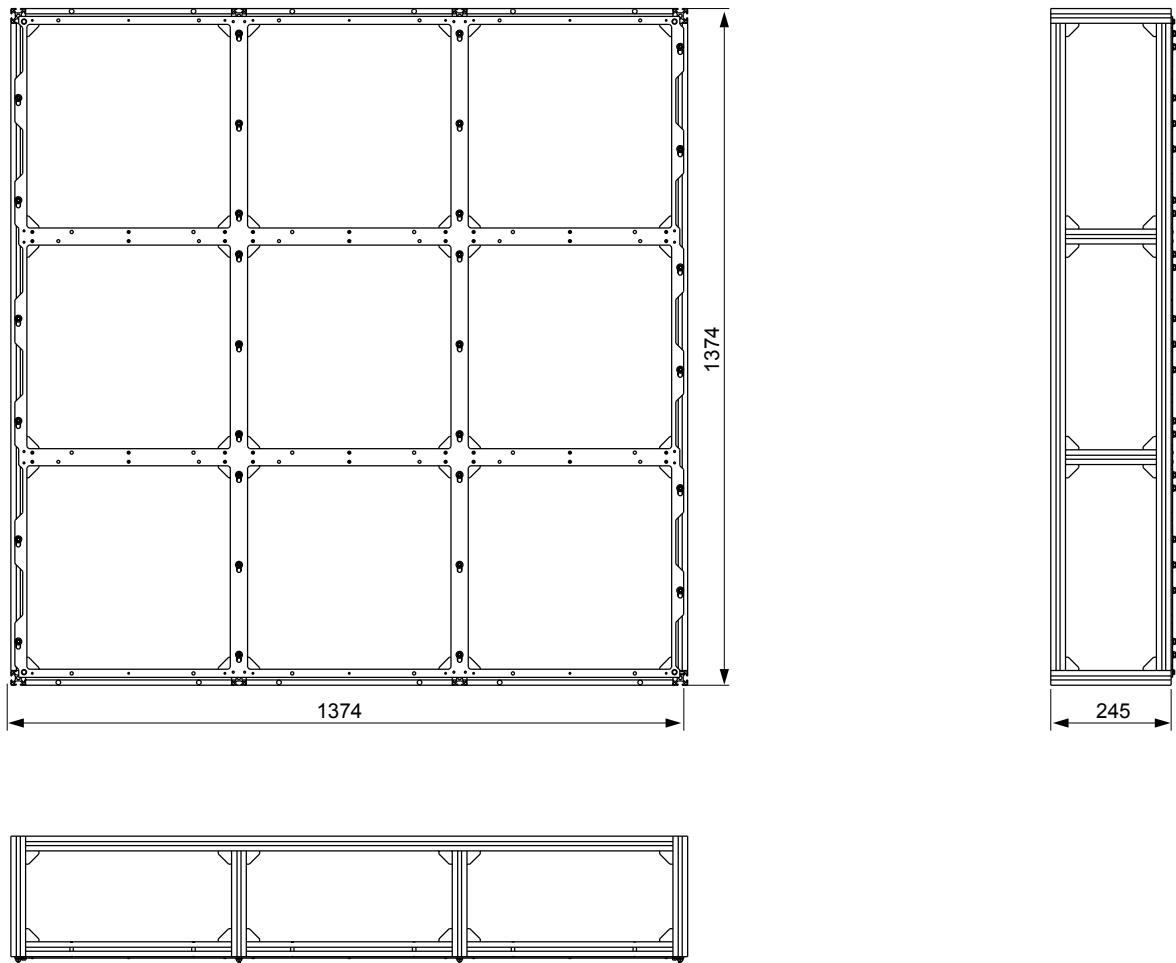


Image 8-5  
Dimensions given in millimeters.

Dimensions ILite precision frame H3 x V4

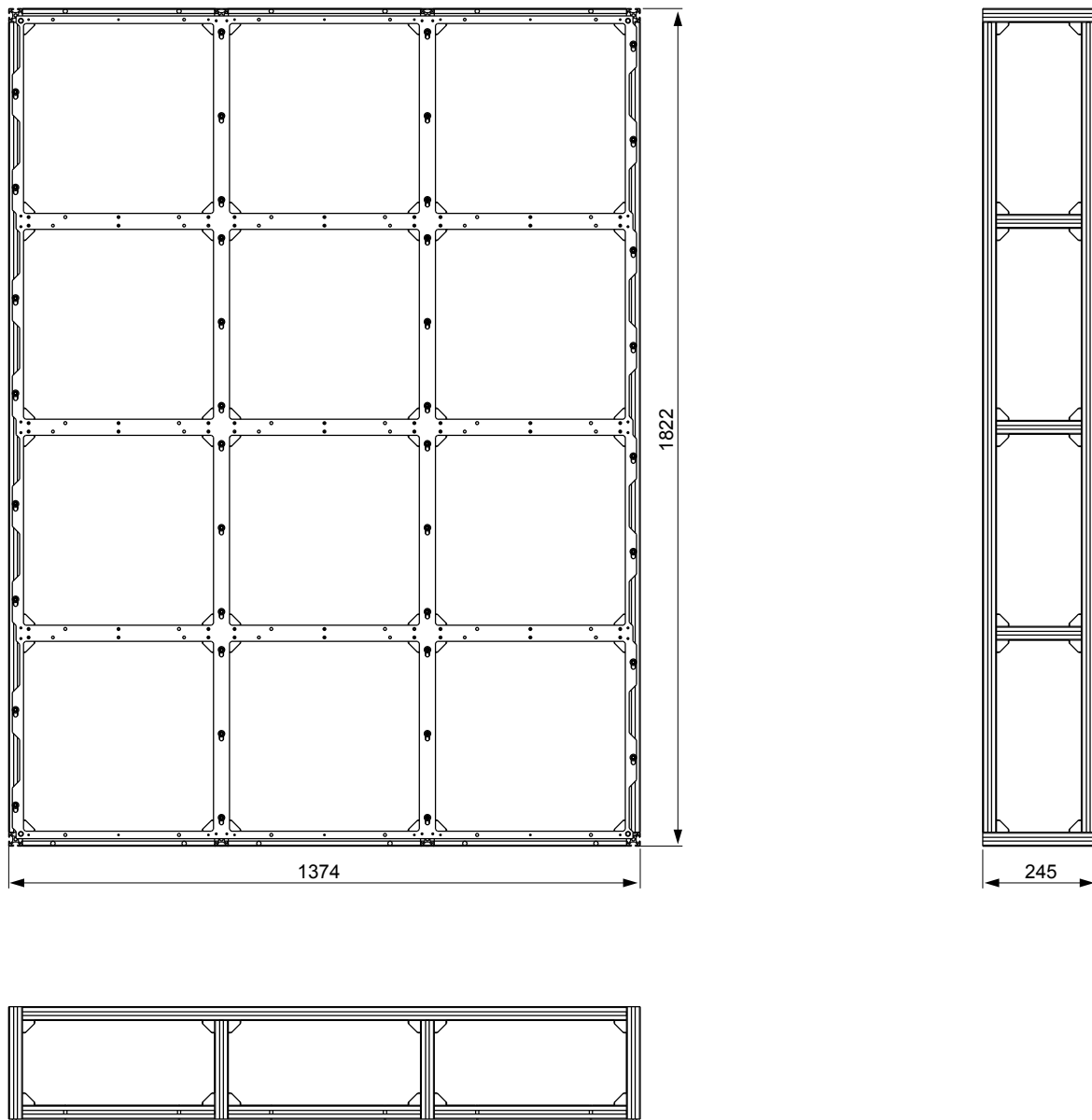


Image 8-6  
Dimensions given in millimeters.

8. Dimensions

Dimensions ILite precision frame H4 x V3

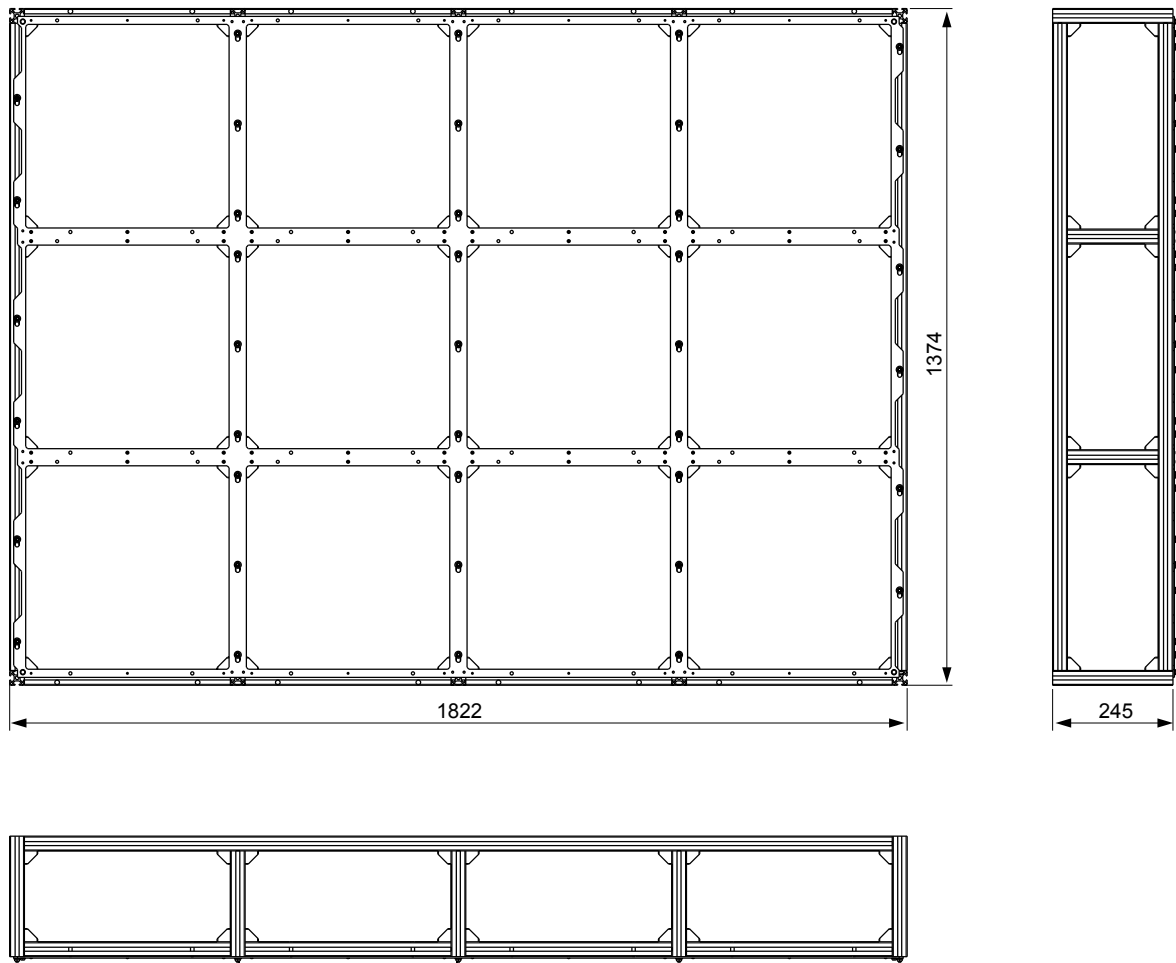


Image 8-7  
Dimensions given in millimeters.



### 8.3 Dimensions of the ILite fixation plate

#### Dimensions ILite fixation plate

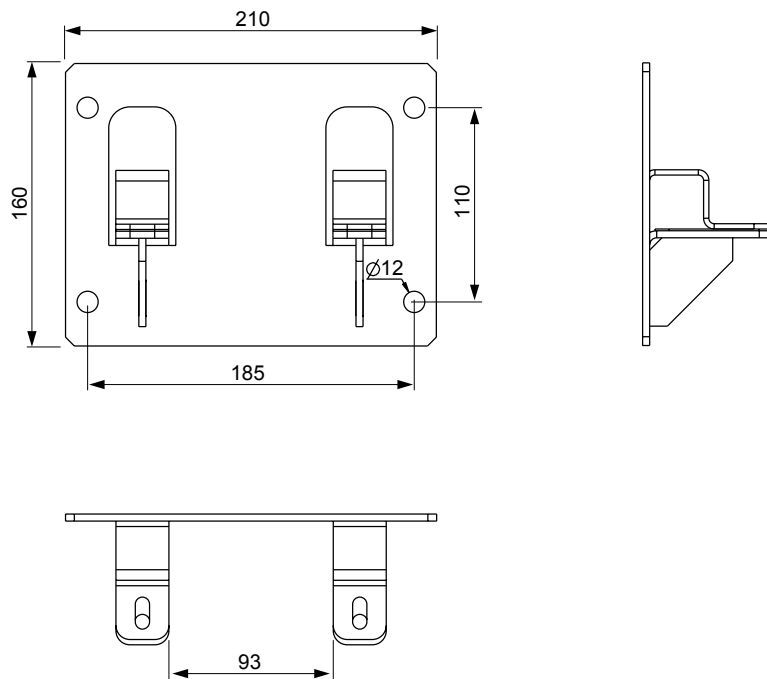


Image 8-8  
Dimensions given in millimeters.



## 9. SPECIFICATIONS

### Overview

- ILite 6 specifications
- ILite 6 XP specifications
- ILite 8 specifications
- ILite 10 specifications
- ILite 12 specifications
- Weight of individual parts of an ILite display

## 9.1 I Lite 6 specifications

### Specifications

<b>Contrast ratio</b>	950 : 1 (500 lux) 1.625 : 1 (225 lux)
<b>Screen size</b>	Unlimited
<b>Weight</b>	13 kg
<b>Hor. viewing angle</b>	> 145°
<b>Vert. viewing angle</b>	> 145°
<b>Avg Power Consumption</b>	100 W / tile
<b>Max Power Consumption</b>	400 W / tile
<b>Tile dimensions</b>	Width: 0,448 m Height: 0,448 m Depth: 0,1495 m
<b>Visual Resolution</b>	6 mm
<b>Temperature range</b>	<b>operating:</b> 0°C <> 40°C <b>storage:</b> -20°C <> 60°C
<b>Brightness</b>	2.500 NIT
<b>Calibrated Brightness</b>	2.000+ NIT
<b>Lifetime</b>	45.000h [half brightness]
<b>Processing</b>	+ 10 bit
<b>Source compatibility</b>	S-Video - Composite - YUV - RGB - SDI - HDSDI - Data DVI up to UXGA

## 9.2 ILite 6 XP specifications

### Specifications

<b>Pixel pitch</b>	6 mm
<b>Brightness</b>	2500 NIT
<b>Calibrated Brightness</b>	2000 NIT (calibrated at 6500°K)
<b>LED configuration</b>	3-in-1 SMD
<b>Pixel density</b>	25.920/m <sup>2</sup> (2410/ft <sup>2</sup> ) 5.184/tile (72x72)
<b>Hor. viewing angle</b>	145° + (min. 50% brightness)
<b>Vert. viewing angle</b>	145° + (min. 50% brightness)
<b>Contrast ratio</b>	950:1
<b>Lifetime</b>	45.000h (full white - half brightness)
<b>Power consumption</b>	maximum: 400 W/tile average: 100 W/tile
<b>Colors</b>	4,4 trillion
<b>Weight</b>	13 Kg (28,7 lbs)
<b>Processing</b>	14 bit/color (Color)
<b>Refresh rate</b>	400 Hz (PAL/NTSC minimum)
<b>Temperature range</b>	<b>operating:</b> 0 - 40°C (32 - 104°F) <b>storage:</b> -20 - 60°C (-4 - 140°F)
<b>Humidity</b>	<b>operating:</b> 35 - 85% <b>storage:</b> 10 - 90%
<b>Certifications</b>	UL - CE - TUV - CEBC
<b>Tile dimensions</b>	Width: 448mm (17.6") Height: 448mm (17.6") Depth: 149,5mm (5.89")
<b>Source compatibility</b>	S-Video, Composite, YUV, RGB, SDI, HDSDI, Data DVI up to SXGA

### 9.3 ILite 8 specifications

#### Specifications

<b>Contrast ratio</b>	950:1
<b>Weight</b>	13 Kg (28,7 lbs)
<b>Hor. viewing angle</b>	145° + (min. 50% brightness)
<b>Vert. viewing angle</b>	145° + (min. 50% brightness)
<b>Power consumption</b>	maximum: 400 W/tile average: 100 W/tile
<b>Tile dimensions</b>	Width: 448mm (17.6") Height: 448mm (17.6") Depth: 149,5mm (5.89")
<b>Brightness</b>	2500 NIT
<b>Calibrated Brightness</b>	2000 NIT (calibrated at 6500°K)
<b>Temperature range</b>	<b>operating:</b> 0 - 40°C (32 - 104°F) <b>storage:</b> -20 - 60°C (-4 - 140°F)
<b>Lifetime</b>	45.000h (full white - half brightness)
<b>Processing</b>	12 bit/color (Color)
<b>Source compatibility</b>	S-Video / Composite / YUV / RGB / SDI / HDSDI / Data DVI up to SXGA
<b>Pixel pitch</b>	8 mm
<b>LED configuration</b>	3-in-1 SMD
<b>Pixel density</b>	15.680/m <sup>2</sup> (1.458/ft <sup>2</sup> ) 3.136/tile (56x56)
<b>Colors</b>	68,7 billion
<b>Refresh rate</b>	400 Hz (PAL/NTSC minimum)
<b>Humidity</b>	<b>operating:</b> 35 - 85% <b>storage:</b> 10 - 90%
<b>Certifications</b>	UL - CE - TUV - CEBEC

## 9.4 I Lite 10 specifications

### Specifications

<b>Contrast ratio</b>	950:1
<b>Weight</b>	13 Kg (28,7 lbs)
<b>Hor. viewing angle</b>	145° + (min. 50% brightness)
<b>Vert. viewing angle</b>	145° + (min. 50% brightness)
<b>Power consumption</b>	maximum: 400 W/tile average: 100 W/tile
<b>Tile dimensions</b>	Width: 448mm (17.6") Height: 448mm (17.6") Depth: 149,5mm (5.89")
<b>Temperature range</b>	<b>operating:</b> 0 - 40°C (32 - 104°F) <b>storage:</b> -20 - 60°C (-4 - 140°F)
<b>Brightness</b>	2500 NIT
<b>Calibrated Brightness</b>	2000 NIT (calibrated at 6500°K)
<b>Lifetime</b>	45.000h (full white - half brightness)
<b>Processing</b>	12 bit/color (Color)
<b>Source compatibility</b>	S-Video / Composite / YUV / RGB / SDI / HDSDI / Data DVI up to SXGA
<b>Pixel pitch</b>	10 mm
<b>LED configuration</b>	3-in-1 SMD
<b>Pixel density</b>	9.680/m <sup>2</sup> (900/ft <sup>2</sup> ) 1.936/tile (44x44)
<b>Colors</b>	68,7 billion
<b>Refresh rate</b>	400 Hz (PAL/NTSC minimum)
<b>Humidity</b>	<b>operating:</b> 35 - 85% <b>storage:</b> 10 - 90%
<b>Certifications</b>	UL - CE - TUV - CEBEC

## 9.5 ILite 12 specifications

### Specifications

<b>Brightness</b>	2.500 NIT
<b>Calibrated Brightness</b>	2.000+ NIT
<b>Contrast ratio</b>	950 : 1 (500 lux) 1.625 : 1 (225 lux)
<b>Visual Resolution</b>	12 mm
<b>Hor. viewing angle</b>	> 145°
<b>Vert. viewing angle</b>	> 145°
<b>Tile dimensions</b>	Width: 0,448 m Height: 0,448 m Depth: 0,1495 m
<b>Weight</b>	13 kg
<b>Avg Power Consumption</b>	100 W / tile
<b>Max Power Consumption</b>	400 W / tile
<b>Temperature range</b>	<b>operating:</b> 0°C <> 40°C <b>storage:</b> -20°C <> 60°C
<b>Screen size</b>	Unlimited
<b>Lifetime</b>	45.000h [half brightness]
<b>Processing</b>	+ 13 bit
<b>Source compatibility</b>	S-Video - Composite - YUV - RGB - SDI - HDSDI - Data DVI up to UXGA



---

## 9.6 Weight of individual parts of an ILite display

---

### Weight of individual parts

ILite tile	13 kg.
ILite precision frame H2 x V2	12 kg.
ILite precision frame H2 x V3	18 kg.
ILite precision frame H3 x V2	18 kg.
ILite precision frame H3 x V3	27 kg.
ILite precision frame H3 x V4	36 kg.
ILite precision frame H4 x V3	36 kg.
Fixation plate and brackets	1,5 kg.



The ILite display has an average weight of 74 kg per square meter display or 14,8 kg per installed ILite tile.

---



## 10. ORDER INFO

### **About this chapter**

This chapter contains the order numbers of all available spare parts for an ILite display.

### **Overview**

- Spare part order info

## 10.1 Spare part order info

### Order info:

Order info	Description
R9004044	ILite 6 tile.
R9010250	ILite 6 XP tile.
R9004060	ILite 8 tile.
R9004050	ILite 10 tile.
R9004111	ILite 12 tile.
R9851520	Re-sync unit for I Lite tile.
R9851130	Power split cable (1 piece).
R9851131	Power split cable (5 pieces).
R9851132	Power split cable (10 pieces).
R9851211	Short data linking cable (DVI - DVI) screw type (1 piece).
R9851213	Short data linking cable (DVI - DVI) screw type (5 pieces).
R9851214	Short data linking cable (DVI - DVI) screw type (10 pieces).
R9850780	ILite precision frame H2 x V2.
R9850781	ILite precision frame H2 x V3.
R9850782	ILite precision frame H3 x V2.
R9850783	ILite precision frame H3 x V3.
R9850784	ILite precision frame H3 x V4.
R9850785	ILite precision frame H4 x V3.
R9851450	Fixation plate and brackets.

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