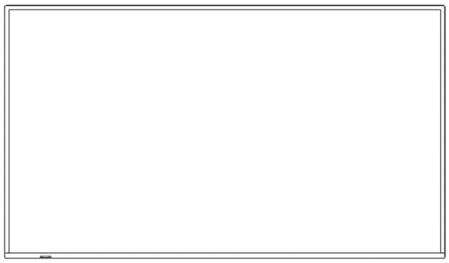
SHARP

SERVICE MANUAL

CODE: 00ZPNM552SM2E





INFORMATION DISPLAY

MODEL **PN-M552 / PN-M652**
PN-P556 / PN-P656

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Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

When these products are repaired, this manual is the description of the necessary matter.

VERY IMPORTANT!

After replacing the main board of these products be sure to update to the latest firmware for each model.

ABOUT INITIALIZATION OF PERSONAL INFORMATION

Personal information can be registered in this machine.

When transferring or disposing of this unit, execute "FACTORY RESET" to initialize all settings.

CAUTION

THERE IS A RISK OF EXPLOSION IF THE BATTERY IS REPLACED BY AN INCORRECT TYPE.

PROPERLY DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

CAUTION

Double pole, neutral fusing. Disconnect mains before servicing.

CAUTION

This Equipment is compatible with RoHS Directive and Lead-Free.

Since the equipment is compatible with RoHS Directive, use components in which the use of specific chemically noxious substances is restricted; use only designated spare parts when it is necessary to replace such parts with new parts.

Use lead-free solder for the equipment compatible with ones with substrates on which lead-free components are mounted. For the details, refer to “3. Caution for Lead-Free

・The appearance and specifications of this machine are subject to change without notice for performance improvement.

・Please be sure to use official parts for repair services to maintain safety and performance.

PRODUCT CODE

Model Name	Product code	Model ID	Remarks	Destination
PN-M552	07G81AAJ	A3PNM552U	A	North America
	07G81ABJ	A3PNM552E	B	Europe
	07G8AABJ	A3PNM552AE	AE	Asia Pacific
	07G81ACJ	A3PNM552C	C	China
	07G81AHJ	A3PNM552H	H	India
	07G81ATJ	A3PNM552T	T	Taiwan
	07G81AJJ	A1PNM552	J	Japan
PN-M652	07G91AAJ	A3PNM652U	A	North America
	07G91ABJ	A3PNM652E	B	Europe
	07G9AABJ	A3PNM652AE	AE	Asia Pacific
	07G91ACJ	A3PNM652C	C	China
	07G91AHJ	A3PNM652H	H	India
	07G91ATJ	A3PNM652T	T	Taiwan
	07G91AJJ	A1PNM652	J	Japan
PN-P556	07GC1AAJ	A3PNP556U	A	North America
	07GC1ABJ	A3PNP556E	B	Europe
	07GCAABJ	A3PNP556AE	AE	Asia Pacific
	07GC1ACJ	A3PNP556C	C	China
	07GC1AHJ	A3PNP556H	H	India
	07GC1ATJ	A3PNP556T	T	Taiwan
	07GC1AJJ	A1PNP556	J	Japan
PN-P656	07GD1AAJ	A3PNP656U	A	North America
	07GD1ABJ	A3PNP656E	B	Europe
	07GDAABJ	A3PNP656AE	AE	Asia Pacific
	07GD1ACJ	A3PNP656C	C	China
	07GD1AHJ	A3PNP656H	H	India
	07GD1ATJ	A3PNP656T	T	Taiwan
	07GD1AJJ	A1PNP656	J	Japan

1. Safety guideline in servicing

1) Never touch the portions with the marking () .
   Serious injury or even death may result.
2) Do not expose the set to rain or water. A risk of fire or electric shock can result.
3) Use an adequate power cord. A risk of fire or electric shock can result.
4) Do not attempt to service or modify the set without prior permission of the manufacturer.
   A risk of fire or electric shock can result.
5) Leave the maintenance service to a service engineer having qualification, knowledge and experience. A risk of electric shock, injury or fire can result.
6) Always employ genuine parts indicated in the service manual for replacement. A risk of fire or electric shock can result.
7) Confirm the connection of the power supply connector earth cable in reassembling. (Soldering or Screw fixation)
   A risk of fire or electric shock can result.
8) Use the specified binding bands, clampers, tubes and barriers--all of which are necessary for insulation/protection--in their original positions in reassembling.
   A risk of fire or electric shock can result.
9) Other complete parts are returned to an appropriate position.
10) Insulation check
    Pull out a plug from a wall outlet to disconnect the connection cable. Then turn on the POWER switch. Use a 500V ohmmeter (Note 1) and confirm that the insulation resistance is 3MΩ or more between each terminal of the plug and exposed external metal (Note 2).
    If the measured value is below the specified level, then it is necessary to inspect and fix the set.

    (Note 1)
    If a 500V megger is not available for an unavoidable reason, then use a circuit tester or the like for inspection.

    (Note 2)
    Exposed external metal. RGB input terminals, control terminals, etc.

2. Other cautions necessary

1) Electro-Static Discharge
   At the time of repair or inspection services, use an earth band (wrist band), without fail.
2) When removing the cables from their connectors, take care not to damage the wire portions so as to prevent the occurrence of poor contact.

3) When attaching/detaching screws, use a screwdriver that is well-fit to the screw size.
4) If the product installed on the wall or ceiling, do not attempt to install or remove the product yourself. The product must be installed by qualified technicians in order to ensure proper operation and reduce the risk of bodily injury. In addition, the wall or ceiling must be strong to support the product and the installation must be in accordance with any local building codes. Please consult your dealer for more information.

3. Caution for LEAD-FREE soldering work

For this equipment, parts compatible with lead-free materials are used. Please observe the following precautions, when performing any soldering work.

1) Use lead-free solder for substrates mounted with lead-free parts. If you use eutectic solder by mistake, solder will not fuse well because of the difference in fusion point.

2) Fusion Point
Lead-free solder : 220°C
Eutectic solder : 183°C

3) Solder composition of Lead-free solder : Sn-3.0Ag-0.5Cu
[Maker] [Type]
Nihon Genma DHB-RMA NP303-###
Senju metal ESC F3 M705E-###
(# : This mark shows the diameter of the solder wire.)

4) When working with lead-free solder always use a temperature adjustable soldering iron. Moreover, the power consumption of the soldering iron must use from 25W to 75W.

[Solder Iron tip temperature and contact time]

Category of Parts		Lead-free solder	Eutectic solder
*SMD Chip	The Parts of Chip type	300-320°C(1-3sec)	260-280°C(1-3sec)
*SMD QFP	The Parts (IC) of Quad Flat Pack Package type	320-350°C(1-3sec)	280-300°C(1-3sec)
Heat sink	Heat sink	360-380°C(1-3sec)	320-420°C(1-3sec)
Ax, RD	The Parts of Axial or Radial type (The Electric Parts other than the above-mentioned. Ex.: IC, Transistor, Resistor, Capacitor)	340-370°C(1-3sec)	350-390°C(1-3sec)

*SMD : Surface Mounting Device

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CHAPTER 1. OUTLINE OF THE PRODUCT

1. PRODUCT FEATURES

1) 4K UHD native resolution
   The high resolution of 4K (3,840 × 2,160), which is four times that of Full HD, faithfully reproduces the details of 4K videos and high-resolution images.
2) Landscape and Portrait orientation
   It supports both Landscape and Portrait installation, allowing for effective presentation in various installation environments.
3) Metal back cover
   Ensures durability against impact and flame resistance. It can be installed in environments that require high safety standards, preventing damage during installation.
4) 700 cd/m2 brightness and HDR compatibility will capture the attention of audience in almost any situation
5) 24/7 commercial runtimes with built-in real-time clock and full scheduler capabilities
6) USB type-C (DP alternate mode, USB hub, Power delivery(65W))
7) Target Market
   Public space, Corporate, Transportation

2. SPECIFICATION

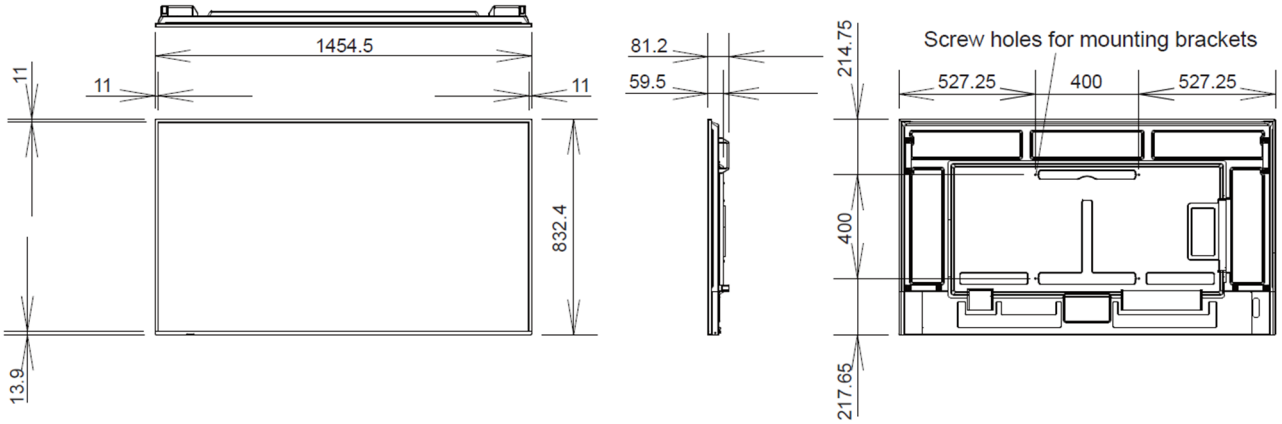
1) PRODUCT SPECIFICATIONS

Model		PN-M652	PN-P656	PN-M552	PN-P556
LCD component		65" Class [64-1/2 inch (163.9 cm) diagonal] TFT LCD		55" Class [54-5/8 inch (138.8 cm) diagonal] TFT LCD	
Max. resolution (pixels)		3,840 x 2,160			
Max. colors		Approx. 1,073 million colors			
Pixel pitch		0.372 mm(H) × 0.372 mm(V)		0.315 mm(H) × 0.315 mm(V)	
Brightness (typical)		550 cd/m^2	700 cd/m^2	550 cd/m^2	700 cd/m^2
Contrast ratio (typical)		1,200 : 1			
Viewing angle		178° right/left/up/down (contrast ratio ≥ 10)			
Screen active area		1,428.48 mm x 803.52 mm		1,209.60 mm x 680.40 mm	
Response Time		8 ms (Gray to Gray)			
Plug and play		VESA			
Input terminals	Video/Audio	HDMI (PC/AV signal compatible) x 2 DisplayPort x 1 USB Type-C x 1			
	RS-232C	D-sub 9 pin x 1			
	Remote	Φ3.5 mm mini stereo jack x 1			
Output terminals	Video/Audio	HDMI x 1 DisplayPort x 1			
	Audio	Φ3.5 mm mini stereo jack x 1			
USB terminal		USB 2.0 Gen 1/USB 3.2 Gen 1 compliant (USB Type-A) x 1 USB 2.0 Gen 1/USB 3.2 Gen 1 compliant (USB Type-C2 downstream) x 1 SERVICE x1			
LAN terminal		10BASE-T/100BASE-TX			
Option Board Slot		12 V, 5.5 A(power supplied when expanding the functions with an optional part)			
Speaker output		10W + 10W			
Power requirement		AC100-240V、4.6A-1.9A、50/60Hz	AC100-240V、5.0A-2.1A、50/60Hz	AC100-240V、4.0A-1.7A、50/60Hz	AC100-240V、4.1A-1.7A、50/60Hz
Operating temperature		0～40 ℃			
Operating humidity		20～80% (without condensation)			
Operating altitude		3,000m or less			
Storage temperature		-20 ℃～60 ℃			
Storage humidity		10%～80% (without condensation)			
Power consumption (Factory setting)		135W	160W	105W	115W
Dimensions (excluding protrusions)		1,454.5 mm × 59.5 mm × 832.4 mm		1,235.6 mm × 59.5 mm × 709.3 mm	
Weight		26.0 kg		20.5 kg	

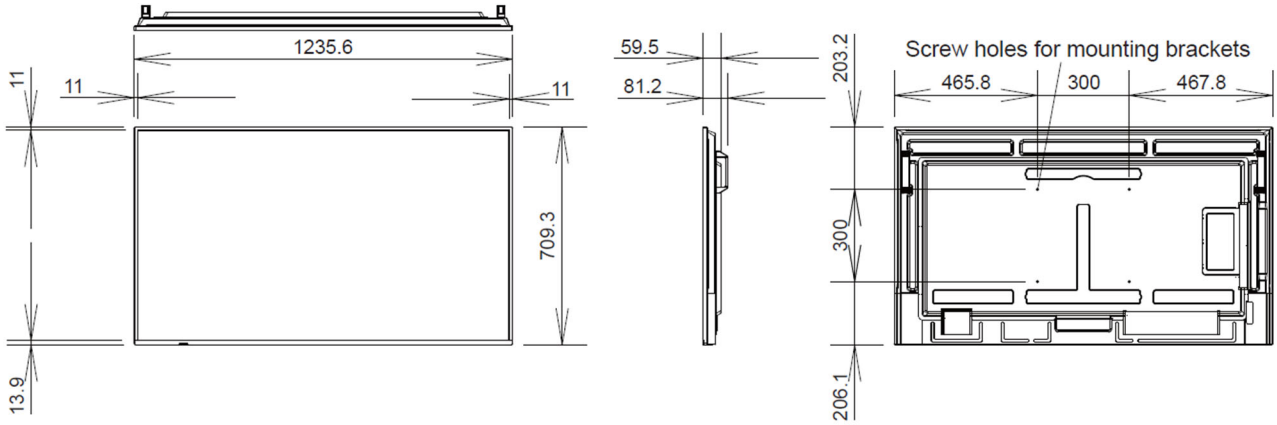
2) Dimensional Drawings

Note that the values shown are approximate values. (Unit : mm)

[PN-M652/PN-P656]



[PN-M552/PN-P556]



When mounting the monitor, be sure to use a wall-mount bracket that complies with the VESA-compatible mounting method.

SHARP recommends using M6 screws and tighten the screws.

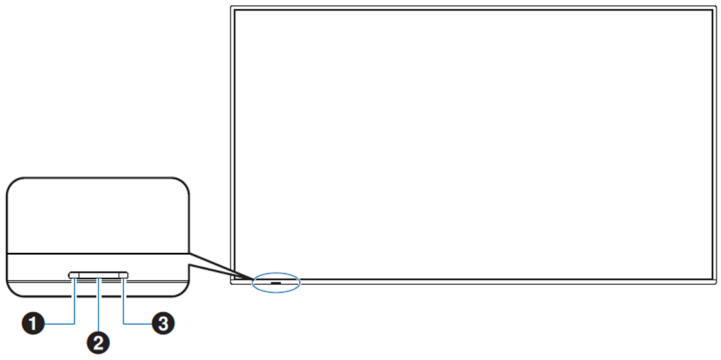
Note that screw hole depth of the monitor is 1/2 inch (12 mm). Loose mounting may cause the product to fall, resulting in serious personal injuries as well as damage to the product. The screw and hole should come together with over 3/8-inch (10 mm) length of thread. Use a bracket which has been approved for UL1678 standard, and which can endure at least 4 times or more the weight of the monitor.

3) Supplied Components

- ☐ LCD monitor: 1
- ☐ Remote control unit: 1
- ☐ Cable clamp: 1
- ☐ Screw (M4): 1
- ☐ Power cord
- ☐ Remote control unit battery: 2
- ☐ Setup Manual: 1
- ☐ HDMI cable: 1
- ☐ Slot cover: 1 set

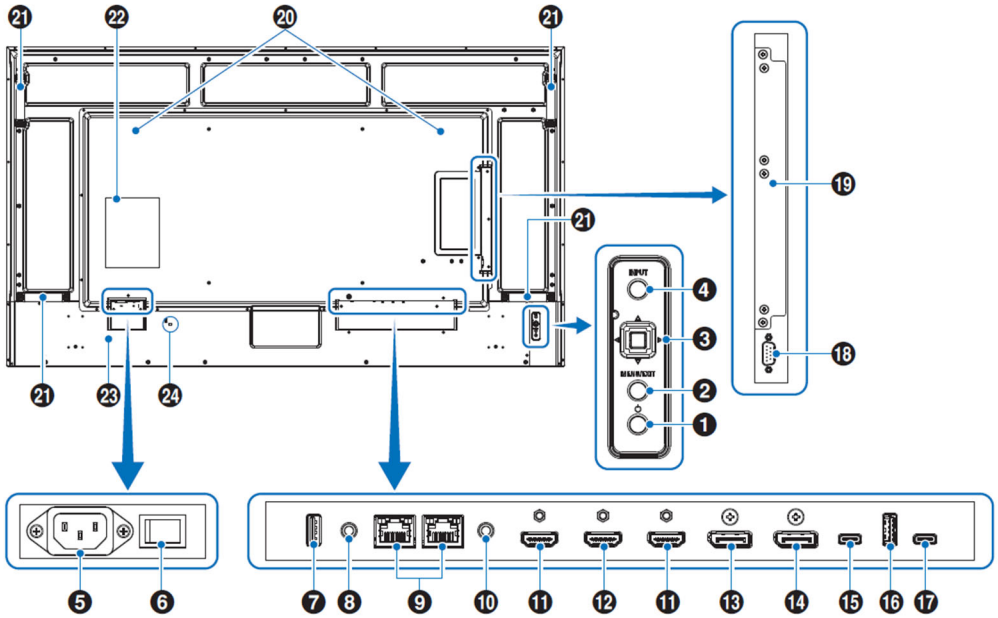
3. PART NAMES

■Front View



(1) Power LED
(2) Remote Control Sensor
(3) Ambient light sensor

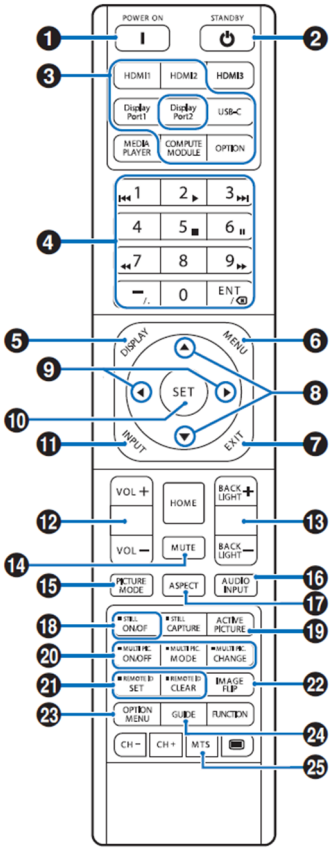
■Rear View



(1) Power Button
(2) MENU/EXIT Button
(3) Joystick Key/SET Button
(4) INPUT Button
(5) AC input terminal
(6) Main Power Switch

(7) Service Port
(8) Audio output terminal
(9) LAN terminal
(10) REMOTE input terminal
(11) HDMI 1/2 input terminal
(HDMI1 (ARC)/HDMI2)
(12) HDMI output terminal
(13) DisplayPort input terminal
(14) DisplayPort output terminal
(15) USB Type-C1 (upstream) port
(16) USB Type-A port
(17) USB Type-C2 (downstream) port
(18) RS-232C input terminal
(19) Raspberry Pi Compute Module Slot/
Option Board Slot
(20) Internal Speaker
(21) Handle
(two handles on the PN-M552, PN-P556)
(22) Label
(23) Vents
(24) Security Slot

■Remote control unit



(1) Power Button
Switches between power on and standby state.
(2) STANDBY
STANDBY puts the monitor in low power mode.

(3) DIRECT INPUT

Immediately changes the input to the one named on the button.

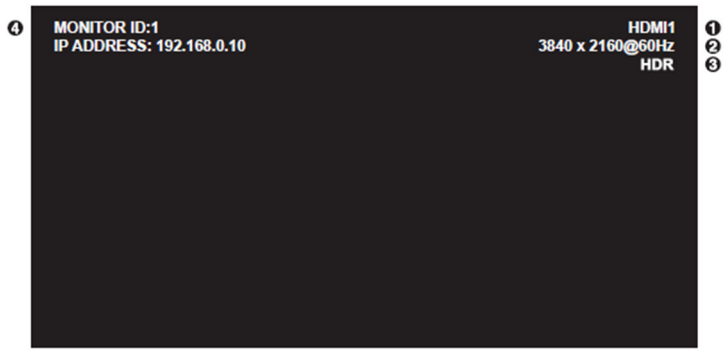
The button names reflect the factory preset name for the input.

(4) Numeric input Buttons

Press the buttons to set and change passwords in [SECURITY SETTINGS], IP address, the channel, and set the REMOTE ID.

(5) DISPLAY

Shows/Hides the information OSD.



①Input name

②Input Signal Information

③HDR Information

④Communication Info

(6) MENU

Opens and closes the OSD menu.

(7) EXIT

Acts as a back button within the OSD to move to the previous OSD menu.

Acts as an EXIT button to close the OSD menu when on the main menu.

(8) ▲/▼(up/down)

Acts as navigation buttons to move the highlighted area up or down.

(9) ◀/▶(left/right)

Acts as navigation buttons to move the highlighted area left or right.

Increases or decreases the adjustment level within the selected OSD menu setting.

(10) SET

When the OSD menu is open, this button acts as a set button when you make a selection.

(11) INPUT

Opens and closes the INPUT menu.

The input names reflect the factory preset name for the input unless they are manually renamed in the OSD menu.

(12) VOL +/-

Increases or decreases the audio output level.

(13) BACKLIGHT +/-

Adjusts the overall image and background brightness.

(14) MUTE

Mutes the monitor's audio and video output.

Press it again to unmute the monitor's audio and video output.

(15) PICTURE MODE

Cycles through the picture modes [NATIVE], [RETAIL], [CONFERENCING], [HIGHBRIGHT], [TRANSPORTATION] and [CUSTOM].

PICTURE MODE	PURPOSE
NATIVE	Standard setting.
RETAIL	Bright, vivid colors ideal for advertising and branding.
CONFERENCING	Lower color temperature and optimized for natural human complexions.
HIGHBRIGHT	Maximum backlight brightness with higher color temperature for brighter ambient environments.
TRANSPORTATION	Maximum backlight brightness with high contrast to read text under all conditions.
CUSTOM	Custom setting.

TIP: Changing any of the settings of the [PICTURE MODE] in the OSD menu will change the settings for the current input only.

(16) AUDIO INPUT

This function is not available.

(17) ASPECT

Cycles through the picture aspect ratios [FULL], [WIDE], [1:1], [ZOOM] and [NORMAL].

(18) STILL

ON/OFF: Activates/deactivates still picture mode.

(19) ACTIVE PICTURE

Selects the active picture when Multi Picture Mode is enabled.

(20) MULTI PICTURE

ON/OFF: Turns Multi Picture Mode on and off.

MODE: Switches between the available Picture-In-Picture (PIP) and Picture-By-Picture (PBP) modes.

CHANGE: Swaps the selected inputs between Picture 1 and Picture 2 when PIP is set.

TIP: If you press SET button while Multi Picture is on, you can change the active picture's picture size.

(21) REMOTE ID

Activates the REMOTE ID function.

(22) IMAGE FLIP

Cycles through the image flip modes [NONE], [H FLIP], [V FLIP], and [180° ROTATE].

(23) OPTION MENU*

(24) GUIDE*

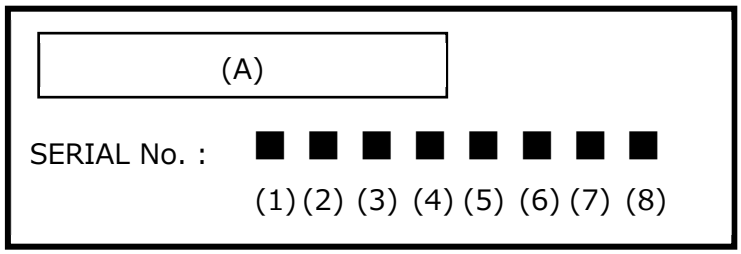
(25) MTS*

* Compatible with specific Option Boards. The functionality varies depending on the Option Board installed in the monitor.

4. SERIAL NUMBER INFORMATION

Refer to the serial number information shown below.

EX.) SERIAL NUMBER LABEL



(1): Manufactured Year

Last digit

(2): Factory Code

KTC China factory: D

(3)~(7): Running number

This running number does not reset at each month.

(8): Manufactured Month

January to September: 1 to 9

October: 0

November: X

December: Y

CHAPTER 2. INSTALLATION, SETTING

1. INSTALLATION

1) Mounting Precautions

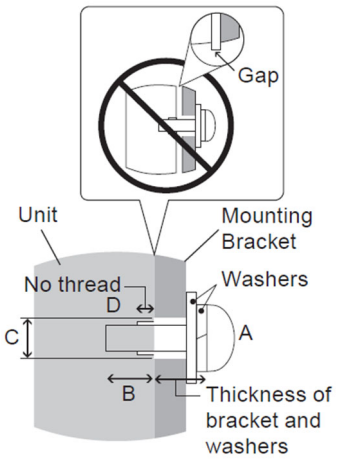
Mounting the monitor requires expertise and the work must be carefully performed by a trained service person in accordance with the section.

Please note the following when mounting on a wall or ceiling:

- We recommend mounting interfaces that comply with UL1678 standard in North America.
- For detailed information, refer to the instructions included with the mounting equipment.

We strongly recommend using the screws as shown below.

If using screws longer than below mentioned, check the depth of the hole.



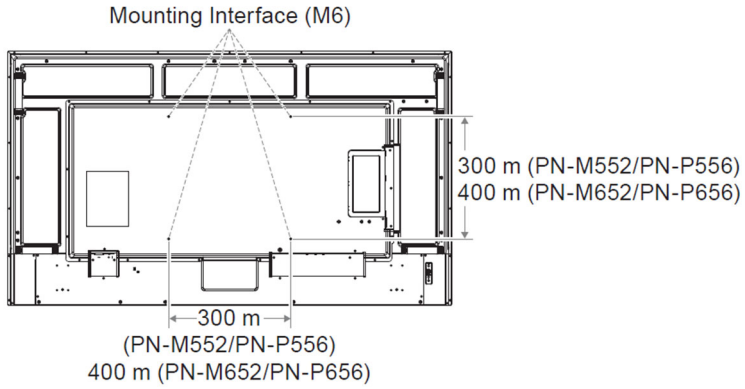
This monitor and bracket must be installed on a wall which can endure at least 4 times or more the weight of the monitor. Install by the most suitable method for the material and the structure.

- Do not use an impact driver.
- After mounting, please carefully ensure the monitor is secure, and not able to come loose from the wall or mount.

Model	Screw Size		Bracket Hole	No Thread	Recommended Fasten Force
	(A)	(B)	(C)	(D)	
PN-M552 PN-P556	M6 (4 pcs)	10-12 mm (3/8-1/2 inch)	≤Ø8.5 mm (5/16 inch)	2 mm (1/16 inch)	390-670 N・cm
PN-M652 PN-P656					

2) Attach Mounting Accessories

Be careful to avoid tipping the monitor when attaching accessories.



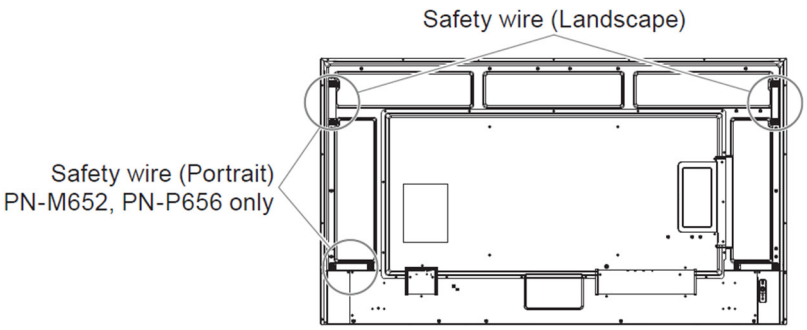
Mounting accessories can be attached with the monitor in the face down position. To avoid scratching the LCD panel, always place a soft cloth, such as a blanket that is larger than the monitor's screen area, on the table before laying the monitor face down. Make sure there is nothing on the table that can damage the monitor.

TIP: ・Prior to installation, place the monitor face down on a flat even surface that is larger than the monitor screen.
Use a sturdy table that can easily support the weight of the monitor.
・To avoid scratching the LCD panel, always place a soft cloth, such as a blanket that is larger than the monitor's screen area, on the table before laying the monitor face down when installing the monitor stand or mounting accessories.

3) Installing a safety wire

TIP: When installing, do not apply pressure to the LCD panel or excessive force to any part of the monitor by pushing or leaning on it. This may cause the monitor to become distorted or damaged.

Attach the safety wire to the handles shown in the figure below.



4) Installing a Optional Table Top Stand

For installation, follow the instructions included with the stand. Use only those devices recommended by the manufacturer.

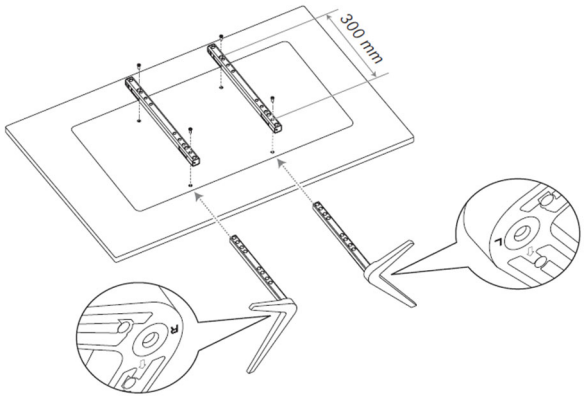
Model name	Optional table top stand
PN-M552/PN-P556	ST-43M (screws are included)
PN-M652/PN-P656	ST-65M (thumbscrews, screws, clamps, and stand holders are included)

TIP: ・Please use mounting accessories which are included with the optional table top stand. Install the stand so the long end of the feet face forward.

・The monitor can only be used in the landscape orientation with the tabletop stand.

■ST-43M

PN-M552, PN-P556



Height adjustment

- The lines on the stand pole are indicators of the height adjustment (Figure 1). Please adjust the pipe to the lines.

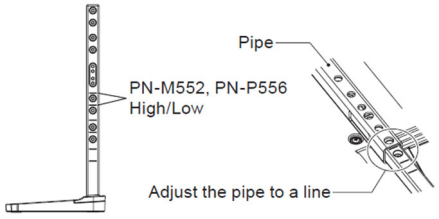


Figure 1

- Please install the stand pole and the pipe with included screws. Please screw the two screw holes at the pipe (Figure 2).

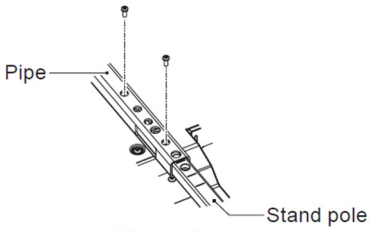
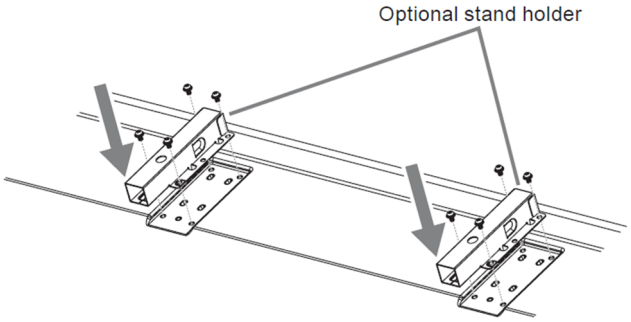
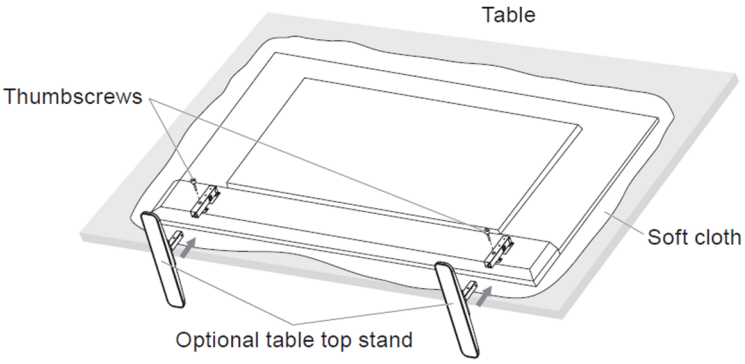


Figure 2

■**ST-65M**

PN-M652, PN-P656



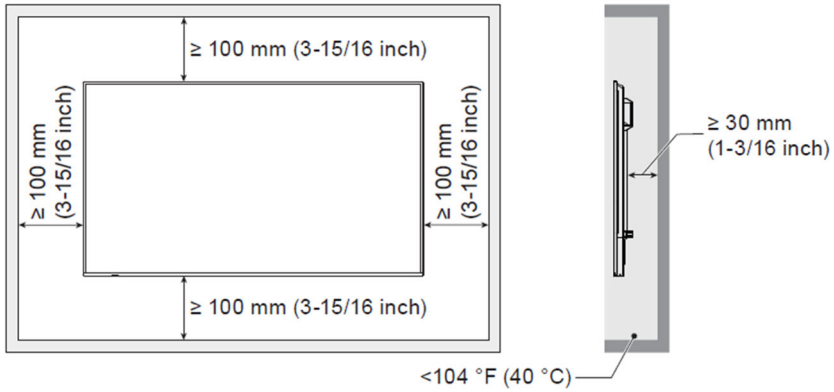


5) Ventilation Requirements

When mounting in an enclosed space or recessed area, leave adequate room between the monitor and the enclosure to allow heat to disperse, as shown below.

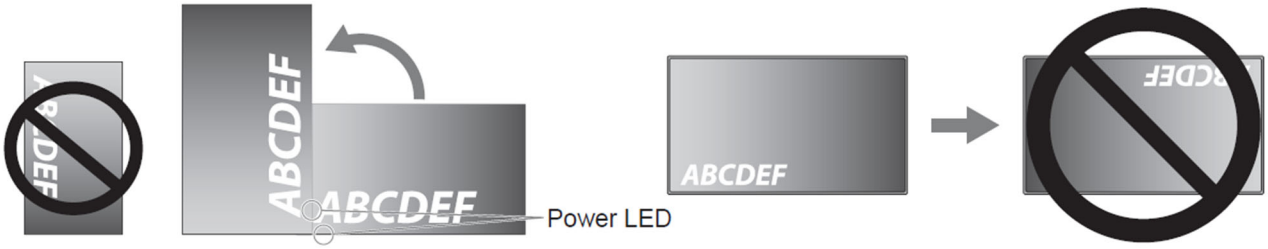
NOTE: ・This monitor has internal temperature sensors. If the monitor overheats, a "Caution" warning appears. If the "Caution" warning appears, stop using the unit, turn off the power and allow it to cool.

・This monitor should be used at an ambient temperature between 32°F (0°C) and 104°F (40°C). Provide enough space around the monitor to prevent heat from accumulating inside.



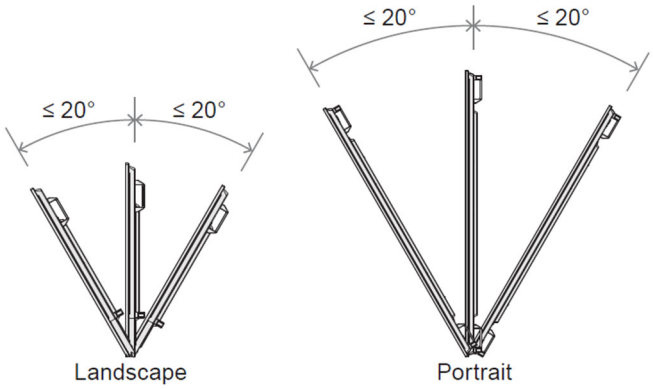
6) Orientation

- When using this monitor in a portrait position (viewing from the front), ensure to rotate it counterclockwise so that the right side is moved to the top and the left side is moved to the bottom.
- If installed in the wrong orientation, heat may be trapped inside the main unit and the lifetime of the monitor may be shortened.
- It cannot be installed upside down.



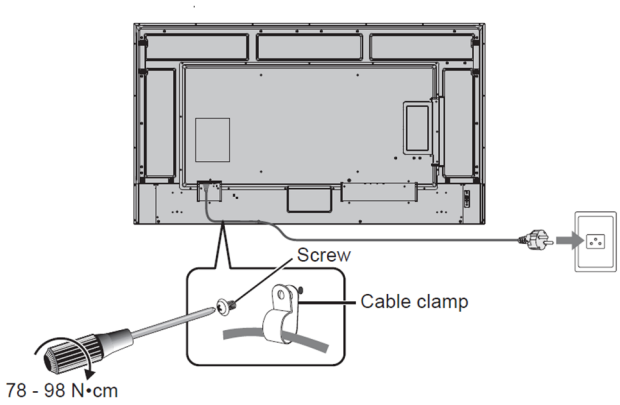
- The monitor should not tilt 21° or more.

NOTE: Installing the monitor at an angle of 21° or more may cause a malfunction.



7) Clamp the power cord

Be sure to clamp the power cord (supplied) using the supplied cable clamp. When clamping the power cord, take care not to stress the terminal of the power cord. Do not bend the power cord excessively.



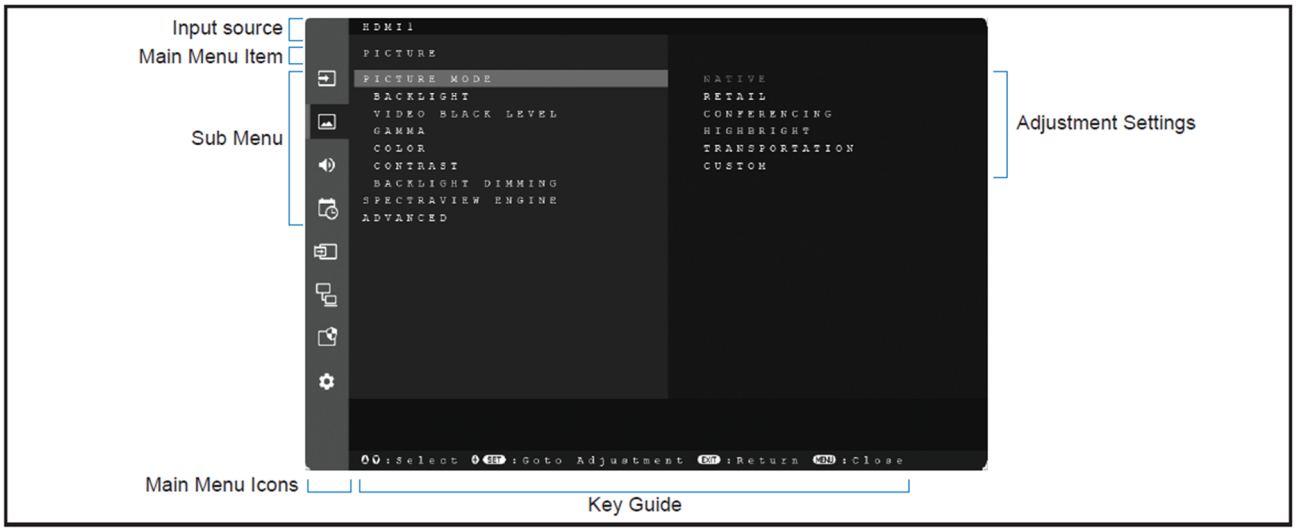
2. SETTING

1) Opening the menu window

The monitor's menu allows you to directly adjust its various settings, including brightness, contrast, color adjustments, input, and more.

■ Menu screen

NOTE: Some menus may not be available depending on the model or optional equipment.



2) Main Menu Icons

	Input: Selects the input signals source.
	Picture: Selects the picture modes, manual adjustment of color settings, and aspect ratio adjustments, related to picture configurations.
	AUDIO: Adjustments for volume, balance, and equalizer settings related to audio.
	SCHEDULE: Creates a working schedule for the monitor.
	SLOT: Configure settings for a connected Option Board.
	NETWORK: Configures the monitor's network settings either automatically or manually.
	PROTECT: Settings for controlling the cooling fan, configuring power-saving options, setting the transition time to power on, and alert email configurations.
	SYSTEM: Shows the model name, serial number, and firmware revision of the monitor.

3. OSD MENU INITIAL SETTING △3 : 2, Oct

INPUT	
INPUT SELECT	DisplayPort
INPUT SETTINGS	
INPUT NAME	DisplayPort
NAME RESET	CANCEL
AUTO INPUT CHANGE	NONE
PRIORTY	
1	
2	
3	
INPUT SIGNAL INFORMATION	
CURRENT INPUT	DisplayPort
RESOLUTION	
FREQUENCY	
COLOR FORMAT	
HDR EOTF	
COLOR DEPTH	
HDCP	
VIDEO RANGE	
VIDEO ID CODE	
OVERSCAN	
INPUT-ADVANCED	
DisplayPort	
DisplayPort VERSION	1.2
	SST
HDCP VERSION	HDCP2.2
HDR	ENABLE
HDMI	
HDMI MODE	MODE2
HDCP VERSION	HDCP2.2
HDR	ENABLE
SIGNAL FORMAT	
OVERSCAN	OFF
VIDEO RANGE	AUTO
COLORIMETRY	AUTO
CEC	
CEC	OFF
POWER CONTROL LINK	ENABLE
AUDIO RECEIVER	ENABLE
BACKGROUND COLOR	0
PICTURE(SVE=OFF)	
PICUTRE MODE	NATIVE
BACKLIGHT	(Depends on PICTURE MODE)
VIDEO BLACK LEVEL	(Depends on PICTURE MODE)
GAMMA	
GAMMA	(Depends on PICTURE MODE)
AUTO HDR SELECT	(Depends on PICTURE MODE)
COLOR	
COLOR	(Depends on PICTURE MODE)
COLOR TEMP:	(Depends on PICTURE MODE)
R GAIN:	(Depends on Panel)
G GAIN:	(Depends on Panel)
B GAIN:	(Depends on Panel)
COLOR CONTROL	
R	(Depends on PICTURE MODE)
Y	(Depends on PICTURE MODE)
G	(Depends on PICTURE MODE)
C	(Depends on PICTURE MODE)
B	(Depends on PICTURE MODE)
M	(Depends on PICTURE MODE)
CONTRAST	(Depends on PICTURE MODE)
PICTURE(SVE = ON)	
PICUTRE MODE	
PICTURE MODE	(Depends on Input metadata)
PRESET	(Depends on PICTURE MODE)
LUMINANCE	(Depends on PRESET)
BLACK	MIN
GAMMA	(Depends on PRESET)
CUSTOM VALUE	(Depends on PRESET)
WHITE	(Depends on PRESET)
x	(Depends on PRESET)
y	(Depends on PRESET)
RED	(Depends on PRESET)
x	(Depends on PRESET)

y	(Depends on PRESET)
GREEN	(Depends on PRESET)
x	(Depends on PRESET)
y	(Depends on PRESET)
BLUE	(Depends on PRESET)
x	(Depends on PRESET)
y	(Depends on PRESET)
EMULATION	
COLOR VISION EMU.	OFF
6 AXIS COLOR TRIM	
RED	
HUE	0
SAT.	0
OFFSET	0
YELLOW	
HUE	0
SAT.	0
OFFSET	0
GREEN	
HUE	0
SAT.	0
OFFSET	0
CYAN	
HUE	0
SAT.	0
OFFSET	0
BLUE	
HUE	0
SAT.	0
OFFSET	0
MAGENTA	
HUE	0
SAT.	0
OFFSET	0
UNIFORMITY	
UNIFORMITY	(Depends on PICTURE MODE)
PICTURE(COMMON)	
BACKLIGHT DIMMING	ON
SPECTRAVIEW ENGINE	
SPECTRAVIEW ENGINE	OFF
NUMBER OF PICT. MODES	5
METAMERISM	OFF
PICTURE-ADVANCED	
UHD UPSCALING	OFF
SHARPNESS	(Depends on PRESET)
ASPECT	FULL
ZOOM	
ZOOM	1.00
HZOOM	1.00
VZOOM	1.00
H POS	0
V POS	0
ADAPTIVE CONTRAST	(Depends on PICTURE MODE)
UNIFORMITY	ON
AUTO DIMMING	
AUTO BRIGHTNESS	MODE2
AMBIENT LIGHT SENSING	OFF
MODE	OFF
IN BRIGHT	
ILLUMINANCE	15
BACKLIGHT	70
IN DARK	
ILLUMINANCE	0
BACKLIGHT	30
HUMAN SENSING	DISABLE
BACKLIGHT	70
VOLUIME	30
INPUT SELECT	HDMI1
WATING TIME	5
AUTO TILE MATRIX	
H MONITORS	1
V MONITORS	1
TILE MATRIX	
TILE MATRIX	OFF

H MONITORS	1
V MONITORS	1
POSITION	1
TILE COMP	ON
H SIZE	0
V SIZE	0
H ADJUSTMENT	0
V ADJUSTMENT	0
TILE CUT	OFF
H ADJUSTMENT	0
V ADJUSTMENT	0
IMAGE FLIP	
IMAGE FLIP	NONE
MULTI PICTURE	
MULTI PICTURE MODE	OFF
PICTURE1	DisplayPort
PICTURE2	HDMI1
AUDIO :	DisplayPort
ACTIVE PICTURE	PICTURE1
ACTIVE FRAME	ON
PICTURE SIZE	50
PICTURE POSITION	
X:	PIP: X = 0 PBP: X = 0
Y:	PIP: Y = 0 PBP: Y = 50
ROTATE	
ROTATE ALL	OFF
PICTURE1:	OFF
PICTURE2:	OFF
AUDIO	
AUDIO MODE	NATIVE
VOLUME	(Depends on Preset)
BALANCE	
STEREO/MONO	(Depends on Preset)
BALANCE ADJUST	(Depends on Preset)
SURROUND	(Depends on Preset)
EQUALIZER	
TREBLE	(Depends on Preset)
BASS	(Depends on Preset)
AUDIO-ADVANCED	
LINE OUT	FIXED
AUDIO INPUT	(Current Input Terminal)
INTERNAL SPEAKER	ON
SCHEDULE	
SCHEDULE SETTINGS	
SETTINGS:	1
POWER	ON
TIME	-- : --
INPUT	----
DATE	-
YEAR	----
MONTH:	----
DAY:	----
EVERY WEEK	
WEEK SETTING	ALL ON
OFF TIMER	OFF 1 HOUR
SLOT	
OPTION	
POWER CONTROL	
POWER BUTTON	
FORCE SHUTDOWN	
RESET	
POWER SETTING	
AUTO SHUTDOWN	DISABLE
COMPUTE MODULE	
POWER CONTROL	
POWER BUTTON	
FORCE SHUTDOWN	
RESET	
POWER SETTING	
AUTO SHUTDOWN	DISABLE
ADVANCED SETTING	

SHUTDOWN SIGNAL	DISABLE
IR SIGNAL	DISABLE
MONITOR CONTROL	ENABLE
WDT	DISABLE
START UP TIME	120 SEC.
PERIOD TIME	60 SEC.
SLOT POWER	AUTO
NETWORK	
NETWORK INFORMATION	
IP SETTING	AUTO
IP ADDRESS:	0. 0. 0. 0
SUBNET MASK:	0. 0. 0. 0
DEFAULT GATEWAY:	0. 0. 0. 0
DNS	AUTO
DNS PRIMARY:	0. 0. 0. 0
DNS SECONDARY:	0. 0. 0. 0
MAC ADDRESS:	(Depends on factory adjustment)
NETWORK INTERFACE	
INTERFACE	
DISPLAY	ON
COMPUTE MODULE	ON
NETWORK SERVICES	
SERVICES	
HTTP SERVER	ON
HTTPS SERVER	ON
PC CONTROL	ON
PC CONTROL SECURE	OFF
SEARCH	ON
LAN DAISY CHAIN	ON
AMX BEACON	OFF
CRESTRON	OFF
SNMP	OFF
ICMP	ON
IP/MAC FILTER	OFF
NAVISET SECURE	OFF
NAVISET SECURE	
START PAIRING	
RESET PAIRING DATA	
PAIRING STATUS	
NAVISET SECURE REMOTE	OFF
STATUS	
PING	
IP ADDRESS:	192.168. 0. 10
HOSTNAME	
HOSTNAME	Serial Number
IEEE802.1X	
IEEE802.1X	OFF
PROTECT	
POWER SAVE SETTINGS	
POWER SAVE	ENABLE
TIME SETTING	60
POWER SAVE MESSAGE	ON
QUICK START	DISABLE
THERMAL MANAGEMENT	
FAN CONTROL	AUTO
FAN SPEED	HIGH
SCREEN SAVER	
GAMMA	OFF
MOTION	ON
INTERVAL	60 SEC.
RANGE	4
POWER ON DELAY	
DELAY TIME	0 SEC.
LINK TO ID	OFF
SECURITY SETTINGS	
PASSWORD	0000
SECURE MODE	
START-UP LOCK	OFF
CONTROL LOCK	OFF
CHANGE PASSWOAD	
CURRENT PASSWORD	0000
NEW PASSWORD	0000
CONFIRM PASSWORD	0000
LOCK SETTINGS	

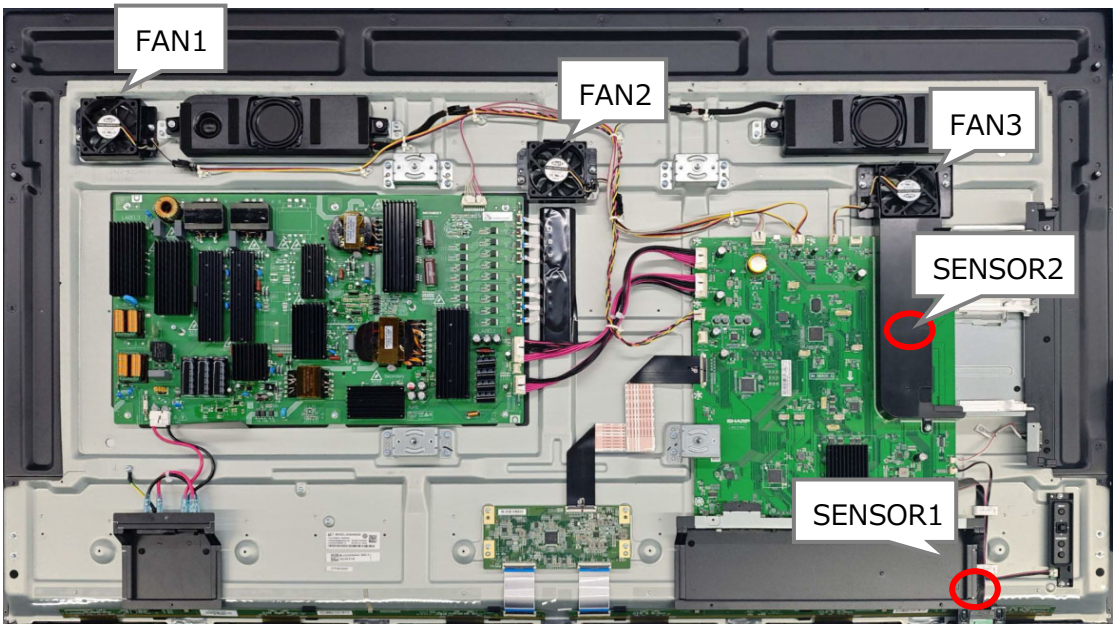
SELECT	KEY & IR
MODE	UNLOCK
POWER	UNLOCK
VOLUME	UNLOCK
MIN VOL	10
MAX VOL	80
INPUT	UNLOCK
SYSTEM	
MONITOR INFORMATION	
DATE & TIME	
TIME ZONE	
UTC	+ 00:00
INTERNET TIME SERVER	(Depends on model)
YEAR	2025
MONTH	JANUARY
DAY	1
TIME	00:00
DAYLIGHT SAVING	
DAYLIGHT SAVING	OFF
BEGIN	
MONTH	MARCH
DAY	SECOND SUNDAY
TIME	02:00
END	
MONTH	NOVEMBER
DAY	SECOND SUNDAY
TIME	02:00
TIME DIFFERENCE	+01:00
EXTERNAL CONTROL	
PORT	RS-232C, USB
MONITOR ID:	
ID NO.	1
GROUP ID:	ALL OFF
AUTO ID/IP SETTING	
AUTO ID/IP RESET	
DETECTED MONITORS	
COMMAND TRANSFER	
LANGUAGE	(Depends on model)
OSD	
OSD POSITION	X = 50, Y = 88
INFORMATION OSD	ON
COMMUNICATION INFO.	ON
OSD TRANSPARENCY	OFF
OSD ROTATION	LANDSCAPE
KEY GUIDE	ON
CLONE SETTING	
CLONE SETTING	LAN
TARGET INPUT	ALL
INPUT	OFF
PICTURE	OFF
AUDIO	OFF
SCHEDULE	OFF
SLOT	OFF
NETWORK	OFF
PROTECT	OFF
SYSTEM	OFF
HTTP	OFF
POWER INDICATOR	ON
MUTE SETTING	AUDIO
USB	
PC SOURCE	AUTO
USB POWER	AUTO
USB-C SETTING	USB2.0
UPDATE FIRMWARE(USB)	
UPDATE FIRMWARE(NETWORK)	

△3 : 2, Oct

4. OPERATING FAN TEMPERATURE AND TEMPERATURE SENSOR LOCATION

Model		M552	M652	P556	P656
Product Warranty Temperature		40 ℃	40 ℃	40 ℃	40 ℃
Fan Activation Temperature	SENSOR1	47 ℃	45 ℃	47 ℃	46 ℃
Warning Display Temperature	SENSOR1	62 ℃	60 ℃	62 ℃	61 ℃
Recovery to Normal Condition	SENSOR1	42 ℃	40 ℃	42 ℃	41 ℃

- SENSOR1 : Located on the MAIN board, under the SLOT DUCT
- SENSOR2 : Located on the IR board
- FAN settings are limited to AUTO/ON; users cannot turn it OFF
- When OPTION (SDM) is installed, SENSOR2 is monitored and FAN1 is activated
- FAN is exhaust-only



△2 :15/Jul

CHAPTER 3. IMPORTANT INFORMATION FOR SERVICING THE DISPLAY

<Important>

Firmware update

Confirm the service information before doing the adjustment work and update to the latest firmware.

<Caution>

- For safety, do not use parts other than those specified.
- Be sure to turn off the AC power before working.
- High voltage is applied to the inside of the monitor. Handle with care as there is a risk of electric shock. Be sure to wear rubber gloves especially when handling the power board.

1. MAIN PWB AND LCD MODULE REPLACEMENT PROCEDURES INSTALLATION

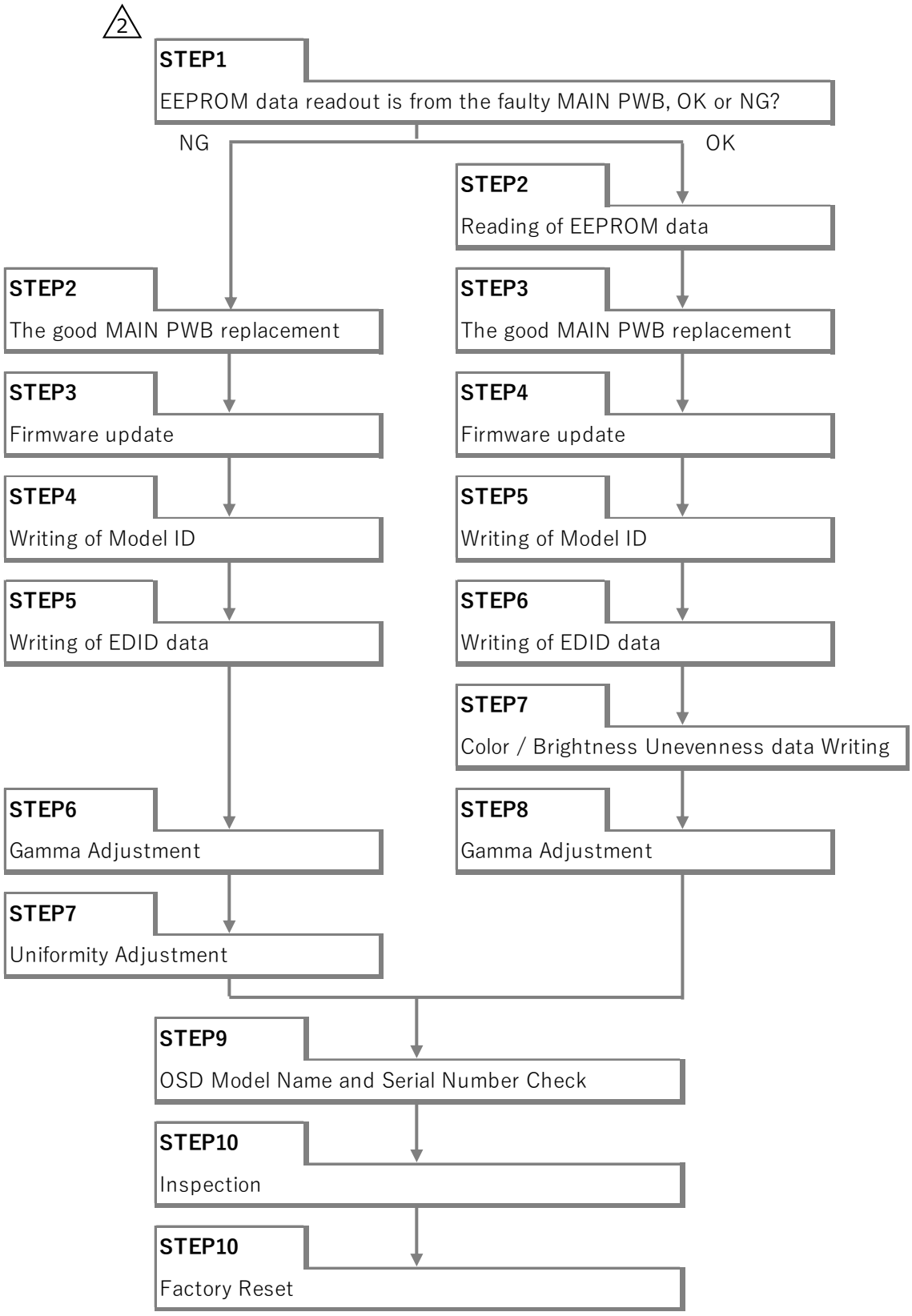
The table below is adjusted with replacement parts.

△2

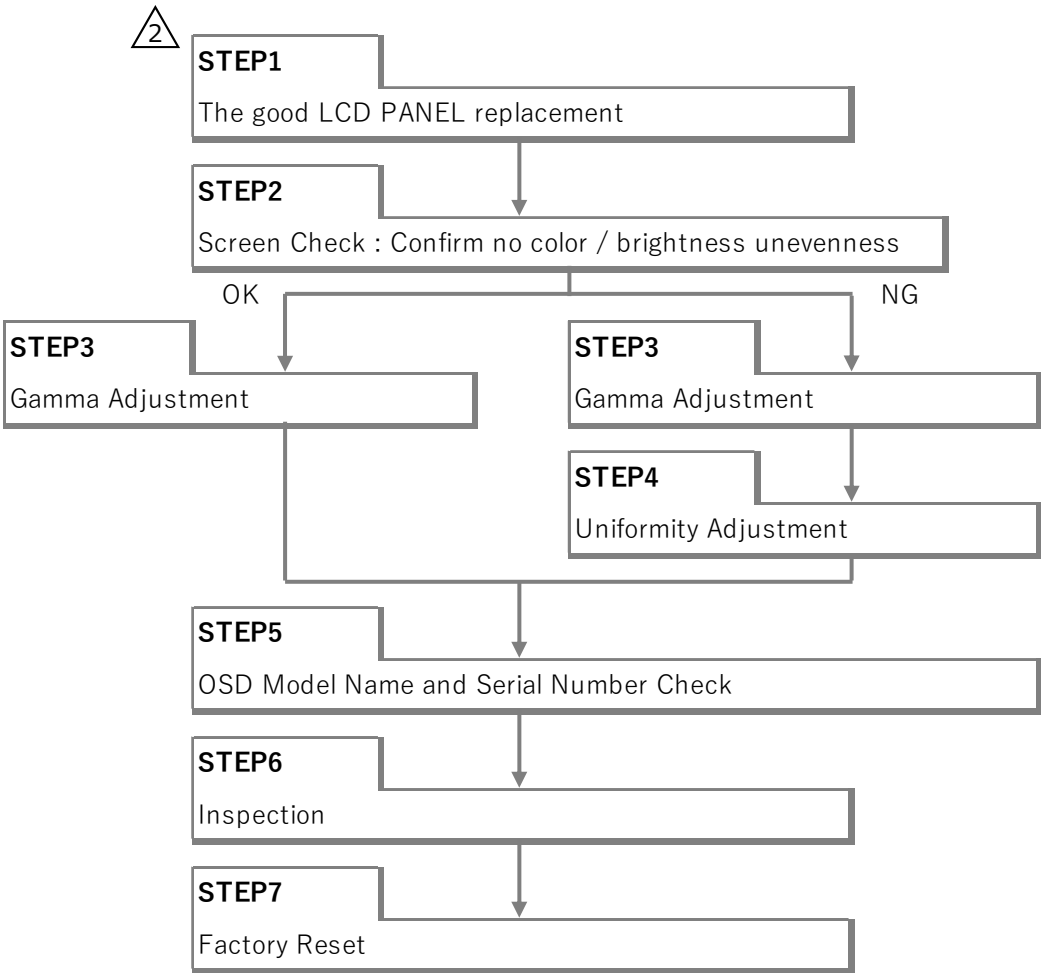
Step	Item	MAIN PWB replacement		LCD panel replacement
		EEPROM data readout is impossible.	EEPROM data readout is possible.	
1	EEPROM data Reading (Color / Brightness Unevenness Data)	–	○	–
2	Firmware update	○	○	–
3	Writing of Model ID	○	○	○
4	Writing of EDID data	○	○	–
5	Color / Brightness Unevenness data Writing	–	○	
6	Gamma Adjustment	○	○	○
7	Uniformity Adjustment	○	–	○ (Note1)
8	OSD Model Name and Serial Number Check	○	○	○
9	Screen Check	○	○	○
10	Factory Reset	○	○	○

Note1: Implemented if the inspection (screen check) results in a failure.

2. MAIN PWB REPLACEMENT



3. LCD PANEL REPLACEMENT



2 : '26/Jan

CHAPTER 4. SERVICE MENU AND SERVICE TOOL

1. PREPARATION

(1) EXPERT MODE

1) How to enter the EXPERT mode

Closes the OSD menu.

[DISPLAY], [DISPLAY], [SET], [◄], [◄], [►], [►], [◄], [►], [SET], [MENU]



2) How to exit the EXPERT mode

Power ON/OFF



2 1) Functions of EXPERT mode

ITEM	EXPLANATION
VER	Display firmware version.
HOURS RUNNING	Display usage time (backlight lighting time & Total usage time)
F/W MODE	WARNING DISPLAY : Select display WARNING DISPLAY is ON or OFF a temperature abnormality occurs. DisplayPort BIT RATE : Set BIT RATE of DisplayPort. SYSLOG CLEAR : Execute system log initialize. SVENGINE FB : Select temperature compensation and luminance degradation compensation is ON or OFF. NAVISET SECURE : Select NAVISET SECURE is ON or OFF
PICTURE EXPERT	COLOR TEMP : Set COLOR TEMP setting. DEINTERLACE : Select DEINTERLACE is ON or OFF.
TEST PATTERN	Display the test pattern according to the PATTERN/WHITE/RED/GREEN/BLUE settings.
OPTION	DP PWR DP / OUT : Select DP Power is supplied or not from DP/DP OUT. FRAME LOCK : Select Frame Lock is ON or OFF.
EDID	TIMING : Change the recommended timing of the current EDID. DisplayPort EXTENSION FLAG : Extend(128/256) EDID in DP.

2 : '26/Jan

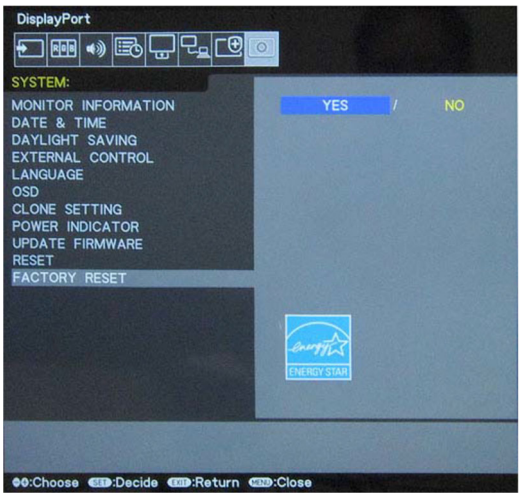
2

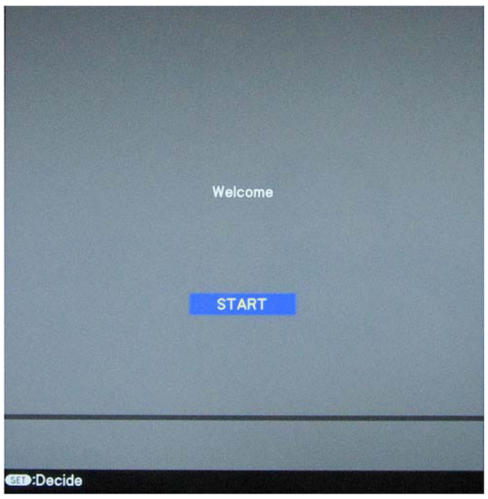
ITEM	EXPLANATION
POWER MANAGEMENT	AUTO STANDBY TIME SETTING : Set the time to transition from Network Standby to Normal Standby. LAN DETECT : Select go to Normal Standby or not. * If it is QUICK, keep Network Standby without LAN detect.
COMMAND SET	Set the format of PC CONTROL. "1" = N-Format & Common ASCII "2" = AENA "3" = N-Format & S-Format
HDR SETTING	HLG GAMMA AUTO : Set the behavior of AUTO HDR when GAMMA is set HDR-HYBRID LOG. PQ GAMMA AUTO : Set the behavior of AUTO HDR when GAMMA is set HDR-PQ. EOTF / MDML / MCLL : Display data of InfoFrame
SLOT ADVANCED	SYSTEM FAN CONTROL : Set the behavior of SLOT FAN when there is SYSTEM FAN COTROL signal. SDM IDENTIFICATION : Set the behavior when identify SDM. * If it is IGNORE, SDM works as support option. Power Sequence Non-PC Mode : Select SDM's power sequence for Non-PC type. UART Display Master Mode : Select SDM's UART Display Master Mode. * UART Display Master Mode = Mode to send UART commands from the display to the SDM.
INTERNAL TOUCH	Select Enable/Disable of touch function.

(2) FACTORY RESET

■ Operation

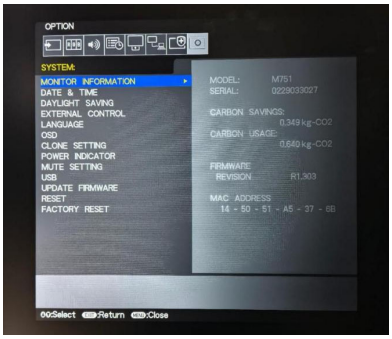
1) The OSD screen is displayed and "SYSTEM" → "FACTORY RESET" is selected.
2) The executed “YES" is selected.
3) The selected is “START", and FACTORY RESET is executed.





(3) OSD MODEL NAME AND SERIAL NUMBER CHECK

It is confirmed that OSD "MONITOR INFOMATION" is displayed and the serial number is displayed in the column of "MODEL NAME: and column of "SERIAL:" correctly. (Check that it is also in agreement with the written-in serial number.)



(4) HARDWARE AND SOFTWARE

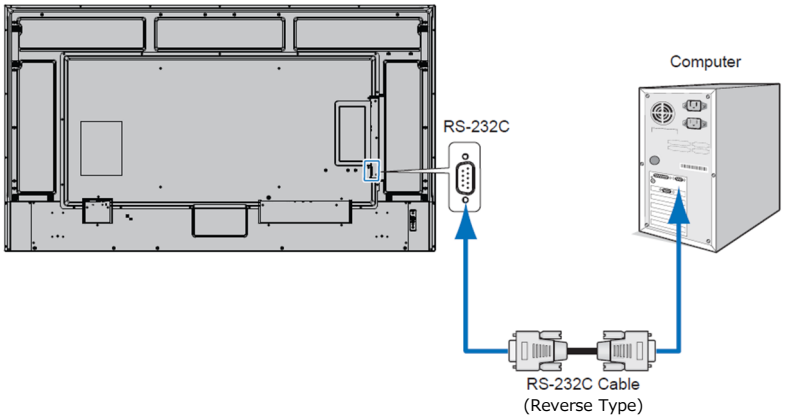
■ Hardware

Item	Specification	Part No.
MDSVSENSOR3		
PC	Windows PC	
HDMI signal cable		
DisplayPort signal cable		
DB9F RS232 Cable (Reverse type)		
Remote Control	REMOTE RU-M126	SHARP Code: 0TEM552001082 Vendor Code: 7601-Z12620-0044SRP1

(5) SYSTEM CONNECTION

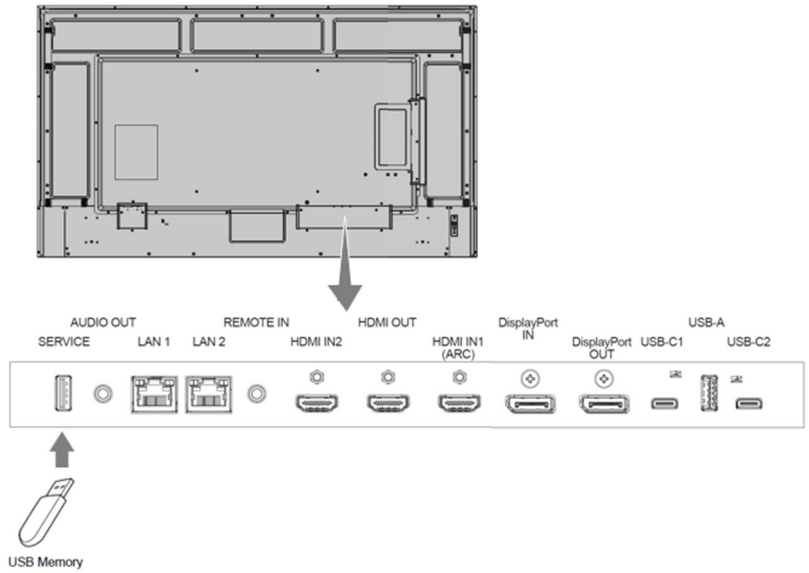
1) System Pattern A (Writing of Model ID / Reading of EEPROM data / Writing of Color/Brightness Unevenness data / Writing of EDID data)

- Windows PC
- RS232 Cable (Reverse type)
- Connection diagram



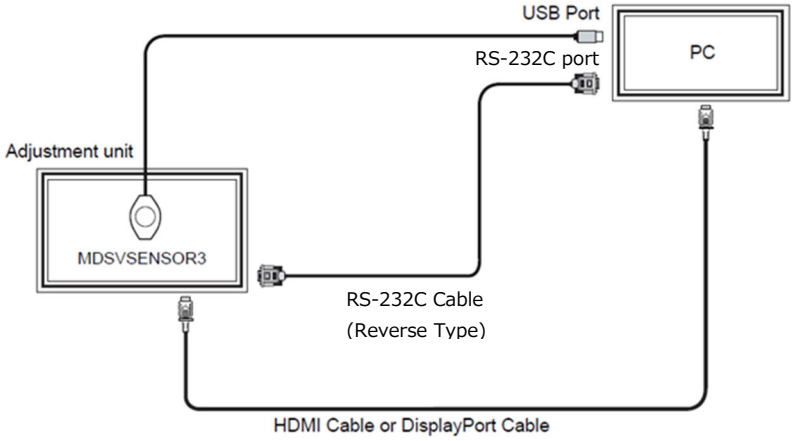
2) System Pattern B (Firmware Update)

- Windows PC
- USB memory stick
- Connection diagram



3) System Pattern C (Gamma / Uniformity)

- Windows PC
- HDMI cable or DisplayPort cable
- RS232 Cable (Reverse type)
- MDSVENSOR3
- Connection diagram



(6) BEFORE WORK

Please setting it as follows before it works.

■ Power save is turned off.

1) Display OSD and select "DISPLAY PROTECTION".
2) The “DISABLE" is selected in “POWER SAVE”.

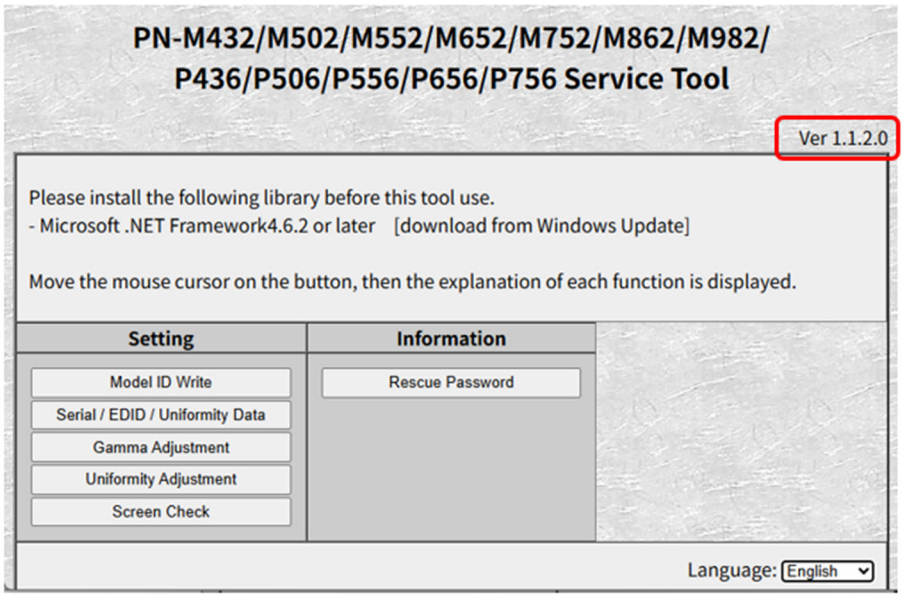


2. SERVICE TOOL

(1) Service Tool Launcher

■ How to Confirm Version information of Service Tool

1) Activate Launcher Tool. Confirm version number of service tool shown on upper right of the window.

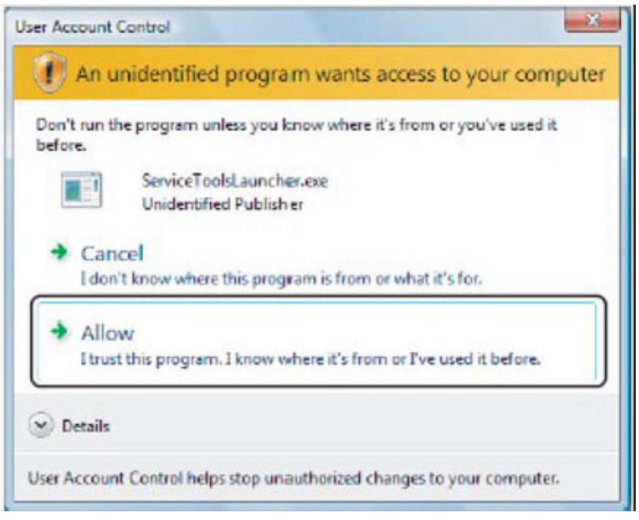


■ How to use

1) Execute “ServiceToolsLauncher.exe” in the folder where the service tool is extracted.

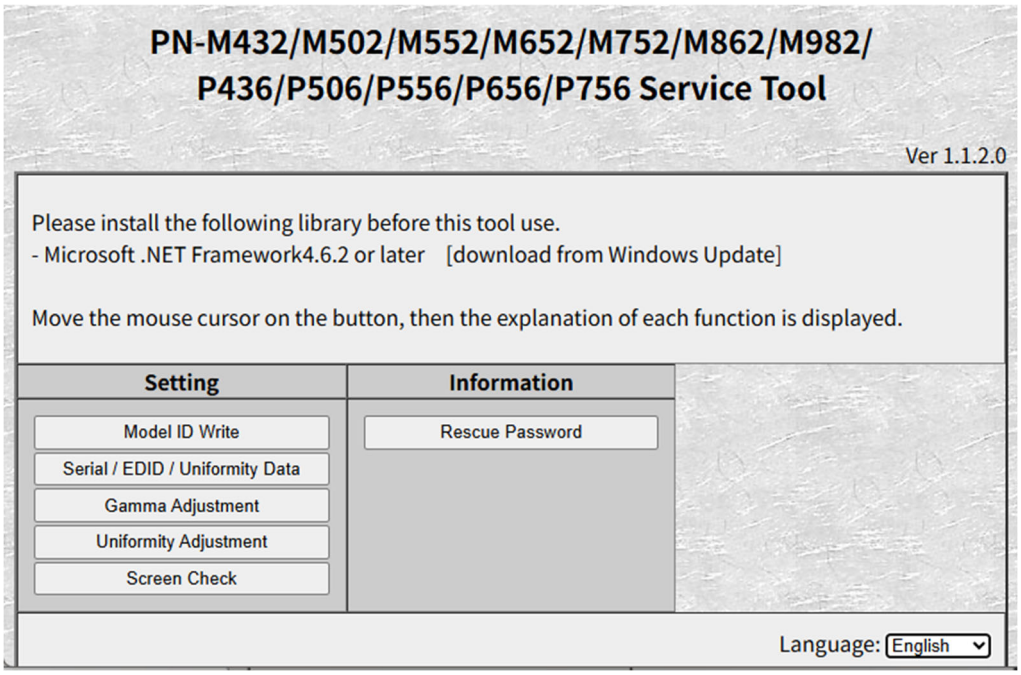
<Note>

- If it cannot be executed, Microsoft .NET Framework 4.7.2 or later may not be installed. In this case, please install Microsoft .NET Framework 4.7.2 or later.
- In case of the window of “User Account Control” is displayed as shown below, need to click [Allow].



2) Once the service tool is booted, press the button as needed to conduct operations.

機能	ボタン	説明
Setting	Model ID Write	Write the Model ID.
	Serial / EDID / Uniformity Data	Write the Serial Number. Write the EDID data. Write the Color/ Brightness Unevenness Data
	Gamma Adjustment	Adjust the Gamma.
	Uniformity Adjustment	Adjust the Uniformity.
	Screen Check	Check the Screen.
Information	Rescue Password	Release the Security Lock by using Rescue Password.



(2) EEPROM DATA READING (COLOR / BRIGHTNESS UNEVENNESS DATA)

■ Outline

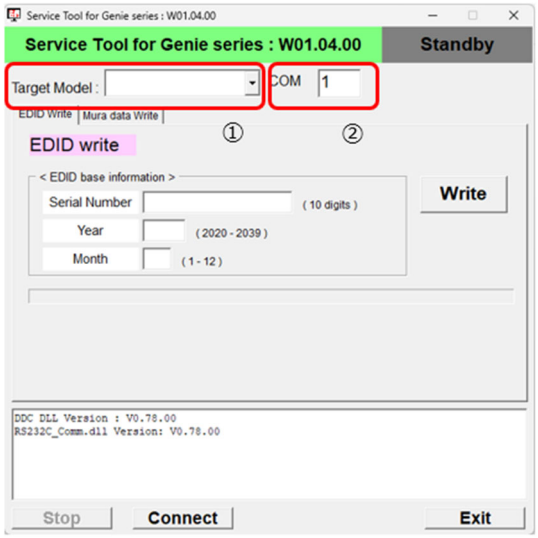
Reading EEPROM Uniformity data of the faulty MAIN PWB is executed.

■ Condition

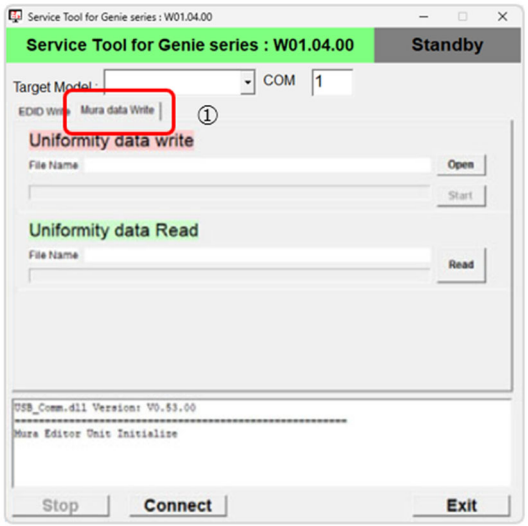
△2
- System Pattern: A

■ Operation

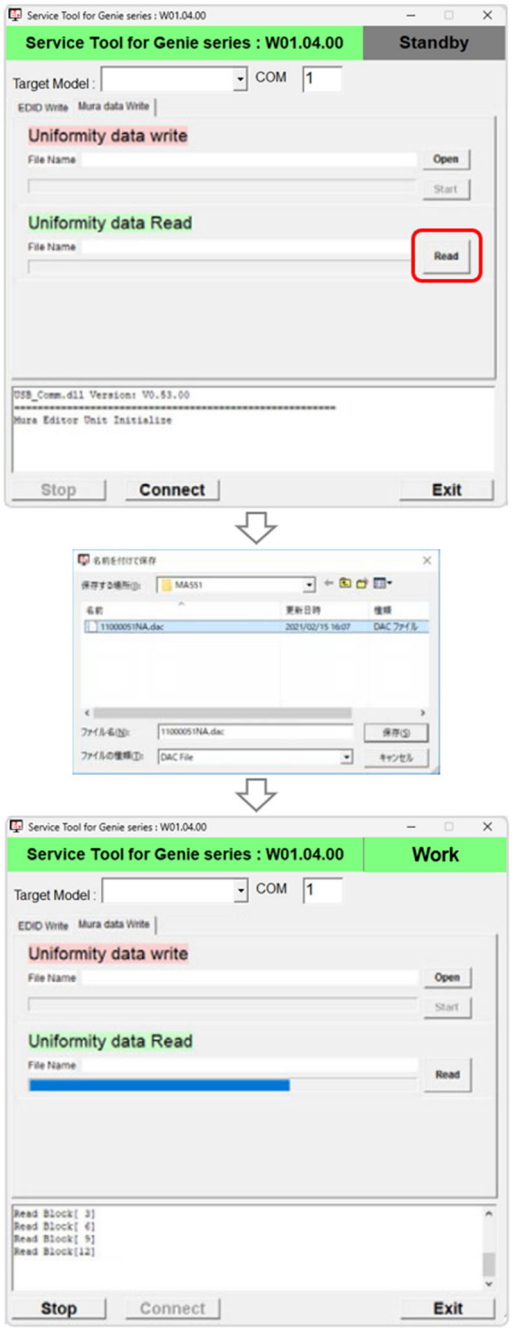
1) It connects it with the monitor where “System Pattern A” installs a defective MAIN PWB.
2) Launch the service tool launcher.
3) Press the [Serial / EDID / Uniformity Data] button in the service tool launcher to launch the tool.
4) The Target Model from the box on the left of the window the model name (①).
5) Enter the RS232 COM Port (②).



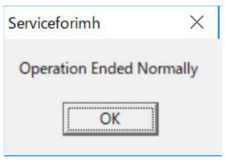
6) The “Mura data write” tab (①) is selected.



7) Push down "Read" of Uniformity data Read and appoint any file name and destination of data to read.



8) Because the message named "Operation Ended Normally" appears when reading Uniformity data starts and it ends, OK is pressed. It is made by the specified file name.



(3) FIRMWARE UPDATE

Important:

Firmware update

Confirm the service information update to the latest firmware.

The update firmware files provide in service information.

■ Condition

- System Pattern: B

■ Precautions

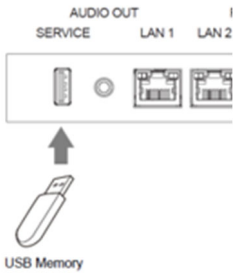
- Do not disconnect the main power to the monitor or remove the USB memory stick during firmware update.
- The USB port of the monitor does not support the operation of all USB memory slicks available on the market.
- The monitor supports only USB memory sticks of FAT32 or FAT16 format. A USB memory slick in NTFS format cannot be used. If update fails, check the format of the USB memory stick. For details on how to format the USB memory stick, refer to the Windows Help and so on.
- Updating the firmware does not affect any data set with the OSD screen of the monitor.

■ Operation

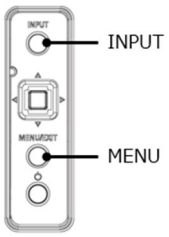
1) Save the firmware image file directly under the unique directory in the PC.
2) Decompress the compressed file.

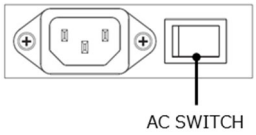
   bins
   ├ GENIE
   └ config
3) Save the firmware image file directly under the root of the USB memory stick.

   root directory
   ├ GENIE
   └ config
4) Turning AC power OFF and insert the USB memory into the USB port of the unit.



5) Press the "INPUT" and "MENU" keys on the monitor while turning AC power ON. Continue pressing the key until the LED blinks.



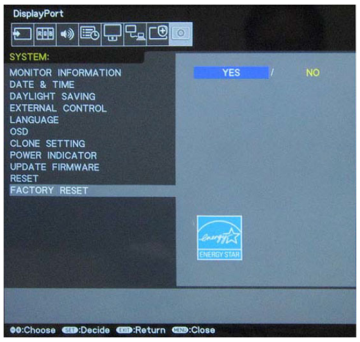


6) Power LED ON pattern

The firmware update time is approximately 5 minutes.

Step1	Green	BLNK	Firmware Updating
Step2	Red/Green	BLNK	Firmware Update Successful
Step3	Blue	BLINK	During Power ON
Step4	Blue	ON	DC ON

7) Do factory reset after firmware update finished. Select the “FACTORY RESET”, select” YES “.



8) After the upgrade is completed, first turning AC power OFF and remove the USB memory, then turning AC power ON. The display should light up normally.

(4) WRITING OF MODEL ID

Important:

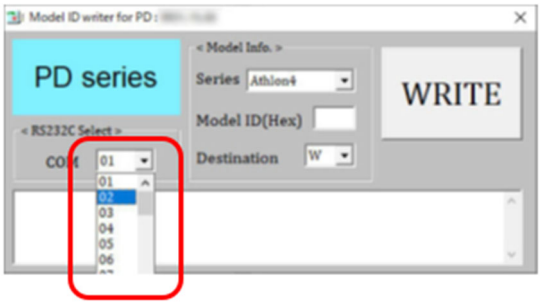
When MAIN PWB is replaced, it is necessary to write the Model ID.

■ Condition

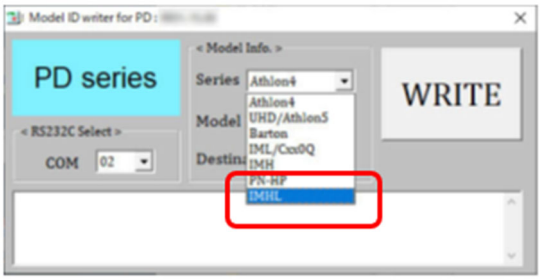
⚠2
- System Pattern: A

■ Operation

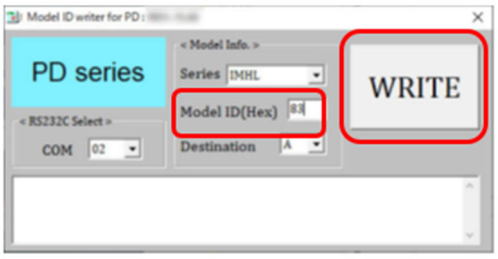
1) The adjustment monitor is connected according to "System Pattern A".
2) Launch the service tool launcher.
3) Press the [Model ID Write] button in the service tool launcher to launch the tool.
4) If the screen like a figure below is displayed, then select the COM port.



5) "Genie is selected pressing the “Series” selection button.



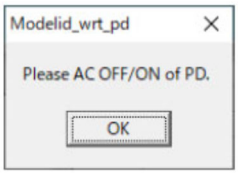
6) Set the Model ID and Destination, and to start writing by pressing the "WRITE" button.



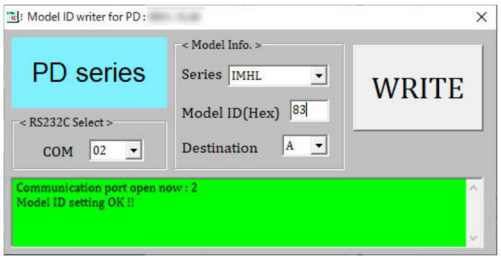
MODEL	MODEL ID
M552	8C
M652	8D
P556	88
P656	89

Item	Destination
A :	North America
B :	EMEA, Asia Pacific
C :	China
J :	Japan
T :	Taiwan
H :	India

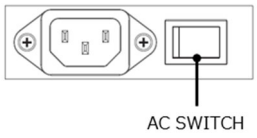
7) When the window of the figure below is displayed, press the OK button.



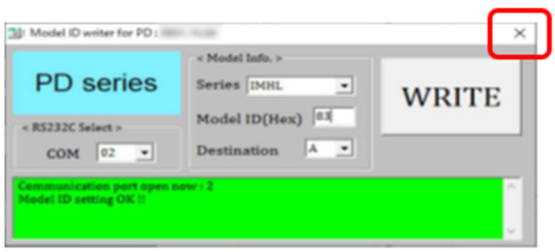
8) When writing ends normally, it is displayed, "Model Info, setting OK!!".



9) Turn off the AC switch of the adjustment monitor. Turn on a AC switch after ten seconds passed.



10) Push the exit button and finish a program.



△2

(5) WRITING OF EDID DATA

■ Outline

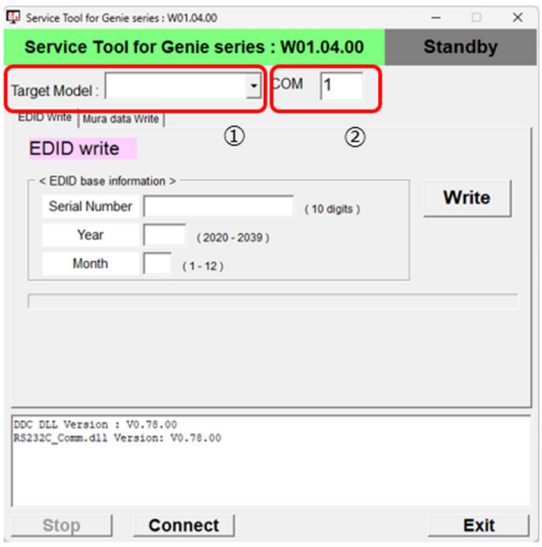
Writing the HDMI and DisplayPort EDID data is executed.

■ Condition

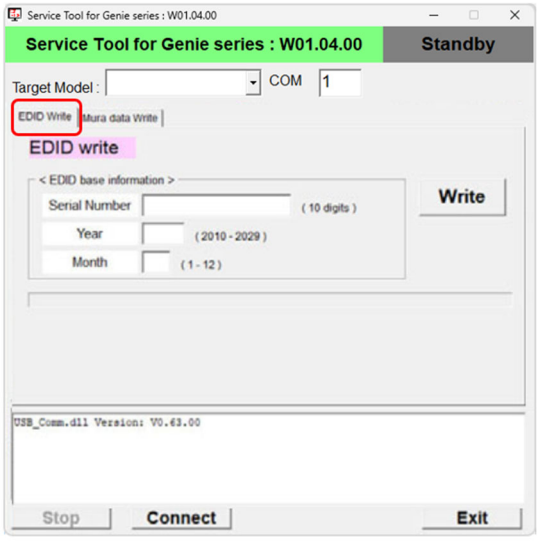
- System Pattern A
- Input Signal: Not input signal

■ Operation

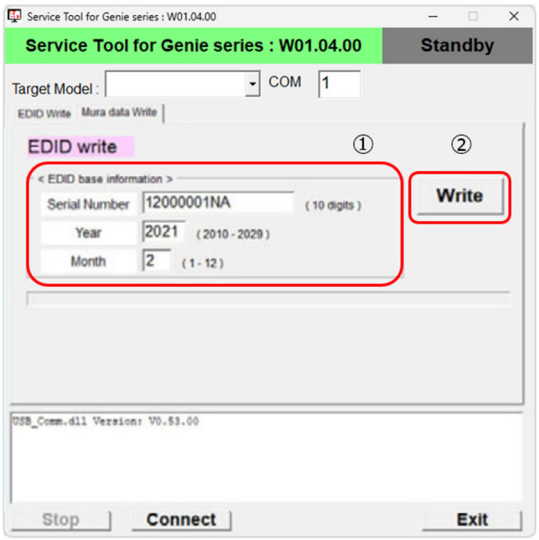
1) Launch the service tool launcher.
2) Press the [Serial / EDID / Uniformity Data] button in the service tool launcher to launch the tool.
3) The Target Model from the box on the left of the window the model name (①). Enter the RS232 COM Port. (②).



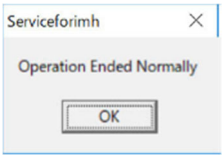
4) The “EDID Write” tab is selected.



5) When the screen as shown below appears, examine the serial number of the unit, enter an input in the column of <Serial Number> through the keyboard, Enter an input in the column of <Year> in manufactured year (A.D. four digits) and <Month> in manufactured month through the keyboard. (①)
Pushing the “Write" button (②) writing EDID data is begun.



6) If the message of “Operation Ended Normally" is displayed when writing ends, it ends pushing the “OK” button.



7) Disconnect the power cord, and after 10sec (In order to refresh of memory).

△2

(6) COLOR / BRIGHTNESS UNEVENNESS DATA WRITING

■ Outline

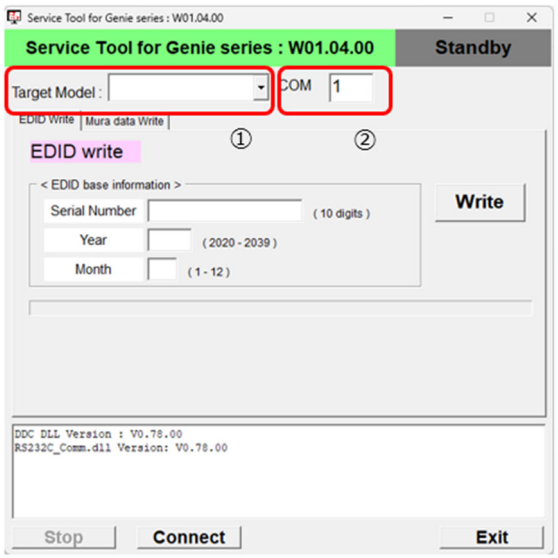
Color/ Brightness Unevenness Data Writing are executed.

■ Condition

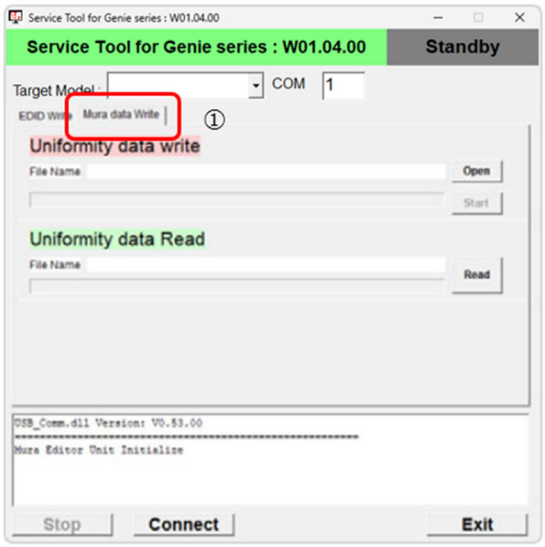
- System Pattern: A

■ Operation

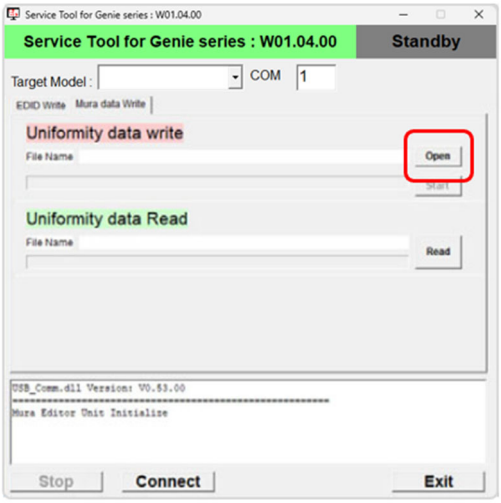
1) Launch the service tool launcher.
2) Press the [Serial / EDID / Uniformity Data] button in the service tool launcher to launch the tool.
3) The Target Model from the box on the left of the window the model name (①).
4) Enter the RS232 COM Port (②).



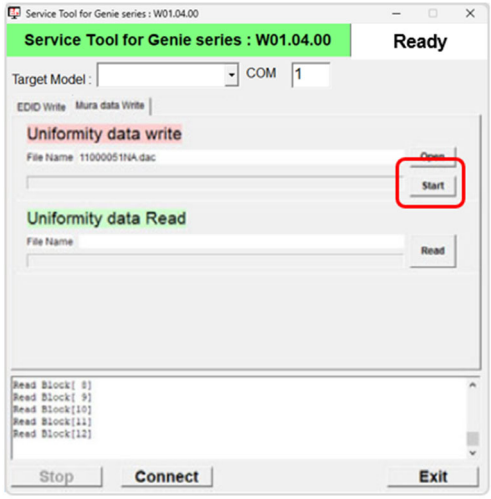
5) The “Mura data write” tab (①) is selected.



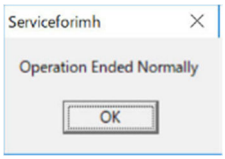
6) Push down the “Open” button and select the obtained file.



7) Upon the depression of the “Start” button, writing is started.



8) Because the message named "Operation Ended Normally" appears when writing ends, OK is pushed.



9) Disconnect the power cord, and after 10sec (In order to refresh of memory).

△2

(7) GAMMA ADJUSTMENT

■ Outline

To adjust Gamma is executed.

■ Condition

- System Pattern C
- Input Signal: The monitor is displayed in full screen.
  Horizontal synchronization frequency: Not specified
  Vertical synchronization frequency: Not specified

■ Adjustment environment

- Room temperature: 25±5°C
- The outside light must not enter. Moreover, there must not be lamp etc. to be near. (The ceiling light is not a problem.)
- Write the MODEL ID. After that, the monitor will run in aging mode. A factory reset could disable the aging mode.
- Continuous aging is executed for 40 minutes or more before the adjustment begins. When the power supply is turned off, aging of 5 minutes or more is executed. It executes it in the state of the aging mode.
- Installation of the driver software is unnecessary MDSVSENSOR3.
- Confirm that "SPECTRAVIEW ENGINE" is ON, and turn it ON if OFF.



■ Operation

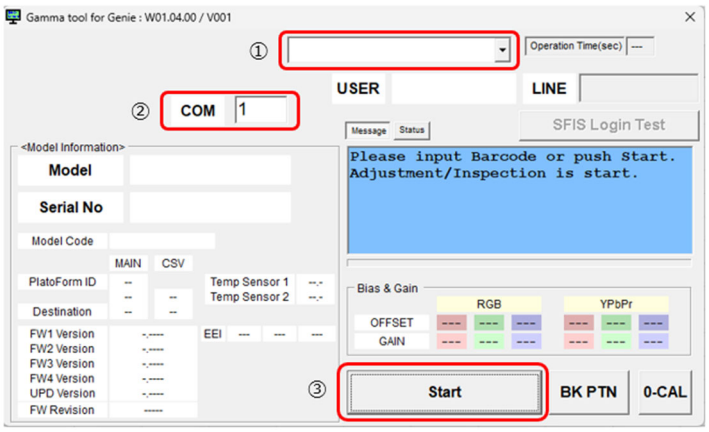
1) I cast down on a flat surface MDSVSENSOR3.
2) The display setting of Windows PC is changed to secondary.
3) Display the secondary screen of the Windows PC (Expand) on this monitor.exe".

Note:

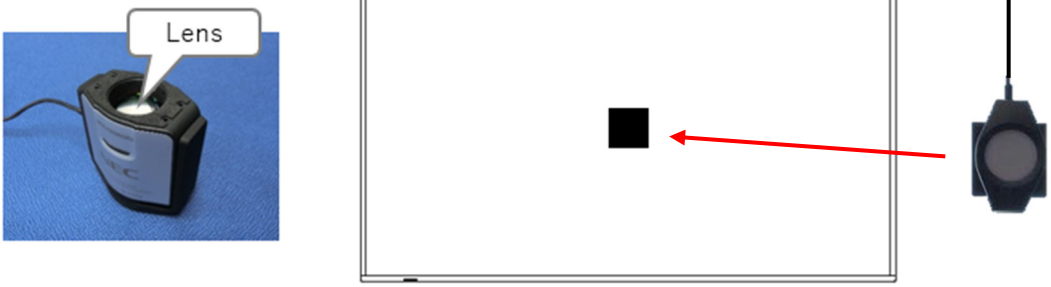
The setting method changes according to the operation of Windows.

4) Launch the service tool launcher.
5) Press the [Gamma Adjustment] button in the service tool launcher to launch the tool.

6) It selects from the box on the left of the window the model name (①). Enter the RS232 COM Port (②). It presses the "Start" button (③).

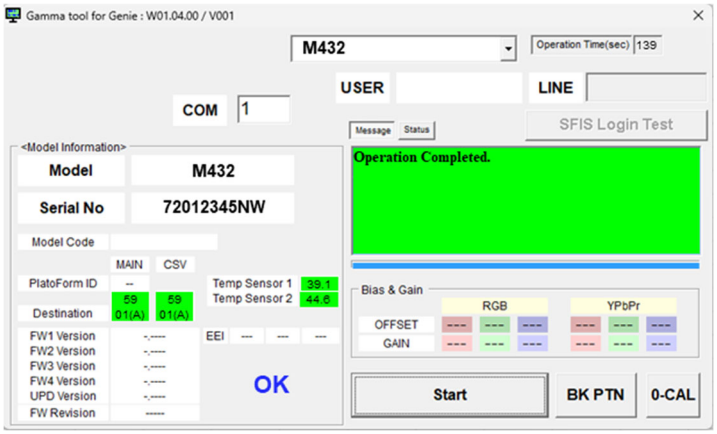


7) When the wind pattern screen is displayed, the arm of MDSVSENSOR3 is turned and the lens side is put on the center of the monitor screen.



Note:
Execution takes about 5 minutes.

8) When adjustment is complete, because a message called "Operation Completed." is displayed, I finish a program.

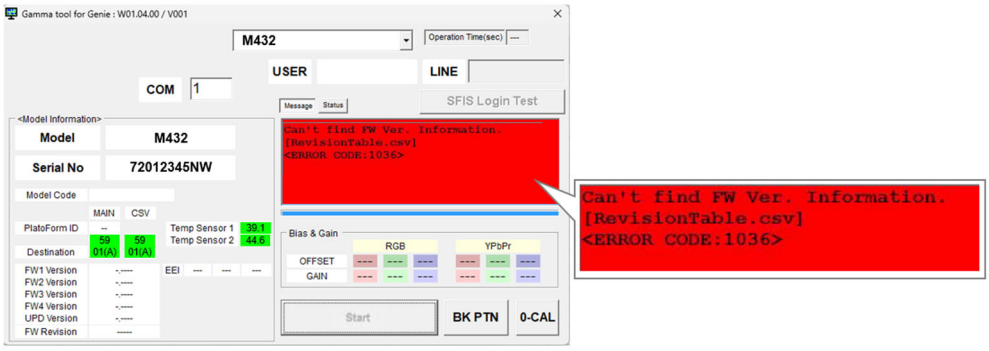


9) Disconnect the power cord, and after 10sec (In order to refresh of memory).

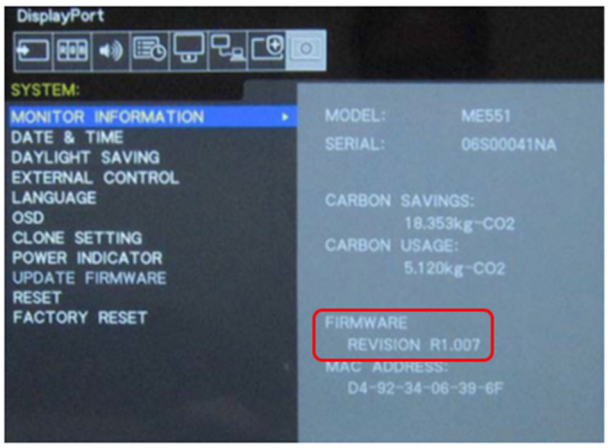
Note:

■ Confirm of the error.

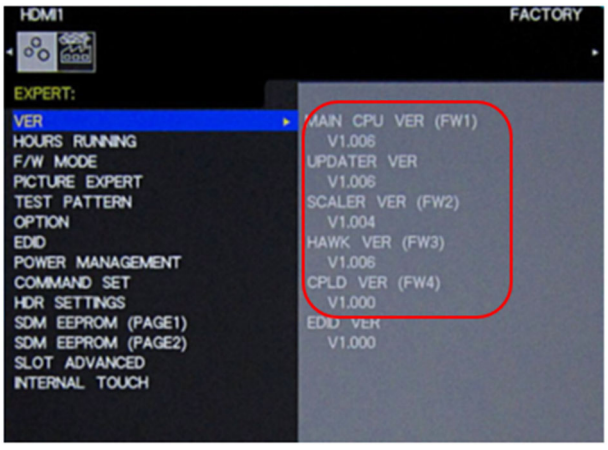
If an error such as the figure below is displayed, perform the following steps.



- Display the OSD screen and select "System" → "Firmware" to display the firmware revision. Make a note of the displayed revision.



- Select "VER" in expert mode. Check the firmware version and make a note.



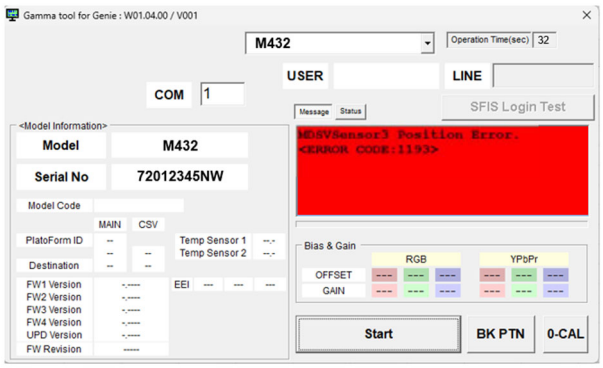
- Open "RevisionTable_IMHL.csv" and add the firmware revision and version you made a note.

	A	B	C	D	E	F
1	Revision	RX66N	SCALER	HAWK	CPLD	UPDATER
2	R1.002	V1.000	V1.002	V1.000	V1.012	V1.000
3						

- Save and close "RevisionTable_IMHL.csv".

■ Confirm of the error.

When "SPECTRAVIEW ENGINE" becomes OFF, the error message such as the figure below is displayed.

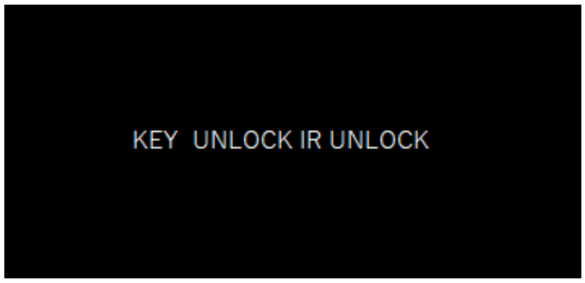


Set "SPECTRAVIEW ENGINE" to ON.



■ When a communication error occurs

In rare cases, the remote control may stop working if a communication error occurs during adjustment. In that case, press the "DISPLAY" button on the remote control for 5 seconds or longer, and the contents shown below will be displayed in the center of the display screen. Check that the remote control works.



(8) UNIFORMITY ADJUSTMENT

■ Outline

To adjust Uniformity is executed.

■ Condition

- System Pattern C
- Input Signal
  The monitor is displayed in full screen.
  Horizontal synchronization frequency : Not specified
  Vertical synchronization frequency : Not specified

■ Adjustment environment

- Room temperature: 25±5°C
- The outside light must not enter. Moreover, there must not be lamp etc. to be near. (The ceiling light is not a problem.)
- Writing of Model ID and Gamma adjustment being carried out.
- Write the MODEL ID. After that, the monitor will run in aging mode. A factory reset could disable the aging mode.
- Continuous aging is executed for 60 minutes or more before the adjustment begins. When the power supply is turned off, aging of 5 minutes or more is executed. It executes it in the state of the aging mode.
- Installation of the driver software is unnecessary MDSVSENSOR3.

■ Operation

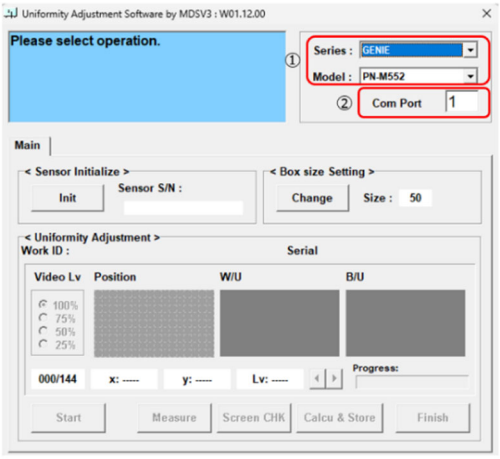
1) I cast down on a flat surface MDSVSENSOR3.
2) The display setting of Windows PC is changed to secondary.
3) Display the secondary screen of the Windows PC (Expand) on this monitor.exe".

Note:

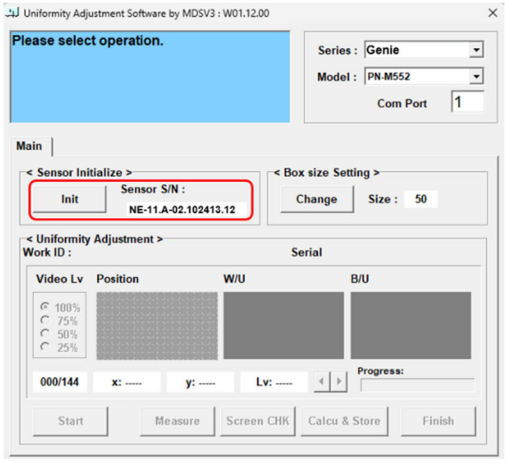
The setting method changes according to the operation of Windows.

4) Launch the service tool launcher.
5) Press the [Uniformity Adjustment] button in the service tool launcher to launch the tool.

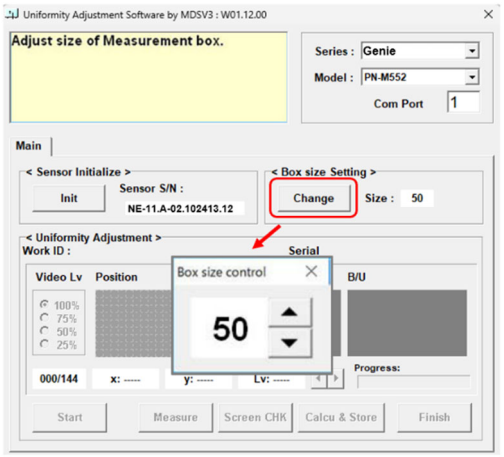
6) Select "IMHL" in the Series column at the upper right of the window and select the model name in the Model column. (①) Enter the RS232 COM Port. (②)



7) Press the "Init" button in the Sensor Initialize column.
When normalcy is finished, a serial number of MDSVSENSOR3 is displayed by Sensor S/N: indication column.

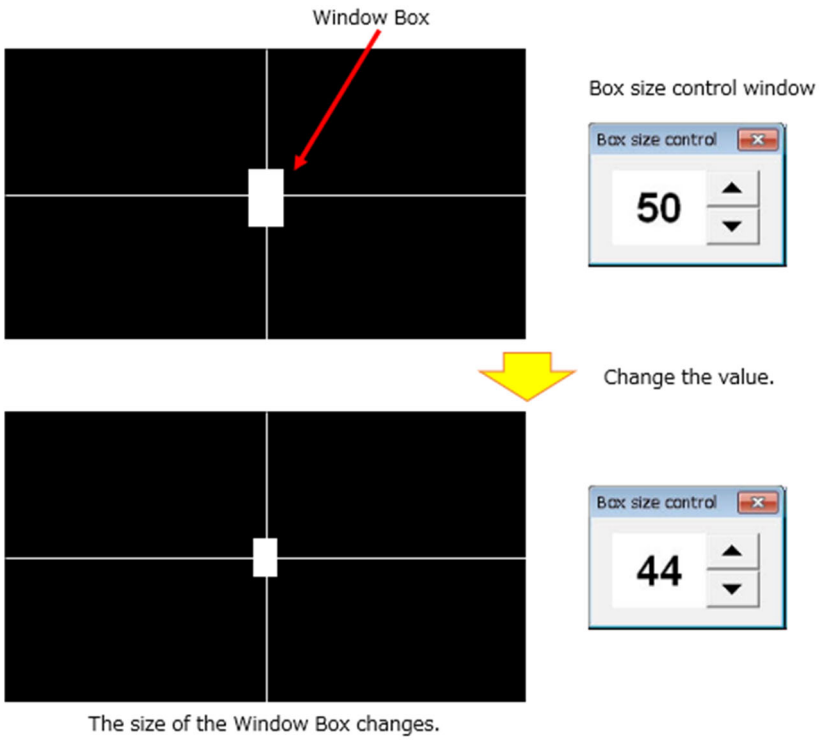


8) Change the size of the Window Box used for measurement with Box size Setting.
Because Box size control window is displayed when I push the "Change" button, I let Box size increase and decrease while confirming an image displayed by a monitor for the adjustment.



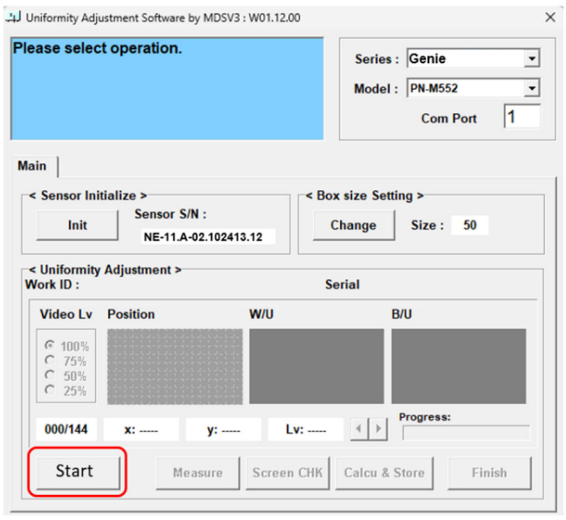
Point:

Make it slightly larger than the outline of MDSVSENSOR 3.

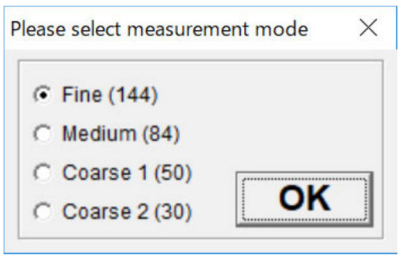




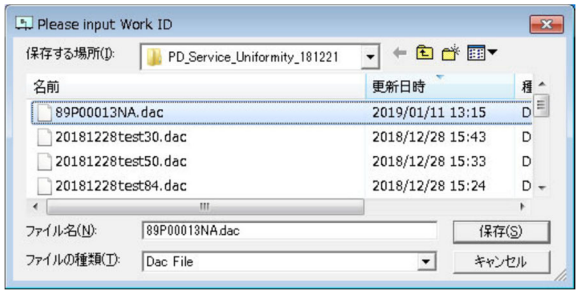
9) Press "Start" button.



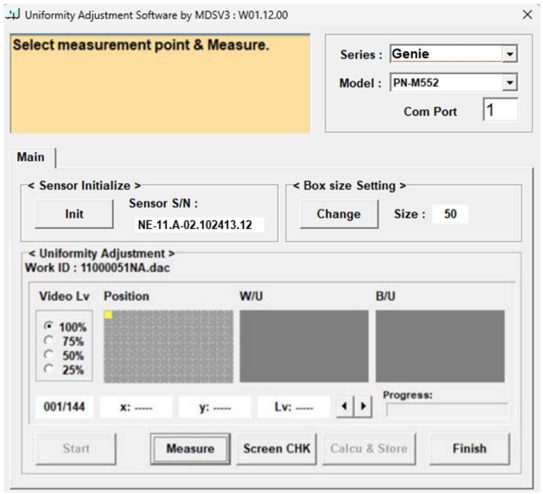
10) As the select measurement mode window is displayed, select "Fine (144)" (recommended) and press the "OK" button.



11) Since a dialog for entering Work ID is displayed, enter Work ID. (File name is optional) Correction data and log file are created with the file names.



12) After setting Work ID, measurement can be started by confirming communication between the Monitor and PC.

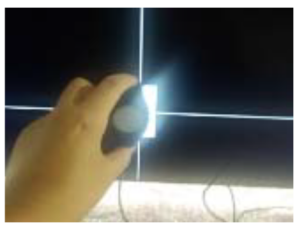


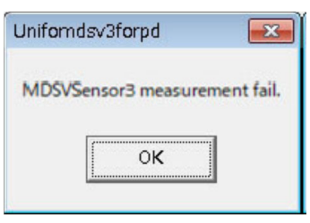
13) Place MDSVSENSOR 3 on the measurement window box and press the "Measure" button to perform the measurement.



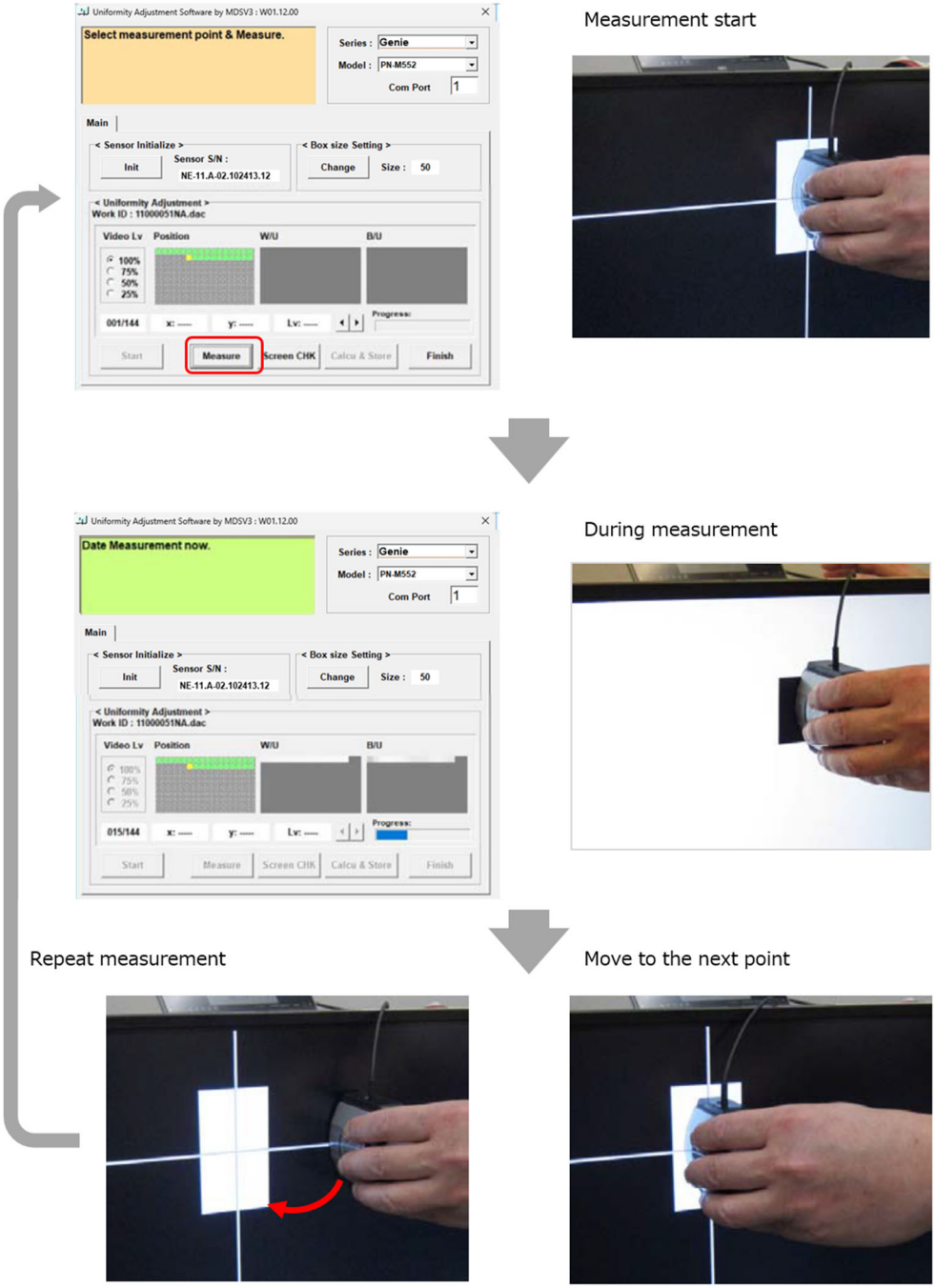
Note:

- Do not move the Sensor during measurement.
- Since the sensor movement during measurement has not detected an error, remeasure it yourself.
- If the sensor position is misaligned at the start of the measurement, it displays an error message.





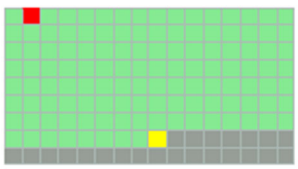
14) The measurement is repeated until the measurement of 144 points is completed.



Note:

■ Display content

Position

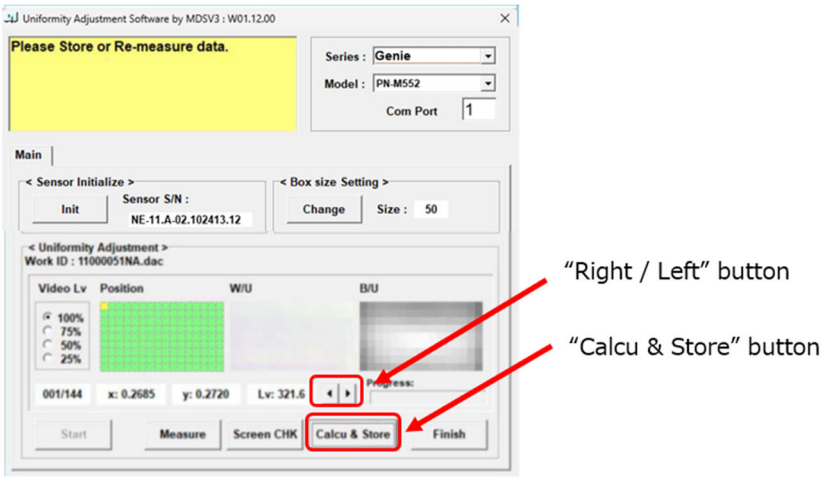


Gray: Unmeasured
Green: Measurement completed OK
Red: Measurement failure NG
re-measurement required
Yellow: Point measured when pressing Measure button.

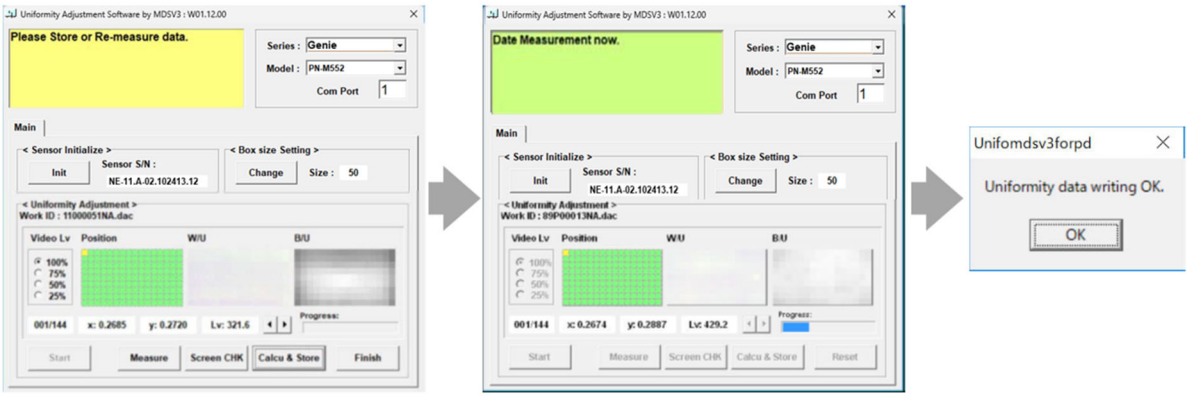
15) When the measurement of 144 points is completed, the “Calcu & Store” button is enabled.

Note:

If there are places where you are concerned with W / U, B / U, it is also possible to specify the measurement point with Right / Left button and remeasure.

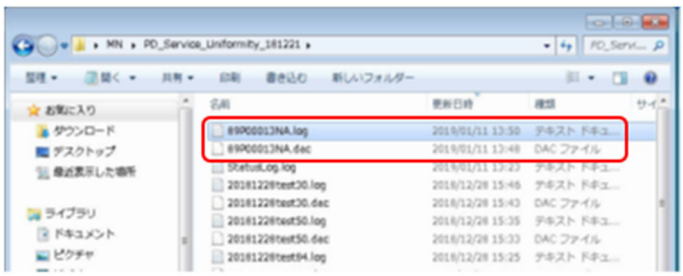


16) Press the “Calcu & Store” button to write the unevenness correction table to the PD. When the writing is completed, the message "Uniformity data writing OK." is displayed.

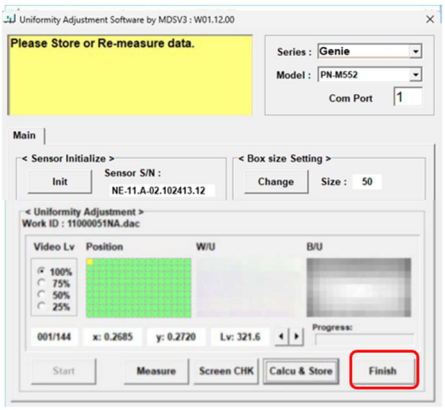


Note:

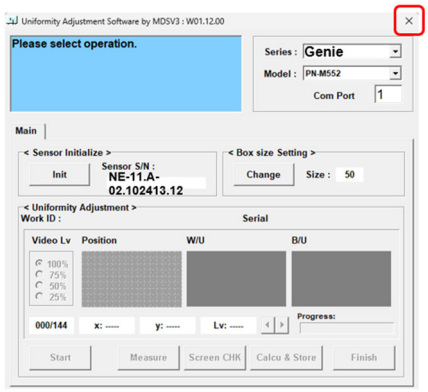
Work log and unevenness correction table (*.dac) are created by Work ID name.



17) When all the work is completed, press the “Finish” button.
All the internal data of the adjustment tool are initialized.



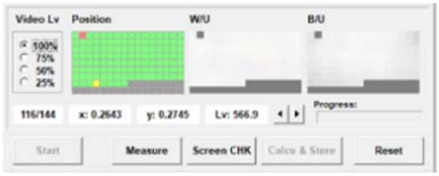
18) When the adjustment is completed, the program is terminated.



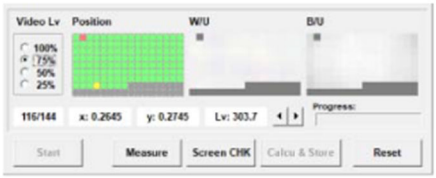
19) Disconnect the power cord, and after 10sec (In order to refresh of memory).

Reference

· When you change Video Lv, the measured value, W / U, B / U will change in conjunction.



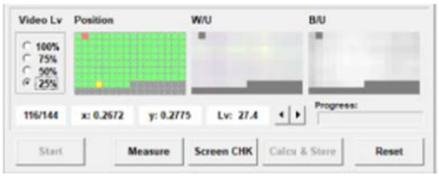
Video Lv = 100%



Video Lv = 75%

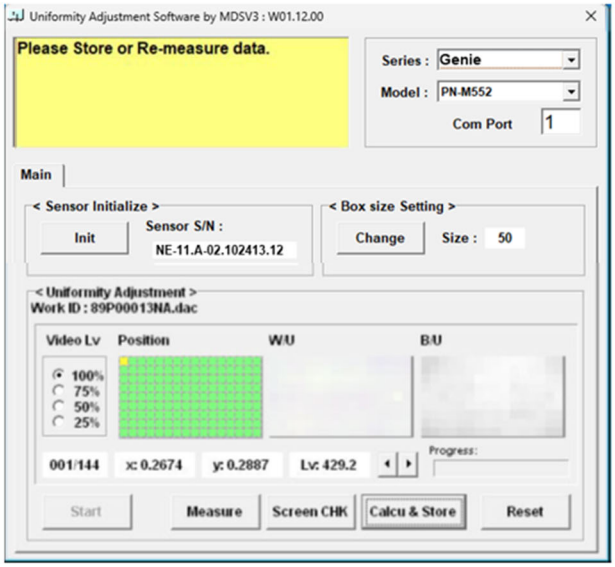


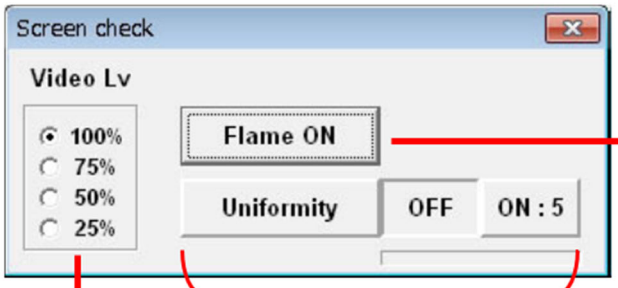
Video Lv = 50%



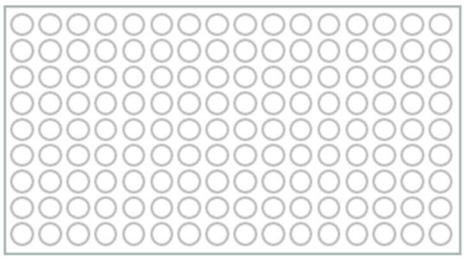
Video Lv = 25%

・ When you press the "Screen CHK" button, you can display all over screen, and viewing check the state of unevenness.





Toggle the display of all measurement points with ON/OFF.



Frame ON

Select OFF / ON of unevenness correction.
(Sighting the difference if the data is stored)

Switch the video Lv of the all over screen.

(9) Release of the Security Lock

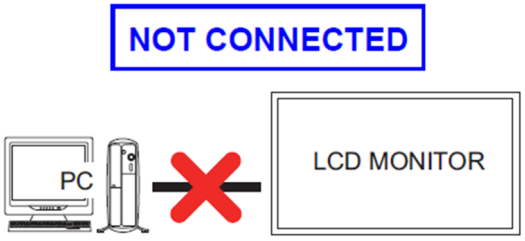
■ Outline

When you forget the security password of your set, you can release the Security Lock by using Rescue Password.

■ Condition

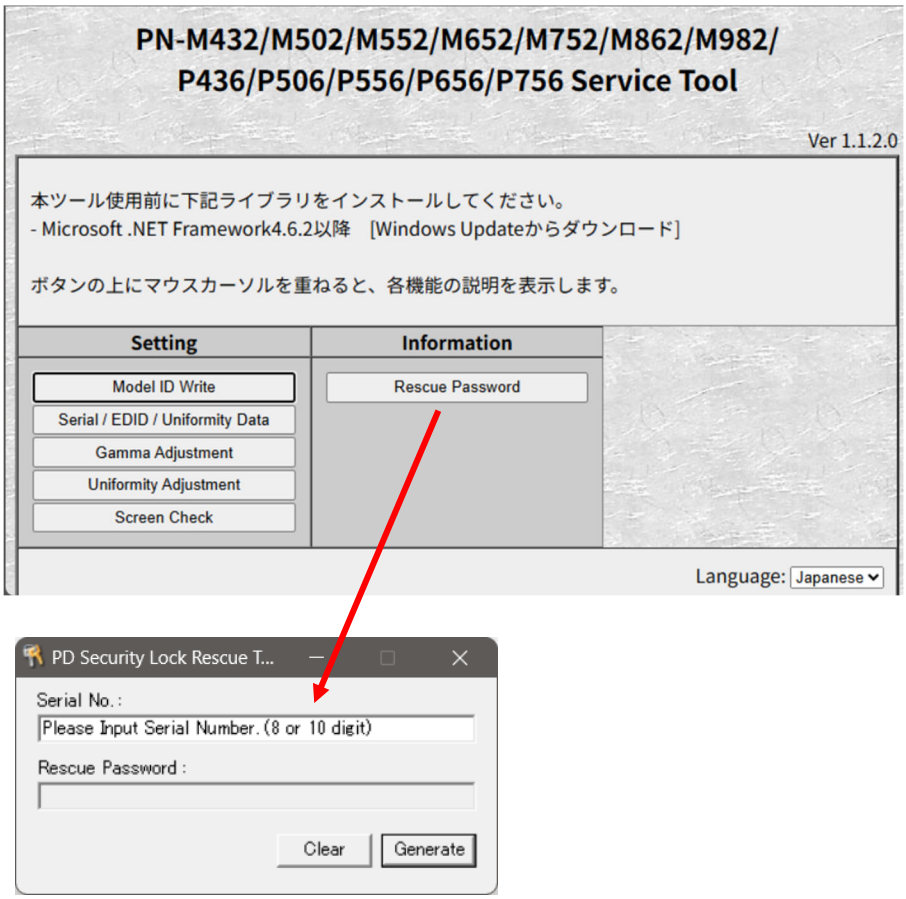
- Program: PDsecurityLockRescueTool_8DigitSupport
- System Pattern:

  Obtain the rescue password without connecting to the monitor.



■ Method of acquiring rescue password

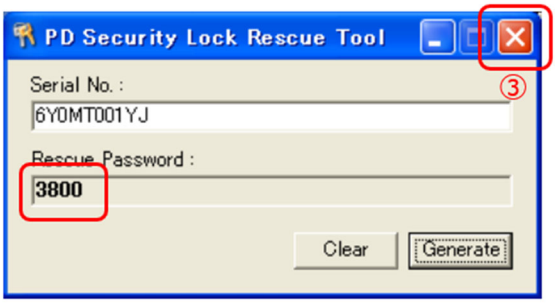
1) Launch the service tool launcher.
2) Press the [Uniformity Adjustment] button in the service tool launcher to launch the tool.



3) Input Serial Number of the Set. (①) And push [Generate] button. (②)



4) Then, Rescue Password is displayed.



5) The program is ended pushing the “EXIT" button.

■ Method of releasing security lock and re-password setting

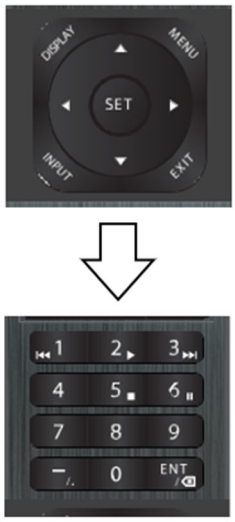
1) The power of the unit is turned on.



2) The password entry screen is displayed.



3) When the rescue password is input after the set button is pushed, the screen is displayed.



[set] + [x x x x]
Rescue Password

Note:

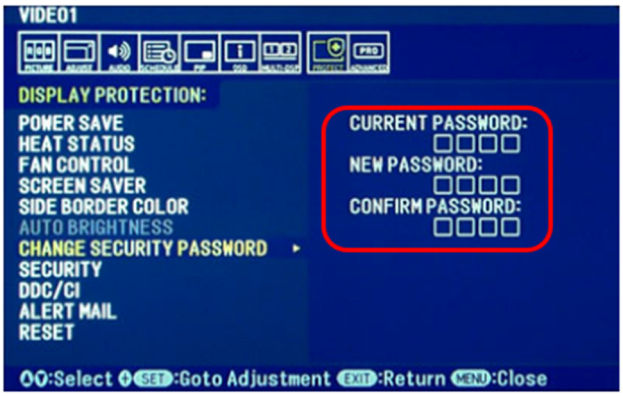
After the security lock is released, it is reset in "0000".

Moreover, security becomes “OFF".

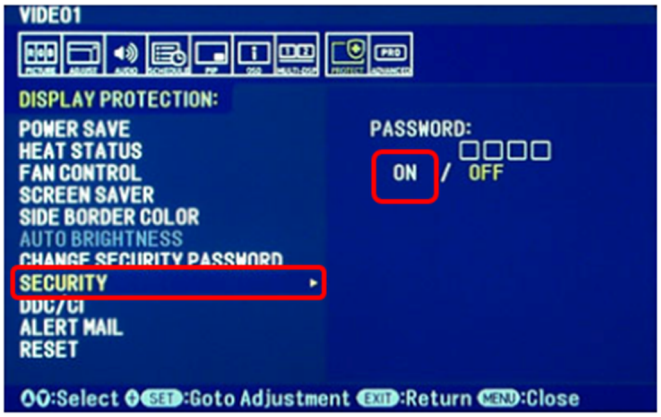
4) 「The CHANGE SECURITY PASSWORD of the DISPLAY PROTECTION menu is selected.



5) It enters a CURRENT PASSWORD, and it is input as "0000".
The password newly set is input to NEW PASSWORD.
The password is input to CONFIRM PASSWORD again.



6) The SECURITY of the DISPLAY PROTECTION menu is selected.
PASSWORD is set to “ON".



7) The power off/on turned.



8) It is confirmed that a new password is input, and the screen is displayed.



2 : '26/Jan

2 3. SYSLOG

Save the system log by USB memory stick or web browser.

(1) By USB memory stick]

1) USB memory specification

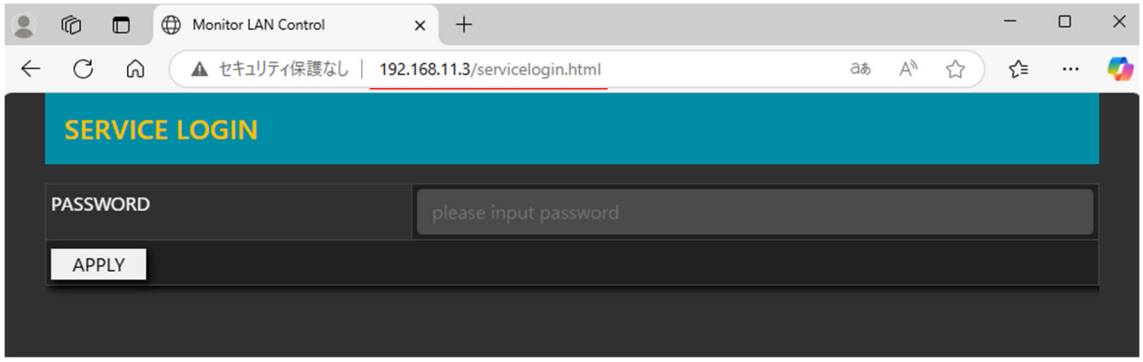
- Format: FAT32 (except for those formatted with cluster size 64KB)
- USB hubs are not supported
- USB 2.0/1.1
- SD card readers are not supported
- Encrypted USB memory devices are not supported
- The number of files stored in a Drive is limited to 100
- Volume label must be set when formatting.

2) How to get syslog

After inserting the USB memory stick into the service port of the monitor, AC ON while holding down the MENU/EXIT key on the monitor.

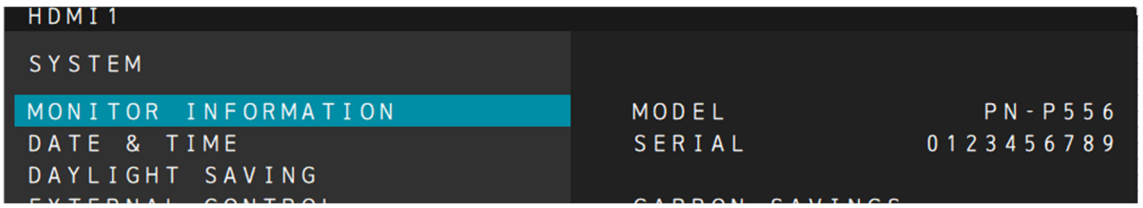
(2) By Web Browser

1) access xxx.xxx.xxx.xxx.xxx (the IP address you set)/servicelogin.html with a browser.



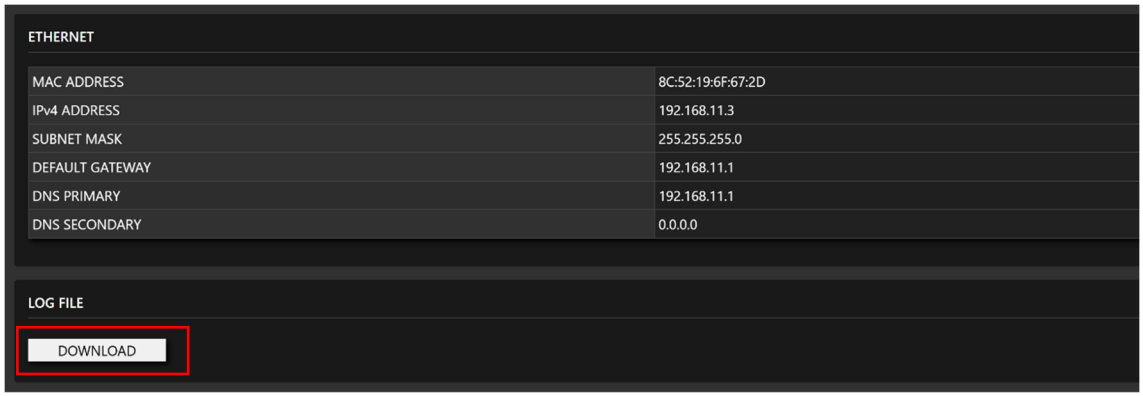
2) Enter “model name + serial” as the password and press the APPLY button.

Ex: In the example below, enter“PN-P5560123456789”.



2 : '26/Jan

2 3) After log-in, press the DOWN LOAD button in the LOG FILE at the bottom of the page.



CHAPTER 5. INSPECTION

1. ELECTRIC PERFORMANCE INSPECTION

Recommended frequency: 3840 x 2160@60Hz

■ Check for OSD control switch

The monitor with remote control does a similar inspection about remote control.

1) Receive recommended frequency, cross hatch pattern.
2) Check that the picture is shown from power on.
3) Check that the LED on line indicator is blue.
4) Check that any noise is shown on the display with power on and off.
5) Check for OSD control switch
   a. Check that OSD menu is displayed when the OSD menu button is pressed.
   b. The adjustment menu of various OSD confirms the normal function with the adjustment volume button. (Brightness and sound volume, etc.)
   c. And at this time, check that each value changes smoothly and any noise are not shown on display. (Brightness and sound volume, etc.)
   d. Check that OSD menu becomes off when the OSD menu button is pushed again.
   e. Check that the input signal is changed when the button of signal change is pressed.

■ Check for the received recommended frequency

Check that the recommended frequency signal is received and displayed successfully. Check that the display is shown in 5 sec. after the received signal is changed.

■ Check the performance

1) Receive recommended each signal frequency, the color bars pattern and the grays scale pattern is displayed.
2) Check whether the color bars pattern is displayed smoothly, and all data are shown.

■ Inspection for Audio function

Purpose: Confirm the audio function works well. This inspection is unnecessary in case of the monitor without the audio output. And when it is a monitor with the external speaker terminal or the headphone terminal, the speaker or headphone is connected.

1) Connect Audio input terminal with PC or Audio player, then input sound.
2) Receive recommended frequency.
3) Display the sound adjustment stage.
4) Press the sound adjustment button to change the sound.
5) Check that the sound is out normally from speaker.

2. LCD DISPLAY FAULTS

■ The condition of inspection

a. Inspectors must wear static ring and anti-static glove when inspecting.

b. Whoever touches the panel, can't hold or press the AD board or the display area of panel firmly.

c. Make sure all the instruments connect well.

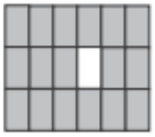
d. View each picture 3 to 5 seconds when inspecting and keep a distance of more than 1.5M from the LCD panel.

e. Inspecting environment: temperature: 25 ±3℃; humidity: 60 - 80% RH ; brightness: 300 - 700LUX.

f. Pick up and put down the panel carefully.

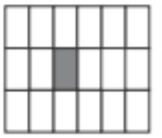
■ Definition

1) Homochromous Bright Dot: On single-color background or picture background, there are several bright pixels or sub-pixels with single R or G or B color.



Bright dot

2) Homochromous Dark Dot: Under the white color or one color, it appears as pixels or sub-pixels that are always dark or "off" with R or G or B color.



Dark dot

3) Micro-bright dot : When the lit or "on" area of a homochromous dot is more than its 1/2, named Micro-bright dot.



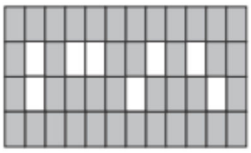
Micro-Bright Dot

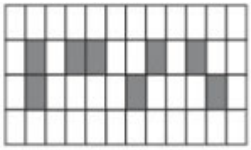
4) Micro-dark dot : When the dark or "off" area of a homochromous dot is more than its 1/2, named Micro-dark dot.



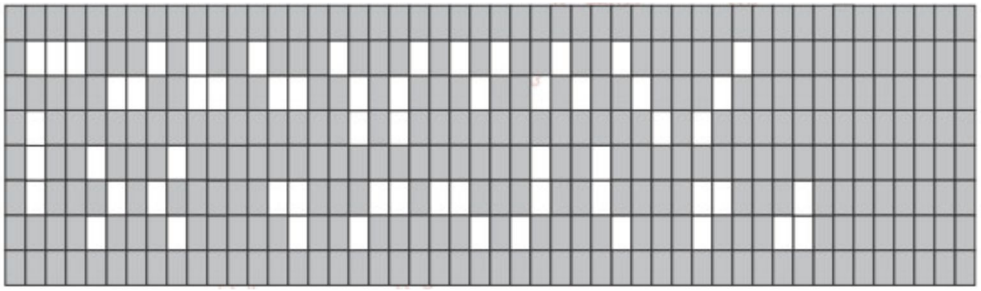
Micro-Dark Dot

5) Adjacent dot: Two or more than two bright or dark adjacent dots. If two bright (dark) dots, named two adjacent bright(dark) dots. If three bright (dark) dots, named three





bright (dark) adjacent dots.

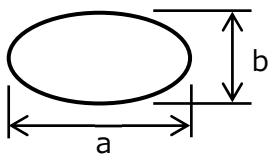


Two Adjacent Bright Dots Two Adjacent Dark Dots

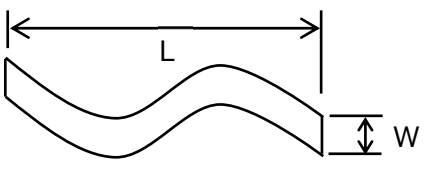
Three Adjacent Bright Dots

■ Defects judging criterion

Item	The detail	PN-M552/P556	PN-M652/P656
Bright dots	Random	N≦1	N≦2
	Two Adjacent	N≦0	N≦0
	Three and more Adjacent	N≦0	N≦0
	Minimum distance between defects	L>5 mm	L>5 mm
Dark dots	Random	N≦5	N≦8
	Two Adjacent	N≦2	N≦2
	Three and more Adjacent	N≦1	N≦1
	Minimum distance between defects	L>5 mm	L>5 mm
Maximum allowable number of dot defect		N≦5	N≦5
Partial bright dot		N≦6	N≦10
Foreign Material	Liner W≦0.3 mm, L≦10.0 mm	N<5	N<5
	Circular D<1.2 mm	N<5	N<5
Polarizer defects	Scratches W≦0.3 mm, 0.3<L≦10.0 mm	N<5	N<5
	Dent / Bubble D<1.5 mm	N<5	N<5



D=(a+b)/2



W: width, L: length

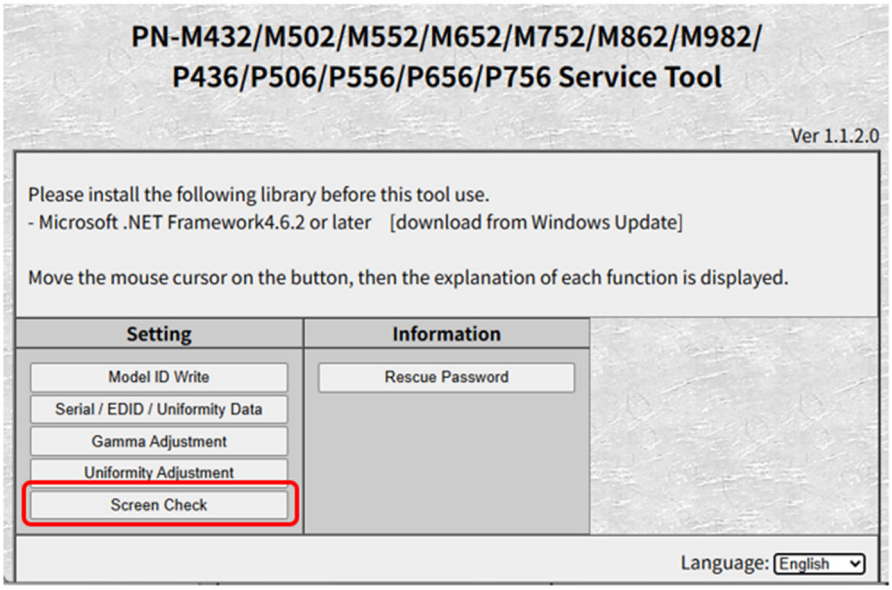
Linear: a >2b, Circular: a≤2b

3. SCREEN CHECK

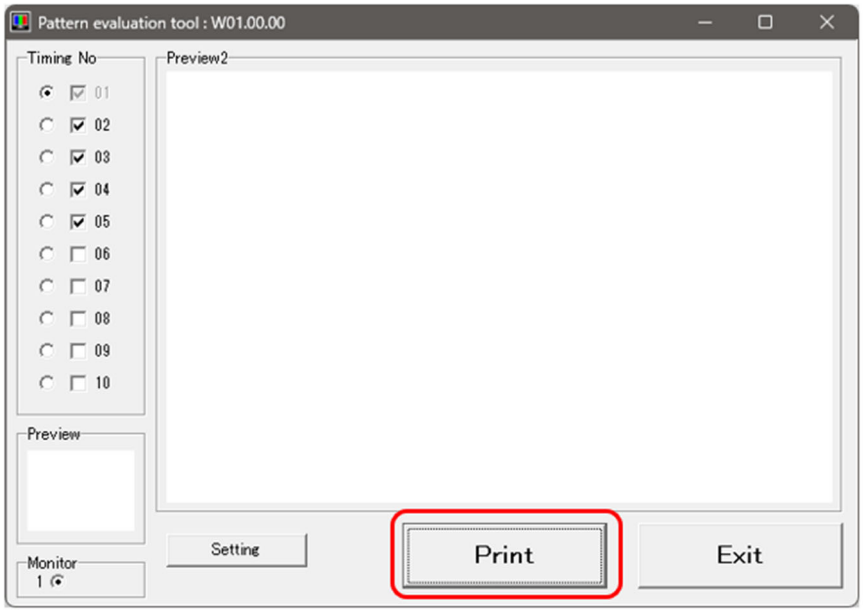
1) OSD is displayed and PICTURE MODE of the PICTURE is set to "Adobe RGB".

(1) Execute “ServiceToolsLauncher.exe” in the folder where the service tool is extracted.

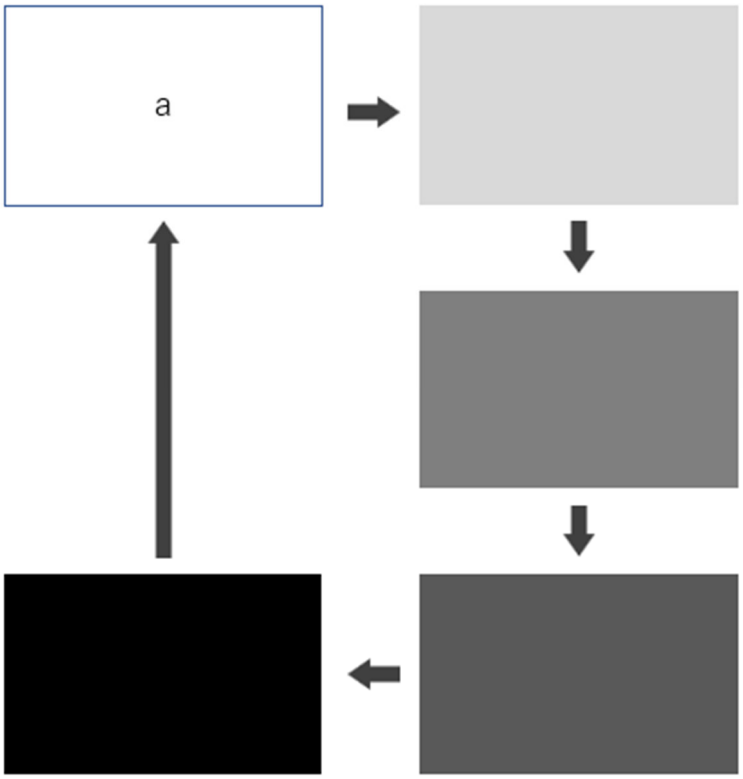
(2) Press [Screen Check] button of the Service Tool Launcher.



(3) Depress the “Print” button when the screen specified left figure is displayed.



(4) In regard to the screen check patterns, five types of screens are available as specified below. After depressing the "Print" button by (3), an all-white screen of "a" is displayed and since then, the screen is changed over in the direction of the arrow by the right click of the mouse. To close it, Screen (3) is recovered by the left double click and the work is over with the "Exit" button.
According to the five screens shown below, confirm the freedom from color / brightness unevenness or light leakage (Mura Check).



4. TIMING CHART

Timing name	Dot Clock (MHz)	Horizontal						Vertical						HS, VS Polarity
		Fh (KHz)	Th (μS)	Sync Pulse Ths (μS)	Front Porch Thf (μS)	Back Porch Thb (μS)	Disp. duration Thd S(μ)	Fv (Hz)	Tv (ms)	Sync Pulse Tvs (ms)	Front Porch Tvf (ms)	Back Porch Tvb (ms)	Disp. duration Tvd (ms)	
1,920x1,080 @60	148.50	56.25 (Dot)	17.78 2200	0.296 44	3.556 528	0.997 148	12.93 1920	50.00 (Line)	20.00 1125	0.089 5	0.071 4	0.64 36	16.016 1080	P, P
3,840x2,160 @60	594.00	135.00 (Dot)	7.41 4400	0.148 88	0.296 176	0.498 296	6.47 3840	60.00 (Line)	16.67 2250	0.074 10	0.059 8	0.553 72	16 2160	P, P

CHAPTER 6. DISASSEMBLY AND ASSEMBLY

1. CAUTION FOR WORK

- Before you disassemble the set, turn off power and pull out the power plug.
- Use the proper screwdriver. If oversize or undersize screwdriver is used, screws may be damaged.
- Assembly is reversed process of disassembly.
- Adhesive recommended spare parts that are used by peeling off tapes and backing materials are reused if they have sufficient adhesion even after peeling, Replace the part with a new part that is weak in adhesion and difficult to reuse.
  Replace parts with new ones that are conductive and hazardous if peeled off.
  Parts that are not targeted for recommended spare parts, such as insert-type clampers, are reused.

2. Recommended Spare Parts List

Please refer to the Document
“Recommended Spare Parts List_ M552_M652_P556_P656”.

△3 : 2/Oct

3. PARTS TO BE REMOVED

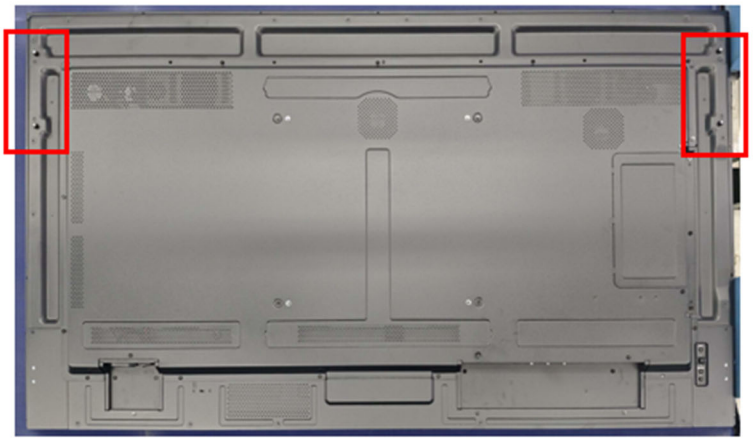
When replacing parts, remove the structural parts that have a "V" check mark.

Replacing part / Structural part		Main BD	Power BD	T-con BD	Key BD	IR BD	Speaker	FAN	FAN	AC Inlet	RS-232C	Panel
		E-1	E-2	E-3	E-4	E-5	E-6	E7	E8	E-9	W-7	L-1
Handle	M-1											V
Back Cover	M-2	V	V	V	V	V	V	V	V	V	V	V
Option Cover	M-3	V	V	V	V	V	V	V	V	V	V	V
Bottom Cover L	M-3											V
Bottom Cover R	M-4				V							V
Bottom Cover B	M-5			V	V	V						V
Bezel Top	M-4											V
Bezel Bottom	M-5											V
Bezel Right	M-6											V
Bezel Left	M-7											V
IO Cover Bottom	M-8	V										V
IO Cover Right	M-9										V	V
AC Bracket	M-22									V		V
Function Cover	M-10				V							V
Key Bracket	M-11				V							V
IR Receiver	M-12					V						V
Duct	M-15	V							V			V
SDM Rail Bracket	M-17										V	V
Guide Rail	M-20											V
VESA-Bracket	M-23											V
VESA-Bracket	M-24											V

4. DISASSEMBLY OF M552/P556

1) Remove the HANDLE

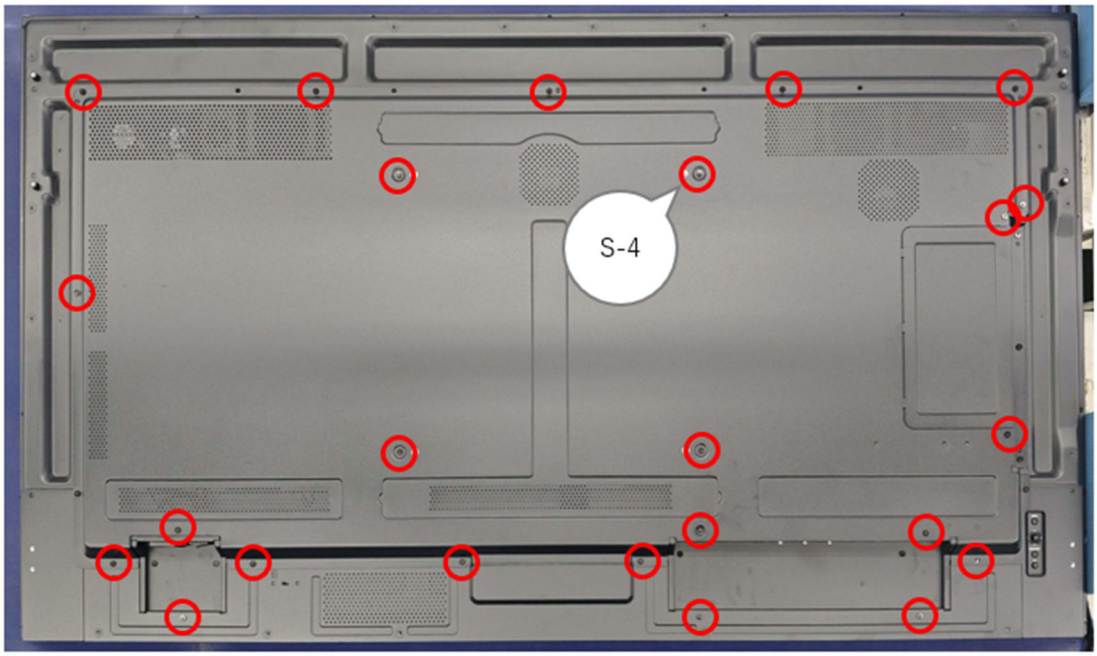




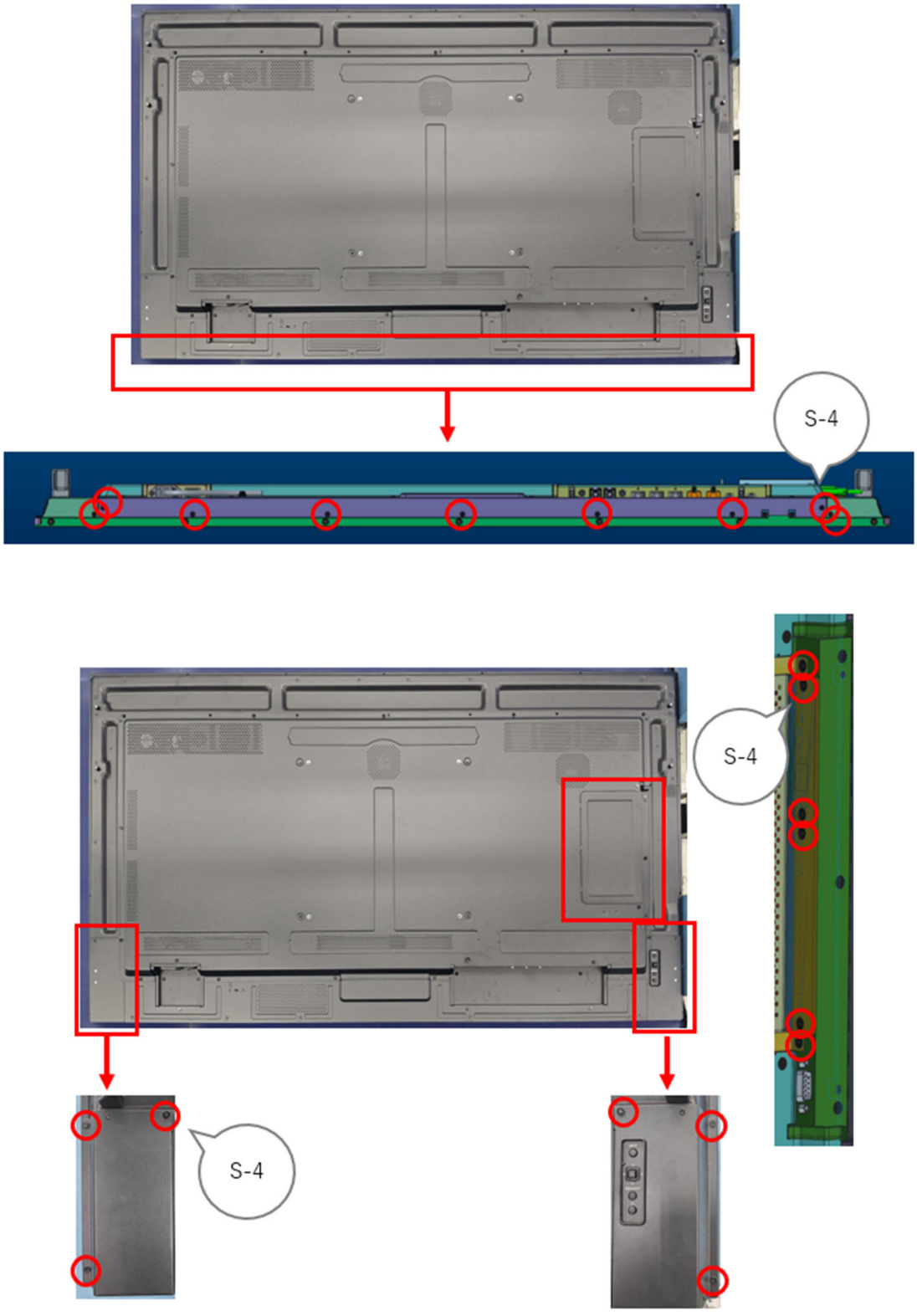
M-1: HANDLE

Fastening torque S-11: 7±1kgf・cm

2) Remove the REAR COVER

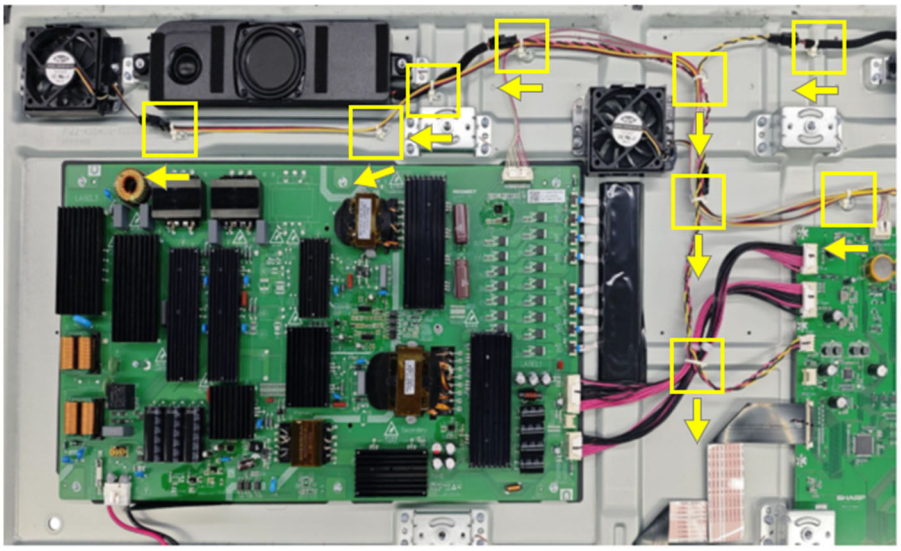


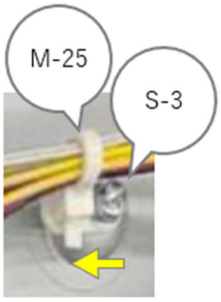
Fastening torque S-4: 4±1kgf・cm



Fastening torque S-4: 4±1kgf・cm

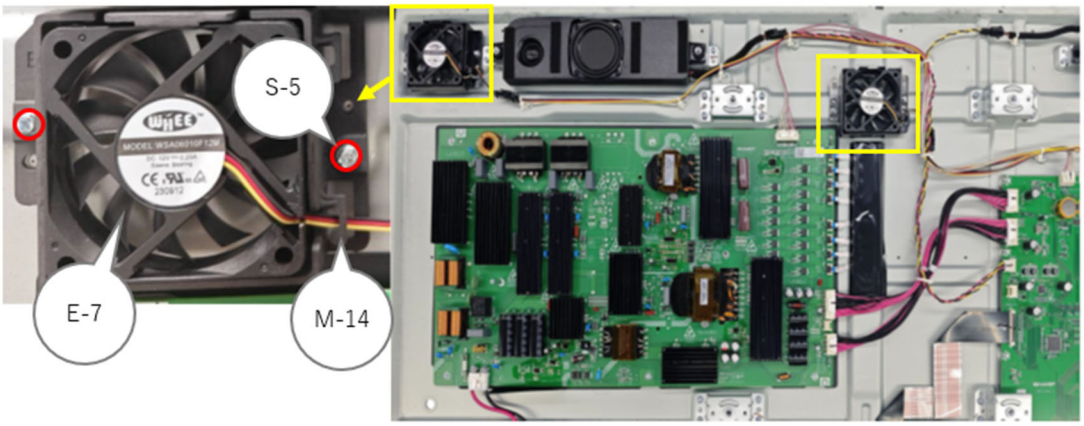
3) Remove the WIRE CLIP

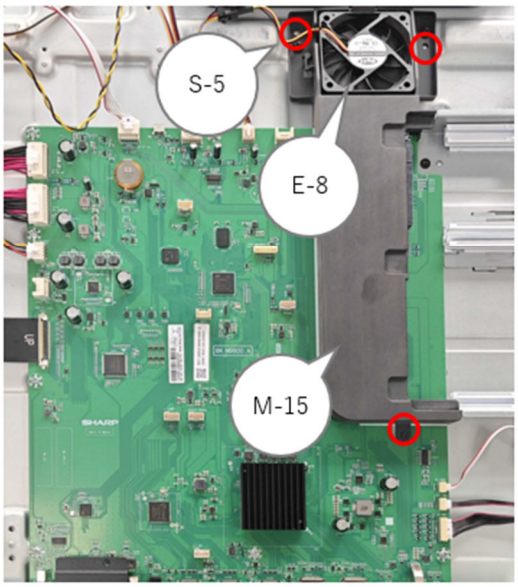




M-25: WIRE CLIP: Place the clip in the direction of the arrow from the screw.
Fastening torque S-3: 4±1kgf・cm

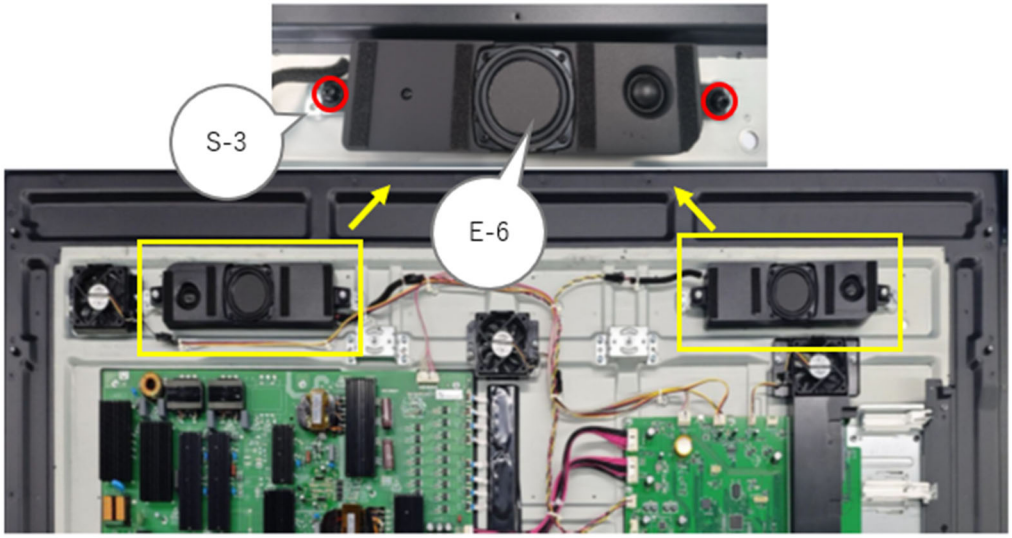
4) Remove the FAN





E-7, E-8: FAN
M-14: FAN BRACKET
M-15: DUCT BRACKET
Fastening torque S-5: 4±1kgf・cm

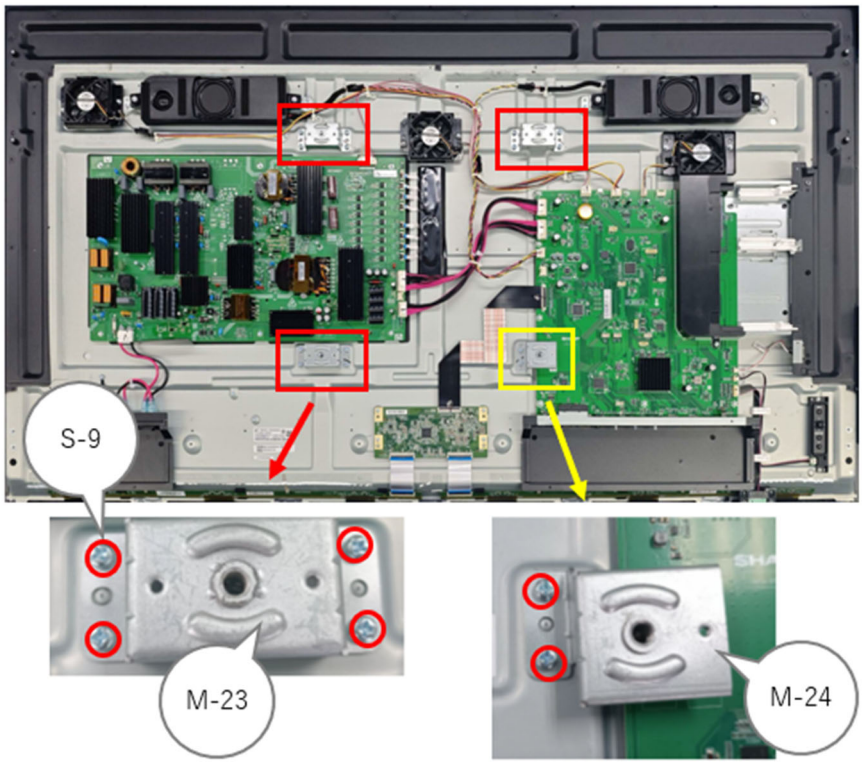
5) Remove the SPEAKER



E-6: SPEAKER

Fastening torque S-3: 4±1kgf・cm

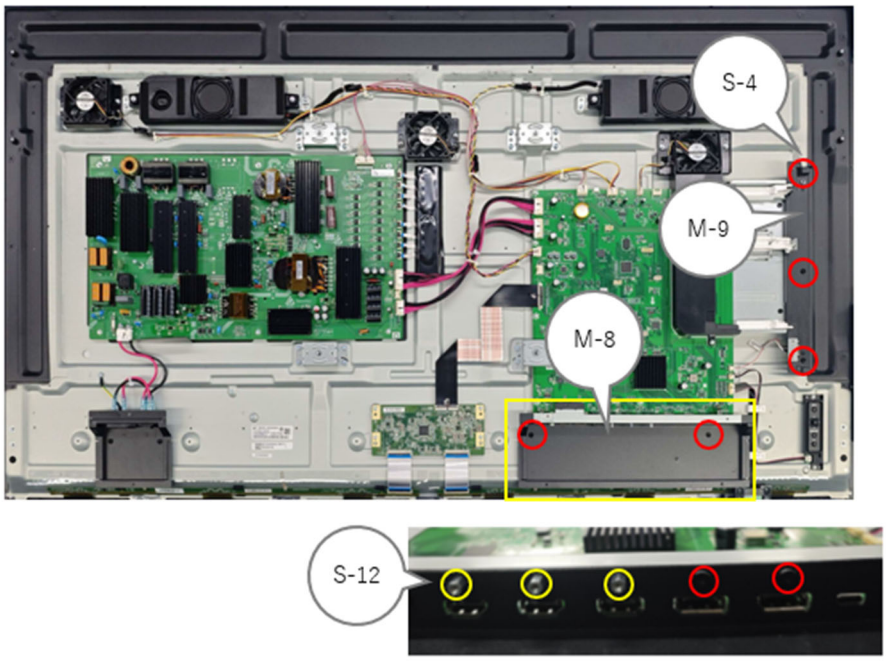
6) Remove the VESA BRACKET



M-23: VESA BRACKET

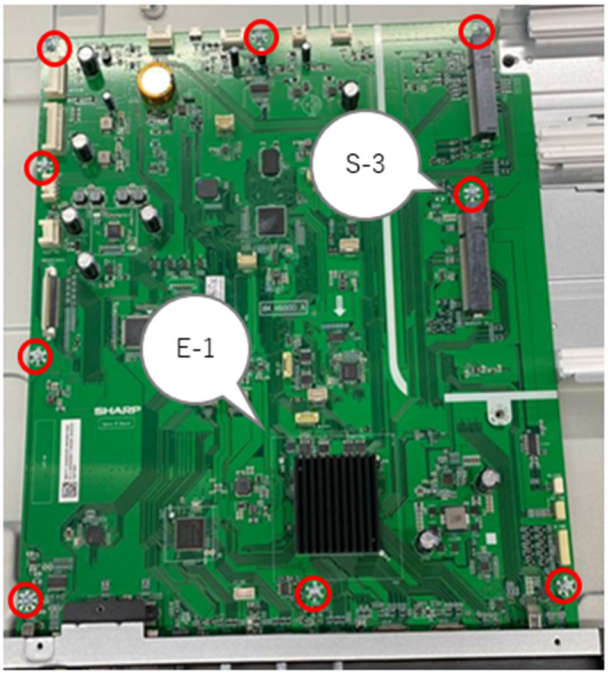
Fastening torque S-9: 4±1kgf・cm

7) Remove the MAIN PWB



M-8, M-9: I/O COVER

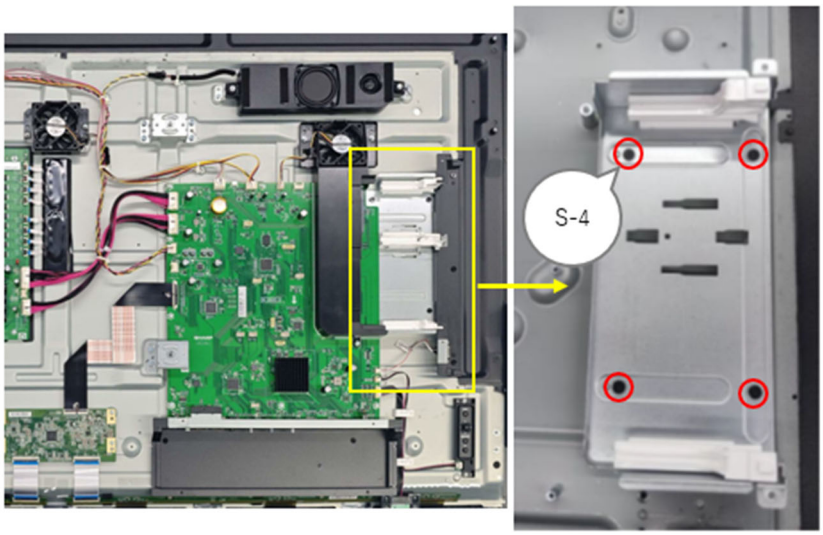
Fastening torque S-4, S-12: 4±1kgf・cm



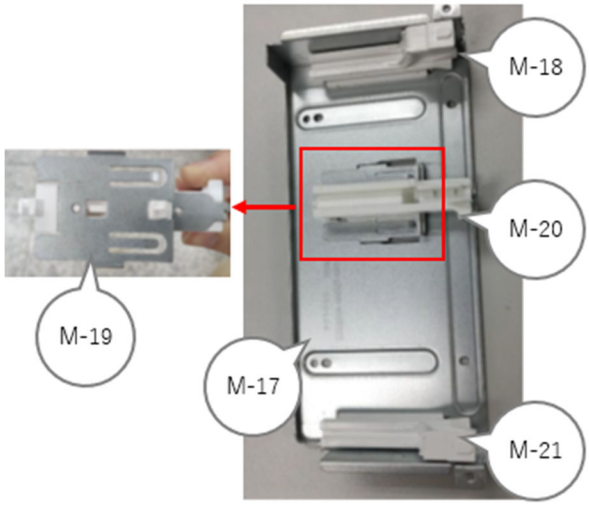
E-1: MAIN PWB

Fastening torque S-3: 4±1kgf・cm

8) Remove the GUIDE RAIL

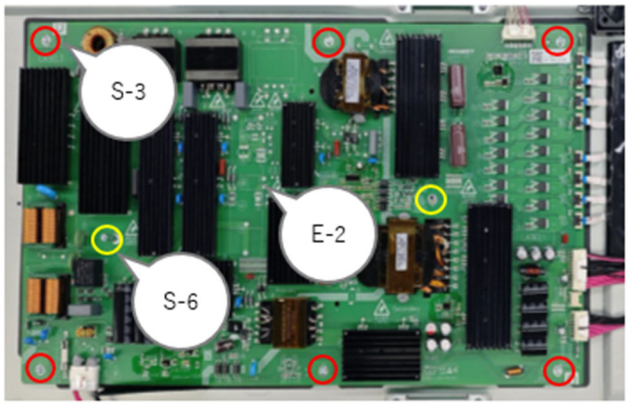


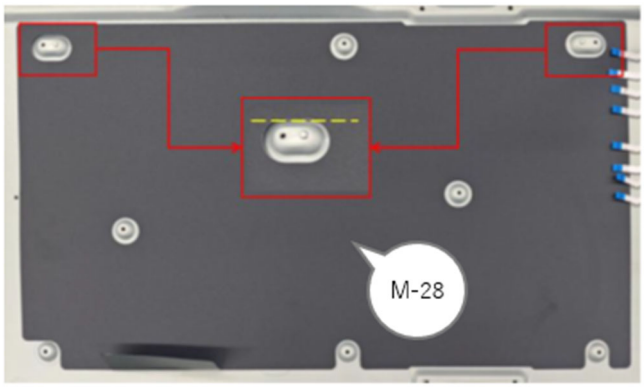
Fastening torque S-3: 4±1kgf・cm



M-17: SMD RAIL BRACKET
M-18: GUIDE RAIL3
M-19: SUPPORT BRACKET
M-20: GUIDE RAIL
M-21: GUIDE RAIL 2

9) Remove the POWER PWB



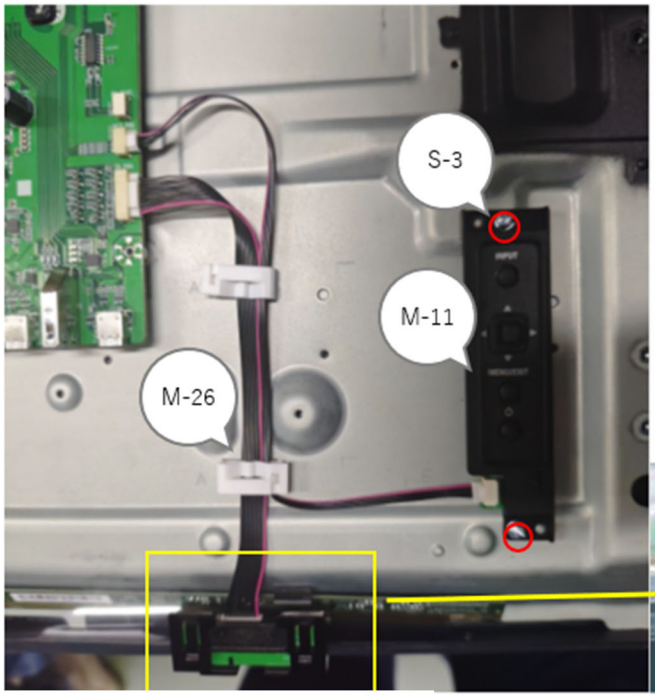


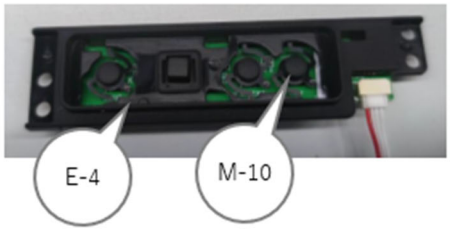
E-2: POWER PWB

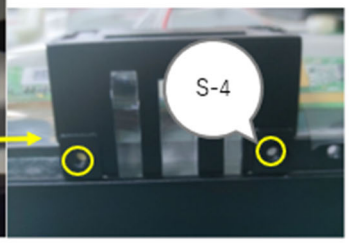
M-28: INSULATING SHEET

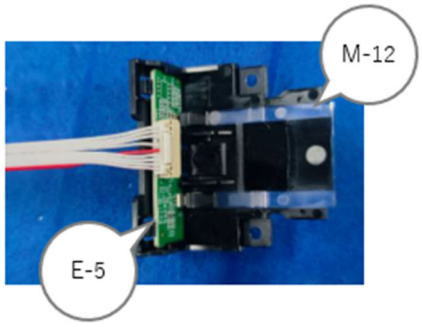
Fastening torque S-3, S-6: 4±1kgf・cm

10) Remove the KEY PWB and IR PWB









E-4: KEY PWB

E-5: IR PWB

M-10: KEY COVER

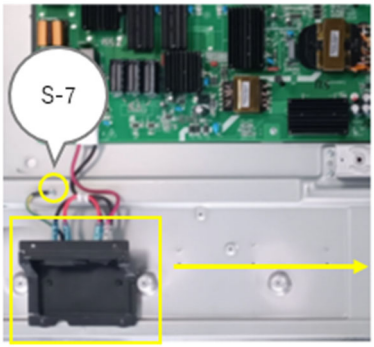
M-11: KEY BRACKET

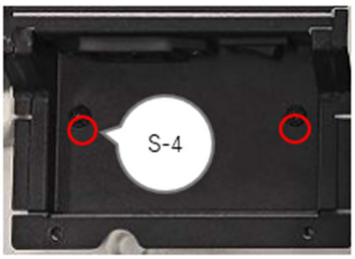
M-12: IR RECEIVER

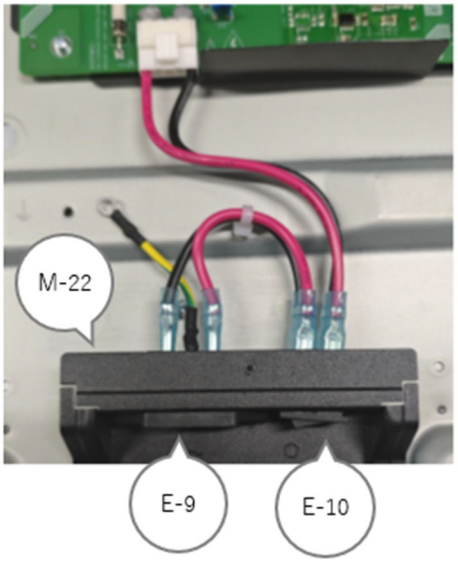
M-26: WIRE CLIP

Fastening torque S-3, S-4: 4±1kgf・cm

11) Remove the AC INLET







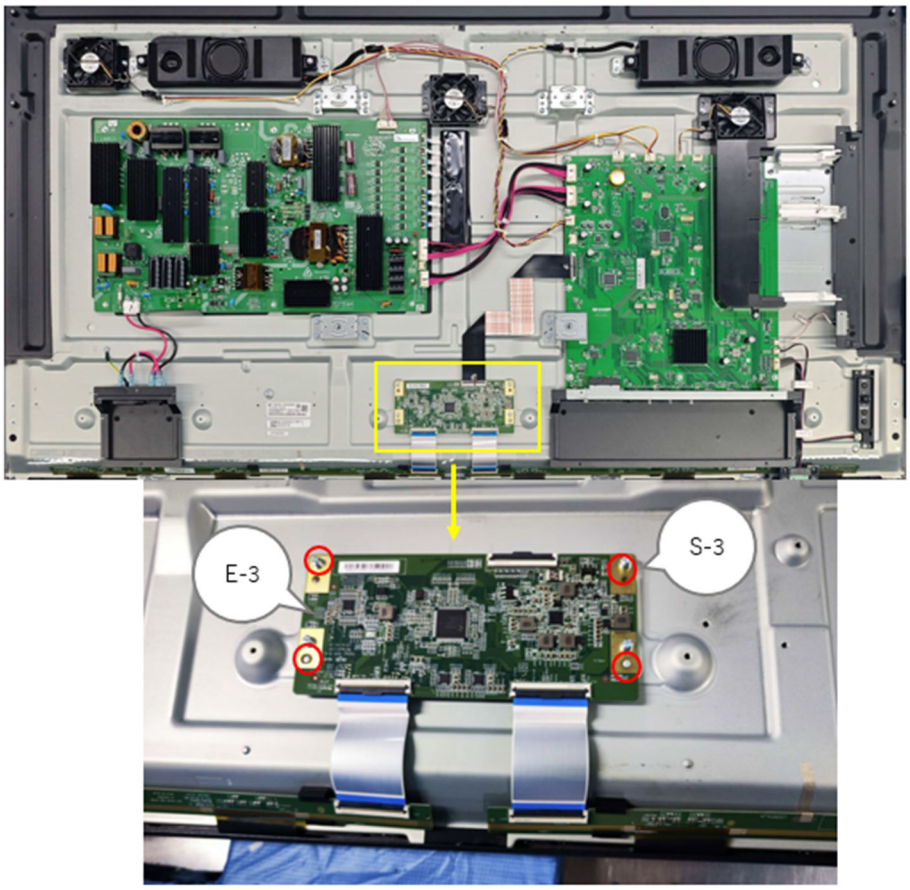
E-9: AC INLET

E-10: AC SWITCH

M-22: AC BRACKET

Fastening torque S-4, S-7: 4±1kgf・cm

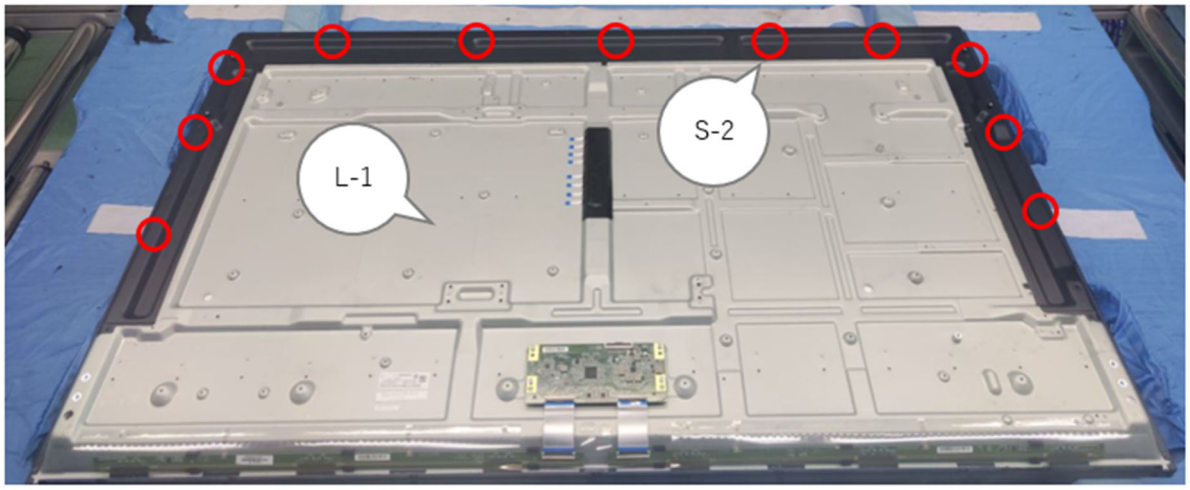
12) Remove the T-CON PWB



E-3: T-CON PWB

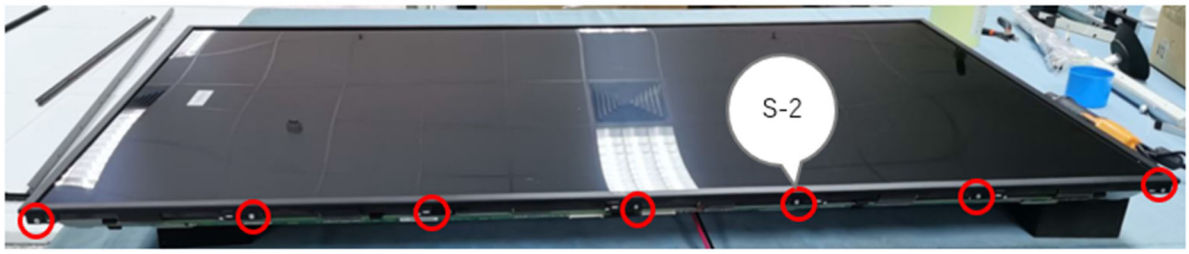
Fastening torque S-3: 3±0.5kgf・cm

13) Remove from LCD panel to Bezel

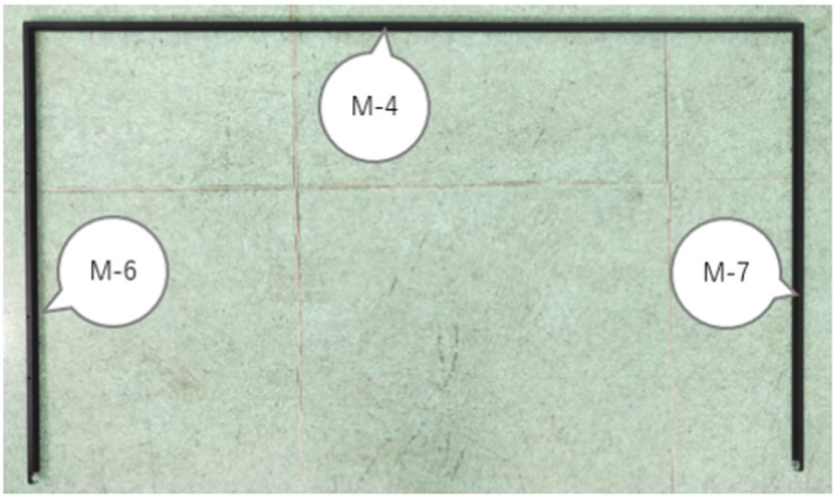


L-1: LCD PANEL

Fastening torque S-2: 3±0.5kgf・cm



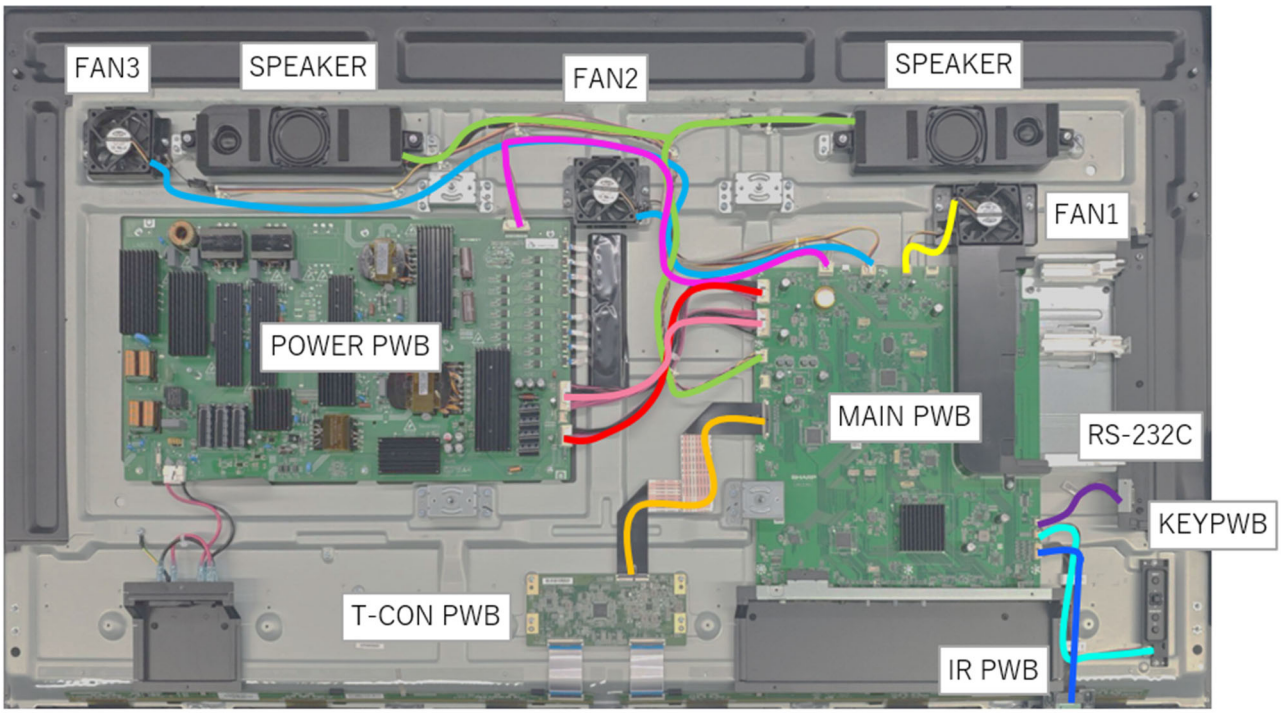
Fastening torque S-2: 2±0.5kgf・cm



M-4, M-5, M-6, M-7: BEZEL

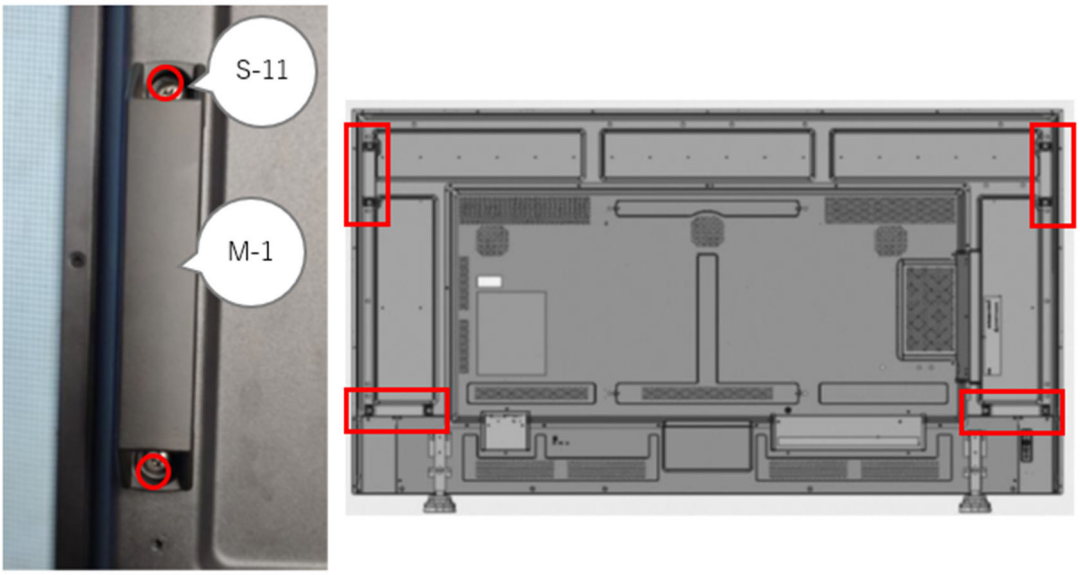
14) Wiring diagram

W-2		CN2700 ⟷ CN213
W-1		CN2701 ⟷ CN2
W-12		CN2200 ⟷ SPEAKER L/R
W-3		CN500 ⟷ T-CON PWB
W-6		CN800 ⟷ CN1
W-11		CN2001 ⟷ FAN2/3
-		CN2000 ⟷ FAN1
W-7		CN2400 ⟷ RS-232C
W-4		CN1800 ⟷ KEY PWB
W-5		CN1801 ⟷ IR PWB



5. DISASSEMBLY OF M652/P656 ⚠2

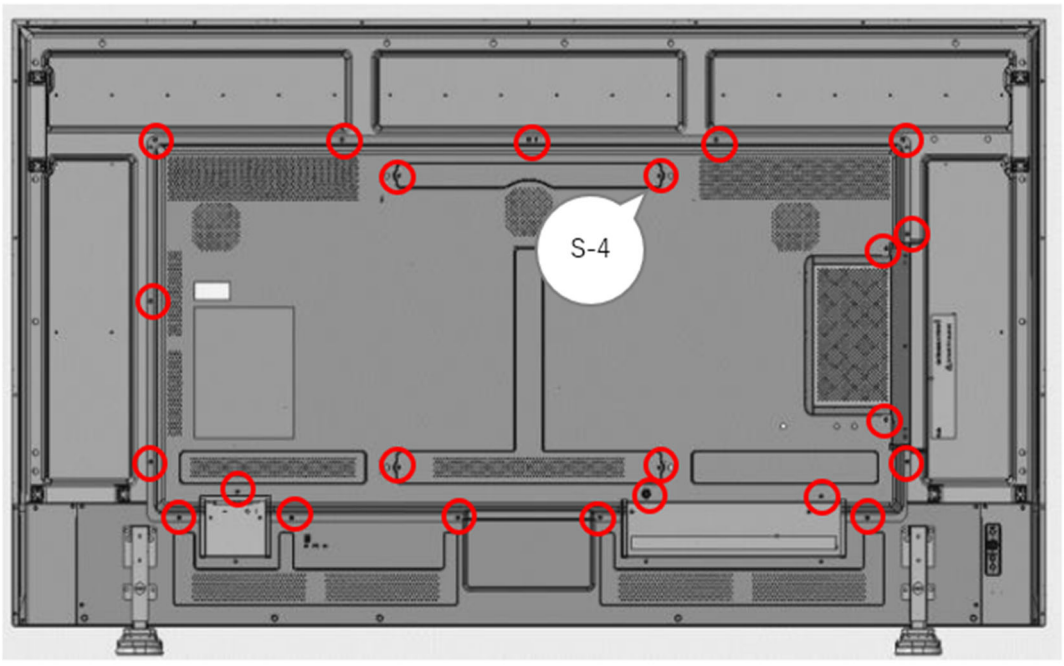
1) Remove the HANDLE



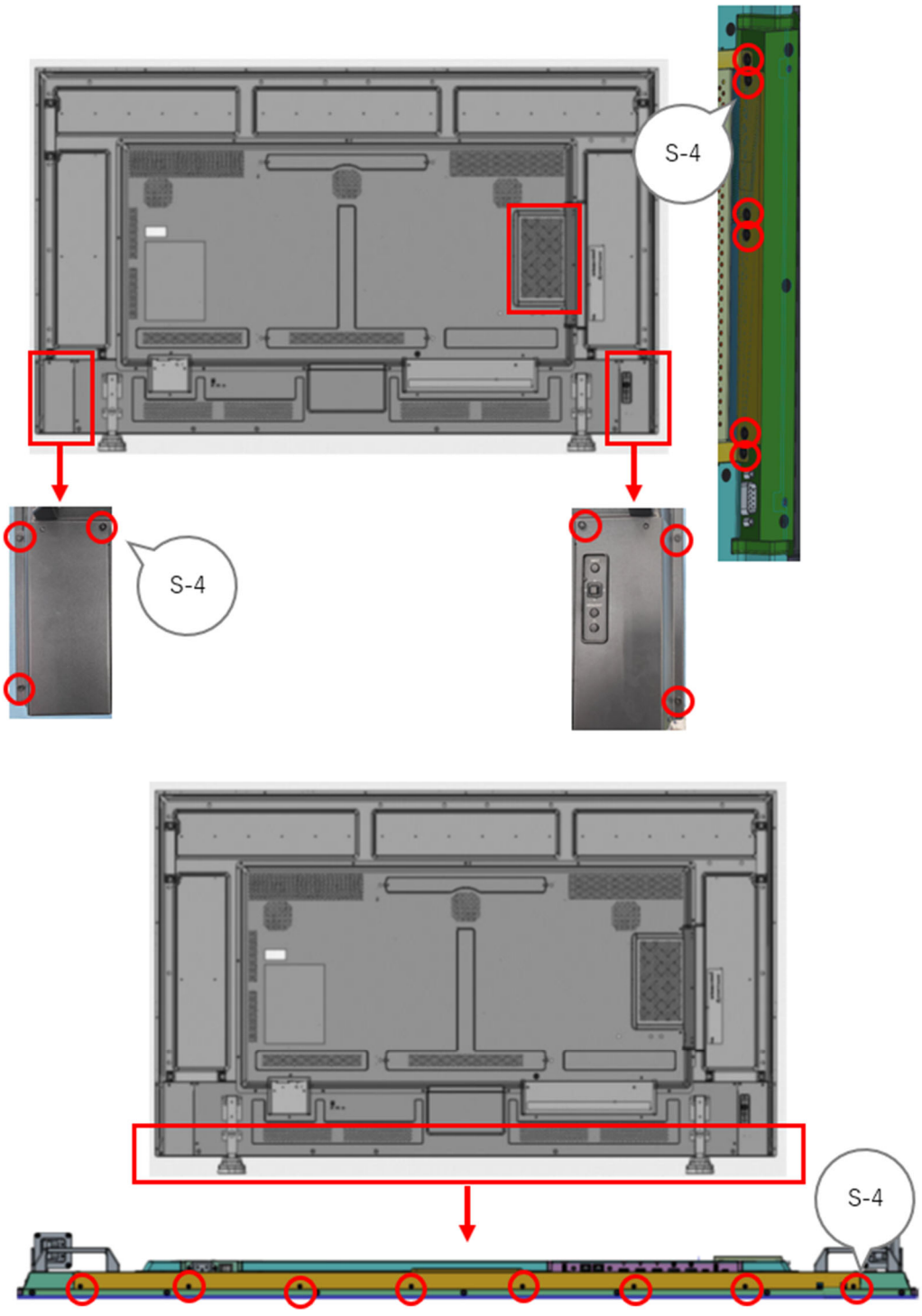
M-1: HANDLE

Fastening torque S-11: 7±1kgf・cm

2) Remove the REAR COVER

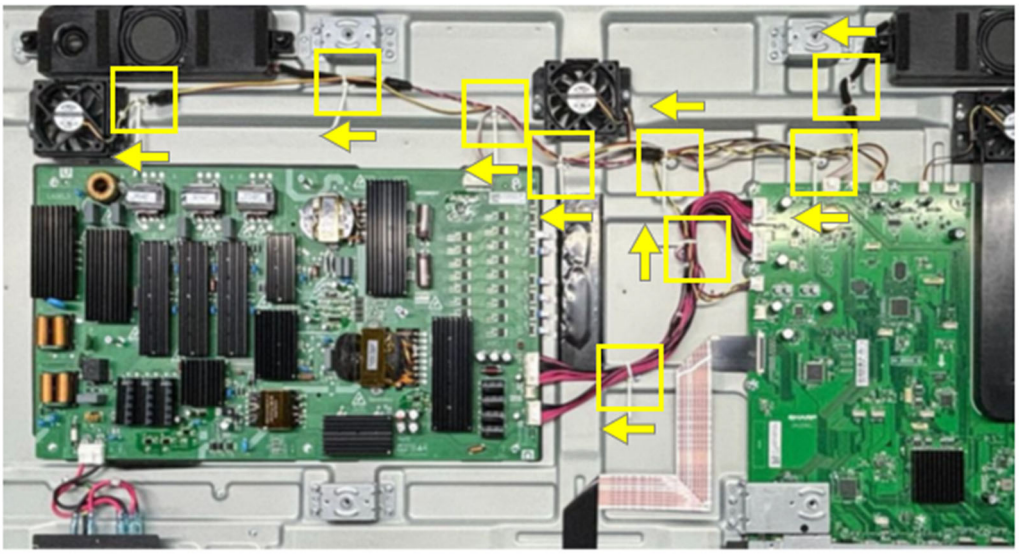


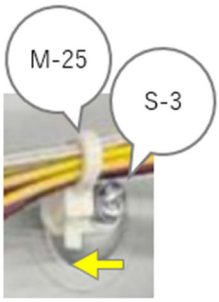
Fastening torque S-4: 4±1kgf・cm



Fastening torque S-4: 4±1kgf・cm

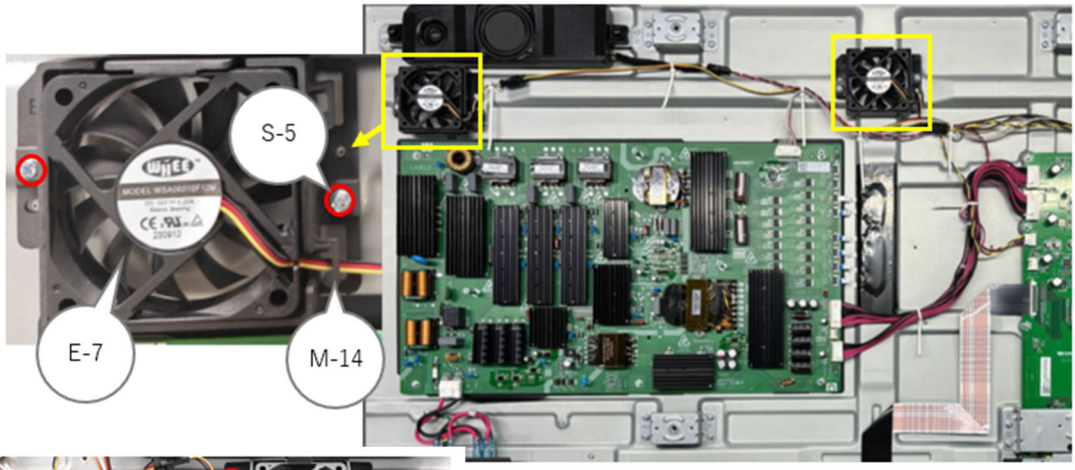
3) Remove the WIRE CLIP

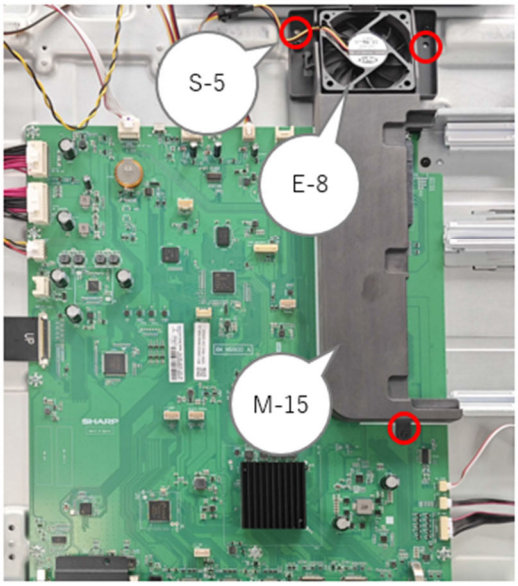




M-25: WIRE CLIP: Place the clip in the direction of the arrow from the screw.
Fastening torque S-3: 4±1kgf・cm

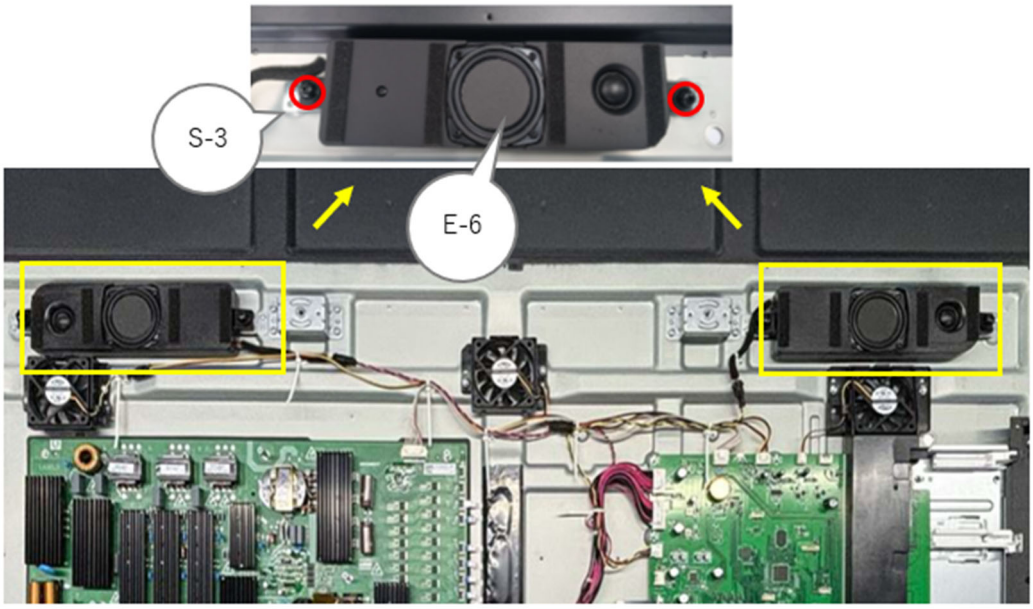
4) Remove the FAN





E-7, E-8: FAN
M-14: FAN BRACKET
M-15: DUCT BRACKET
Fastening torque S-5: 4±1kgf・cm

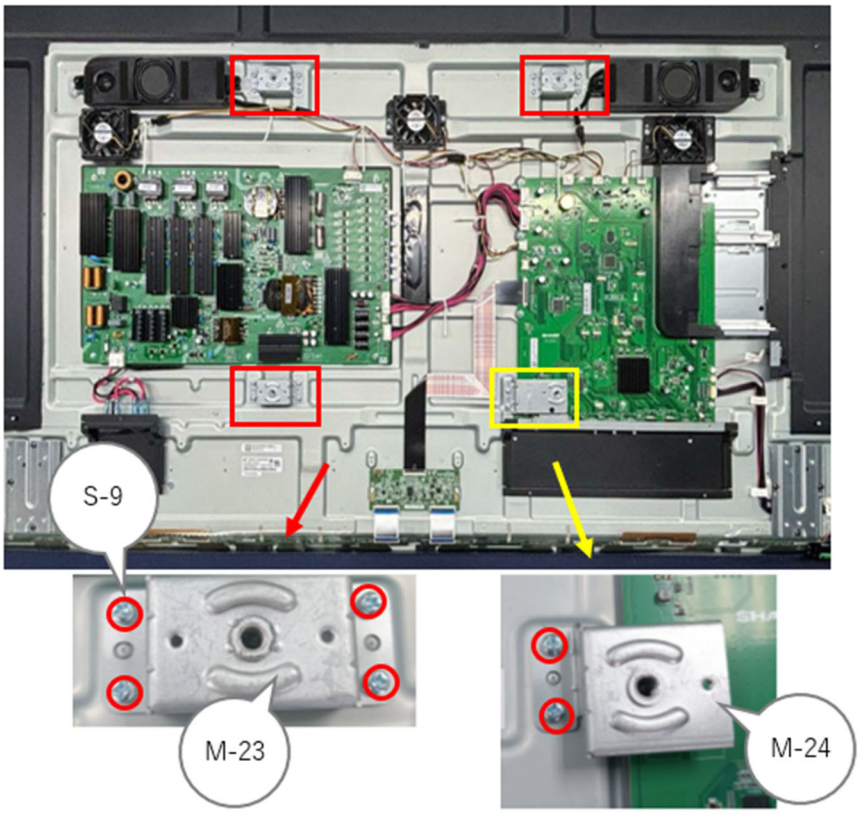
5) Remove the SPEAKER



E-6: SPEAKER

Fastening torque S-3: 4±1kgf・cm

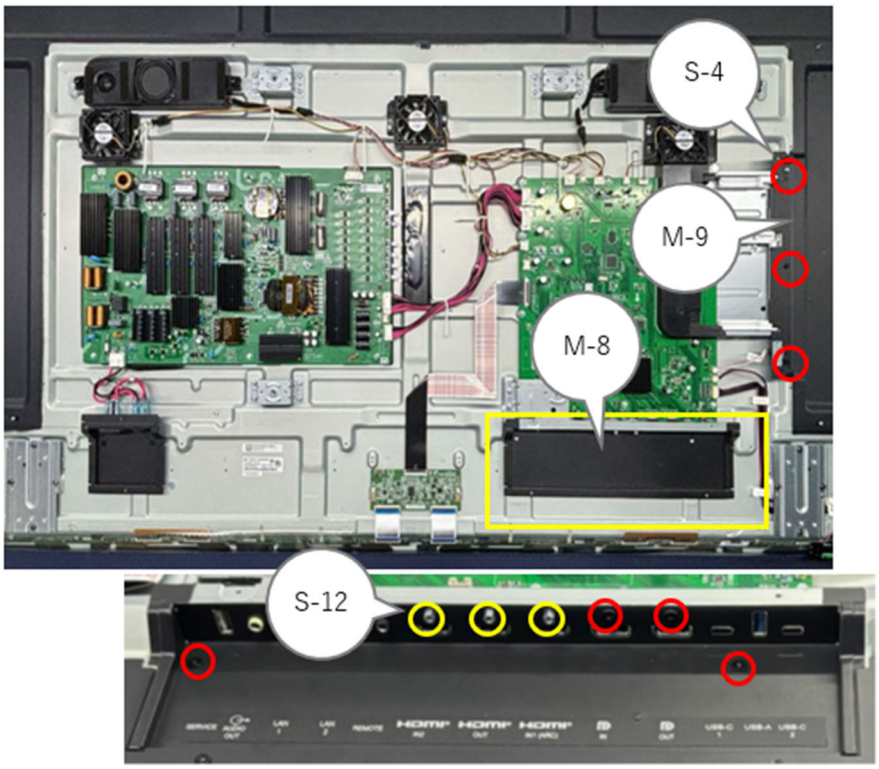
6) Remove the VESA BRACKET



M-23: VESA BRACKET

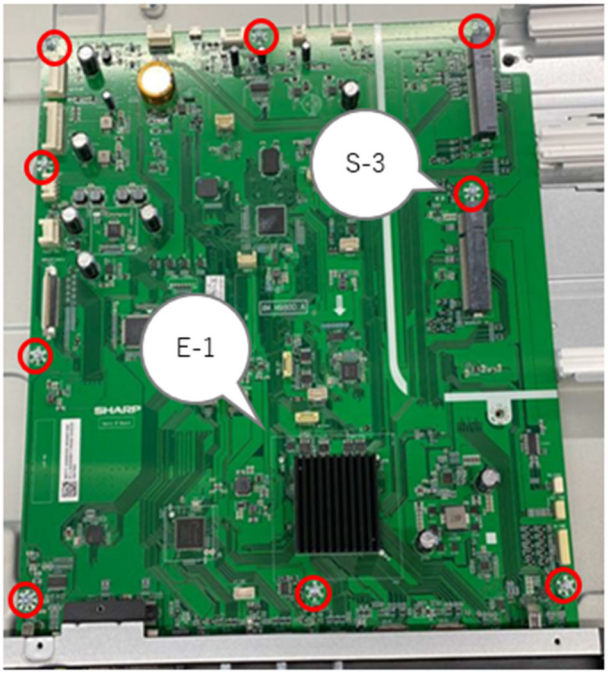
Fastening torque S-9: 4±1kgf・cm

7) Remove the MAIN PWB



M-8, M-9: I/O COVER

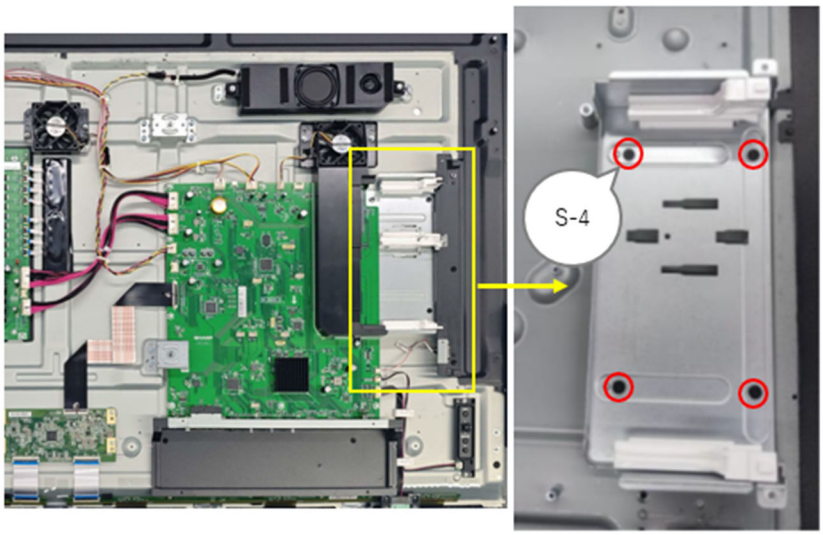
Fastening torque S-4, S-12: 4±1kgf・cm



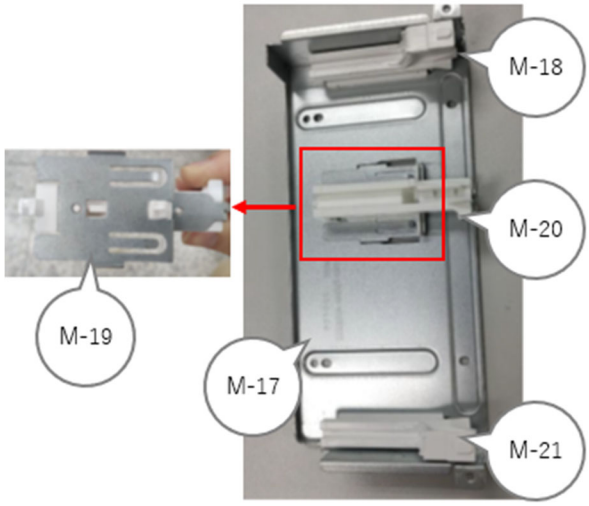
E-1: MAIN PWB

Fastening torque S-3: 4±1kgf・cm

8) Remove the GUIDE RAIL

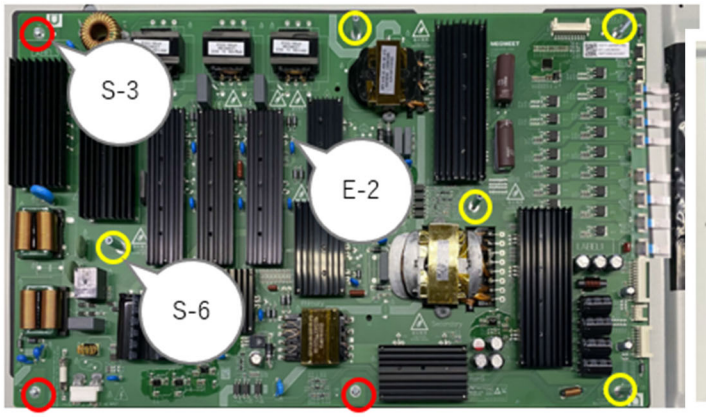


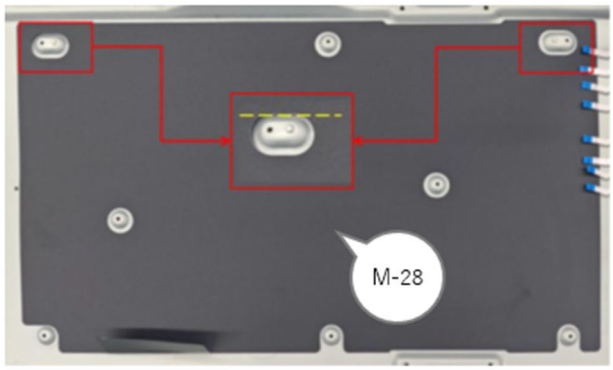
Fastening torque S-3: 4±1kgf・cm



M-17: SMD RAIL BRACKET
M-18: GUIDE RAIL3
M-19: SUPPORT BRACKET
M-20: GUIDE RAIL
M-21: GUIDE RAIL 2

9) Remove the POWER PWB



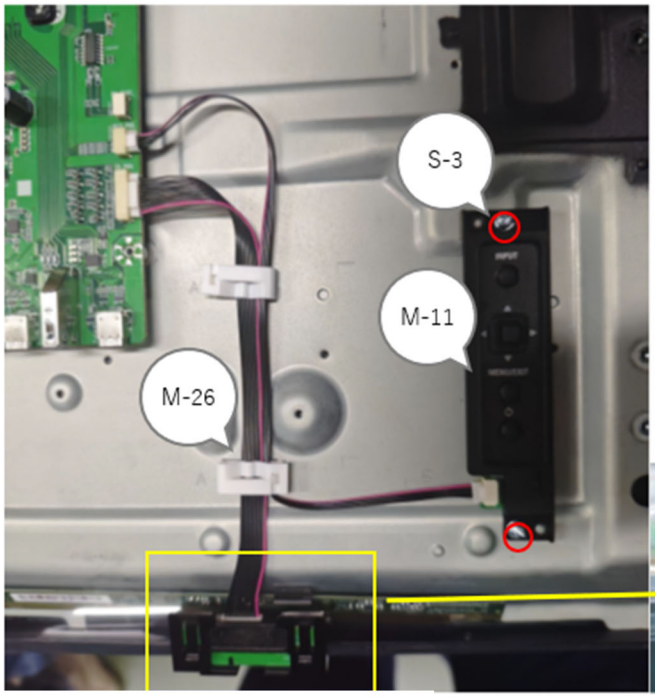


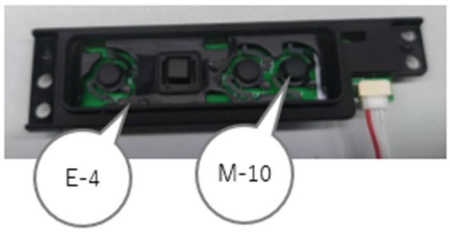
E-2: POWER PWB

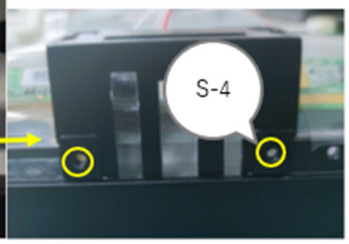
M-28: INSULATING SHEET

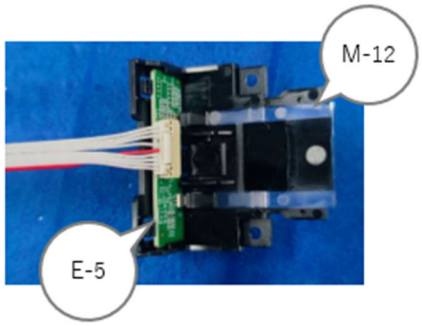
Fastening torque S-3, S-6: 4±1kgf・cm

10) Remove the KEY PWB and IR PWB









E-4: KEY PWB

E-5: IR PWB

M-10: KEY COVER

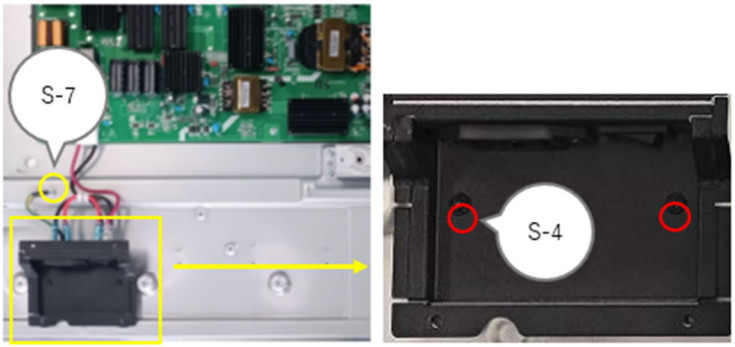
M-11: KEY BRACKET

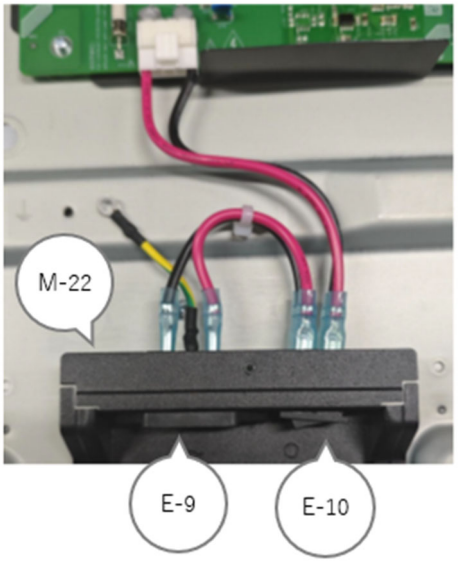
M-12: IR RECEIVER

M-26: WIRE CLIP

Fastening torque S-3, S-4: 4±1kgf・cm

11) Remove the AC INLET





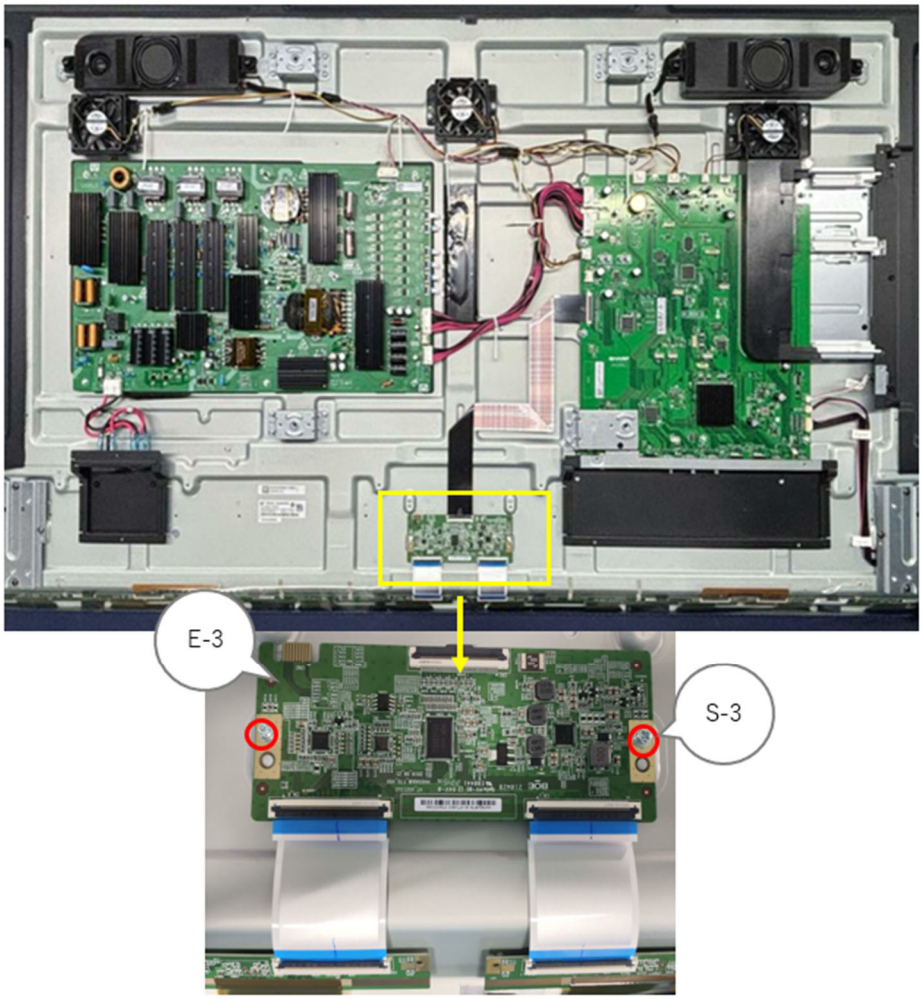
E-9: AC INLET

E-10: AC SWITCH

M-22: AC BRACKET

Fastening torque S-4, S-7: 4±1kgf・cm

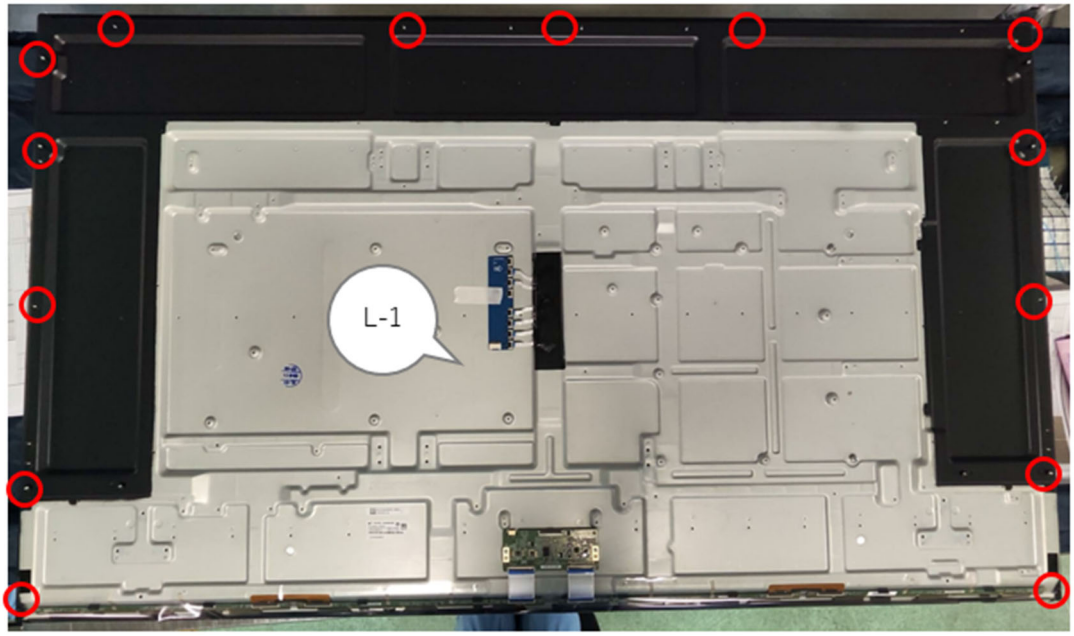
12) Remove the T-CON PWB



E-3: T-CON PWB

Fastening torque S-3: 3±0.5kgf・cm

13) Remove from LCD panel to Bezel

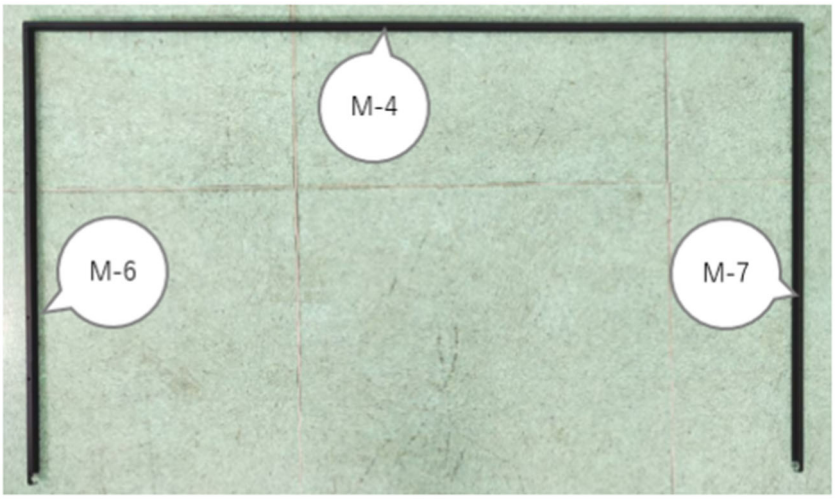


L-1: LCD PANEL

Fastening torque S-2: 3±0.5kgf・cm



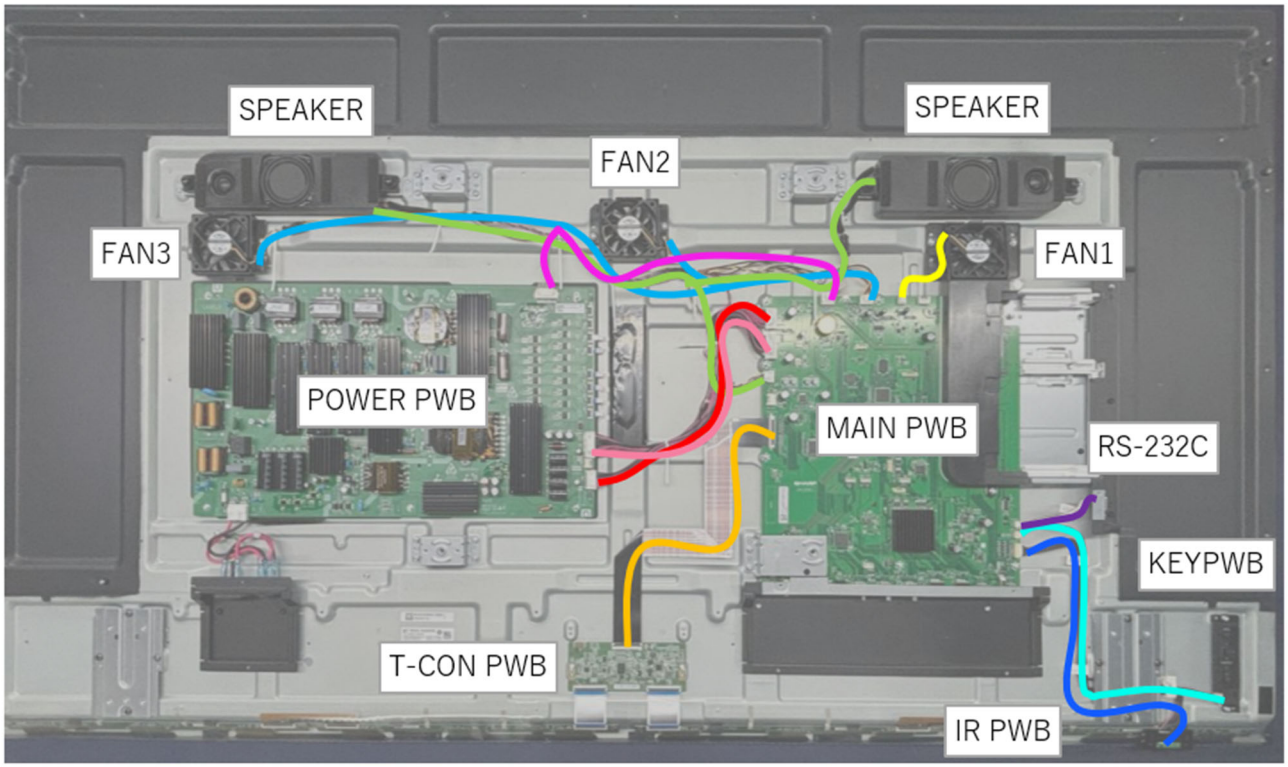
Fastening torque S-2: 2±0.5kgf・cm



M-4, M-5, M-6, M-7: BEZEL

14) Wiring diagram

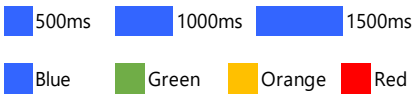
W-2		CN2700 ⟷ CN213
W-1		CN2701 ⟷ CN2
W-12		CN2200 ⟷ SPEAKER L/R
W-3		CN500 ⟷ T-CON PWB
W-6		CN800 ⟷ CN1
W-11		CN2001 ⟷ FAN2/3
-		CN2000 ⟷ FAN1
W-7		CN2400 ⟷ RS-232C
W-4		CN1800 ⟷ KEY PWB
W-5		CN1801 ⟷ IR PWB



CHAPTER 7. TROUBLESHOOTING

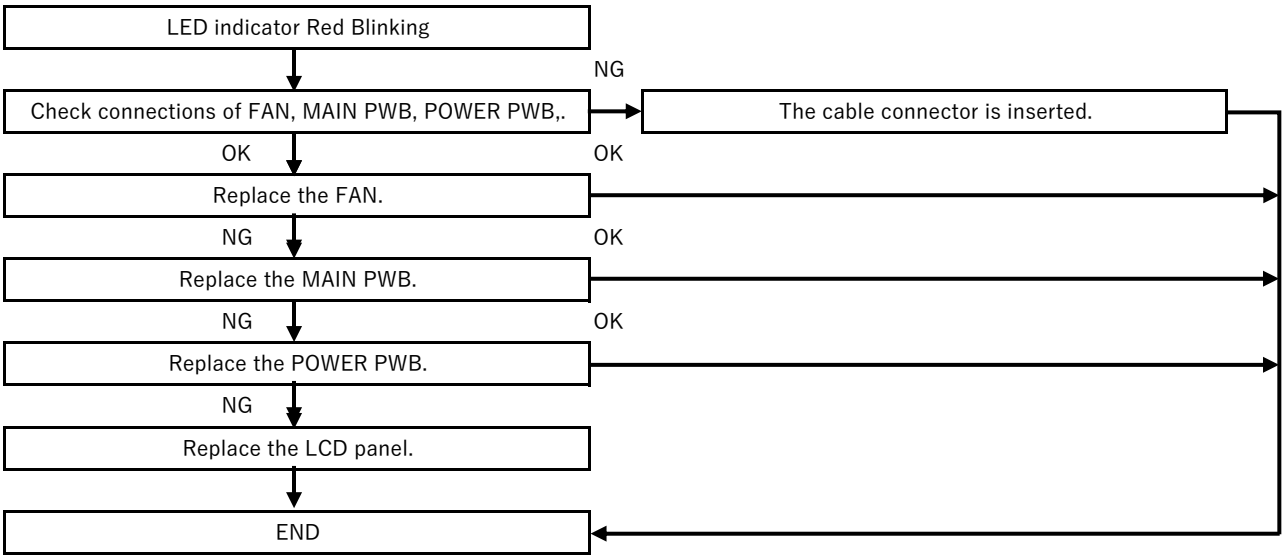
1. DIAGNOSIS (DETECTING FAILURE)

Item	LED ON Pattern / Cycle
Initialize	
DC ON (Backlight ON)	
DC OFF (SLEEP)	
DC OFF (NETWORK STANDBY)	
DC OFF (NORMAL STANDBY)	
PMS (SLEEP)	
PMS (NETWORK STANDBY)	
PMS (NORMAL STANDBY)	
During Power ON (Backlight ON)	
Schedule Reserved (DC OFF)	
Diagnosis FAN Abnormal	
Diagnosis CONVERTER Abnormal	
Diagnosis PSU Abnormal	
Diagnosis Temperature Abnormal (1/2 Backlight Level)	
Diagnosis Temperature Abnormal (Shutdown)	
Diagnosis System Abnormal	
Warning	
COMUTE MODULE FAN Abnormal	
During F/W Updating	
F/W Update Successful	
F/W Update Failure	

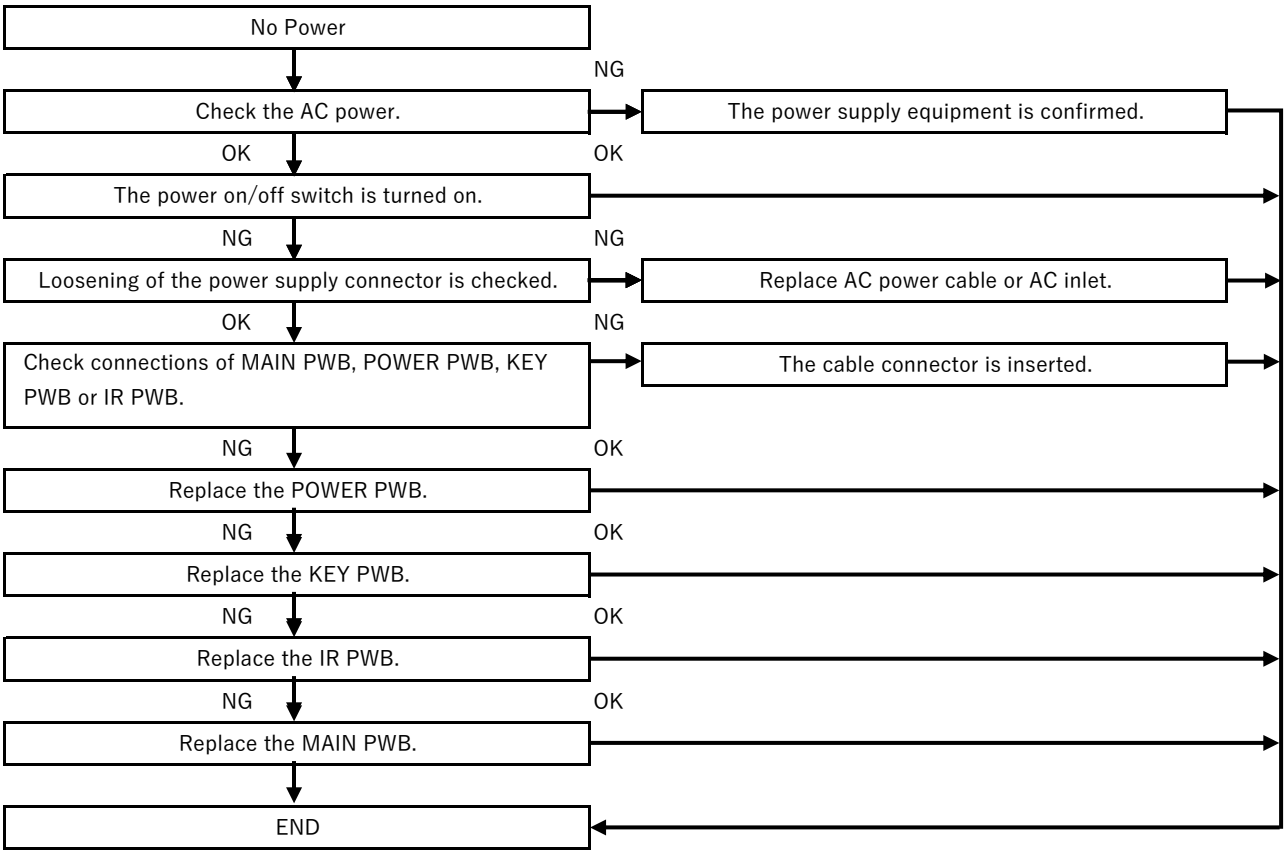


2. TROUBLESHOOTING FLOW

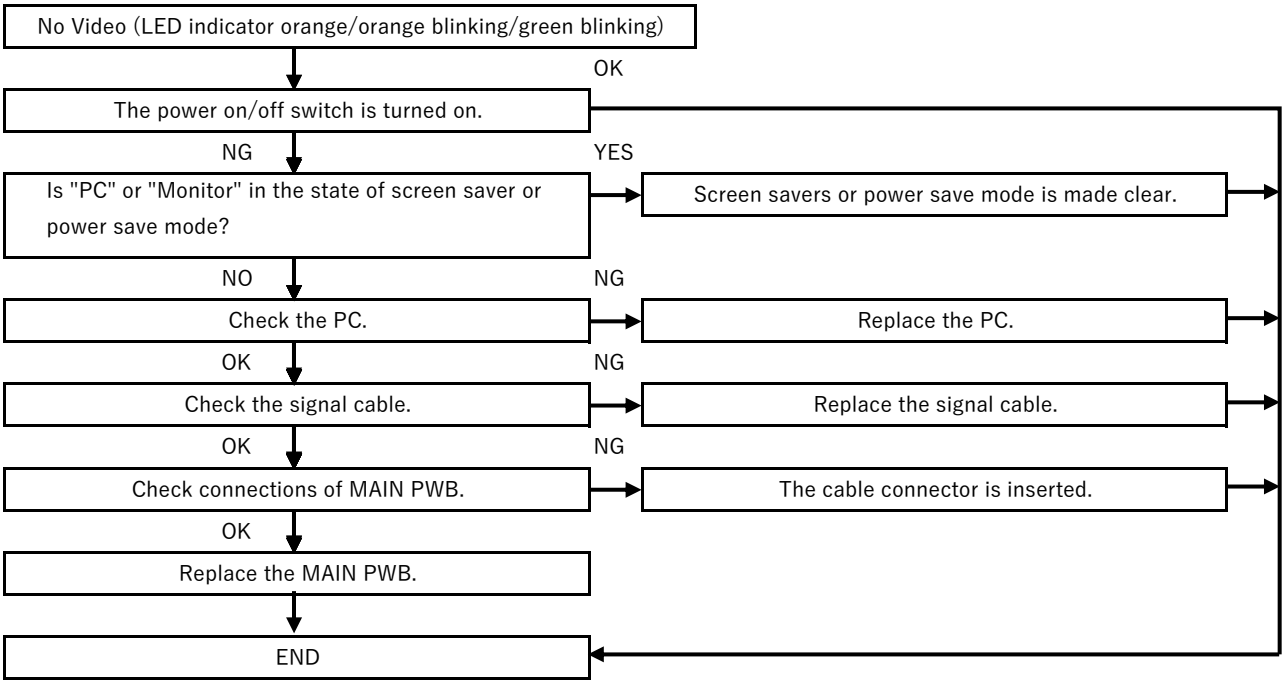
1) LED indicator Red Blinking



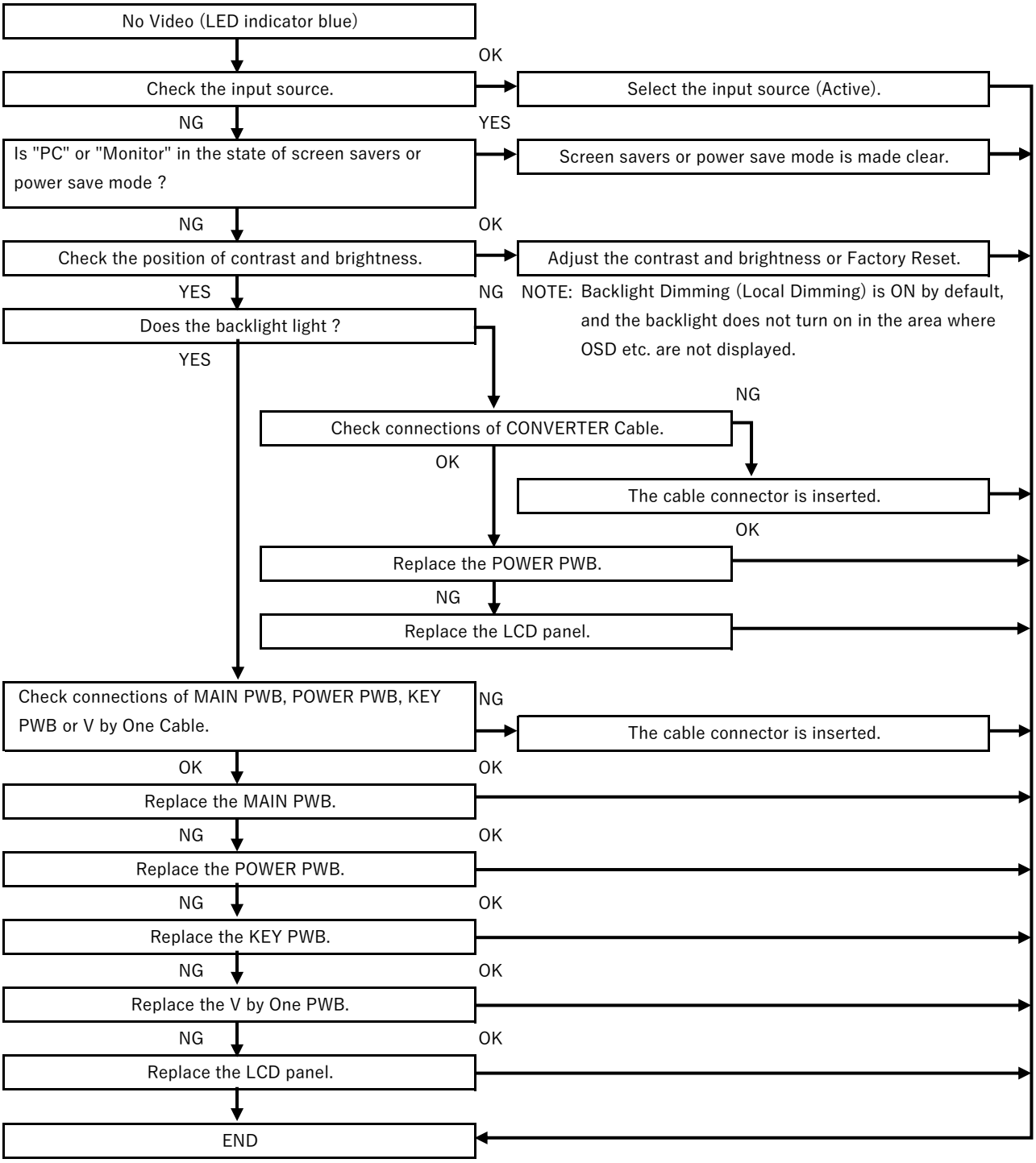
2) No Power



3) No Video (LED indicator orange/orange blinking/green blinking)

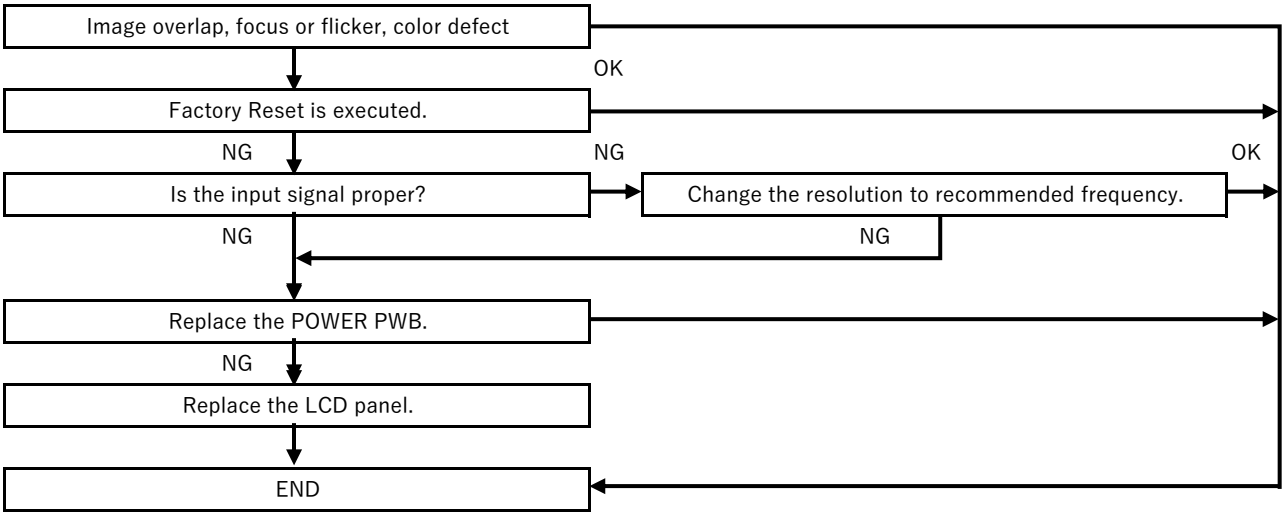


4) No Video (LED indicator blue)

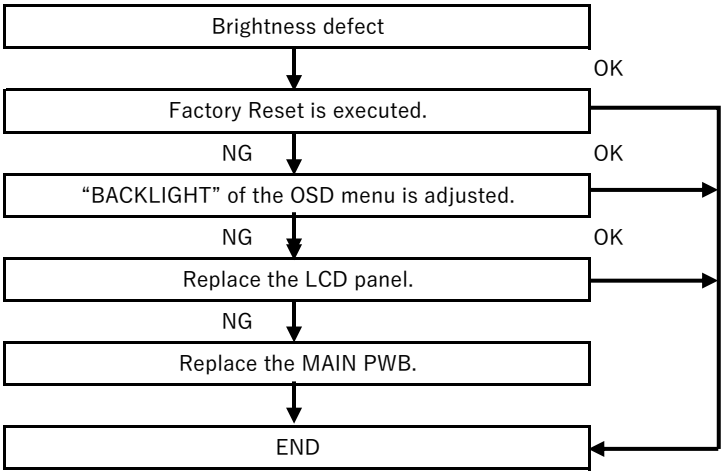


5) Image overlap, focus or flicker

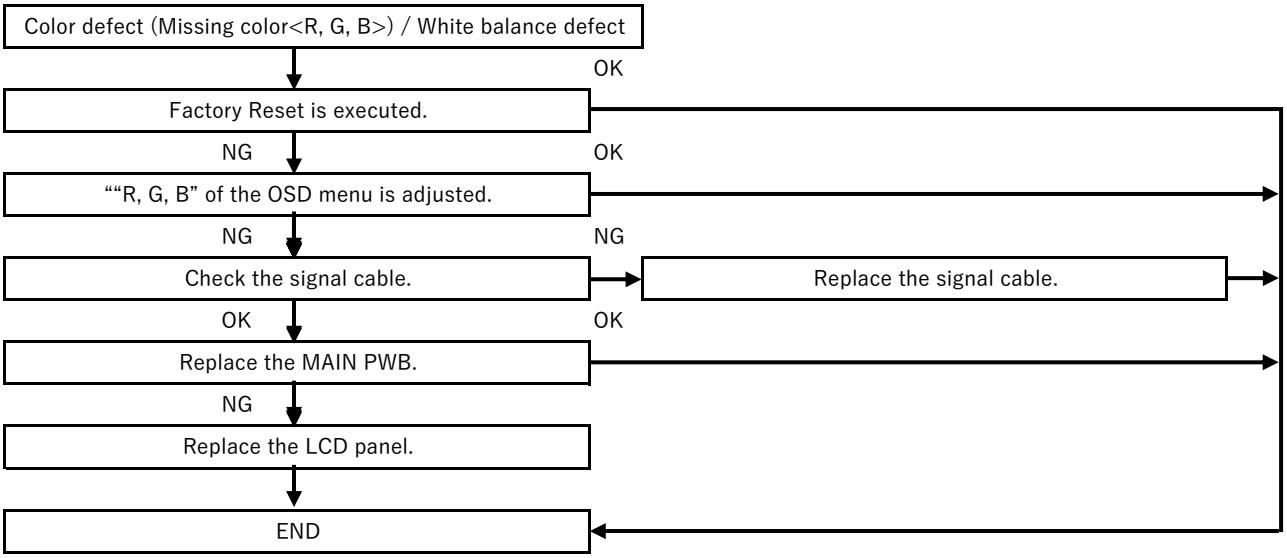
Recommended frequency
PN-M552/PN-M652 : 3840 x 2160@60Hz
PN-P556/PN-P656 : 3840 x 2160@60Hz



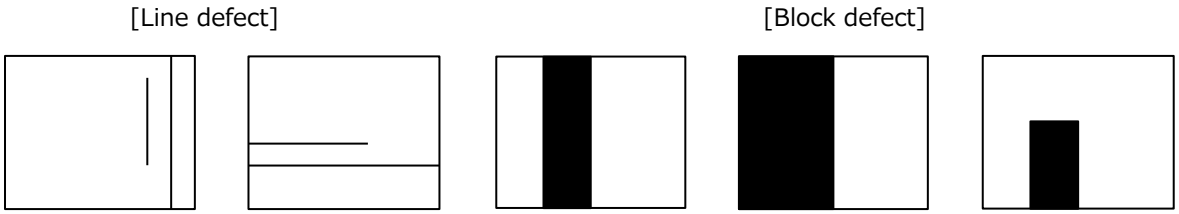
6) Brightness defect

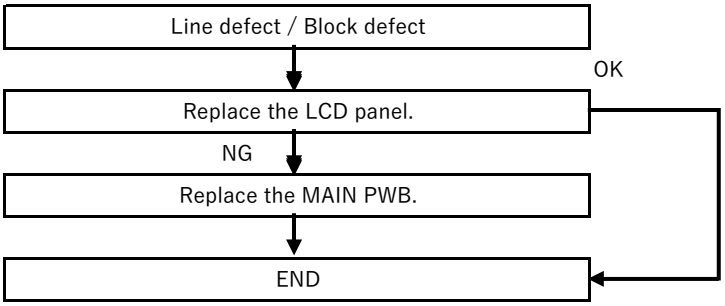


7) Color defect (Missing color<R, G, B>) / White balance defect

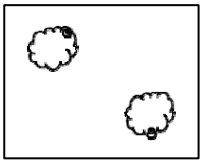


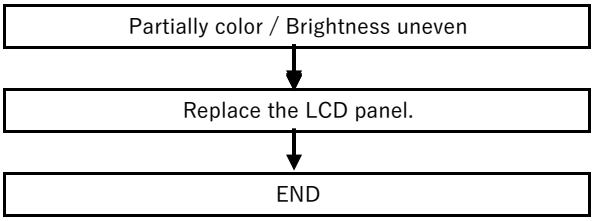
8) Line defect / Block defect



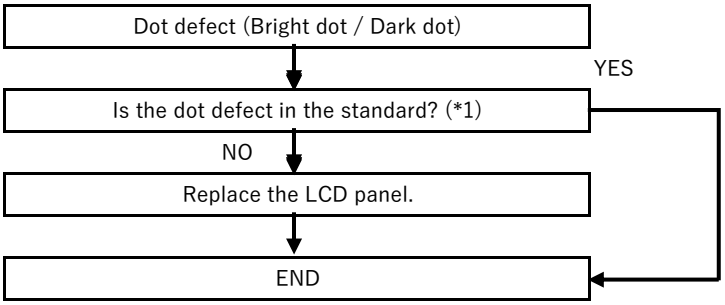


9) Partially color / Brightness uneven



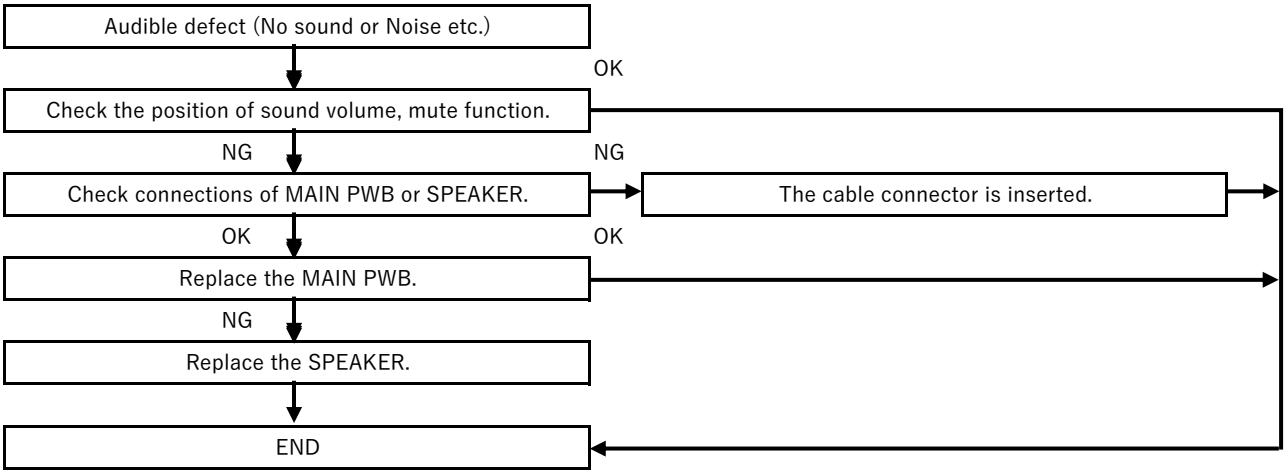


10) Dot defect (Bright dot / Dark dot)

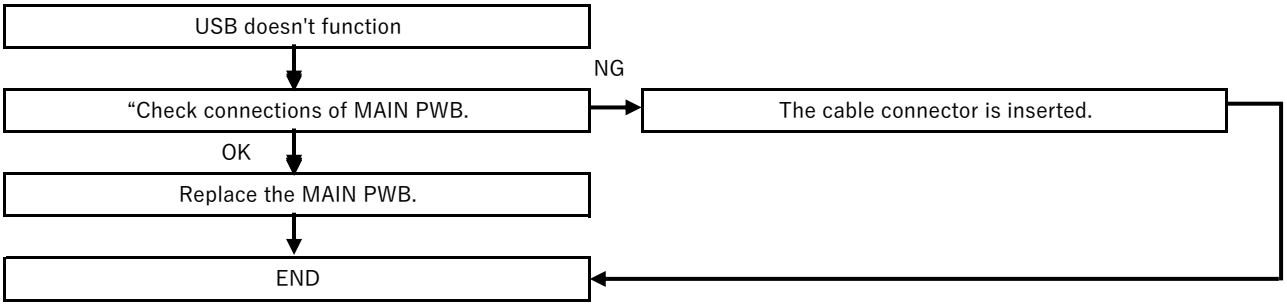


(*1) The judgment of the dot defect is confirmed from the service manual.

11) Audible defect (No sound or Noise etc.)



12) Audible defect (No sound or Noise etc.)

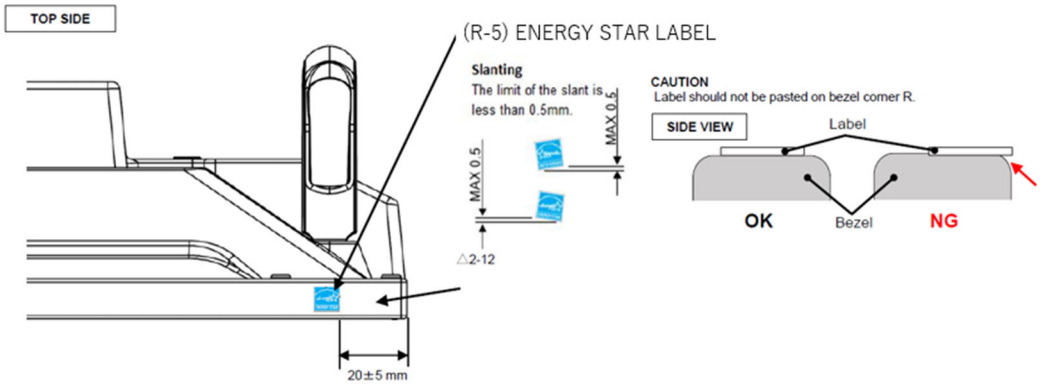


CHAPTER 8. PACKING

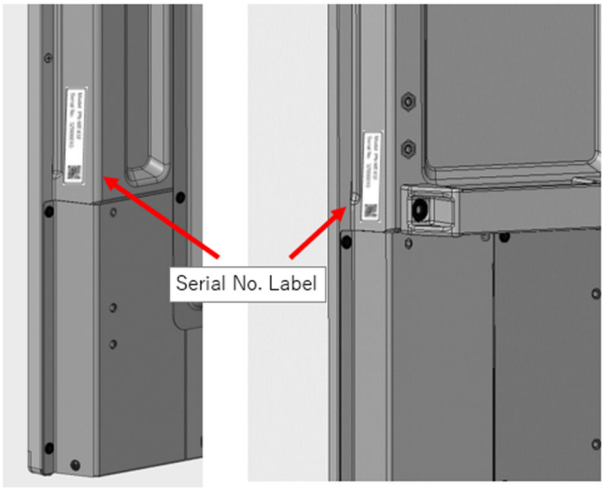
1. THE SPECIFIED POSITION OF LABEL

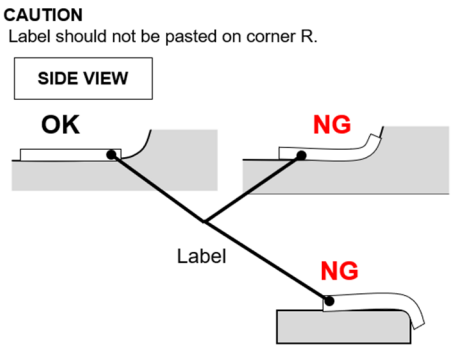
1) M552/M652/P556/P656

■ TOP SIDE

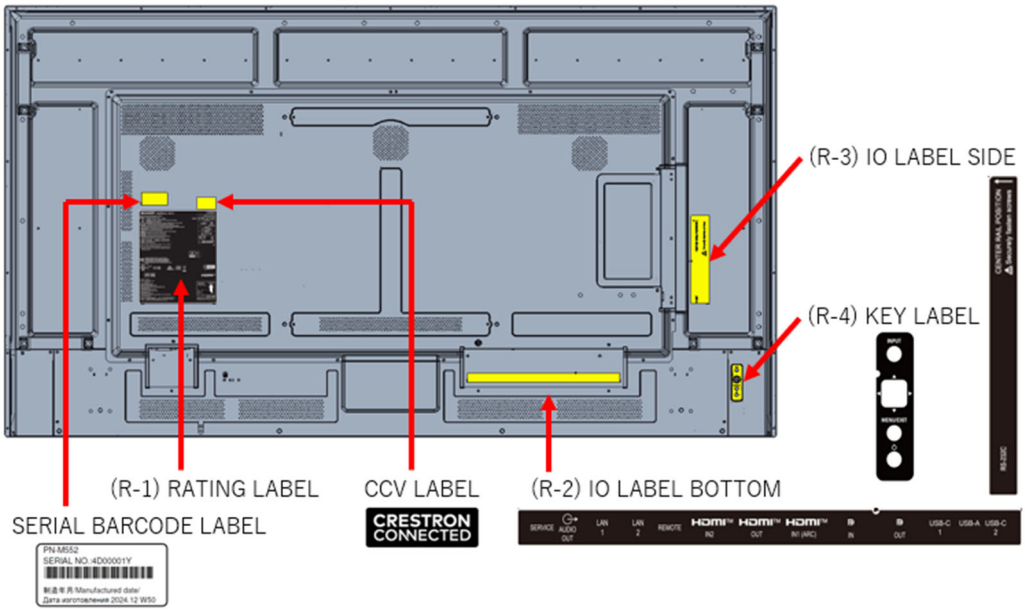


■ SERIAL NO LABEL



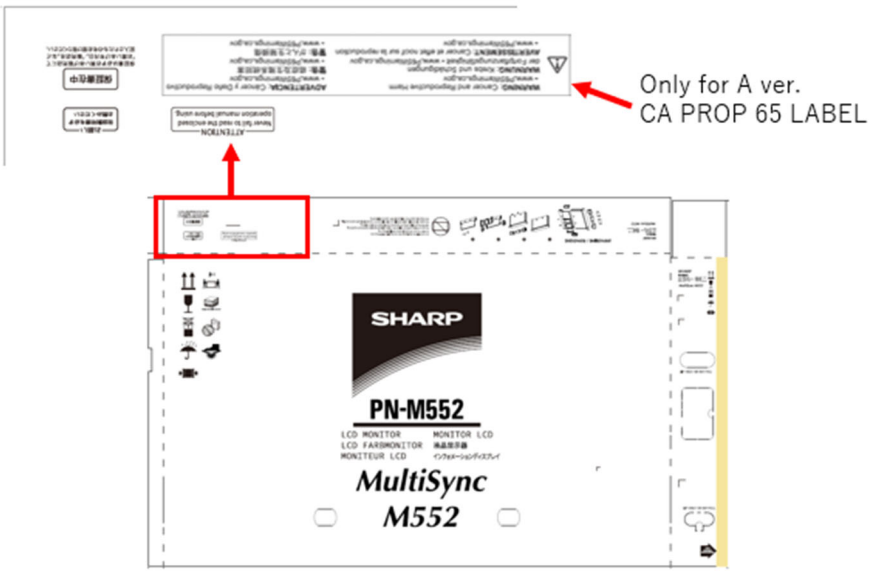


■ REAR SIDE

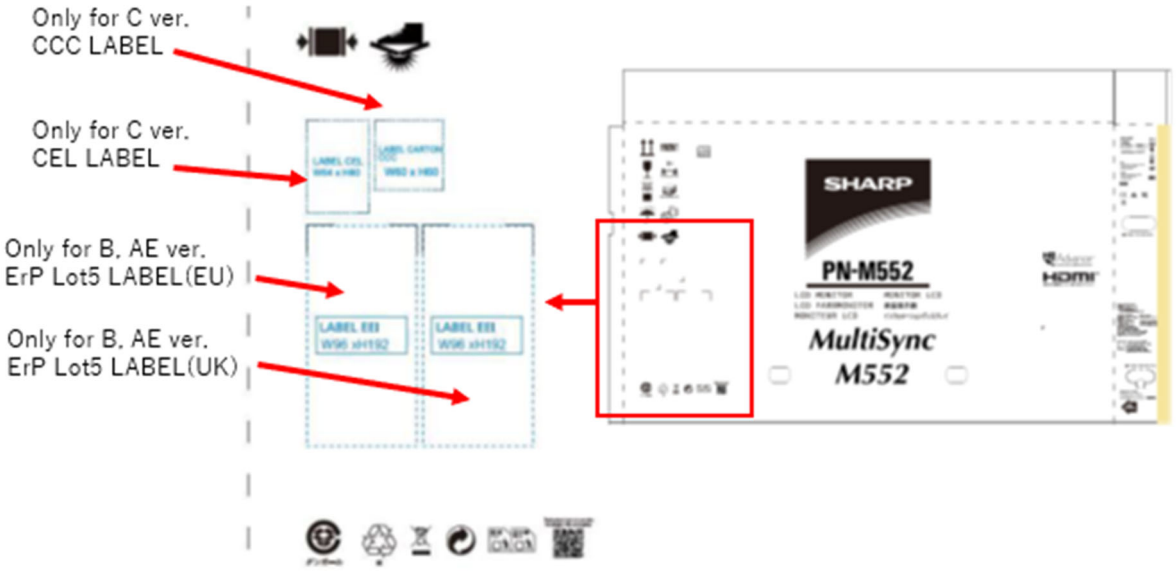


2) CARTON BOX

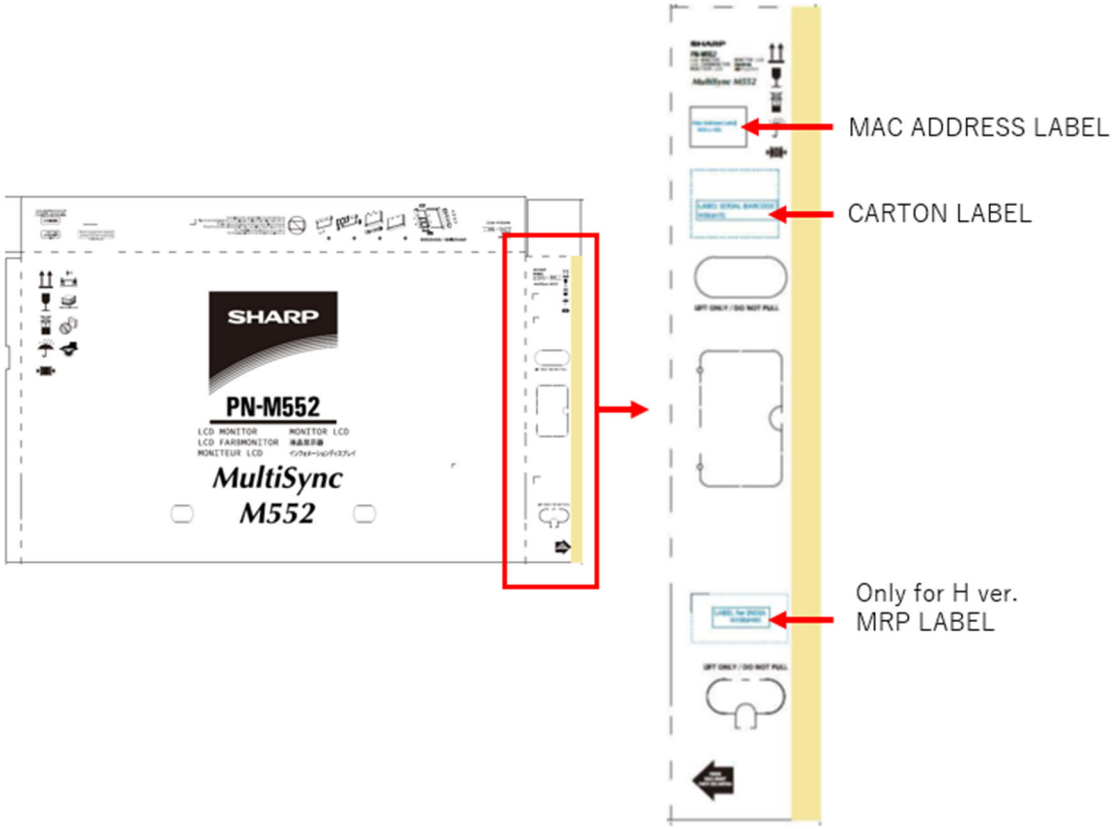
■ TOP SIDE



■ FRONT SIDE



■ RIGHT SIDE



2. ACCESSORY LIST

			A	B	AE	J	T	C	H
BEZEL	P-24	CCW ROTATION SHEET	1	1	1	1	1	1	1
PE BAG3	P-30	PE BAG3	1	1	1	1	1	1	1
	P-8	REMOTE RU-M126	1	1	1	1	1	1	1
	-	AAA BATTERY	1	1		1		1	
	P-6	POWER CORD US	1						
	P-6	POWER CORD EU		1	1				
	P-6	POWER CORD JP				1			
	P-6	POWER CORD TW					1		
	P-6	POWER CORD CH						1	
	P-6	POWER CORD IN							1
	P-7	HDMI CABLE	1	1	1	1	1	1	1
PE BAG1 (SUB-ASSY)	P-12	PE BAG1	1	1	1	1	1	1	1
	P-18	SAFTY DOCUMENTS		1	1				
	P-16	SETUP MANUAL A/B	1	1	1				1
	P-16	SETUP MANUAL J				1			
	P-16	SETUP MANUAL C/T					1	1	
	P-17	CA PROP 65 SHEET	1						
	P-19	EN62368 SHEET		1	1				
	P-20	WEEE SHEET		1	1				
	P-25	EU BATTERY SUPPLEMENT		1					
	P-26	ENERGY STAR SHEET	1			1			
	P-21	ERP LOT5 SHEET		1	1				
	P-22	WARRANTY CARD US	1						
	P-22	WARRANTY CARD CN				1			
	P-22	WARRANTY CARD JP						1	
PE BAG2	P-13	PE BAG2	1	1	1	1	1	1	1
	P-14	WIRE CLIP	1	1	1	1	1	1	1
	P-15	SCREW M4 10	1	1	1	1	1	1	1
PE BAG3	P-9	COVER OPTION B	1	1	1	1	1	1	1
	P-10	COVER SDM	1	1	1	1	1	1	1
	P-11	COVER CMIF	1	1	1	1	1	1	1

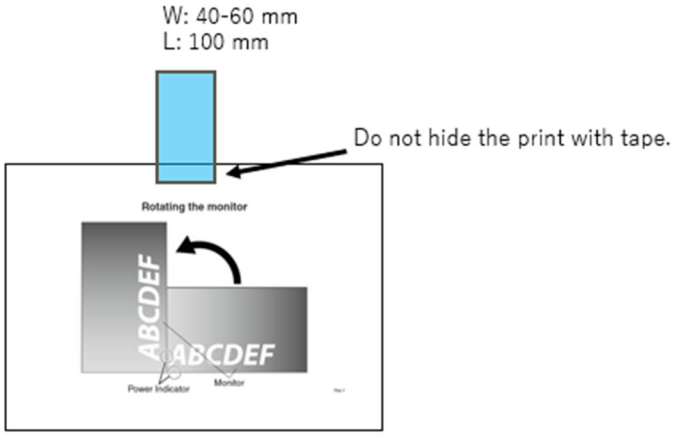
3. PACKING SPECIFICATION

■ M552/M652/P556/P656

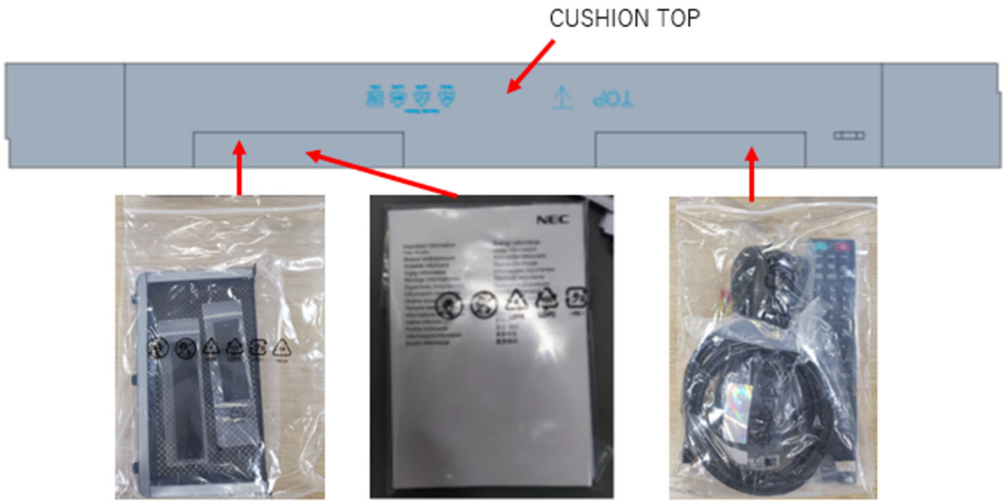
Attach Rotation sheet on the upper left of front.

Use tape that must not leave adhesive residue.

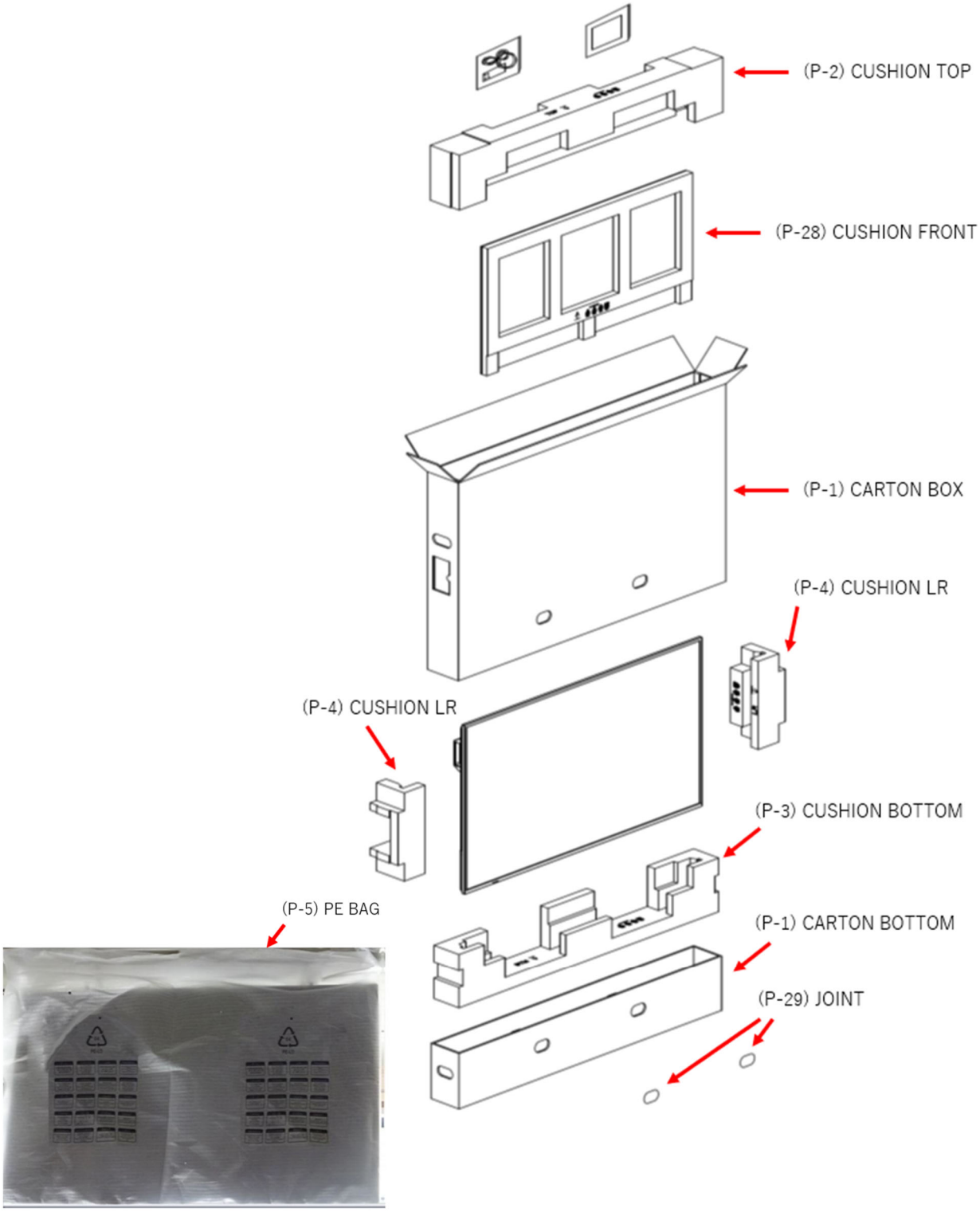




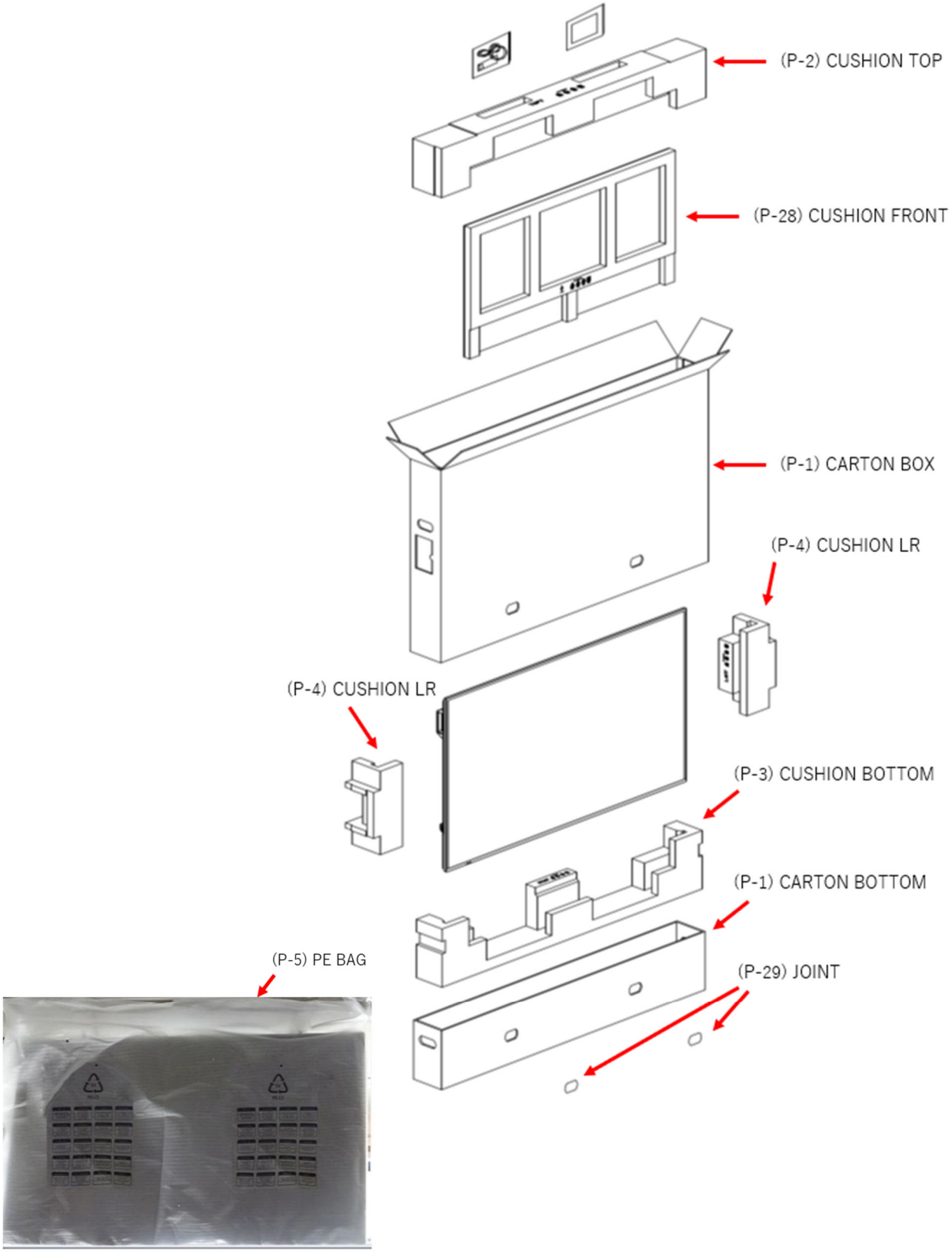
Put accessories on CUSHION TOP



■ M552/P556


(P-2) CUSHION TOP
(P-28) CUSHION FRONT
(P-1) CARTON BOX
(P-4) CUSHION LR
(P-4) CUSHION LR
(P-3) CUSHION BOTTOM
(P-5) PE BAG
(P-1) CARTON BOTTOM
(P-29) JOINT

■ M652/P656


(P-2) CUSHION TOP
(P-28) CUSHION FRONT
(P-1) CARTON BOX
(P-4) CUSHION LR
(P-4) CUSHION LR
(P-3) CUSHION BOTTOM
(P-1) CARTON BOTTOM
(P-5) PE BAG
(P-29) JOINT

Service Manual Revision History

Model : PN-M552/PN-M652/PN-P556/PN-P656

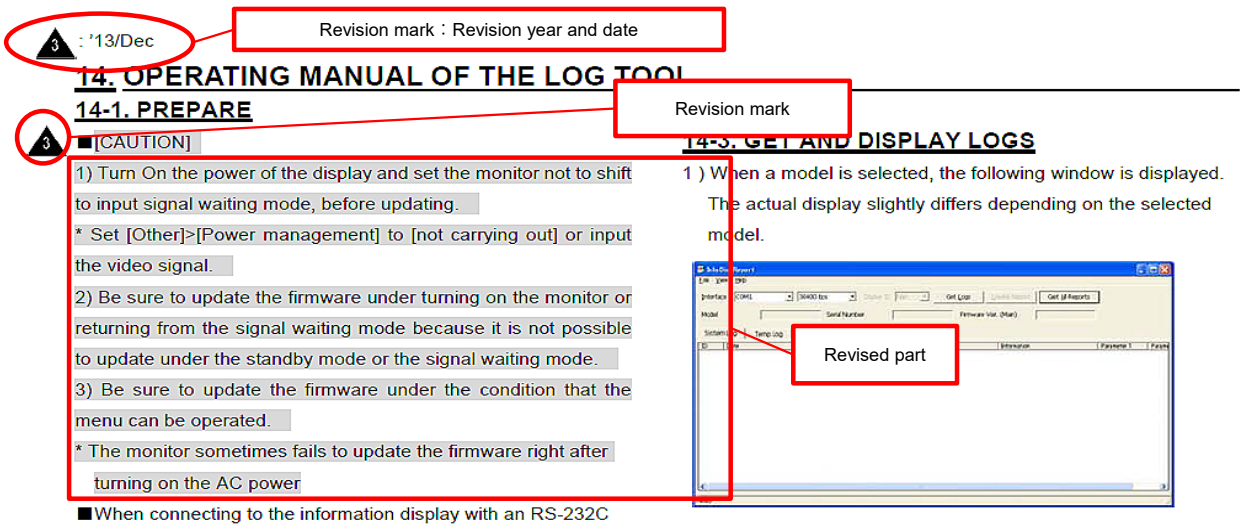
No.	Revised version	Change time	Chapter	Page	Revision history
1	New Release	2025/1/22	-	-	Issue the first edition of service manual.
2	2nd Release	2026/1/26	4	1, 2	Add "3) Functions of expert mode"
				35, 36	Add "3. Syslog"

<About the revision mark on the Service Manual>

The meaning of the revision mark described in the Service manual is as follows.

The number of the revision recprd = the number of the revision mark.

No.	Revised version	Change time	Chapter	Page	Revision history
1	New Release	2014/1/1	-	-	First edision issued Service Manual
2	XXXX Release	XXXX/X/X	X	X-X	XXXXXXXXXXXXXXXXXXXXXXX
3	XXXX Release	XXXX/X/X	X	X-X	XXXXXXXXXXXXXXXXXXXXXXX



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