

es-Repair

Operation manual

Version 2.1.x

EN

2025.06.30

Rev.3

1. Introduction	1
2. Outline	1
3. System Requirement	1
4. Installation of CS-Repair	1
5. Un-installation of CS-Repair	2
6. PC Setting	2
Network Settings	2
Kill FireWall	2
Disable the Sleep function.....	3
Disable the Screen Saver function	3
7. Setting of CS-Repair	4
Input Password.....	4
Database setting.....	4
Save settings.....	4
8. Main Window.....	5
9. Menu	5
File	5
Open.....	5
Reload	7
Select from barcode	7
Select columns	7
Export	7
Delete	8
Delete OK data.....	8
Print.....	8
Rack Print.....	8
Set Save & Set Load	9
Exit	9
View	9
Jump by PCB	9
Jump by Ref Des.....	9
Property.....	10
PCB statistics	10
Extract Setting	10
List.....	11
Extract NOTE column.....	11
Repair results	12
NG text in new window.....	12
Length Measurement Statistics.....	12
HIOKI information.....	12
Angle Extraction	12

Settings.....	13
Select Database	13
General Settings.....	13
Window Color	25
NG Classification ID	25
NG-ID Color.....	26
NGID Group Setting	26
Operator ID.....	27
Operator ID Edit	27
Working Time	27
Barcode Search Filter.....	27
Language	28
Window.....	28
Display Toolbar1	28
Display Toolbar2.....	28
Display Toolbar3.....	28
Initialize Toolbar.....	28
Float Toolbar1.....	28
Float Toolbar2.....	28
Float Toolbar3.....	28
Initialize Window.....	28
Help	28
Help.....	28
About CsRepair	28
10. Buttons in Main Window	29
Open	29
PCB inspected.....	29
Reload	29
Print	29
Previous button (PCB_status).....	29
Next button (PCB_status).....	29
Reload button (PCB_status)	29
Previous PCB.....	30
Next PCB	30
Previous Ref Des	30
Next Ref Des.....	30
Zoom PCB map.....	31
Grid	31
NG	31
Good.....	32
OK.....	32
Zoom point picture	32
Capture.....	33
Rotate PCB.....	33
Show Angular Camera images	33
Mirror	33

Barcode	33
X02W 3D View	33
List	33
A face.....	33
B face	33
11. Window Operation.....	34
PCB map	34
Zoom-in	34
Select by mouse.....	35
Save As	35
Inspection point picture.....	35
Save As	35
Operator area.....	35
Operator ID.....	36
PCB Selection	36
Bar Code	36
Lot	36
Inspected.....	36
Order	36
AOI-ID & Name	36
Total Checked.....	36
Total NG	36
OK	36
NG	36
Rep.....	36
Scrap.....	37
NGID Group	37
Classinformation buttons.....	37
PCB Status window.....	37
Rack.....	37
Number of shelf in a rack	37
Starting rack number	37
Starting shelf number	37
Ref Des Status window	38
Select columns	38
Keyboard functions.....	39
Shortcut.....	39
Arrow keys.....	39
Function keys	39
Other keys.....	39
12. Using external Barcode Reader	39
Barcode reader settings	39
Barcode input	39
13. Basic Operation.....	40
Select data.....	40

Identify operator and customize screen	40
Identify operator	40
Set PCB map what to display	40
Set NG-ID (classify NG in error type)	40
NG reference designator and NG PCBs	40
Check inspection point (Reference Designator)	40
Check PCB	41
Load new data	41
14. View images from Angular Cameras	41
15. About Tree View	42
16. How to Check Data for Dual Inspection Machine	43
17. How to operate 3D inspection machine data	44
X02W 3D View	44
List	44
2D Images	44
Display Information in Image	45
Result List	45
X02W 3D Window	46
Camera buttons	47
18. Errors	48

1. Introduction

Please read this manual carefully in order to use this software correctly, and understand the following: Learn the basic operation of the personal computer for yourself. Use the personal computer only for this software. Marantz Electronics, Ltd. and the suppliers are not responsible for any damage (including damage and failure of the hardware or other hardware irrespective of ordinary damage, special damage or consequential damage) that may directly or indirectly occur to the customers in connection with the install or use of this software and any claim from a third party.

2. Outline

CS-Repair is an application software that communicates to PostgreSQL via LAN and display inspection data for repairing PCB, or classify the defects for production improvement. Set the network adaptor and related devices in advance. HASP is necessary to execute this software. Installation of HASP driver is also necessary.

3. System Requirement

The following systems are necessary to execute CS-Repair.

- PC with Microsoft Windows XP/Windows 7/Windows 8/Windows 8.1/Windows 10/Windows 11 Operation System
- 50GB or more free hard disc space (this capacity is only for software, not for data)
- Gigabit Ethernet Network Interface (TCP/IP Fixed IP Address)
- The administrator authority to install and execute CS-Repair.
- Do not install anti-virus software, and connect PC to only private/closed network.

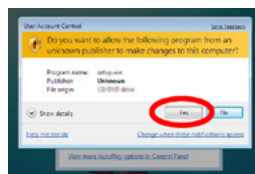
4. Installation of CS-Repair

Insert a media and double-click Install.exe in CsRep[xxxx] folder. [xxxx] is a four-digit number that means the software version. Install.exe may start automatically when the media is CD. Select "Install CS-Repair" for installation. Be sure to install the company name, your name and serial No. Otherwise, CS-Repair may not work.

If CS-Repair is not installed in the same PC as CS-Center, **Do not start CS-Repair at this point.**

You need to install HASP driver. Select "Install HASP driver" in order to install the HASP driver. After completion of HASP driver installation, insert the HASP key into the USB terminal. Driver setup is executed automatically, and you can now use CS-Repair.

You will receive warning message while installing any Mek software to PC with Windows 7. Please just click "Yes", and continue installation.



5. Un-installation of CS-Repair

Select CS-Repair from "Add/Delete Application" on the control panel for un-installation.

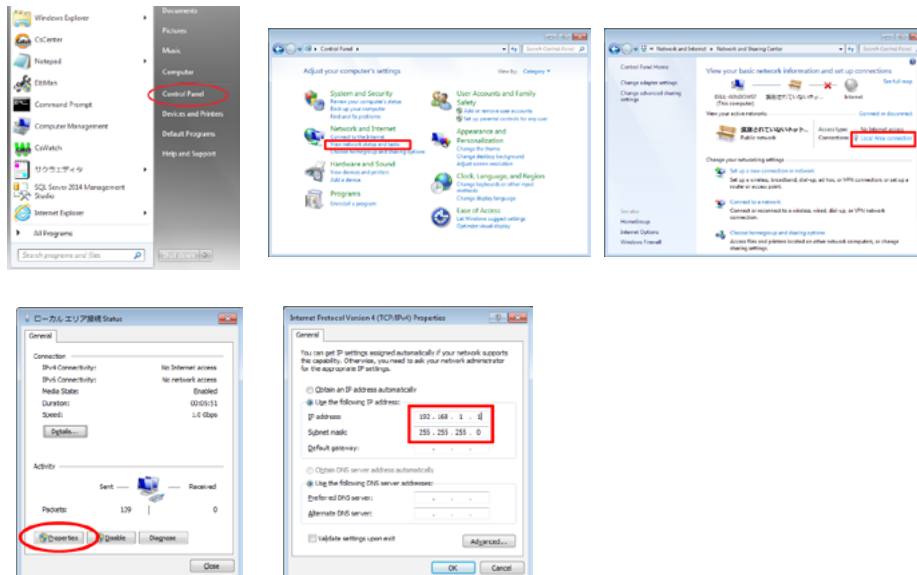
6. PC Setting

Set IP Address. Set the network adaptor and related devices in advance, and TCP/IP should be available.

Network Settings

Open **Start** menu, select **Control Panel**. Select "**View network status and tasks**" in "Network and Internet" settings. Select "**Local Area Connection**". Select **Properties**.

Select **Internet Protocol version 4 (TCP/IPv4)**, and press **Properties** button. Set IP Address, and others.

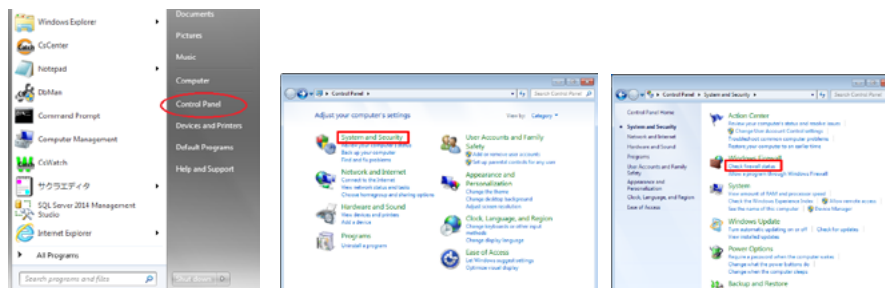


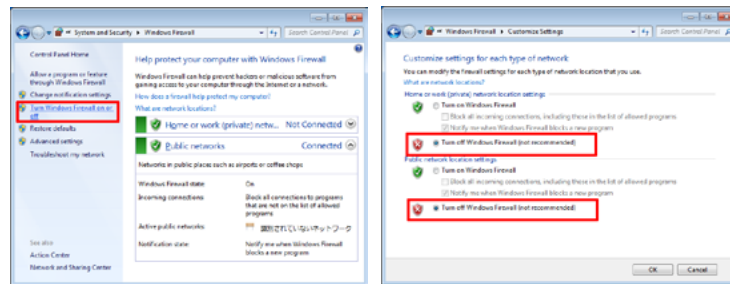
Kill FireWall

FireWall must be killed on PC for Catch System.

Open **Control Panel**, select **System and Security**. Select **Check firewall status**.

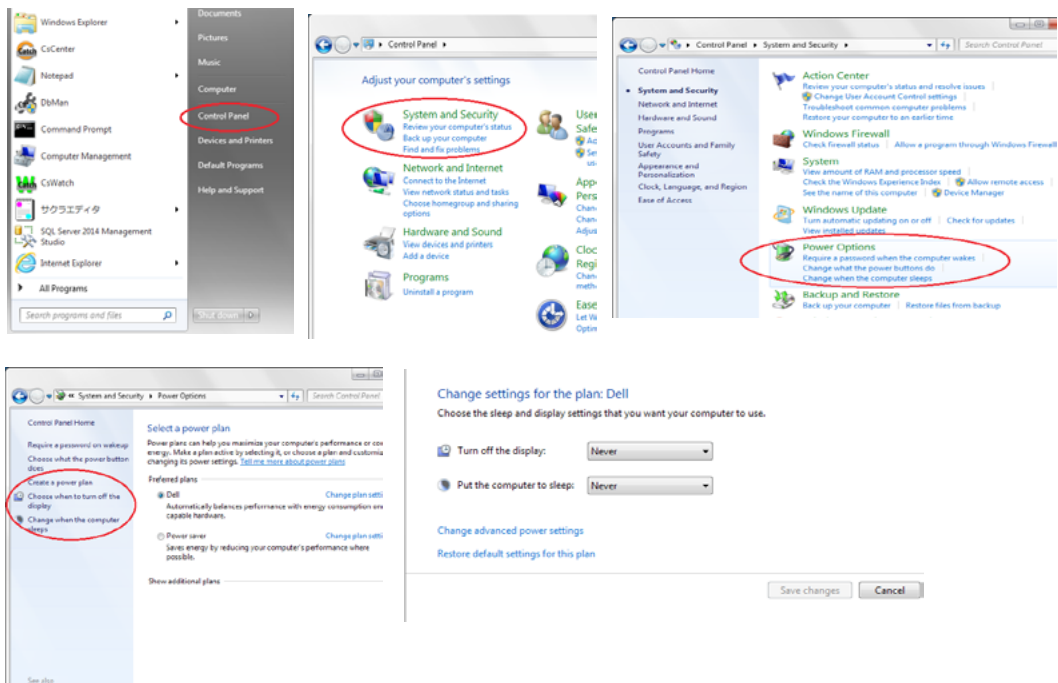
Select **Turn Windows Firewall on or off** on left list. Check **Turn off Windows Firewall (not recommended)** on for both network locations.





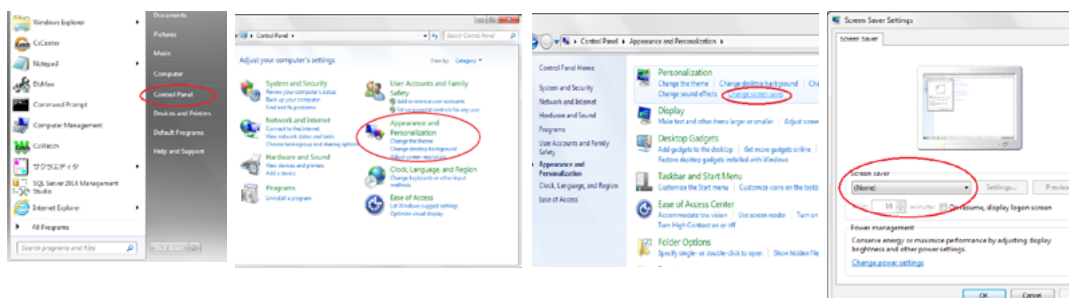
Disable the Sleep function

Open Start menu, select **Control Panel**. Select **System and Security**. Go to "Change settings for the plan" menu in **Power Options**. Select "**Never**" for "Turn off the display" and "Put the computer to sleep" settings.



Disable the Screen Saver function

Open Start menu, select **Control Panel**. Select "Change screen saver" in "Appearance and Personalization". Select "**None**" in screen saver function.



7. Setting of CS-Repair

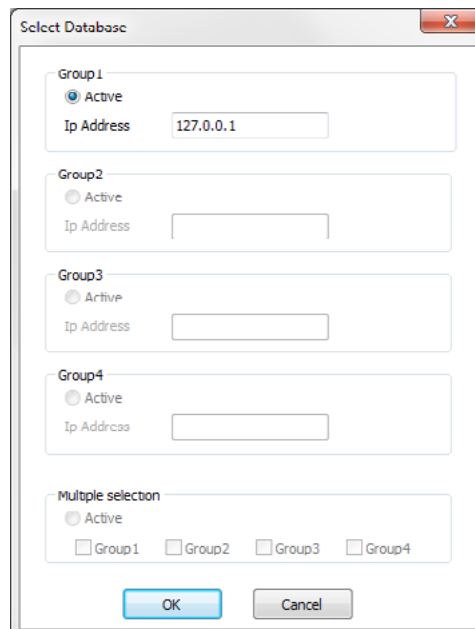
Input Password

Start CS-Repair, for the first time the software requests to input password. Input **481120**. This password is required only for the first time for activation.

Database setting

Set IP address where PostgreSQL is installed. Select Select Database in Settings menu. There are 4 fields available. Input IP address of PC, where PostgreSQL is installed, in field 1. If you install CS-Repair in the same PC as PostgreSQL, input 127.0.0.1.

The rest of 3 fields can be used to switch database if you use more than one PostgreSQL.



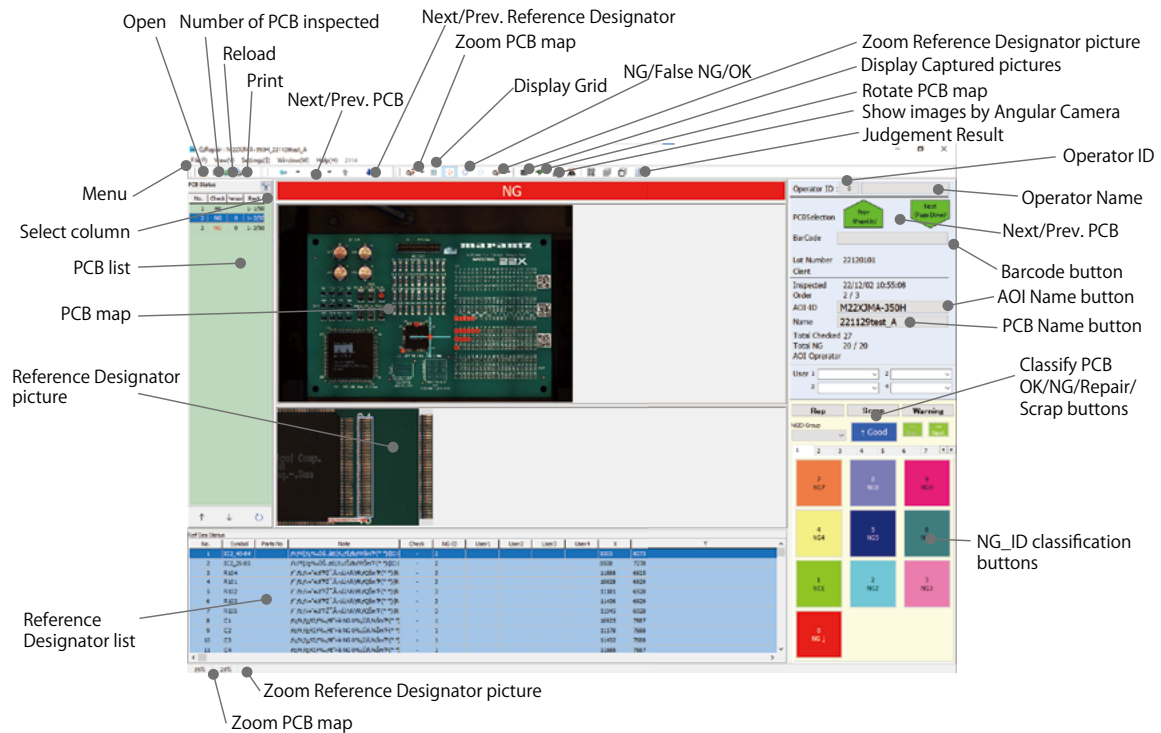
The screenshot shows a 'Select Database' dialog box with the following elements:

- Group 1:** ☒ Active, Ip Address: 127.0.0.1
- Group 2:** ☐ Active, Ip Address: [empty]
- Group 3:** ☐ Active, Ip Address: [empty]
- Group 4:** ☐ Active, Ip Address: [empty]
- Multiple selection:** ☐ Active, ☐ Group1, ☐ Group2, ☐ Group3, ☐ Group4
- Buttons:** OK, Cancel

Save settings

Before finishing CS-Repair settings, it is recommended to output setting file. Select **Set Save...** from File menu. Input any name. Your CS-Repair's settings will be exported as a file. Store it in safety place as backup.

8. Main Window

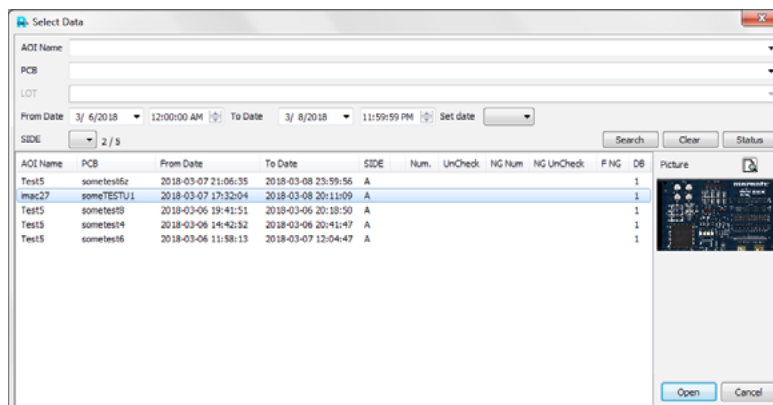


9. Menu

File

Open

Search and select data by opening database of CS-Center directly. Summarize past data and display the graph.



Select Data

Filter by AOI, PCB or Lot from pull down list, and Filter by Date, and Filter by PCB side.

When filtering by date, by selecting Set date, you can instantly set the date.

(e.g. **D0**: Today (24 hours), **D1**: Yesterday and today (48 hours) **W1**: 1 week by today)

You can sort the display order by clicking data item name.

AOI Name

Select AOI name you want to search from pull-down menu if necessary.

PCB Name

Select PCB name you want to search from pull-down menu if necessary.

LOT

Select LOT number you want to search from pull-down menu if necessary.

From Date

Set start date (YYYY/MM/DD, and H:MM:SS) you want to search if necessary.

To Date

Set end date (YYYY/MM/DD, and H:MM:SS) you want to search if necessary.

Set Date

Set how long you trace back the starting date from end date.

SIDE

Set the side you want to search if necessary.

Search

After inputting filtering condition, press this button.

Clear

Clear filter condition.

Status

Pressing this button, classification status of each data will be shown:

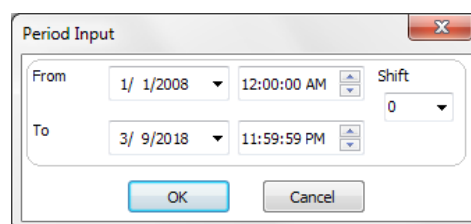
Num.: Total PCB number

Uncheck: PCB not classified

NG Num: Number of NG PCB

NG UnCheck: Number of NG PCB not classified

F NG: Number of False NG PCB



The image shows a 'Period Input' dialog box with a title bar containing a close button (X). The dialog contains two rows of date and time selection controls. The first row is labeled 'From' and has a date dropdown set to '1/ 1/2008', a time spinner set to '12:00:00 AM', and a 'Shift' dropdown set to '0'. The second row is labeled 'To' and has a date dropdown set to '3/ 9/2018', a time spinner set to '11:59:59 PM', and the same 'Shift' dropdown. At the bottom of the dialog are two buttons: 'OK' and 'Cancel'.

Period Input

After selecting data, and pressing Open button, window to filter the period is shown.

You can extract the data for selected period. (e.g. data for only current month, for a week, etc.)

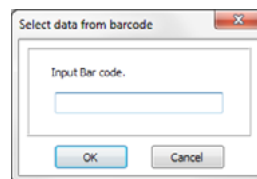
Reload

Refresh current data, if inspection continues, then additional inspection data is loaded.

Latest file saved to CS-Center is loaded while displaying on CS-Repair.

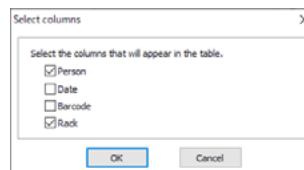
Select from barcode

Enable to select inspection data by inputting PCB barcode.



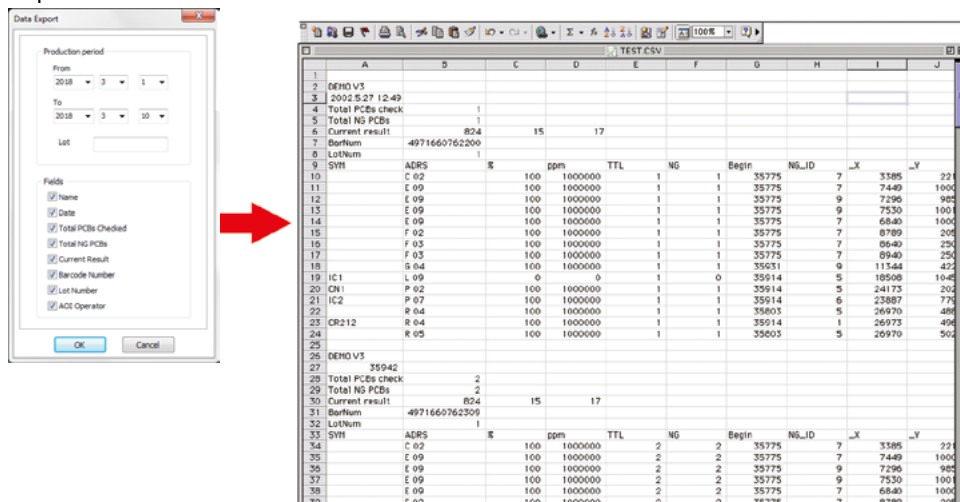
Select columns

Set the items to be displayed on the window. Cannot be used when [Activate A/B Tree View] is ON and [Display grid] is OFF in the [A/B Tree View] settings.



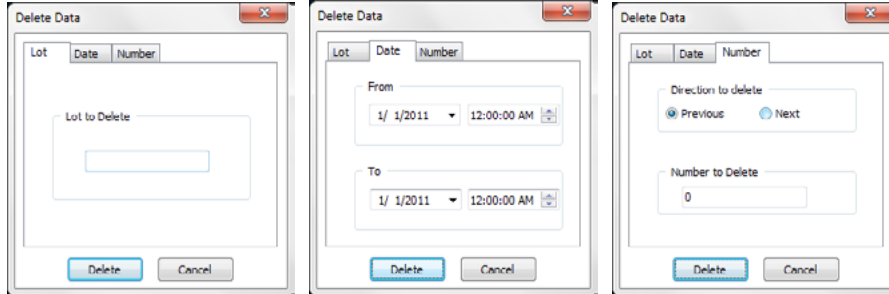
Export

Export data in **CSV** format. As the dialogue for data output is displayed, input the filter condition and the output field of the data to be exported as a file. The filter condition is the starting date through the end date. In case the lot has been input, it is necessary to extract the lot equal to the input lot. Select the Fields to be output as a file. The field checked is to be output.



Delete

Delete data. You can delete data from Delete... in File menu. You can delete per Lot, Date or PCB Number.



Lot to Delete

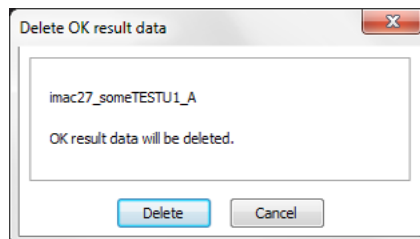
Delete data with specified Lot number.

Date to Delete

Delete data with specified production period. Select date for From and To.

Number to Delete

Delete PCB of input number. If you mark Previous, then older PCB will be deleted following current PCB. If you mark Next, then younger PCB will be deleted following current PCB.



Delete OK data

Delete OK data. You can delete OK data from Delete OK data in File menu.

This command deletes data except NG and False NG data. This means to delete data which is collected for only checking position shifting (thus called OK data). If you store all data, then the data capacity will be enormous. You may execute this menu after confirming components positions.

Caution: If you execute Delete OK data, you can not display XY shift graph or statistics on CS-Watch (statistics of cumulative position shifting) or CS-Analyzer.

Print

Print the detail of displayed PCB. PCB information and PCB Map will be printed first, and then individual information, NG image, and OK image will be printed.

Rack Print

Input Rack's barcode from keyboard. The list of the PCB in current rack will be listed with barcode number.

Set Save & Set Load

There is possibility that PC suddenly stops working, and you have to urgently run CS-Repair on another PC. For such trouble, you can export settings file and import it to new PC.

For back up, select **Set Save...** from File menu. Input any name. Your CS-Repair's settings will be exported as a file. Store it in safety place.

Select **Set Load...** from File menu. Open *.ini file that you created in back up settings file procedure.

Exit

Exit CS-Repair.

View

Jump by PCB

Jump to the other PCB from current PCB.

Next

Jump to next PCB

Previous

Jump to previous PCB

0

Current position

+5

Jump to the proceeding fifth PCB

+10

Jump to the proceeding tenth PCB

-5

Jump to the previous fifth PCB

-10

Jump to the previous tenth PCB

First

Jump to the first PCB

Last

Jump to the last PCB

Number

Jump to the PCB of input number.

Jump by Ref Des

Jump to the other Reference Designator (inspection point) from current Reference Designator.

Next

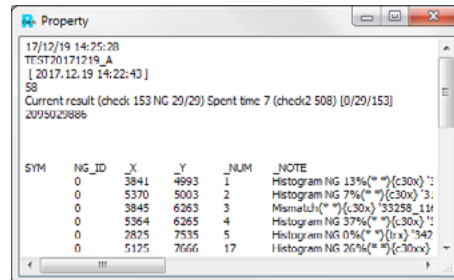
Jump to next Reference Designator

Previous

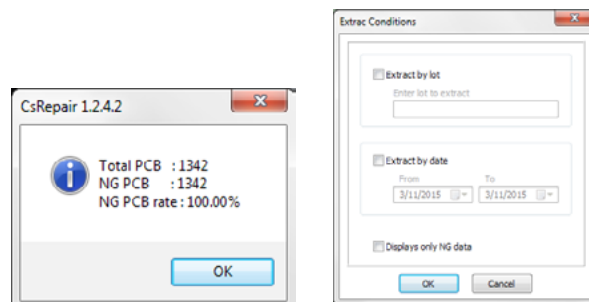
Jump to previous Reference Designator

Property

Display the inspection result information of current PCB in text format.

**PCB statistics**

Display the number of total PCBs, the number of NG PCBs and the NG PCB rate of current data.

**Extract Setting**

When displaying only the PCBs that meet the condition, input the condition of the PCBs to be extracted. After the Extraction Condition Entry dialogue is displayed, click on the condition of the PCBs to be extracted, and input the conditions.

Extraction by lot

This function displays only the PCBs of the specified lot number.

Click on the check box of "Extract by lot" to select this function, and input PCB's lot number to display. Partial coincidence reference is available when putting the * at the head of the lot number in the lot item in the total condition of the Data Total.

Example: *01 -> 01a 01b 01c

Extraction by date

This function displays only the PCBs of the specified inspection date.

Click on the check box of the "Extract by date" to select this function, and input the starting date and the closing date of the inspection you want to display.

Clicking on the triangle buttons next to the stating date and the closing date displays a calendar, so you can input the date by clicking on a date on the calendar.

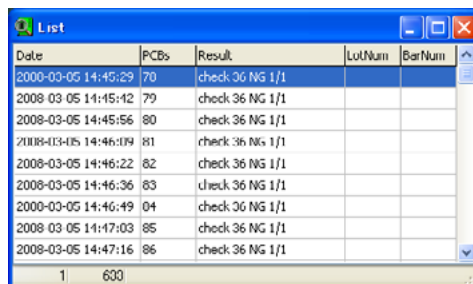
Displaying only NG

This function displays only the PCBs with NG.

Check on the check box of "Display only NG" to select this function. Clicking on the OK button displays the PCBs that meet the condition.

List

PCB information list is displayed. By double clicking mouse, selected PCB is displayed on screen.



Date	PCBs	Result	LotNum	BarNum
2000-03-05 14:45:29	70	check 36 NG 1/1		
2008-03-05 14:45:42	79	check 36 NG 1/1		
2008-03-05 14:45:56	80	check 36 NG 1/1		
2008-03-05 14:46:09	81	check 36 NG 1/1		
2008-03-05 14:46:22	82	check 36 NG 1/1		
2008-03-05 14:46:36	83	check 36 NG 1/1		
2000-03-05 14:46:49	84	check 36 NG 1/1		
2008-03-05 14:47:03	85	check 36 NG 1/1		
2008-03-05 14:47:16	86	check 36 NG 1/1		

Extract NOTE column

Display NOTE column of database per Reference Designator or XY position. Note column has position shifting information, Reference Designator, comment, stamp name and NG comment. Input both starting and closing date and lot number of the data to extract in Set conditions for analyzing NOTE column.

You can change the width of each item by dragging on the line of the item with the cursor, and can re-order data in ascending / descending by pressing the title of each row.

Right clicking on the line of the item displays Sort menu. You can sort the items by selecting the sort menu

Copy

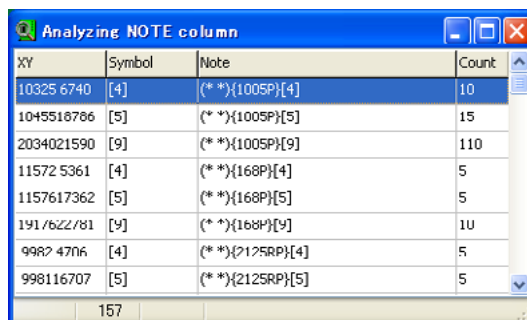
This function copies selected (highlighted) data on the clipboard.

Select All

This function selects (highlights) all items.

Save as CSV

Total results can be saved as a CSV file, which can be loaded by Microsoft Excel.



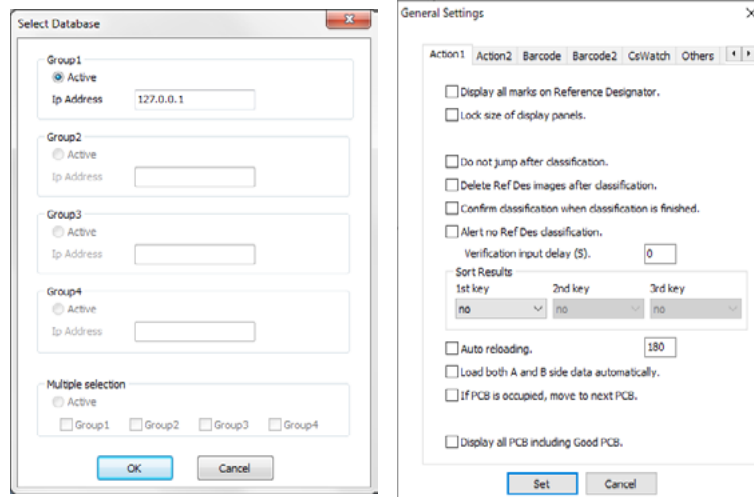
XY	Symbol	Note	Count
10325 6740	[4]	(* *) {1005P} [4]	10
1045518786	[5]	(* *) {1005P} [5]	15
2034021590	[9]	(* *) {1005P} [9]	110
11572 5361	[4]	(* *) {168P} [4]	5
1157617362	[5]	(* *) {168P} [5]	5
1917622781	[9]	(* *) {168P} [9]	10
9982 4706	[4]	(* *) {2125RP} [4]	5
998116707	[5]	(* *) {2125RP} [5]	5

Settings

The menus related to setting are as follows:

Select Database

Set IP address where PostgreSQL is installed. If CS-Repair is installed in the same PC, input 127.0.0.1. If you have more than one PostgreSQL, input the other IP address in field 2, 3 then 4. You can switch DB by selecting radio button.



General Settings

Menu to set action and barcode settings, it is very important to set each option up to your purpose.

Action 1

Display all marks on Reference Designator

This function sets the display method of the marks displayed in the PCB Map when the inspection point picture is displayed.

If this function is not selected (not checked), the mark display in PCB map is performed only in the area corresponding to the point picture and no mark is displayed in the other areas. If this function is selected (checked), the mark display in the PCB map is performed individually. The marks in the area corresponding to the inspection point picture are displayed as OK mark.

Lock size of display panels

This function sets the operation at the time when the window size is changed.

If this function is selected (checked), the size of the operation area is kept at the specified size or larger even when movement of the splitter or change of the window size changes the operation area screen size.

If this function is not selected (checked), the size of the operation area is not controlled.

Do not jump after classification

This sets the action after judging OK, NG and REP. Putting a check mark stays in the current PCB position without going to the next PCB. Without the check mark, it goes to the next PCB and displays it after judging OK, NG and REP.

Delete Ref Des images after classification

This sets the movement after judging OK, NG and REP. Putting a check mark deletes the individual pictures after judging OK, NG and REP. This function, by using with “Do not jump after classification” at the same time, makes it clear that the judgment is finished. Without the check mark, Ref Des pictures are not deleted after judging OK, NG and REP. Delete confirmation is indicated after the last change.

Confirm classification when classification is finished

By checking this, the display for confirmation pops up after classification.

Alert no Ref Des classification

Make an alert before moving to next PCB if each Reference Designator (inspection point) is not classified OK, NG or Rep. Select [Yes] to move to the PCB. Select [No] to stay.

Verification input delay (S)

When classifying Reference Designators from keyboard, you can set keyboard input interval in second to avoid the operator's continuous keyboard pressing.

Sort Results

Re-order Reference Designator data in Ref Des Status window by selected item. The setting is applied after reloading data.

Auto reloading

Automatically reload the latest data. Input ideal reloading timing in second.

Load both A and B side data automatically

Normally, even if your inspection program has A face (surface) and B face (back), only one face is loaded in CS-Repair. However if you check this option, both faces are loaded and CS-Repair displays A face by B face.

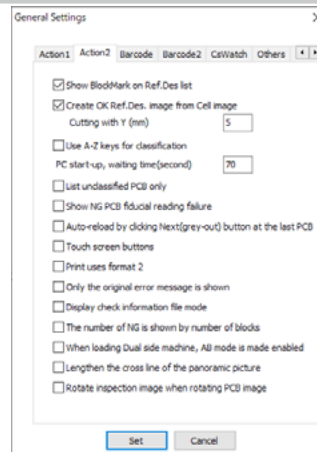
Remarks: To use this option, the PCB must have barcode. And 'Didplay in barcode order' option in Barcode tab must be checked.

If PCB is occupied, move to next PCB

If selected PCB is occupied by other operator, skip it and move to the next PCB.

Display all PCB including Good PCB

Normally, PCB displayed on PCB Status list is according to the status of NG/Good/OK button. By checking this option, all PCB are listed on PCB Status area.



Action2

Show BlockMark on Ref.Des. list

Normally Block Mark is not shown and not listed on Symbol list. If this is checked, blockmark is also listed. This should be checked if your PCB is panellized PCB, and you want to know the skipped panel.

Create OK Ref.Des. image from Cell image

By activating this, Picture of Good Reference Designator can be shown by clipping from Cell image. Since version 2.0.1.0, when multiple OK images are saved, they can be switched on the Result screen.

Use A-Z keys for classification

Normally only number keys can be used for classification, however by activating this, alphetet is also usable. Be careful that CS-Analyzer can only handle number keys.

PC startup, waiting time (second)

Set waiting time for CsRepair start-up when restart PC.

List unclassified PCB only

Display only unclassified PCB.

Show NG PCB by fiducial reading failure

Display NG PCB which failed to read the fiducial.

Auto-reload by clicking Next (grey-out) button at the last PCB

Execute reloading by clicking Next button while selecting the last PCB in list.

Touch screen buttons

Large button is display for touch panel function.

Print uses format 2

Print with special format by pressing Print button in Toolbar.

Only the original error message is shown

Display only error text when there is original error text. If there is no error, display nothing.

Display check information file mode

Mode to read and display the inspection data file saved by CsCenter.

The number of NG is shown to number of blocks

Change displayed number of NG to number of blocks.

When loading Dual side machine, AB mode is made enabled

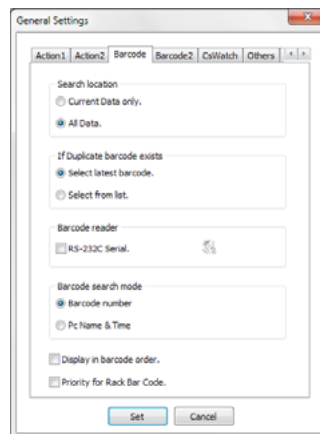
Function to read A & B side is active automatically when reading dual inspection machine.

Lengthen the cross line of the panoramic picture

Display the long cross line at circled position in PCB Map.

Rotate inspection image when rotating PCB image

When rotating the Map View image, the inspection image (including cell image) will also be rotated. Note that in the case of individual pictures, the master picture is also rotated.

**Barcode****Search location**

- Current file only:** Search barcode in currently loaded data.
All data: Search barcode in database.

If Duplicate barcode exists

- Select latest barcode:** The latest barcode is selected.
Select from list: The list is displayed and you can select from the list.

Barcode reader

RS-232C Serial: If using external barcode reader, select this option. Then setting icon on right will be activated. Set Port, Baud rate, Parity, Data bit and Flow control depending on your barcode reader from this icon window.

Barcode search mode

- Barcode number:** Search from barcode number.
Pc Name & Time: Search from AOI name and time.

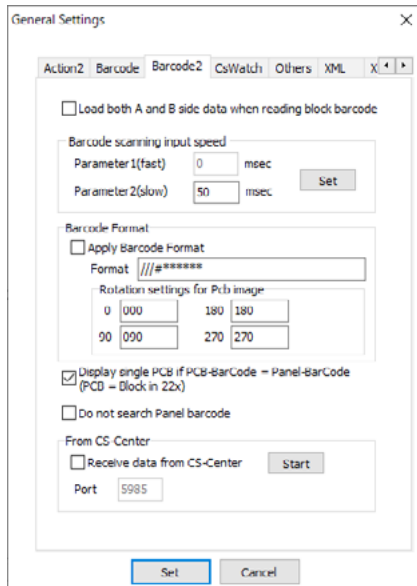
Display in barcode order

If you inspect 50% of PCB on one AOI and 50% of PCB on another AOI, you should check this option. Then these 50% data will be displayed as one inspection data on CS-Repair. Also you should check this option when classifying or repairing side A+B inspection data.

Priority for Rack BarCode

Call barcode attached on rack. When this is checked, all PCB in one rack is listed.

* Barcode attached on rack has no relation with Rack number in PCB status list.

**Barcode2****Load both A and B side data when reading block barcode**

Show side B data too when side A's Block barcode is searched.

Barcode scanning input speed

When handy scanner's data transmission is too fast or too slow, change minimum speed (Parameter 1) or maximum speed (Parameter 2).

Barcode Format

By specifying the barcode format, the barcode is separated into barcode information, Map View rotation information, and invalid characters. The following three format specifiers are used.

- * barcode specifier
- / Map View rotation information
- # Invalid character

Map View rotation setting specifies to which rotation angle (0, 90, 180, or 270) the character specified with / is assigned. When a barcode search is performed, a Map View is displayed at the specified rotation position when the data is displayed.

E.g.) Format [///#*****], barcode [180-ABCDEFGH]

Barcode	ABCDEFGH
Rotation	180

Display single PCB if PCB-BarCode = Panel-BarCode

Display only judged individual PCB when searching by PCB barcode.

Do not search Panel barcode

Activate the function not to search barcode.

From CS-Center

This setting is used when receiving inspection information notification immediately after an inspection from CS-Center.

When data is received from CS-Center, data is displayed based on the received inspection information. On the CS-Center side, this setting is configured from [CS-Repair / CS-Guide] in [Address Settings].

Receive data from CS-Center

Check this box to receive inspection information from CS-Center.

Start/Stop

Start: Starts the connection for data reception.

Stop: Stops the connection for data reception.

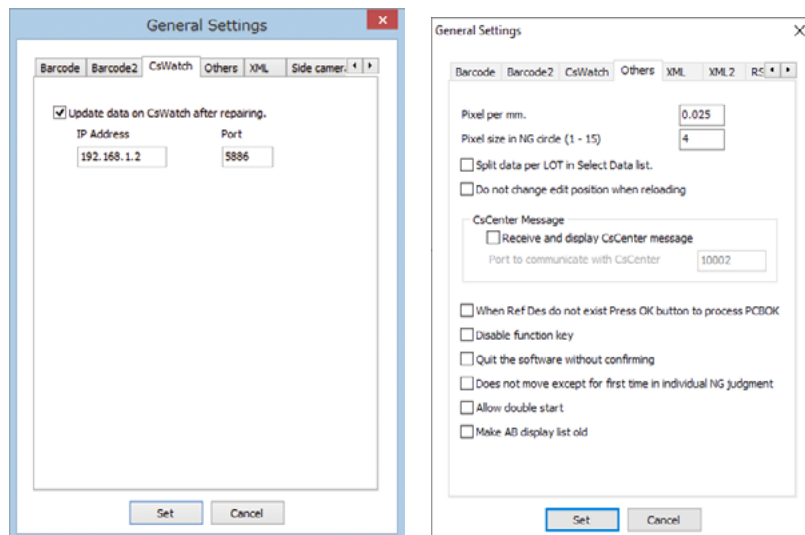
Port

Sets the port number to be opened on the CS-Repair side.

CsWatch**Update data on CsWatch after repairing**

Usually, data displayed as graphs on CS-Watch is the data right after inspection. With this option on, data after repairing/classifying/verifying on CS-Repair is sent to CS-Watch.

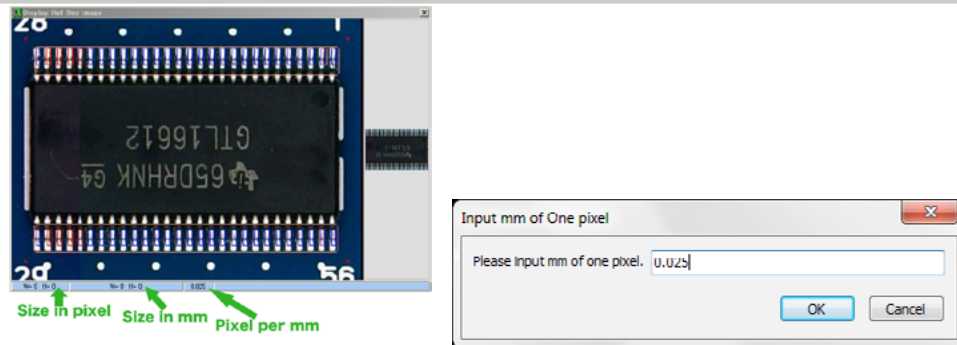
This means that data on CS-Watch becomes more in details. e.g. If you set AOI to send all NG automatically, there can be false NG also in the NG data. But after verifying data on CS-Repair, only real NG is listed on CS-Center.

**Others****Pixel per mm.**

The value is used when measuring actual size on NG point picture when it is displayed in zoomed Reference Designator window. Display the object you want to measure the size, and size in pixel and size in mm will be displayed at bottom of the screen when you drag it with right click. Input proper value to meet your AOI.

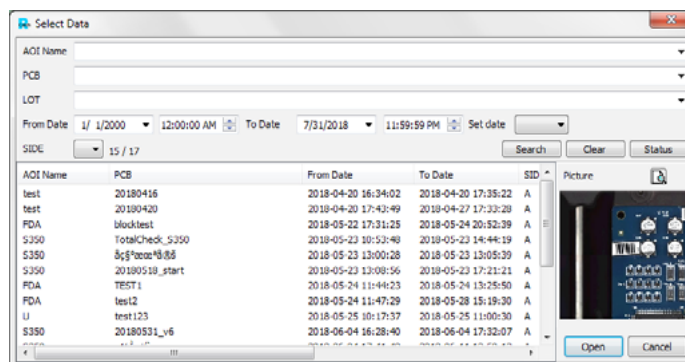
Pixel size in NG Circle

Change NG circle size from 1 - 15 pixel.



Split data per LOT in Select Data list.

Normally, when you select data, you can select per Lot. But if this option is ON, you can select data regardless Lot.



Do not change edit position when reloading

Do not change the current edit position in PCB list when reloading.

CsCenter Message

Display the message to CS-Repair when data is not combined even you use the combination function in CS-Center. Put check to "Receive and display CsCenter message", and set Port to "Port to communicate with CsCenter".

When Ref Des do not exist Press OK button to process PCBOK

Process PCB OK by pressing OK button when Ref Des does not exist.

Disable function key

Make function keys inactive.

Quit the software without confirming

Does not display notice message while quitting the software.

Does not move except for first time in individual NG judgement

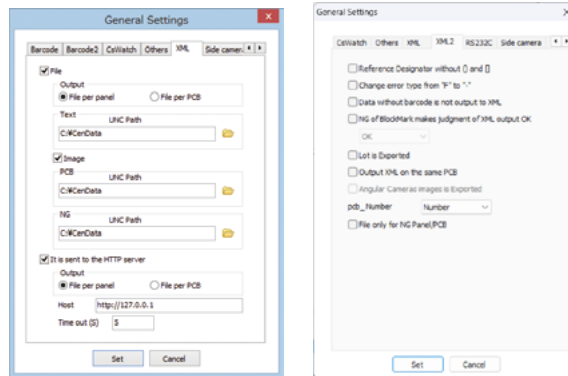
Allows to move to next file just for the first time on NG judgement.

Allow double start

Enable to launch CS-Repair doubly while CS-Repair is already active.

Make AB display list old

Change inspection data lists into old type. Data is displayed by inspected time series.



XML

Output XML after classification. File per panel or File per PCB is selectable, and set the output location. The XML format is same as the XML output on CS-Center.

It is sent to the HTTP server

Send XML data to HTTP server. File per panel or File per PCB is selectable, and set the output location. Set HTTP server address in "Host". Set the time in "Time Out" for server communication. Set time is in seconds.

XML2

Set the function for XML output.

Reference Designator without () and []

If () and/or [] is included in Reference Designator of XML output, delete () and [] when output XML.

Change error type from "F" to "-"

Output XML with "-" when error type of XML output is "F".

Data without barcode is not output to XML

Excepts for data without barcode.

NG of BlockMark makes judgement of XML output OK

Normally, if a BlockMark is NG, the output is [NG]. By turning this setting ON, the output can be set to [OK] or [Empty].

Lot is Exported

Exports LOT to XML.

Output XML on the same PCB

Outputs XML though the same PCB on judgement.

Angular Cameras images is Exported

Exports angular camera images into same folder as Ref.Des. images.

This option is available when **Image** option on **XML** tab is active.

File only for NG Panel/PCB

Outputs only PCB information that is judged as NG by inspection machine to XML.

pcb_Number

Depending on the settings you select, the output content in the XML file will be switched.

Number: Serial number of the block in the XML output

BlockNumber: Block number in the inspection result

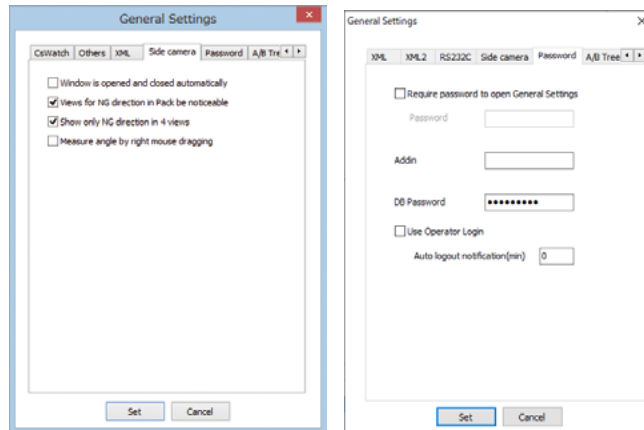
*** In software version 2.0.0.7 or later, BlockNumber is output sorted by block number.**

The x part of the following data will change.

<serial_pcb_x>

<status_pcb_x>

<pcb_no>x</pcb_no>

**RS232C**

Connecting option with particular system.

Side Camera***Window is opened and closed automatically***

Open/Close Angular Camera view window when data has angular camera data.

Views for NG direction in Pack be noticeable

Same as angular camera screen on AOI, shadowing unnecessary views for easy viewing.

Show only NG direction in 4 views

Same as angular camera screen on AOI, do not show all 9 views but show only 4 views.

Measure angle by right mouse dragging

Measure the angle by right-click the mouse. Right-click at starting point, and drag through to end point to set reference line. Right-click at starting point of measurement point, and drag through end point to set measurement line. Angle will be displayed at the lower part of screen. Possible to save the measurement line and result by clicking save button if measured by enlarged screen.

Password***Require password to open General Settings***

Protect General Settings by password being touched by anyone.

Addin

Use only for the operation of special specification. Normally it is blank, and no need to input anything.

DB Password

DB Password is normally not used. Only if you assigned other password than postgres1, input the other password here. Otherwise CS-Watch will be refused to connect.

Use Operator Login

Inputting the user name and password is required when starting up CS-Repair.

Auto logout notification

Sets the time to automatically logout if there is no specific operation.

A/B Tree View**Activate A/B Tree View**

Display the screen with tree view. Need to restart CsRepair.

Show side B automatically after classifying side A

Display B face (back) after classifying A face (surface).

Display in Date order

Display the list of PCB by date.

It expands automatically

Display the tree list automatically when PCB is selected.

Display grid

Display the grid similar to normal display in A/B Tree view.

Use F9 for A side switching and F12 for B side switching

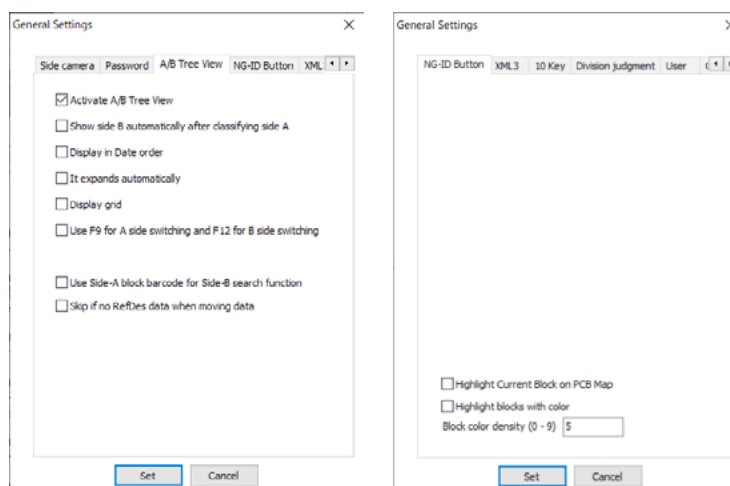
Use F9 key for switching to A side, and F12 key for switching to B side.

Use Side-A block barcode for Side-B search function

Use Side-A block barcode for Side-B search function. (When there is no barcode in Side-B, and showing only Single PCB)

Skip if no RefDes data when moving data

Data that does not display RefDes data is skipped and moved to the next PCB.



NG-ID Button***Highlight Current Block on PCB Map***

Darken the map view except selected block when block is set to PCB.

Highlight blocks with color

Highlights current block with red when NG data is there, with green when no NGs.

Block color density

Choose density of block color from 0-9.

XML3

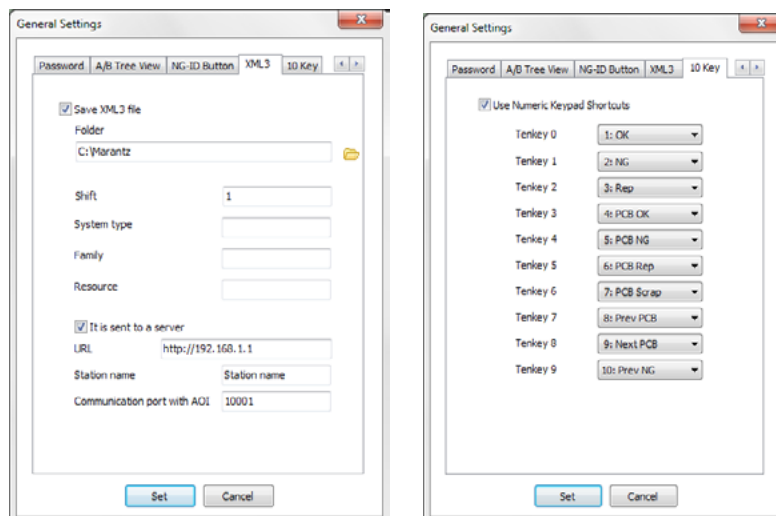
Output XML data.

Save XML3 file

Output XML file to designated folder. Set "Shift", "System type", "Family", and "Resource". It is used to XML output.

It is sent to a server

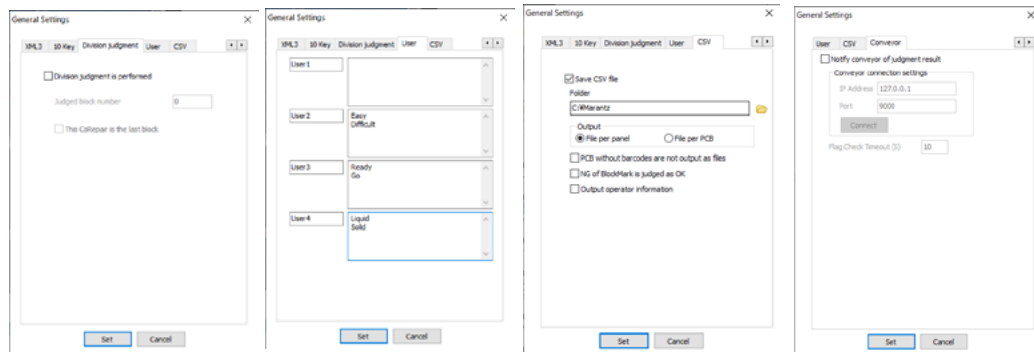
Output text string of XML to designated server. Set "URL", "Station name", and "Communication port with AOI".

**10 Key*****Use Numeric Keypad Shortcuts***

Possible to set the operation when you press numeric keypad. Select the operation from pull down menu for numeric keypad from Tenkey 0 to Tenkey 9.

You can select the operation among following;

OK, NG, Rep, PCB OK, PCB NG, PCB Rep, PCB Scrap, Prev PCB, Next PCB, Prev NG, Next NG, A, B, Reload



Division judgement

Division judgement is performed

Displays only selected block number data.

Judged block number

Selects specified block number.

This CsRepair is the last block

Sets whether the selected block number is last. The setting is renewed if you tick it.

User

Register messages for current Ref.Des. or change column name of Ref.Des.

See P.34 "Operator Area" for details.

CSV

Save CSV file

If it is active, CSV file is saved on the folder you choose.

Output

Set [File per PCB] to output information for each sub PCB.

PCB without barcodes are not output as files

When the option is ON, PCBs without barcodes are not output to file.

NG of Blockmark is judged as OK

For the PCBs that are judged as NG by the BlockMark stamp, they are treated as OK.

When the option is ON, the judgment is indicated as 'BM' when the file is output. When the option is OFF, it is judged as NG.

Output operator information

Outputs the registered login name using the inspection machine and CS-Repair.

Conveyor

Option for communication with dedicated systems. Please contact your distributor for details.

Window Color

Enable to customize screen display color.

As window color setting dialog is displayed, set the display color and click the set button. To change the display color, click the colored frame of the window first.

As the color dialog is displayed, select the color. To make a new color, make a color by clicking the color-making button and click the addition button.

Grid

Customize the color of the grid.

NG Mark

Customize the color of the NG marks displayed in the **PCB map**.

False NG mark

Customize the color of the false NG marks displayed in the PCB map.

Mouse selected mark

Customize the color of the mouse selected mark displayed in the PCB map.

Current mark

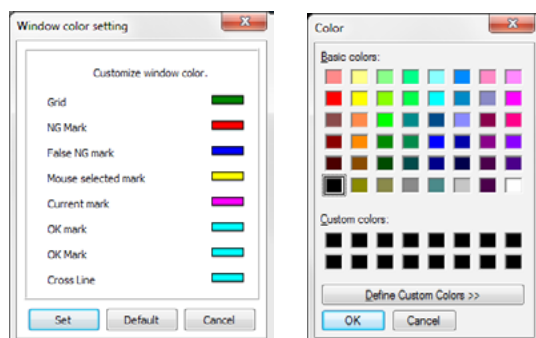
Customize the color of the NG marks of current Ref Des. displayed in the PCB map when 'Display all marks on Ref Des anytime' is on in Action tab of General Settings.

OK mark

Customize the color of the false NG marks displayed in the PCB map when 'Display all marks on Ref Des anytime' is on in Action tab of General Settings.

Cross Line

Customize the color of the cross line mark displayed in the PCB map.



NG Classification ID

The NG ID window is displayed. It serves as a useful reference for input of NG ID from the keyboard when classifying NG in cause or phenomenon. The item can be edited by double-clicking on white columns. To quit from editing, press Enter, or click other space.

Export

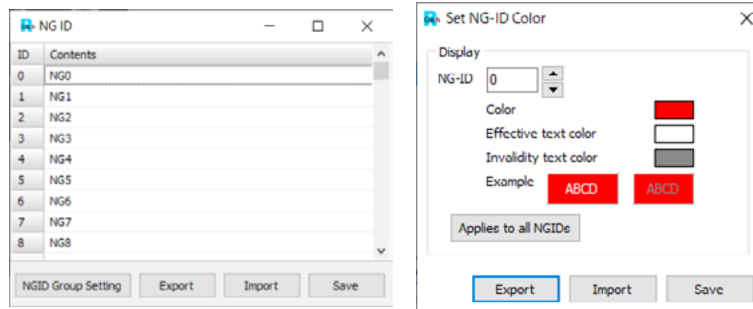
Outputs the displayed NG-ID items to an arbitrary file.

Import

Reads NG-ID items from the file and displays them on the screen.

Save

Saves displayed NG-ID items.

**NG-ID Color**

Changes the color of NG-ID button.

Applies to all NGIDs

Applies the currently displayed settings to all NG-ID buttons.

NGID Group Setting

This window allows you to specify the range of NG-ID buttons to be displayed and to set the shortcut key assignment. By setting multiple NG-ID buttons, you can switch the NG-ID buttons to be displayed for each inspection type. Click [Settings] - [NG classification ID] - [NG ID] - [NGID Group Setting] to display this window.

ID Range**Start**

Specifies the starting number of the NGID to be displayed.

End

Specifies the end number of the NGID to be displayed.

NGID Key

Assigns the NG-ID within the display ID range to the 0-9 and A-Z keys. B, N, and R key cannot be set because they have already been used in another process.

Create a new file

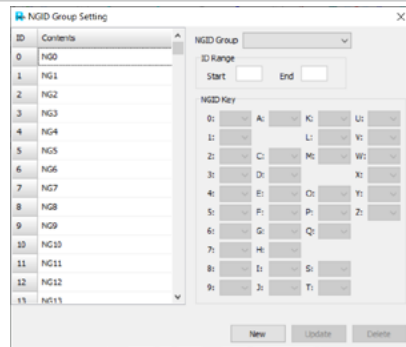
Creates a new NGID Group Setting file.

Update

Updates and saves the currently selected NGID Group Setting file.

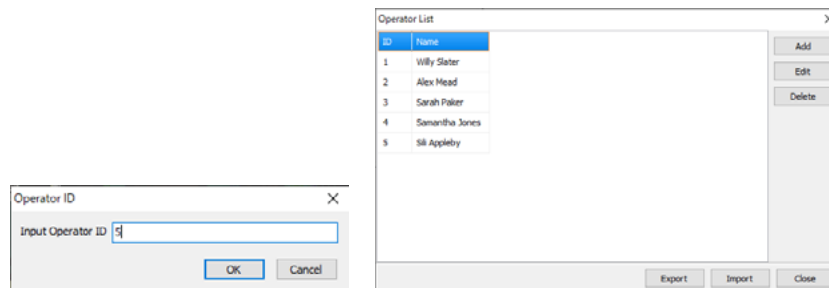
Delete

Deletes the currently selected NGID Group Setting file.



Operator ID

Repair operator ID can be set to identify the worker. ID can be set in numbers, and can be edit from 'Operator ID Edit' in Settings. Current Operator ID is displayed in top right corner of main screen. If you want to check ID history, open the property.



Operator ID Edit

Enable to edit operator ID and operator name. Select an item to edit.

Add: Add a new operator. A new dialogue pops up for inserting data.

Edit: Select one of the operator, triple click the field, then the field will be editable.
After editing select this menu to update.

Delete: Select one of the operator and select this menu to delete.

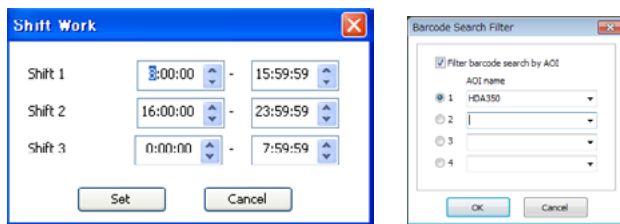
- * Edit menu can also be displayed by clicking on right button of mouse in the fields.
- * You can also edit this menu by clicking each field, however in this method, you always have to update each change after editing.

Working Time

If operators are working according to schedule, you can set working hour. It helps to trace or analyze data in the future.

Barcode Search Filter

When multiple AOI is connected to CS-Center and same inspection program is inspected on more than one AOI, sometimes operator makes mistake of which AOI's data should be classified. By Filtering AOI in advance, only data of selected AOI will be shown.



Language

Set the language. Select language from Chinese, English, Japanese, or Korean.

Window

Display Toolbar1

Toolbar1 is displayed. Press this button when you close Toolbar1 and want to open again.

Display Toolbar2

Toolbar2 is displayed. Press this button when you close Toolbar2 and want to open again.

Display Toolbar3

Toolbar3 is displayed. Press this button when you close Toolbar3 and want to open again.

Initialize Toolbar

Make Toolbar display on default.

Float Toolbar1

Make Toolbar1 floating.

Float Toolbar2

Make Toolbar2 floating.

Float Toolbar3

Make Toolbar3 floating.

Initialize Window

Get Window size and position back to default

Help

Help


Display help menu.

About CsRepair


Display version and information of CS-Repair.

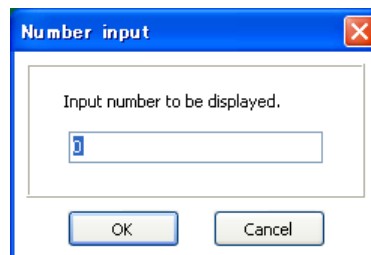
10. Buttons in Main Window

Open


 Select data from database. Same as 'Open' in File menu.

PCB inspected

 The number of total inspected PCB is displayed. By clicking Number input dialog pops up. By inputting number, you can jump to the target PCB. This function is same as 'Number' in 'Jump by PCB' in View menu.



Reload

 Refresh current data, if inspection continues, then additional inspection data is loaded. Same as 'Reload' in File menu.

Print

 Print current PCB's inspection data, map view and Ref.Des.

Previous button (PCB_status)

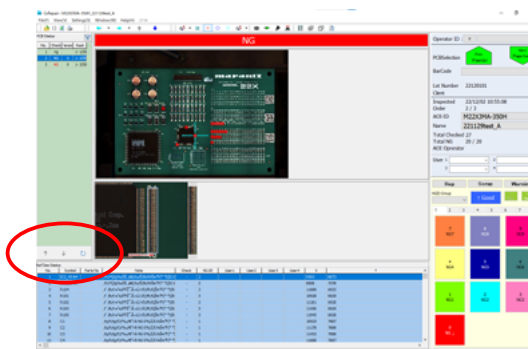
Displays the previous PCB data.

Next button (PCB_status)

Displays the next PCB data.

Reload button (PCB_status)

This button has the same function as the Reload button  on the top of the screen.

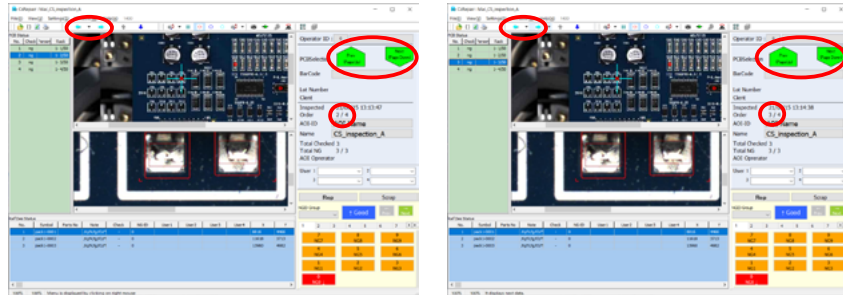


Previous PCB

← Move to previous PCB. Same as 'Previous' in 'Jump by PCB' in View menu.

Next PCB

→ Move to next PCB. Same as 'Next' in 'Jump by PCB' in View menu.

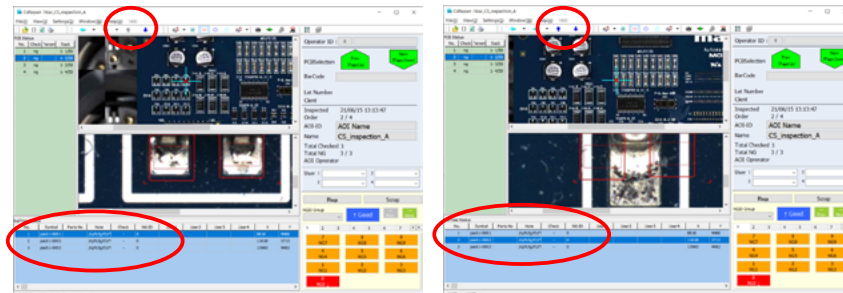


Previous Ref Des


↑ Move to previous Reference Designator (inspection point). Same as 'Previous' in 'Jump by Ref Des' in View menu.

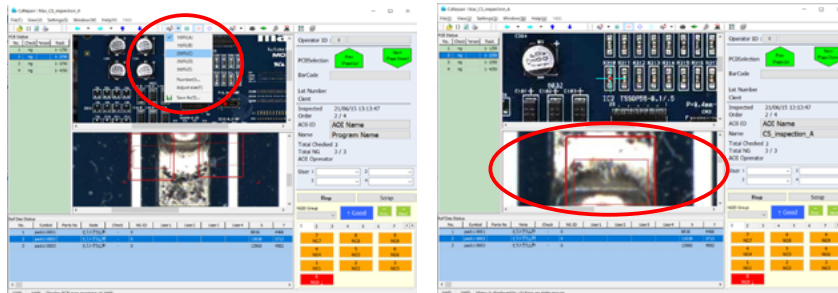
Next Ref Des

↓ Move to next Reference Designator (inspection point). Same as 'Next' in 'Jump by Ref Des' in View menu.




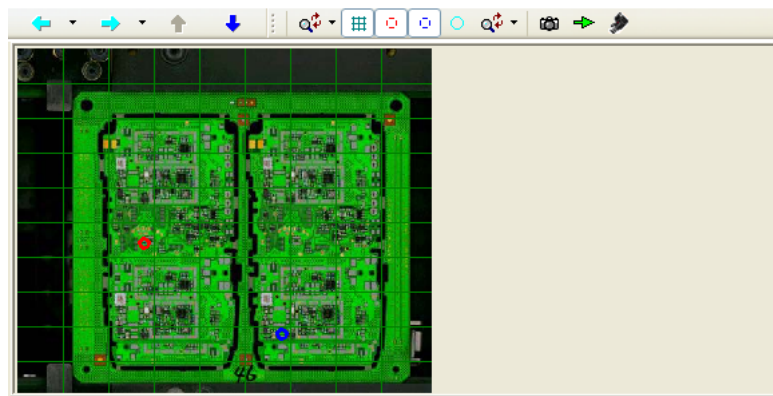
Zoom PCB map

 Zoom-in the PCB map. Clicking this button enlarge the PCB map by keeping height vs width ratio. However, it cannot be enlarged over the maximum area of the screen. From pull-down next to glass icon, you can select zooming size. If you select Save As, you can save PCB map in BMP or JPG.




Grid

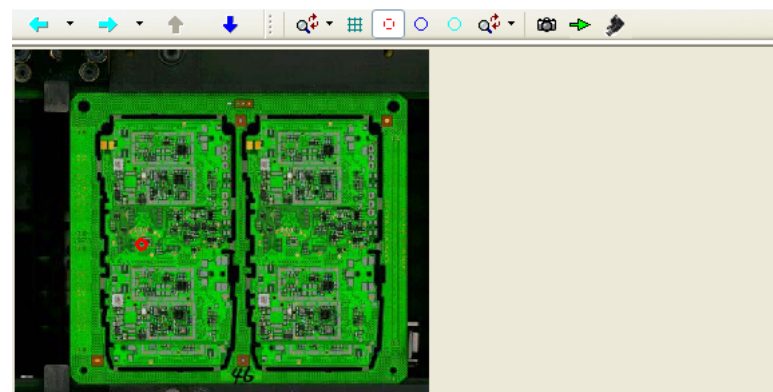
 Display grid in PCB map. Click this button again, then grid will not be displayed.




NG

 Display NG inspection points only in PCB map.

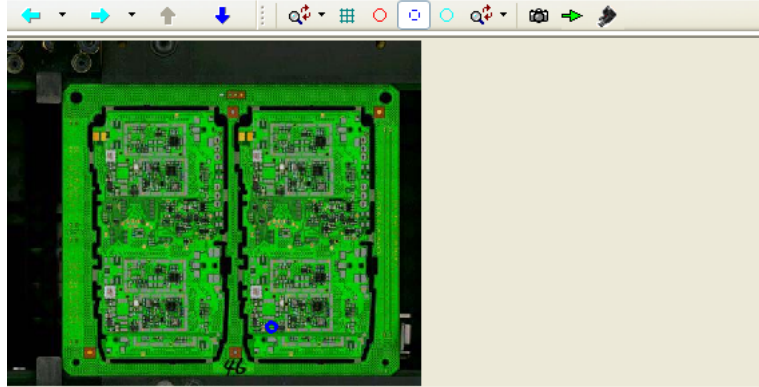
Remarks: If only this button is pressed, PCB without NG will not be listed on PCB status window and False NG / OK inspection points will not be listed on Ref Des Status window.




Good

 Display False NG inspection points only in PCB map.

Remarks: If only this button is pressed, PCB without False NG will not be listed on PCB status window and NG / OK inspection points will not be listed on Ref Des Status window.




OK

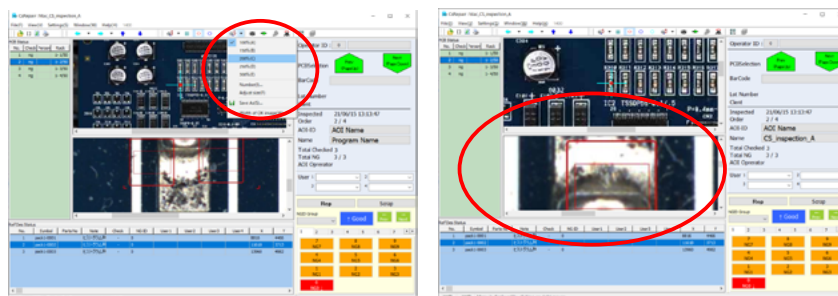
 Display OK inspection points only in PCB map.

Remarks: If only this button is pressed, PCB without OK inspection point will not be listed on PCB status window and NG / False NG inspection points will not be listed on Ref Des Status window..




Zoom point picture


 Zoom-in the Reference Designator (inspection point) picture. Clicking this button enlarge the picture by keeping height vs width ratio. However, it cannot be enlarged over the maximum area of the screen. From pull-down next to glass icon, you can select zooming size. If you select Save As, you can save PCB map in BMP or JPG.




Capture

 Display images taken by Capture Stamp in inspection program. Image taken by Capture Stamp is stored also in database. Images are listed on left bottom. Select image to display. You can close this window by one click. You can enlarge the picture by dragging window, and by clicking right mouse you can display the image in original size.


Rotate PCB

 Rotate PCB -90 degrees by one click.

Show Angular Camera images

 opens new window to display images taken by angular cameras.

Mirror

 Display Map view with right and left inverted.


Barcode

 Change the Block barcode of selected point.


X02W 3D View

 Displays the confirmation screen for 3D data acquired by X02W.


List

 Displays detailed data for X02W inspection results.

A face

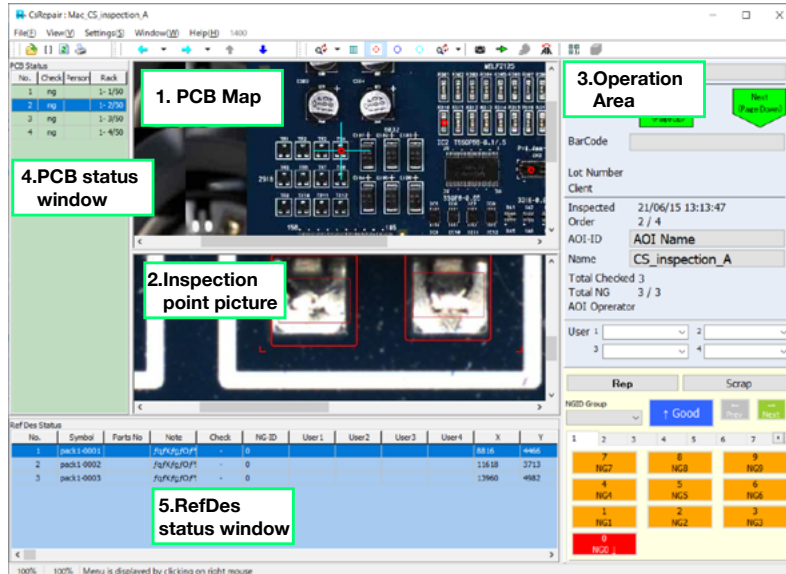
 Select A (surface) face

B face

 Select B (back) face.

11. Window Operation

You can change the window size by dragging the splitter of the window.

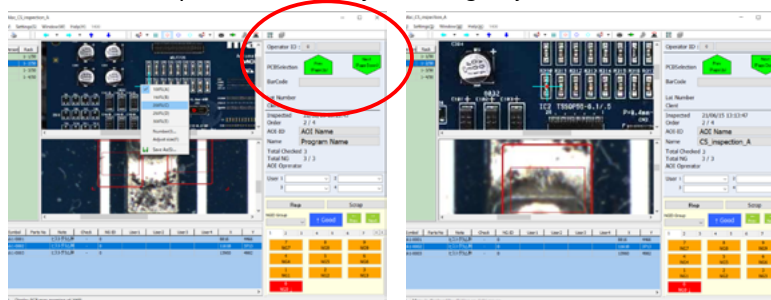


PCB map

The window where picture of PCB is displayed.

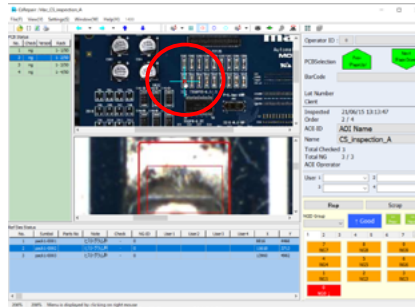
Zoom-in

Zoom-in PCB map by selecting percentabe or input zooming %, or make PCB map size to fit the PCB map window area by selecting Adjust size.



Select by mouse

Bringing the mouse close to the mark displayed on the screen changes the shape of the mouse to a hand. Clicking the mouse when it is in the shape of a hand makes the mark into the status of being selected and the color changes. The selected location's picture is displayed in inspection point picture window.

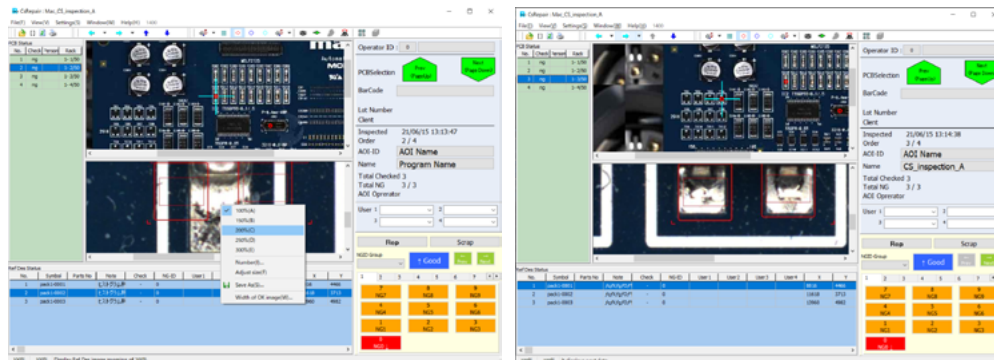


Save As

Sub-menu pops up when you click right mouse button on PCB map. You can save the displayed PCB map image by clicking **Save As**. Designate the folder and name, and click Save button.

Inspection point picture

The window where picture of inspection point (Reference Designator) is displayed. Pop-up menu is displayed with right click. You can zoom-in the picture by selecting zooming % (100% to 300%). You can also make the picture size to fit the inspection point window area by selecting Adjust size. With zoomed-in status, you can move the displayed image by left clicking the mouse and dragging. Also you can move the displayed image by moving scroll bar at the right and at the bottom.



Save As

Sub-menu pops up when you click right mouse button on inspection point picture. You can save the displayed inspection point picture (Reference Designator) by clicking **Save As**. Designate the folder and name, and click Save button.

Operator area

The 1/3 of right side of Main Window is the area used by operator.

Operator ID

Operator ID and name is displayed if you input operator ID from '**Operator ID**' in Settings Menu. By pressing ID or name button, you can set/change/edit operator.

PCB Selection

Buttons to move to previous or next PCB. Equal to PageUp and PageDown keys on keyboard.

Bar Code

Barcode number of the PCB is displayed. By pressing button, you can search PCB by inputting barcode.

Lot

Lot number is displayed.

Inspected

Date and hour of inspection.

Order

PCB number out of total in current data.

AOI-ID & Name

Name of AOI (Mac) and name of inspection program. By pressing button, you can call 'Select Data' window.

Total Checked

Number of inspection points (Reference Designators) on the PCB is displayed

Total NG

Number of NG inspection points (Reference Designators) on the PCB is displayed.

OK

***Not shown in V1.4.0.0 or later.**

Classify current PCB OK.

After pressing this button, OK will be fed back on Check column in PCB status window.

NG

***Not shown in V1.4.0.0 or later.**

Classify current PCB NG.

After pressing this button, NG will be fed back on Check column in PCB status window.

Rep

Classify current PCB Repaired.

After pressing this button, Rep will be fed back on Check column in PCB status window.

Scrap

Classifies the inspection decision as Scrap.

When a block is set, Scrap is set only for the block in which the currently selected Ref.des. is placed. When Ref.des. that has been set to [Scrap] is selected, [Scrap] is displayed at the bottom of the barcode field. To set the inspection result to [Scrap] for data with blocks, use the right-click menu on the PCB selection screen.

Individual judgment cannot be set for the area (whole or block) that has been set to Scrap. If you want to change each result, set the judgment to unconfirmed.

NGID Group

NG-ID Group Setting list is displayed. The number of NGIDs will vary depending on the NGID group you select.

Classinformation buttons

You can classify each inspection point (Reference Designator) by ten keys and arrow keys. Some keys are also used to move next/previous inspection point or PCB.

PCB Status window

This is the window to display PCB in list. By clicking a PCB, the PCB is selected and displayed. By clicking right mouse button, the sub-menu pops up.

OK	Classifies the PCB as OK.
NG	Classifies the PCB as NG.
Scrap	Classifies the PCB as scrap.
Warning	Classifies the PCB as warning.
Repair	Classifies the PCB as repaired.
Undo	Sets the inspection result as not confirmed status.
Property	Displays the PCB classification details.

Rack

Rack column represents: **Rack number - shelf position / total shelves number in a rack**

You can set the rack status from pop-up menu by right clicking rack column.

Number of shelf in a rack

Set the number of shelf (how many PCB to contain).

Starting rack number

Set the starting number of racks. On default, the number is 1, but if you want to repair/classify from another number, specify the number here.

Starting shelf number

Set the starting number of shelves in the rack. If you set the number then the PCB with earlier numbers are not displayed on the PCB list.

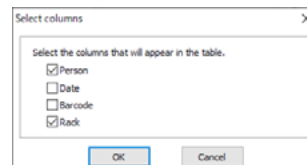
Ref Des Status window

This is the window to display inspection points (Reference Designators or Ref Des) in list. By clicking one, the inspection point is selected and displayed. By clicking right mouse button, the sub-menu pops up.

OK	Classifies the inspection point (Ref Des) as OK.
NG	Classifies the inspection point (Ref Des) as NG.
Warning	Classifies the inspection point (Ref Des) as warning.
Repair	Classifies the inspection point (Ref Des) as repaired.
Undo	Sets the confirmation result of Reference Designators as not confirmed status.
Property	Displays the classification details of confirmation result of Ref Des.

Select columns

Set the items to be displayed on the window. Cannot be used when [Activate A/B Tree View] is ON and [Display grid] is OFF in the [A/B Tree View] settings.



Keyboard functions

Shortcut

Open database	Ctrl + O
Reload	Ctrl + N
Search by barcode	B

Arrow keys

Up	Classify current inspection point (Ref Des) OK and move to the next point.
Down	Classify current inspection point (Ref Des) NG and move to the next point.
Right	Move to the next point.
Left	Move to the previous point.

Function keys

F1	Classify current PCB OK
F2	Classify current PCB NG
F3	Classify current PCB Repaired
F4	Undo PCB classification
F5	Classify current inspection point (Ref Des) OK
F6	Classify current inspection point (Ref Des) NG
F7	Classify current inspection point (Ref Des) Repaired
F8	Undo inspection point (Ref Des) classification
F9	Zoom-in inspection point (Ref Des) picture

Other keys

Tab	Move to the next tab page of NG-ID button
Shift + Tab	Move to the previous tab page of NG-ID button
PageUp	Display the previous PCB
PageDown	Display the next PCB

12. Using external Barcode Reader

You can use USB interface or keyboard interface barcode reader.

Barcode reader settings

Please set barcode reader as followings:

Header:	Null
Terminator:	CR
Data format:	Data + Terminator

Barcode input

Barcode can be input by one of the following methods when the CS-Repair is running and other dialogs are not displayed.

1. To activate the barcode reader
2. To enter in the barcode input dialog displayed from [File] - [Barcode input]

13. Basic Operation

Select data

Select data from '**Open**' in **File** menu or open icon in tool bar. Select target data by sorting from PC Name, PCB, Lot number, production period (From To) and SIDE.

You can also select data by pressing Bar Code, AOI-ID or Name buttons in Operation area.

Preview of PCB map is displayed on right bottom by selecting data from list, this can be a good reference to select data. And if you press Preview button, the larger size PCB map is displayed in new window.

Identify operator and customize screen

Identify operator

Set your (operator's) ID in Operation area.

Set PCB map what to display

Select buttons NG / Good / OK from toolbar in order to display the marks on PCB map according to your purpose. For example,

- If you just want to check defective points, activate **NG** only.
- If you are supervisor and want to check the judgement skill of AOI operator, activate all three buttons. Then you can check if AOI operator's skill is good enough or not.

Remarks: If you do not check on 'Result includes OK data (dx, dy)' in Lan tab of Setting for supervisor on 22xx software, OK data is not collected, and will not be displayed on CS-Repair.

Set NG-ID (classify NG in error type)

If you want to classify defects by phenomenon, you can set 256 of NG classification ID in Settings menu. If you set NG-ID and classify NG inspection points, the classification data will help you to analyze PCB production status. For setting details, please refer to P.24 **NG classification ID**.

NG reference designator and NG PCBs

Take actual PCB in your hand, and check the defective points by referring CS-Repair data.

Check inspection point (Reference Designator)

To select inspection point, press the Ref Des previous and next buttons or the left and right arrow keys on the keyboard displays the next or previous inspection point (Ref Des). Or select point (Ref Des) from Ref Des Status window. Or click the mark on PCB map.

Classify the inspection point "OK", "NG (NG-ID)" or "Repair" by up and down arrow keys, or ten keys. Sometimes during work, you maybe in need of checking the defective point very carefully. To zoom-in point picture in new window, press F9. To zoom-out, press F9 again.

You can keep working with the new window for zoom-in picture open, such as move to next

inspection point or next PCB.

Check PCB

After checking all inspection points, classify PCB "OK" "NG" or "Repair" depending on the results. PCB classification is automatically done after you classify all inspection points. If you skip classifying each inspection point, still you can classify PCB by pressing OK, NG or Rep buttons in operation area. To move between PCB, click on the previous PCB and next PCB buttons or / and * keys on the ten key to display the next or previous PCB. Or select PCB from PCB Status window. If you operate by keyboard, F1="OK", F2="NG", F3="Repair", and F4="Undo".

Load new data

If inspection is continuing, press Reload button on tool bar or 'Reload' from File menu to load the latest data.

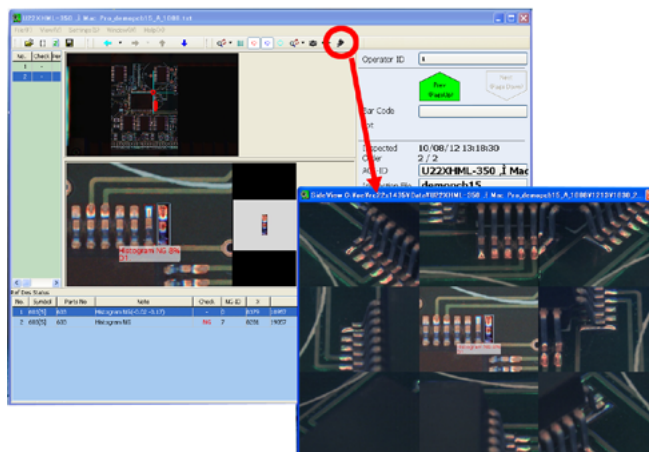
14. View images from Angular Cameras

If your AOI has angular cameras, you can send images to CS-Center, and confirm on CS-Repair.

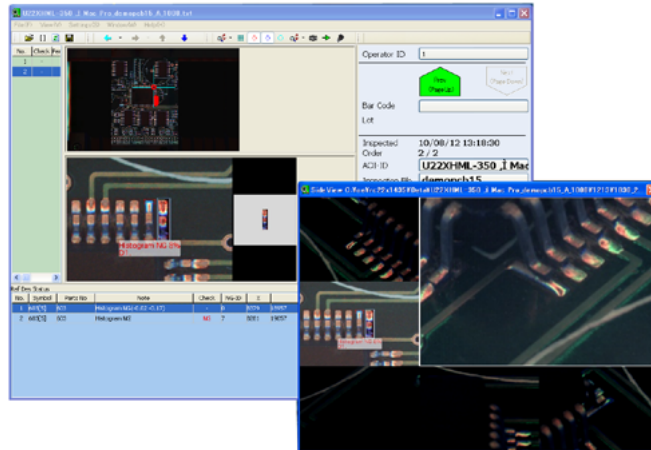
*** If you always classify/verify with Angular Camera images, we recommend to use wide monitor or dual monitors for easy to see screen.**

Select a reference designator. Click angular camera icon on menu bar, new window to show the angular camera image opens.

*** If the icon is greyed out, it means that angular camera image is not taken.**

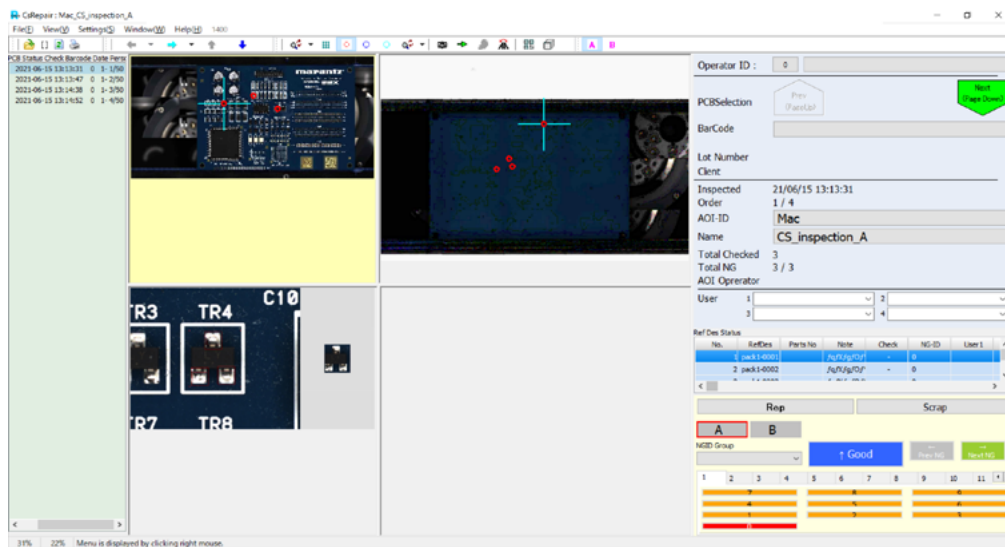


- Angular Camera view window is resizable.
- By clicking any of 9 view, you can enlarge the view.
- Save image by clicking with right mouse button.

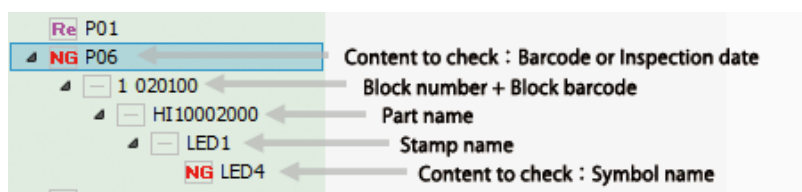


15. About Tree View

If PCB has data of both A face and B face, both data can be invoked by selecting either data. When you load the data, PCB list is displayed at the left side in the screen. From this list, you can check the result of each symbol.



Tree will unfold by clicking left end. Content of the tree is as follows



PCB map of A face and B face is displayed in top center. The background of selected face is colored in yellow.

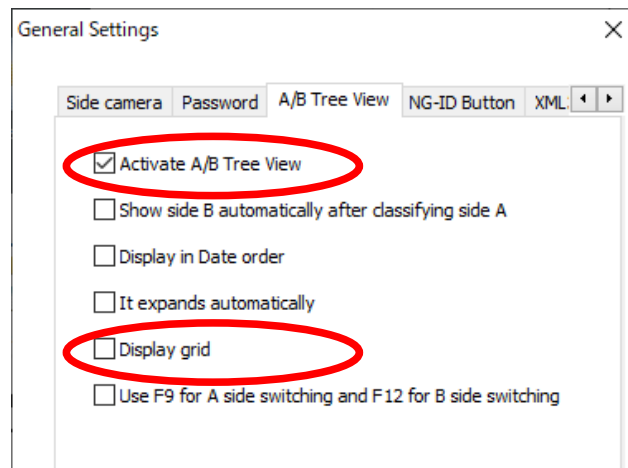
If B face is displayed, the list in the left side is for the current displayed PCB.

NG picture of selected symbol in selected face is displayed in lower center left.

Image from side camera of selected symbol is displayed in lower center right.

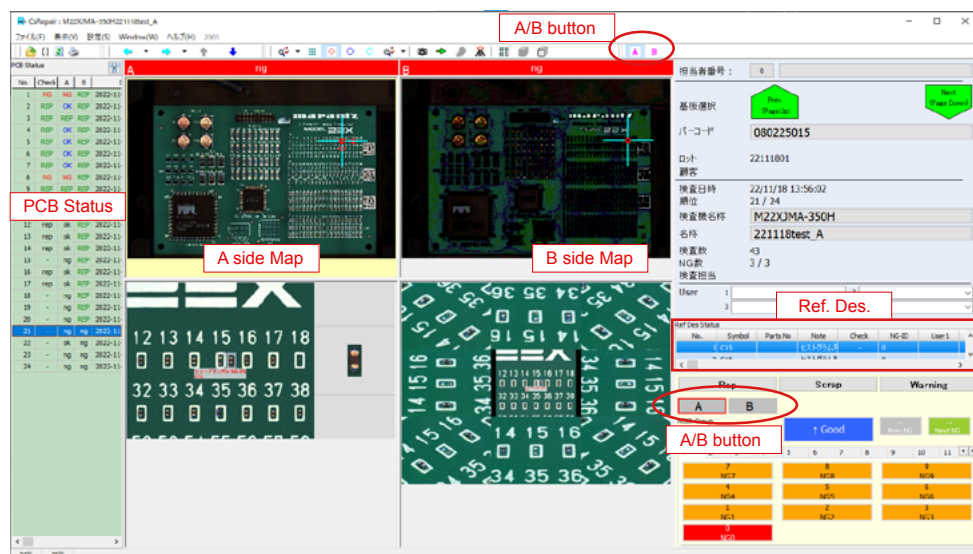
16. How to Check Data for Dual Inspection Machine

Tick **Activate A/B Tree View** and **Display grid on A/B Tree View** tab on **General Settings** to check inspection data for dual inspection machine. By this setting, you can check results of both Side-A and B.



Select data after ticking as above. Map Views of both sides are displayed on the center. Also, PCB status of both side is displayed on PCB list.

Click A/B button on toolbar or operator area to switch Ref.Des. of each side.



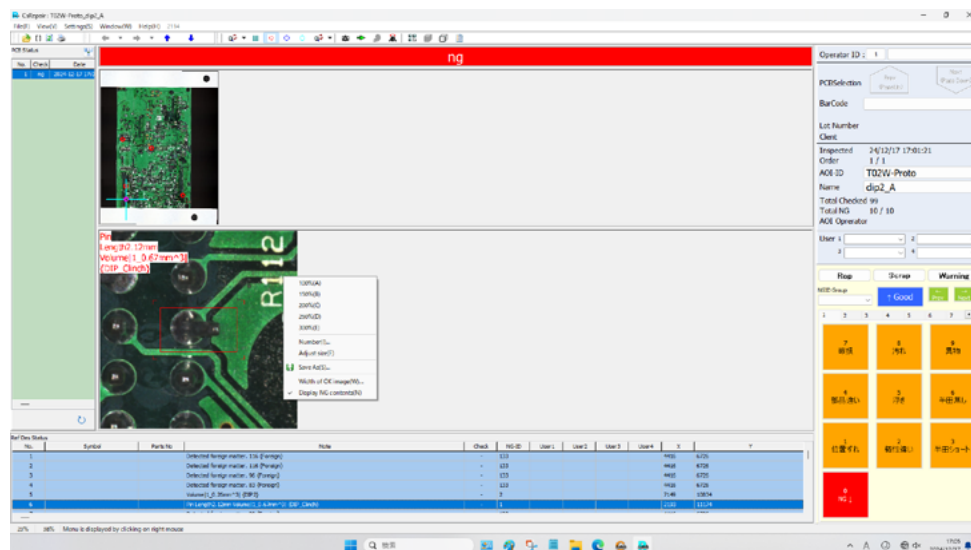
 Displays the confirmation screen for 3D data acquired by X02W.

 Displays detailed data for X02W inspection results.

For 3D inspection machine, there are two types of inspection images: 2D and 3D. 2D images are displayed in the same position as the normal individual pictures.

Display Information in Image

For 3D inspection machine, the display/non-display of NG content in the image can be switched using the right-click menu [Display NG Content] on the image.



Result List


The 3D inspection machine allows multiple inspection items to in a single inspection frame, and thus provides a function to check the results of each inspection item. The results are displayed in red if the inspection decision is NG, and in blue if the decision is OK.

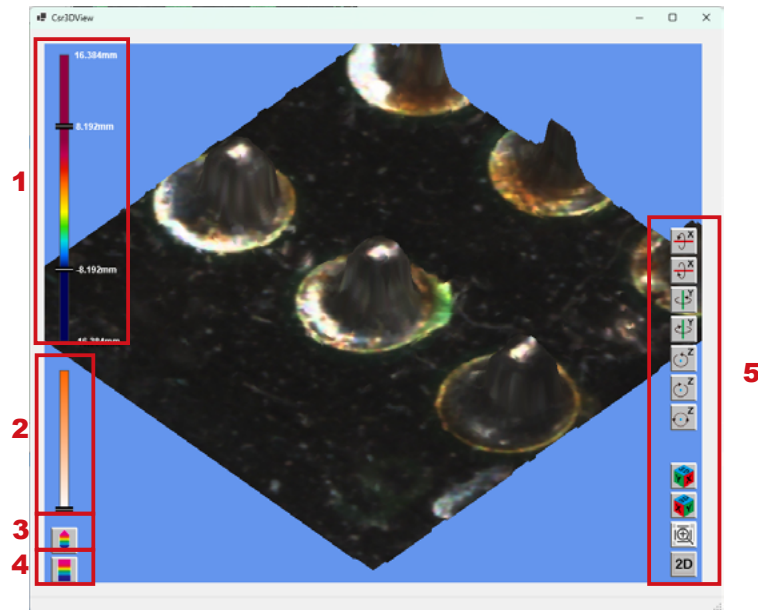
Symbol	Type	Judge	PinLength	Volume_1	RedEye	Existence(H)	Existence(V)	X	Y	board ID	Arrangement
	Foreign	NG						4416	6726	1	104
	Foreign	NG						4416	6726	1	104
	Foreign	NG						4416	6726	1	104
	Foreign	NG						4416	6726	1	104
	DIP2	NG	1.36	0.259	0.46			7149	10034	1	63
	DIP_Clnch	NG	2.12	0.672	0.00			2193	11174	1	46
	Foreign	NG						4416	6726	1	104
	DIP	NG	2.45	0.675	0.00			2172	10032	1	30
	2R40	NG				0.42	0.21	1894	5959	1	58
	Foreign	NG						4416	6726	1	104

The informations are as follows.

Symbol	Ref.des. information.
Type	The type of inspection frame selected.
Judge	The inspection result.
PinLength	Pin length (mm) measured at the time of inspection.
Volume_1	Solder volume (mm ³) measured at the inspection.
RedEye	Length of no solder area (mm) measured at the time of inspection.
Existence (Height)	Height (mm) within the inspection frame.
Existence (Volume)	Area value (mm ²) within the inspection frame.
X	The coordinates X of the inspection point.
Y	The coordinates Y of the inspection point.
board ID	PCB ID set on the inspection machine.
Arrangement ID	Inspection frame ID set on the inspection machine.

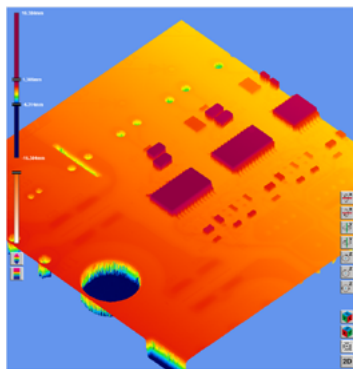
X02W 3D Window

A window to confirm the 3D image taken with a 3D AOI X02W series. Click  button to open it.

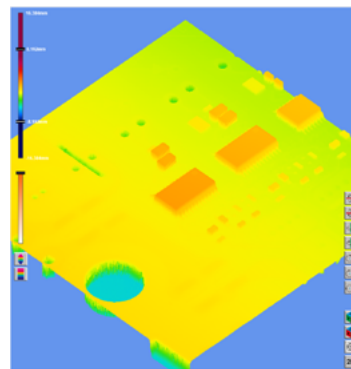


Items on the screen are as below.

No.	Name	Function
1	Color range	The color distribution range according to the height difference on the PCB. Slide the upper and lower bars to adjust the height range.
2	Blend bar	Slide the bar to blend the color range. The upper limit displays only the color range, and the lower limit displays only the PCB color.
3	Range fit	Match the color distribution to the height difference of the target.
4	Range reset	Resets the color distribution to its initial value.
5	Camera buttons	Adjust the viewpoint. See next page for details.



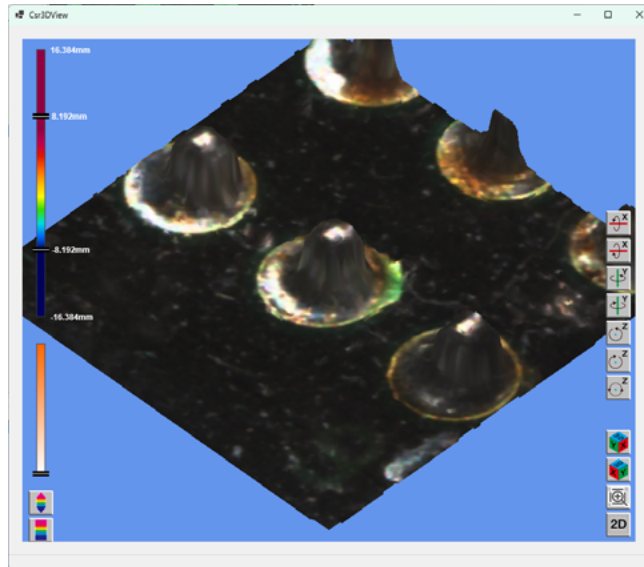
Range fit



Range reset

Camera buttons

You can see the object from different angles.



The function of camera buttons are as below.

Icons	Name	Function
	X axis	Rotates the camera around the X axis in the direction of the arrow.
	Y axis	Rotates the camera around the Y axis in the direction of the arrow.
	Z axis	Rotates the camera around the Z axis in the direction of the arrow.
	Z axis continuous	Automatically rotates the camera continuously around the Z axis.
	View 1/View 2	Switches to the 3D perspective view from the selected angle.
	Camera View	Switches to the display of the camera's field of view.
	Map View	Switches to Map View display.
	Camera Reset	Resets the viewpoint.
	2D button	Switches between 3D mode and 2D mode. If zooming or camera movement was performed from a 3D, the perspective is reset.
	2D button active	The buttons change color when 2D mode is being executed.

Dragging the screen while holding down a specific key will move the viewpoint freely.

Key	Name	Function
Ctrl	Rotate	Rotate the 3D image in the XYZ direction.
Shift	Vertical move	Moves the 2D image in the XY direction.

The 3D image display tool for X02W can be used under the following conditions.

- DirectX 11 compatible graphics card
- 64bit operating system

18. Errors

Message	Explanation	Measurement
Incorrect key number	The key number you input is incorrect	Please input correct key number.
Invalid key number entry.		
Installation failed	Failed to install CS-Repair	Please re-try installation.
Please re-install		
No printer installed	Tried to print but printer not found	Please confirm the printer settings.
File incorrect	Setting file imported is incorrect	Please select correct setting file.
No corresponding data found	Data for the barcode num. not found.	Please confirm the barcode num. or check the barcode search setting.
No valid data found	The target PCB was not found	Activate light-blue circle (show OK PCB)
HASP key not found	HASP key not working correctly, or driver error.	Confirm the connection of the key, confirm if correct driver is installed. If error is not improved, contact to your local reseller.
HASP key version invalid		
HASP key not found or key ID incorrect Error		
Hasp.dll loading error		
Hasp key routine not found		
Data is occupied by another user, could not update	Another operator is working on the same PCB, or there is communication problem between database.	Work on the another PCB or confirm the connection with database.
Data is not read.	Error shown when executing filtering before loading data	Execute filtering after loading data
Error occurred by the CsWatch transmission.	Failed to send the result to CS-Watch.	Confirm the port/IP setting in Watch tab in general settings. Confirm also the settings on CS-Watch.
"N" key is disabled, if you like to use, please activate in General settings	Pressing N key does not work as classifying Reference Designator as NG.	Activate "Use A-Z keys for classification".
"R" key is disabled, if you like to use, please activate in General settings	Pressing R key does not work as classifying Reference Designator as Repair.	Activate "Use A-Z keys for classification".
Save error	XML file was not saved in the destination.	Confirm the existence of folder (destination) and database connection
When a hierarchical display is effective, it cannot validate [Load side B too by searching side A block barcode].	Some functions can't be active when tree view is active.	Confirm the settings necessary for tree view.
It repeats [Load side B too by searching side A block barcode].		
When a Tree view display is enabled, it cannot use [Load both side A and B automatically].		

Message	Explanation	Measurement
Another operator is accessing this data, could not update data.	Communication problem with database.	Confirm the setting with database.
Renewal right couldnot be acquired. It cannot be renewed.		
The error occurred by the DB data acquisition.		
The error occurred by PC name acquisition.		
The error occurred by PCB acquisition.		
The error occurred by PART acquisition.		
The error occurred by the date acquisition.		
The error occurred by the image acquisition.		
The error occurred by positional acquisition.	Communication problem with database.	Confirm the setting with database.
The error occurred by the repair results acquisition.		
The error occurred by REP acquisition.		
The error occurred by the bar code acquisition.		
The error occurred by writing PART.	Problem happens while exporting data	Confirm the setting of export
The error occurred by writing REP.	Problem happens while deleting data (e.g. date setting)	Confirm the setting of deletion
The error occurred by the data deletion.		
The error occurred by the fraction defective acquisition.	SPI data was not found in the folder	Confirm the connection to SPI machine and settings.
The error occurred by the device total acquisition.	SPI data was not deleted after importing to CS-Center	
The error occurred by the mark acquisition.	SPI data is not saved by CS-Center	
The error occurred by the mark change.	Can't find the folder where SPI data is saved.	
The error occurred by the result change.	There are same folders to save SPI data	Change the folder setting to correct SPI folder.
The error occurred by the lock release.	Input other than numbers to port	Input correct port number
The error occurred by the NG-ID change.	Port number out of range	Input port number within range.
The error occurred by the judgment acquisition.	Port number for SPI machine is overwrapping	Input non overwrap numbers.

Message	Explanation	Measurement
The error occurred by the result acquisition.	Communication problem with database.	Confirm the setting with database.
The error occurred by writing result.		
The error occurred by the person acquisition. PostgreSQL may suspend it.		
The error occurred by writing person.		
The error occurred by the person deletion.		
Error occurred by warmup. PostgreSQL may suspend it.		
PCB map file is not found.		
An individual picture file is not found.		
The error occurred by the ID acquisition of the cell.		
The error occurred by the unjudgment number acquisition.		
It was not possible to connect it with DB. Please review the setting of DB.		
Error occurred by the rep table making.		
Since there is no data of A side, it cannot display.		
Invalid value	Incorrect setting to delete data.	Confirm the setting for deletion.
There is no data to delete for the month		
Could not delete data		
Error during deleting Jpeg file		
Time order is reversed between From and To, are you sure to continue?	Date for From and To is set opposite.	Please apply the correct date.
Can not connect to Barcode Reader. COM port may be occupied by other device.	There is communication or setting problem for RS-232C barcode scanner.	Please confirm the settings.
Can not get information from Barcode Reader. 1: GetCommState		
Can not set Barcode Reader. 2: SetCommState		
Could not receive the data. s1		
Could not read the data. s4		

Marantz Electronics, Ltd.

5/F, North Square II, Yokohama Business Park,

134 Goudo-cho, Hodogaya-ku, Yokohama, Kanagawa, 240-0005 Japan

Phone: +81-45-340-5566

FAX: +81-45-340-5567

mek[®]
marantz electronics,ltd