# CHAPTER 2
# SETUP

## Getting started

### Tools for setup

Before setting up the 200 SQ, please prepare the following tools:

- Phillips screwdriver
- Hex wrench (5mm-6mm)
- Wrench (8mm)
- Level
- USB memory device

### Checklist for setup

#### SQ installation checklist

Please record the following information before setup:

| | |
|---|---|
| User Name | |
| Model Name | |
| N10 Ver. | |
| FPGA (Main) Ver. | |
| FPGA (Relay) Ver. | |
| Installation date | |
| Serial No. | |
| SH Ver. | |
| FPGA (Conveyor) Ver. | |
| SQ Disp. APP Ver. | |

Use the following checklist to help with the setup process. Put a check mark next to each completed item:

| Setup Procedure | | | |
|---|---|---|---|
| 1. | The 200 SQ installation | To prevent injury, please move the 200 SQ by forklift. | ☐ |
| 2. | Taking the shipping stopper off | Take the 10 shipping stoppers and remove the zip tie and remove the air package for the UPS. | ☐ |
| 3. | Installation of the sensor cover | Set the conveyor covers for each conveyor (A and B). | ☐ |
| 4. | Installation of console and hand scanner (optional) | If using a optional hand scanner, mount bracket to frame. | ☐ |
| 5. | Installation of fixed scanner | If installing fixed scanner, affix the scanner to the top bracket of the frame. | ☐ |
| 6. | Check the power cable and 200 SQ start up | Plug the 200 SQ outlet in, then check the application booting. | ☐ |
| 7. | Date and time setting | Check the date and time setting in maintenance mode. | ☐ |
| 8. | Device setting | Check the device setting in the maintenance mode. | ☐ |
| 9. | Weight setting | Check the weight setting in the maintenance mode. | ☐ |
| 10. | Weight adjustment | Use 50kg weight placed on select point in middle and each corner of the scale platform to assure weighing accuracy. | ☐ |
| 11. | Backup maintenance setting data | Back up the setting file to USB memory in maintenance mode. | ☐ |
| 12. | Operation confirmation in test mode | Check that all data is correct by moving the item on the conveyor. | ☐ |

# 200 SQ installation

## Unloading and installation of the main unit

Since the 200 SQ is a large machine, a forklift is required for unloading. Any attempt to move the main unit without a forklift may result in injury or damage to unit. When moving on a flat surface, casters are provided to make movement of the unit easier.

When maneuvering with a forklift, position the forks in the designated holes indicated in the following figure:


Figure 25
*Unloading and installation: Designated fork holes*

After unloading, unlock each of the four casters while positioning on a flat surface. Please make sure there are no stairs or inclines nearby when moving the unit.

With the four caster unlocked position the unit in the desired location. When the unit is properly positioned in the installation location, lock each of four casters again. This will prevent unwanted movement of unit.

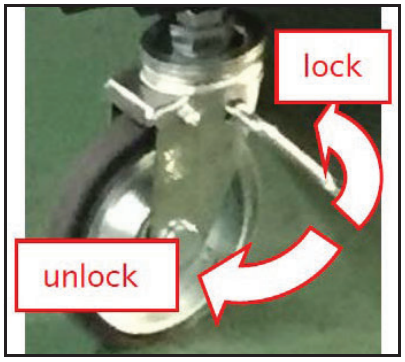


Figure 26
*Unloading and installation: How to lock casters*

# Removal of shipping stopper

## Location of shipping stoppers

Remove all shipping stoppers as depicted in the figure below:

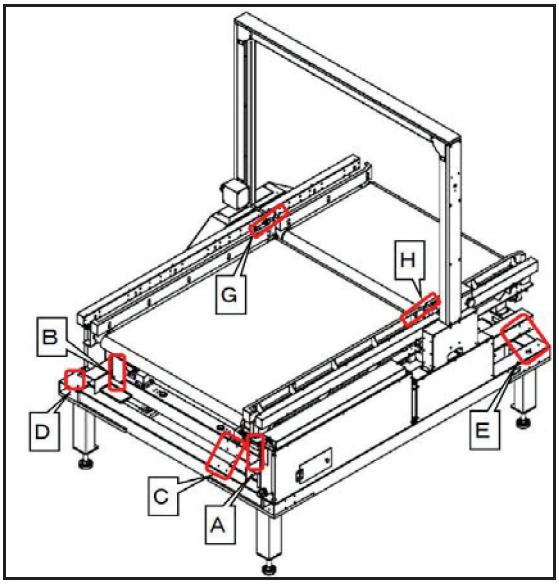


Figure 27
*Removal of shipping stoppers: Shipping stoppers diagram (front)*

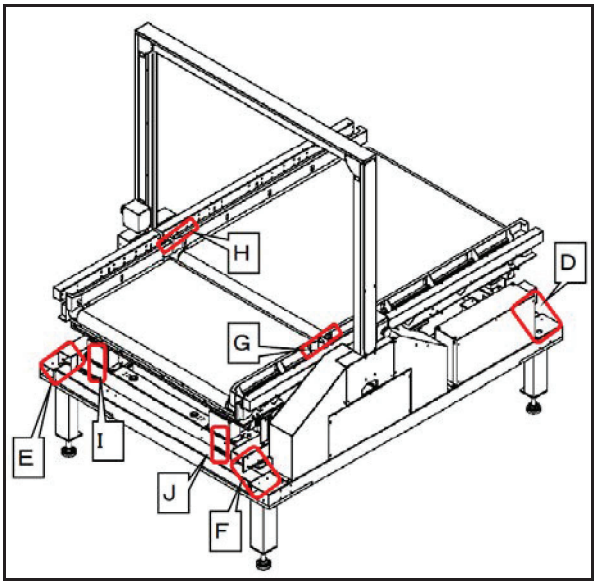


Figure 28
*Removal of shipping stoppers: Shipping stopper (back)*

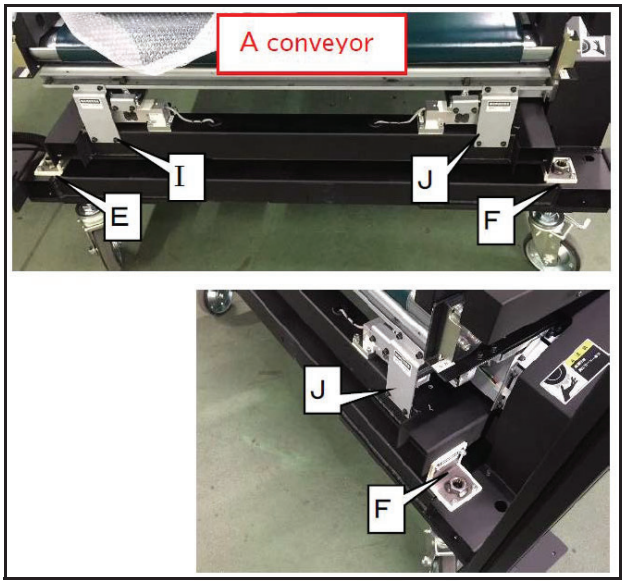


Figure 29
*Removal of shipping stoppers: Shipping stopper (Conveyor A)*

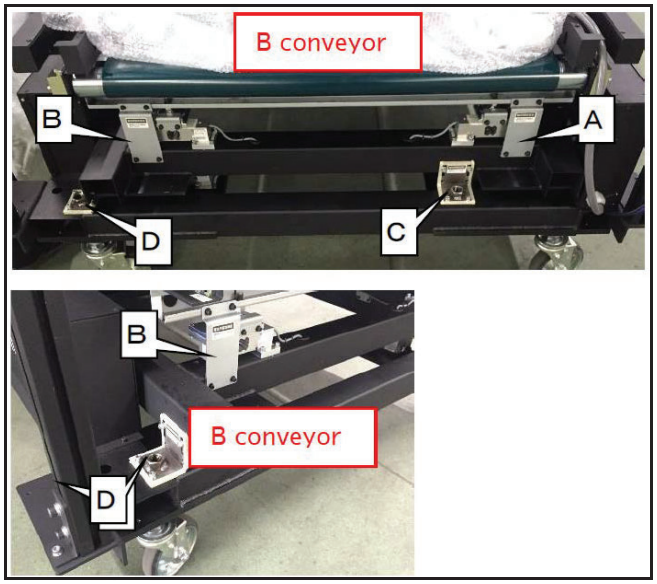


Figure 30
*Removal of shipping stoppers: Shipping stopper (Conveyor B)*

## Removal procedure of shipping stopper

1. Take off plates G and H by removing the two screws with hex wrench.


Figure 31
*Removal of shipping stoppers: Removing plates G and H*

2. Take off plates A, B, I, and J by removing the four screws with hex wrench.


Figure 32
*Removal of shipping stoppers: Remove plates A, B, I, J*

3. Take off plates C, D, E, and F by removing the four screws with hex wrench.


Figure 33
*Removal of shipping stoppers: Remove plates C, D, E, and F*

## UPS shipping stopper removal (optional)

1. Cut the zip tie securing the UPS
2. Remove the air pack wrapping.

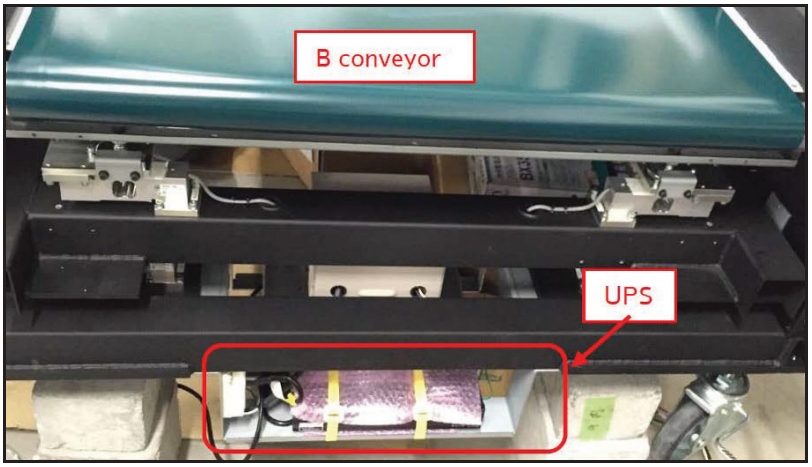


Figure 34
*Removal of shipping stoppers: UPS shipping stopper removal*

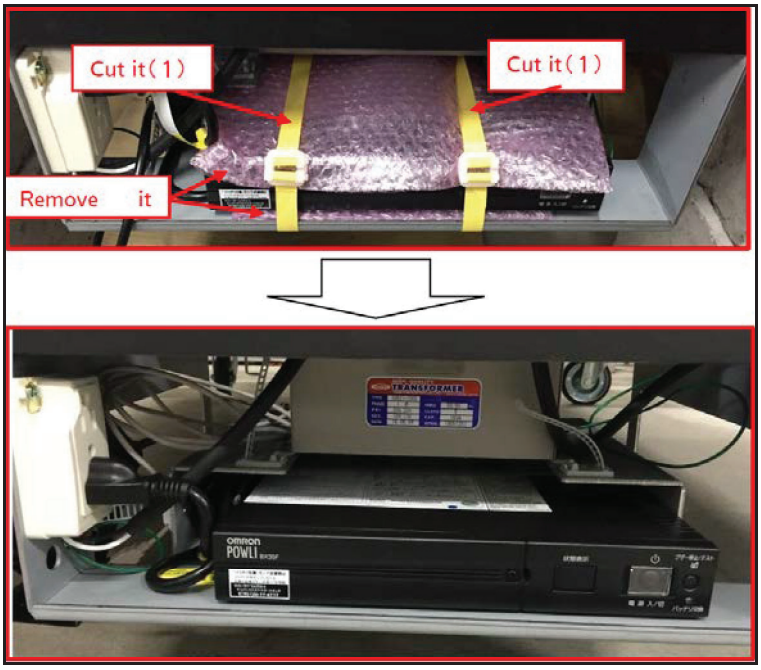


Figure 35
*Removal of shipping stoppers: Removing zip ties and airpack*

# Console and scanner installation

1. Remove the 4 cup screws to fix stand pole to console.

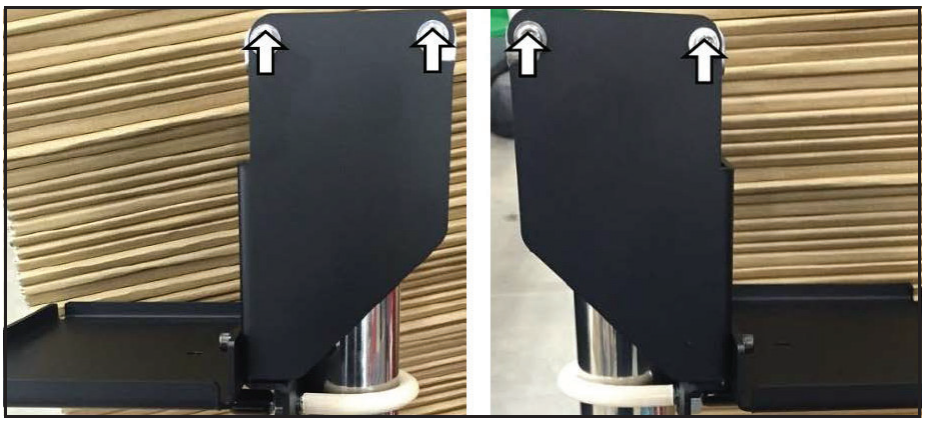

Figure 36
*Console and scanner installation: Stand pole*

2. Affix the console to the pole stand. Attach the display bracket and set the stand pole on inside of scanner stand. Once positioned properly, tighten the 4 cup screws to secure the console in place. Refer to the figures below.

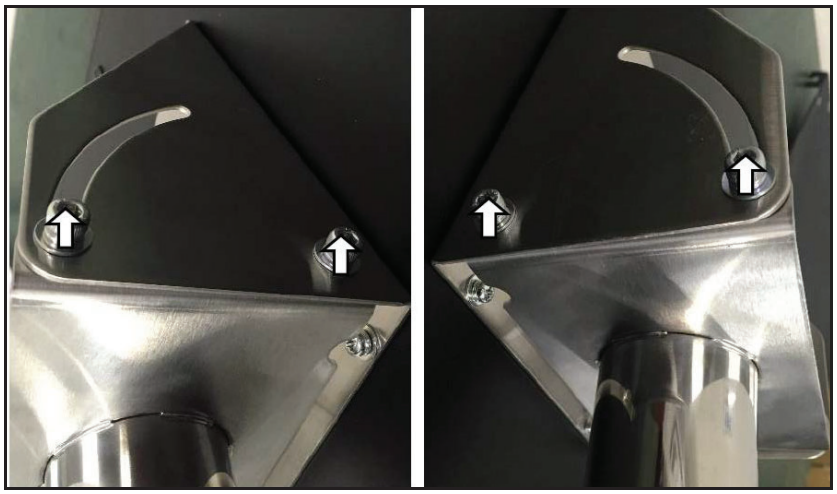

Figure 37
*Console and scanner installation: Securing display bracket*

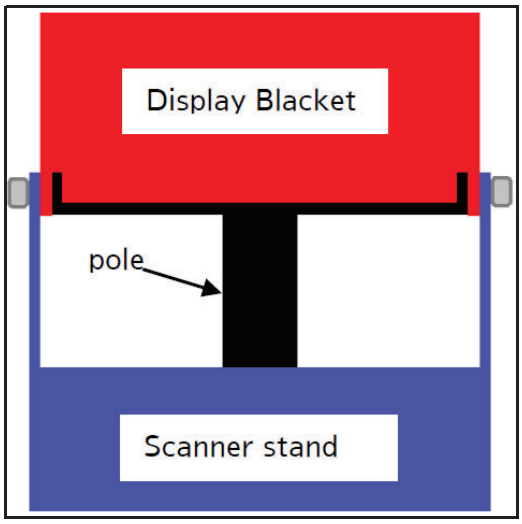


Figure 38
*Console and scanner installation: Display bracket diagram (rear view)*

**NOTE** *The console angle may be adjusted at anytime by loosening the side screws and repositioning. Make sure to tighten screws once properly positioned.*

3. Connect the USB cable under the cradle for the hand scanner before mounting to console bracket.

Figure 39
*Console and scanner installation: Connecting USB cable*

4. Loosen bolts on side of scanner stand bracket. Insert the pole of the console into the bracket.

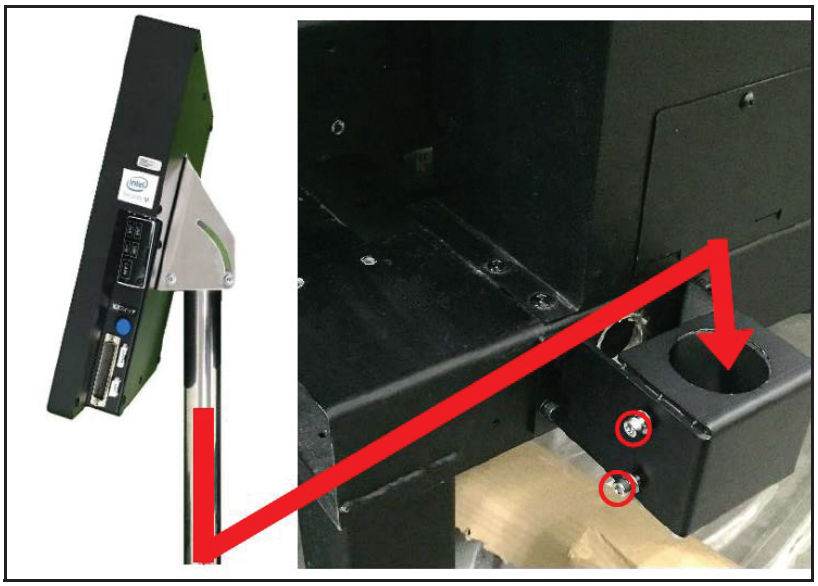

Figure 40
*Console and scanner installation: Installing console pole*

5. Tighten the hex bolts to secure console pole in place.

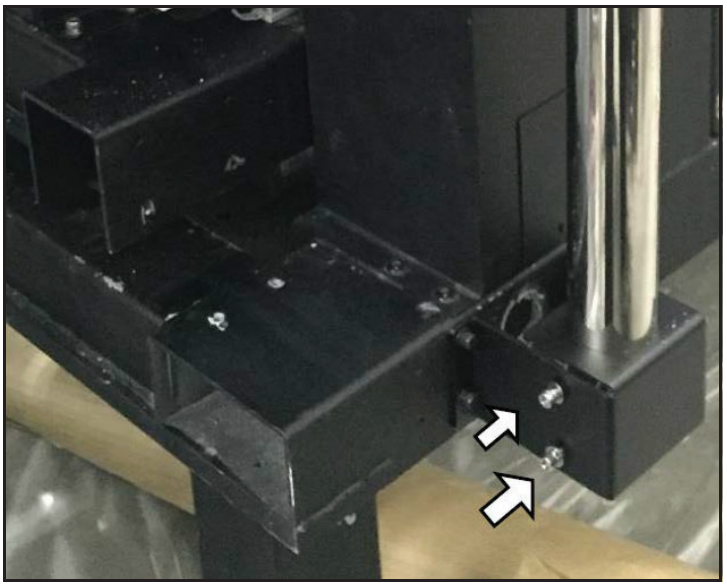

Figure 41
*Console and scanner installation: Secure console pole*

6. Attach the cradle for the optional hand scanner by securing the cradle to the console via screws on underside.

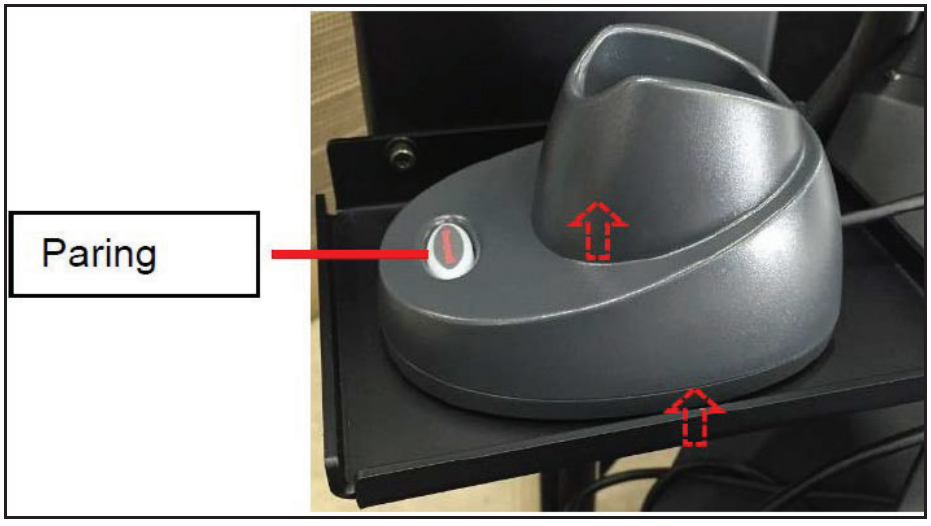


Figure 42
*Console and scanner installation: Hand scanner cradle*

7. Ensure console is installed parallel to 200 SQ as shown in the figure:

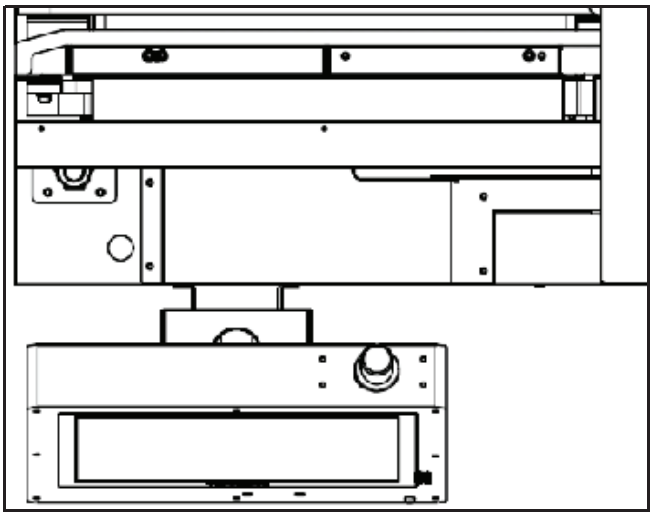

Figure 43
*Console and scanner installation: Final console installation*

8. Connect the USB cable form the cradle and LAN cable for PC to the USB ports in the right side of the console.

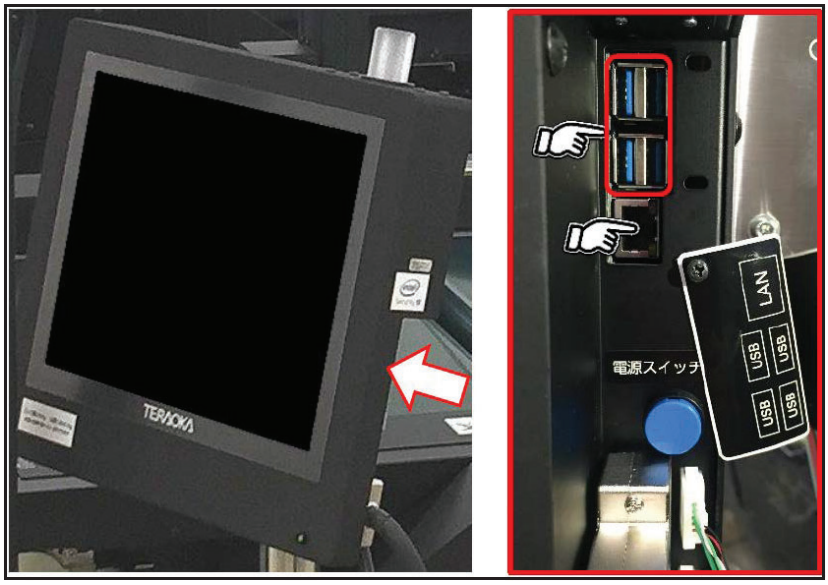


Figure 44
*Console and scanner installation: Console cables*

# Fixed scanner installation (optional)

1. Remove the 3 cap screws from the fixed scanner.

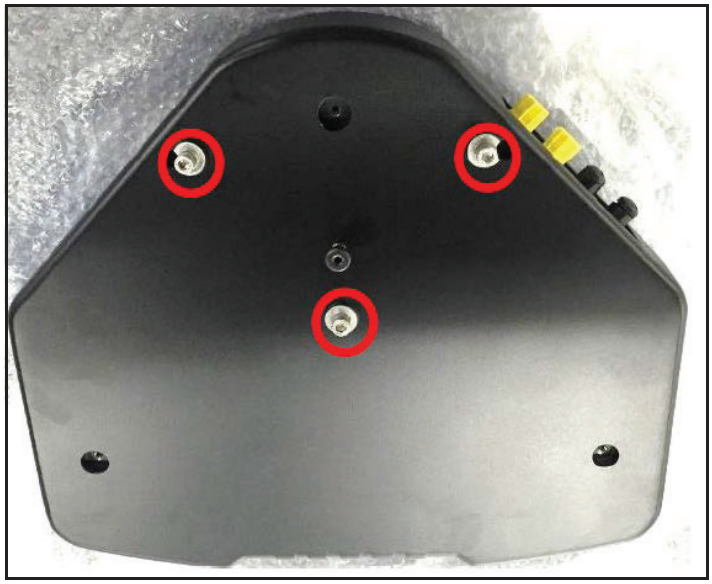

Figure 45
*Fixed scanner installation: 3 cap screws*

2. Position the scanner under the bracket and secure in place by raising the docking fixture through the corresponding hole and sliding into place.

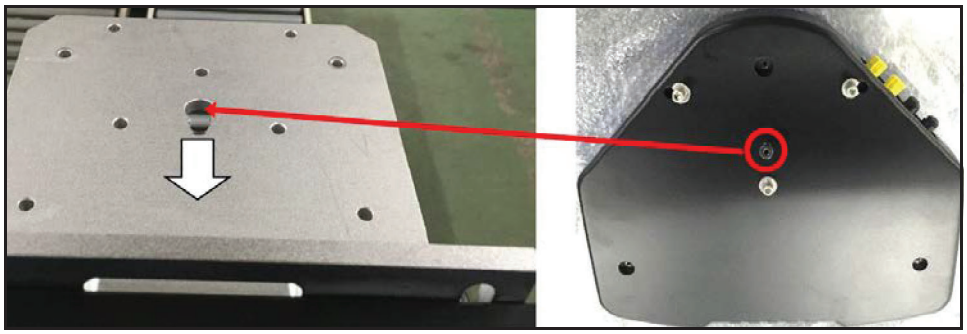

Figure 46
*Fixed scanner installation: Docking fixture*

3. Replace the 3 cap screws by threading through the corresponding hole in the bracket.

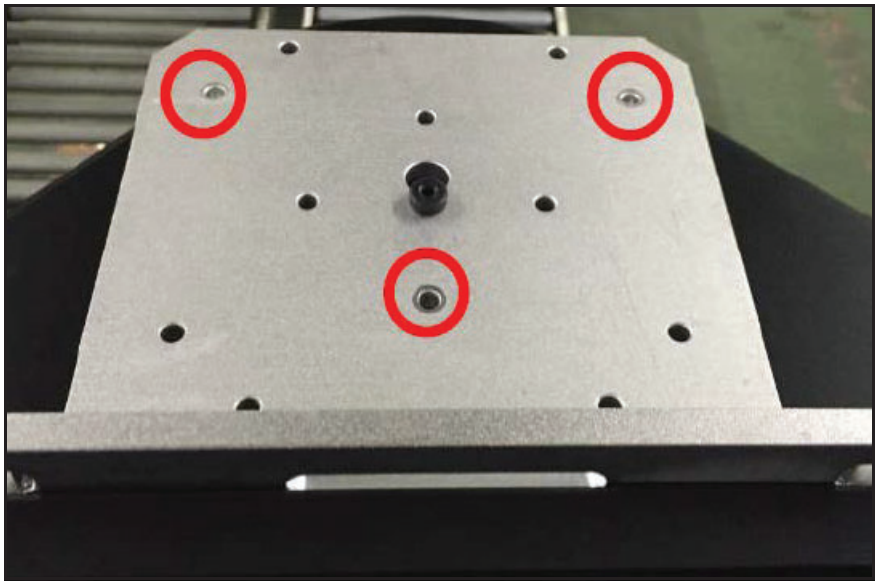

Figure 47
*Fixed scanner installation: Cap screw holes*

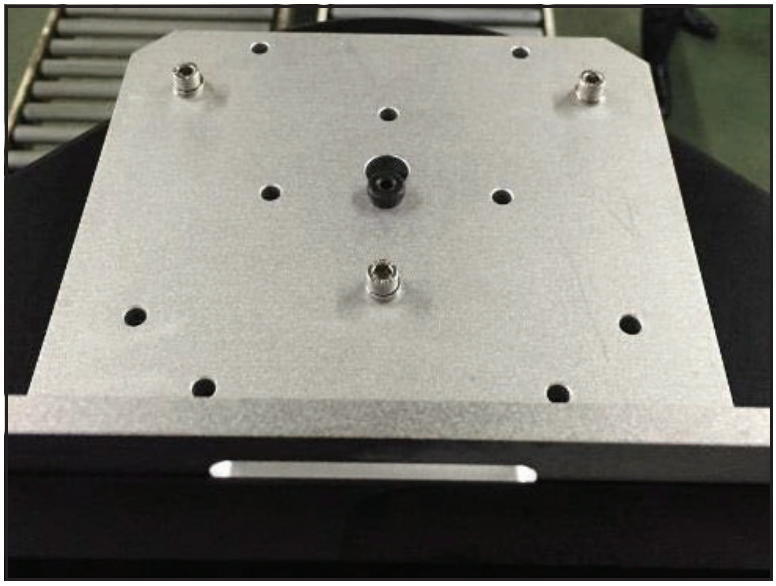

Figure 48
*Fixed scanner installation: Securing fixed scanner*

4. Remove caps from [POWER] and [I/O] connectors by turning clockwise.


Figure 49
*Fixed scanner installation: Removing connector caps*

5. Connect the blue cable from main unit to **[I/O]** connector and the black cable to **[POWER]** connector.

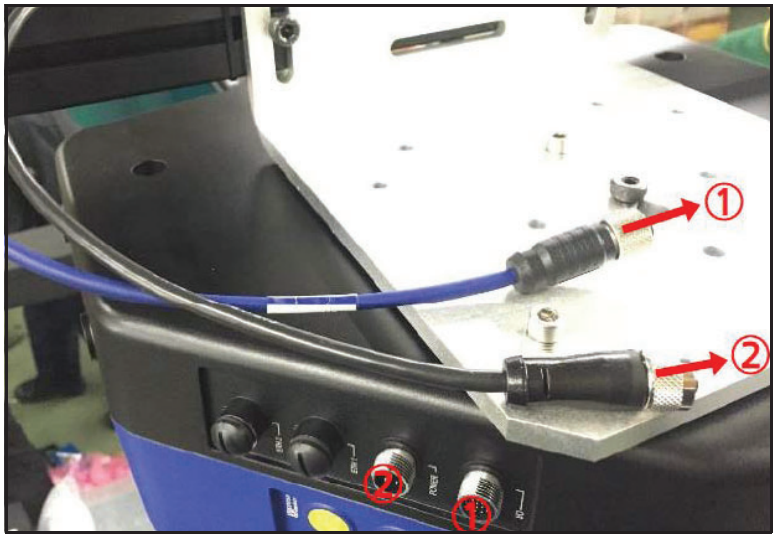


Figure 50
*Fixed scanner installation: Connecting [POWER] and [IO] cables*

6. Power on scanner and look for the laser emission to ensure the scanner is functioning properly.

7. Once the 200 SQ is fully set up, position adjustments may be made to ensure reliability.

# Powering on

1. Turn the power on after inserting the power plug. Ensure the power source is designed to handle 20A and 250V. After the plug is inserted into the outlet, turn clockwise to secure in place. This prevents the plug from being unintentionally pulled from the wall.

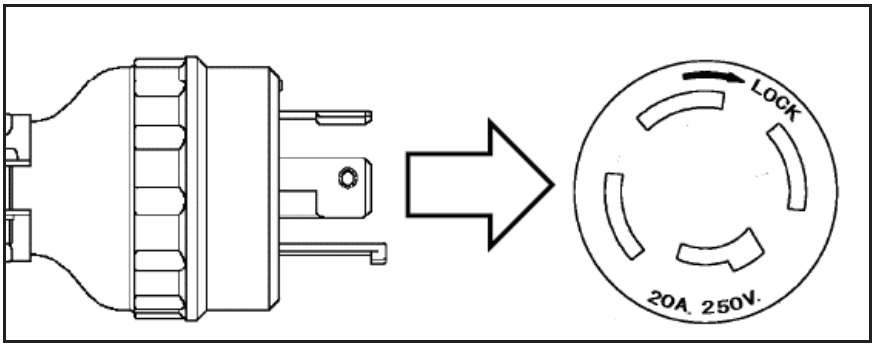


Figure 51
*Powering on: Plugging in*

2. Open the cover to the main switch located at the side of the unit. Toggle the switch to the ON position. The unit should power on.

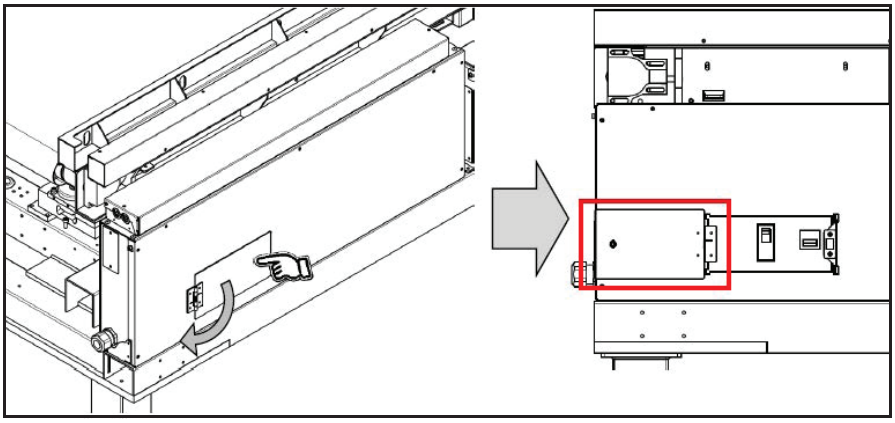

Figure 52
*Powering on: Main switch cover*

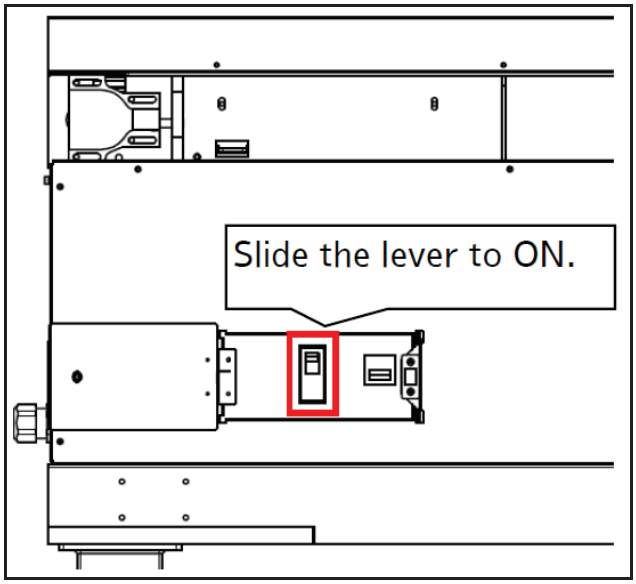


Figure 53
*Powering on: Main switch*

3. It may take about 8 minutes (480 seconds) for the 200 SQ operation system to boot up and the scale to finish its warming up procedure. A countdown clock will appear on the screen. Once the notification disappears, the unit is ready for product.

# Sensor cover assembly

1. Place 4 covers over sensors in the areas designated in the figure:

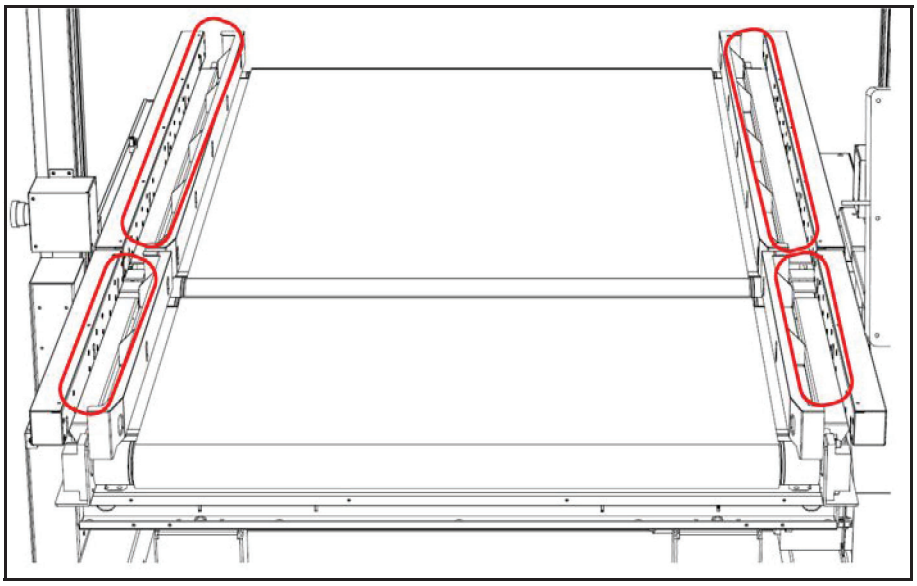

Figure 54
*Sensor cover assembly: Locations for sensor covers*

2. Secure covers with screws in the 14 locations shown in the figure:

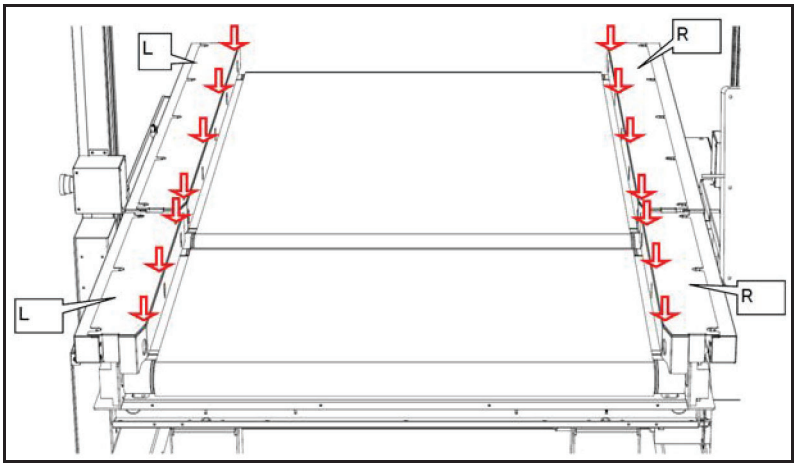


Figure 55
*Sensor cover assembly: Securing sensor covers*

# Date and Time setting

1. In order to modify the date and time, go to **[Setting]** from main control screen.


Figure 56
*Date and Time setting: Settings*

2. Select **[Maintenance]** in the right panel.

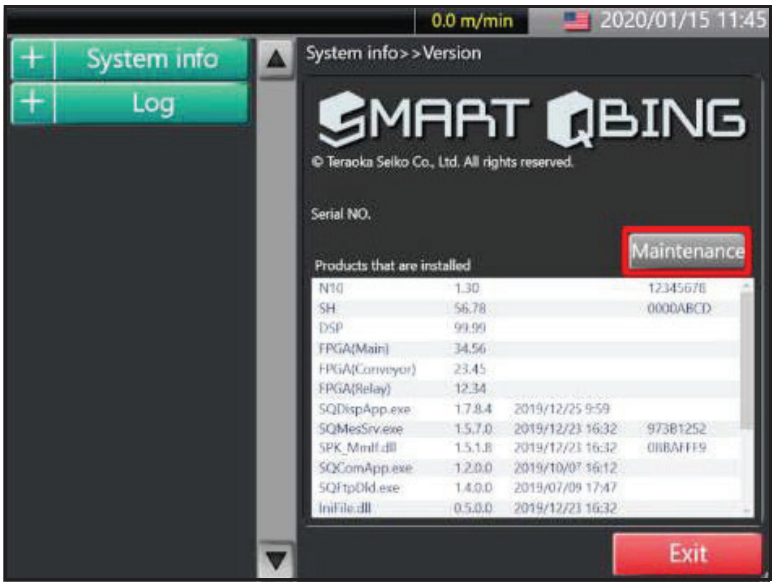


Figure 57
*Date and Time setting: Maintenance*

3. At the Login screen, check the box next to **Maintenance**, then tap in the **Password** text field to enter passcode.

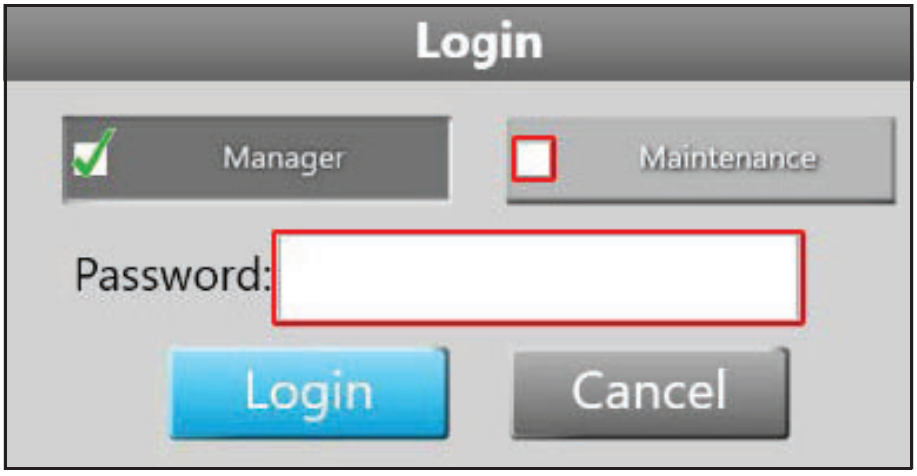


Figure 58
*Date and Time setting: Login screen*

4. A passcode window will appear. Enter the passcode **8715** followed by **[Enter].**

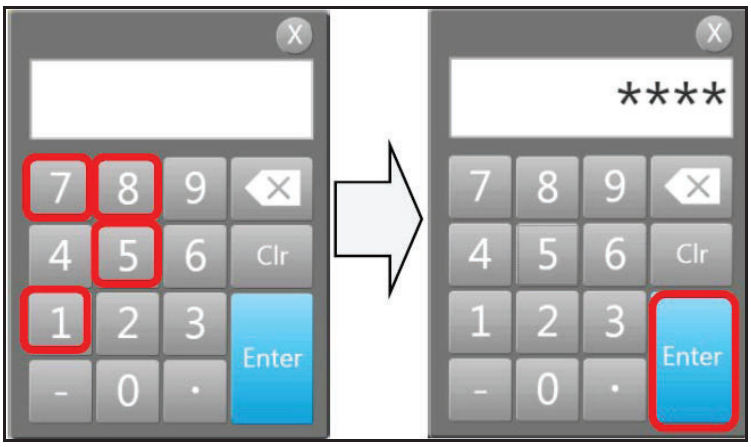


Figure 59
*Date and Time setting: Entering passcode*

5. The Login dialog box will return. Ensure that the box next to **Maintenance** is checked and tap **[Login].**

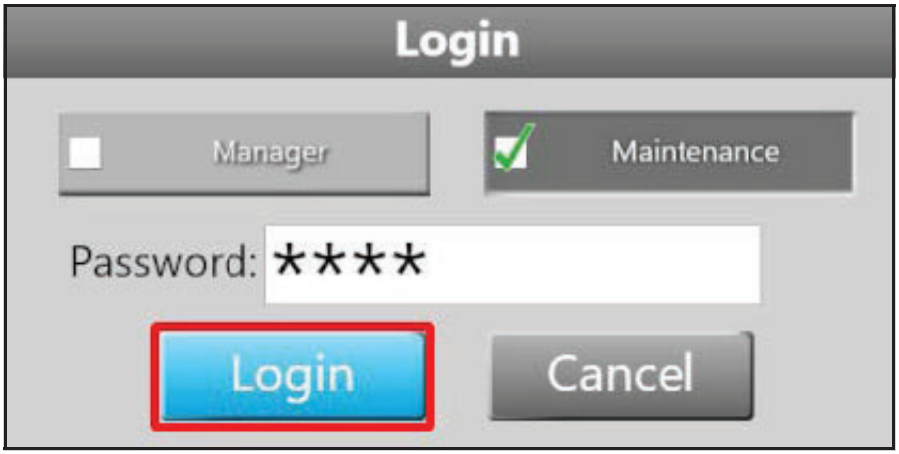


Figure 60
*Date and Time setting: Returning to login*

6. In the **Setting** menu, select **Device setting** by tapping the **[+]**.

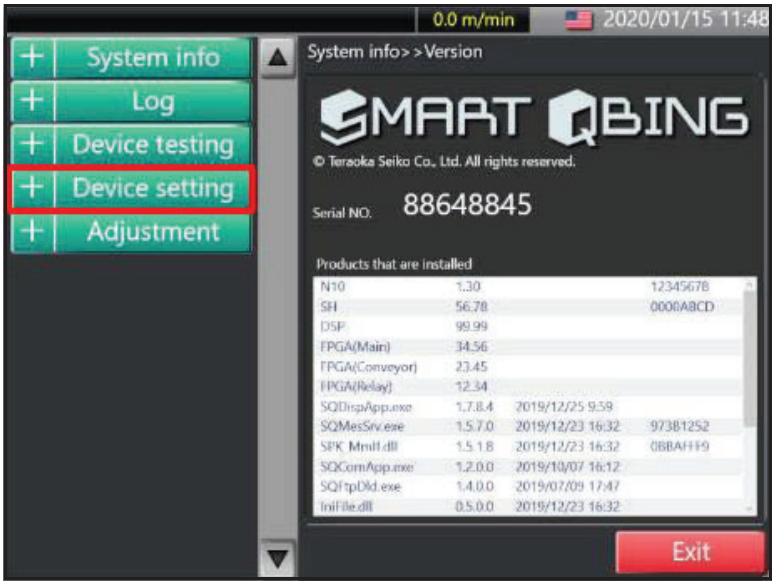


Figure 61
*Date and Time setting: Device setting*

Select **Clock,** from the **Device setting** options.


Figure 62
*Date and Time setting: Clock settings*

7. Use the calendar to set the date as shown in the figure:


Figure 63
*Date and Time setting: Setting date*

8. Use the **[+]** and **[-]** buttons to set the **Hour**, **Minute**, and **Second.**


Figure 64
*Date and Time setting: Setting clock time*

9. Tap **[Set]** after date and time settings are entered.

# Conveyor setting

1. From the **Device setting** menu found within the **Setting** panel, select **Conveyor**.


Figure 65
*Conveyor setting: Conveyor screen*

2. Ensure that the Conveyor setting matches those shown in the following figure:

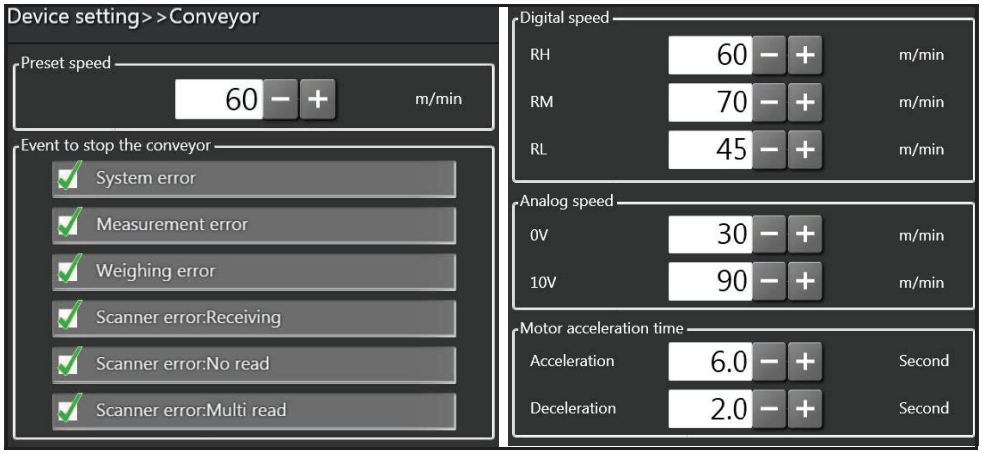


Figure 66
*Conveyor setting: Settings*

# Scanner setting (optional)

1. Select **Scanner** from the **Device setting** menu.


Figure 67
*Scanner setting: Scanner option*

2. If using the fixed scanner, select the **Fixed** tab.


Figure 68
*Scanner setting: Fixed menu*

3. If using the hand scanner, select the **Handy** tab. Once the scanner connects tap **[Enable]**. The box next to **Enable** should be checked.

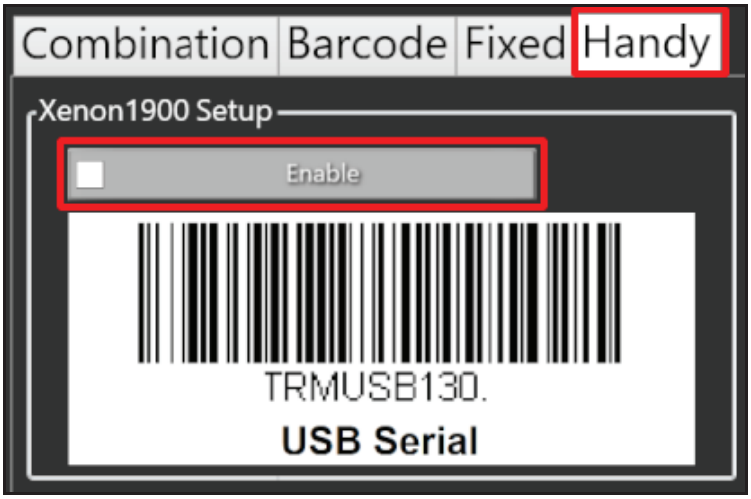


Figure 69
*Scanner setting: Enable hand scanner*

**NOTE** *Be sure to enable the scanner after it is properly connected. If scanner can not be found, ensure the device is properly connected. If problem persist please* ***contact Cubiscan Technical Assistance at 801.451.7000*** *for assistance.*

4. Once the scanner connects, select the **Barcode** tab and choose the barcode type from the drop down menu under **Symbol1**.

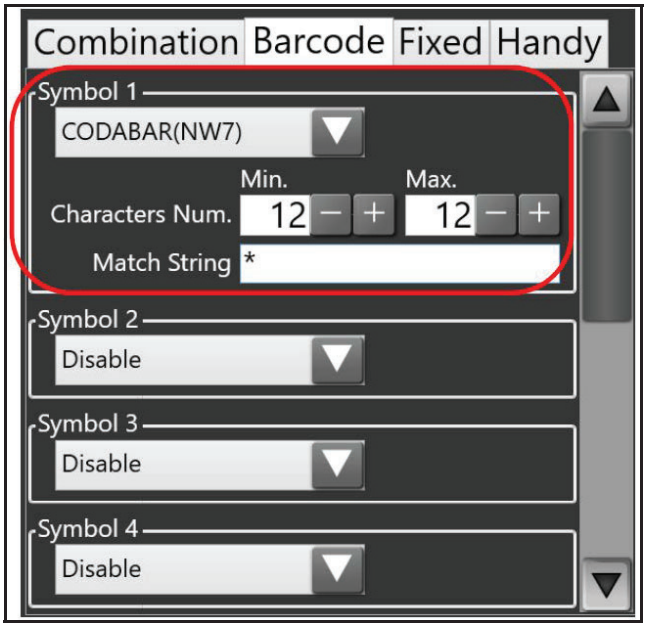


Figure 70
*Scanner setting: Barcode menu*

5. Select the **Combination** tab and uncheck the box under **Essential**.


Figure 71
*Scanner setting: Combination menu*

# TCP/IP setting (optional)

1. Select **TCP/IP** under **Device setting** in the side menu.


Figure 72
*TCP/IP setting: TCP/IP menu*

2. Ensure that the settings for **IP address**, **Mask**, and **Gateway** match those in the figure below:

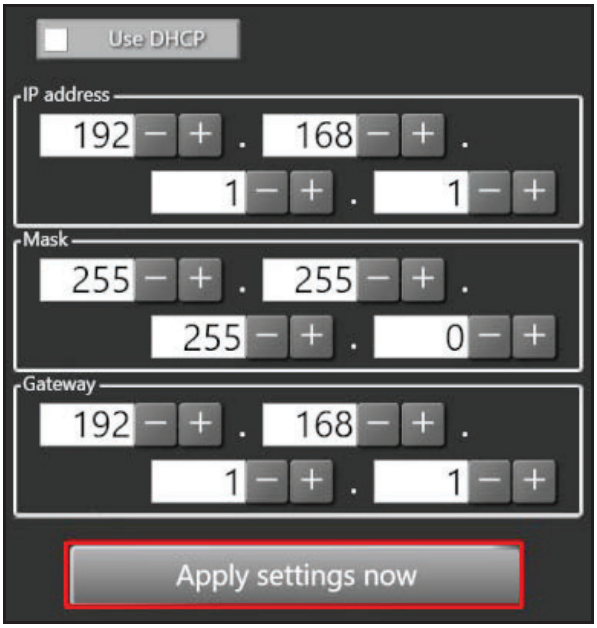


Figure 73
*TCP/IP setting: Settings*

3. Once the settings are entered correctly, save the setting by tapping **[Apply settings now]**.

4. Next, select **FTP** under **Device setting** from the side menu.


Figure 74
*TCP/IP setting: FTP menu*

5. Ensure the **FTP** settings match those from your network. The Password will be blanked out in the text box. The default password is "**matehan**".

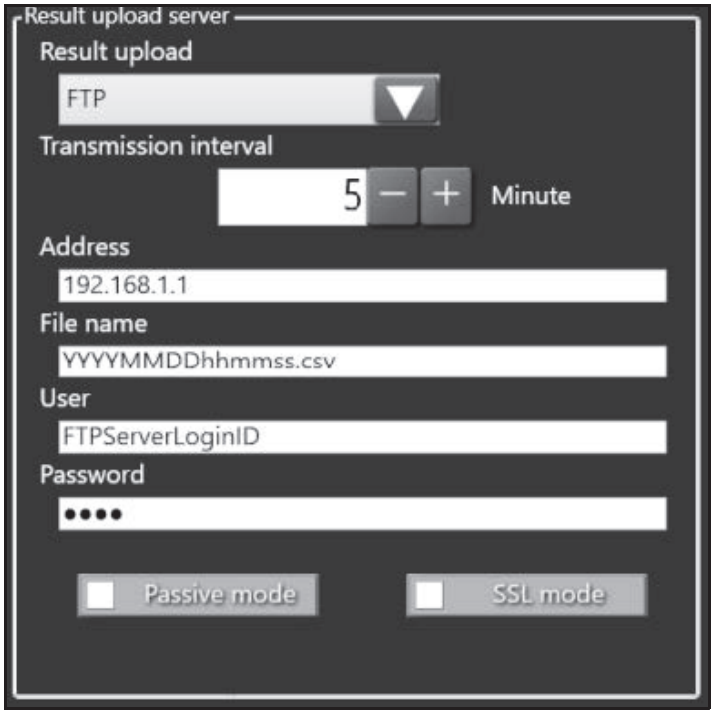


Figure 75
*TCP/IP setting: FTP settings*

# Weight setting

1. Expand the **Adjustment** menu by tapping the **[+]** and select **Weight** from the expanded options.


Figure 76
*Weight setting: Weight menu*

2. Ensure all settings in the **Weight** menu match those in the following figure:

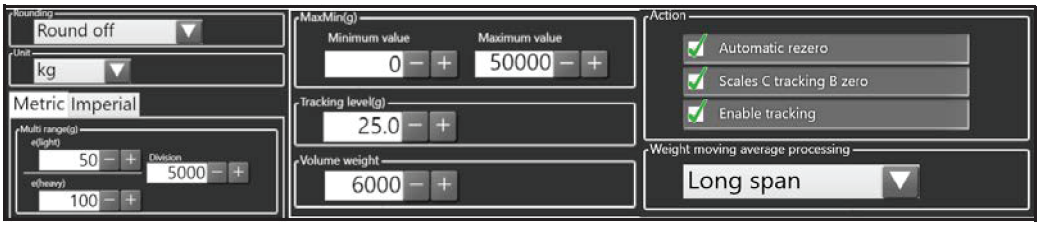


Figure 77
*Weight setting: Settings*

3. Select **Length** under **Adjustment** in the left side menu.


Figure 78
*Weight setting: Length menu*

4. Ensure all setting match those in the following figure.


Figure 79
*Weight setting: Length settings*

# Scales setting

1. Expand the **Device setting** menu by tapping **[+]**, and select **Scales** from the expanded menu.

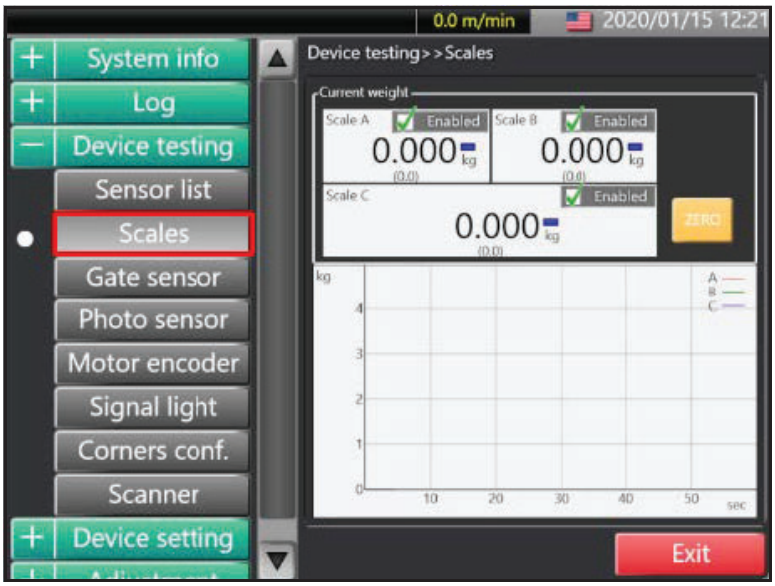


Figure 80
*Scale settings: Scales menu*

2. Tap **[Zero]** to set scale to 0.

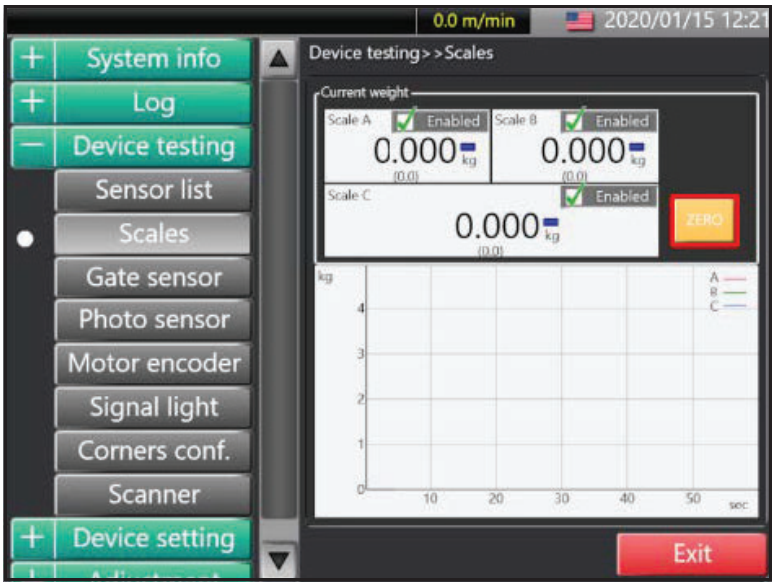


Figure 81
*Scale settings: Zeroing scale*

3. Use the calibration weight of 50kg to calibrate the scale in the 10 key points along the conveyor as depicted in the following figure.:

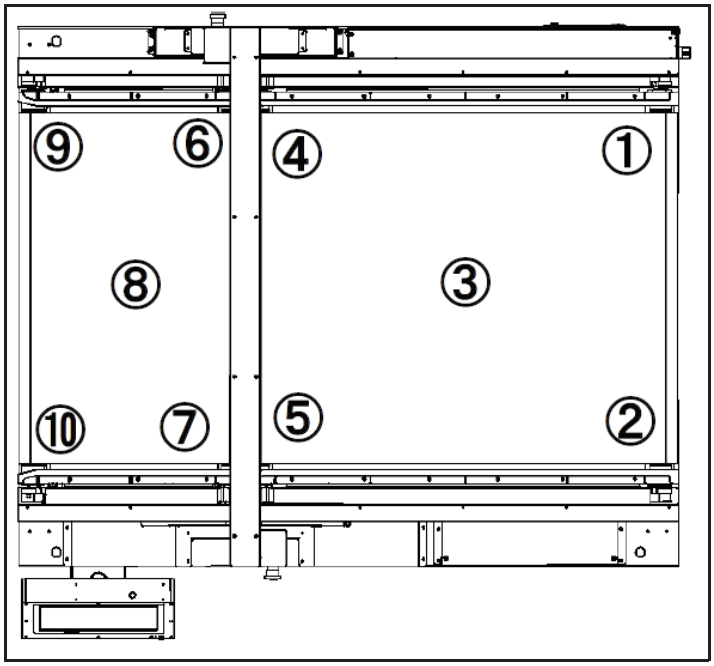


Figure 82
*Scale settings: Conveyor calibration points*

4. To calibrate, zero the scale, then place the weight on one of the 10 positions along the conveyor. Record the weight, and then remove. Record the measured weight after removing the calibration weight. Use a table like the following to record the values:

| Weight calibration results | | | | |
|---|---|---|---|---|
| | 0 kg | 50 kg | 0 kg | Scale |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |

**NOTE** *Acceptable weight tolerance is within ±100g. If weight exceeds the tolerance limit, check the conveyor and its cable to ensure that nothing is touching the main unit as this may interfere with correct measurement.*

5. To leave the scale screen, tap **[Exit]**. A pop-up message will appear with an option to logout. Check the box next to **Logout** and tap **[OK]**.

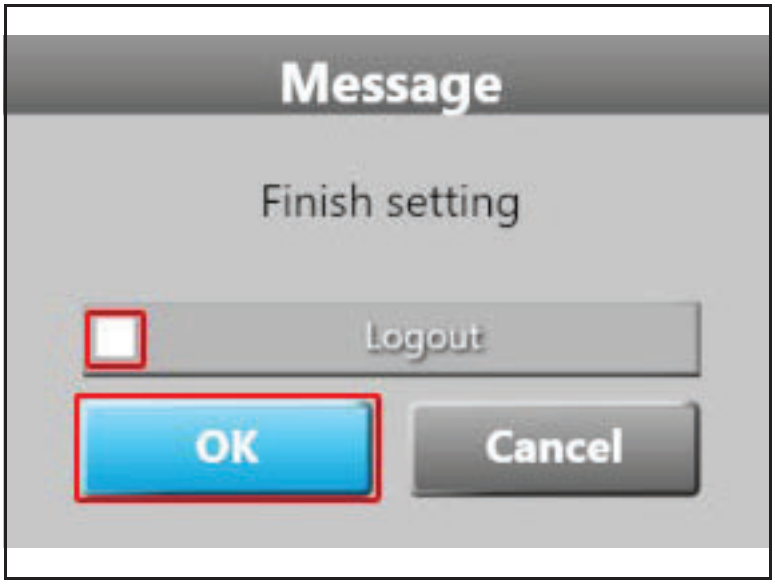


Figure 83
*Scale settings - logout screen*

6. If you have adjusted any settings, another pop-up message will appear to update settings. Enter your name or username in the text box next to **Signature**. This will allow the system to track who made changes to the scale settings. Next, tap **[Update]** to save changes to the settings.

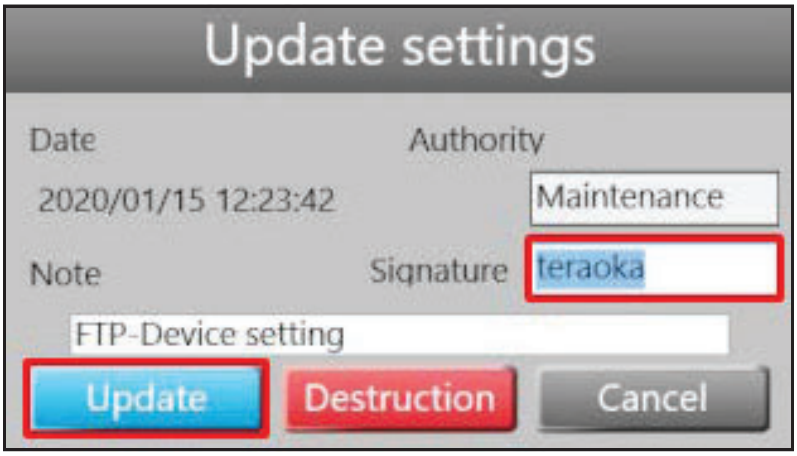


Figure 84
*Scale settings - update screen*

# Setting data backup

## Maintenance recovery

1. To backup data to a USB memory drive, plug the drive into one of the USB ports on the side of the console unit.

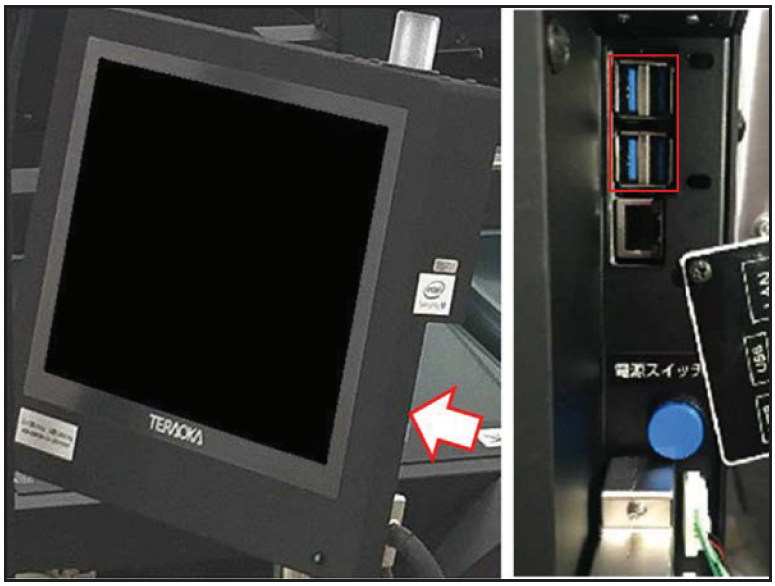

Figure 85
*Setting data backup - USB ports*

If the system security is active, a software keyboard and password authentication screen will appear shortly after the USB memory drive is plugged in. Enter the password to be able to save on the drive.

2. Once the USB drive is properly connected to the console, open the **Maintenance** menu by tapping **[Setting]**.

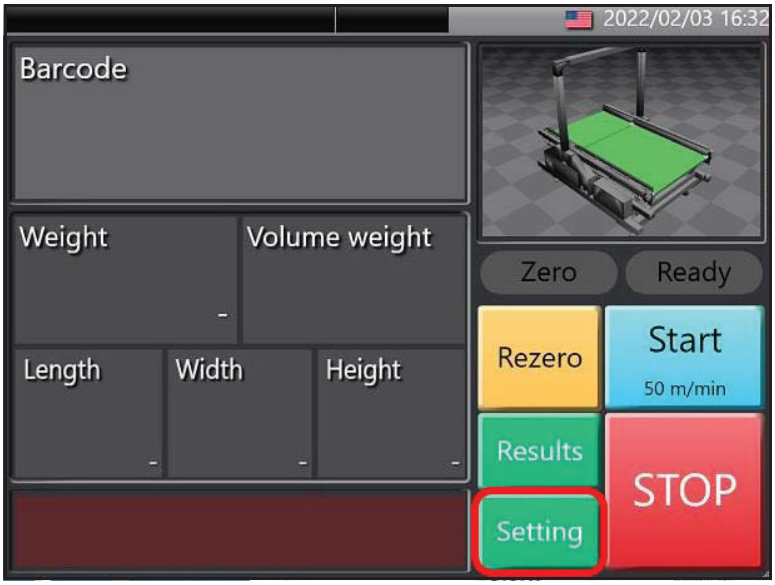


Figure 86
*Setting data backup - Setting*

3. When the **Setting** screen appears, tap **[Maintenance]**.

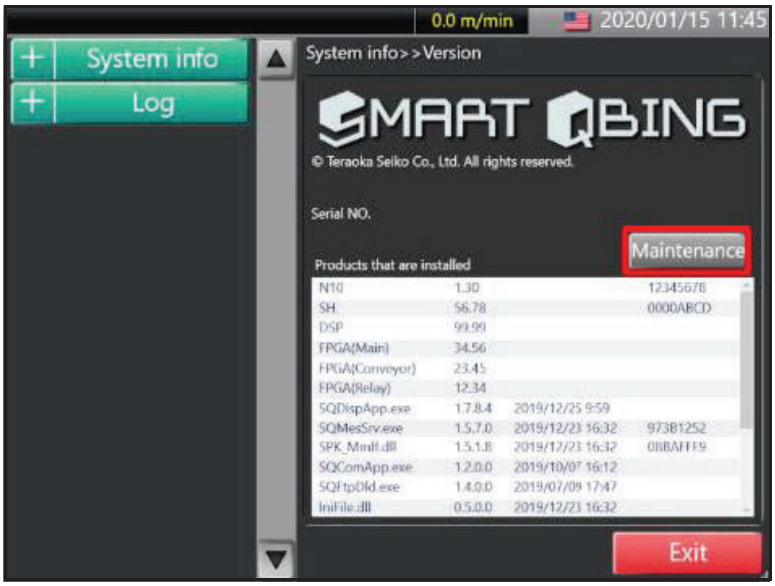


Figure 87
*Setting data backup - Maintenance*

4. Next, tap in the **Password** text box. A touchpad will appear. Enter the passcode **8715**, then tap **[Enter]**.

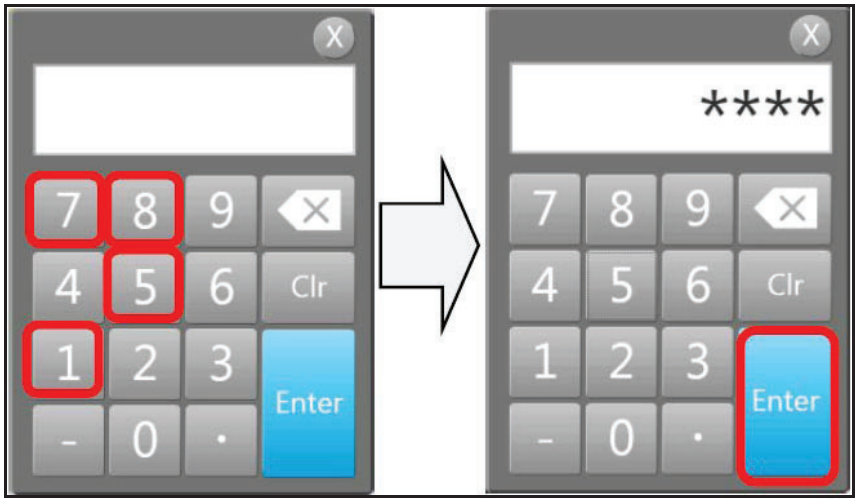


Figure 88
*Setting data backup - Entering passcode*

Tap **[+]** next to **Device setting** in the side panel and select **Recovery** from the drop down list.

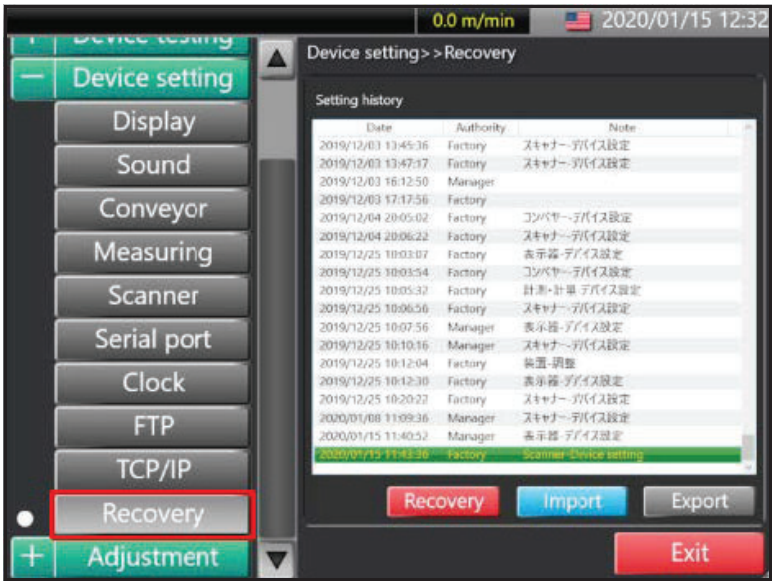


Figure 89
*Setting data backup - Recovery menu*

5. A list of the most recent data will appear in **Setting history** with the date of the recording. Select the data of the latest date and tap **[Export]**.

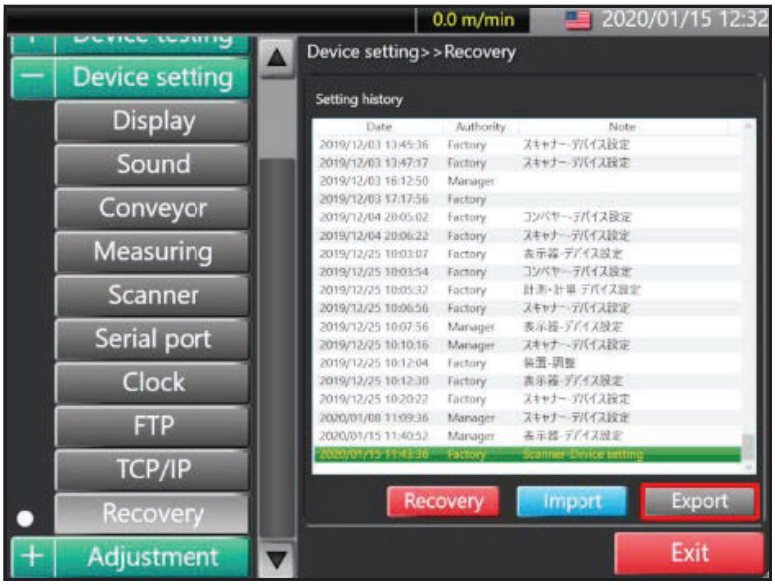


Figure 90
*Setting data backup - Recovery setting history*

6. A pop of menu will appear requesting the drive to which the data will be backed up. Select the drive for the USB memory drive and tap **[OK]**.


Figure 91
*Setting data backup - Select drive*

7. Another popup will appear requesting confirmation. Tap **[Yes, I understood]** to complete the recovery process.


Figure 92
*Setting data backup - Confirmation popup*

8. The file will be found on the memory drive in a folder designated with the machine number. The file name will follow the format **YYMMDDhhmmss.ini**, where Y=year, M=month, D=data, h=hour, m=minute, or s=second.

## Adjustment data backup

1. Adjustment data can be backed up similar to maintenance data. To back up adjustment data, open the **Adjustment** drop down menu by tapping **[+]**. Then, tap **[Recovery]**.

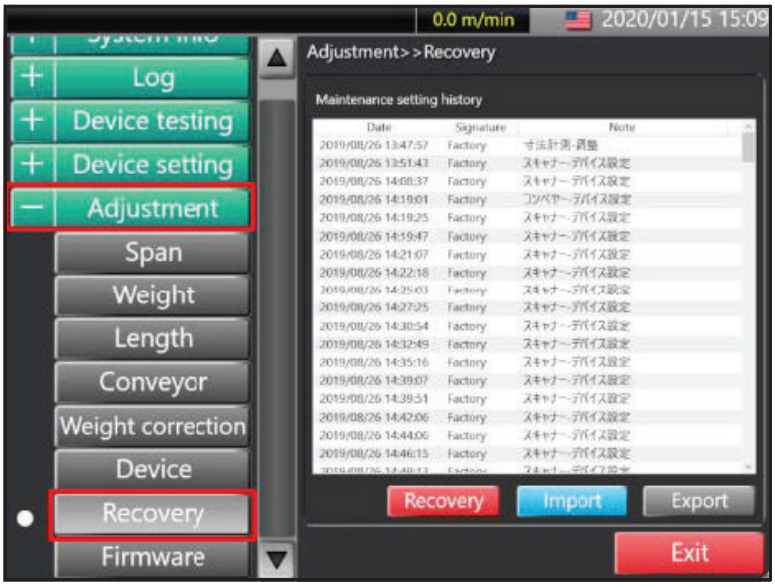


Figure 93
*Setting data backup - Adjustment recovery*

2. A list of the most recent adjustment data will appear in **Setting history** with the date of the recording. Select the data of the latest date and tap **[Export]**.


Figure 94
*Setting data backup - Adjustment setting history*

3. A pop of menu will appear requesting the drive to which the data will be backed up. Select the drive for the USB memory drive and tap **[OK]**.


Figure 95
*Setting data backup - Select drive*

4. Another popup will appear requesting confirmation. Tap **[Yes, I understood]** to complete the recovery process.


Figure 96
*Setting data backup - Confirmation popup*

5. The file will be found on the memory drive in a folder designated with the machine number. The file name will follow the format **YYMMDDhhmmss.ini**, where Y=year, M=month, D=data, h=hour, m=minute, or s=second.

# Measurement confirmation

1. To confirm the accuracy of measurements, use a calibration cube or a box with known measurements. Tap **[Start]** on the console.


Figure 97
*Measurement confirmation - Start*

2. The **Conveyor warning** message will appear to warn that the conveyor is moving with an option to stop the conveyor. The message will soon disappear as the conveyor starts.

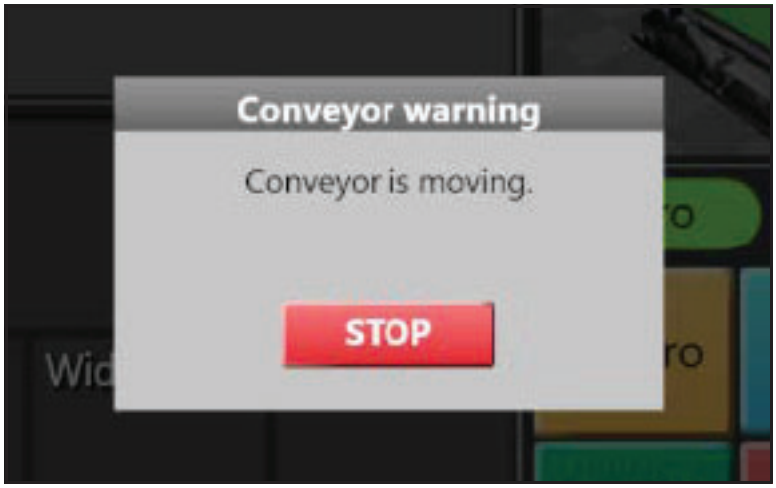


Figure 98
*Measurement confirmation - Conveyor warning message*

3. When **[Zero]** and **[Ready]** indicators both turn green, the sensor is ready for measurement. Place the object for calibration on the edge of conveyor A. The measurement results will display.


Figure 99
*Measurement confirmation - Ready for measurement*

4. Run the same calibration object on the conveyor about ten times. Record the measurements in a table like the following:

| Test sampling | | | | | |
|---|---|---|---|---|---|
| Measurement | Width | Length | Height | Weight | Barcode |
| Actual | | | | | |
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |

**NOTE** *Acceptable weight tolerance is within ±5mm. If the box does not have a barcode, a "No Read" error may trigger. If the box has multiple barcodes, a "Multi Read" error will display. In both cases the conveyor will stop.*