
Outdoor LED Installation Manual

- XHB Series -

Standard/L type Cabinet

LH***XHB***

2x3 / 1x3 / 1x2 / 2x2 Cabinet & Z-Case

Rev. V1

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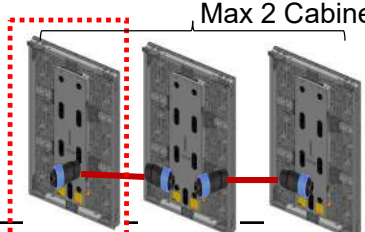
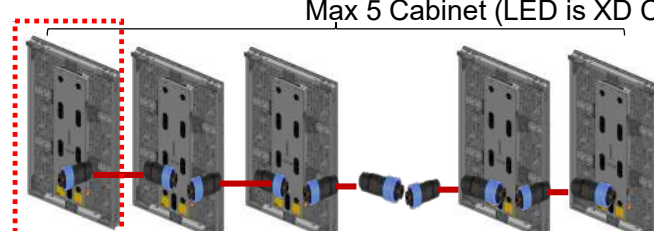
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1. Installation Precautions

1) Important Guidelines to Follow

◆ Precautions prior to Installation

- If using 110 V or 220 V, make sure you follow the maximum number of power sources specified for the installed model. The maximum number of power sources that can be connected to the XHB product varies depending on the model.
- **If the maximum number of power sources is exceeded, the product may become damaged or the circuit breaker may trip due to over-current. Samsung is not responsible for any problem caused by exceeding the recommended number of power sources for connection.**
- The rated power for the product and the rated current for the outlet can be found in the label attached to the rear of the product.

	XHB-S/E (XHB 2x3 case)
No. of AC Loop out cabinets (110 V)	<p>Max 3 Cabinet (LED is XD Au : LH***XHBTAS) Max 2 Cabinet (LED is XD Cu : LH***XHBCAE)</p> 
No. of AC Loop out cabinets (220 V)	<p>Max 7 Cabinet (LED is XD Au : LH***XHBTAS) Max 5 Cabinet (LED is XD Cu : LH***XHBCAE)</p> 

1. Installation Precautions

1) Important Guidelines to Follow

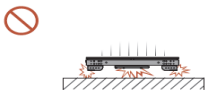




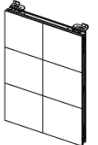
◆ Precautions prior to Installation

- Ensure that all personnel at the site of installation wear personal protection equipment, such as safety helmets, safety glasses, safety gloves and other appropriate safety equipment.
- Ensure that at least two persons work together to move or transport the product so as to ensure safety.
- Ensure that the power cord is not close to any heat sources. The cord sheath may melt and cause a fire or electric shock.
- Do not install the product in a confined space with poor ventilation. The internal temperature may increase and cause a fire.
- Make sure you remove the power cord before transporting the product. Transporting the product with the cord connected may cause a fire or electric shock.
- Make sure you ground the display screens before connecting the power source. Contacting a display that is not grounded may result in death or severe injuries.

1. Installation Precautions

1) Important Guidelines to Follow

◆ Precautions for prevention of damage to LED

<p>① [Caution to prevent external shock and dropping of the product]</p> <p>After removing the protective brackets, be careful not to expose the product to external shocks or vibrations. Make sure that the product is not dropped from any height</p>	
<p>② [Caution to prevent damage to the LED]</p> <p>Be careful not to expose the product to vibrations or external shocks when it is lying flat on the floor.</p>	
<p>③ [Caution to prevent damage to corners]</p> <p>Take extra care to ensure that the corners of a cabinet do not get damaged.</p>	
<p>④ [Caution to prevent damage to the LED]</p> <p>After removing the protective brackets, do not place the product on the floor with the LED facing down.</p>	
<p>⑤ [Caution to prevent damage to the LED from static]</p> <p>Do not touch the product without anti-static gloves.</p> <ul style="list-style-type: none">• Be sure to wear anti-static gloves when touching the product.	
<p>⑥ [Caution to prevent damage to product when moving]</p> <p>Ensure that opening the package or transporting the product is entrusted with a professional installer.</p> <ul style="list-style-type: none">• For inquiries regarding the product installation/ transport, please contact your place of purchase for assistance.	

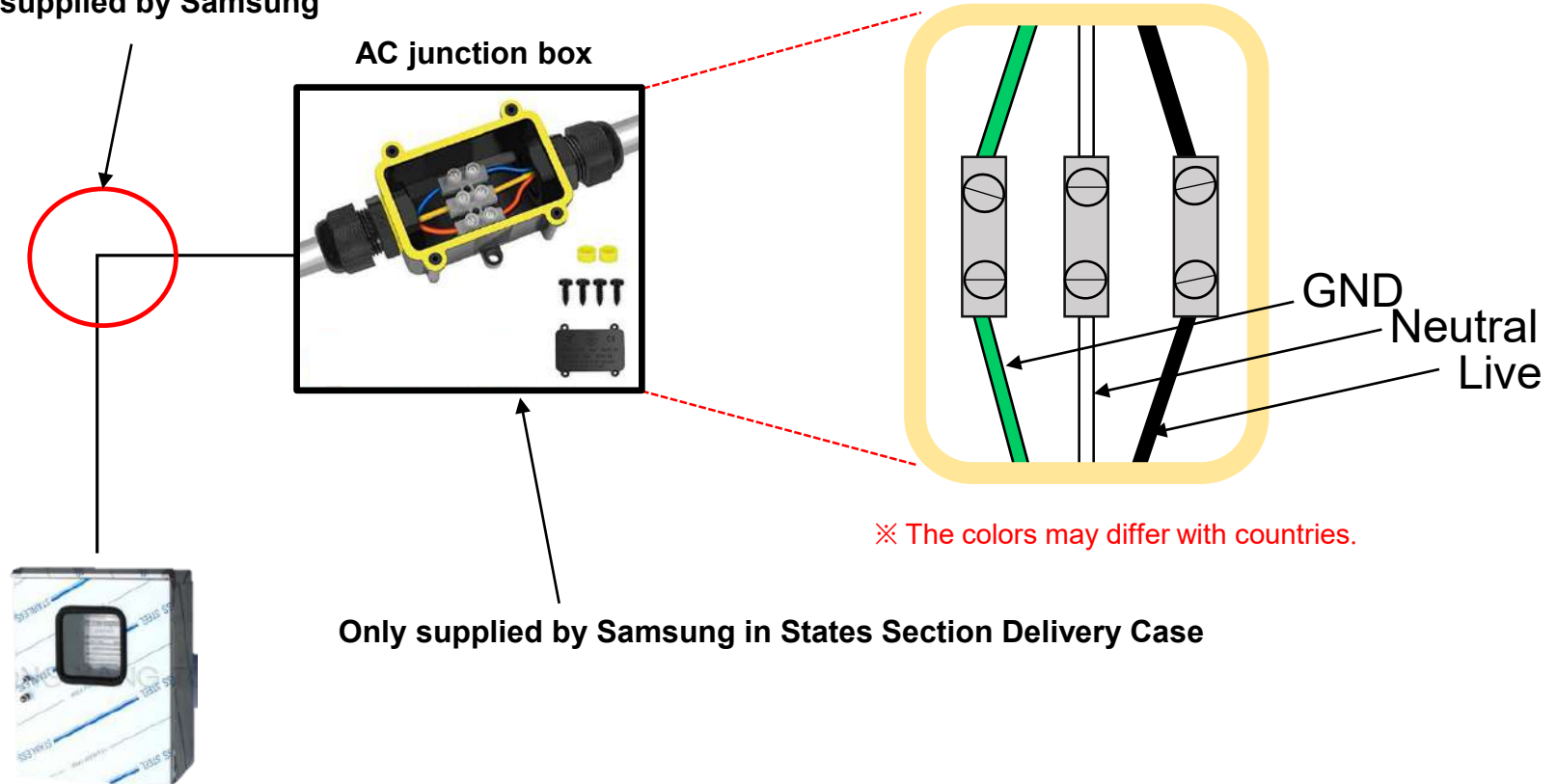
1. Installation Precautions

1) Important Guidelines to Follow

◆ Precautions regarding rating

- When connecting an AC junction box from a distribution board, check for correct mounting of 3-wire.

Not supplied by Samsung



1. Installation Precautions

□ Label

◆ SET / BOX

SAMSUNG

Color Display Unit

Model / MODELE NO / Modelo. : XHB060-SA

Model Code : LH060XHBTAS/PZ

Type No. : LH060XHBT

USA/CANADA : AC100-240V-50/60Hz 20.0A

MEXICO : 100-240V-50/60Hz 4800W 20.0A

MFD./FABRIQUE: AUGUST 2022

MADE IN KOREA(SEC)

FABRIQUE AU CORÉE(SEC)

HECHO EN COREA(SEC)

OUTLET : 14.8 - 17.8A

Outdoor Use

Version No : XXXX / XXXXXXXX

S/N / Serie No : *****7



LED Rank : *****



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



AVS : RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR

UL US
E176781



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
CAN ICES-3 (A) / NMB-3 (A)

[Label Rating : Cabinet Rear]

Model : **XHB060-SA**

Model Code : LH060XHBTAS/PZ

Type No. : LH060XHBT



S/N : *****



MADE IN KOREA(SEC)

FABRIQUE AU CORÉE(SEC)

HECHO EN COREA(SEC)



WARNING : Cancer and Reproductive Harm
- www.P65Warnings.ca.gov.

[Label BOX : Box]

1. Installation Precautions

□ Label

◆ Site Installation

- Label for Cabinet and Z card

Font 20, 맑은 고딕

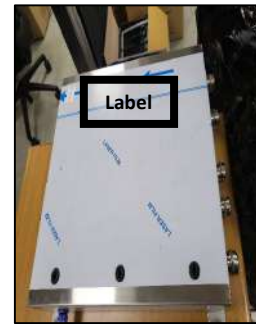
Cabinet Label	
Zone/Block	
Cabinet	Font 14, 맑은 고딕
⚠ CAUTION Lock the Wing nut	

8cm



<Cabinet>

9cm



<Z-CASE>

Z Case Label			
S BOX(F/B)	#		
Z card (F)		○	○
Z card (B)		○	○
BN68-15383A			

8cm

6 cm

Background Color : White, Font Color: Black

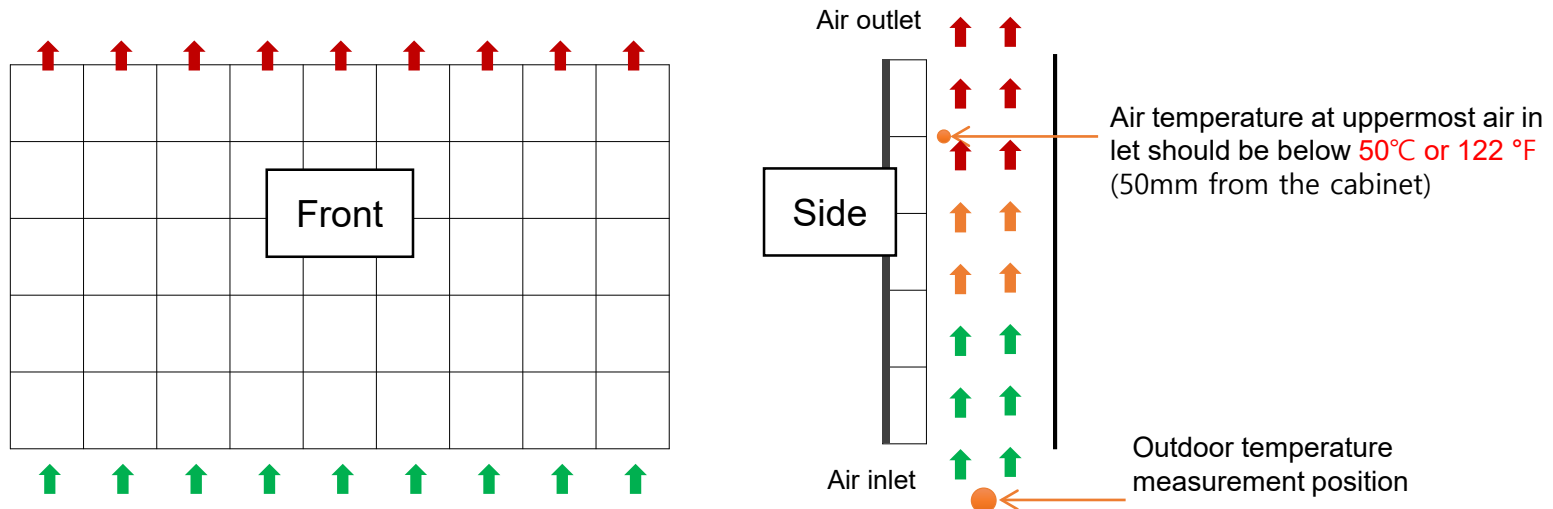
- Material : PET(polyethylene terephthalate)
- Thickness : T0.092
- Cabinet : BN68-15382A
- Z-CASE : BN68-15383A

1. Installation Precautions

1) Important Guidelines to Follow

◆ Guide to protection against heat - Installation of more than 5 layers

- The air temperature flowing into the top cabinet must not exceed **50°C or 122°F**.
- If it exceeds 50 °C or 122 °F, it is necessary to install cooling / air conditioning system.
- The installation planning stage determines whether it is cooled or air-conditioned, and an optimal flow guide is provided.
- For the optimal flow guide, we need the following data about the surrounding environment.
 1. Height from latitude, longitude, and sea level of the place to be installed to the bottom of the screen
 2. Installation direction of screen (ex. +15° west based on due south)
 3. Temperature by hour and wind speed by hour over the past year (0:00 on January 1st to 24:00 on December 31st)



1. Installation Precautions

2) Tools and Accessory

◆ Tools required to be prepared by SI

Installation material	Mechanical installation tool	Electronic installation tool
 <p>M12 L30 washer bolt grade10.9 Fy = 900MPa, Fu = 1000MPa</p>	 <p>Combination wrenches 13mm, 21mm</p>  <p>Ratchet with deep socket 13mm, 21mm</p>  <p>Level</p>  <p>Cordless Drill With #2 Phillips bit</p>	 <p>Wire Strippers</p>  <p>Wire Crimpers</p>  <p>RJ45 Crimping Tool</p>  <p>Wire Cutters</p>
 <p>M12 Nut</p>	 <p>#2 Phillips screw driver</p>  <p>Flat Head screw driver</p>  <p>10~25mm Adjustable wrench</p>	 <p>Electrical Tape</p>  <p>Fish Tape</p>  <p>UV Wire Ties</p>  <p>AC/DC Amp Meter</p>
	 <p>Parts Tether</p>  <p>Teflon (PTFE) tape</p>  <p>Gap gauge</p>  <p>BOX tape(W50)</p>	 <p>Painter's Tape</p>  <p>Channel Lock Pliers</p>  <p>SMATO Short Screwdriver</p>

1. 설치 주의사항

2) Tools and Accessory

◆ Samsung provides

LIST	Qty	CODE
ASSY ACCESSORY_1	1	BN91-24349A VG-XHTISKIT
A/S-EYE BOLT	4	BN81-23761A
A/S-NUT M12	4	BN81-23765A
ASSY ACCESSORY_2	1	BN91-24343A VG-XHTMSKIT
A/S-HOLDER BOLT	6	BN81-23763A
A/S-HOLDER BOLT	44	BN81-23762A
A/S-NUT M8	50	BN81-23764A
ASSY ACCESSORY_3	1	BN91-24344A VG-XHTBSKIT
A/S-BRACKET-WIRE	1	BN81-23799A
SCREW MACHINE	2	6001-002621
ASSY ACCESSORY_4	1	BN91-24345A VG-XHTSSKIT
A/S-T HANDLE	2	BN81-23767A
A/S-T HANDLE	2	BN81-23768A
SCREW-TAPTYPE	20	6003-001910
A/S- SCREW TAPTYPE	5	BN81-24012A
A/S-CAP RUBBER	5	BN81-24013A

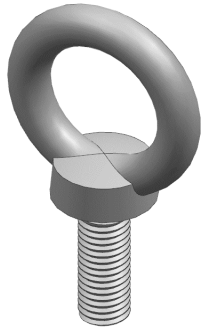
LIST	Qty	CODE
ASSY DECO-H1	1	BN91-24338A VG-XHH12KIT
A/S-FRAME TOP SHORT	1	BN81-23778A
A/S-FRAME BOTTOM SHORT	1	BN81-23779A
A/S-HOLDER BOLT	8	BN81-23766A
ASSY DECO-H2	1	BN91-24339A VG-XHH24KIT
A/S-FRAME TOP LONG	2	BN81-23781A
A/S-FRAME BOTTOM LONG	2	BN81-23782A
A/S-HOLDER BOLT	16	BN81-23766A
ASSY DECO-V2	1	BN91-24340A VG-XHV22KIT
A/S-FRAME SIDE SHORT	2	BN81-23780A
A/S-BRACKET BLOCK	4	BN81-23788A
A/S-HOLDER BOLT	8	BN81-23766A
SCREW MACHINE	8	6001-002621
ASSY DECO-V3	1	BN91-24341A VG-XHV34KIT
A/S-FRAME SIDE LONG	4	BN81-23783A
A/S-BRACKET BLOCK	8	BN81-23788A
A/S-HOLDER BOLT	16	BN81-23766A
SCREW MACHINE	16	6001-002621
ASSY DECO-L4	1	BN91-24342A VG-XHL42KIT
A/S-FRAME TOP LEFT	1	BN81-23784A
A/S-FRAME TOP RIGHT	1	BN81-23785A
A/S-FRAME BOTTOM LEFT	1	BN81-23786A
A/S-FRAME BOTTOM RIGHT	1	BN81-23787A
A/S-HOLDER BOLT	16	BN81-23766A

1. Installation Precautions

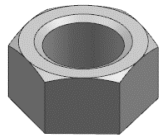
2) Tools and Accessory

◆ Tools supplied by Samsung

ASSY Accessory 1(VG-XHTISKIT)
BN91-24349A



A/S-EYE BOLT(M12),
BN81-23761A, 8EA



A/S-NUT(M12)
BN81-23765A, 8EA

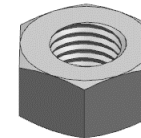
ASSY Accessory 2(VG-XHTMSKIT) - PER 4 CABINET
BN91-24343A



A/S HEX BOLT(M8XL75)
BN81-23762A, 44EA



A/S HEX BOLT(M8XL50)
BN81-23763A, 6EA



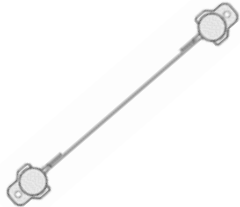
A/S HEX NUT(M8)
BN81-23764A, 62EA

1. Installation Precautions

2) Tools and Accessory

◆ Tools supplied by Samsung

**ASSY Accessory 3(VG-XHTBSKIT)
BN91-24344A**



**A/S-BRACKET WIRE
BN81-23799A, 1EA**



**SCREW-MACHINE(M4, L10)
6001-002621, 6EA**

**ASSY Accessory 4(VG-XHTSSKIT)
BN91-24345A**



**A/S-T HANDLE
BN81-23767A, 2EA**



**A/S-T HANDLE
BN81-23768A, 2EA**



**SCREW-MACHINE(M2, L5.5)
6003-001910, 20EA**



**A/S- SCREW TAPTYPE (M2, L18)
BN81-24012A, 5EA**



**A/S-CAP RUBBER
BN81-24013A, 5EA**

1. Installation Precautions

2) Tools and Accessory

◆ Tools supplied by Samsung

ASSY DECO-H 1(VG-XHH12KIT)
BN91-24338A



A/S FRAME TOP SHORT
BN81-23779A, 1EA



A/S HOLDER BOLT(M6XL35)
BN81-23766A, 8EA



A/S FRAME BOTTOM SHORT
BN81-23778A, 1EA

ASSY DECO-H 2(VG-XHT24KIT)
BN91-24339A



A/S FRAME TOP LONG
BN81-23781A, 2EA



A/S HOLDER BOLT(M6XL35)
BN81-23766A, 16EA



A/S FRAME BOTTOM LONG
BN81-23782A, 2EA

1. Installation Precautions

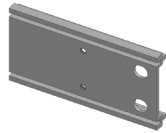
2) Tools and Accessory

◆ Tools supplied by Samsung

ASSY DECO-V 2(VG-XHV22KIT)
BN91-24340A



A/S FRAME SIDE SHORT
BN81-23780A, 2EA



A/S BRACKET BLOCK
BN81-23788A, 4EA



A/S HOLDER BOLT
BN81-23766A, 8EA

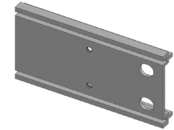


SCRE MACHINE
6001-002621, 8EA

ASSY DECO-V 3(VG-XHV34KIT)
BN91-24341A



A/S FRAME SIDE LONG
BN81-23783A, 4EA



A/S BRACKET BLOCK
BN81-23788A, 8EA



A/S HOLDER BOLT
BN81-23766A, 16EA



SCRE MACHINE
6001-002621, 16EA

1. Installation Precautions

2) Tools and Accessory

◆ Tools supplied by Samsung

ASSY DECO-L(VG-XHL42KIT)
BN91-24342A



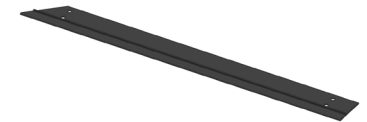
A/S FRAME TOP LEFT
BN81-23784A, 1EA



A/S FRAME TOP RIGHT
TBD, 1EA



A/S FRAME BOTTOM LEFT
TBD, 1EA



A/S FRAME BOTTOM RIGHT
TBD, 1EA

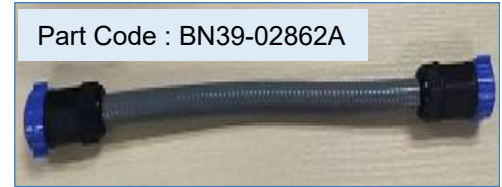


A/S HOLDER BOLT
BN81-23766A, 16EA

1. Installation Precautions

2) Tools and Accessory

◆ Cables supplied by Samsung



AC Power Cable between cabinets

VG-XHCP4KIT



AC cable

**VG-XHCV4KIT
BN91-24355A**



Data Cable 1 Kit

**VG-XHC6ZKIT
BN91-24356A**



Data Cable 2 Kit

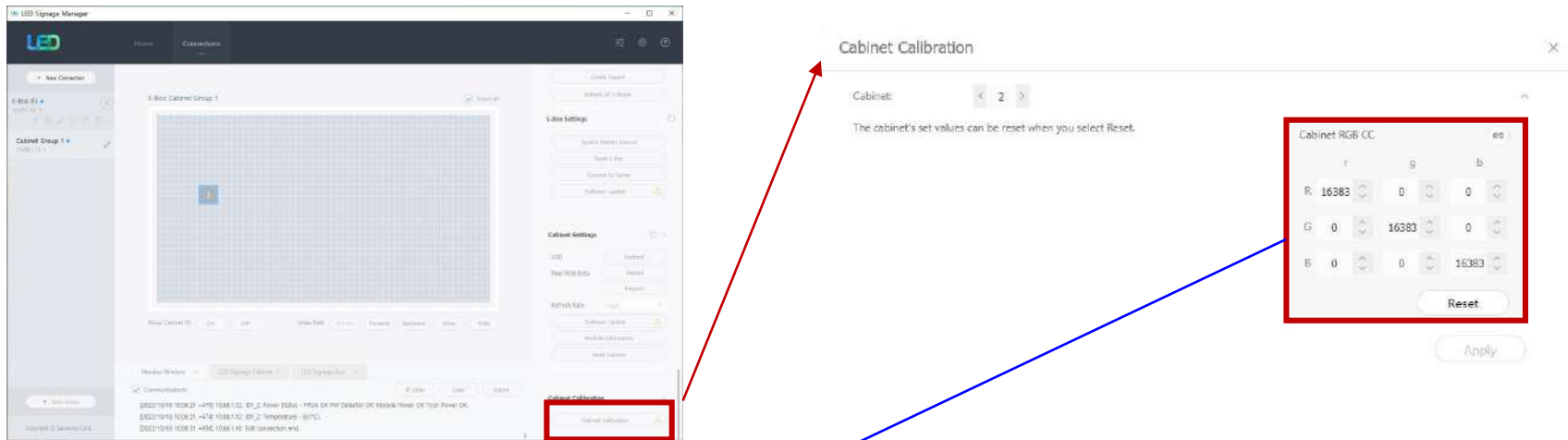
**VG-XHCDZKIT
BN91-24357A**



Data Cable 3 Kit

7. Precautions : T-CON Board Replacement

After recording the Cabinet RGB CC value through LSM before replacing the T-Con board, enter the same value in the replaced T-Con board.



Enter the CC value of the existing T-CON board.

2. Product Information

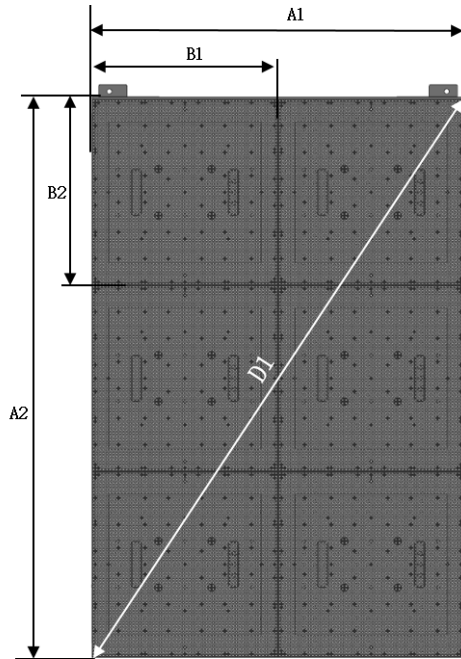
2) Model Conde / Spec

MODULE SPECIFICATIONS	XHB-S/E			
Pitch	P6	P8	P10	P16TH
Diode	Xindecu-Gold / Xindecu-Cu			
Max Brightness	8000nit (XHB-S) 7000nit (XHB-E)			
Contrast Ratio	8000 : 1 (XHB-S) 7000 : 1 (XHB-E)			
Video Processing / Color Capacity	16 bit per Color (48 bit total)			
Color Processing	16 bit per Color (48 bit total)			
Video Rate	60 frames per second			
Refresh Rate	7680Hz			
Input Power Range	AC100-240V 50/60Hz Refer to the label at the back of the product as the standard voltage can vary in different countries.			
Calibration White Point	D65 – 6500K			
IP	Front IP66 / Rear IP66 (※ Flat 3x2 case)			
Cabinet Material	Aluminum			
Service	Front & Rear			

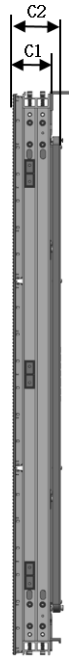
2. Product Information

2) Specification

◆ Physical Parameter - Product Size



FRONT VIEW



SIDE VIEW

	Category	Spec
2X3	Cabinet Size(A1xA2)	689.92 mm x 1035.39 mm
	Module Size(B1xB2)	344.56 mm x 344.56 mm
	Set depth(C1/C2)	69.5 mm / 91.25 mm
	Diagonal(D1)	1244.20 mm (48.98inch)
	Weight(kg)	22.9

	Category	Spec
1X3	Cabinet Size(A1xA2)	344.56 mm x 1035.39 mm
	Module Size(B1xB2)	344.56 mm x 344.56 mm
	Set depth(C1/C2)	69.5 mm / 91.25 mm
	Diagonal(D1)	1091.22 mm(42.96inch)
	Weight(kg)	15.9

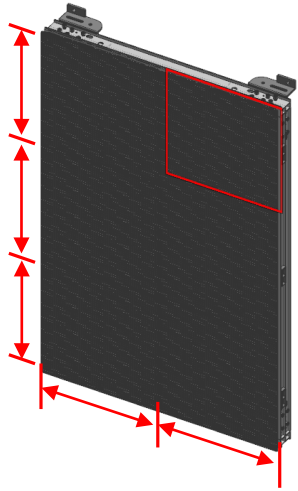
	Category	Spec
2X2	Cabinet Size(A1xA2)	689.92 mm x 690.43 mm
	Module Size(B1xB2)	344.56 mm x 344.56 mm
	Set depth(C1/C2)	69.5 mm / 101.25 mm
	Diagonal(D1)	976.06 mm(38.43inch)
	Weight(kg)	16.1

	Category	Spec
1X2	Cabinet Size(A1xA2)	344.56 mm x 690.43 mm
	Module Size(B1xB2)	344.56 mm x 344.56 mm
	Set depth(C1/C2)	69.5 mm / 101.25 mm
	Diagonal(D1)	774.85 mm(30.51inch)
	Weight(kg)	10.8

2. Product Information

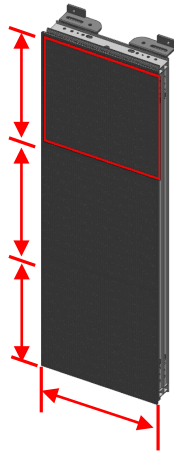
3) Cabinet

◆ Module configuration



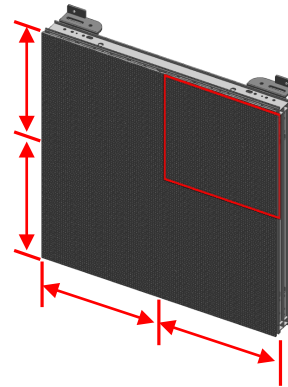
2X3

× 6



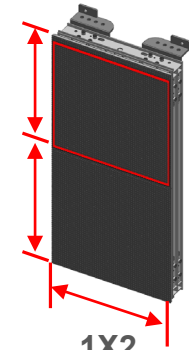
1X3

× 3



2X2

× 4



1X2

× 2



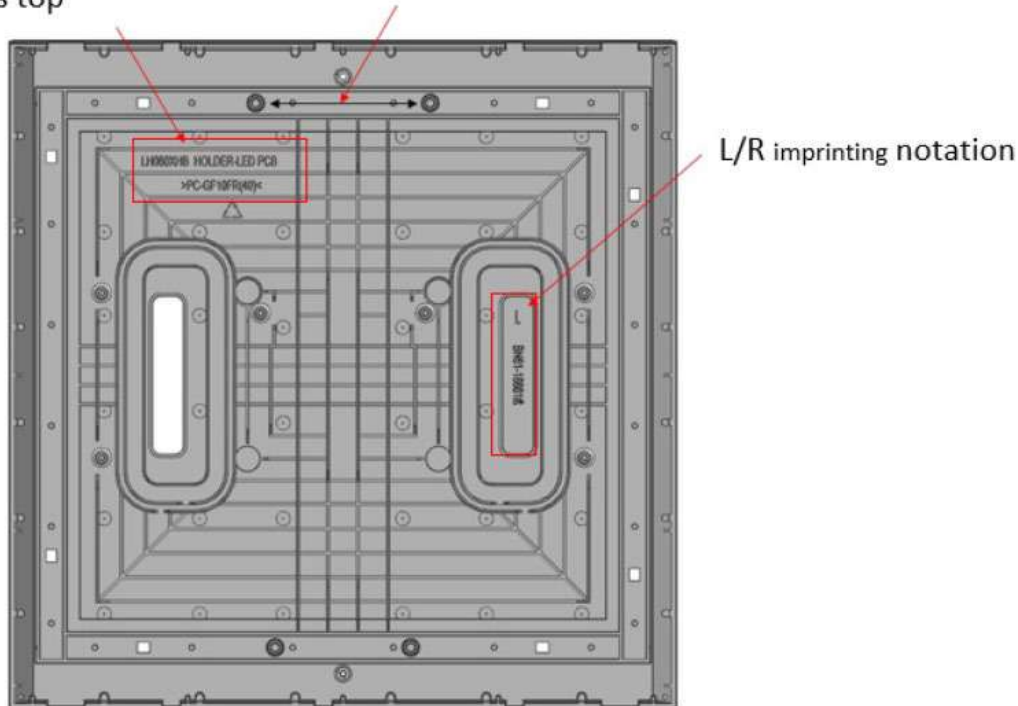
2. Product Information

How to distinguish the top, bottom, left and right sides of the module (Check the back of the module)

- ① Module top and bottom classification: Check the imprinted letters on the back of the module or the top of the module (Module Top) where the BOSS interval is far.
- ② Module left and right: Check the imprinting of the module back connector.

The direction in which you can read the letter imprint is top

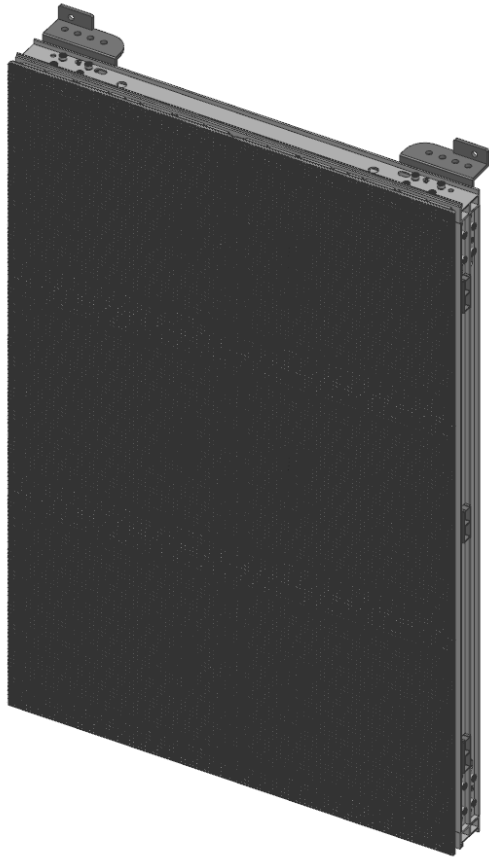
TOP is far away from BOSS



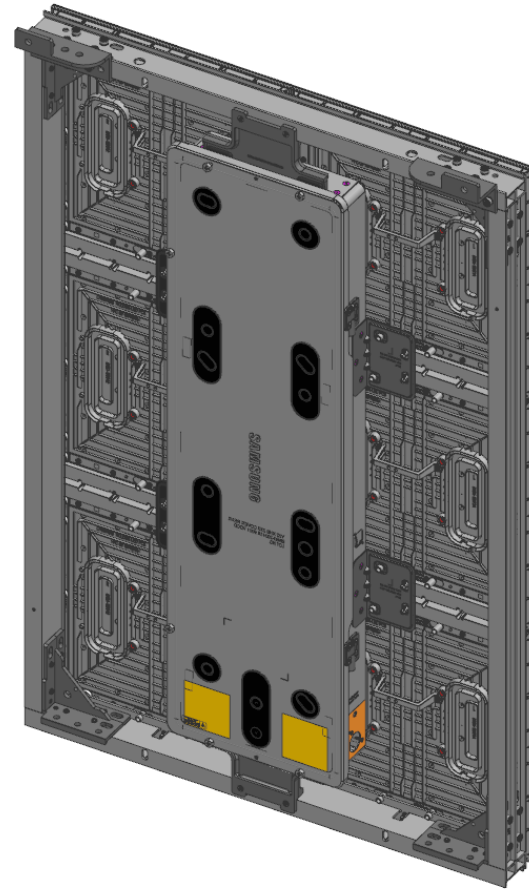
2. Product Information

3) Cabinet

◆ 2X3 External view



Front

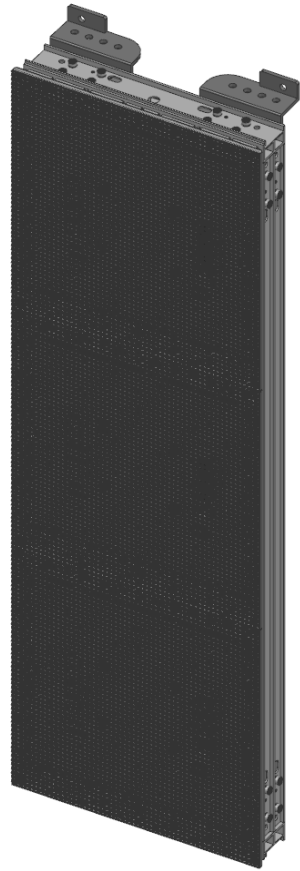


Rear

2. Product Information

3) Cabinet

◆ 1X3 External view



Front

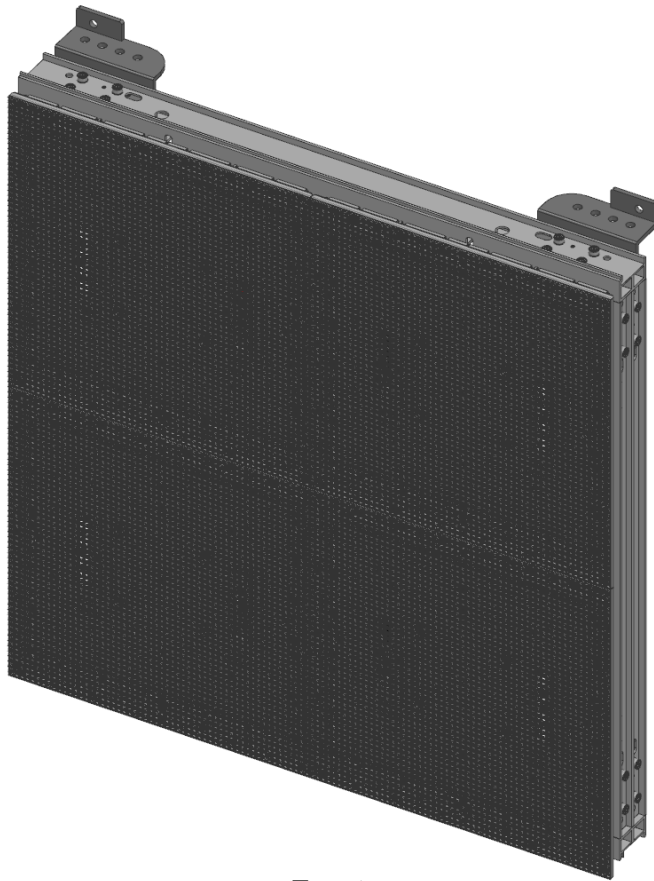


Rear

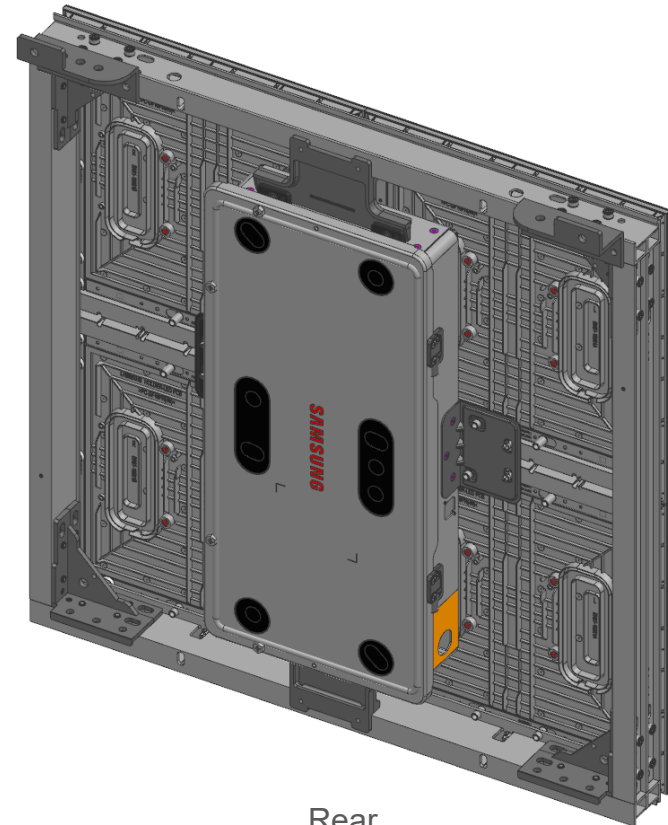
2. Product Information

3) Cabinet

◆ 2X2 External view



Front

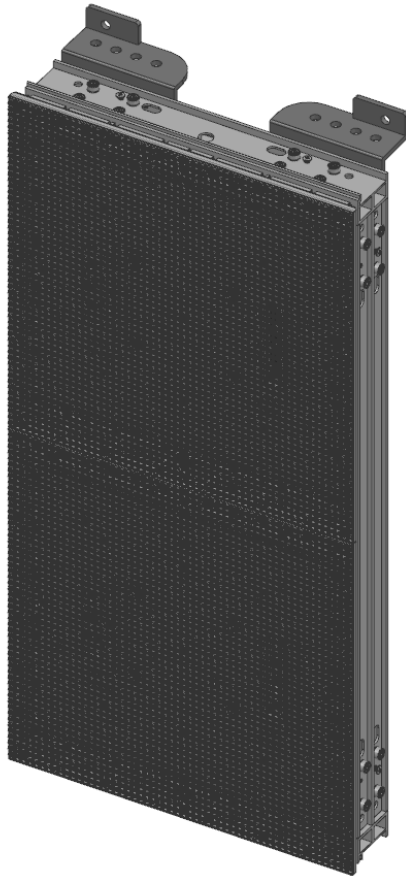


Rear

2. Product Information

3) Cabinet

◆ 1X2 External view



Front

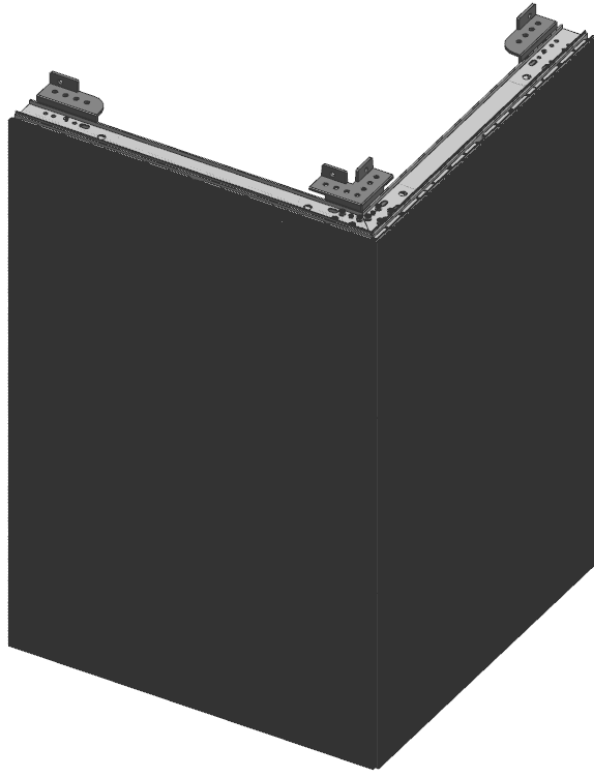


Rear

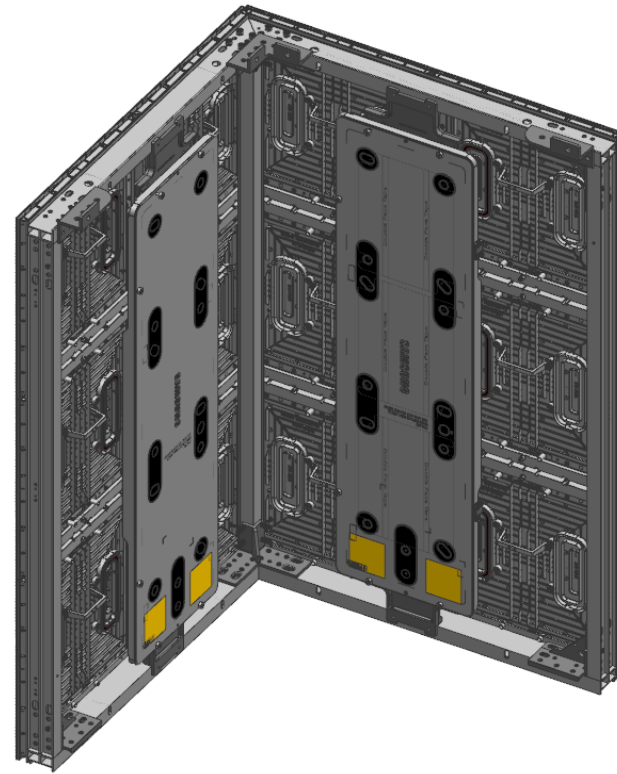
2. Product Information

3) Cabinet

◆ L-Type 4X3 External view



Front



Rear

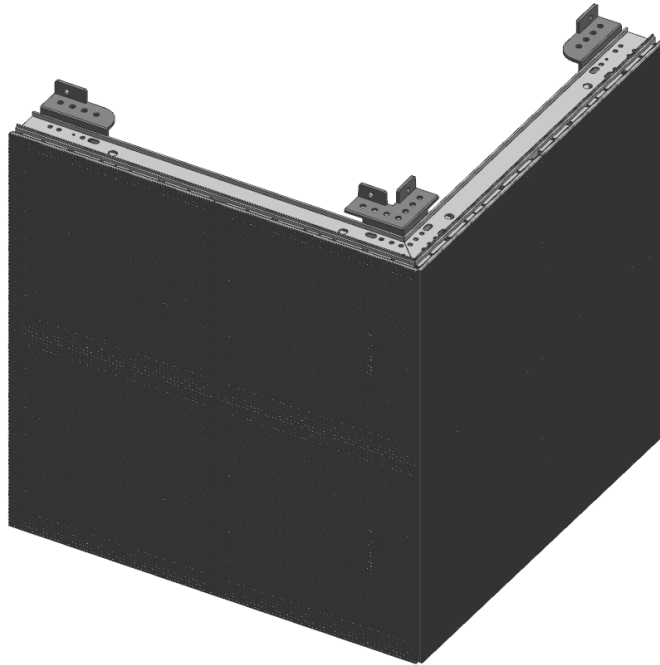
Note: These diagrams show an incorrect corner bracket for the Domestic Market, they should look like this



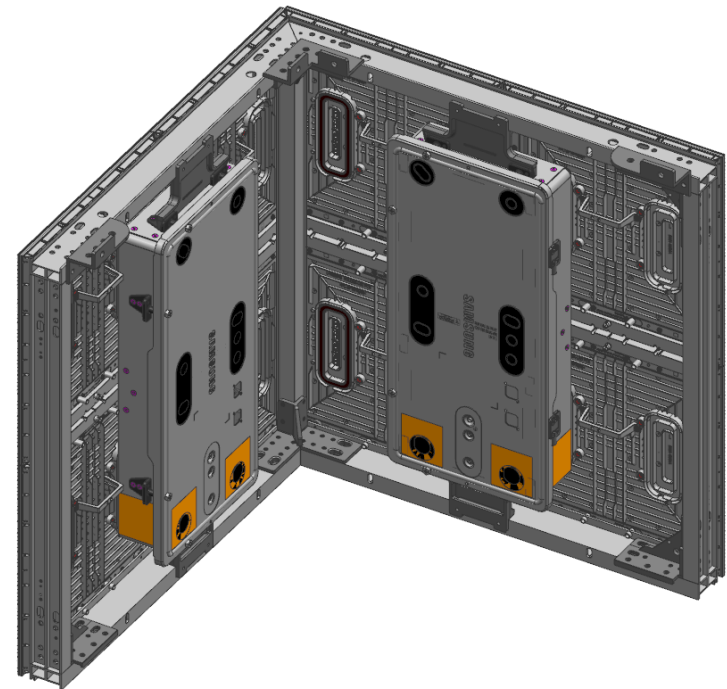
2. Product Information

3) Cabinet

◆ L-Type 4X2 External view

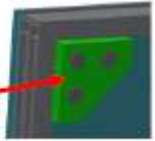


Front



Rear

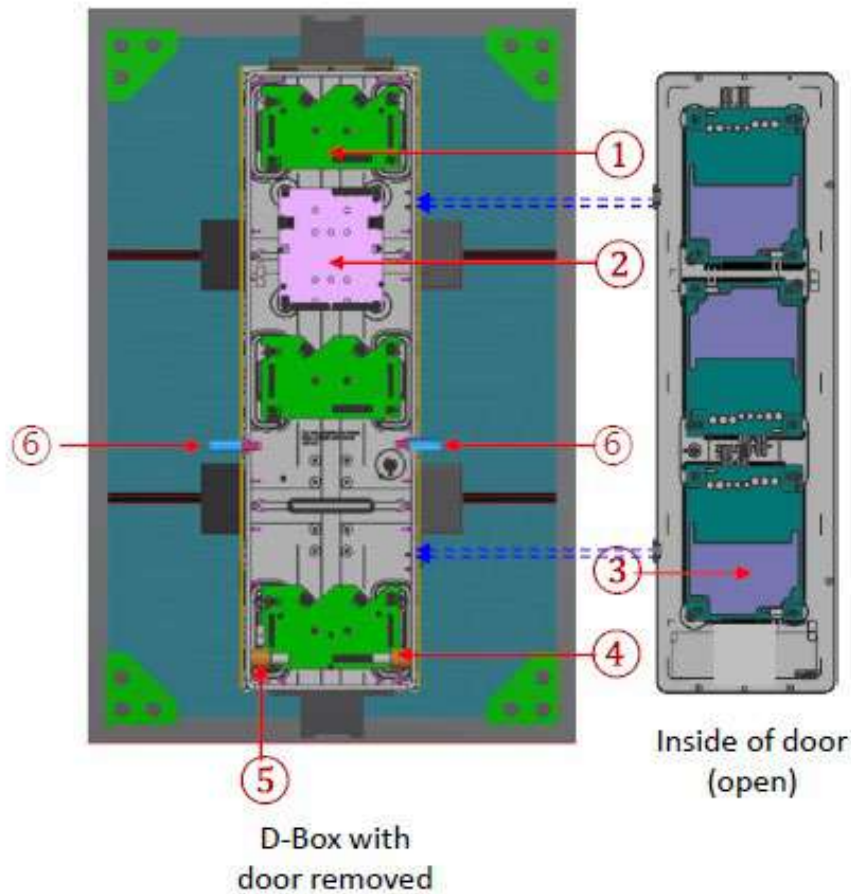
Note: These diagram shows incorrect corner brackets for the Domestic Market, they should look like this



2. Product Information

3) Cabinet

◆ 2X3 Internal view

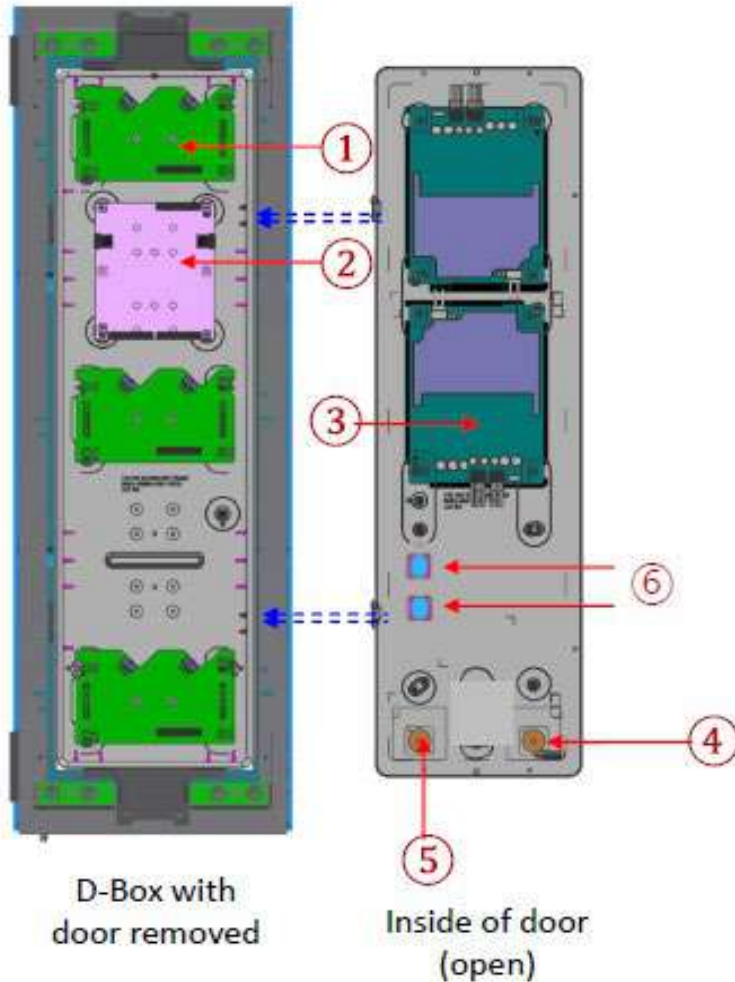


Category	Spec
①	Bridge Board
②	T-CON
③	SMPS
④	AC-CONNECTOR(OUTLET)
⑤	AC-CONNECTOR(INLET)
⑥	DATA-CONNECTOR

2. Product Information

3) Cabinet

◆ 1X3 Internal view



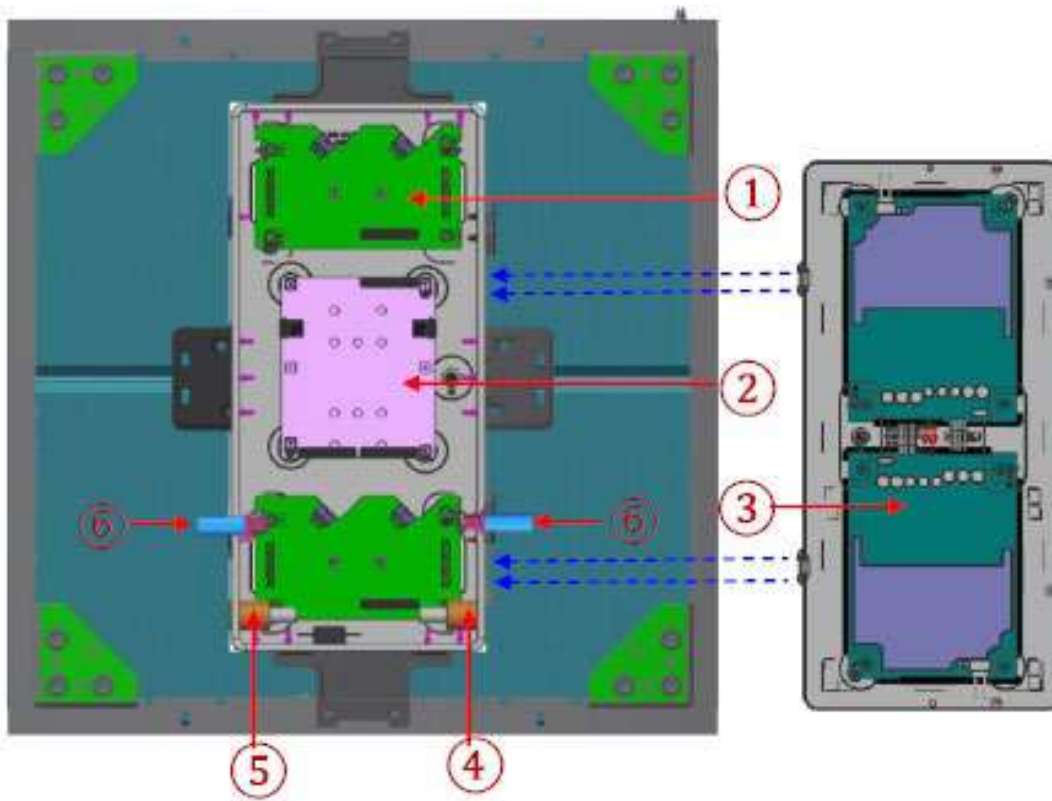
Category	Spec
①	Bridge Board
②	T-CON
③	SMPS
④	AC-CONNECTOR(OUTLET)
⑤	AC-CONNECTOR(INLET)
⑥	DATA-CONNECTOR

2. Product Information

3) Cabinet

◆ 2X2 Internal view

Note: These diagrams show an incorrect corner bracket for the Domestic Market, they should look like this



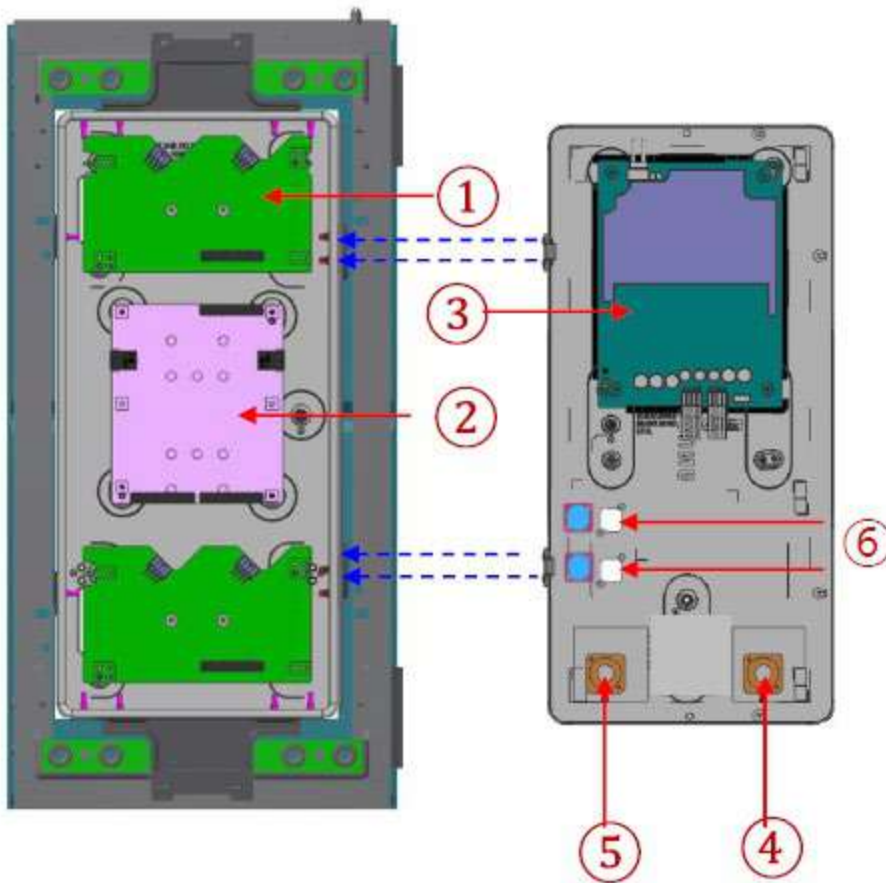
Category	Spec
①	Bridge Board
②	T-CON
③	SMPS
④	AC-CONNECTOR(OUTLET)
⑤	AC-CONNECTOR(INLET)
⑥	DATA-CONNECTOR

2. Product Information

3) Cabinet

◆ 1X2 Internal view

Note: These diagrams show an incorrect corner bracket for the Domestic Market, they should look like this

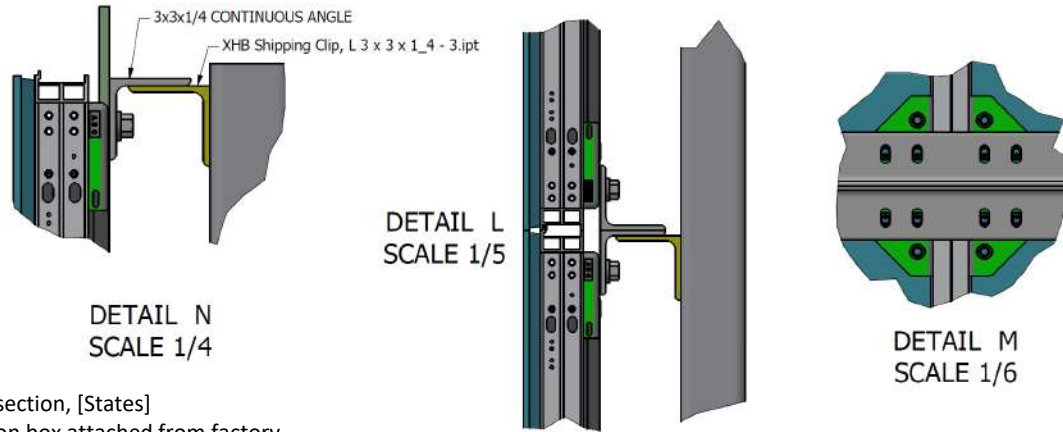


Category	Spec
①	Bridge Board
②	T-CON
③	SMPS
④	AC-CONNECTOR(OUTLET)
⑤	AC-CONNECTOR(INLET)
⑥	DATA-CONNECTOR

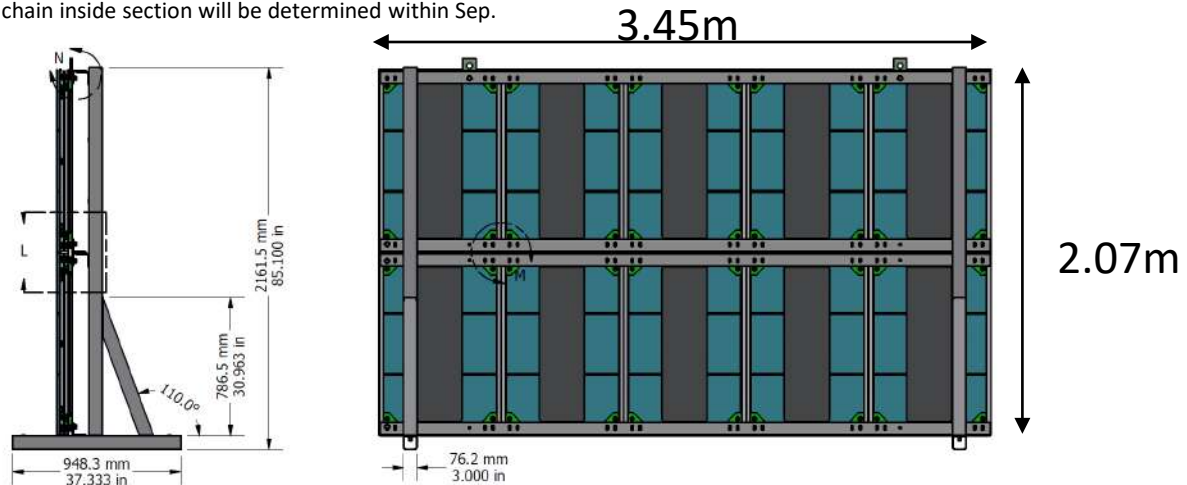
2. Product Information

3) Cabinet

◆ Section Based



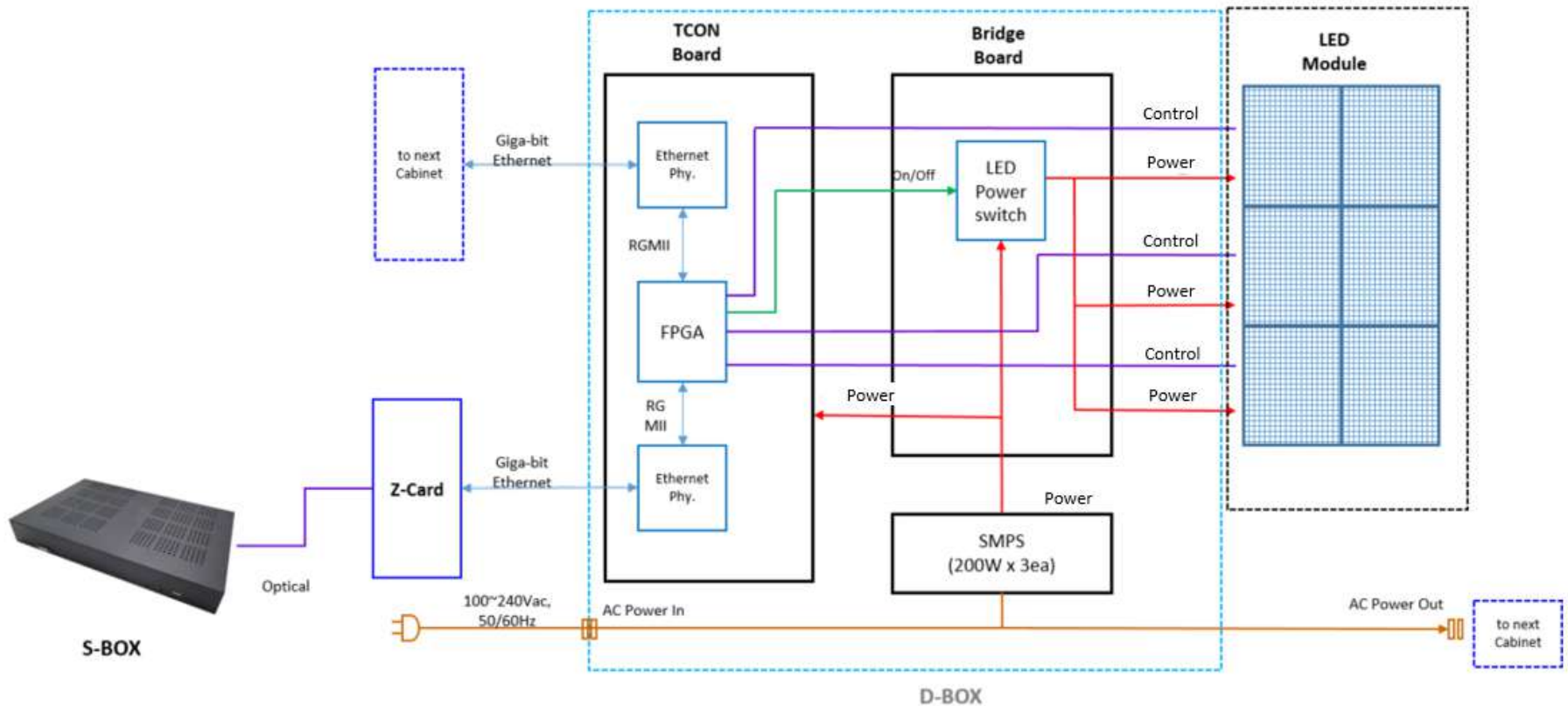
For each section, [States]
AC Junction box attached from factory
AC Power cable daisy chain inside section will be completed from factory
Data cable daisy chain inside section will be determined within Sep.



2. Product Information

4) Circuit configuration

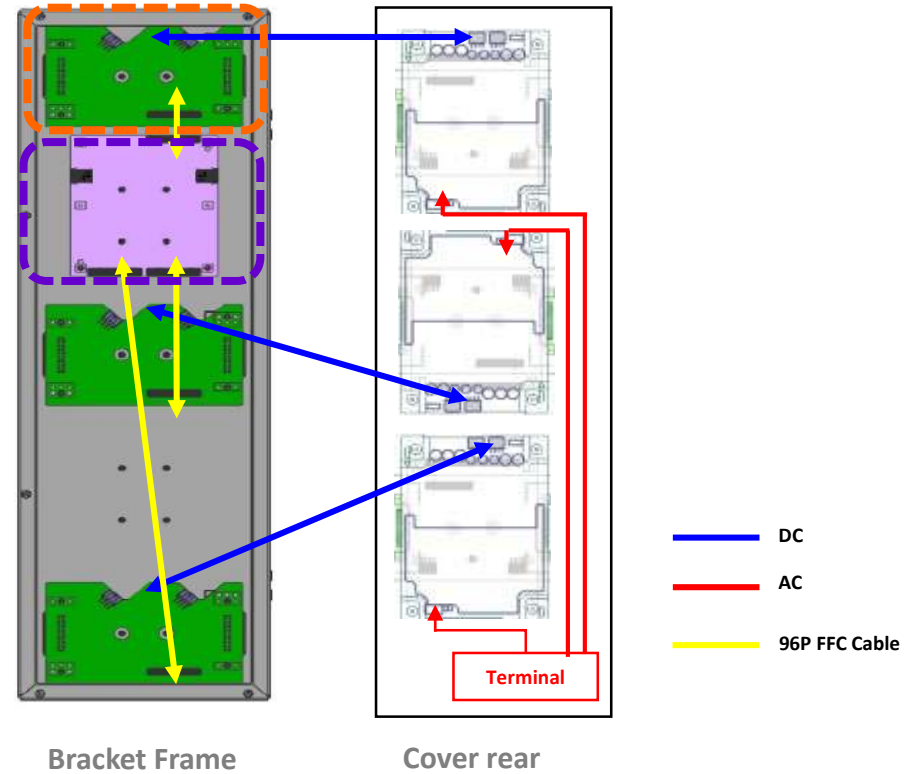
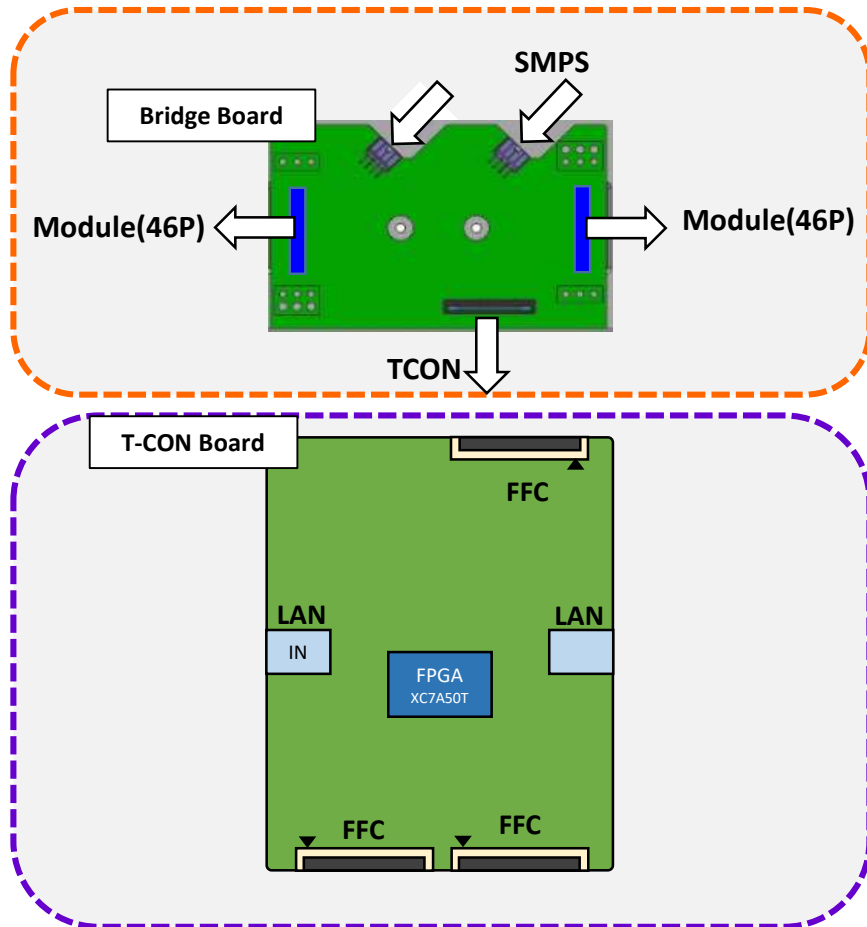
◆ Overview



2. Product Information

4) Circuit configuration

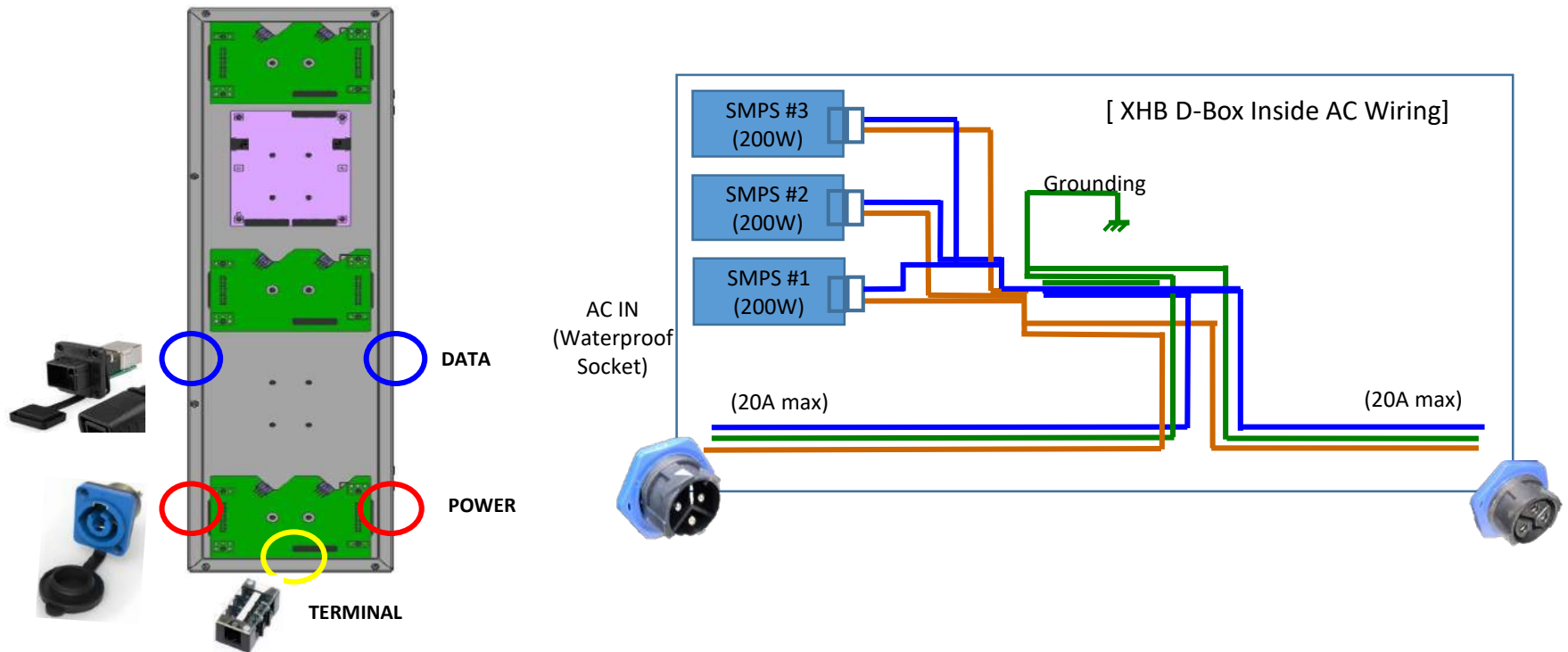
◆ Data BOX Board & Cabling



2. Product Information

4) Circuit configuration

◆ External Connector & Terminal Cabling



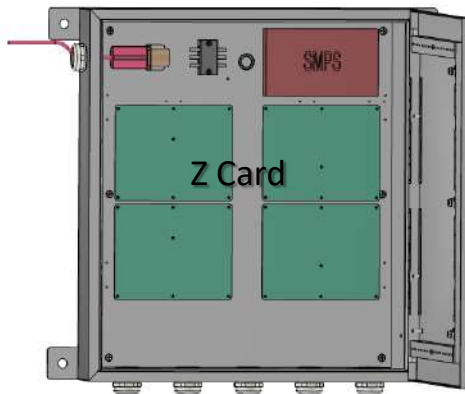
D-BOX

2. Product Information

4) Circuit configuration

◆ Z CASE - Type1 Z-Card & Type2 S-BOX

Z-Card 4EA (or 2EA)



Signal Input : QSFP 4 PORT
Signal Output : Ethernet 5PORTx 4
POWER Input : AC 1 PORT



S-BOX

[XHB Compatibility Model : SBB-CX4BPES/**]



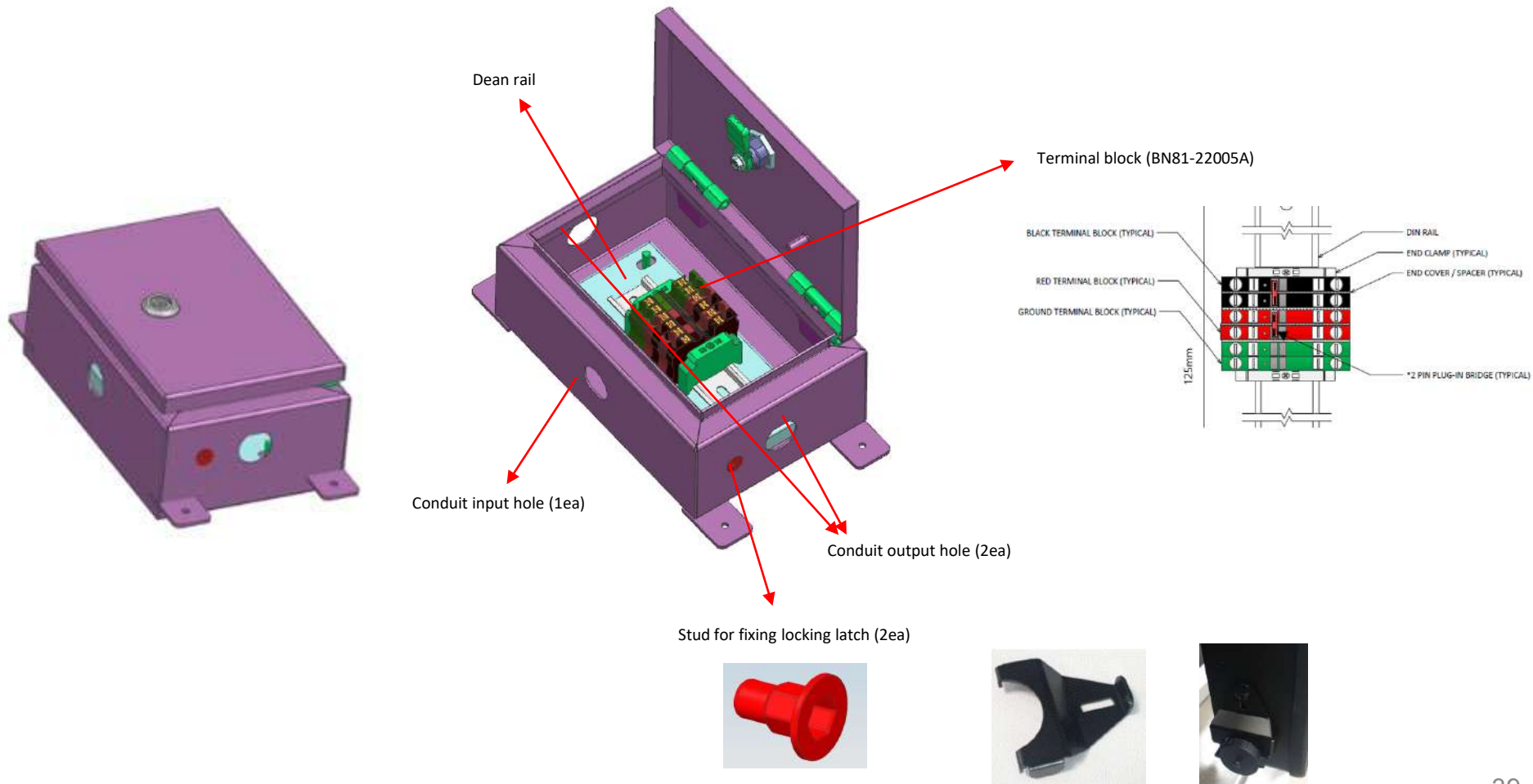
Input : HDMI(2), DP(1), USB(2)
Output : QSFP+ x 4
Power : AC POWER 1 PORT



2. Product Information

4) Circuit configuration

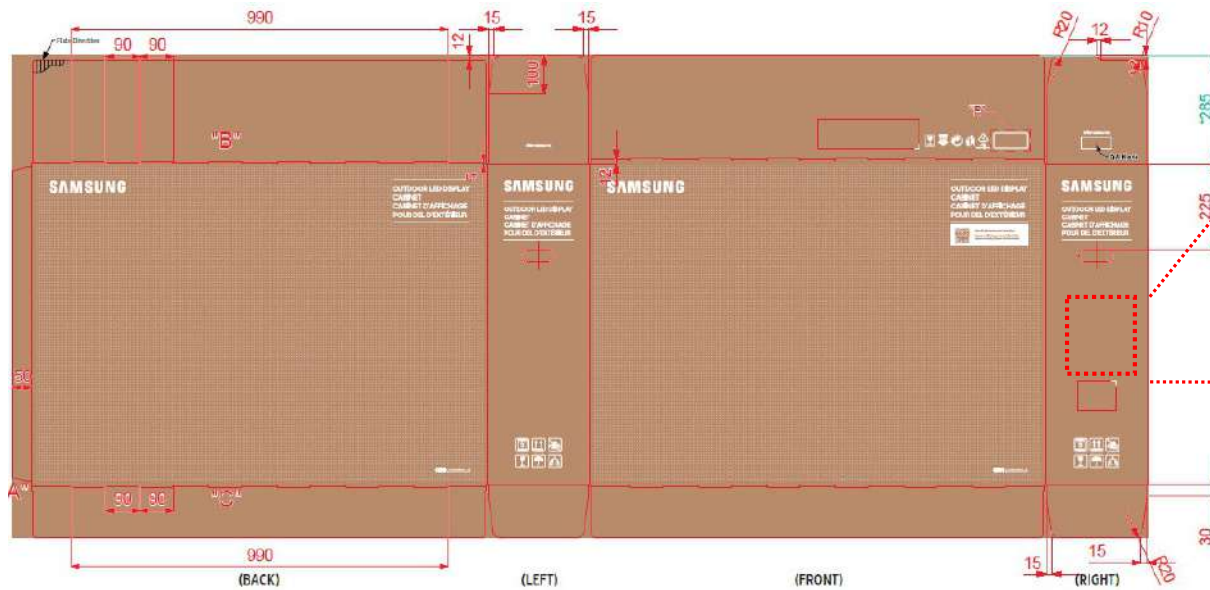
◆ Junction BOX for US Model Only



2. Product Information

5) Package (P6 Flat 2x3 Cabinet)

◆ Outside



CABINET	Package(Box Unit)
2X3	L1206 * W278 * H864
2X2	L861 * W278 * H864
1X3	L1206 * W278 * H512
1X2	L861 * W278 * H512

Model : **XHB060-SA**
 Model Code : LH060XHTAS/PZ
 Type No. : LH060XHBT




S/N : *****



8 87276 66167 4

MADE IN KOREA(SEC)
 FABRIQUE AU CORÉE(SEC)
 HECHO EN COREA(SEC)

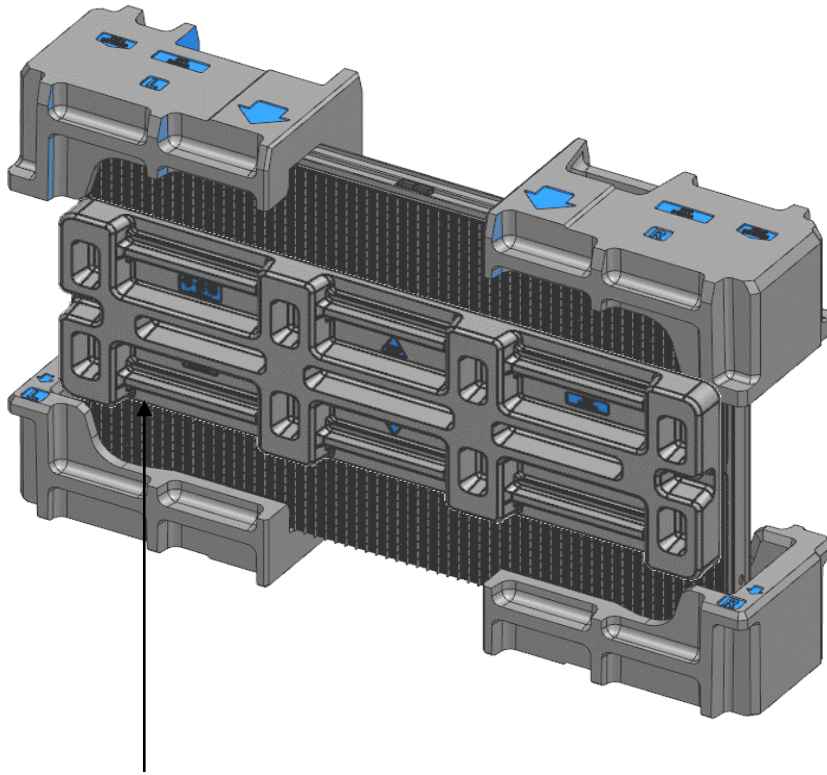
WARNING : Cancer and Reproductive Harm
 - www.P65Warnings.ca.gov

Read the information in the at
 tached label to check the
Model Code.

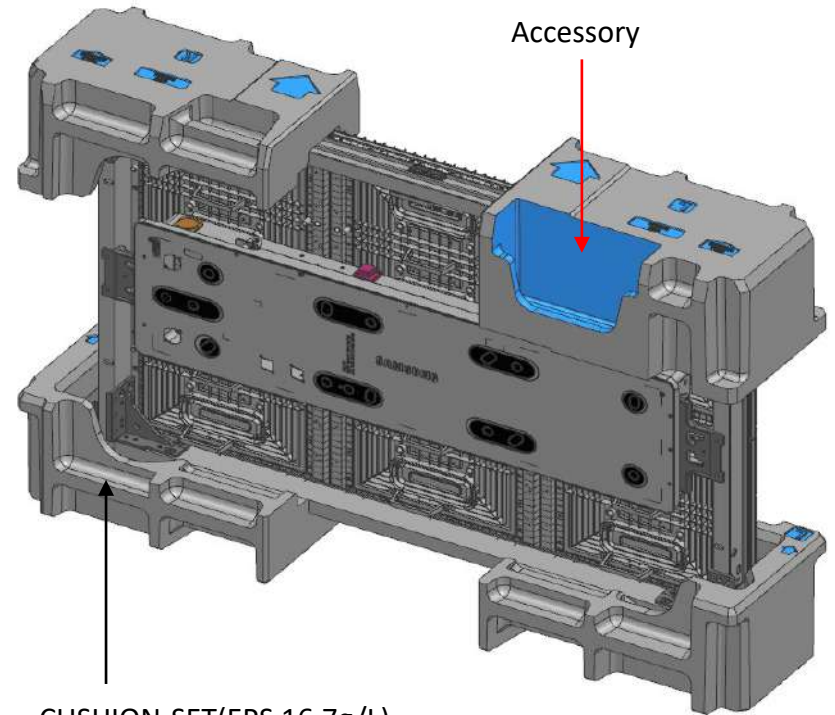
2. Product Information

5) Package (P6 Flat 2x3 Cabinet)

◆ Inside



PAD-EPE(L1160*W390*H60)

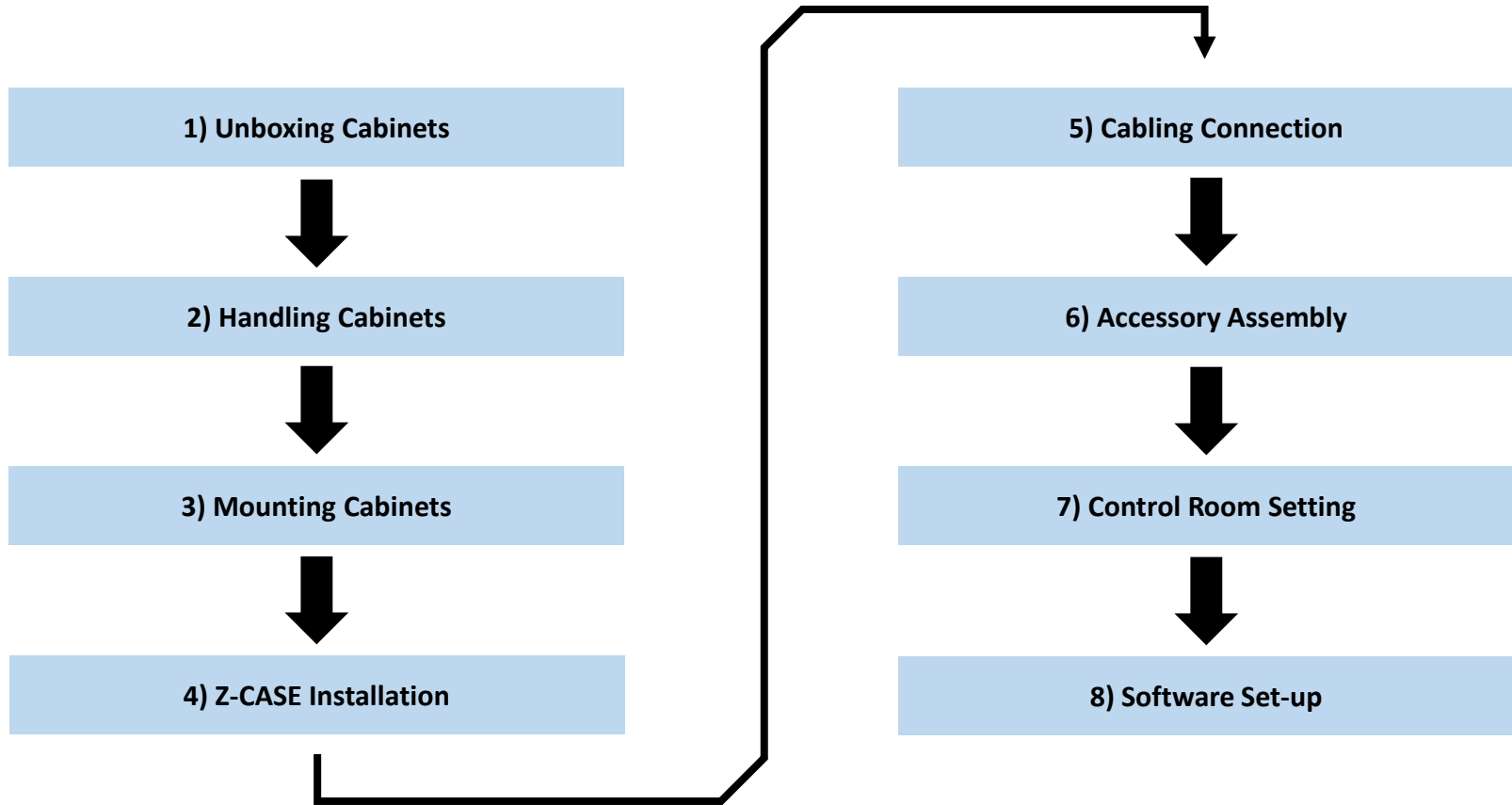


CUSHION-SET(EPS 16.7g/L)

* CUSHION-SET is used in common

CABINET	PAD-EPE
2X3	L1160 * W390 * H60
2X2	L820 * W390 * H60
1X3	L830 * W230 * H60
1X2	L485 * W230 * H60

3. Installation

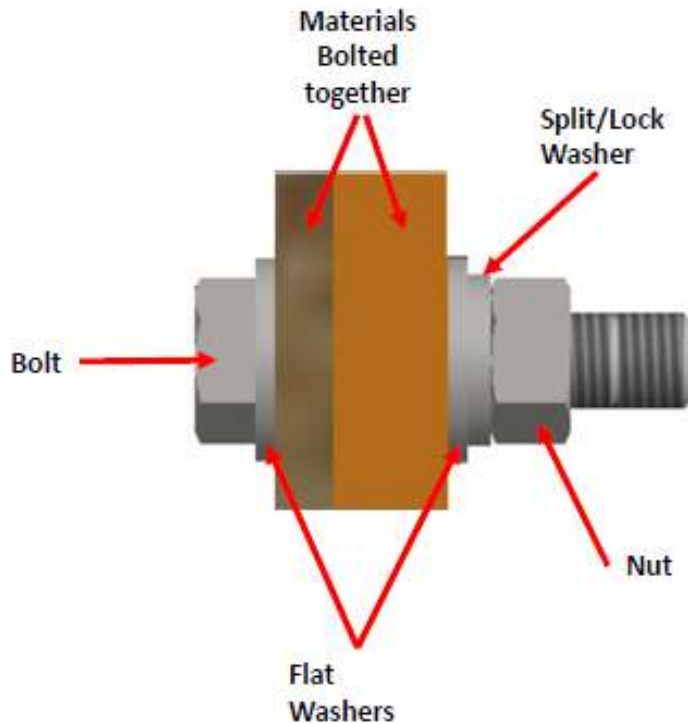


3. Installation

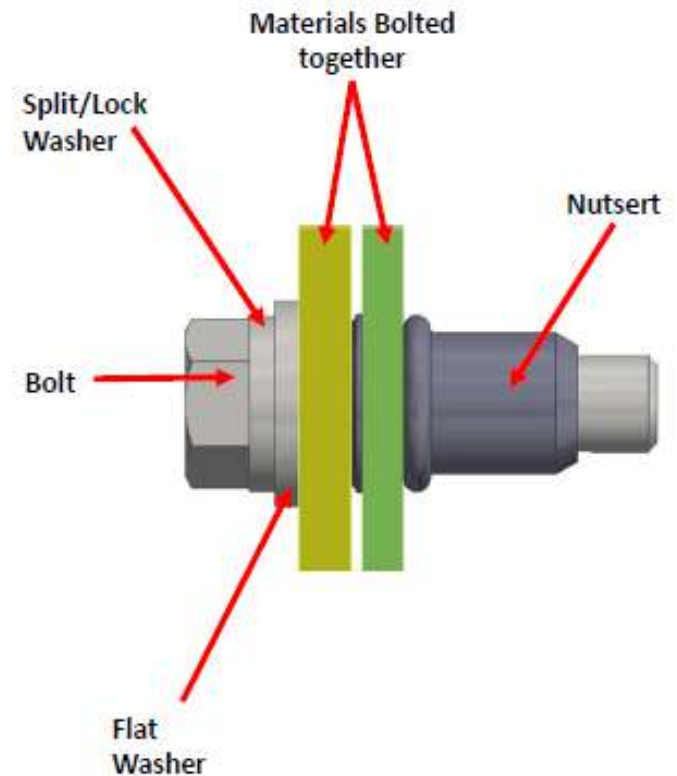
Installation – General requirements, Bolt configurations

Whenever using bolts during installation, always use these configurations.....

When bolting without NUTSERT

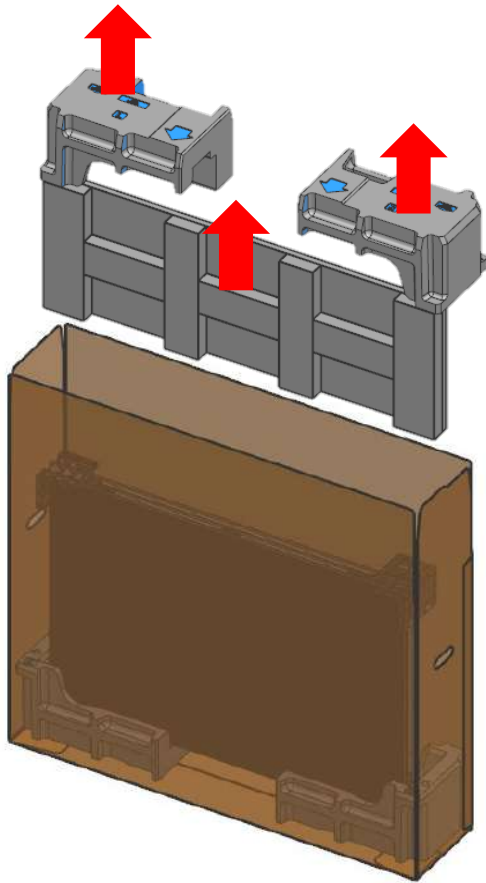


When bolting with NUTSERT

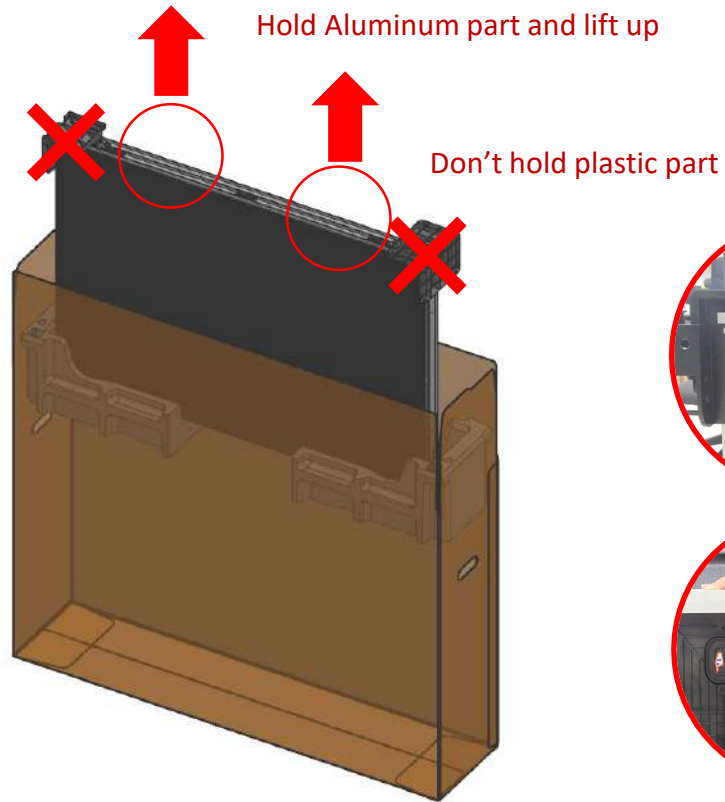


3. Installation

1) Unboxing Cabinets



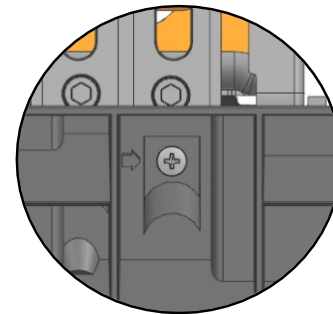
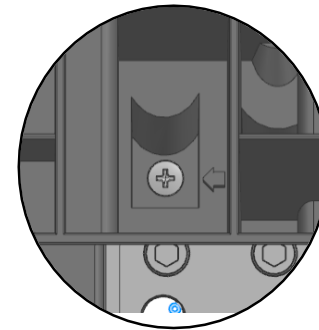
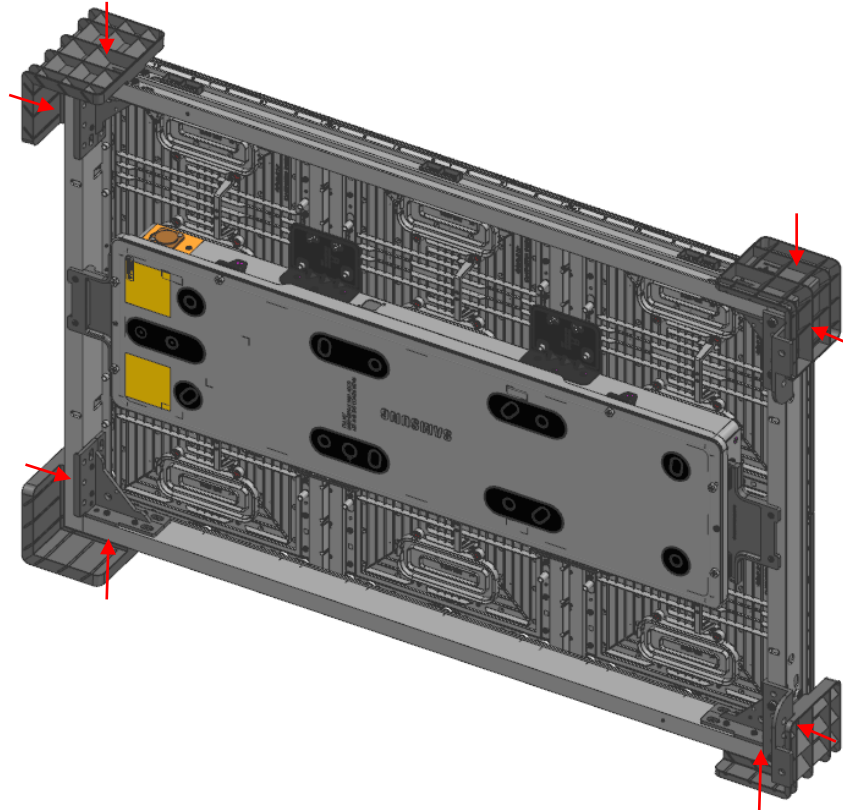
- Open the top of the box and pull out the upper cushion and front PAD-EPE.



- Pull out the Cabinet by holding both ends of aluminum frame

3. Installation

1) Unboxing Cabinets



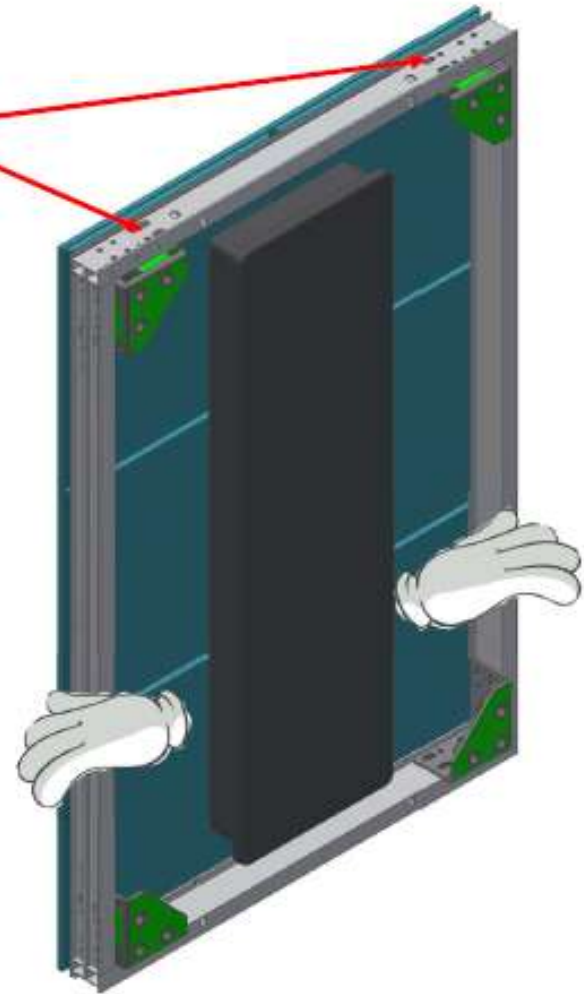
Screw point

Unfasten screw and remove the cover corner(4 points)

3. Installation : Un-Packing/Lifting Individual Cabinets

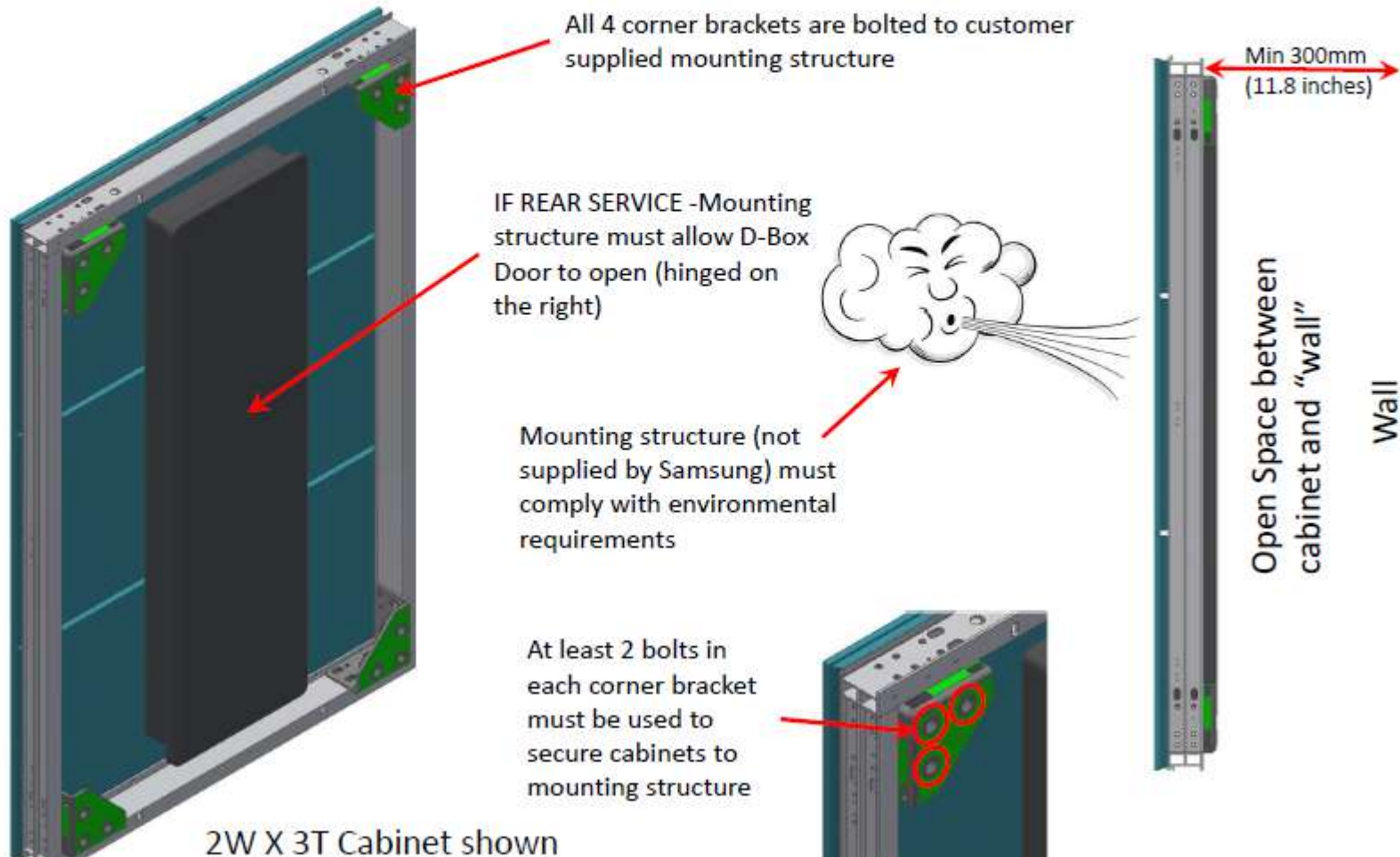
These cabinets can be lifted in any number of ways, methods include:

- Using holes in the top to attach lifting hardware
- Lifting by hand
- Other



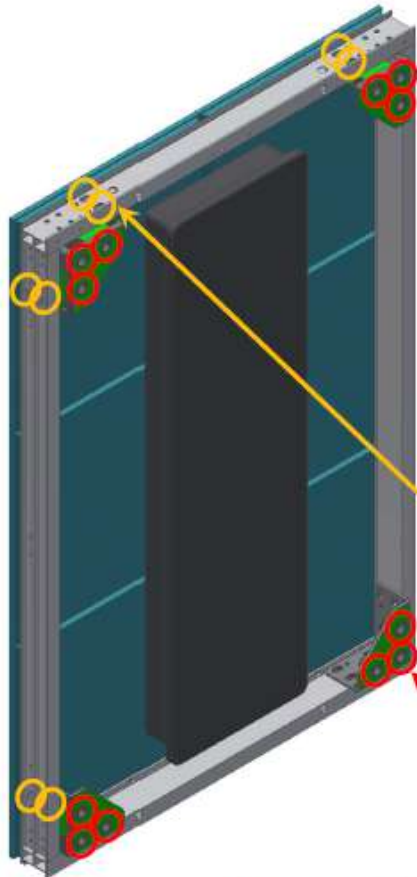
3. Installation

Installation – General requirements, individual cabinets



3. Installation

Installation - General requirements, individual cabinets



2W X 3T Cabinet shown

- Cabinets may be installed from the front or the rear
 - Front install requires removing LED modules in front of the corner brackets to provide access to the corner brackets
- Join cabinets to cabinet as shown (optional)
- Join cabinets to mounting structure as shown (required)

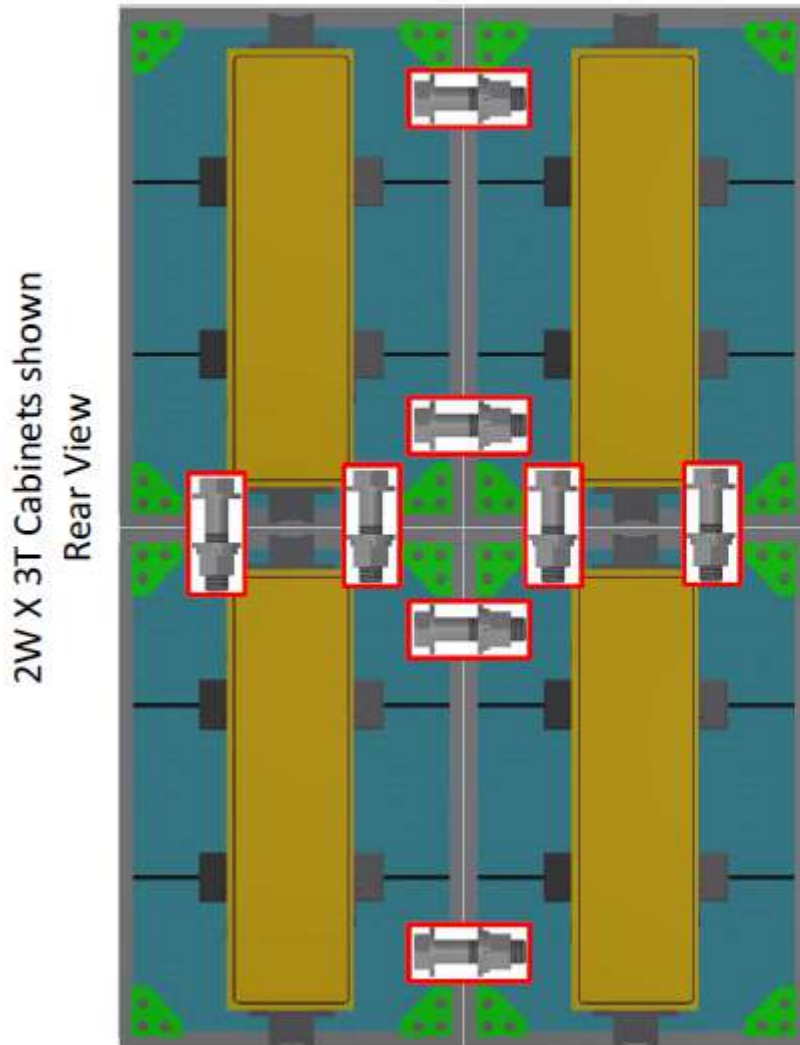
bolts may be installed here, they are optional, *can be used for alignment purposes, dependent on job specific engineering requirements and installer preference* -- **PARTS FOUND IN ACCESSORY KIT – 2, VG-XHTMSKIT**



Install at least 2 bolts in each corner bracket to secure cabinets to mounting structure – **PARTS FOUND IN ACCESSORY KIT – 2, VG-XHTMSKIT**

3. Installation

Installation - General requirements, individual cabinets



- Example showing “Cabinet-to-Cabinet” bolt locations

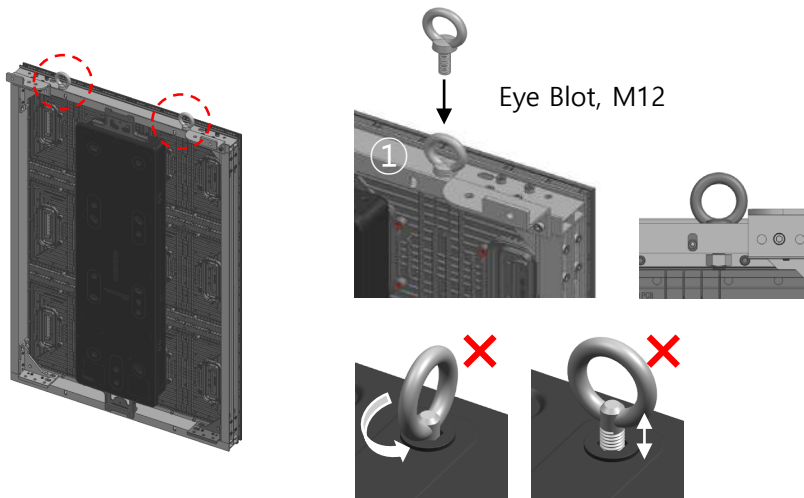
Note: Cabinet to Cabinet bolts are optional, they can be useful for alignment purposes, may be necessary depending on job specific engineering requirements, or installer preference

**PARTS FOUND IN ACCESSORY
KIT – 2, VG-XHTMSKIT**

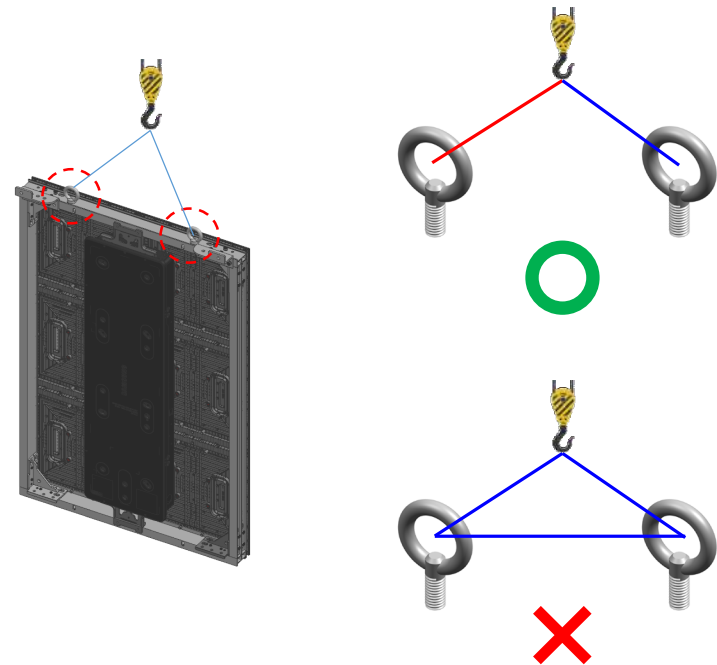
3. Installation

2) Handling Cabinets - Lifting

- Make sure you use two wires (connected using Eye Nut) for each cabinet.
- Use side hole for 2nd wire (redundant wire)
- Remove the Eye Bolt after hang a (cabinet/section) on the frame.



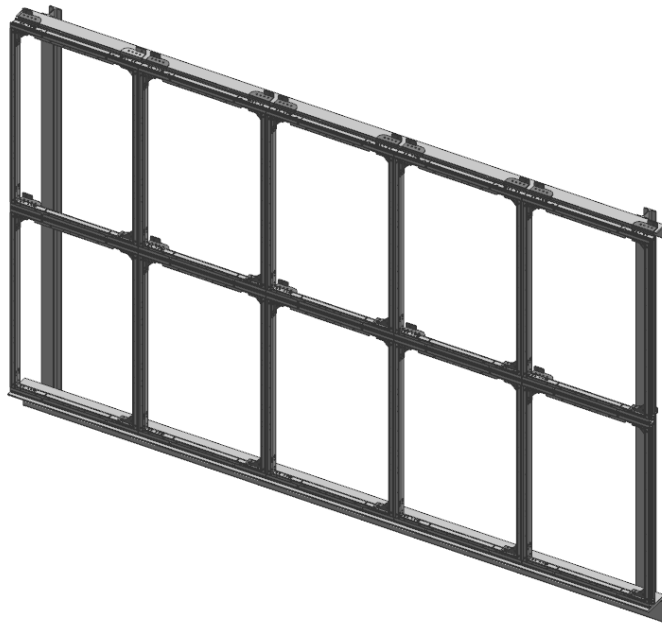
Attach the Eye Bolt (x2) to the frame at both ends on top of the cabinet.



3. Installation

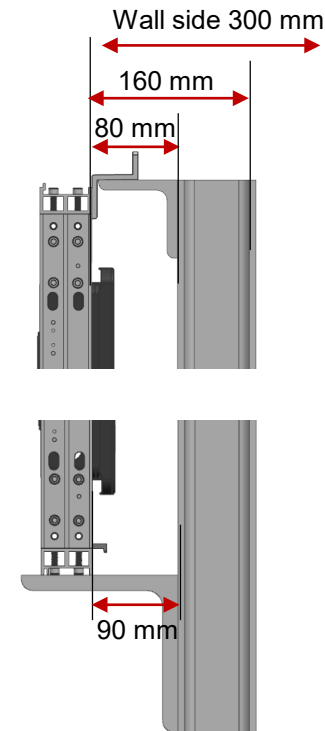
3) Mounting Cabinets

◆ Reference material – Front Installation



※ Modules and data boxes are omitted for understanding

※ Minimum distance for Service



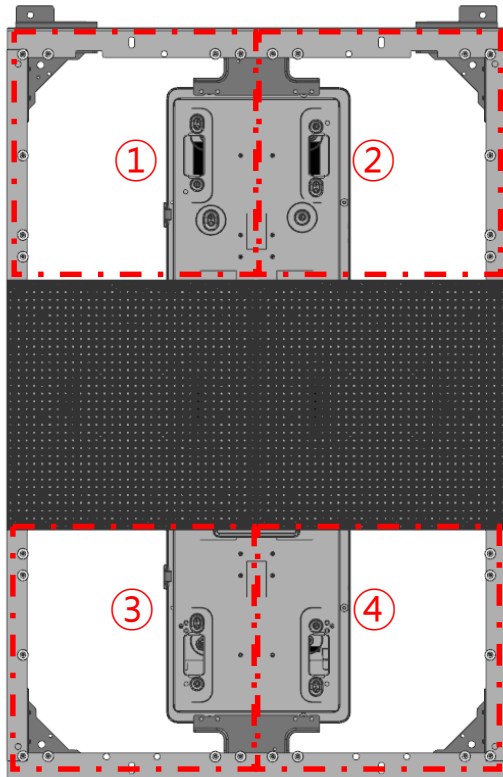
※ When installing the front, a minimum distance of 300mm between the wall and the cabinet is required for D-BOX and cable maintenance.

3. Installation

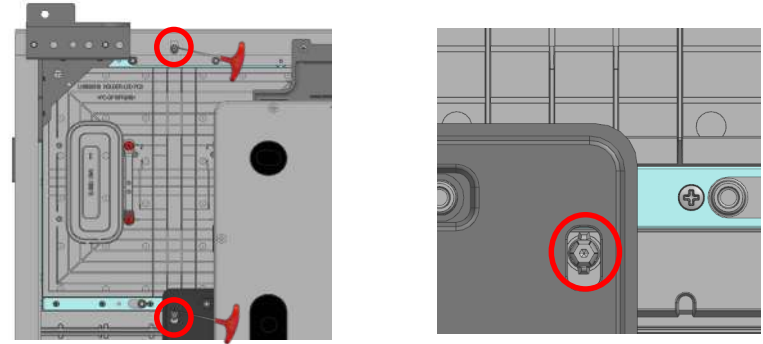
3) mounting cabinets

◆ Front Installation

- 4 modules need to be disassembled before cabinet lifting
- Module decomposition method

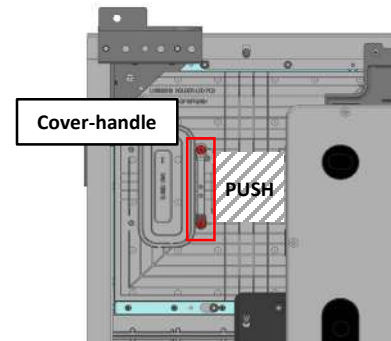


1. Turn the wing nut (2EA) 90 degrees clockwise.



Unlocking

2. Hold the cover handle and press the center of the module.



3. Installation

3) Mounting Cabinets

◆ Reference material – Front Installation

① L, Angle, Secondary Frame



③ I-Beam, Primary Frame

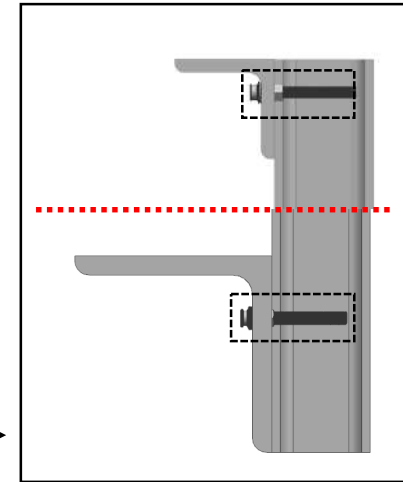


② L, Angle, Secondary Frame



Reference material:

1. L, Equal Angle Secondary Frame
- 3x3x5/16"
2. L, Equal Angle Secondary Frame
- 6x6x5/16"
3. I-beams
- 3x2.5
- M12 assembly bolts and nuts



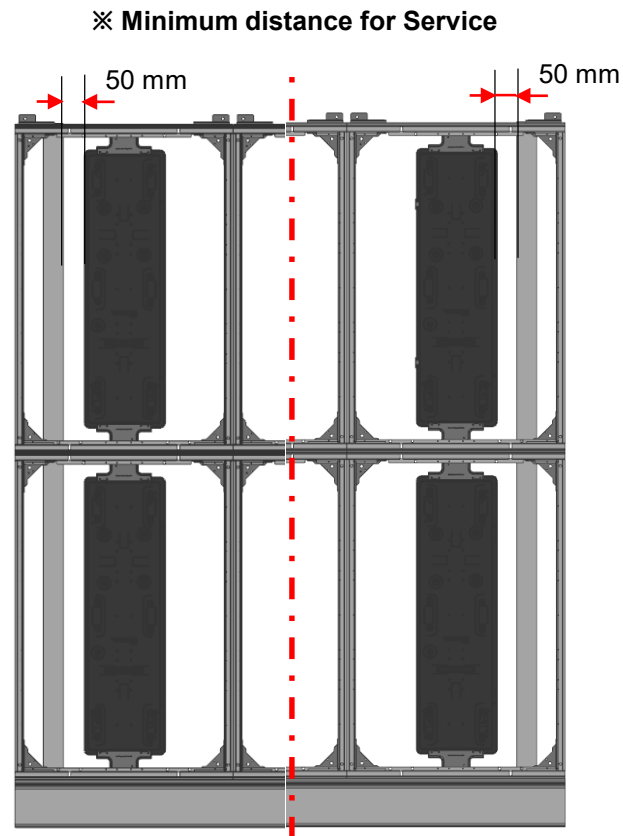
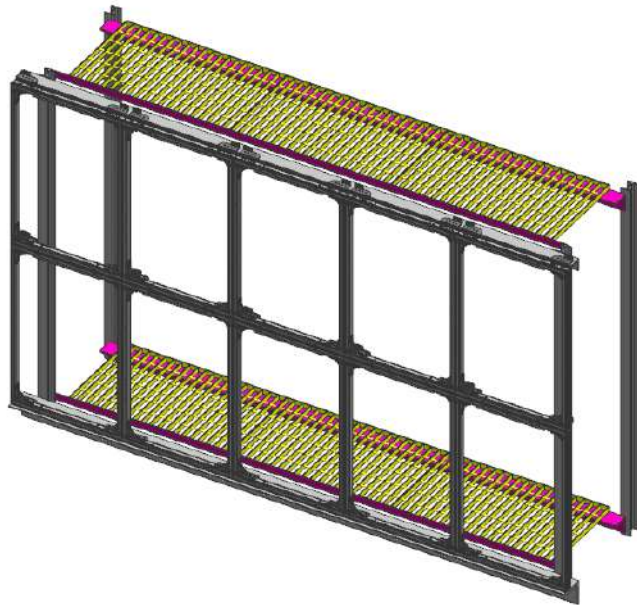
※ **Reinforcement with angles depending on the distance between the H-beams should be dealt with by Installer, based on the wind load and the acquired construction permit**

※ **These materials must be fabricated and provided by the installer or Installation contractor. Samsung does not provide these parts**

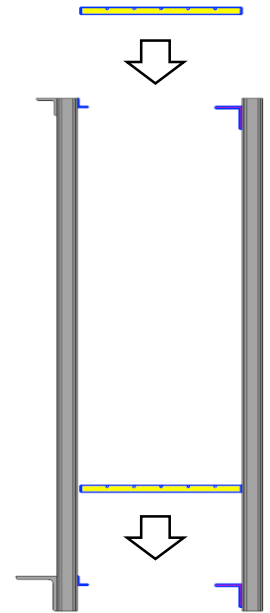
3. Installation

3) Mounting Cabinets

◆ Reference material – Rear Installation



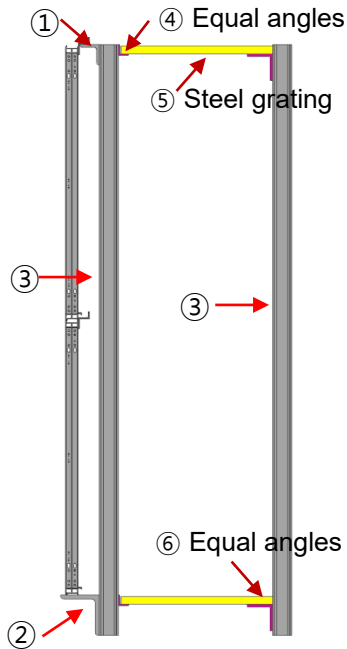
※ Put Steel grating after assembling Equal angles



3. Installation

3) Mounting Cabinets

◆ Reference material – Rear Installation



※ When installing the rear, a minimum of 600mm of steel grating width is required for maintenance

Reference material:

1 ~ 3. Same with Front Installation

4. Steel grating (1000x600x30 / permitted load: 19 kN/m² / span: 800 mm)

5. **40x40xT5** Equal angles (KS, JIS)
- M12 assembly bolts and nuts

6. **100x100xT10** Equal angles (KS, JIS)
- M12 assembly bolts and nuts

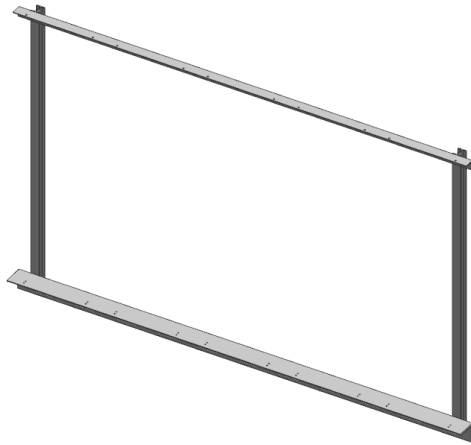
※ Reinforcement with angles depending on the distance between the H-beams should be dealt with by Installer, based on the wind load and the acquired construction permit

※ These materials must be fabricated and provided by the installer or Installation contractor. Samsung does not provide these parts

3. Installation

3) Mounting Cabinets

◆ Frame



Reference material:

1. L, Equal Angle Secondary Frame
- 3x3x5/16"

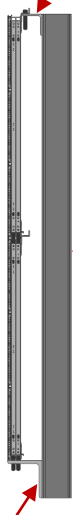
2. L, Equal Angle Secondary Frame
- 6x6x5/16"

3. I-beams

- 3x2.5

- M12 assembly bolts and nuts

① L, Angle, Secondary Frame



Primary Frame

③ H Beam

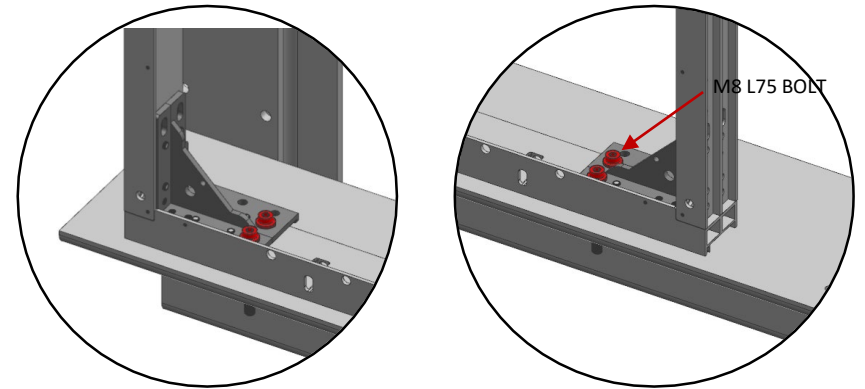
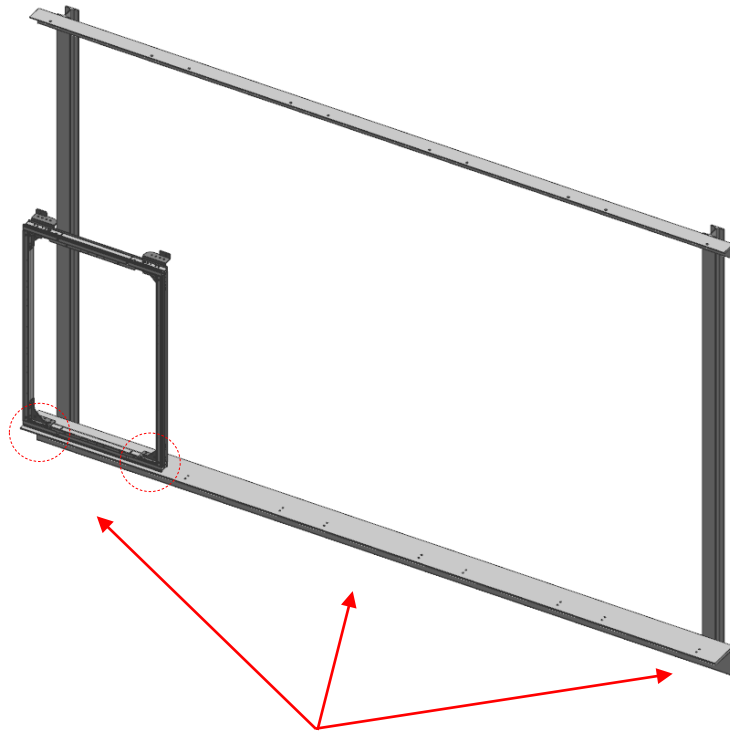
② L, Angle, Secondary Frame

※ Reinforcement with angles depending on the distance between the H-beams should be dealt with by Installer, based on the wind load and the acquired construction permit

3. Installation

3) Mounting Cabinets

◆ Lowest of section(2X5)



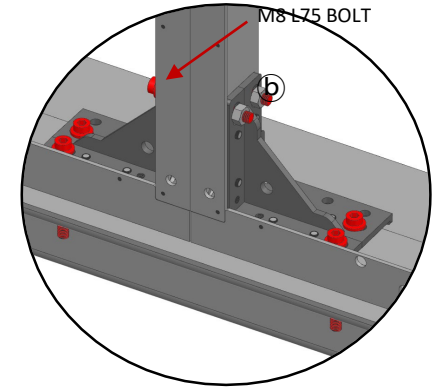
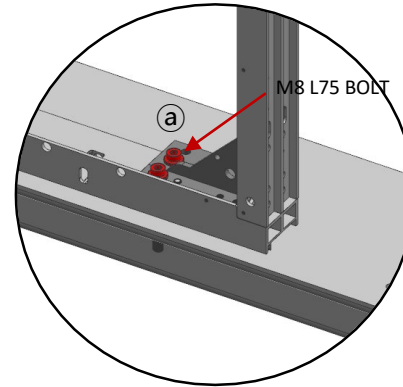
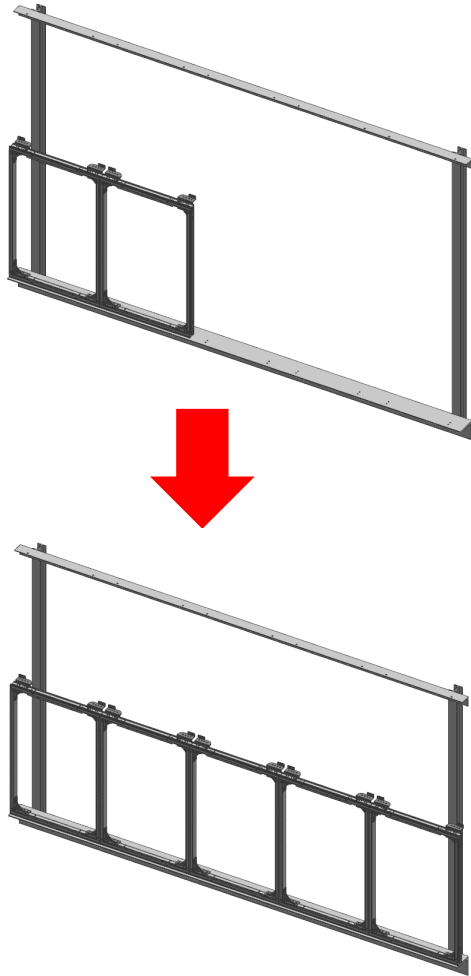
Tighten the cabinets (1st Floor) to the bottom L angle with bolts

※ First cabinet can be installed in left, right or middle location of L angle

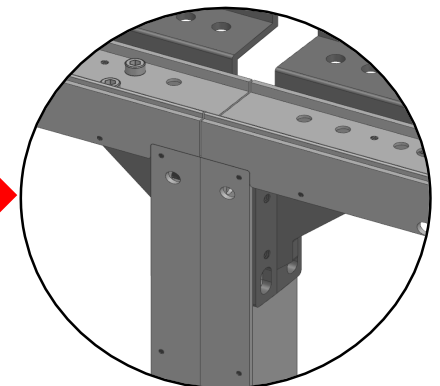
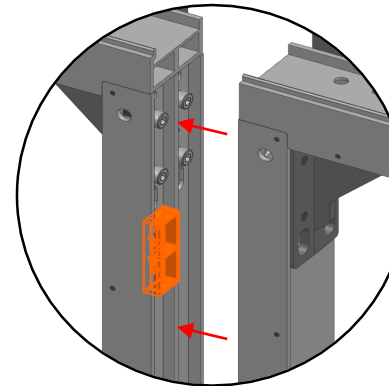
3. Installation

3) Mounting Cabinets

◆ Lowest of section



- Ⓐ Tighten the cabinets (1st Floor) to the bottom L angle with bolts
- Ⓑ Tighten the two cabinets directly from inside the cabinet with bolts.

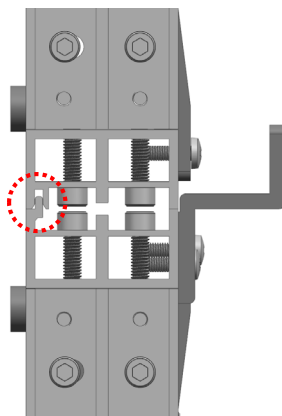
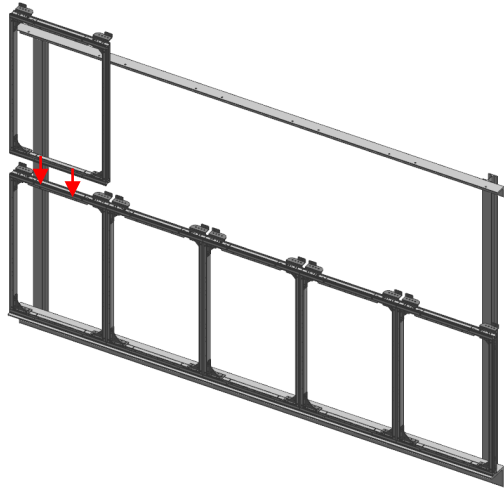


Assemble according to the holder guide (3EA per set)
there is no need to adjust X-axis SEAM

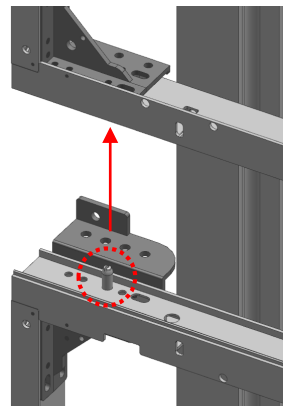
3. Installation

3) Mounting Cabinets

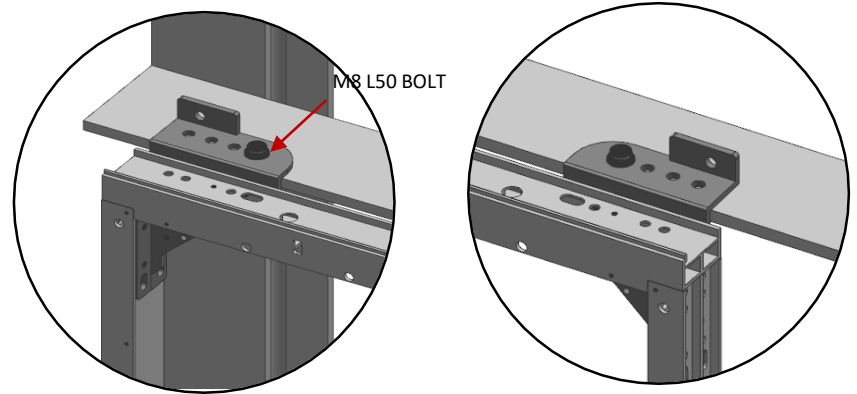
◆ Upward extension



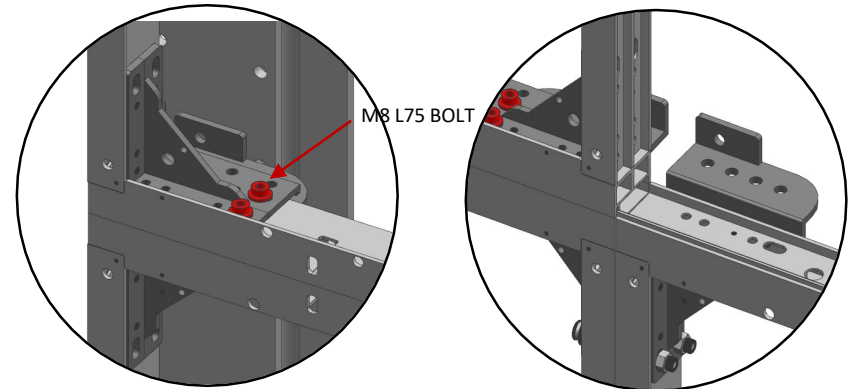
Assemble according to Z-axis guide shape



Assemble according to Bracket Guide Frame



Tighten the cabinets (2st Floor) to the top L angle with bolts

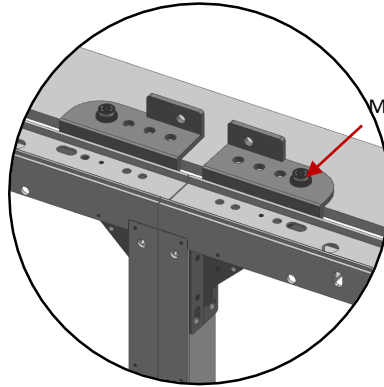
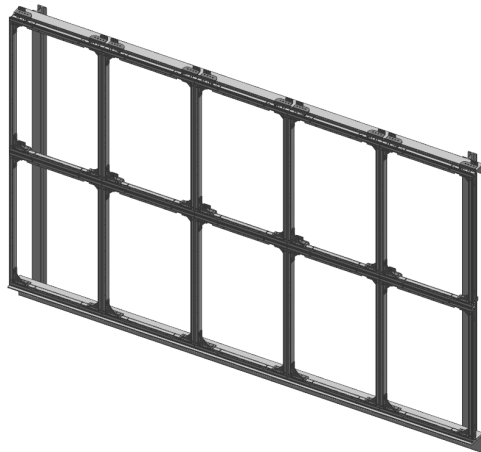
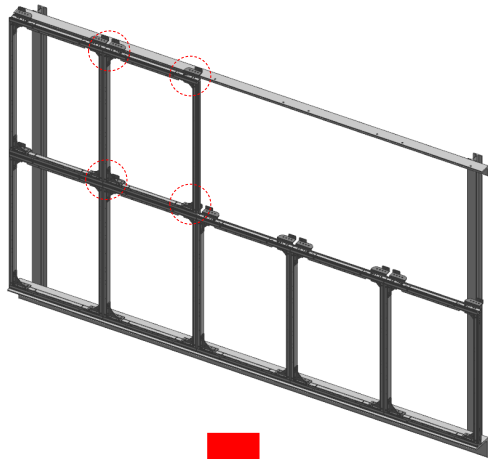


Tighten the brackets against the bottom of the two cabinets with bolts.

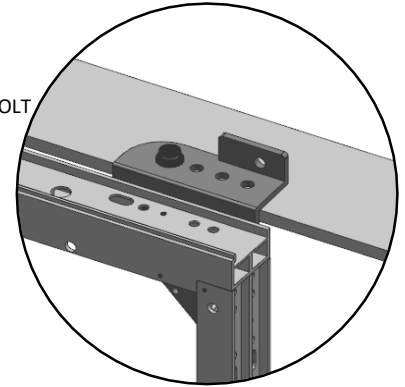
3. Installation

3) Mounting Cabinets

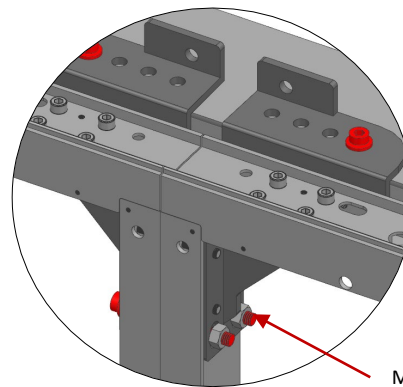
◆ Upward extension



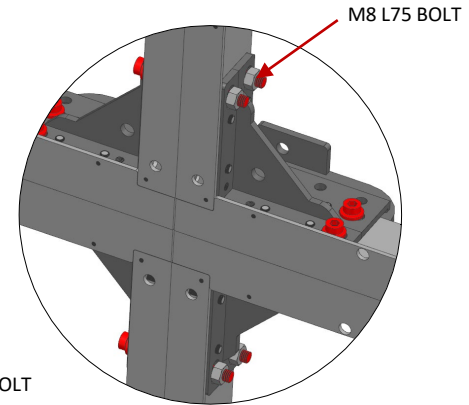
M8 L50 BOLT



Tighten the cabinets (2st Floor) to the top L angle with bolts



M8 L75 BOLT



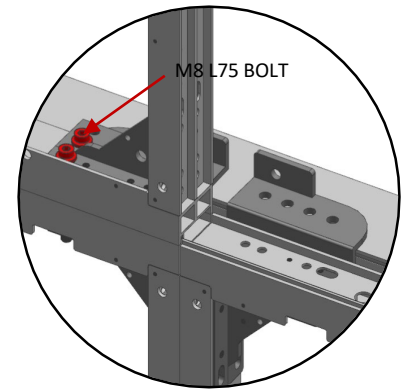
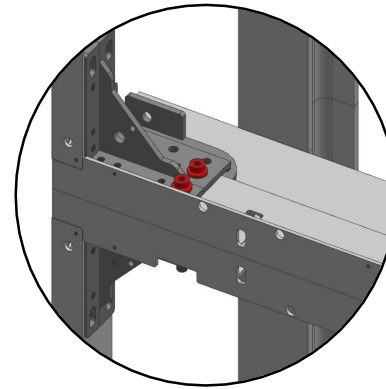
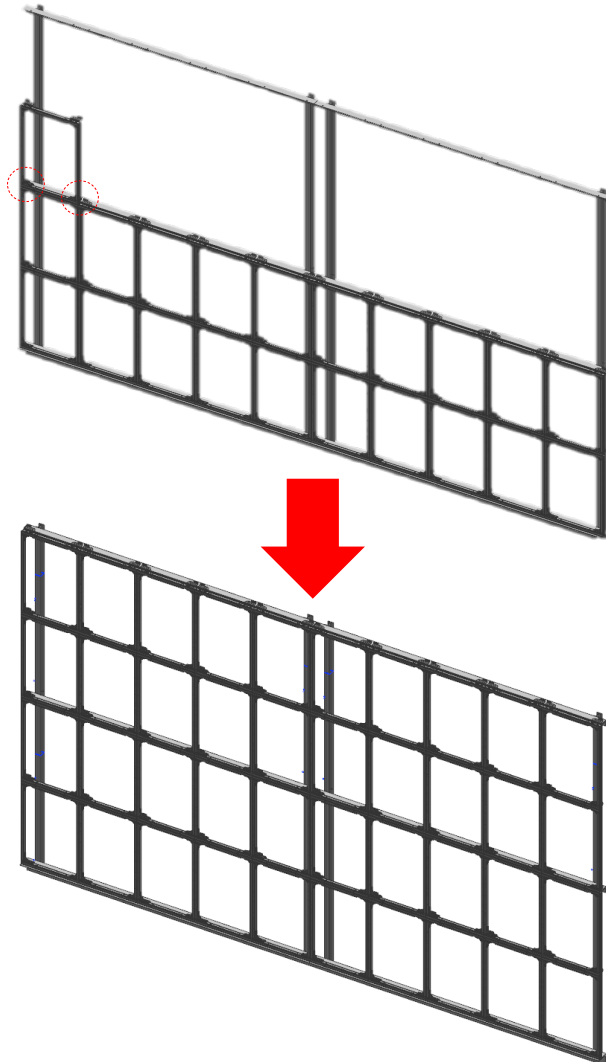
M8 L75 BOLT

Tighten the brackets against the two cabinets with bolts.

3. Installation

3) Mounting Cabinets

◆ Upward extension

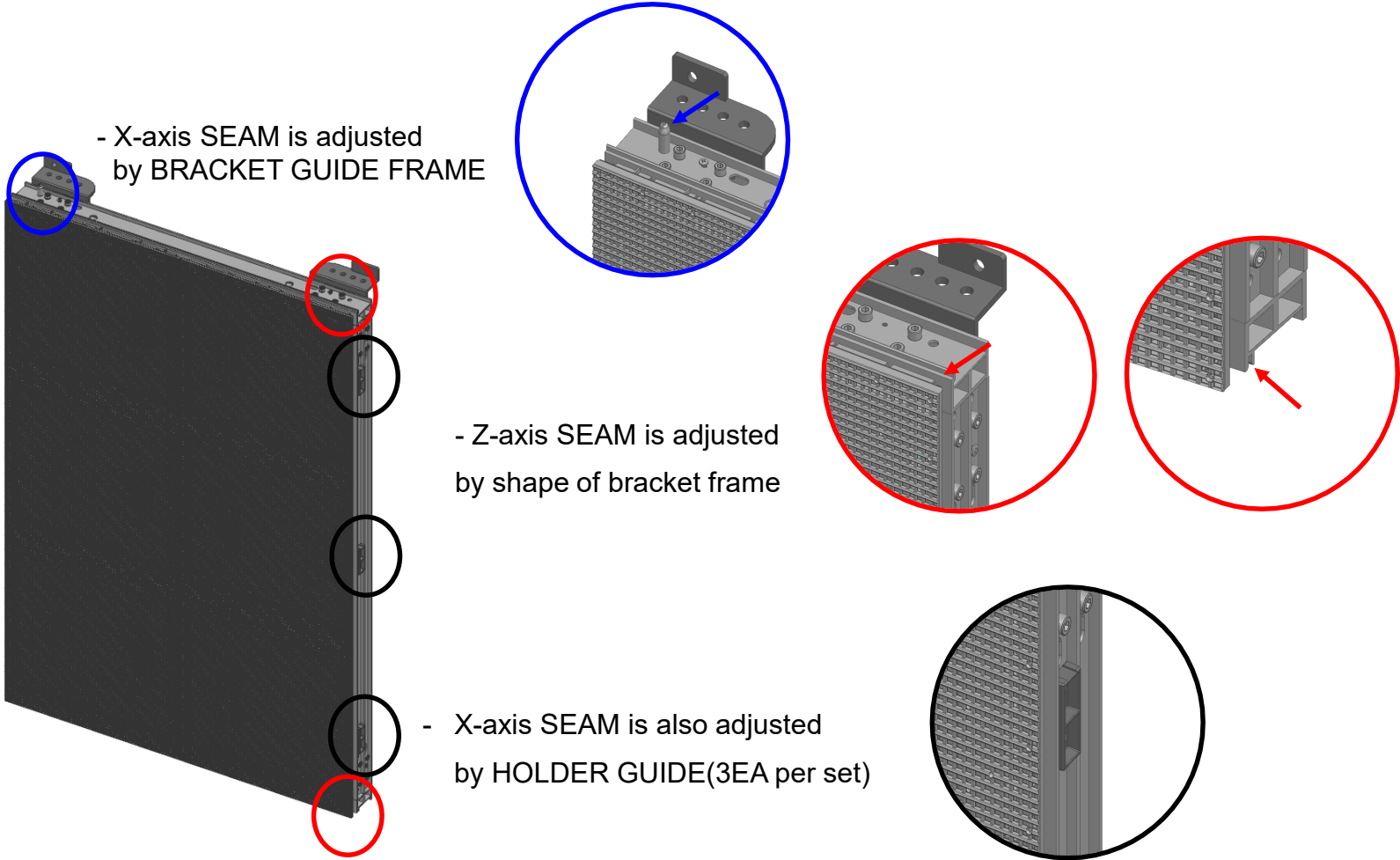


Tighten the brackets against the bottom of the two cabinets with bolts.

3. Installation

3) Mounting Cabinets

◆ SEAM control information

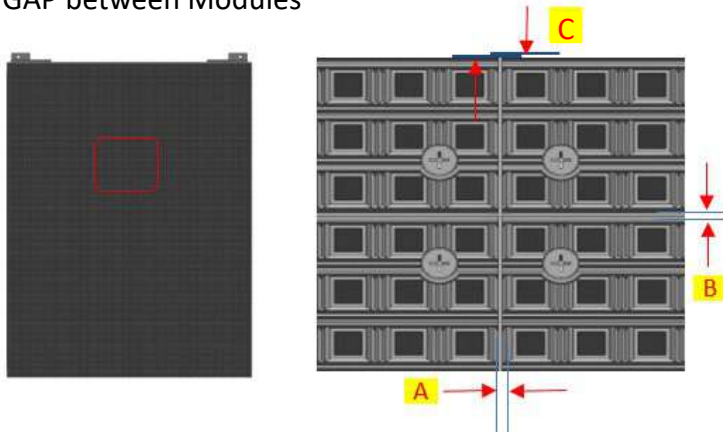


3. Installation

3) Mounting Cabinets

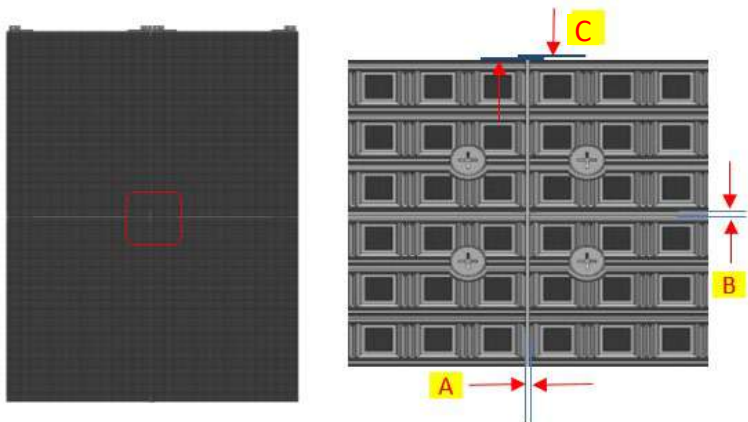
◆ SEAM control information

- GAP between Modules



P6	P8, P10	P16
$0.2 \leq A \leq 0.7\text{mm}$	$0.2 \leq A \leq 0.8\text{mm}$	$0.3 \leq A \leq 1.0\text{mm}$
$0.2 \leq B \leq 0.7\text{mm}$	$0.2 \leq B \leq 0.8\text{mm}$	$0.3 \leq B \leq 1.0\text{mm}$
$- 0.4 \leq C \leq 0.4\text{mm}$		

- GAP between Cabinets

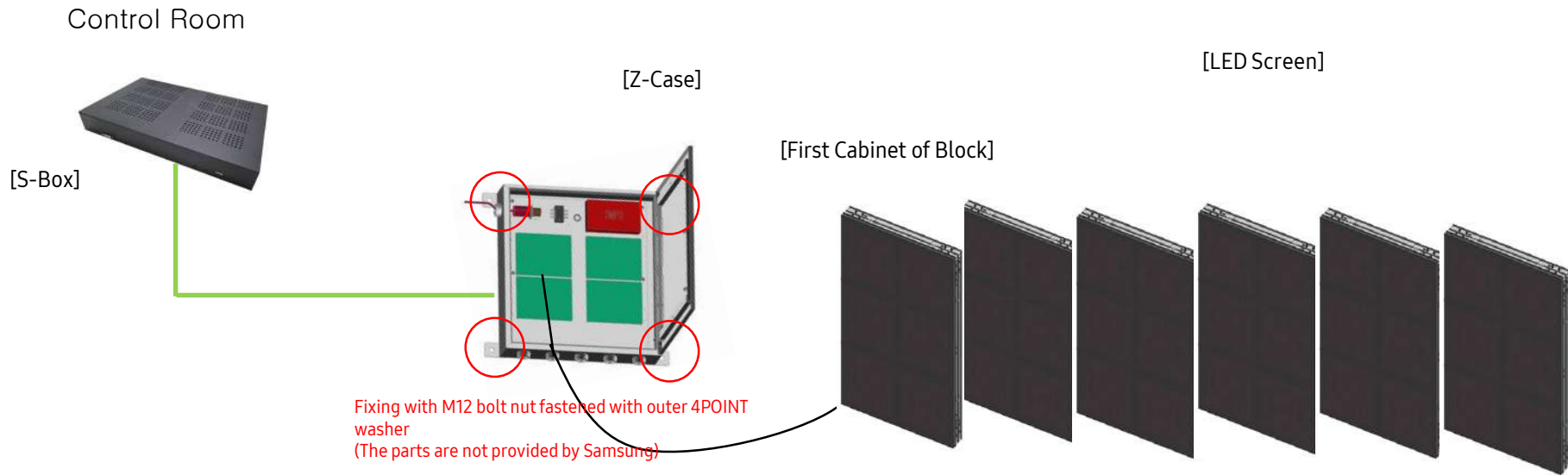


P6	P8, P10	P16
$0.1 \leq A \leq 0.7\text{mm}$	$0.1 \leq A \leq 0.8\text{mm}$	$0.3 \leq A \leq 1.0\text{mm}$
$0.1 \leq B \leq 0.7\text{mm}$	$0.1 \leq B \leq 0.8\text{mm}$	$0.3 \leq B \leq 1.0\text{mm}$
$- 0.4 \leq C \leq 0.4\text{mm}$		

3. Installation

4) Z-CASE Installation

◆ Location



QSFP optical modules/cables should be provided by others. (Installer)

LAN Cable will be provided by Samsung as accessory.

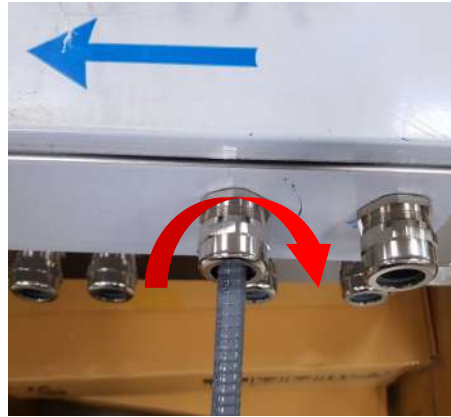
※ Optical Module/Cable Information for Purchase

Optical Module				Optical Module/Optical Cable	
Package Style	Wavelength	Maximum Data Transfer Rate	Reach	Interface	Fiber Type
QSFP + LR4	CWDM	40.00 Gbps	10KM	LC	SMF
QSFP+ SR4	CWDM	40.00 Gbps	150m	MPO	MMF

3. Installation

4) Z-CASE Installation

- Insert a wrinkle tube that fits the seal size and tighten the sealing nut of Cable Gland (Do not let water in)
- Spectacular information: PG-29



CABLE GLAND



모델 및 규격 Model and size

Thread Dimension	Clamping range (mm)	A (mm)	B (mm)	Wrench size (mm)	1봉지 (EA)
PG-7	3~6.5	7	12.5	14	100
PG-9	4~8	8	15.2	17	100
PG-11	5~10	8	18.6	20	100
PG-13.5	6~12	8	20.4	22	100
PG-16	13~14	9	22.5	24	100
PG-21	13~8	9	28.3	30	100
PG-25	15~22	10	30	35	50
PG-29	18~25	11	37	40	50
PG-36	25~33	12	47	50	50
PG-42	32~38	13	54	57	20
PG-48	37~44	14	59.3	64	10

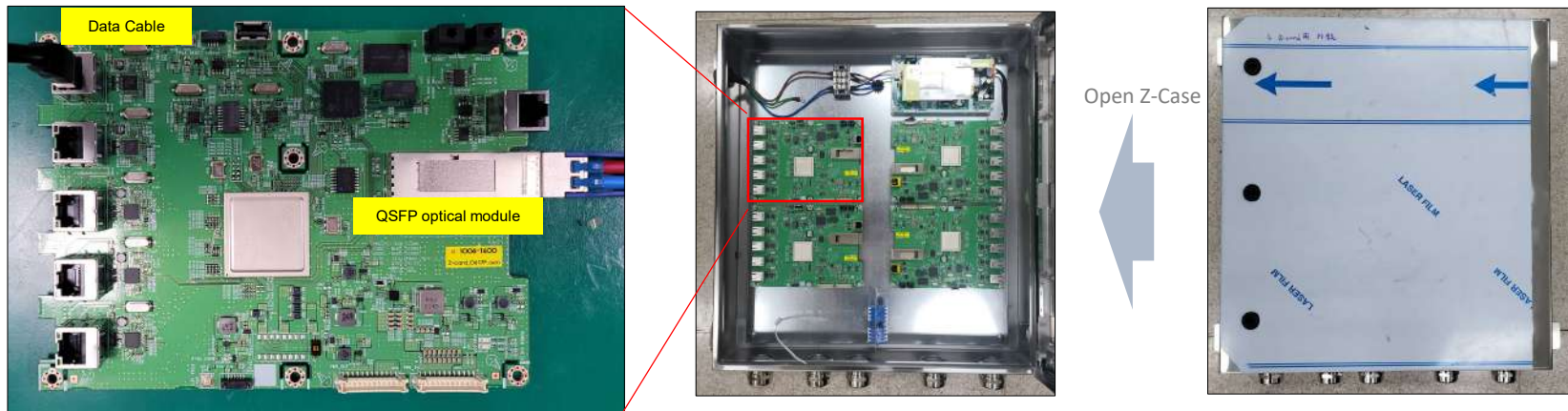


3. Installation

4) Z-CASE Installation

◆ Cable Connection

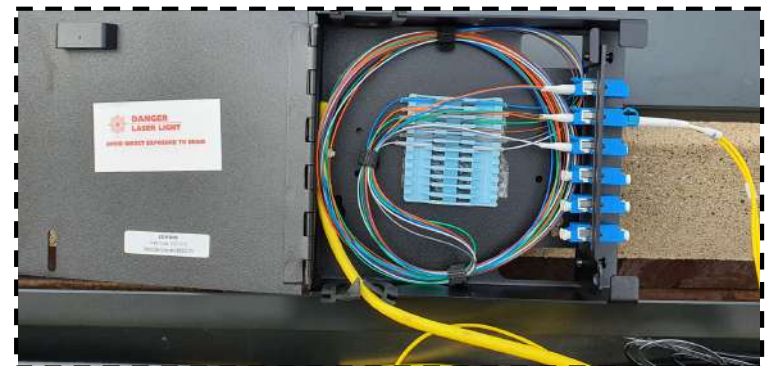
- QSFP optical Module/Cable connects from S-BOX to Z-Card in Z-Case
- Data Cable connects Z-Card to Cabinet.
- The illuminance sensor is connected to a separate Ethernet port (multi-not supported)



3. Installation

4) Z-Case Installation

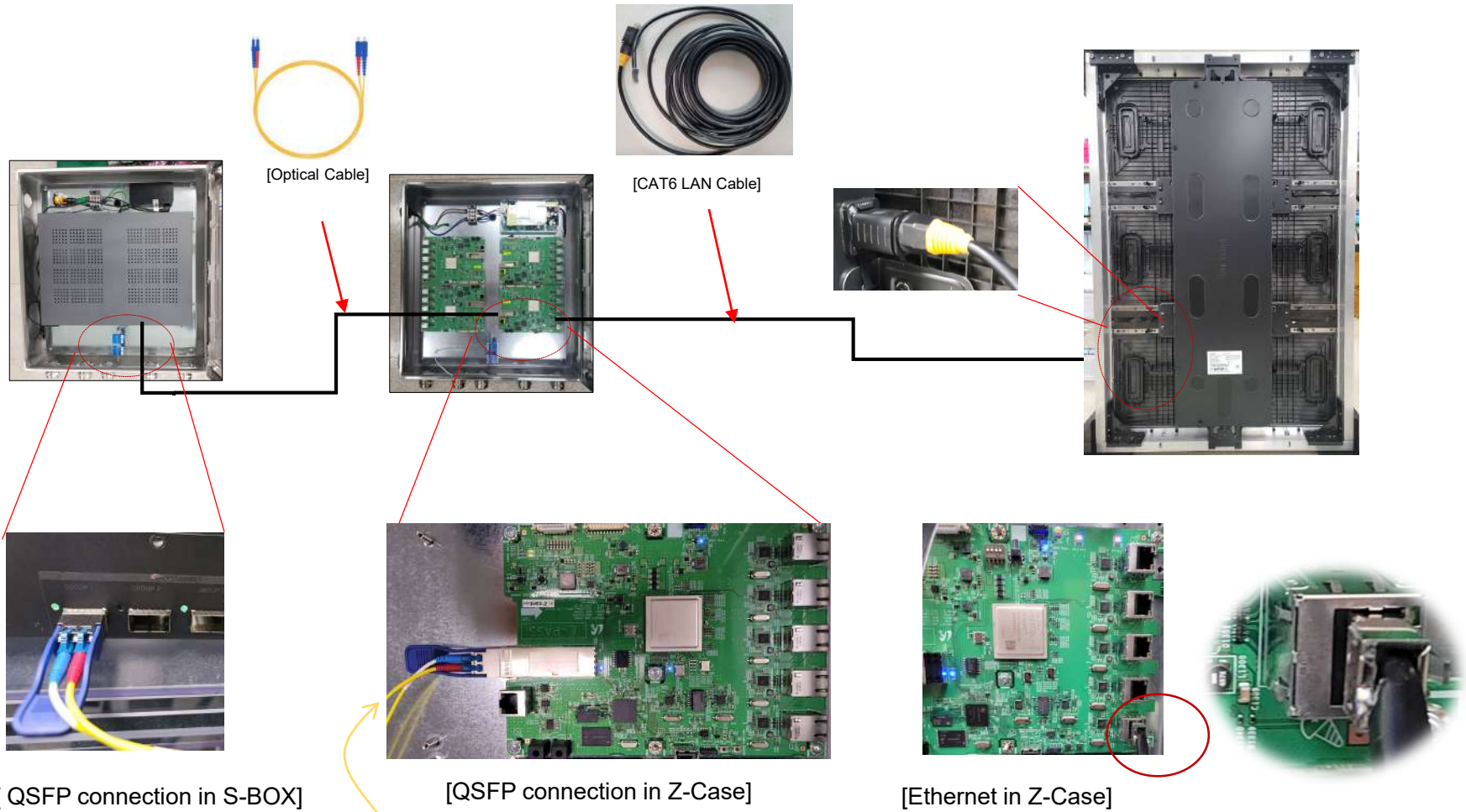
- ◆ FDF (Fiber Distribution Frame) installed in Z-Case for Cabling



3. Installation

4) Z-CASE Installation

◆ S-BOX / Z-BOX / Cabinet Connection



[QSFP connection in S-BOX]

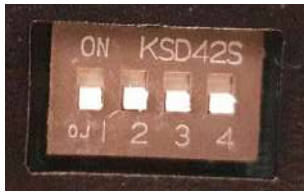
[QSFP connection in Z-Case]

[Ethernet in Z-Case]

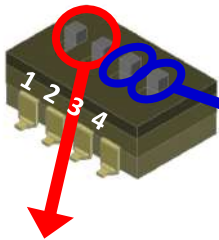
3. Installation

◆ Z-CARD Set up

- Pitch Set up LED Indicator : 0601-002037(Blue) + 0601-002852(Red)
- Test Pattern Tact Switch : SAMEX Manufacturing Process *Test Pattern Function / Tact Switch(3404-001523)
- Switch PIN Assign : 8PIN Switch(3407-001144) → 4PIN Switch(3407-001143)



PIN Assign)
 1. Pitch
 2. Pitch
 3. -
 4. Test Pattern ON/OFF
 ※ Shipment Spec: 1~4 Low Default : P10 / Test Pattern OFF



1st	2nd	LED Indicator (OP702 / OP704)	Pitch
0	0	■ ■	P10
0	1	■ □	P8
1	0	□ ■	P6
1	1	□ □	P16

3rd	4th	LED Indicator (OP703 / OP705)	Function
0	0	■ ■	Test Pattern OFF
0	1	■ □	Test Pattern ON
1	0	□ ■	Test Pattern OFF
1	1	□ □	Test Pattern ON

*Test Pattern

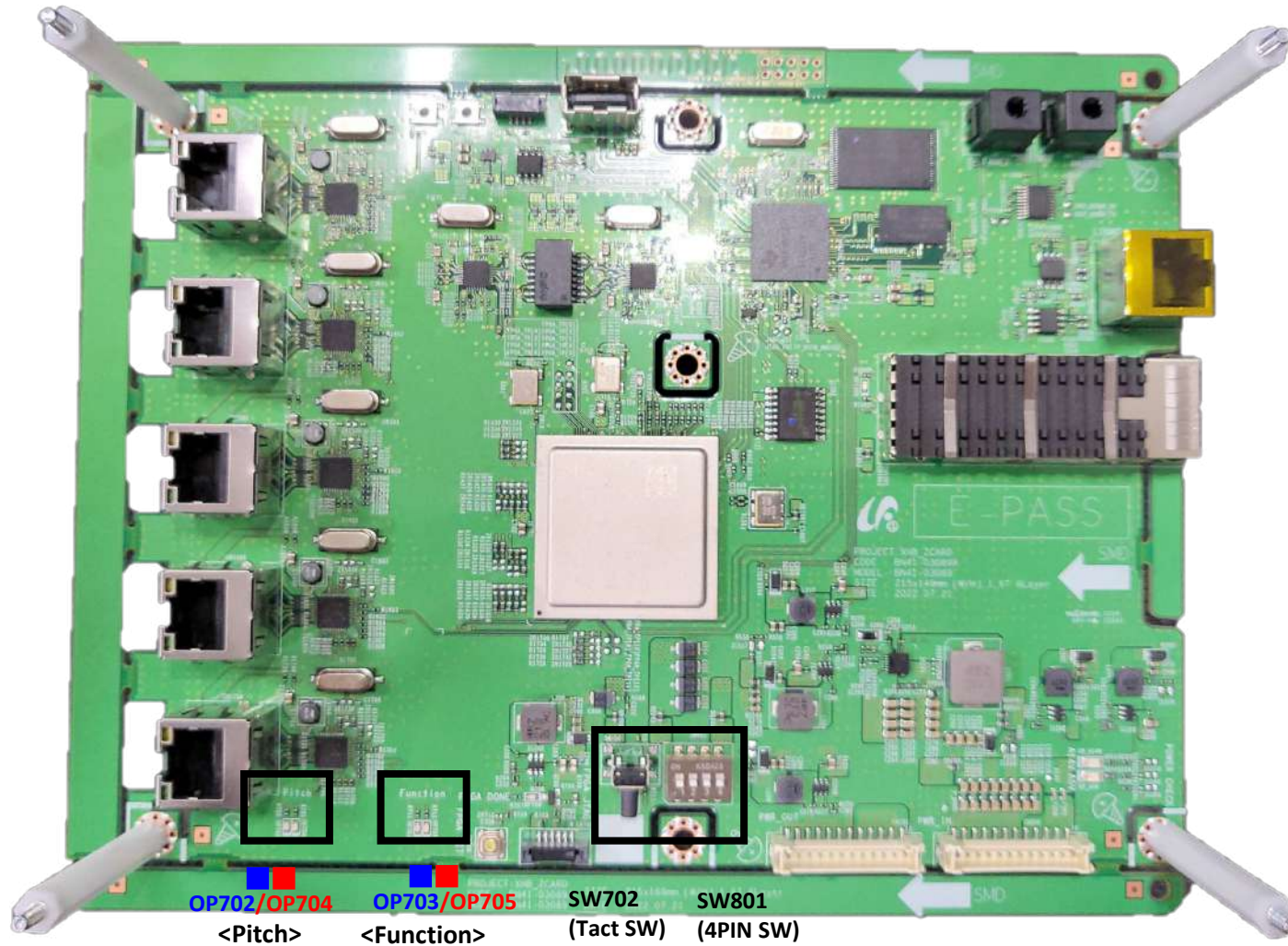
the Pattern would be changed when Pressing Switch more than 3 Seconds

- Tact Switch Pattern Sequence

1. RED 100%
2. Green 100%
3. Blue 100%
4. Full White 100%
5. RED 25%
6. Green 25%
7. Blue 25%
8. Full White 25%
9. RGBW Rolling 100%
10. RGBW Rolling 25%
11. Horizontal Line Moving
12. Vertical Line Moving
13. Diagonal Line Moving

3. Installation

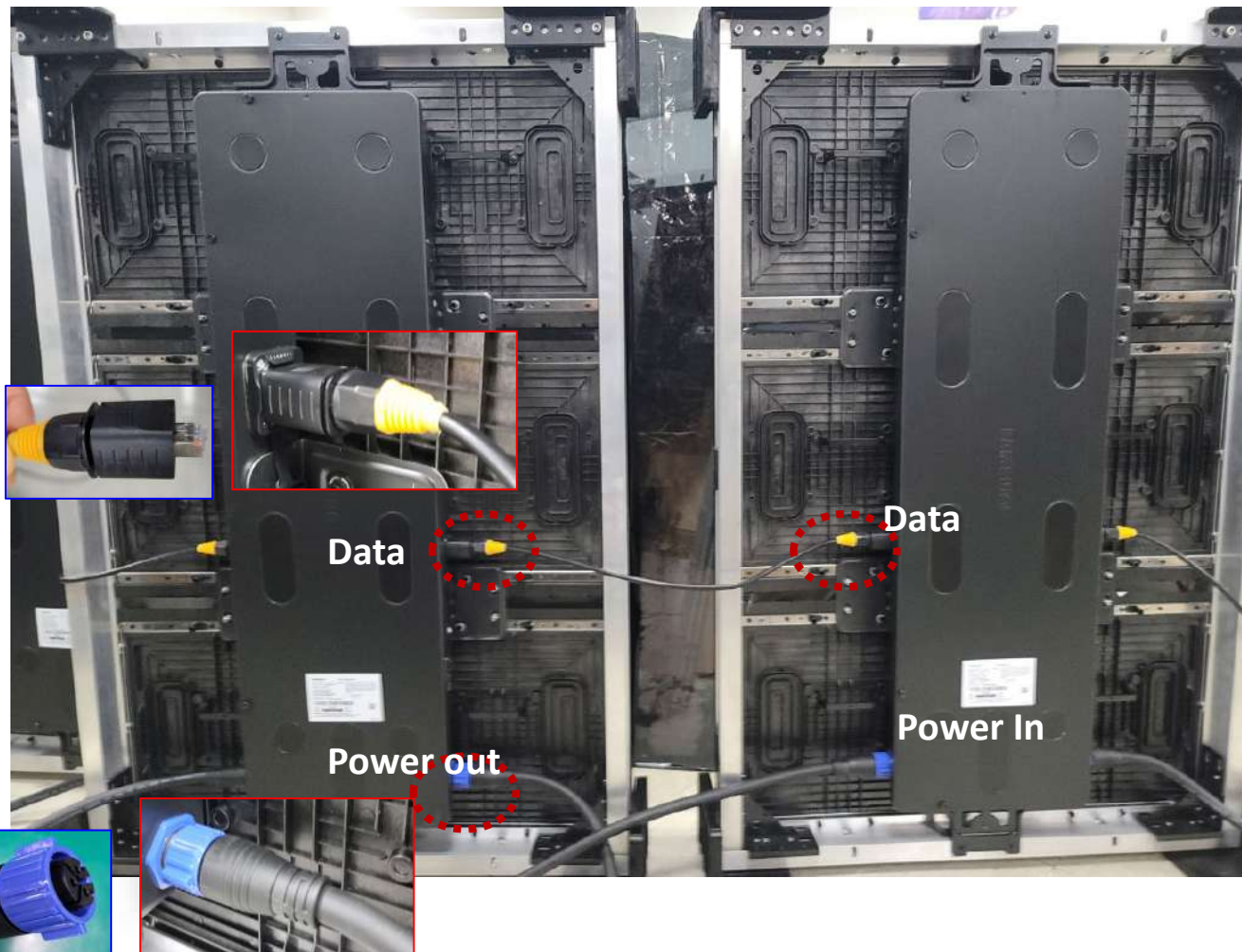
◆ Z-CARD Board



3. Installation

5) Cabling Connection

◆ Overview



Data



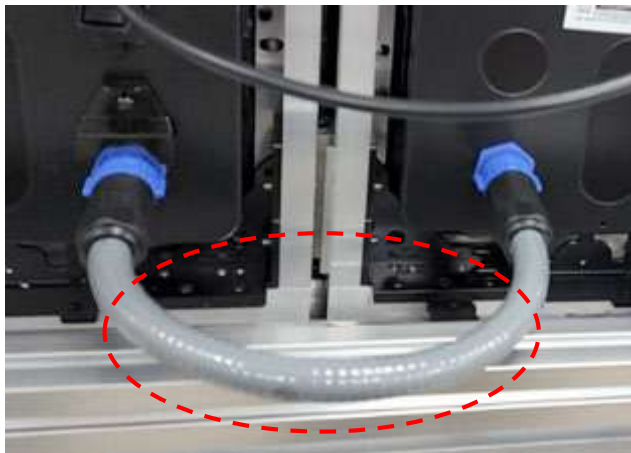
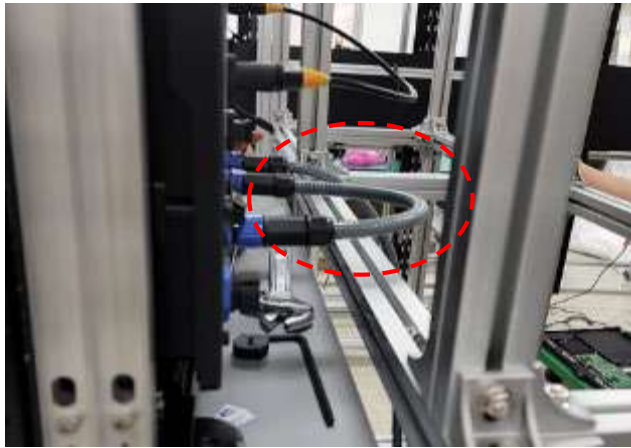
TOP

BOTTOM

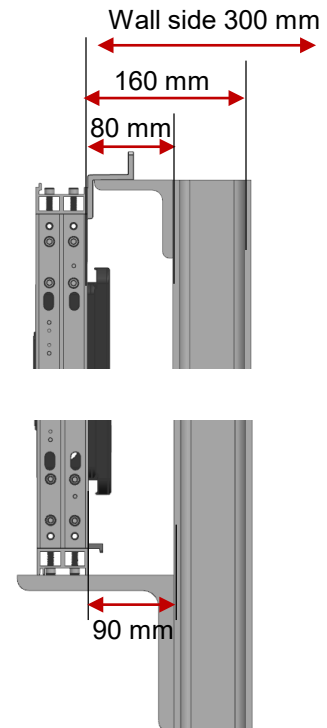
3. Installation

5-1) AC power cable connection (between cabinets)

- Securing service space considering bending amount when combining AC power cable (wall and 300mm space)



※ Minimum distance for Service

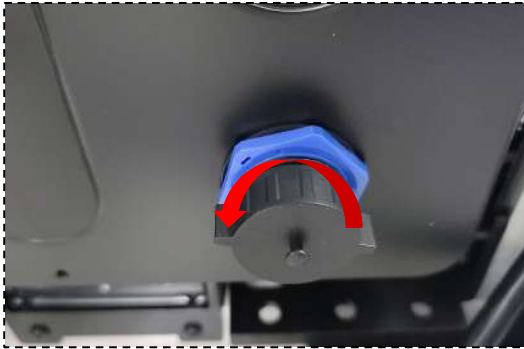


※ When installing the front, a minimum distance of 300mm between the wall and the cabinet is required for D-BOX and cable maintenance.

3. Installation

5) Cabling Connection

◆ Connect AC power



To connect the AC power cable, remove the cap push in the connector with the arrows aligned with each other.

To remove the AC power cable, turn the connector in the direction shown to remove it.

◆ Connect Data cable



TOP

BOTTOM

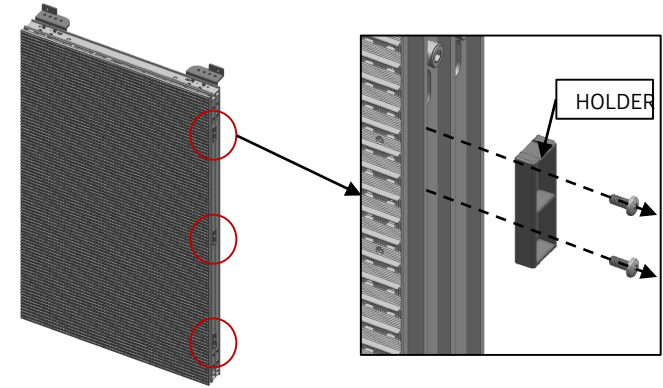
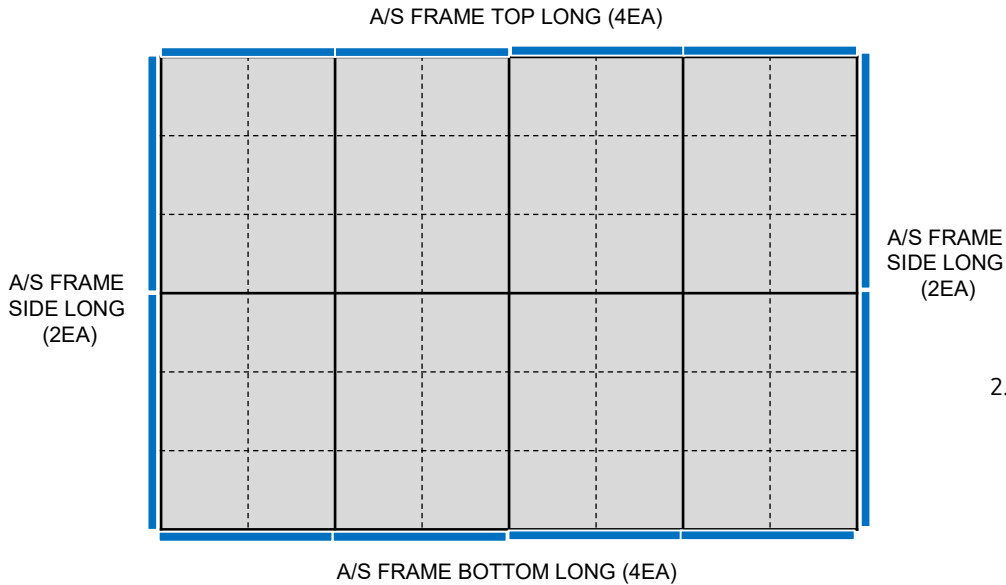
3. Installation

6) Accessory Assembly

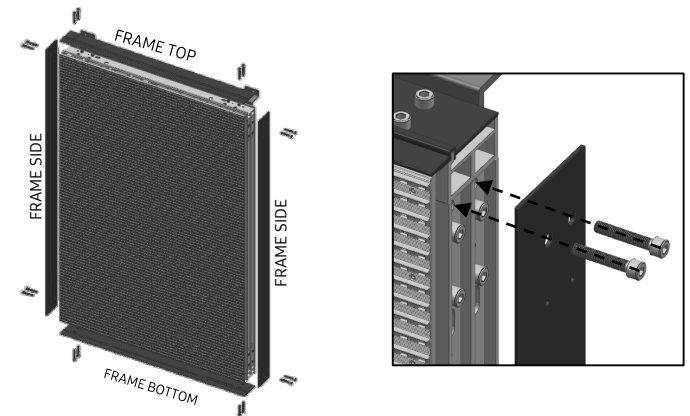
◆ Trim Assembly(Optional)

- For the outer cabinets on the screen – Within 2X3

1. Remove the holder on the right side of the screen using a (+) driver.



2. Place each bezel on the top, bottom, left and right sides of the screen and fasten the BOLT using a 5mm hexagonal wrench.



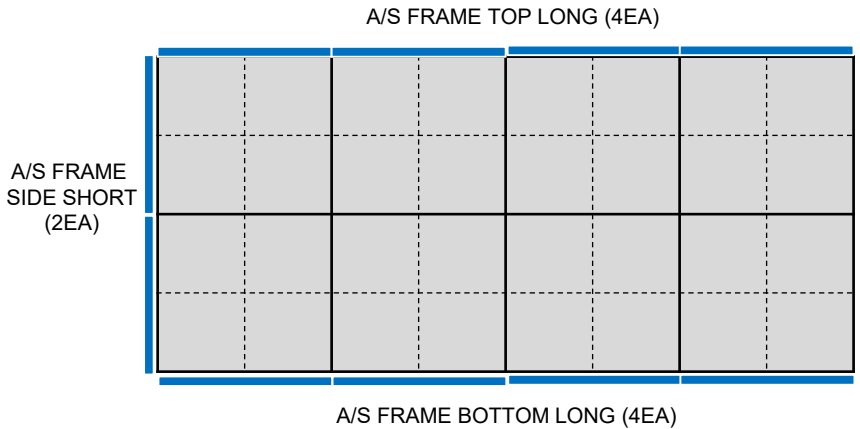
Materials	- Frame Top/Bottom Long(VG-XHH24KIT, BN91-24339A) - Frame Side Long(VG-XHV34KIT, BN91-24341A)
-----------	--

3. Installation

6) Accessory Assembly

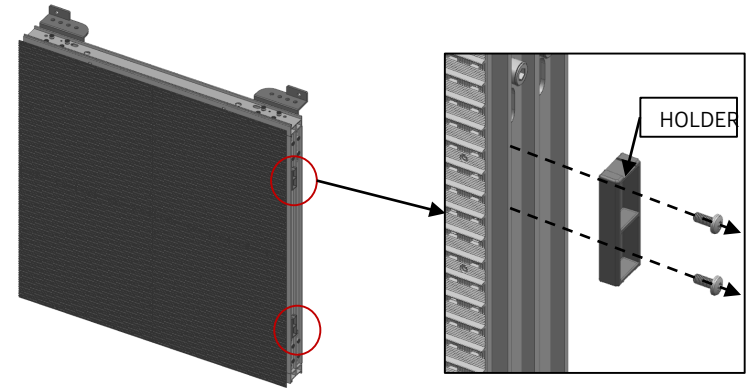
◆ Trim Assembly(Optional)

- For the outer cabinets on the screen – Within 2X2

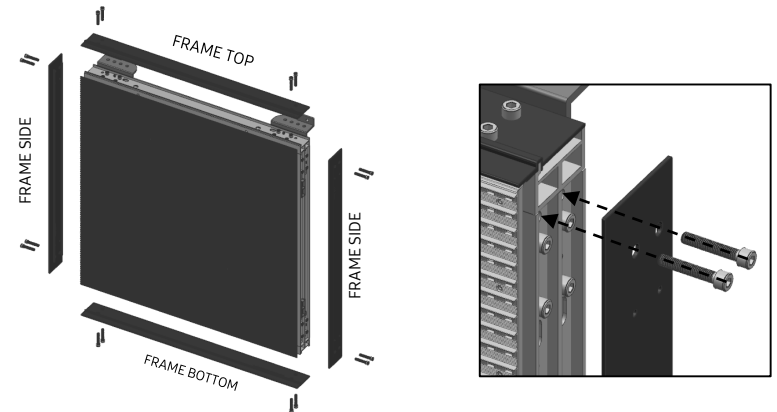


Materials	<ul style="list-style-type: none"> - Frame Top/Bottom Long(VG-XHH24KIT, BN91-24339A) - Frame Side Short(VG-XHV22KIT, BN91-24340A)
-----------	---

1. Remove the holder on the right side of the screen using a (+) driver.



2. Place each bezel on the top, bottom, left and right sides of the screen and fasten the BOLT using a 5mm hexagonal wrench.

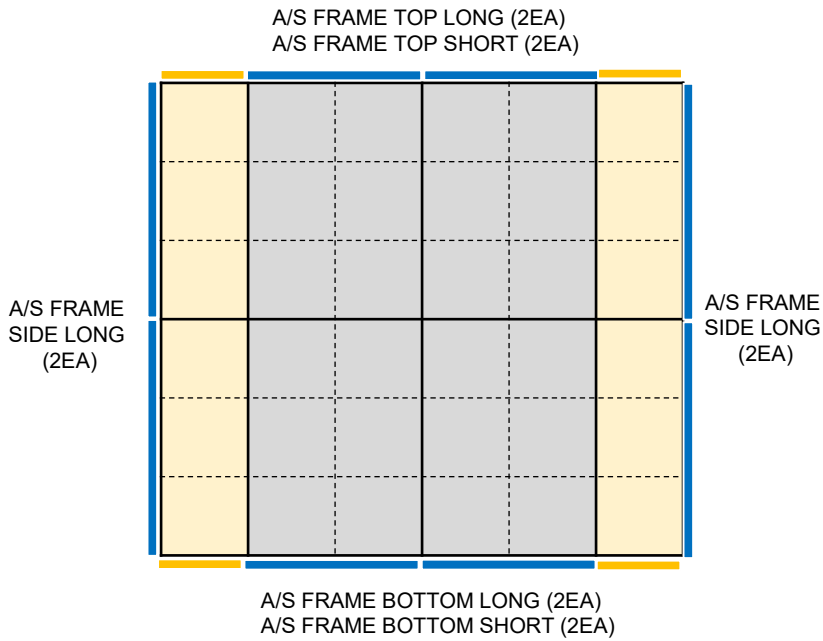


3. Installation

6) Accessory Assembly

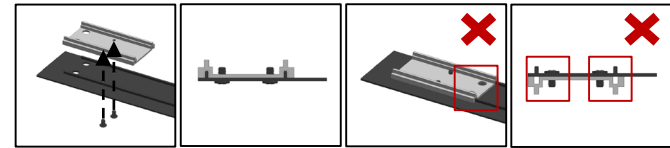
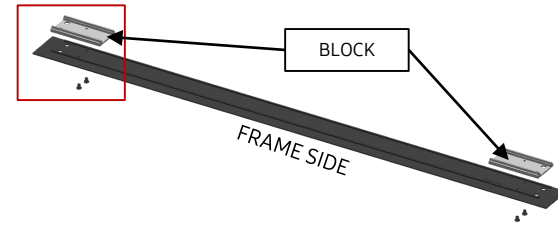
◆ Trim Assembly(Optional)

- For the outer cabinets on the screen – With 1X3



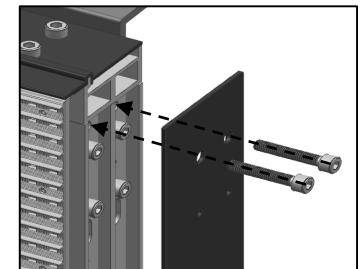
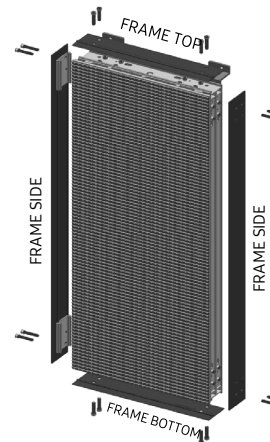
Materials	<ul style="list-style-type: none"> - Frame Top/Bottom Long(VG-XHH24KIT, BN91-24339A) - Frame Top/Bottom Short(VG-XHH12KIT, BN91-24338A) - Frame Side Long(VG-XHV34KIT, BN91-24341A)
-----------	--

1. When assembling 1X3 SIDE, fasten BLOCK inside FRAME SIDE



* Assemble the BLOCK carefully in the direction.

2. Place each bezel on the top, bottom, left and right sides of the screen and fasten the BOLT using a 5mm hexagonal wrench.



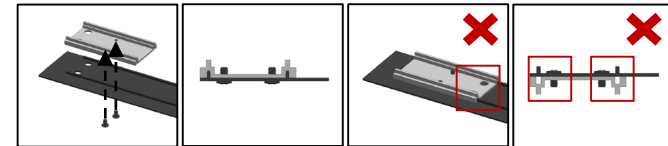
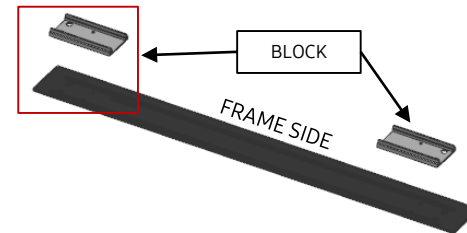
3. Installation

6) Accessory Assembly

◆ Trim Assembly(Optional)

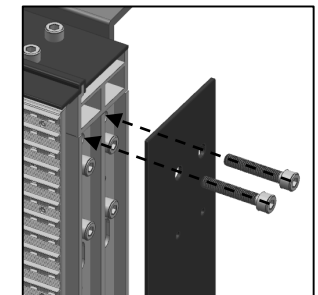
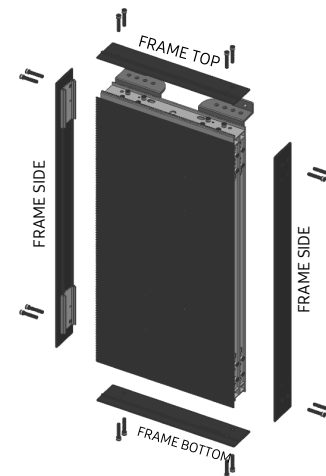
- For the outer cabinets on the screen – Within 1X2

1. When assembling the 1X2 SIDE, fasten the BLOCK inside the FRAME SIDE.

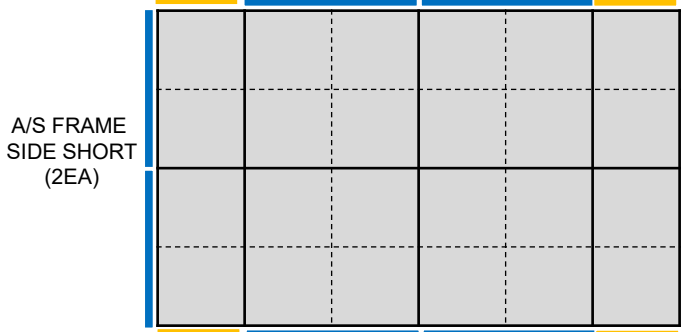


* Assemble the BLOCK carefully in the direction.

2. Place each bezel on the top, bottom, left and right sides of the screen and fasten the BOLT using a 5mm hexagonal wrench. .



A/S FRAME TOP LONG (2EA)
A/S FRAME TOP SHORT (2EA)



A/S FRAME
SIDE SHORT
(2EA)

A/S FRAME BOTTOM LONG (4EA)
A/S FRAME BOTTOM SHORT (2EA)

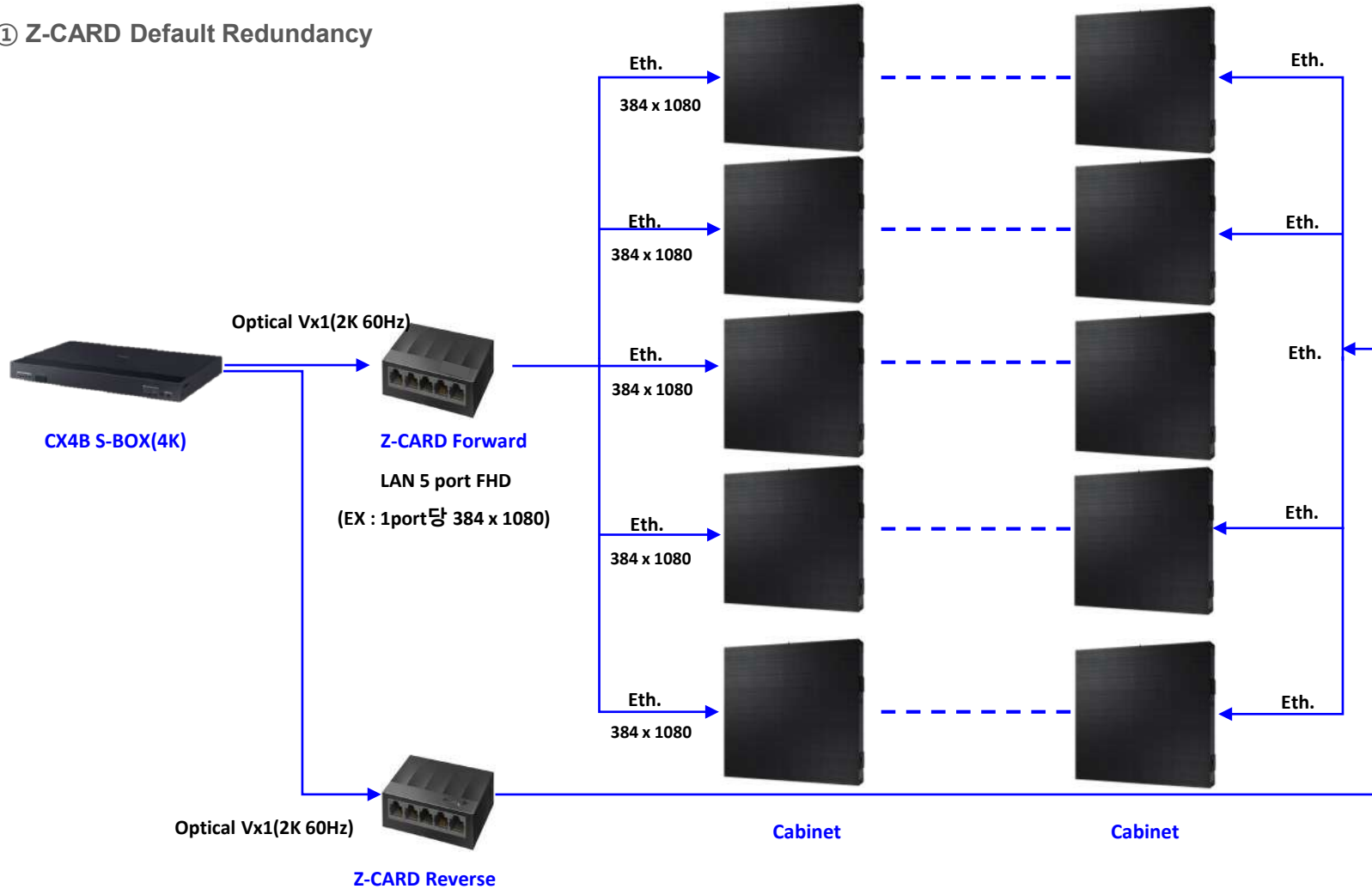
Materials

- Frame Top/Bottom Long(VG-XHT24KIT, BN91-24339A)
- Frame Top/Bottom Short(VG-XHH12KIT, BN91-24338A)
- Frame Side Short(VG-XHV22KIT, BN91-24340A)

3. Installation

7) Control Room Setting

① Z-CARD Default Redundancy

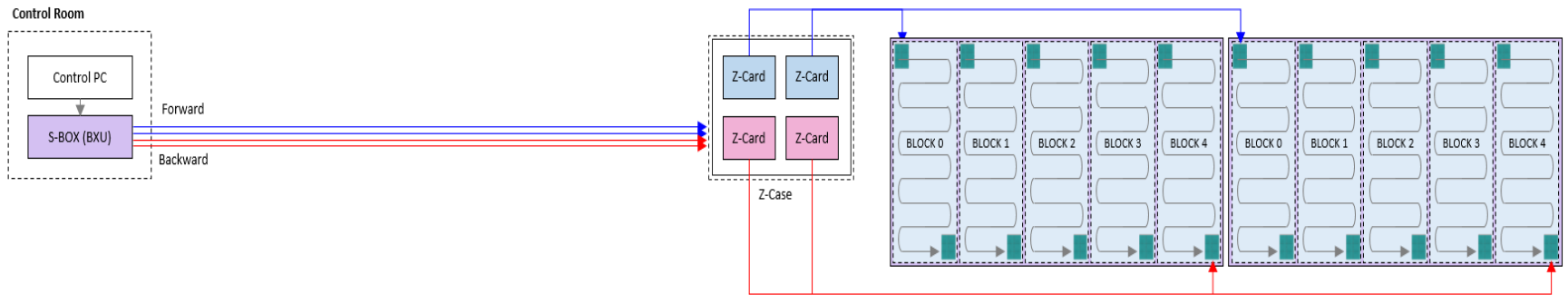


3. Installation

7) Control Room Setting

◆ Cabinet connection

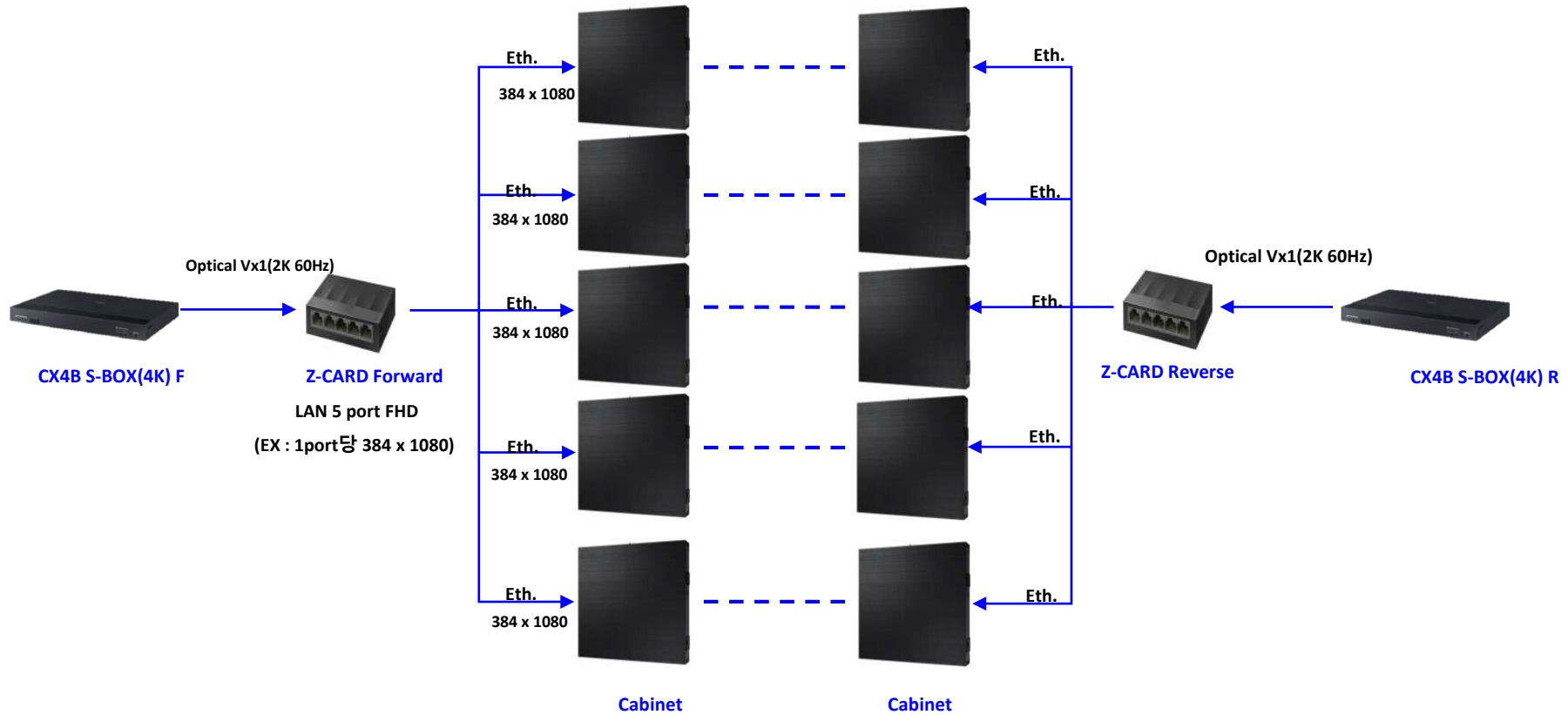
Case 1) Z-Card Default redundancy using one S-BOX



3. Installation

7) Control Room Setting

② S-BOX Optional Redundancy

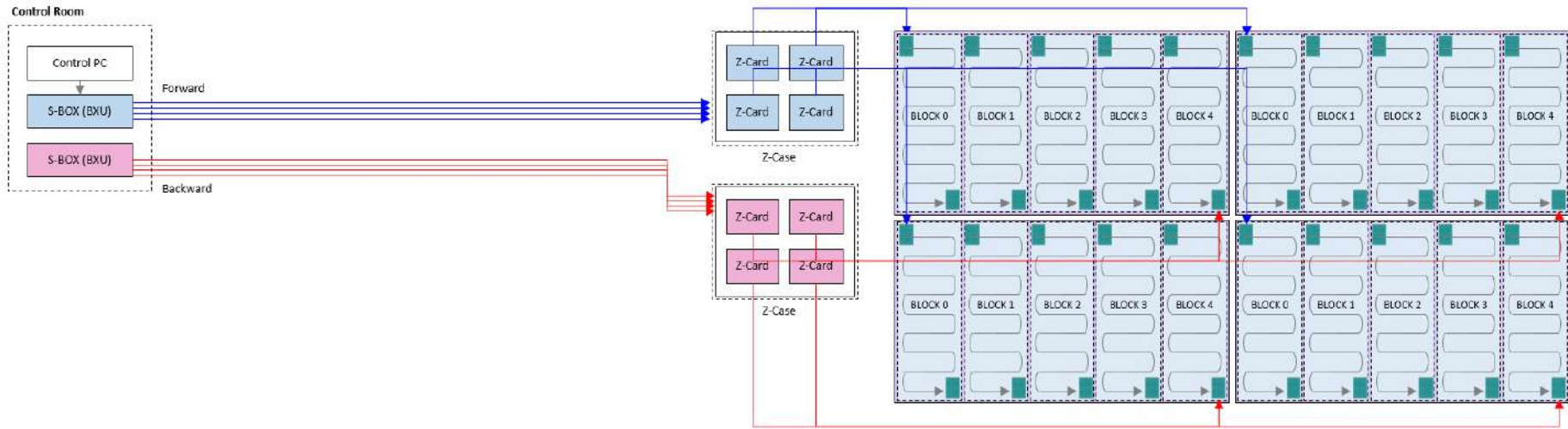


3. Installation

7) Control Room Setting

◆ Cabinet connection

Case2) Optional Full redundancy using different S-BOX



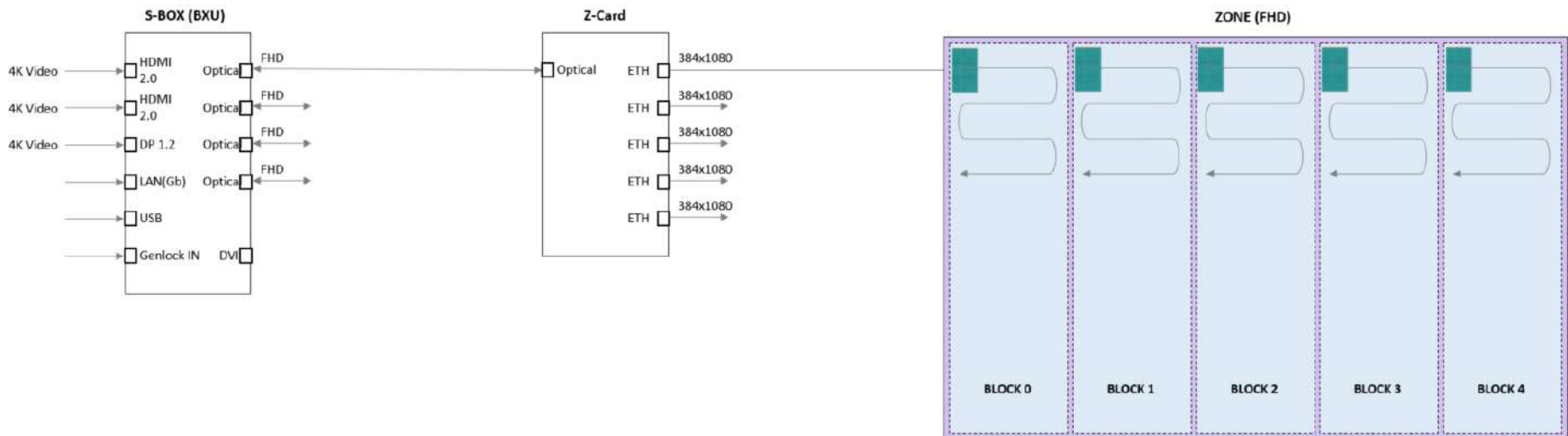
3. Installation

7) Control Room Setting

◆ Cabinet connection

[Pitch / Zone / Block / Module Resolution]

Pitch	Zone				Block						Module				
	Size (m)		Resolution		Size (m)		Resolution		# of cabinet		Daisy Chain	Size (m)		Resolution	
	W	H	W	H	W	H	W	H	W	H		W	H	W	H
6.16	10.4	6.2	1680	1008	2.07	6.21	336	1008	3	6	18	345	345	56	56
8.21	13.8	8.3	1680	1008	2.76	8.28	336	1008	4	8	32	345	345	42	42
10.78	20.7	11.4	1920	1056	4.14	11.39	384	1056	6	11	66	345	345	32	32
16.43	31.1	17.6	1890	1071	6.21	17.60	378	1071	9	17	153	345	345	21	21



3. Installation

8) Power Connection

- Max Power Daisy Chain (XHB 2 x 3 Case)

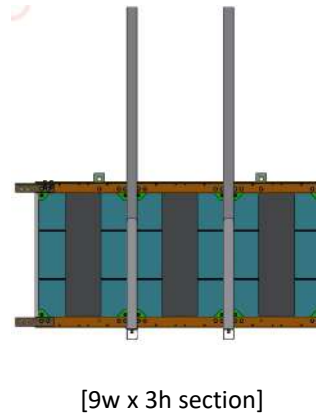
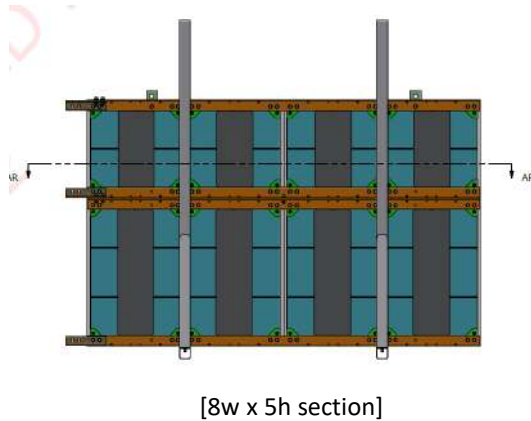
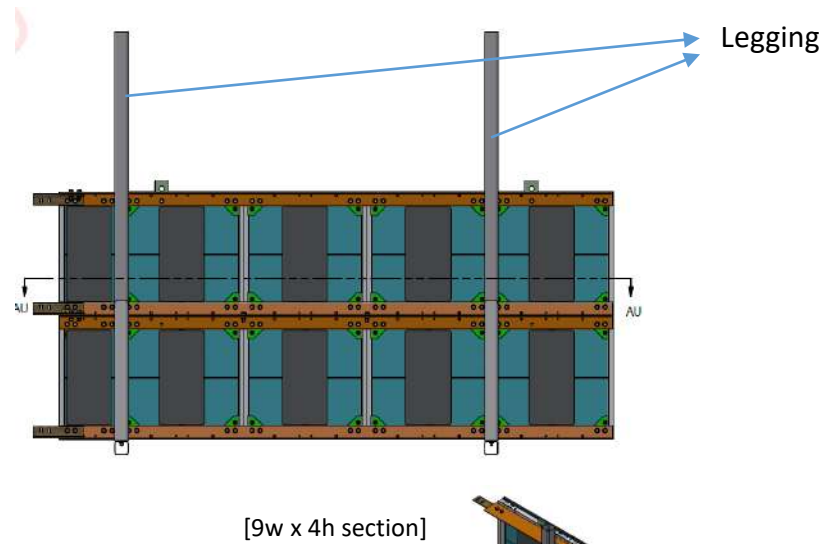
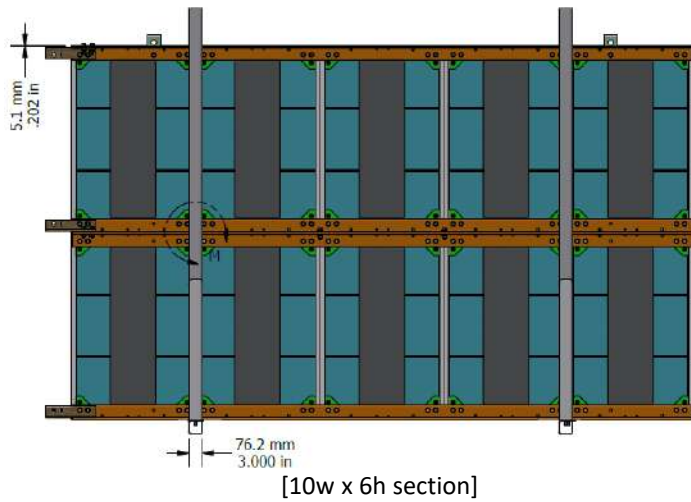
		XHB-S/E					
		P6		P8		P10	
Model Code		LH060XHBTAS	LH060HBCAE	LH080XHBTAS	LH080HBCAE	LH010XHBTAS	LH010HBCAE
No. of AC Loop out cabinets (110 V)	# Cabinet	3	2	3	2	3	2
	Power Consumption / Cabinet	480W	600W	480W	600W	480W	600W
No. of AC Loop out cabinets (220 V)	# Cabinet	7	5	7	5	7	5
	Power Consumption / Cabinet	480W	600W	480W	600W	480W	600W

3. Installation

9) Shipping Section (For US site)

◆ 19 kinds of section are assembled in Mexico factory and shipped to site to reduce an installation time.

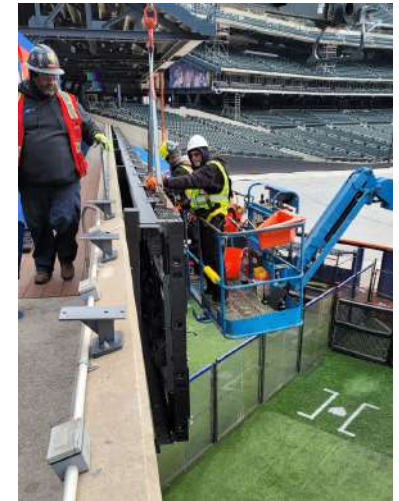
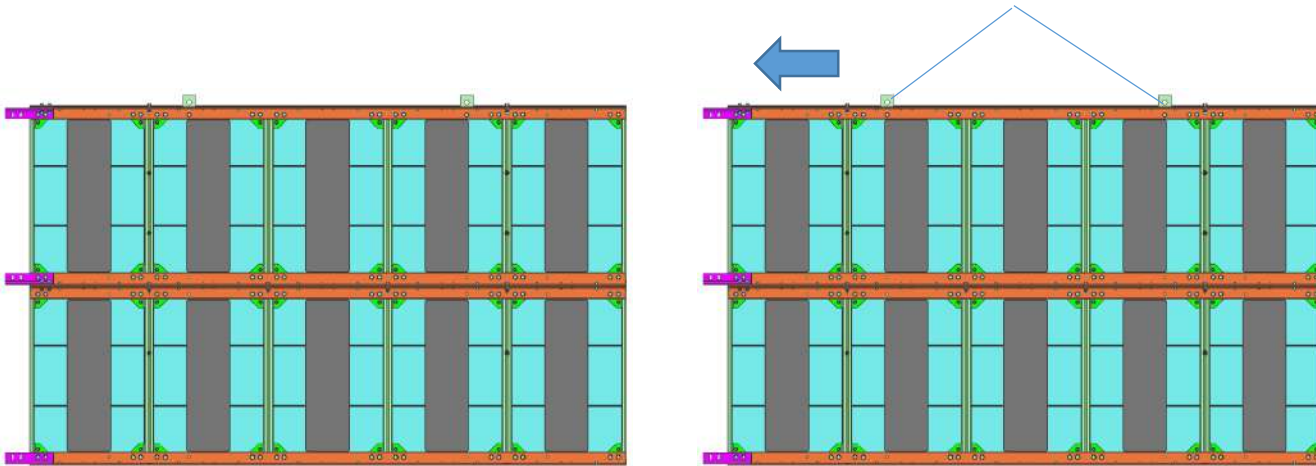
Leggings are removed in the field.



3. Installation

9) Shipping Section (For US site)

◆ Each section is assembled in the field according to the layout combination.



[connecting each section]

3. Installation

9) Shipping Section (For US site)

◆ data cable connection

. The connecting of cables between each section or from Z-card to D-Box is done in the field.

Field job



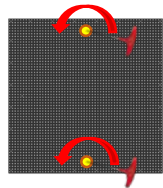
[NY Mets A41 zone]

4. Maintenance

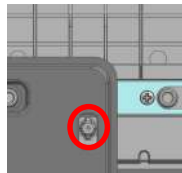
1) Front Service

◆ Component Replacement : Module

1. Turn the wing nut (2EA) 90 degrees counterclockwise.



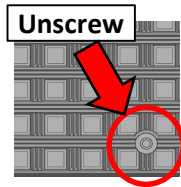
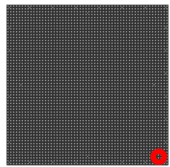
ACCESSORY KIT
A/S-T HANDLE(BN81-23767A)



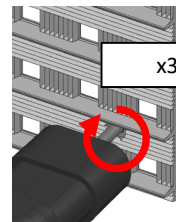
Unlocking

2. Unscrew edge of COVER FRONT GRILL

1). Use one screw



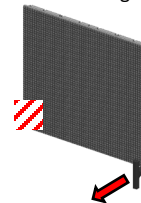
Unscrew



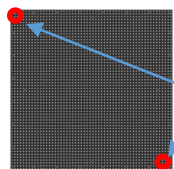
x3 Turns to fix screw

※ CAUTION
Screw damage when
rotating more than 4 times

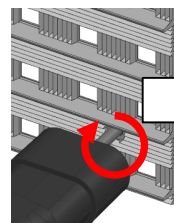
※ Support by hand so that the
side that does not pull does not
fall out together



1). Use Two screw

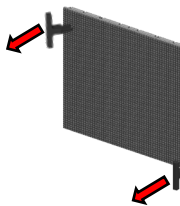


Unscrew



※ CAUTION
Screw damage when
rotating more than 4 times

x3 Turns to fix screw



※ Hold both sides and
detach at the same time

ASSY Accessory 4(VG-XHTSSKIT)
BN91-24345A



A/S-T HANDLE
BN81-23767A, 2EA



A/S-T HANDLE
BN81-23768A, 2EA



SCREW-MACHINE(M2, L5.5)
6003-001910, 20EA



A/S- SCREW TAPTYPE (M2, L18)
BN81-24012A, 5EA



A/S-CAP RUBBER
BN81-24013A, 5EA

4. Maintenance

1) Front Service

◆ Component Replacement : Module

3. Disconnect the safety loop after disassembling the module

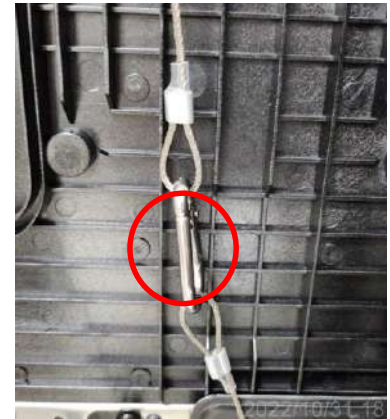
(1) Safety ring fastened during module disassembly



(2) Release the safety hook and release the safety wire from the module handle



(3) Re-engage the safety hook as it was



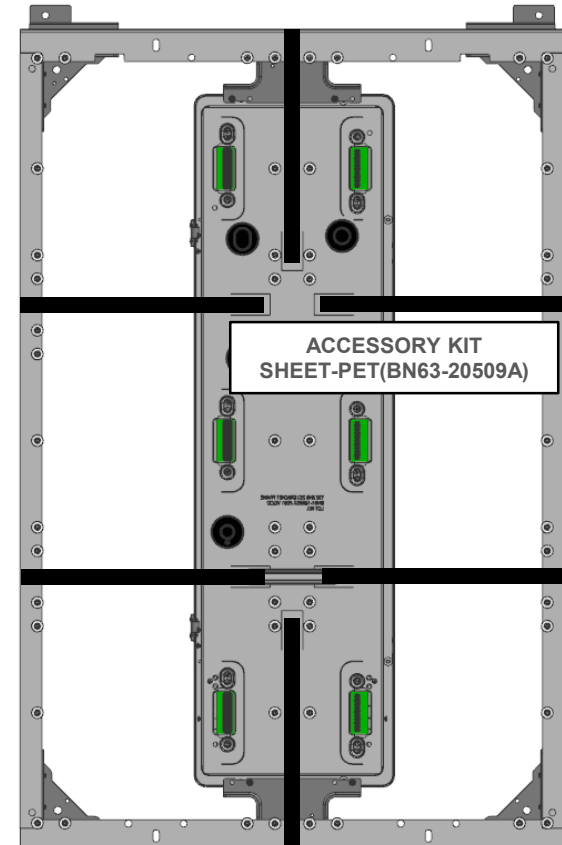
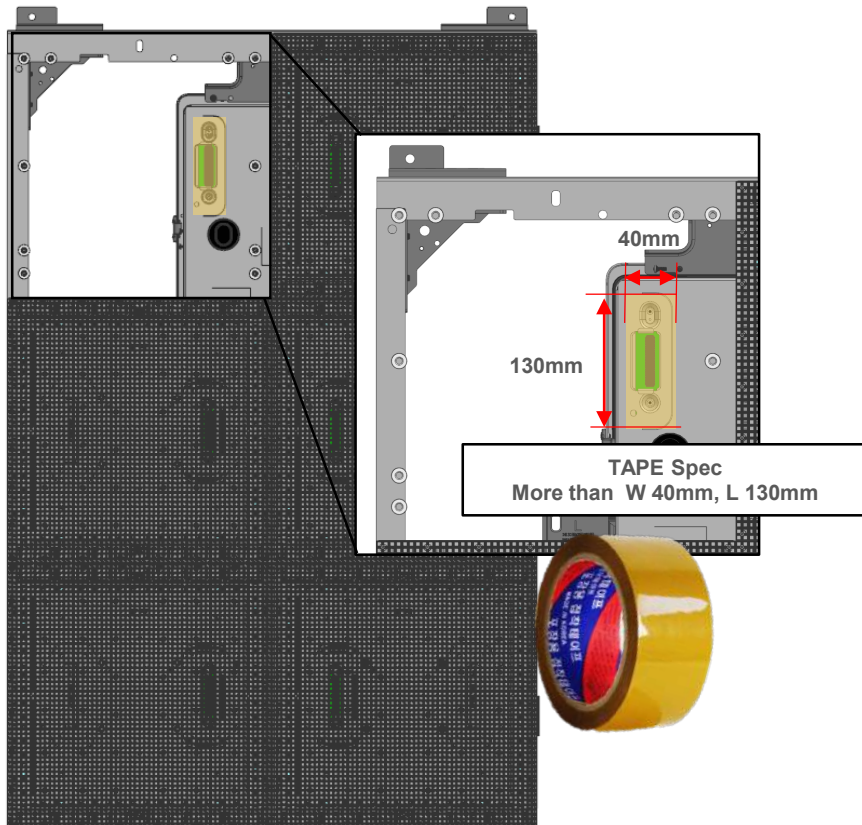
4. Maintenance

1) Front Service

◆ Component Replacement : Module

4. Attach box tape immediately after disassembly of module in case of rain

5. Replace with a new one in case of SHEET-PET damage



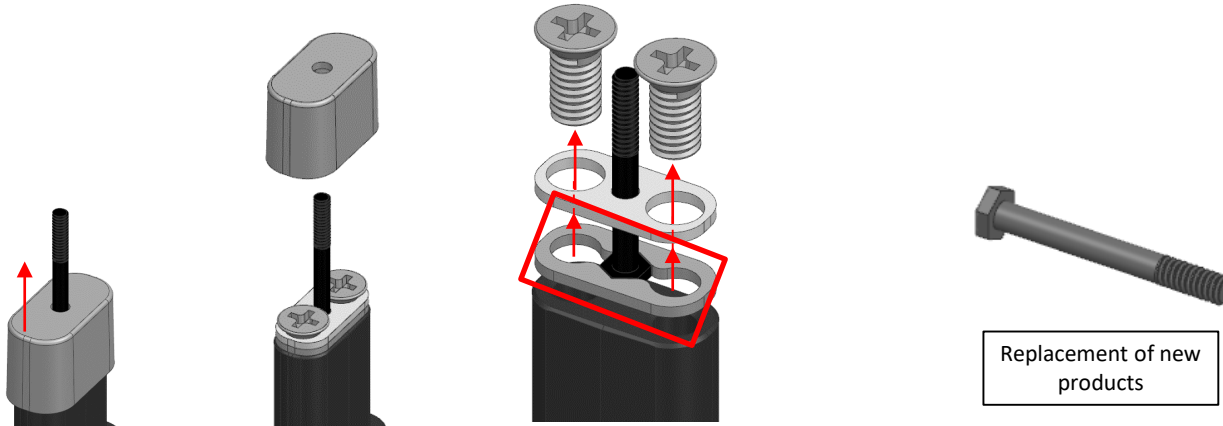
4. Maintenance

1) Front Service

◆ How to replace T-HANDLE spare items



Replace with spare in case of SCREW refraction



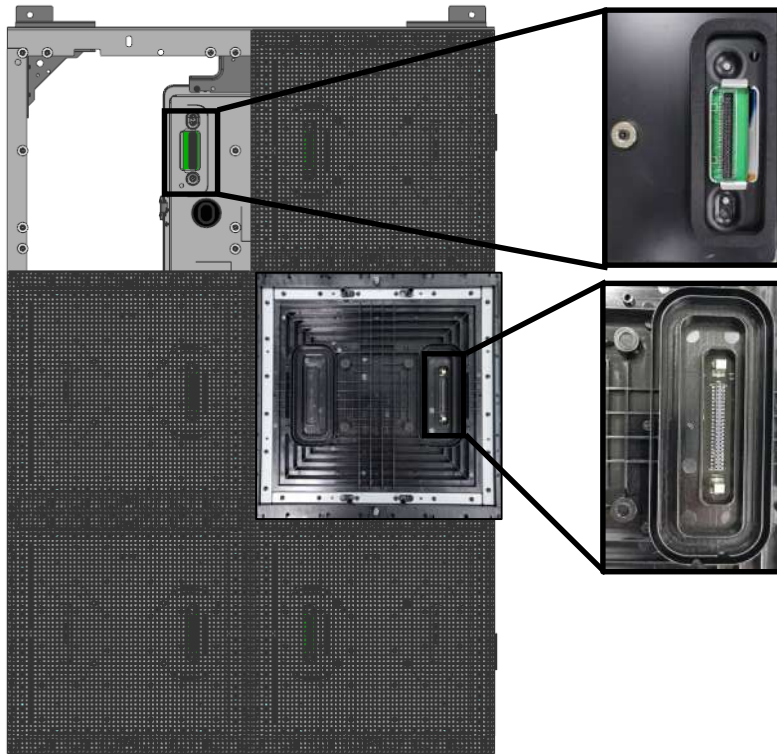
* Assembly is the reverse order of decomposition

4. Maintenance

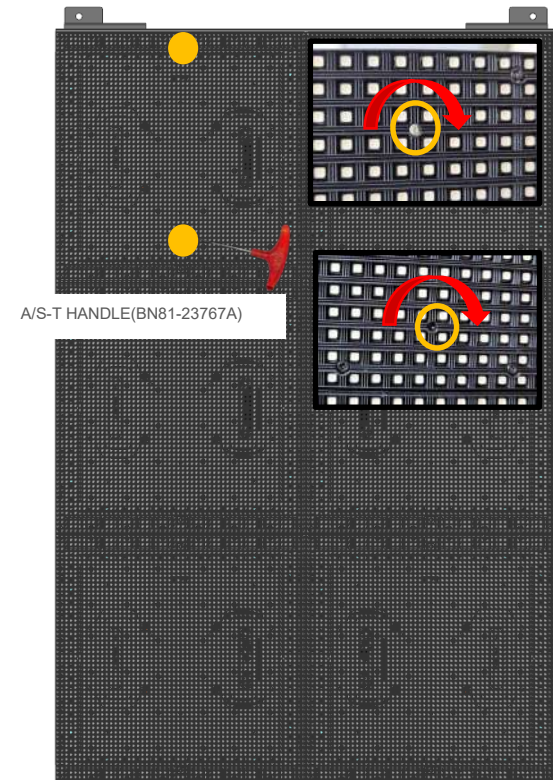
1) Front Service

◆ Component Replacement : Module

6. Connect module to D-BOX with connector without cable connection



7. Turn the wing nut (2EA) 90 degrees clockwise.

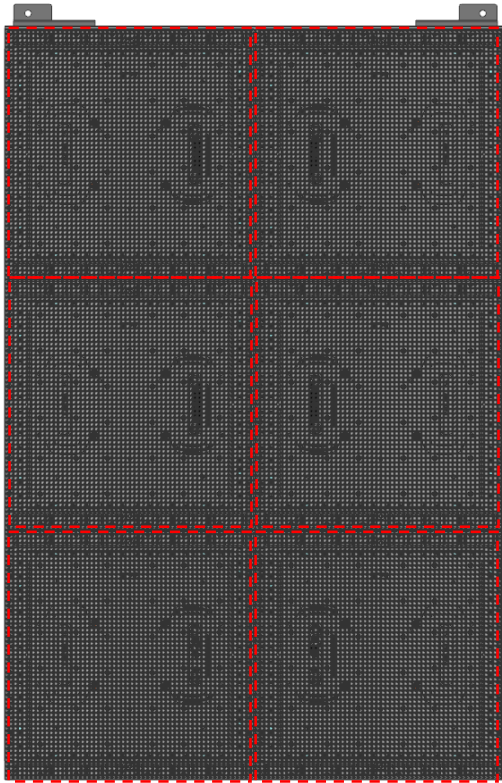


4. Maintenance

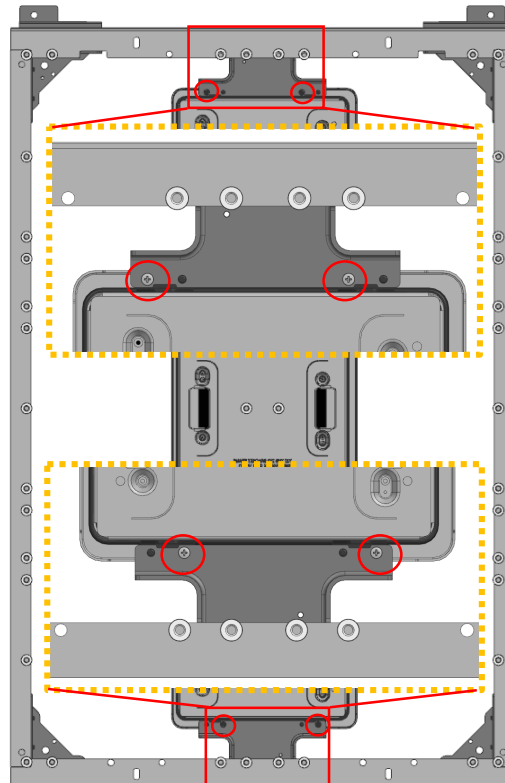
1) Front Service

◆ Component Replacement : Data BOX

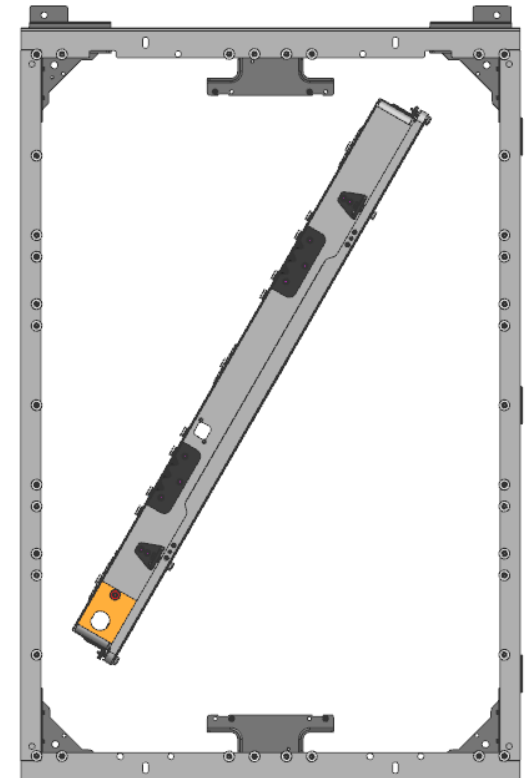
1. Dismantling 6 modules per cabinet



2. Unscrew 4 points



3. Take out Data BOX diagonally

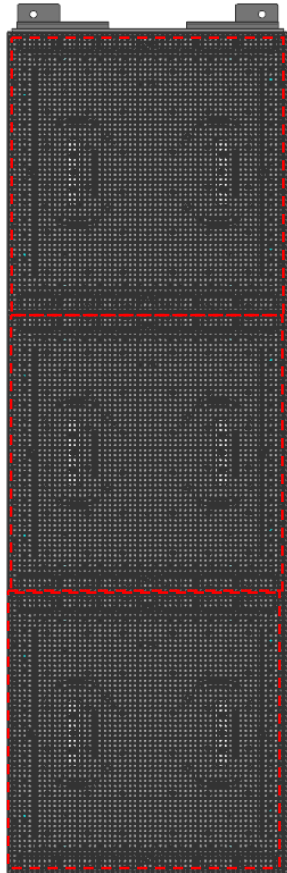


4. Maintenance

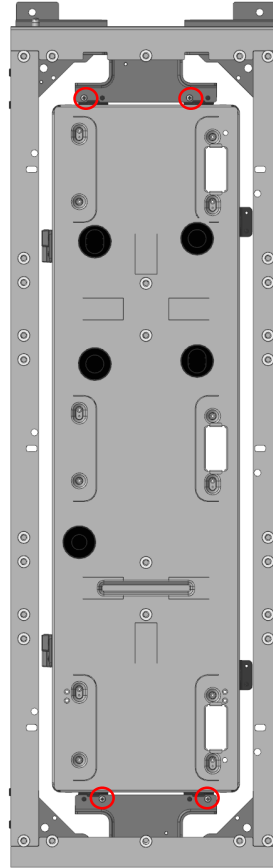
1) Front Service

◆ Component Replacement : 1X3, 1X2 Data BOX

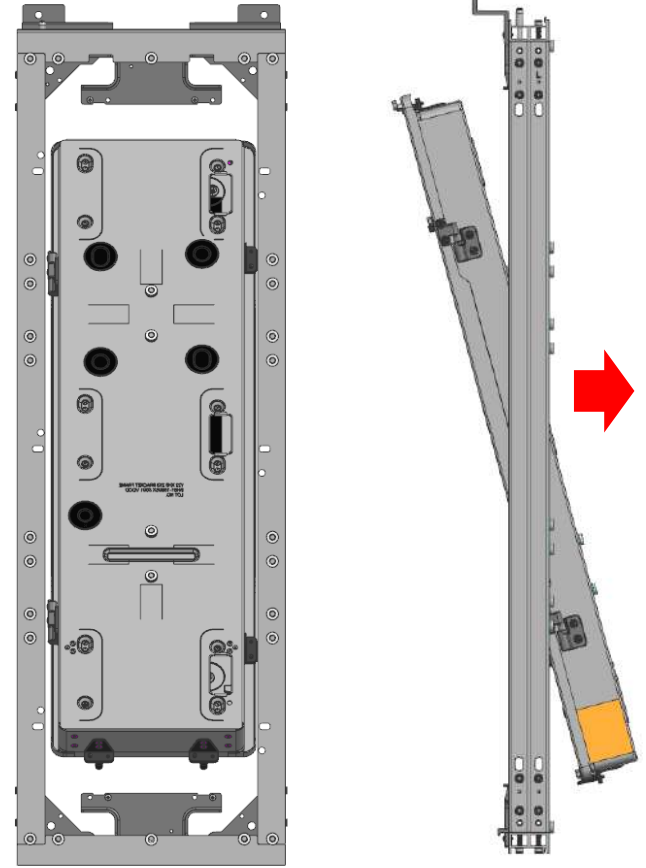
1. Disassemble all the modules in the cabinet



2. Unscrew 4 points



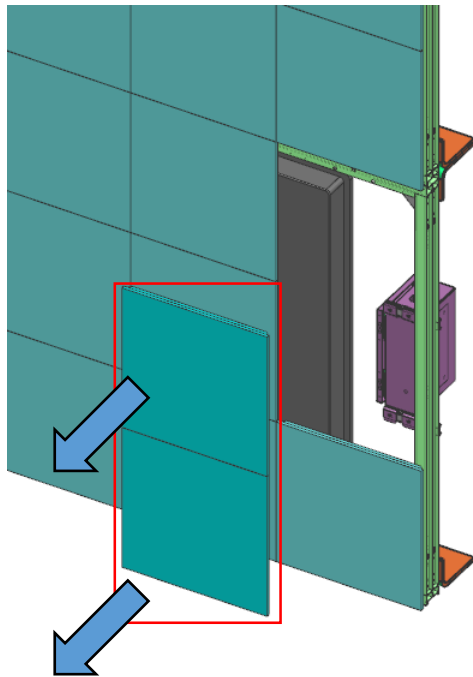
3. Tilt to the front of the Data BOX and pull it out



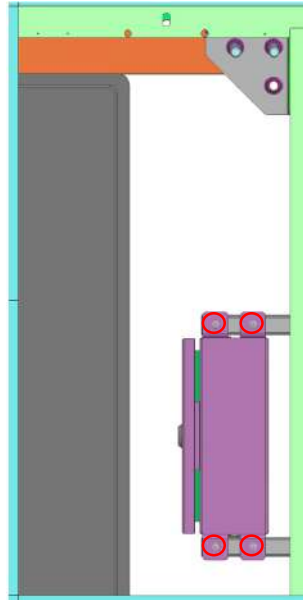
4. Maintenance

1) Front Service

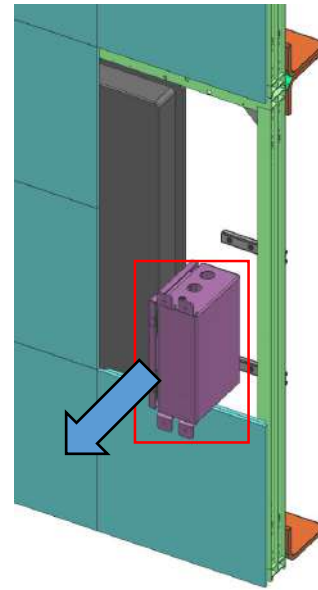
◆ Component Replacement : Junction Box



Detach modules where JUNCTION BOX installed



Unscrew 4 points



Remove the Junction Box From the Set



❖ Side view service available depending on installed direction. (NY Mets)

4. Maintenance

2) Rear Service

◆ Component Replacement – Pre-replacement safety measures

<Assemble safety rings when replacing modules>

※ Safety rings must be fastened when replacing modules

**Caution: Use rope when replacing module
Safety rope must be hung and replaced before
module replacement**

**Before and after work, make sure to check that the
safety rope is installed (reason: fall prevention)**

< Assemble safety rings when replacing DATA BOX>

Module Replacement **2x3 Cabinet** Rope : 175cm (2EA)
Part Number : BN61-19434A

By passing through the top ring, hold even if all three modules fall out

Fix it with a cable tie at the bottom to prevent damage to the distribution process
- Cable ties must be disconnected after installation is completed at the site

Attach the biner to the left center magnet

Attach the biner to the right center magnet

3. Safety ring assembly point

ACCESSORY KIT SCREW-MACHINE (M4,L10, 6001-002621)

ACCESSORY KIT A/S-BRACKET WIRE (BN81-23799A)

4. Maintenance

2) Rear Service

Part replacement: Safety measures before replacement

- Before replacing the module, the safety rope must be hung and replaced (reason: fall prevention)
- Replace the central module after disassembling the upper and lower modules.

**Caution: Use rope when replacing module
Safety rope must be hung and replaced before
module replacement**

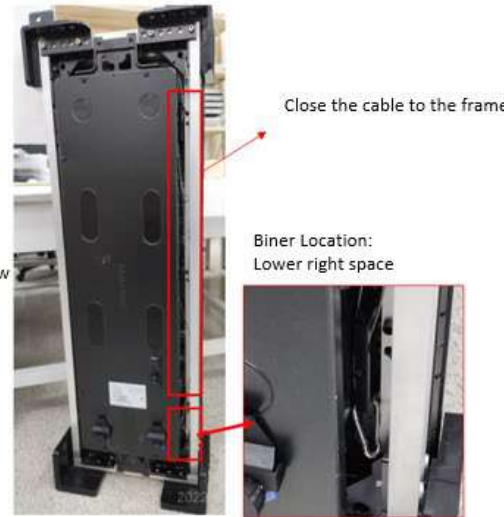
**Before and after work, make sure to check that the
safety rope is installed (reason: fall prevention)**

Module Replacement	2x2 Cabinet	Rope : 120cm (2EA) Part Number : BN61-19434B	1x3 Cabinet	Rope : 175cm (1EA) Part Number : BN61-19434A	1x2 Cabinet	Rope : 120cm (1EA) Part Number : BN61-19434B
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Biner Location:
Attach to the central magnet
of the module below

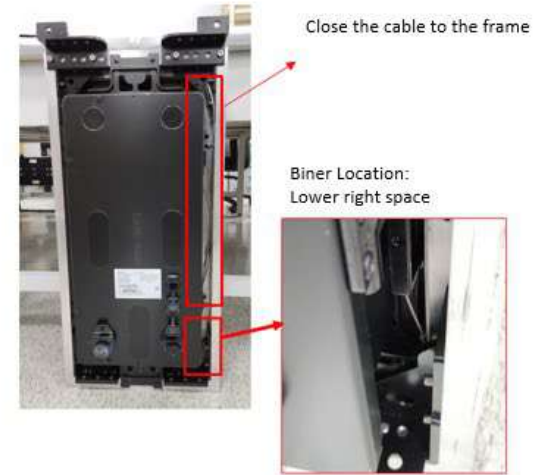


Biner Location:
Attach to the central
magnet of the module below



Close the cable to the frame

Biner Location:
Lower right space



Close the cable to the frame

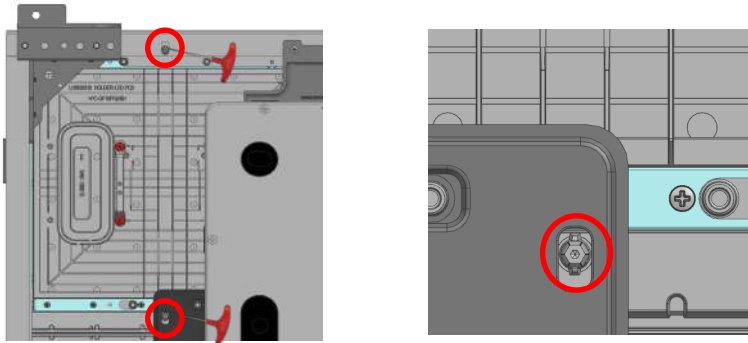
Biner Location:
Lower right space

4. Maintenance

2) Rear Service

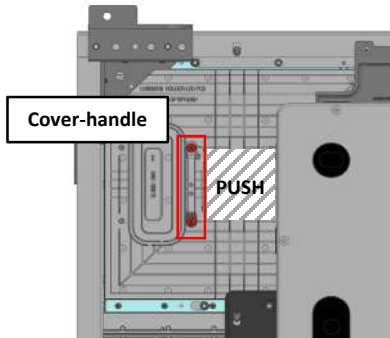
◆ Component Replacement - Module

1. Turn the wing nut(2EA) counterclockwise by 90 degrees

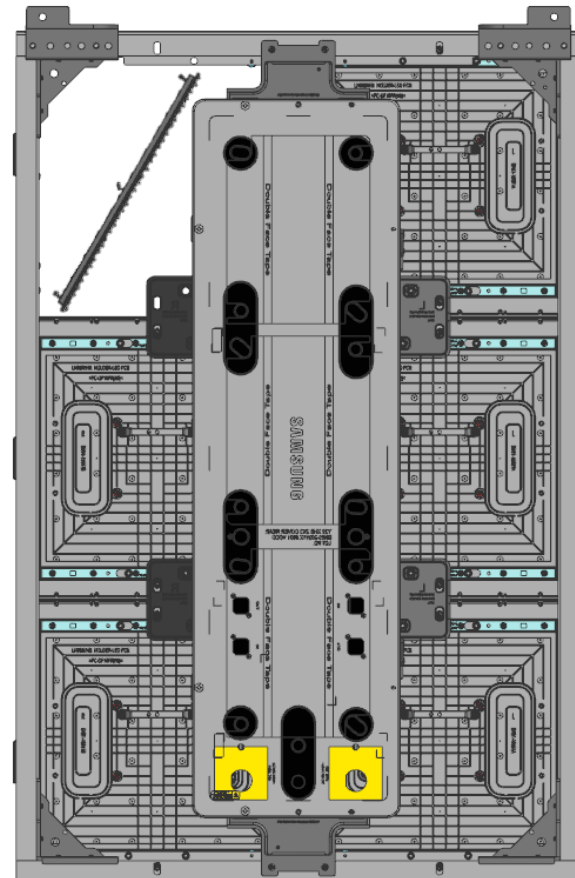


Unlocking

2. Push center of Module while holding the Cover-handle



3. Pull out Module diagonally

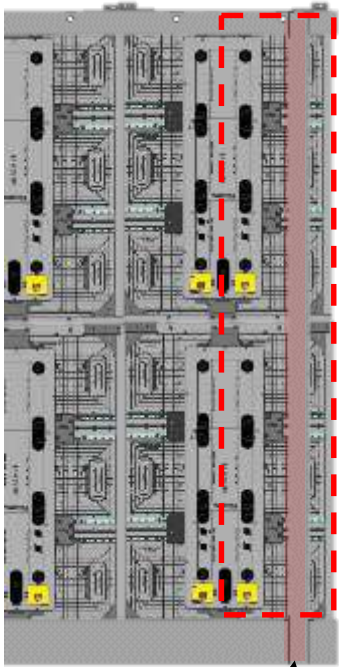


4. Maintenance

2) Rear Service

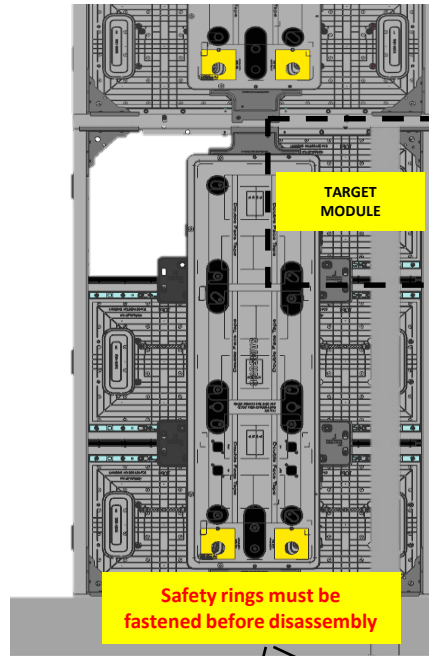
◆ Component Replacement - Module

※ Secondary Frame Installed case

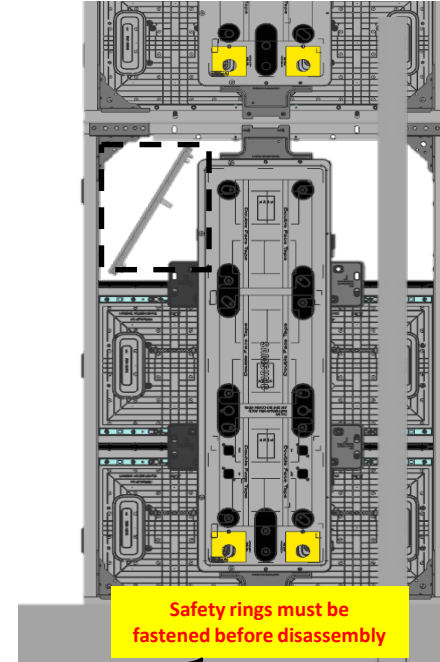


Secondary Frame located right behind Modules

1. Disassemble the modules on the side



2. Remove the module to an empty space

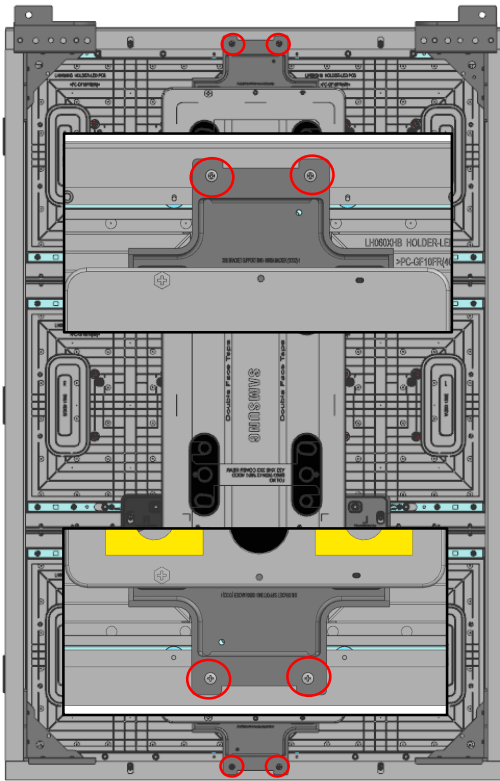


4. Maintenance

2) Rear Service

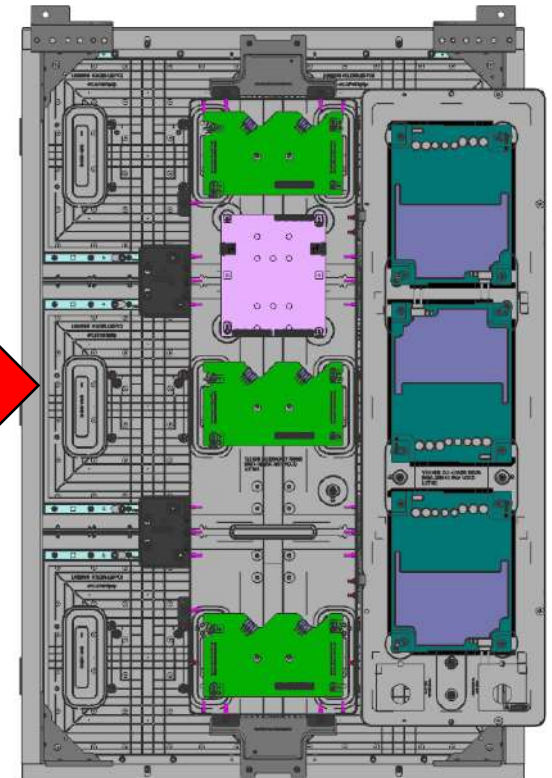
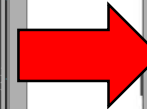
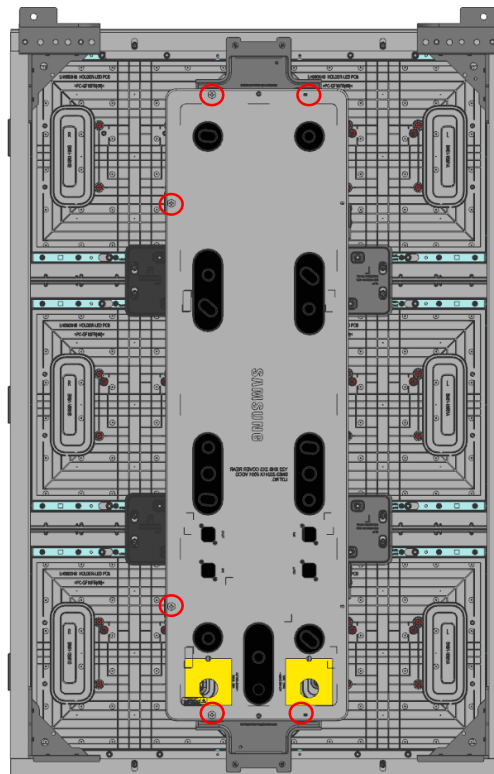
◆ Component Replacement – Data BOX

1. Unscrew 4 point



※ If only change PCB Board

: Unscrew 4-6 point and open the cover-rear

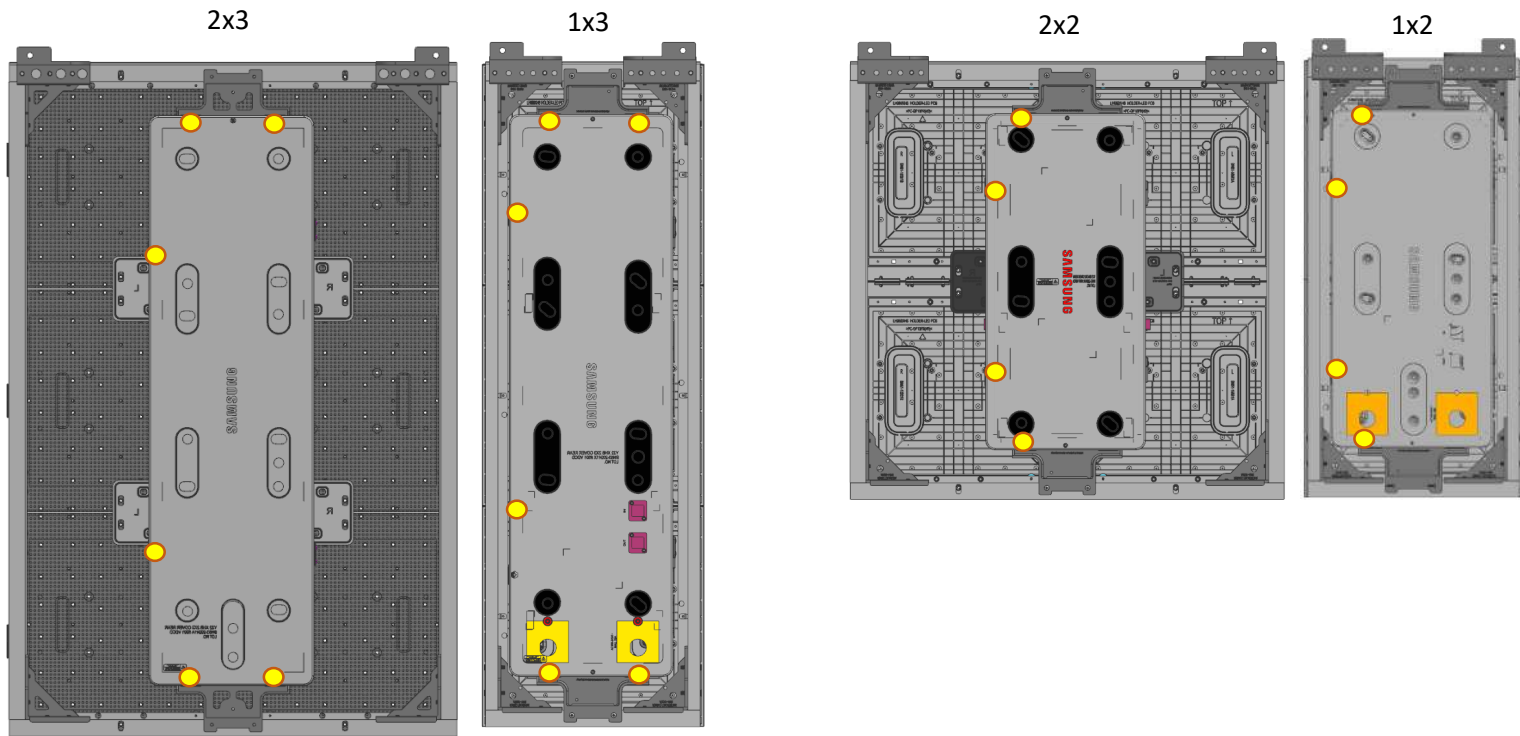


4. Maintenance

2) Rear Service

◆ Component Replacement – Data BOX

Differences Screw points of COVER-REAR between CABINETS

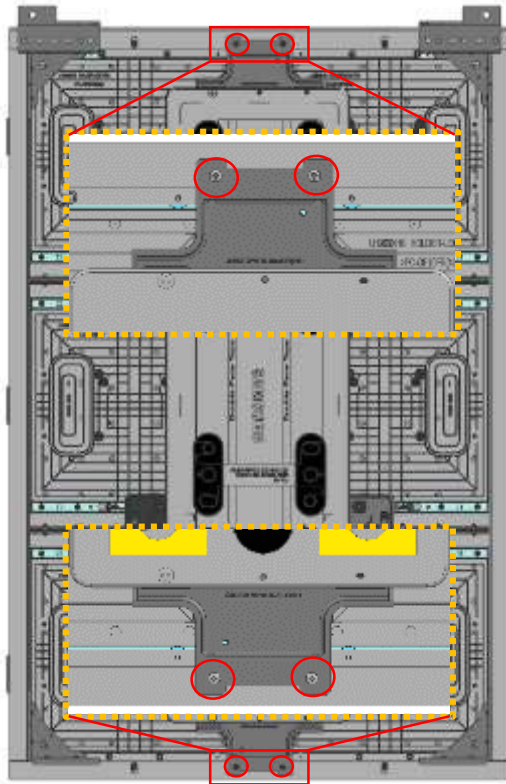


4. Maintenance

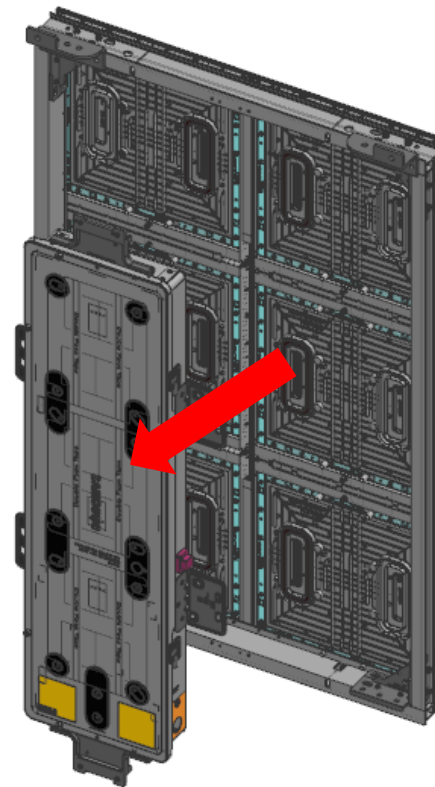
2) Rear Service

◆ Component Replacement – Data BOX

1. Unscrew 4 point



2. Replace data BOX after disassembling to the back

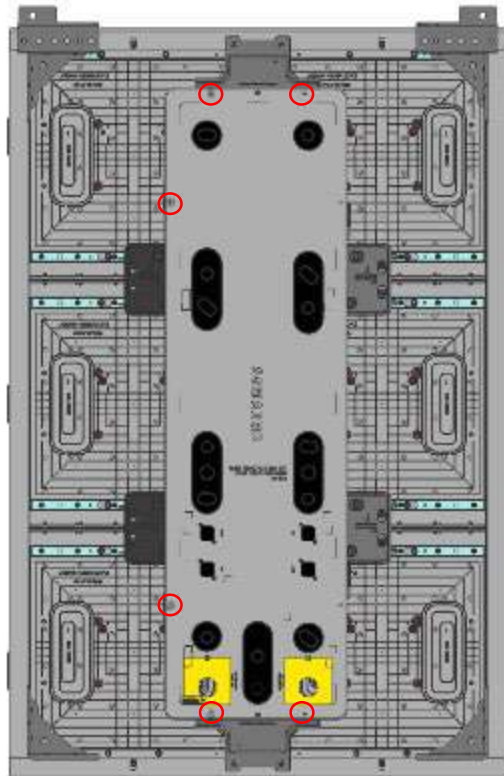


4. Maintenance

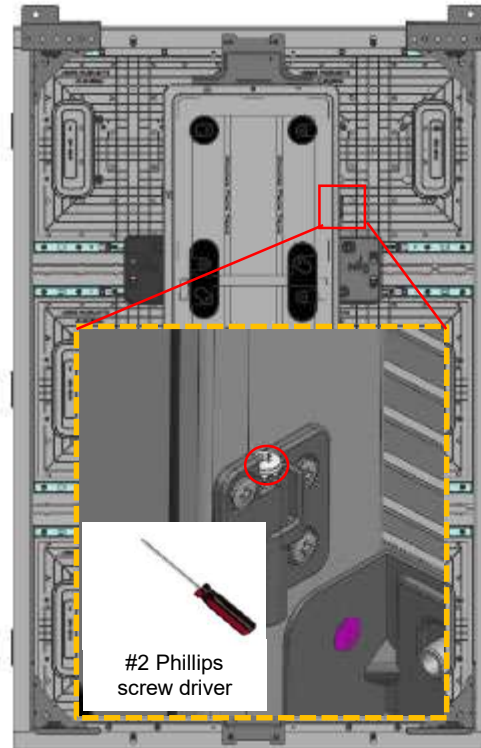
2) Rear Service

◆ Component Replacement – Cover Rear

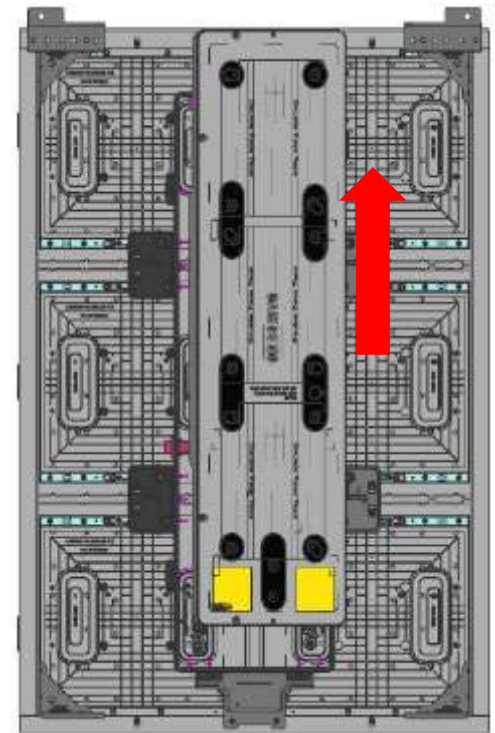
1. 4-6 Unscrew Point



2. Release 1 point screw in upper hinge part



3. Disassemble in the upward direction after opening the coverage

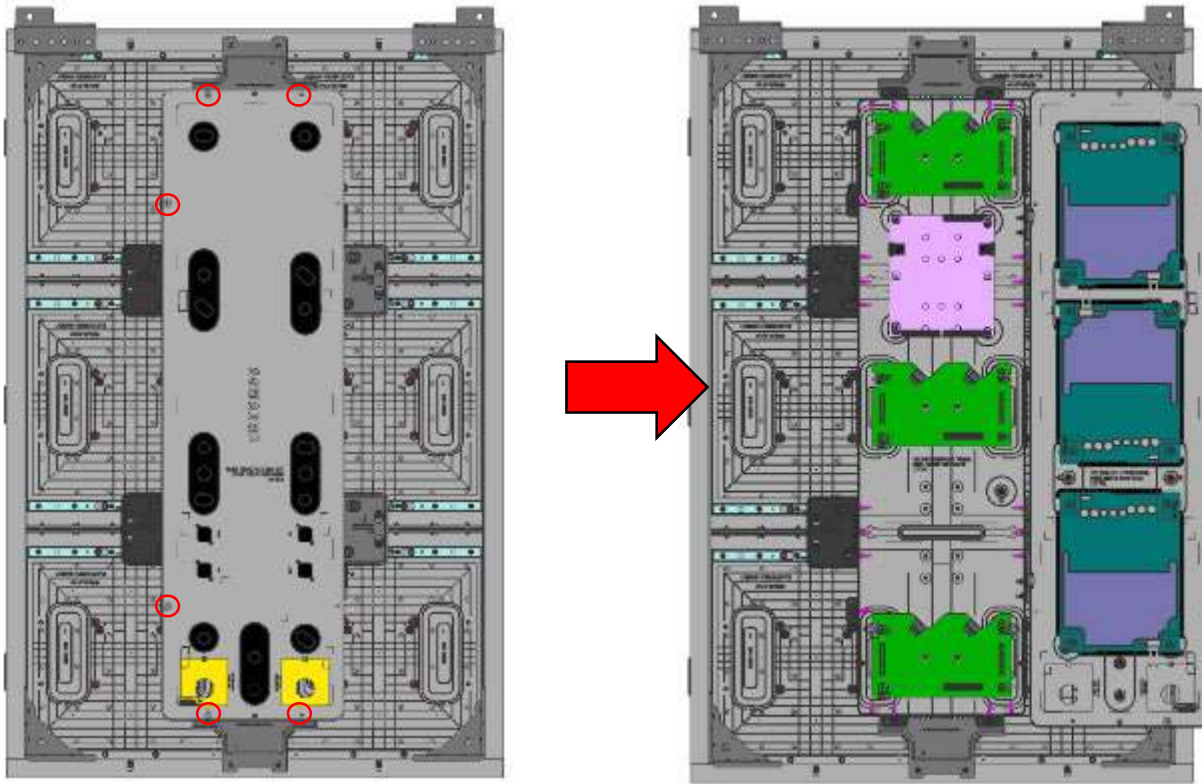


4. Maintenance

2) Rear Service

- ◆ Component Replacement – Only PCB Board

4. After unpointing the 4-6 screws, open the rear cover and replace the PCB

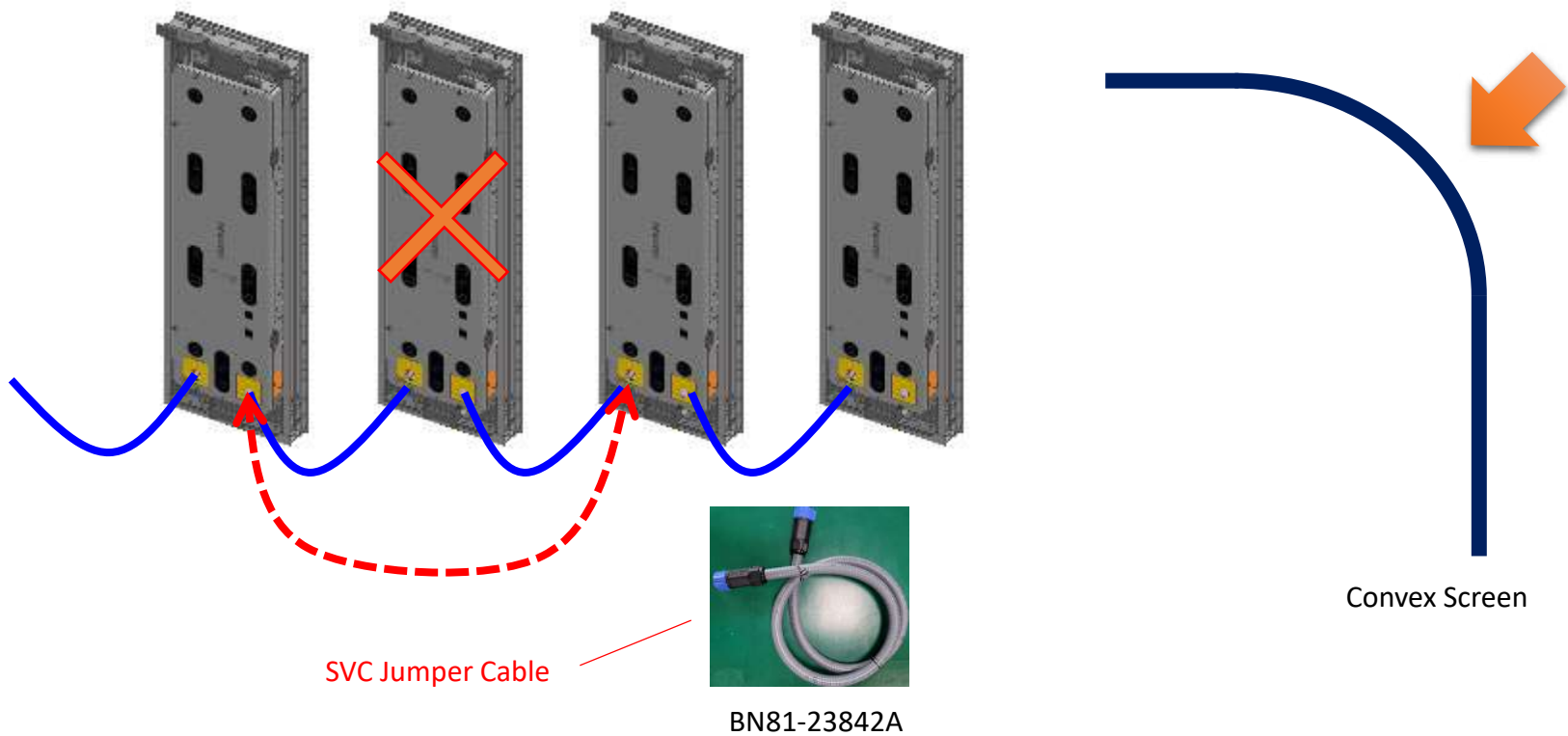


4. Maintenance

1) Front Service

◆ Part replacement: Power and Data Cable Cable Cable for SVC support Cable - Convex design

- If 1×3, 1×2 are continuously installed on the Convex Screen, . D-Box power must be turned off to replace one cabinet module In this case, all cabinets connected to the rear are also turned off. → Supply power and data jumper cable for SVC so that only the cabinet you want to replace the module can be turned off.



4. Maintenance

1) Front Service

◆ Part replacement: Z-Case

- Z-BOX Open should be 90 degrees or more: Z-BOX front space for Z-Case door open is required



4. Maintenance

Precautions





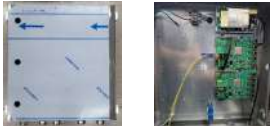
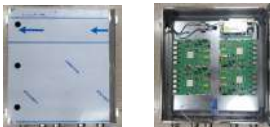

◆ Precautions for Data Cable Detachment

- 1) When removing the data port cable, hold it as shown on the left side and remove it. - Do not pull the end as shown in the picture on the right
- 2) If the data port cable is pulled by force as shown in the picture on the right, it will be pulled out. - Be careful not to fall out due to cable jams and external forces during installation/maintenance.



Accessory Kit

☐ Cable

Part Number	Description	Functionality	Photo
VG-XHCP4KIT	Master AC cable (600mm x 4ea)	Supply if Junction box is not provided	
VG-XHCV4KIT	Data Cable 1 Kit (1.5m x 4 ea)	Used for vertical connection between cabinets	
VG-XHC6ZKIT	Data Cable 2 Kit (10m x 5ea, 25m x 5ea)	Used for connection between Z-case and cabinet for P6/P8 model	
VG-XHCDZKIT	Data Cable 3 Kit (30m x 6ea, 50m x 4ea)	Used for connection between Z-case and cabinet for P10/P16 model	
VG-XHZC2KIT	Z-Case (Z-Card x 2)	Receives the S-BOX optical signal and transmits it to the cabinet.	
VG-XHZC4KIT	Z-Case (Z-Card x 4)	Receives the S-BOX optical signal and transmits it to the cabinet.	
TBD	S-BOX Case	S-BOX mounted	

Accessory Kit

2) Tools and Accessory

◆ Samsung provides Tool (all)

LIST	Qty	CODE
ASSY ACCESSORY_1	1	BN91-24349A VG-XHTISKIT
A/S-EYE BOLT	4	BN81-23761A
A/S-NUT M12	4	BN81-23765A
ASSY ACCESSORY_2	1	BN91-24343A VG-XHTMSKIT
A/S-HOLDER BOLT	6	BN81-23763A
A/S-HOLDER BOLT	44	BN81-23762A
A/S-NUT M8	50	BN81-23764A
ASSY ACCESSORY_3	1	BN91-24344A VG-XHTBSKIT
A/S-BRACKET-WIRE	1	BN81-23799A
A/S-MODULE WIRE	6	BN81-23798A
SCREW MACHINE	6	6001-002621
ASSY ACCESSORY_4	1	BN91-24345A VG-XHTSSKIT
A/S-T HANDLE	2	BN81-23767A
A/S-T HANDLE	2	BN81-23768A
A/S-HEX WRENCH	1	BN81-23813A
A/S-HEX WRENCH	1	BN81-23818A

LIST	Qty	CODE
ASSY DECO-H1	1	BN91-24338A VG-XHH12KIT
A/S-FRAME TOP SHORT	1	BN81-23779A
A/S-FRAME BOTTOM SHORT	1	BN81-23778A
A/S-HOLDER BOLT	8	BN81-23766A
ASSY DECO-H2	1	BN91-24339A VG-XHH24KIT
A/S-FRAME TOP LONG	2	BN81-23781A
A/S-FRAME BOTTOM LONG	2	BN81-23782A
A/S-HOLDER BOLT	16	BN81-23766A
ASSY DECO-V2	1	BN91-24340A VG-XHV22KIT
A/S-FRAME SIDE SHORT	2	BN81-23780A
A/S-BRACKET BLOCK	4	BN81-23788A
A/S-HOLDER BOLT	8	BN81-23766A
SCREW MACHINE	8	6001-002621
ASSY DECO-V3	1	BN91-24341A VG-XHV34KIT
A/S-FRAME SIDE LONG	4	BN81-23783A
A/S-BRACKET BLOCK	8	BN81-23788A
A/S-HOLDER BOLT	16	BN81-23766A
SCREW MACHINE	16	6001-002621
ASSY DECO-L4	1	BN91-24342A VG-XHL42KIT
A/S-FRAME TOP LEFT	1	BN81-23784A
A/S-FRAME TOP RIGHT	1	BN81-23785A
A/S-FRAME BOTTOM LEFT	1	BN81-23786A
A/S-FRAME BOTTOM RIGHT	1	BN81-23787A
A/S-HOLDER BOLT	16	BN81-23766A

Buffer

☐ Spare Part List by Samsung

Category	Sub. Cat	Marketing Project	Model Code	Part List	Short Desc
BUFFER	DBOX	XHB_kit	VG-XHDB1ABF	BN94-17759A[Bridge, 3ea], BN94-17761A[PCB Main 1ea] BN91-24202A [Assy shield]	Sparing product to exchange D-BOX (F23, L43)
		XHB_kit	VG-XHDB1IBF	BN94-17759B[Bridge, 3ea], BN94-17761B[PCB Main 1ea] BN91-24202M [Assy shield]	Sparing product to exchange D-BOX (F13)
		XHB_kit	VG-XHDB1BBF	BN94-17759A[Bridge, 2ea], BN94-17761E[PCB Main 1ea] BN91-24202J [Assy shield]	Sparing product to exchange D-BOX (F22, L42)
		XHB_kit	VG-XHDB1SBF	BN94-17759B[Bridge, 2ea], BN94-17761C[PCB Main 1ea] BN91-24202L [Assy shield]	Sparing product to exchange D-BOX (F12)
	MODULE (for 2x3/2x2)	XHB_kit	VG-XHMB2T6A	BN94-17760A, BN94-17760B	Sparing module of 2x3, 2x2 models (P6 Au)
		XHB_kit	VG-XHMB2T8A	BN94-17930A, BN94-17930B	Sparing module of 2x3, 2x2 models (P8 Au)
		XHB_kit	VG-XHMB2TDA	BN94-17760C, BN94-17760F	Sparing module of 2x3, 2x2 models (P10 Au)
		XHB_kit	VG-XHMB2THA	BN94-17929A, BN94-17929B	Sparing module of 2x3, 2x2 models (P16 Au)
		XHB_kit	VG-XHMB2C6A	BN94-17760L, BN94-17760M	Sparing module of 2x3, 2x2 models (P6 Cu)
		XHB_kit	VG-XHMB2C8A	BN94-17930C, BN94-17930D	Sparing module of 2x3, 2x2 models (P8 Cu)
		XHB_kit	VG-XHMB2CDA	BN94-17760D, BN94-17760E	Sparing module of 2x3, 2x2 models (P10 Cu)
		XHB_kit	VG-XHMB2CHA	BN94-17929A, BN94-17929B	Sparing module of 2x3, 2x2 models (P16 Cu)
	MODULE (for 1x3/1x2)	XHB_kit	VG-XHMB1T6S	BN94-17760G	Sparing module of 1x3, 1x2 models (P6 Au)
		XHB_kit	VG-XHMB1T8S	BN94-17930L	Sparing module of 1x3, 1x2 models (P8 Au)
		XHB_kit	VG-XHMB1TDS	BN94-17760J	Sparing module of 1x3, 1x2 models (P10 Au)
		XHB_kit	VG-XHMB1THS	BN94-17929C	Sparing module of 1x3, 1x2 models (P16 Au)
		XHB_kit	VG-XHMB1C6S	BN94-17760N	Sparing module of 1x3, 1x2 models (P6 Cu)
		XHB_kit	VG-XHMB1C8S	BN94-17930M	Sparing module of 1x3, 1x2 models (P8 Cu)
		XHB_kit	VG-XHMB1CDS	BN94-17760K	Sparing module of 1x3, 1x2 models (P10 Cu)
		XHB_kit	VG-XHMB1CHS	BN94-17929C	Sparing module of 1x3, 1x2 models (P16 Cu)

Material list

Customer purchase list

(1) Optical Module

Optical Module				Optical Module / Spec	
Package Style	Wavelength	Maximum Data Transfer Rate	Reach	Interface	Fiber Type
QSPF + LR4	CWDM	40.00 Gbps	10K	LC	SM

(2) Fiber Distribution Frame

- Maker : Justlink
- Model Name : MINI-FDF-SC-4C



(3) LSM Control PC Spec

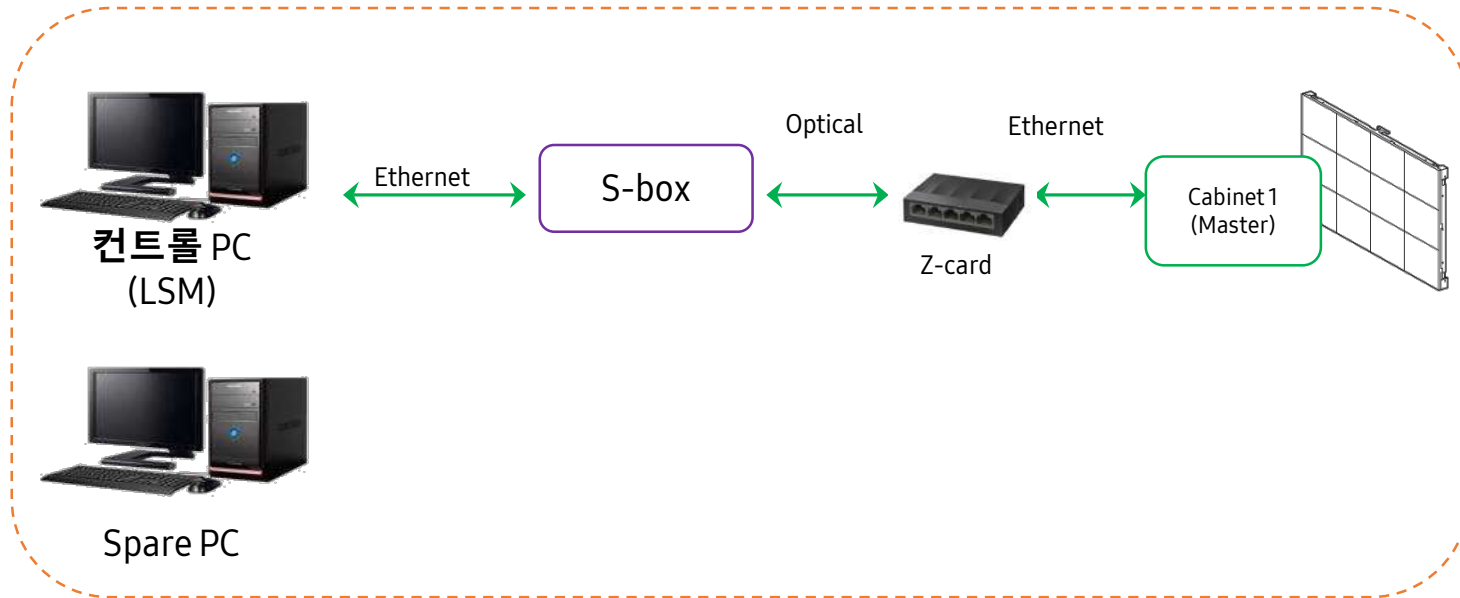
- For more than Win10 OS application and detailed specifications, contact the manufacturer's technical support representative.

LSM Configuration Guide

Securing and Installing Control PC for LSM Control

❑ Securing and Installing Control PC for LSM Control

- The control PC must be installed after the customer secures the PC above the specifications provided by the manufacturer.
 - Control PC must be purchased and S-BOX must be controlled after installation as follows.
 - Control PC should always be connected by S-BOX and LAN cable.
- ※ (Recommendation) One more Spare PC needs to be secured so that Main Control PC can respond urgently to failures



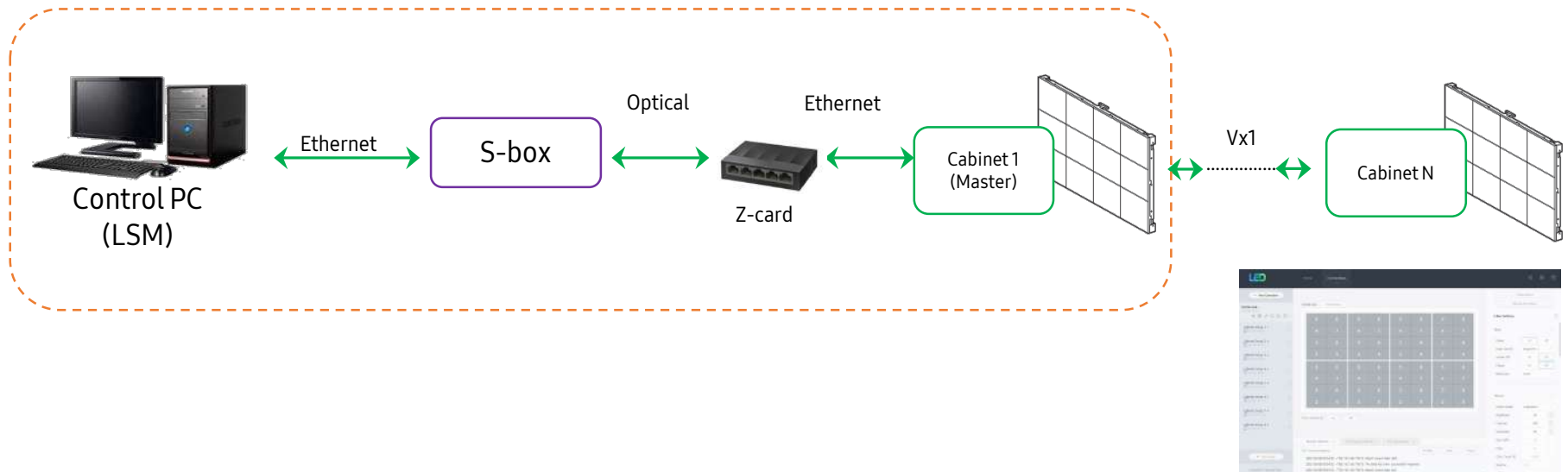
Settings and Usage Description

❑ S-BOX connection (Panel Configuration)

S-Box Picture Setting

- S-Box Default Quality Setting is optimized for XHB Cabinet and shipped to the factory.
- The installed LED display model and optimized image quality setting are automatically set after installation.
- For optimal image quality setting, please make sure to connect / register S-Box and LED display with LSM SW.
- S-Box and Z-CARD should be connected by QSFP (Optical), and Z-CARD and LED display should be connected by LAN cable.
- The image quality setting criteria are set based on the model of Master Cabinet connected to Group 1 of S-Box.

If LSM is not connected between S-Box and LED Display, the color may be unnatural.

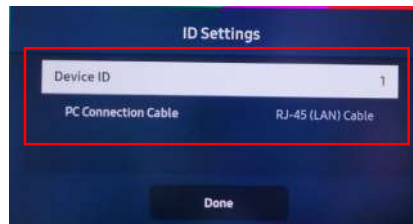


Settings and Usage Description

❑ S-BOX Connection (Panel Configuration)

S-Box Configuration

After entering the remote control Home button, select the device ID and PC connection cable.

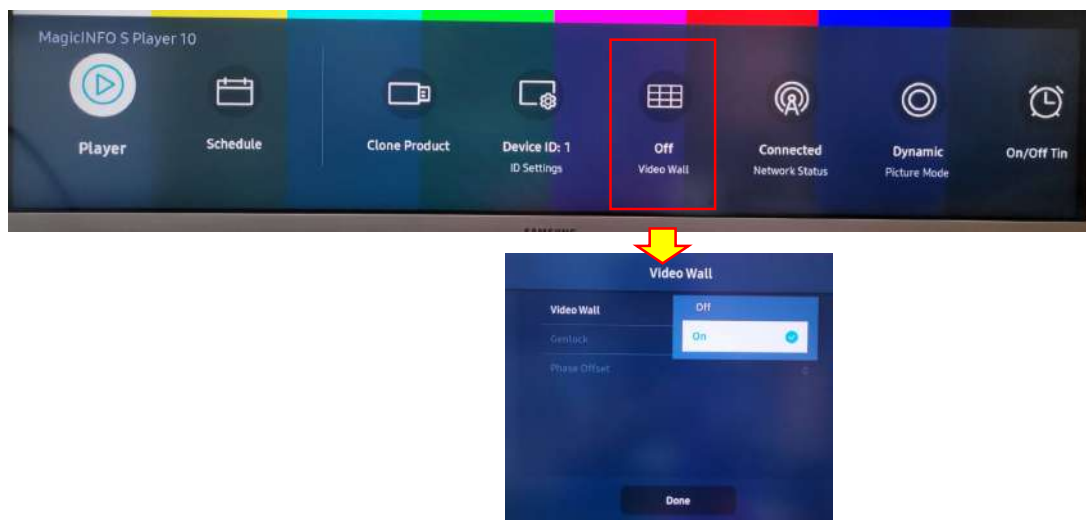


Settings and Usage Description

❑ S-BOX Connection (Panel Configuration)

S-Box Configuration (Grouping)

After entering the remote control Home button, select Video Wall -> Change to "On"



[Caution]

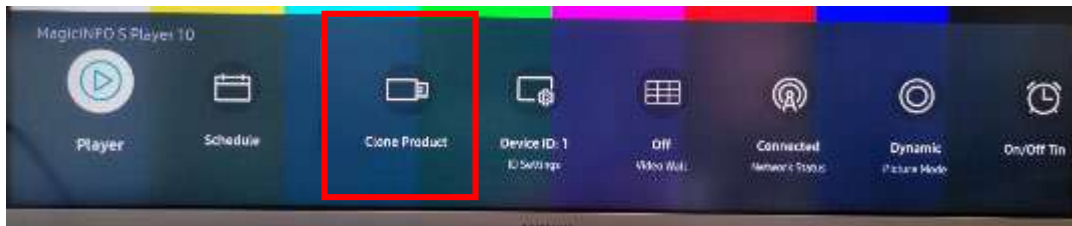
- 1) Before executing S-Box Grouping in LSM (LED Signage Manager), make sure to set the resolution of the input source equipment to the resolution that supports S-Box Grouping. When entering an unsupported resolution, the screen may not be visible or noise may occur on the screen, so change the frequency of the video output source to 50 Hz or 60 Hz after turning off the Video Wall function. ※ After 13.06, S-Box Grouping function is provided through LSM. Please check the latest version of LSM.

※ After 13.06, S-Box Grouping function is provided through LSM. Please check the latest version of LSM.

Settings and Usage Description

❑ S-BOX connection (Panel Configuration)

Clone Product



Export settings on the product to an external storage device. You can also import settings from an external storage device. This option is useful when assigning the same settings to several products.

When a duplicate file is not found on the external storage device

1. Connect the external storage device, then run the **Clone Product** function.
2. The **No cloning file found on the external storage device. Export this device's settings to the external storage device?** message appears.
3. Select **Export** to export the settings.

When a duplicate file is found on the external storage device

1. Connect the external storage device, then run the **Clone Product** function.
2. The **Cloning file found. Please select an option.** message appears.
 - Run the **Import from External Storage** or **Export to External Storage** function.
 - **Import from External Storage:** Copy settings saved on an external storage device to the product.
 - **Export to External Storage:** Copy settings on the product to an external storage device.

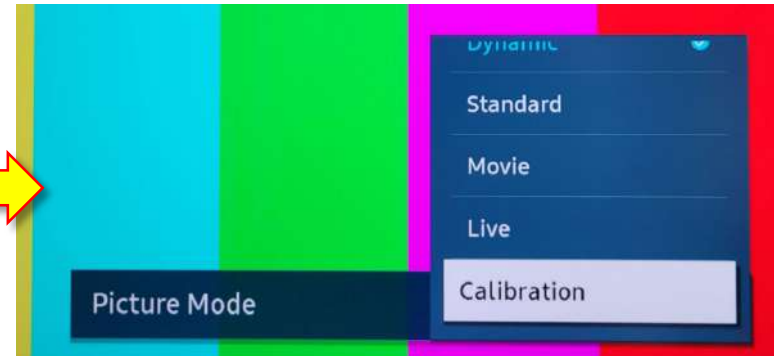
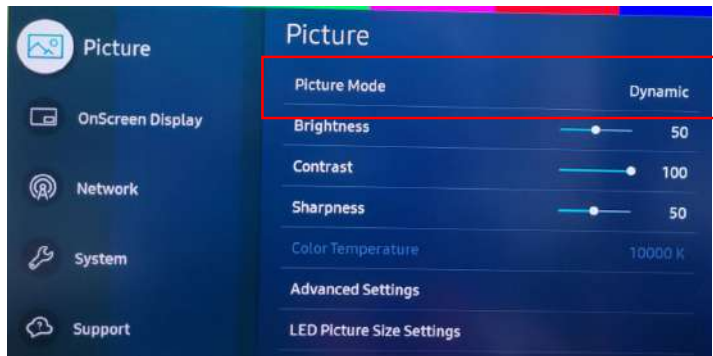
After configuration is complete, the product is rebooted automatically.

Settings and Usage Description

❑ S-BOX Connection (Panel Configuration)

Picture menu setting during S-BOX grouping

- To use S-Box grouping, the picture mode must be set to Calibration mode.
- Menu → Picture → Picture Mode → Calibration

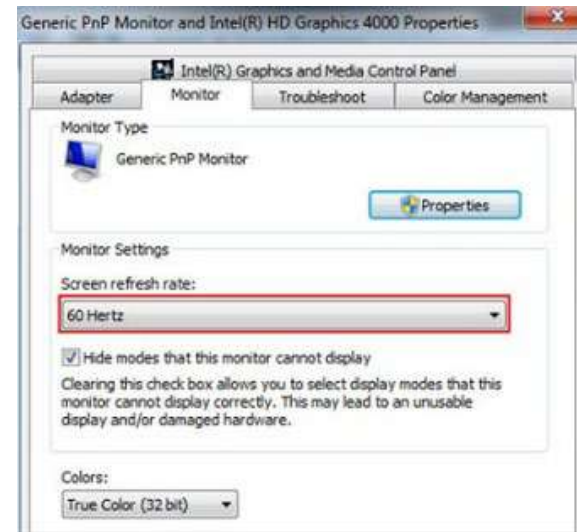
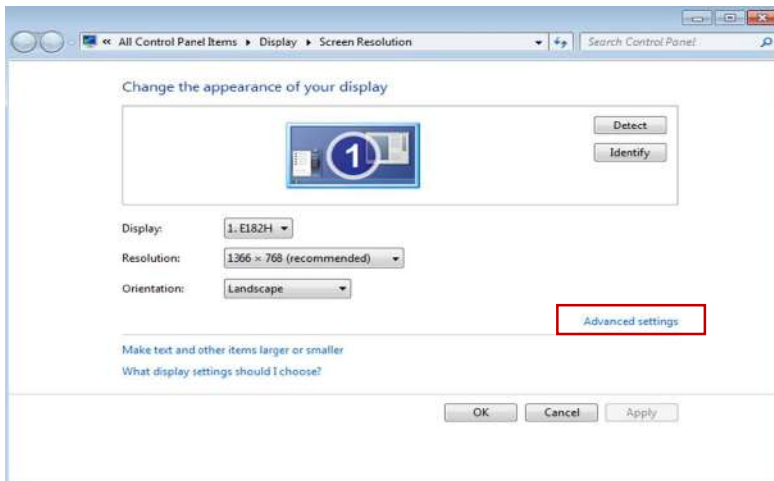


Settings and Usage Description

❑ S-BOX Connection (Panel Configuration)

PC output frequency change method

- Right-click PC mouse → Select screen resolution → Click Advanced Settings
- Click Monitor Tap → Monitor Settings → Change screen playback frequency to 60Hz



S-BOX Installation and Connection

S-box grouping support frequency (1/2)

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)	HDMI 1~2	DP	S-Box 그룹화 지원
IBM/VESA, 640 x 480	31.469	59.94	21.175	N / N	O	O	
Mac, 640 x 480	35	66.667	30.24	N / N	O	O	
VESA 640 x 480	37.861	72.809	31.5	N / N	O	O	
VESA, 640 x 480	37.5	75	31.5	N / N	O	O	
IBM, 720 x 400	31.469	70.087	28.322	N / P	O	O	
VESA, 800 x 600	37.879	60.317	40	P / P	O	O	
VESA, 800 x 600	48.077	72.188	50	P / P	O	O	
VESA, 800 x 600	46.875	75	49.5	P / P	O	O	
Mac, 832 x 624	49.726	74.551	57.284	N / N	O	O	
VESA, 1024 x 768	48.363	60.004	65	N / N	O	O	O
VESA, 1024 x 768	56.476	70.069	75	N / N	O	O	
VESA, 1024 x 768	60.023	75.029	78.75	P / P	O	O	
VESA, 1152 x 864	67.5	75	108	P / P	O	O	
VESA, 1280 x 720	45	60	74.25	P / P	O	O	O
VESA, 1280 x 800	49.702	59.81	83.5	N / P	O	O	
VESA, 1280 x 1024	63.981	60.02	108	P / P	O	O	O
VESA, 1280 x 1024	79.976	75.025	135	P / P	O	O	
VESA, 1440 x 900	55.935	59.887	106.5	N / P	O	O	
VESA, 1600 x 900	60	60	108	P / P	O	O	O
VESA, 1680 x 1050	65.29	59.945	146.25	N / P	O	O	
VESA, 1920 x 1080	67.5	60	148.5	P / P	O	O	O

Settings and Usage Description

S-box grouping support frequency (2/2)

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)	HDMI 1~2	DP	S-Box 그룹화 지원
VESA, 2560 x 1440	88.787	59.951	241.5	P / N	O	O	
VESA, 3840 x 2160	67.5	30	297	P / P	X	O	
VESA, 3840 x 2160	133.312	59.997	533.25	P / N	O	X	
CEA-861 VIC 3, 720x480	31.469	59.94	27	N / N	O	O	
CEA-861 VIC 4, 1280x720	45	60	74.25	P / P	O	O	O
CEA-861 VIC 5, 1920x1080i	33.75	60	74.25	P / P	O	O	
CEA-861 VIC 7, 720(1440)x480i	31.469	59.94	27	P / P	O	O	
CEA-861 VIC 16, 1920 x 1080	67.5	60	148.5	P / P	O	O	O
CEA-861 VIC 18, 720x576	31.25	50	27	N / N	O	O	O
CEA-861 VIC 19, 1280x720	37.5	50	74.25	P / P	O	O	O
CEA-861 VIC 20, 1920x1080i	28.125	50	47.25	P / P	O	O	
CEA-861 VIC 22, 720(1440)x576i	31.25	50	27	P / P	O	O	
CEA-861 VIC 31, 1920x1080	56.25	50	148.5	P / P	O	O	O
CEA-861 VIC 32, 1920x1080	27	24	74.25	P / P	O	O	
CEA-861 VIC 33, 1920x1080	28.125	25	74.25	P / P	O	O	
CEA-861 VIC 34, 1920x1080	33.75	30	74.25	P / P	O	O	
CEA-861 VIC 93, 3840x2160	54	24	297	P / P	O	O	
CEA-861 VIC 94, 3840x2160	56.25	25	297	P / P	O	O	
CEA-861 VIC 95, 3840x2160	67.5	30	297	P / P	O	O	
CEA-861 VIC 96, 3840x2160	112.5	50	594	P / P	O	X	O
CEA-861 VIC 97, 3840x2160	135	60	594	P / P	O	X	O
CEA-861 VIC 98, 4096x2160	54	24	297	P / P	O	O	
CEA-861 VIC 99, 4096x2160	56.25	25	297	P / P	O	O	
CEA-861 VIC 100, 4096x2160	67.5	30	297	P / P	O	O	
CEA-861 VIC 101, 4096x2160	112.5	50	594	P / P	O	X	
CEA-861 VIC 102, 4096x2160	135	60	594	P / P	O	X	

Settings and Usage Description

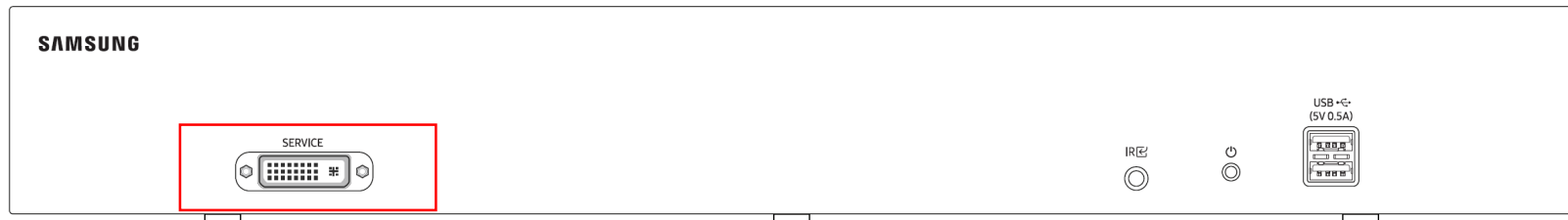
❑ S-BOX Connection (Service Port)

The service port is a monitoring-only terminal to check the operation status of the source that uses and plays OSD during the initial installation of the S-Box.

The resolution of the corresponding PORT is FHD (1920*1080@60Hz).

Screen blinking and breaking may occur when entering the source of UHD resolution in S-BOX, but this is a phenomenon in which the port output is fixed down scaling without a specific scaling algorithm and has nothing to do with the actual LED cabinet screen output.

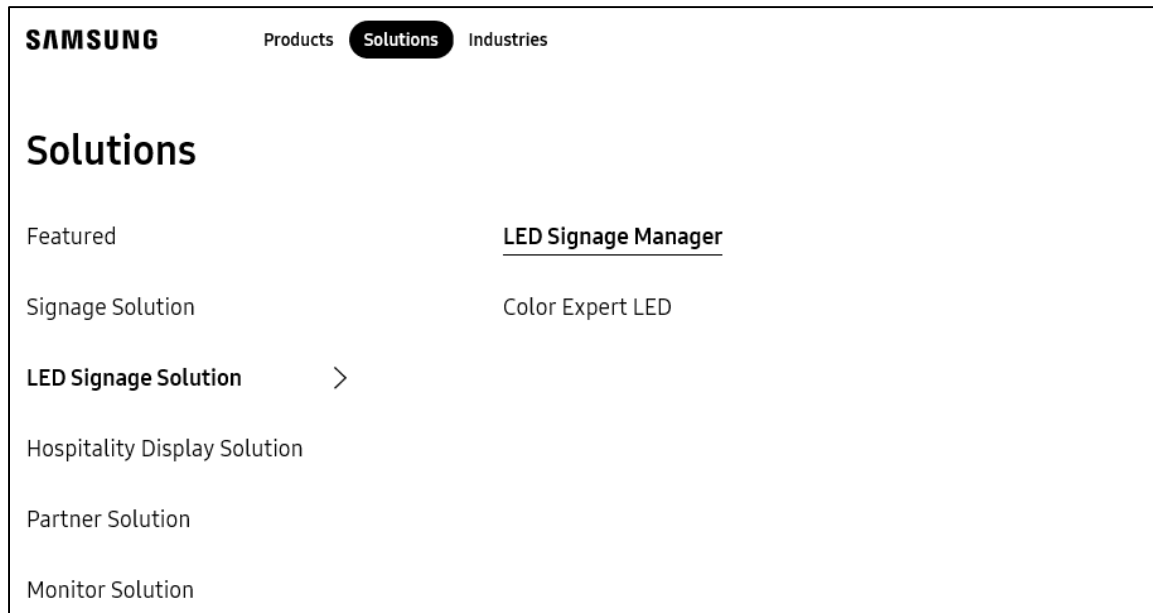
[Caution!] This port is for service only, and there is no function for user. Don't connect.



Settings and Usage Description

❑ LSM(LED Signage Manager)

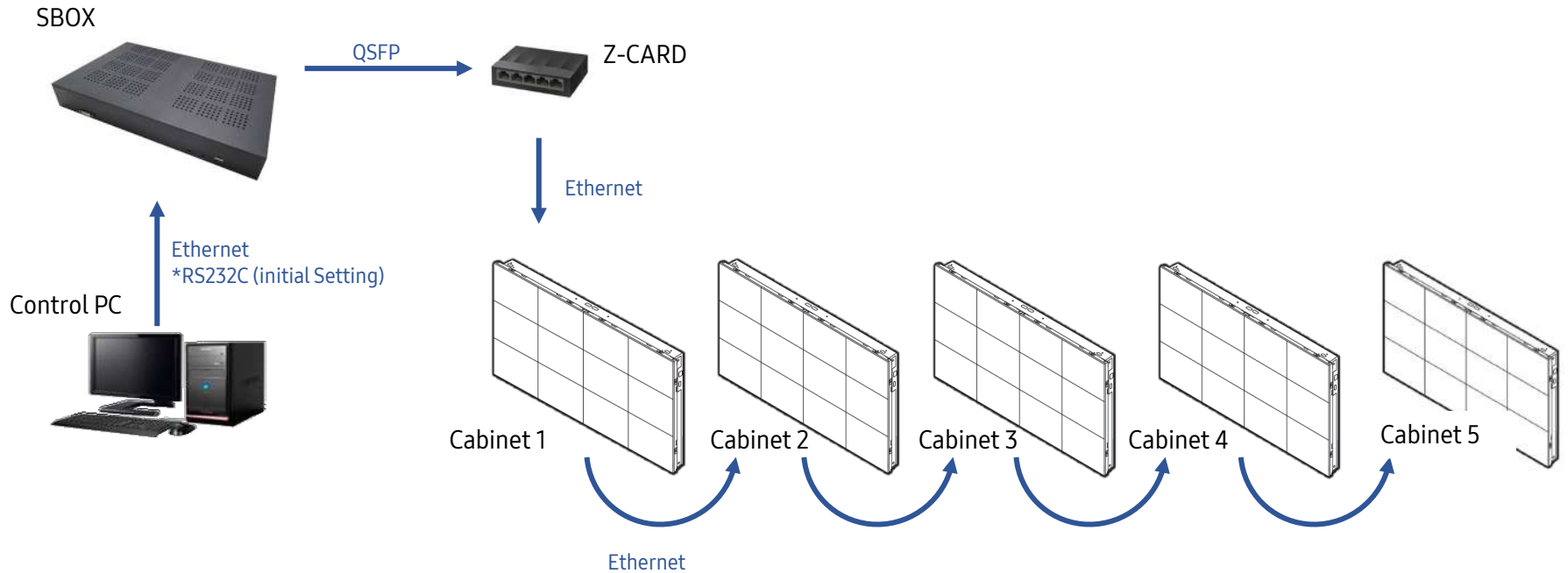
- LSM: Windows Application Software for remotely adjusting the layout of LED cabinets
 - LSM download path: Samsung Display Solutions
 - (<https://displaysolutions.samsung.com>) Solutions> LED Signage Solution> LED Signage Manager
- ※ Partner login is required for program download.



Settings and Usage Description

□ LSM connection between components

1. PC and S-BOX should be connected via Ethernet connection.
2. The S-BOX is connected to the first LED cabinet by QSFP (optical cable) – LAN.
3. LED cabinets are connected in a daisy chain method through the LAN port.

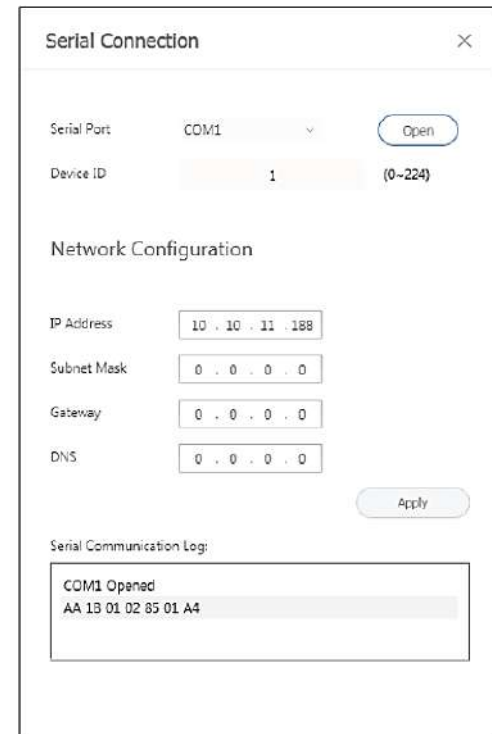


Settings and Usage Description

□ Network Configuration

1. Connect S-Box and PC in serial (UART, RS232) manner.
2. Click Start > All Programs > Samsung > LED Signage Manager > Network Configuration to execute.
3. Set the serial port and device ID. After completing the setting, click Open.
4. In the IP address, enter the IP to set in the S-Box and click Apply.
5. A pop-up window appears as the IP of the S-Box changes.
6. You can change the communication method of S-Box from RS232 in the initial state to RJ45 where LSM is available.
7. Once the setup is complete, you can connect S-Box and Cabinet using LSM.

※ Same as LSM download path

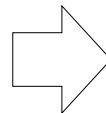
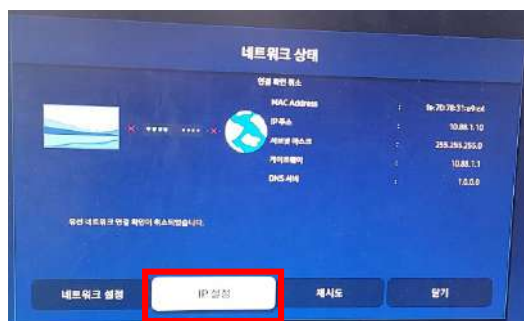


Settings and Usage Description(IP setting by REMOTE CONTROL)

□ Network Configuration

IP setting by REMOTE CONTROL

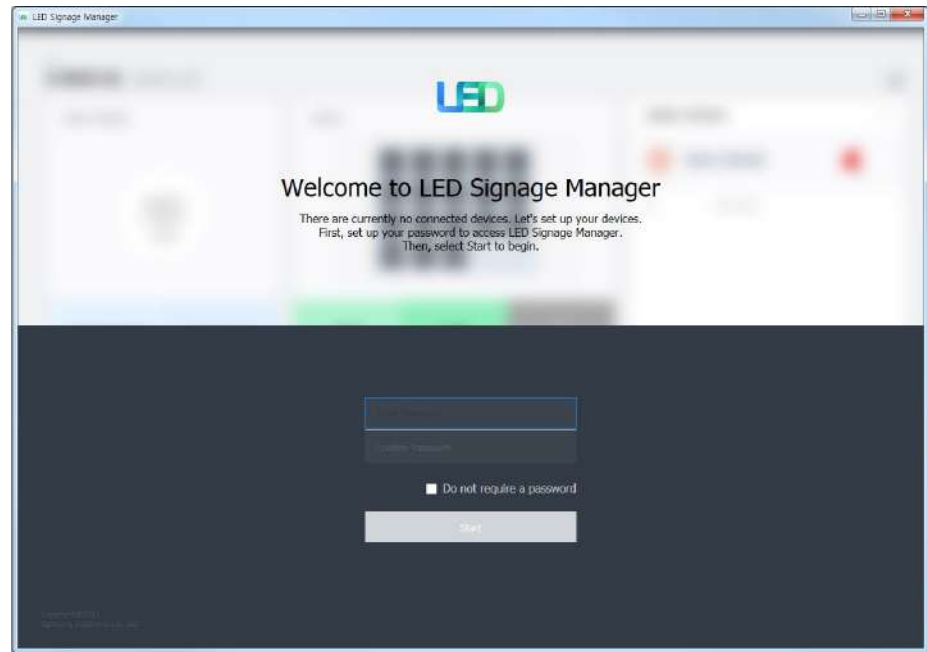
1. Choose 「Network status」 Menu
2. IP SETTING > SETTING METHOD > MANUAL



Settings and Usage Description

❑ LSM Connection

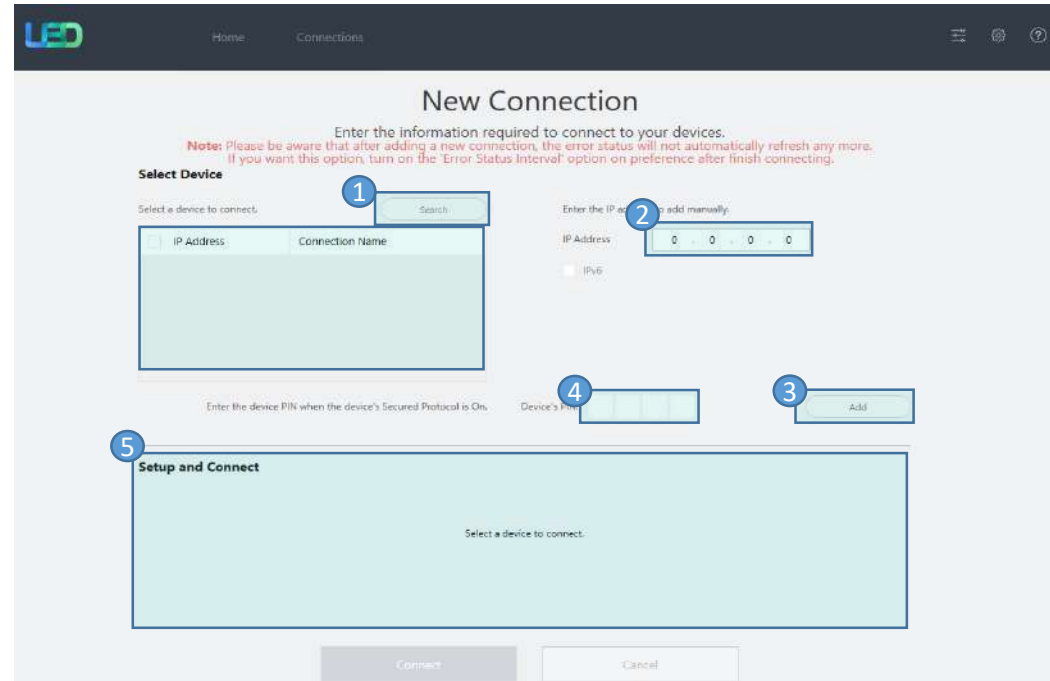
1. When LSM is executed for the first time, a page that sets the password appears.
2. To set the password, the user must enter the same password twice and click the Start button.
3. If you don't want to use password, check Don't use password option. In this case, password input is no longer required when LSM is executed.



Settings and Usage Description

❑ S-Box Connection

1. To add connection information, you can enter Search or IP address directly. When you click the Search button, the IP address of the connectable S-BOX on the same network appears. If you know the IP address of S-BOX, you can also enter it directly. If automatic search does not work, check if the network search and file sharing option is turned on in the PC Windows settings (if it is off, it will not be searched in Search)
2. When you click the Add button, the connection information is added to Setup and Connect. The user can select the model type of the S-Box.
3. A total of 8 model types are provided. For SBB-CX4B connection, you can select With Cabinet IP (4K-Outdoor) according to the connection type.



Without cabinet IP	SBB-IS08E
With Cabinet IP (2K)	SBB-SNOWRAF
With Cabinet IP (4K)	SBB-SNOWH3U SBB-SNOWJ3U SBB-SNOWJAU SBB-SNOWJMU
With Cabinet IP (4K-Pillar)	SBB-SNOWAAE
With Cabinet IP (8K)	SBB-SNOWAAE SBB-MBOXACE
The Wall Luxury	SBB-MBOXR48
All In One	IA***B-U, IA***B-H
With Cabinet IP (4K-Outdoor)	SBB-SNOWCX4B

Settings and Usage Description

[★ Caution!] Fixed IP setting is recommended when setting up LED cabinet network. If IP is changed when using DHCP, LSM connection may be disconnected. 192.168.10. the x band is used for internal communication of LED cabinet. Please use IP except for the band. Do not allocate IP arbitrarily, but allocate IP for LED through IT manager.

□ New Connection-Connect

1. You can select With Cabinet IP (4K-Outdoor) according to the connection method of LED Cabinet. You must specify the IP address of the LED cabinets connected to each port. Set the number of connections and click Connect.

※ If the IP is already set in the LED cabinet, you can check the “Connect with Existing Settings” option and connect quickly.

※ You can enter the IP address only in the Cabinet Group that needs actual use.

※ Each cabinet group consists of 5 blocks. Number Of Cabinets should be set as many as the actual number of cabinets in the block used. If not in use, you can keep and connect to the default value of 1.

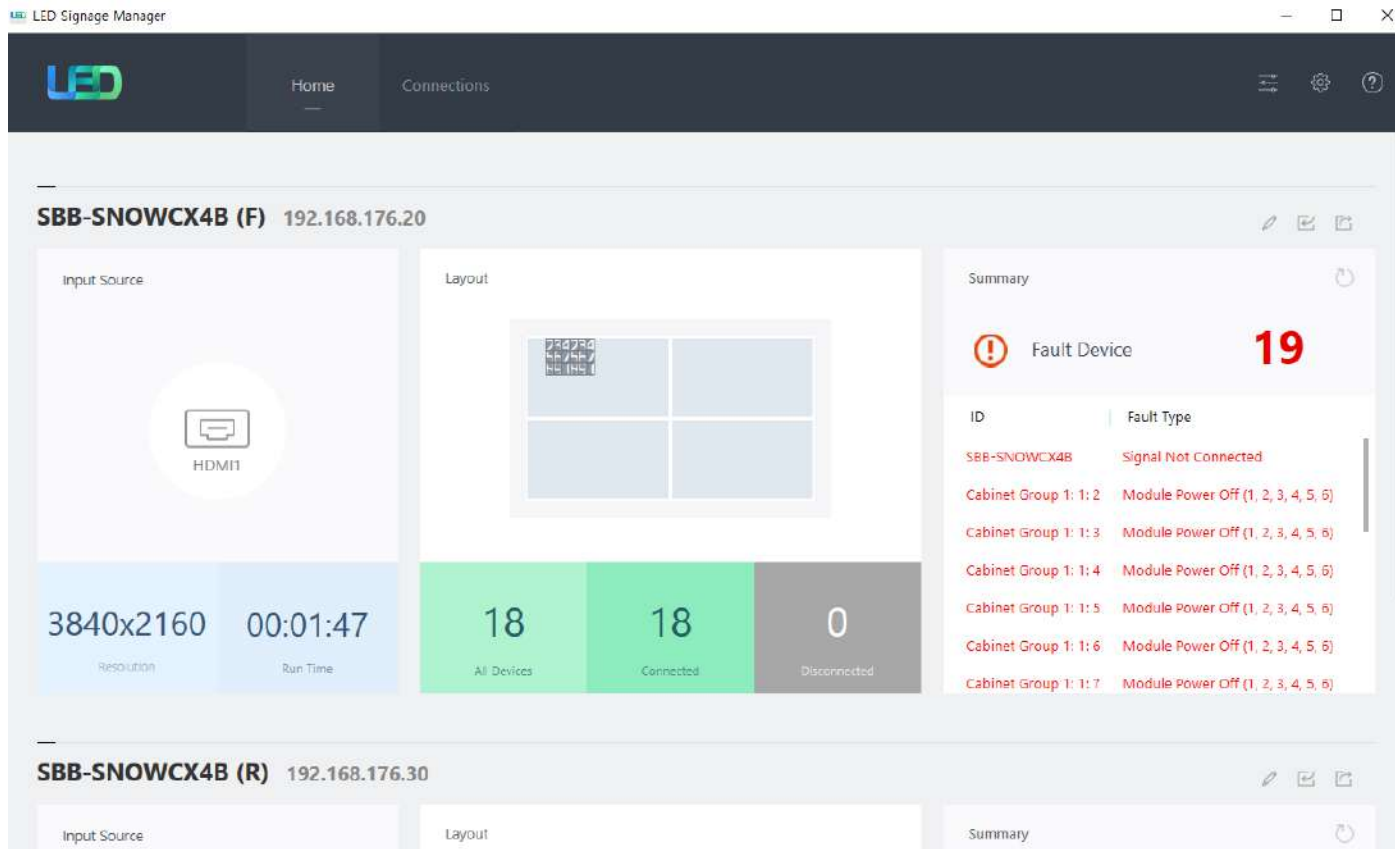
The screenshot shows the 'Setup and Connect' interface. At the top, the 'S-Box' configuration is visible: IP Address is 192.168.176.20, Model Type is 'With Cabinet IP (4K-Outdoor)', Path Type is 'Forward', and there is a 'Connect with existing settings' checkbox. Below this, there are four cabinet groups (Group 1 to Group 4). Each group has an IP Address field (all set to 192.168.176.0), a Path Type dropdown (all set to Forward), and a 'Number of Cabinets' column (all set to 1). To the right of each group, there are five rows, each with a 'Number of Cabinets' field (all set to 1) and a checkbox labeled 'Assign IDs and positions automatically' (all checked). A green box highlights the IP address fields for Group 1 and Group 2. A red box highlights the 'Number of Cabinets' fields for Group 1 and Group 2. Another red box highlights the 'Assign IDs and positions automatically' checkboxes for Group 1 and Group 2.

Settings and Usage Description

❑ Main Window-Home Window

[★ Caution!] For internal communication between S-BOX and LED Cabinet, use ports 1515, 48484, 48485, and 58585. During firewall/security network use, the port must be enabled between S-BOX and LED.

Home screen: Shows the information, input source, cabinet configuration, and error device of the connected device.



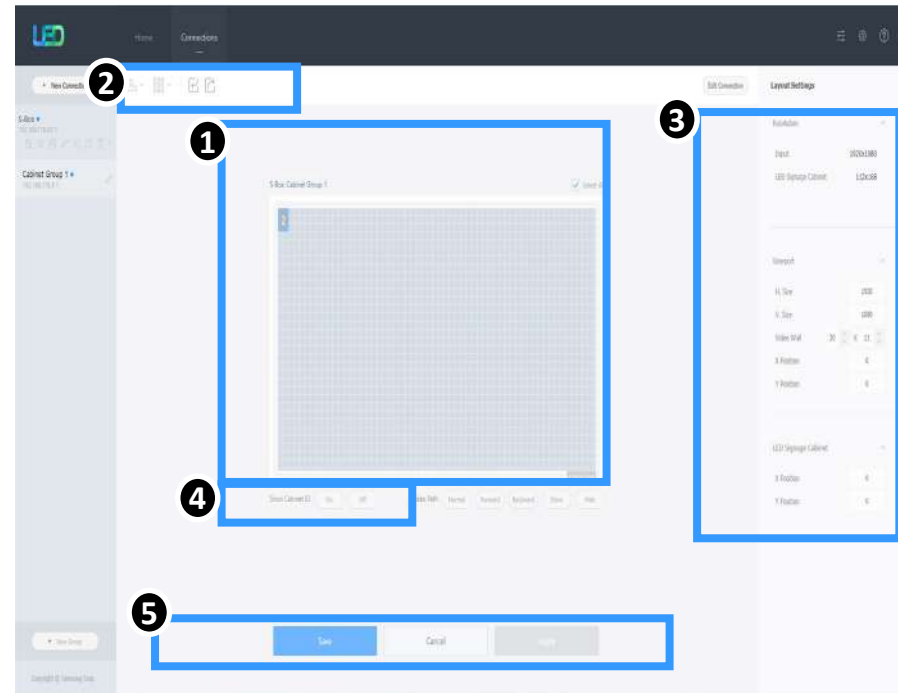
Settings and Usage Description

□ Layout Configuration

1. **Layout:** Adjust the location and layout of each LED cabinet in the output source area of the S-Box. Up to five zone-card blocks are divided in one layout window, and cabinets connected to each block can only be placed within the area of the block.
2. It provides the Edit Connection button for modifying connection information and the automatic alignment function of the LED cabinet. The data cable order between cabinets should be selected as one of the following options and placed in the same order as the physical connection order. If it is not the same as the connection order, the image may be output abnormally. The data cable order between cabinets should be selected as one of the following options and placed in the same order as the physical connection order. If it is not the same as the connection order, the image may be output abnormally.



3. **Layout Settings:** Displays LED cabinet information according to the categories below.
 - (i) Resolution: Input source resolution information
 - (ii) View port: landscape/vertical size, video wall matrix, x/y coordinate setting
 - (iii) LED Signage Cabinet: x, y position of LED cabinet
4. **Save/Apply and Cancel**



Settings and Usage Description

◎ Device setting function

1. Basic :

. On/Off, Input/Source change, Screen Mute / Freeze, Menu Size

2. Picture

. Picture Mode change, Brightness / Contrast / Sharpness, Color, Tint(G/R), Color Temp(K), Gamma, White Balance control

3. Picture Options

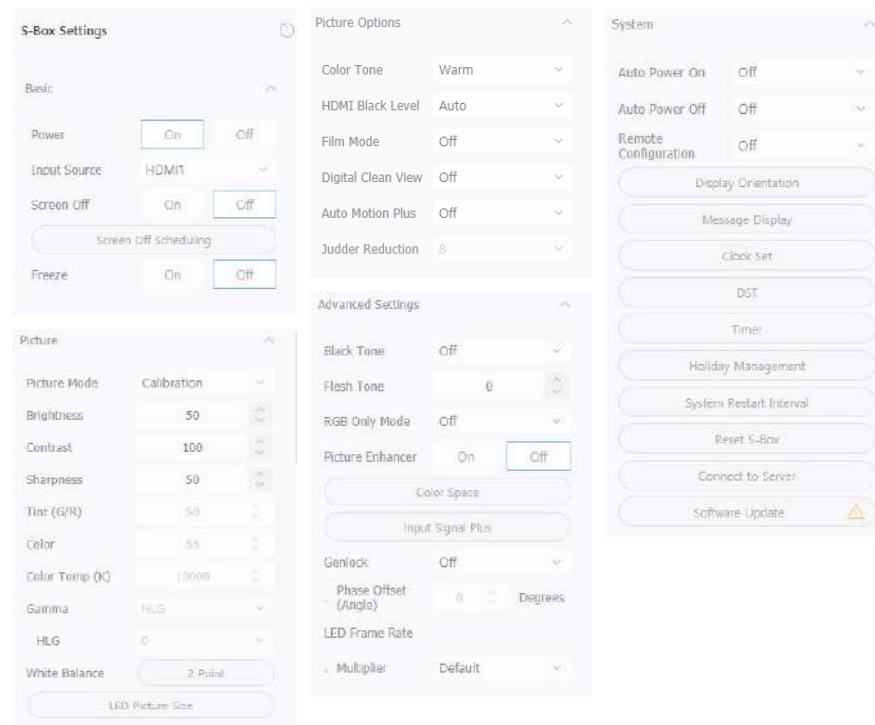
. Color Tone, HDMI Black Level, Film Mode, HDR etc

4. Advanced Settings

. Black Tone, Flesh Tone, Color Space, Input Signal Plus etc

5. System

. Auto Power On/Off, Standby Control Clock, Timer, System Restart Interval
Software Update function



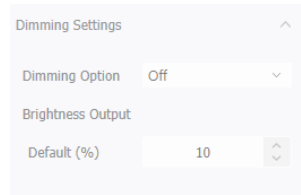
설정 및 사용 설명

◎ Device setting function

6. Dimming

. Off

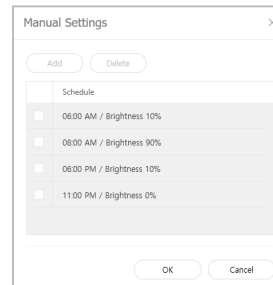
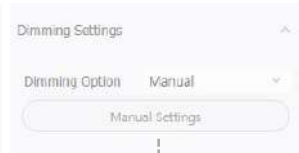
The brightness of the screen acts as a default value.



. Manual

The brightness of the screen changes according to the schedule specified by the user.

Up to four schedules can be specified and at least one must be maintained.



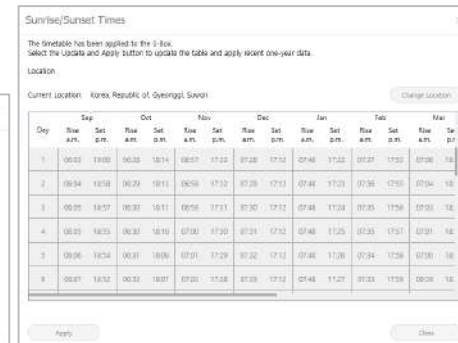
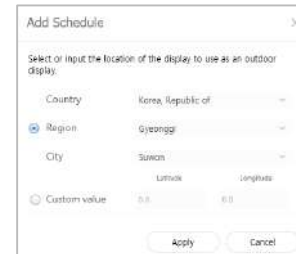
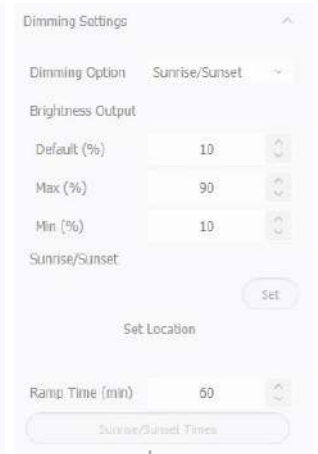
. Brightness Optimization

The brightness of the screen changes due to the illuminance sensor and sunrise/sunset time. The user may set a maximum/minimum brightness value (Lux) of the illuminance sensor and may set a maximum/minimum brightness value (%) of the screen. The brightness of the screen varies with the combination of the illuminance sensor Lux value and the maximum/minimum brightness value.



. Sunrise/Sunset

The brightness of the screen changes with sunrise/sunset time. The user can set the current location, or enter a longitude latitude value directly. After the current location is set, you can check the annual sunrise/sunset time through the Sunrise/Sunset Times button.



Settings and Usage Description

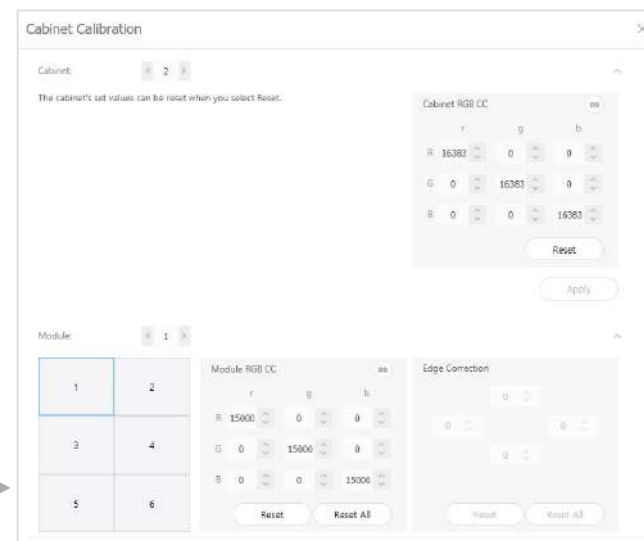
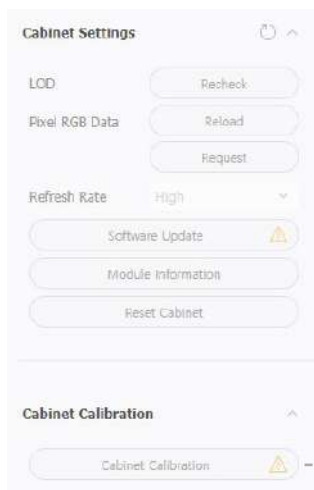
❑ Main Window-Connection Window - Device Information/Setting View

7. Cabinet Settings

- . Pixel RGB Data Reload / Request
- . OnScreen Display On / Off
- . LED Brightness control
- . Software Update function

8. Cabinet Calibration

- . Cabinet / Module / Edge control
- . Gradation control



Settings and Usage Description

❑ Main Window-Connection Window - Sub Information View

1. Monitor Window:

MDC communication log and connection device information can be extracted as a verifiable file

2. LED Signage Cabinet:

IC information and power information of LED cabinet

3. LED Signage Box:

IP address, MAC address, ID range of LED cabinet, number of LED cabinets (full/connected/unconnected), serial number, version information

The screenshot displays three panels of the software interface. The top panel, titled 'Monitor Window', shows a 'Communications' log with entries for IP addresses 192.168.176.11 and 192.168.176.12, detailing successful data imports and layout data operations. The middle panel, also titled 'Monitor Window', displays physical and power specifications for an LED Signage Cabinet, including ID (2), Resolution (640x360), Phy Size (806x453 mm), Aspect Ratio (16:9), Modules (4x3), Pitch (1.26), and Temperature (47). It also lists IC (FPGA: Available, Power Detect IC: Available) and Power (Module Power: Available, Tcon Power: Available) information. The bottom panel, titled 'Monitor Window', shows details for an LED Signage Box, including IP Address (10.88.100.51), MAC Address (FE:88:27:C5:71:75), Serial Number, All Devices (1), Connected Devices (1), Disconnected Devices (0), Version (58-OSCP5BAWWC-0609.30), Valens, FPGA, and Model Name (S8B-SNOWAAE).

Settings and Usage Description

❑ Main Window-Preference

1. Options

Command Retry Count Error Status

Check Interval Temperature

Warning Notification

2. Support

Device Error Notification Password

Setting Option through Program

Language Log Data Management

Mail

3. About Software

Current version and update

function of LSM

The screenshot shows the 'Preferences' window with three main sections: Options, Support, and About Software.

- Options:**
 - Command Retry Count: 3
 - Error Status Interval (min.): 30 min
 - Temperature Alert: 70 °C
 - Auto Brightness: Off, Brightness Sensor (with Edit button)
 - Location: (with Edit button)
- Support:**
 - Language: English
 - Advanced Log Management: Keep Log Data 1 days, Log Backup, Delete Log buttons
 - Use Password: (with Change Password button)
 - Fault Device Alert: 10 min, Mail Server button
- About Software:**
 - Current Version: A-LEDMGDSP-1012.02
 - Auto Update: (with Check for Updates button)
 - Open Source License: (with View details button)
 - Footer: This program is protected by copyright laws and international treaties. Unauthorized reproduction or distribution of this program, or any portion thereof, may result in serious civil and criminal penalties.

Settings and Usage Description

◎ 진단 기능

- Providing diagnostic items through Home > Summary
- For diagnostic items recognized as problems, mark problem contents with ID in Home> Summary area
- Diagnostic Item Type
 - Temperature [S-Box, Cabinet Group (Zone-Card), Cabinet (T-Con)]
 - Signal input status [S-Box, Cabinet Group (Zone-Card), Cabinet (T-Con)]
 - Module Power status [Cabinet (T-Con)]
 - Fan status [S-Box]
- Diagnostic notation example
Cabinet Group 1: 1: 2
Cabinet Group #1 (Zone-Card #1) 의 first Pillar 의 ID #2 Cabinet



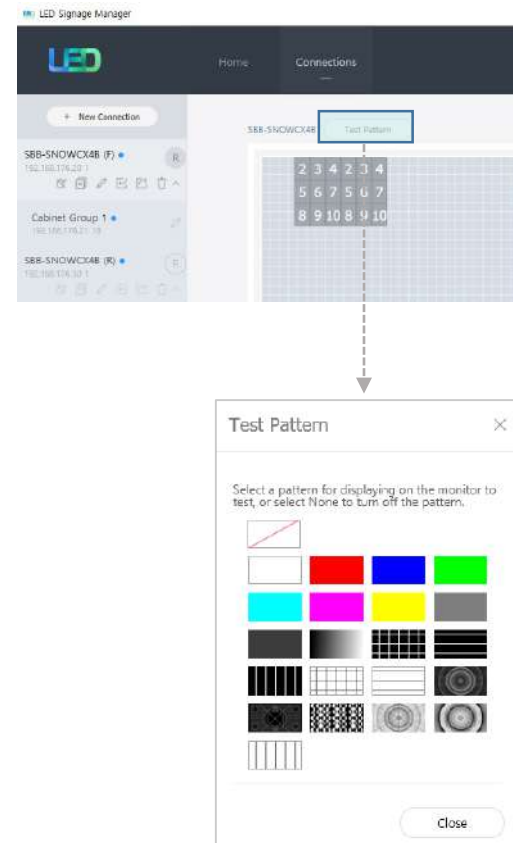
The screenshot shows a 'Summary' page with a red warning icon and the text 'Fault Device' followed by a large red number '20'. Below this is a table with two columns: 'ID' and 'Fault Type'. The table lists several entries, each with a red background and a red warning icon.

ID	Fault Type
Cabinet Group 1: 1: 2	Temp Error (NG)
Cabinet Group 1: 1: 3	Module Power Off (1, 2, 3, 4, 5, 6)
Cabinet Group 1: 1: 3	Temp Error (NG)
Cabinet Group 1: 1: 4	Module Power Off (1, 2, 3, 4, 5, 6)
Cabinet Group 1: 1: 4	Temp Error (NG)
Cabinet Group 1: 1: 5	Module Power Off (1, 2, 3, 4, 5, 6)
Cabinet Group 1: 1: 5	Temp Error (NG)

Settings and Usage Description

© Test Pattern

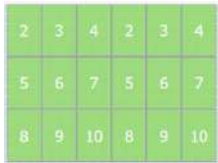
- After selecting S-Box, click the "Test Pattern" button on the right
- S-Box output pattern can be used



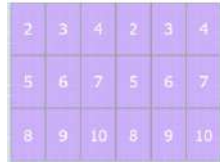
Settings and Usage Description

© Video Path

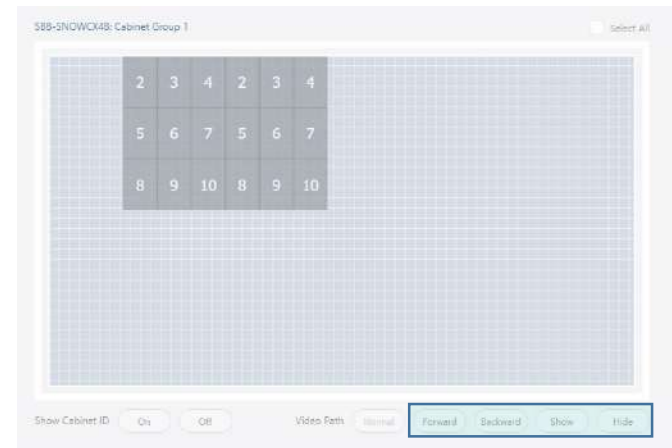
- Forced change of signal connection direction of connected cabinet
- Forced change of signal connection direction of all cabinets in cabinet group through "Forward" or "Backward" button
- ※ This function is valid only when Redundancy Setting is done.
- Press the Show / Hide button to check the current signal connection direction



Signal connection forward state



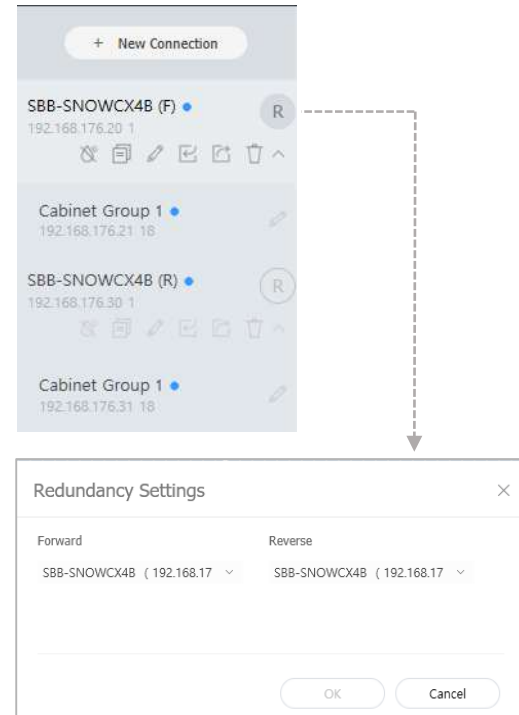
Signal connection reverse state



Settings and Usage Description

◎ Redundancy Configuration > S-Box Redundancy

- When connecting to LSM, set the path type for each purpose and try to connect. For the "Forward" purpose, enter the Cabinet Group IP address and the actual number of Cabinets, and check the "Assign IDs and Positions Automatically" checkbox. The S-Box setting for the purpose of "Reverse" only needs to be set up to the IP address of the Cabinet Group. (No need to enter the number of cabinets)
- After both S-Boxes are connected, complete the layout setting of the cabinet in the "Forward" S-Box.
- After that, press the "R" button to specify the "Forward" and "Reverse" S-Box to be included in the redundancy setting and click the OK button to complete the redundancy setting by pairing the S-Box device.
- Paired S-Box displays the same cabinet layout. You can adjust the cabinet in either S-Box.



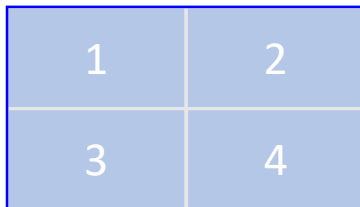
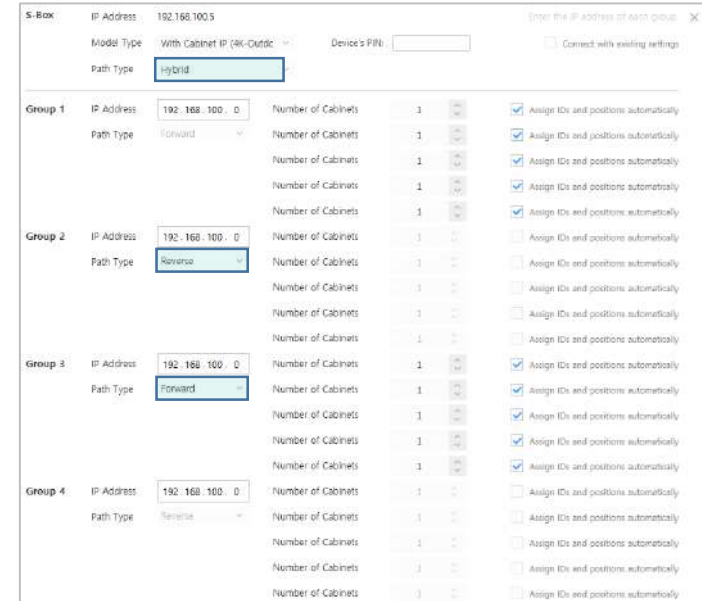
Settings and Usage Description

◎ Redundancy Configuration > S-Box Redundancy

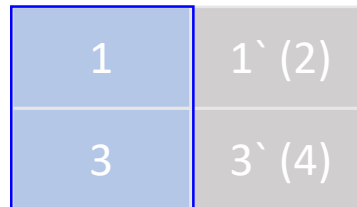
- When connecting to LSM, set the path type for each purpose and try to connect. If "Zone-Card" redundancy is used, the path type is set to "Hybrid".
- You can set "Forward" or "Reverse" per cabinet group. However, Group 1 and Group 4 are fixed with Forward and Reverse, respectively.
- If Cabinet Group 2 is set to Reverse, Group1-2 and Group3-4 are paired respectively. If Cabinet Group 2 is set to Forward, Group1-3 and Group2-4 are paired respectively.

※ For the group set to Forward, the actual number of cabinets and "Assign IDs and positions automatic" checkbox check are required.

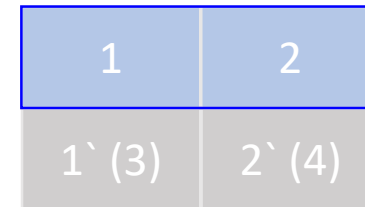
※ For the group set to Reverse, you only need to enter the IP address of the Cabinet Group.



기본 상태
화면 출력



1-2, 3-4
Pairing

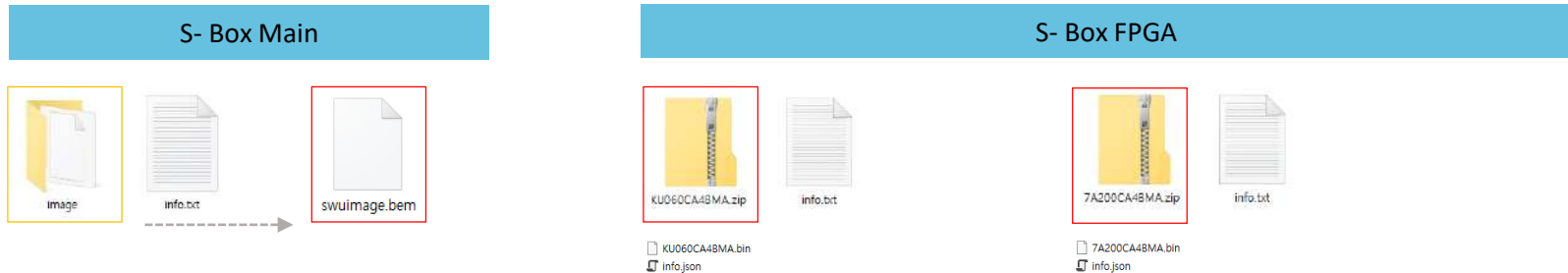


1-3, 2-4
Pairing

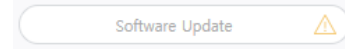
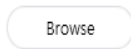
Settings and Usage Description

◎ Software Update (S-Box)

1. Please prepare the update SW File. (Files selected when updating files marked in red)



2. After connecting LSM and SNOWCX4B, click the Software update e button under the S-Box Settings> System menu.
3. Press the 'Browse' button to select the prepared SW file.



4. After selecting the S-Box to update, click the button to start the update.



Update Status

The software version of the device is later than the software version of the update file. Check the software version of the update file.

Update Status

The software version names of the device and update file do not match. Check the software version name of the update file.

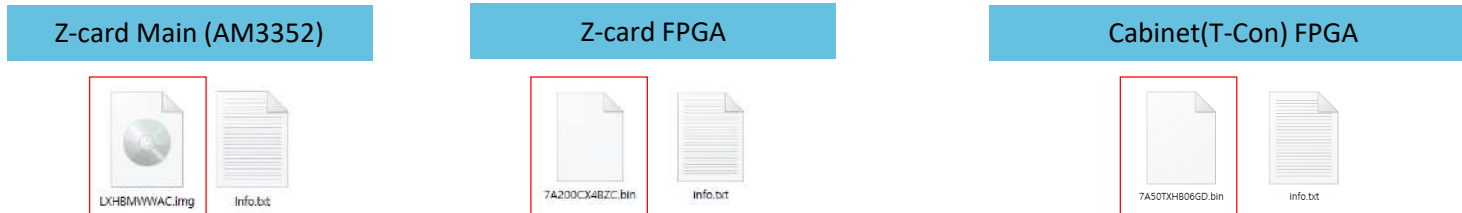
Update Status

There is no info.txt file in the designated location. Check the location of the info.txt file.

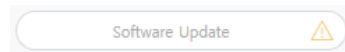
Settings and Usage Description

◎ Software Update (Cabinet)

1. Please prepare the update SW File. (Files selected when updating files marked in red)



2. After connecting, click the Software update e button under the Cabinet Settings menu.



3. Press the button to select the prepared SW file.

4. After selecting the S-Box to update Press the button to start the update.

❖ If the following occurs after selecting the update file, please check each content and take action.

Update Status

The software version of the device is later than the software version of the update file. Check the software version of the update file.

Update Status

The software version names of the device and update file do not match. Check the software version name of the update file.

Update Status

There is no info.txt file in the designated location. Check the location of the info.txt file.

Settings and Usage Description

Software Update - Update using USB

Pontus-M Main Micom Software Upgrade

- USB download

Firmware upgrade downloaded from "www.samsung.com" website

1. Connect the USB drive where the file is stored to the set.

(Please be careful not to disconnect the power or USB drive during upgrade.)

2. When the firmware upgrade is complete, the set is automatically powered off and then turned on again.

3. Please check the firmware version after completing the upgrade.

(The new version has a higher number than the old version.)

※ Note) Since it is recognized as a file name, it is okay to have other model upgrade files together.

※ Note) After upgrading the software, the setting value specified by the existing user returns to the default value.

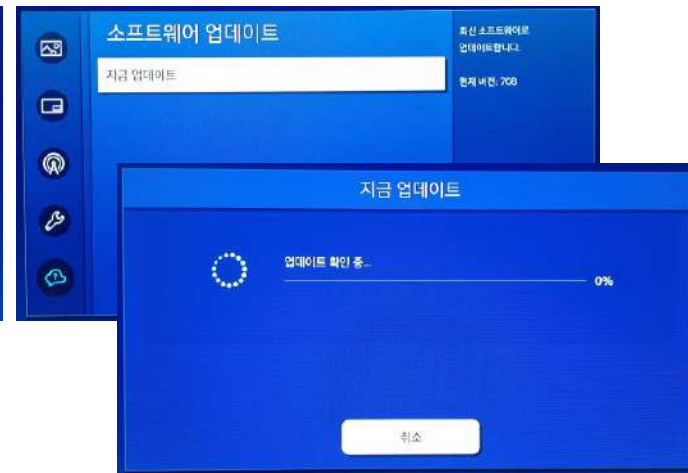
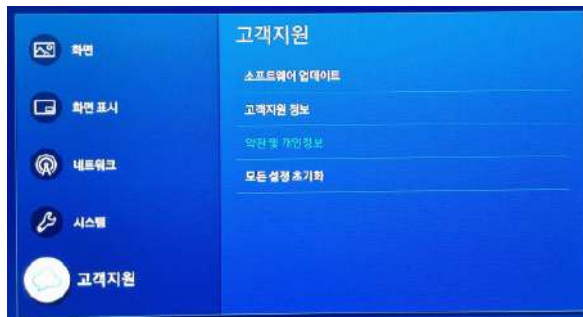
It is recommended to record the current setting value to facilitate reset after upgrade.

Settings and Usage Description

❑ Software Update - Update using USB

Main SW Update

1. Save the "SB-PTMWWC" folder to the USB root.
2. Connect the USB.
3. Click the "MENU" key on the remote control.
4. Select the "Customer Support" menu.
5. Select the "Update Software" menu.
6. Select the "Update Now" menu to start the upgrade.
7. Wait for the upgrade to complete.
8. Please check SW version.



Settings and Usage Description

Software Update - Update using USB

Sub Micom Upgrade (Sub Micom can be upgraded in Factory Mode. It takes about 1-2 minutes.)

1. "OSPMICOM_LXTV_SS.bin" file saves in USB root.
2. Connect the USB.
3. Enter Factory mode.
4. Select the "SVC ▢ UPGRADE" menu.
5. Move the cursor to the "SUBMICOM UPGRADE" menu.
6. Click the Enter button.
7. Press the '▶' button on the remote control to start the upgrade.

– THE END –