

Quick user guide

PC software

Thank you for purchasing the CX1011/CX1012.
The contents of CX1011 and CX1012 are the same except for the language on the package.
This is the instruction manual for installing the table-top type robot (IAI-made TTA-A4 series) and connecting it to a PC.
Please read the included quick user guide (installation/connection) and the detailed instruction manual (on CD-ROM) before operating the CX1011/CX1012.
Please keep them readily accessible for reference.

1. OPERATING ENVIRONMENT

Operating environment for easy programming software

The following system is required to run this software.

Compatible OS	Windows 7, Windows 8, 8.1, Windows 10
Computer and compatible keyboard	Personal computer which runs on Windows OS and its compatible keyboard
Media reading drive	CD-ROM drive
Supported robot	Exclusive for TTA-A4 series robot made by IAI ^{※1}
USB port	Necessary to run Easy programming software

※1 The specification of the robot is HAKKO original. Please contact HAKKO when necessary.

2. INSTALLATION

● Installation of Easy Programming Software

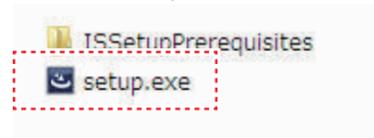
When installing this software, be sure to log in by the user having the Administrator right.

- Insert the CD-ROM containing the Easy Programming Software into the CD-ROM drive of PC.
- The data contents in the CD-ROM are displayed.
The Easy Programming Software for each language (Japanese, English, Chinese (Traditional)) is included separately in 3 folders of DISK 1. Select the language to be installed and open the folder.

* Instruction manual for the language, Japanese, English, Chinese, Korean and Thai can be downloaded from the following URL, HAKKO Document Portal.

<https://doc.hakko.com>

- Double-click "setup.exe".



HAKKO CORPORATION
HEAD OFFICE
4-5, Shioikusa 2-chome, Naniwa-ku, Osaka 556-0024 JAPAN
TEL: +81-6-6561-3225 FAX: +81-6-6561-8466
<https://www.hakko.com> E-mail: sales@hakko.com

OVERSEAS AFFILIATES
U.S.A.: AMERICAN HAKKO PRODUCTS, INC.
TEL: (661) 294-0090 FAX: (661) 294-0096
Toll Free (800) 88-HAKKO
<https://www.HakkoUSA.com> E-mail: Support@HakkoUSA.com

HONG KONG: HAKKO DEVELOPMENT CO., LTD.
TEL: 2811-5588 FAX: 2590-0217
<https://www.hakko.com.cn> E-mail: info@hakko.com.hk

SINGAPORE: HAKKO PRODUCTS PTE., LTD.
TEL: 6748-2277 FAX: 6744-0033
<https://www.hakko.com.sg> E-mail: sales@hakko.com.sg

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2. INSTALLATION

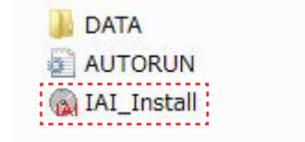
- The screen is displayed.
Check the details of the "Software License Agreement". Put a checkmark on the "I accept the terms in the license agreement. and click "Next".

CAUTION
When this software is installed or used, it is recognized that you agree with the "Software License Agreement". If you do not agree with the "Software License Agreement", you cannot use this software.

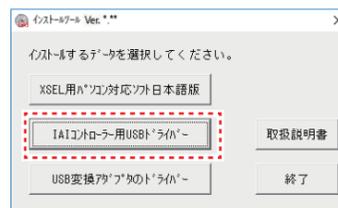
- Follow the indication in the screen and complete installation.

● USB driver installation

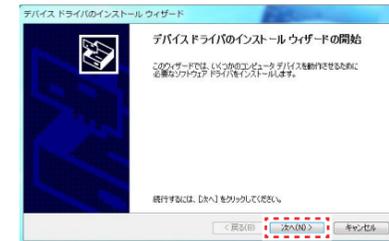
- Run the IAI_Install.exe file.



- Click "USB driver for the IAI controller".
If the driver is pre-installed, skip ④ and ⑤.



- Click "Next".



- Click "Finish".



3. HOW TO USE

● How to use Easy Programming Software

At first, check that all devices are correctly connected and powered ON. See "Quick user guide (installation/connection)".

Boot up the PC and insert the license dongle into the USB connector.
Start up the Easy Programming Software.

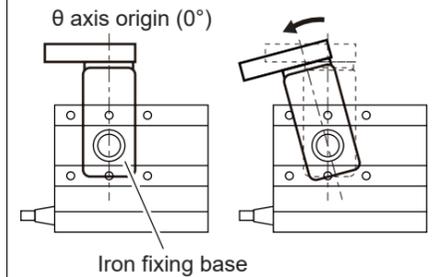


3. HOW TO USE

- Click "Connect" and connect to the table-top type robot (IAI-made TTA-A4 series).
- Click "ORG ret".
After completion of origin return, the HPS on the panel window of table-top type robot (IAI-made TTA-A4 series) is lit.

CAUTION
If the HPS is not lit (origin return is not made), other programs do not operate.

CAUTION
When the θ axis is turning while returning to the origin, there is a danger that the cable may become wrapped in while it is turned. If it seems like there is a risk of the cable becoming wrapped in, press the emergency stop button and turn the soldering iron mounting base counterclockwise so that it is a little past the origin (0°) of the θ axis when viewed from above, and then click the "ORG ret" again.



- Pull down the "Mode" and select either of "Device communication mode" and "PC communication mode".

Device communication mode

The "Device communication mode" is a mode to allow you to write created soldering programs in devices.

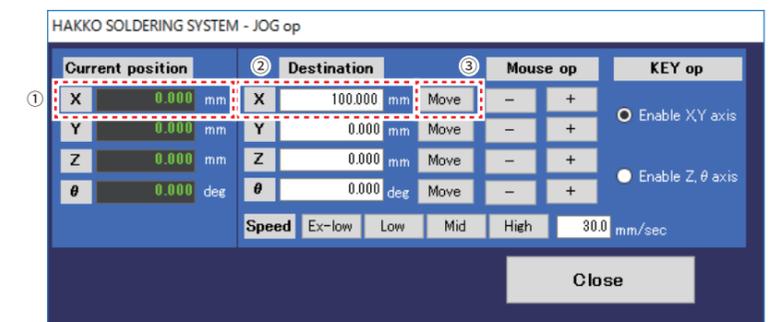
PC communication mode

The "PC communication mode" is a mode to run soldering programs from the PC. It may be selected when running program for more than 240 soldering points.

- Set the "Moving speed", "Soldering speed" and "Z axis lift cord".

- Click the "JOG op" to open the JOG operation screen.

● JOG operation



For each axis movement such as soldering position adjustment, operate using the JOG operation screen.

The following 3 ways of operation shown in Ex1) through Ex3) are available.

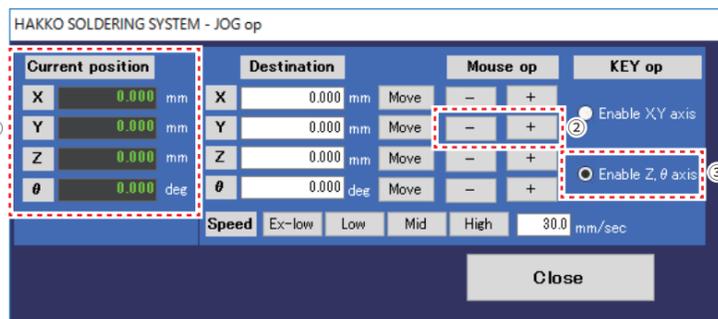
Ex1) Moving the X axis to 100 mm coordinate.
(Input data on the destination coordinate and click "Move" to perform axis movement.)

- Check the current coordinate.
- Input "100 mm" as coordinate of destination in X axis
- Click "Move".

The X axis automatically moves to the input coordinate.

CAUTION
When Move is clicked, movement will be performed automatically until the axis reaches the input coordinates. If there is a risk of contact, etc., press the emergency stop button immediately.

3. HOW TO USE

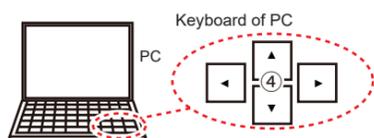


Ex2) Move the Y axis by mouse operation.

- ① Check the current coordinate.
- ② Press the "+" or "-" of Y axis in the mouse operation. While pressing, the Y axis is moved. When releasing, the Y axis is stopped.

Ex3) Move the Z axis by KEY operation.

- ③ Select "Enable Z, theta axis".
- ④ Press "▼" or "▲" using the keyboard. Z axis will move while pressing. Z axis will stop when released.



When the "Perform Z axis lift when moving horizontally" is checked, judgment of whether to lift the Z axis to the lift coordinates before moving each axis will be performed.

When the Z axis before movement is lower than the Z axis lift coordinate, movement to the Z axis lift coordinate is always performed before movement of axis.

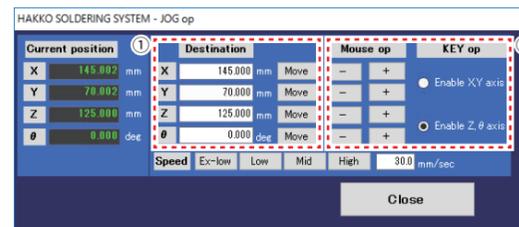
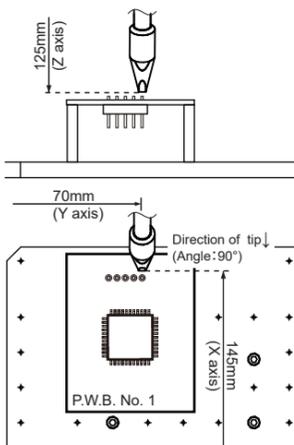
NOTE:

When the Z axis before movement is already same or higher than the Z axis lift coordinate, it will slide horizontally.

● Tip position adjustment by JOG operation

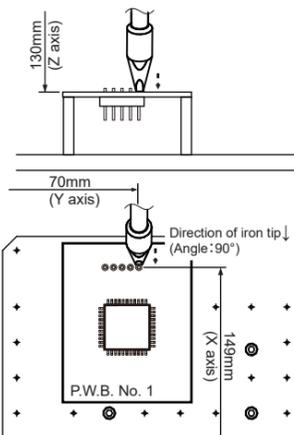
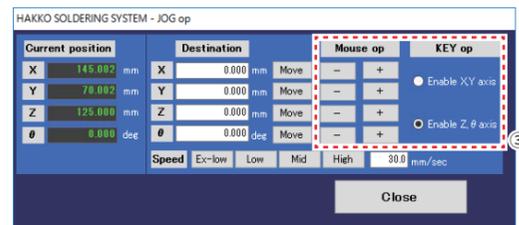
Ex) Position the tip to coordinate in Right figure

- ① When the coordinate of the soldering point is known, input the coordinate and click Move.



- ② If the coordinate is not identified, move the tip near the soldering point by mouse operation and KEY operation.

- ③ Perform fine adjustment by mouse operation and KEY operation. Uncheck the "Perform Z axis lift when moving horizontally" on the top screen.



CAUTION

If the checkbox is checked ON and the current Z axis coordinate is lower than the Z axis lift coordinate, it will perform Z axis lift every time when there is a move to X, Y and theta axis, making it impossible to perform fine adjustments. Check OFF the checkbox whenever performing fine adjustment. After finishing fine adjustment, always check the checkbox back ON. For positioning, select slower moving speed to find accurate position and to avoid damaging work.

3. HOW TO USE

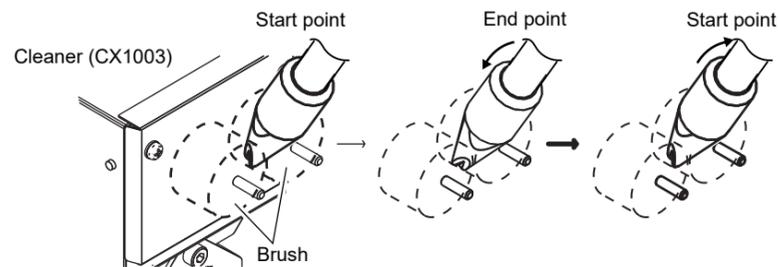
● Setting the cleaner

CAUTION

After learning JOG operation, be sure to set the cleaning position before other operation.

Set the cleaning position of the installed cleaner (CX1003).

To have the tip cleaned thoroughly, It is possible to add movement and angle to the cleaning process such as movement of start point → end point → start point



Ex) Setting of start point and end point coordinates

First, position the start point coordinate.

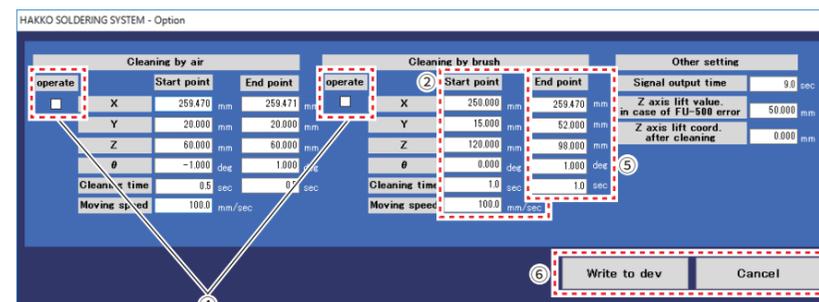
The start point coordinate is set to clean the tip thoroughly.

Set the start point adjusting the cleaning position depending on the tip shape and dimensions.



- ① Use the JOG operation screen and move the axes to the position where cleaning is operated. After the coordinate of each axis is determined, pull down "Setting" on the top screen and open the option screen.

- ② Input the positioned cleaning coordinate determined in ① in the start point of cleaning by brush.



The cleaning time is set to 1 sec.

With this setting, cleaning is performed at the start point coordinate for 1 sec.

Since X axis coordinate is the movement of jig table, the input value will not effect the cleaning operation as long as the cleaner (CX1003) is not on the jig table. Input any desired value as the movement of the jig table.

Next, position the end point coordinate.

The end point is set to clean the part of the tip where it could not be cleaned only with the start point coordinate.

- ③ Use the JOG operation screen and position to the end coordinate.

- ④ Operate ON/OFF

Turn the "Operate" checkbox ON to move the jig table as in the X coordinate during cleaning.

Turn the "Operate" checkbox OFF to keep the jig table in the same position during cleaning.

- ⑤ Input the positioned cleaning coordinate determined in ③ in the end point of cleaning by brush.

- ⑥ After setting is completed, click "write to dev" and the setting is written to table-top type robot (IAI-made TTA-A4 series).

3. HOW TO USE

※ In the Option screen, beside the cleaner (CX1003) included in the set, air cleaner could also be set.

Ex) Using both cleaning by air and cleaning by brush

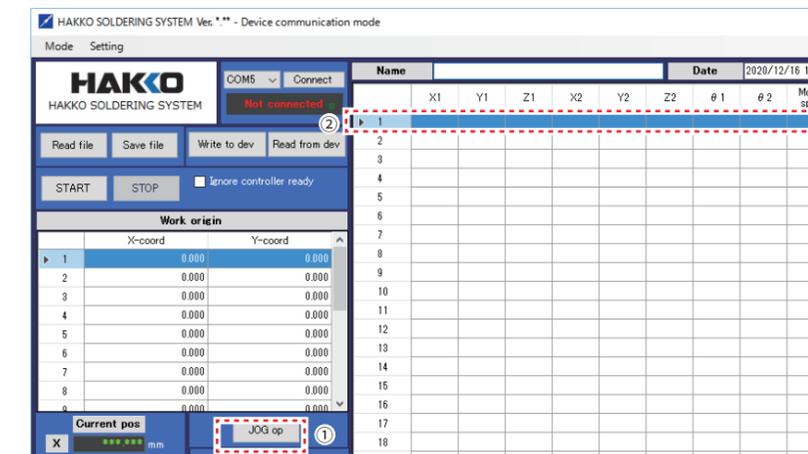
Clicking "Cleaning" on the top screen or pressing the "Cleaning button" of the table-top type robot (IAI-made TTA-A4 series) will perform both cleaning in the order of cleaning by air → cleaning by brush.

Ex) Setting cleaning by brush only

Input 1 second to the "start point" and "end point" of the cleaning time of Cleaning by brush.

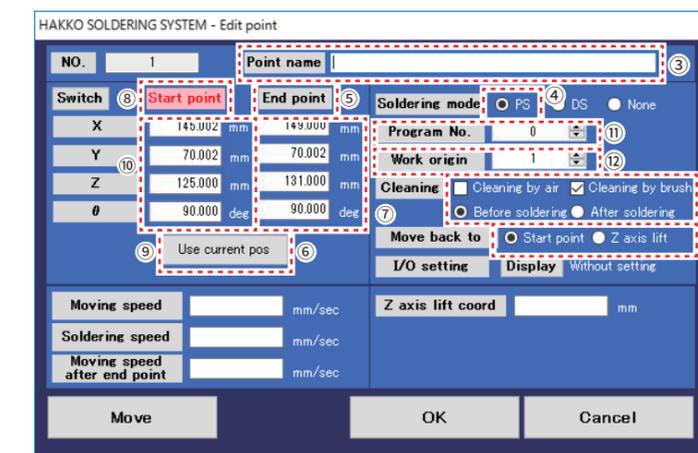
Input "0" to the "start point" and "end point" of the cleaning time of Cleaning by air. Cleaning by air will be canceled with this setting.

● How to set PS (point soldering)



- ① Click "JOG op" to open the JOG operation screen.

- ② Double-click the 1st line to open the "Edit point" screen shown.



- ③ Input a name for part to be soldered in the Point name.

- ④ Select "PS" for Soldering mode.

Use the JOG operation screen and determine position of the end point coordinate.

- ⑤ Click "End point" on the Edit point screen.

Character of "End point" turns red, showing that end point is active for edit.

- ⑥ Click "Use current pos".

- ⑦ Inputting values of the end point coordinate positioned by JOG operation is completed.

Next, use the JOG operation screen and determine position of the start point coordinate.

- ⑧ Click "start point" of the Edit point screen.

Character of "Start point" turns red, showing that start point is active for edit.

- ⑨ Click "Use current pos".

- ⑩ Inputting values of the start point coordinate positioned by JOG operation is completed.

- ⑪ Select the solder feeding program No. of HAKKO FU-500.

- ⑫ Select the work origin.

- ⑬ Select the type of cleaning and timing.

- ⑭ The movement after end point (after soldering) is selected from start point or Z axis lift.

* For setting the offset amount, DS (drag soldering) settings, etc., see the instruction manual.