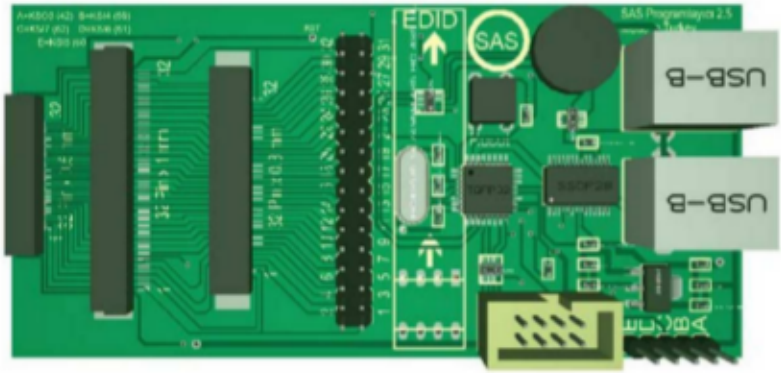
SAS IO Programmer User Manual

A- Product Image:



A - Product Properties:

- ENE KB9010 / KB9012 / KB9022 / IT8586E / IT8585E / MEC1609 / NUVOTON NPCE288 NPCE388 / NPCE288NA0DX has the property to program IO integrated circuits.
- The product has the property to program EDID EPROM on LCD screen.
- The product has independent keyboard test property.

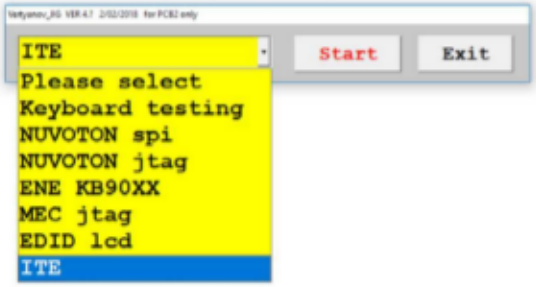
B- Points to Consider:

- When programming, the bottom part of the programmer should be kept away from conductive points.
- If the connection is short and you need to place the programmer on the motherboard, you need place a material such as paper or isolation materialthat will protect from short circuit beneath the programmer. Since the bottom part of the programmer contains live tips, if you place the bottom part directly on the motherboard, your device may get damaged.

C - Driver and Interface Software:

1. Please download the .RAR file that contains driver and interface software

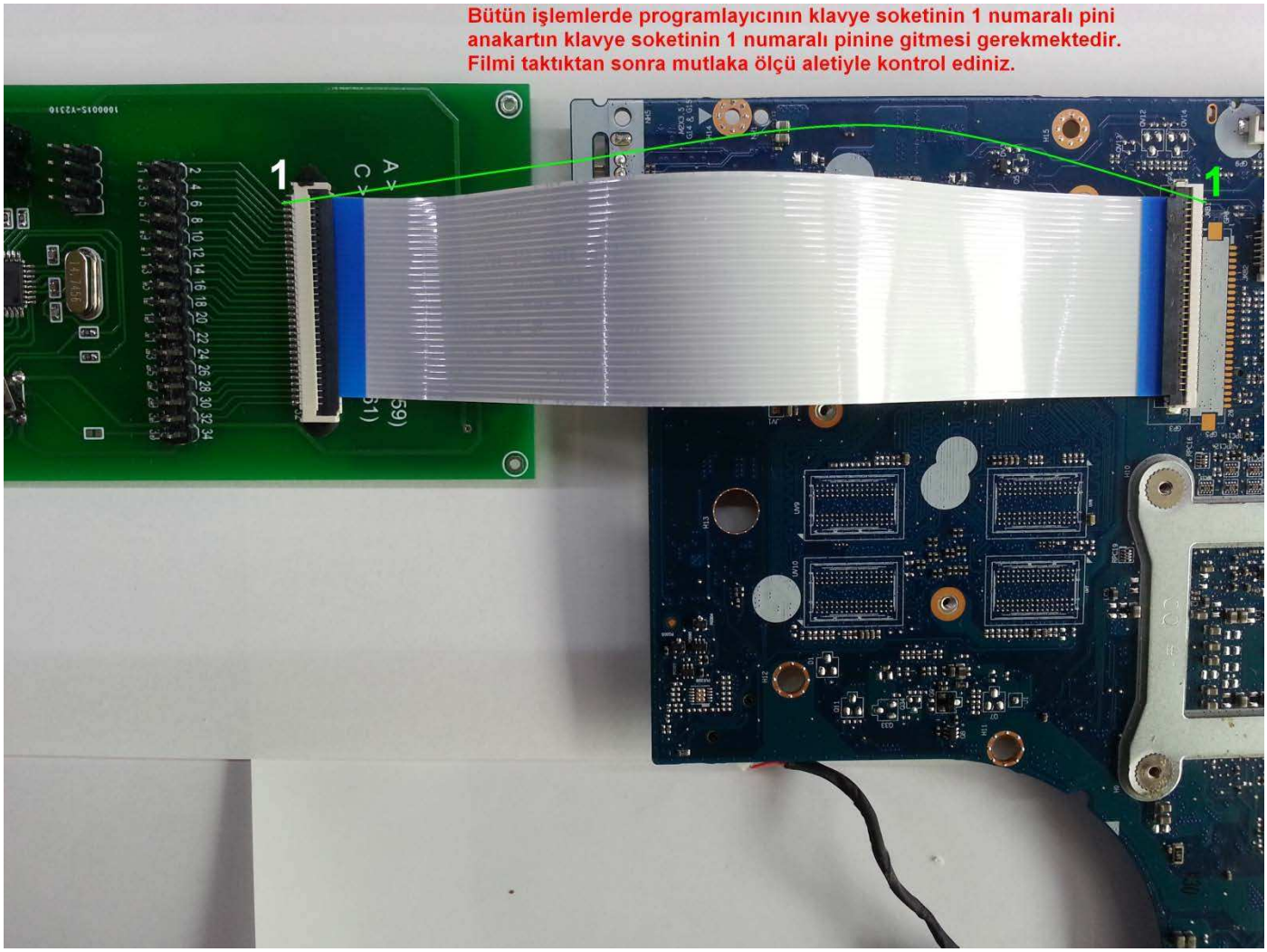
2. Extract the compressed programmer in the .RAR file to desktop.
3. Within programmer folder, enter DRIVER FTDI CDM 2.08.30 WHQL Certified Driver folder, run **CDM v2.08.30 WHQL Certified.exe**file and introduce to card driver to your computer.
4. After installing the driver on the desktop, you can connect the programmer.
5. To run programmer interface by going back to previous folder, enter the folder of Programmer. Run **Vertyanov JIG ver 4.C.exe** file.
6. When the program is open, you will see the following screen.



7. You will see a pop-up menu and by selecting the IO model you want to program, you can initiate the first step.
Each programming property has unique interface. To program ENE and ITE below,
explanations are provided with new version programmer.

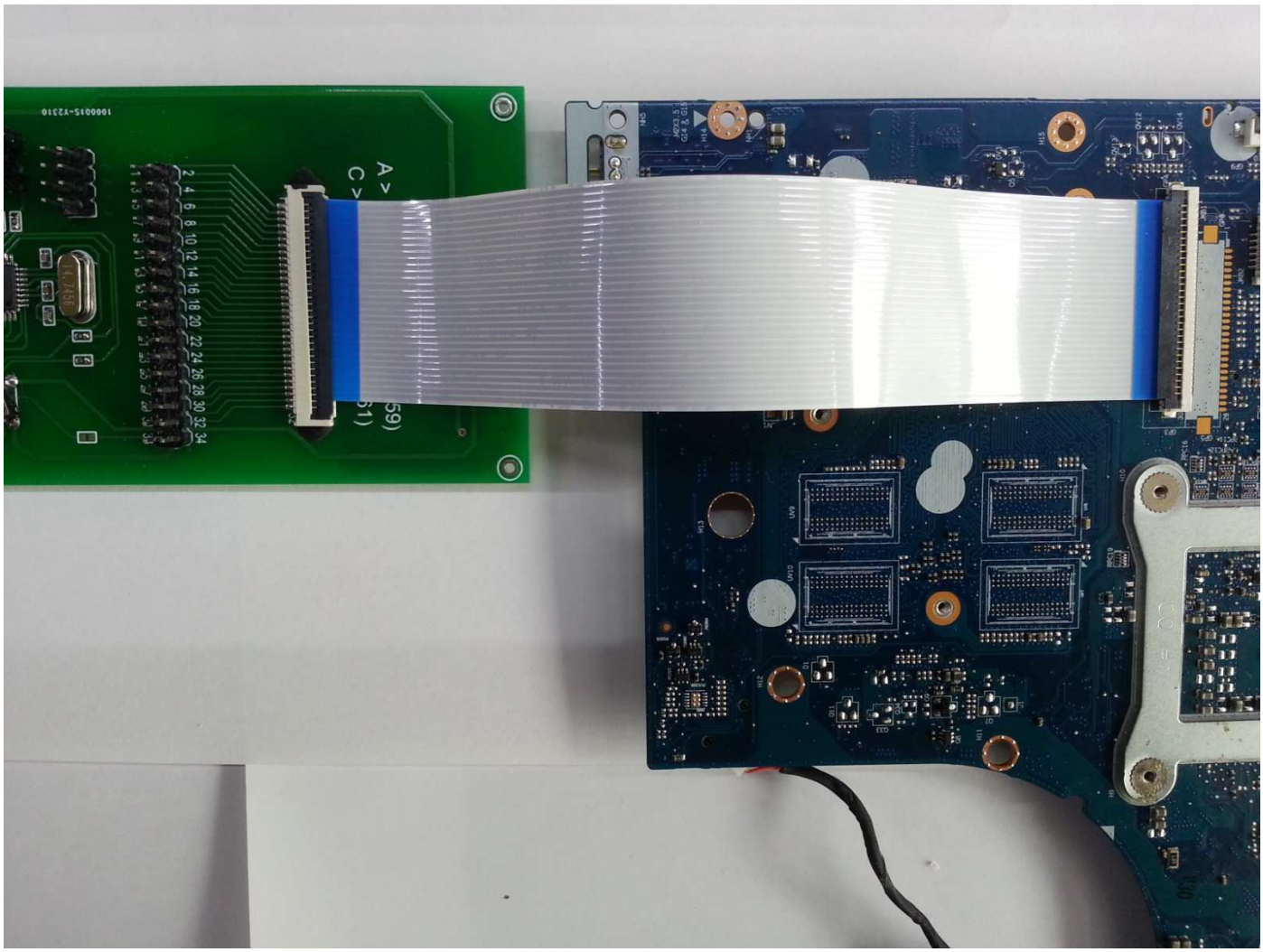
ITE IO Programming

First, to program ITE, your motherboard should be free of any electronical malfunction.
When ITE IO integrated circuits are programmed, a film cable is used between motherboard and programmer.
You don't need to make any connections on programmer.
1. Since you need to energise the device while programming, plug in the adapter of the tool and wait. You need to plug in the adaptor to power socket of motherboard at that moment.
2.Before connecting IO programming device to USB, connect the motherboard and programmer.
3. When you are doing this connection no 1 pin on keyboard socket should correspond to no 1 pin on the motherboard. The pins should correspond such us 1<>1, 2<>2, 3<>3 until 30.
After making the necessary connections with film cable, you can measure the pins with your measurement tool in the buzzer mode to make sure the connection is correct.

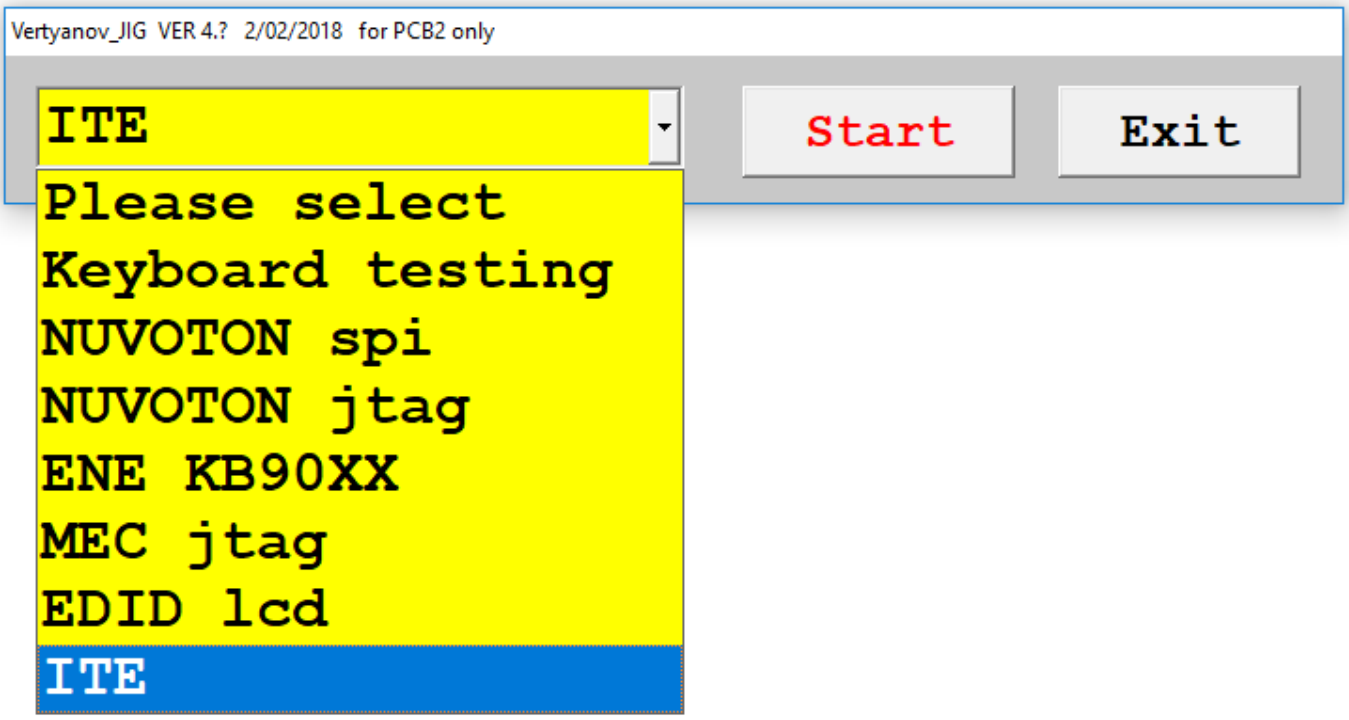


4. To make the connections, you can use 30 or 32 pin straight film cable as show in picture below.

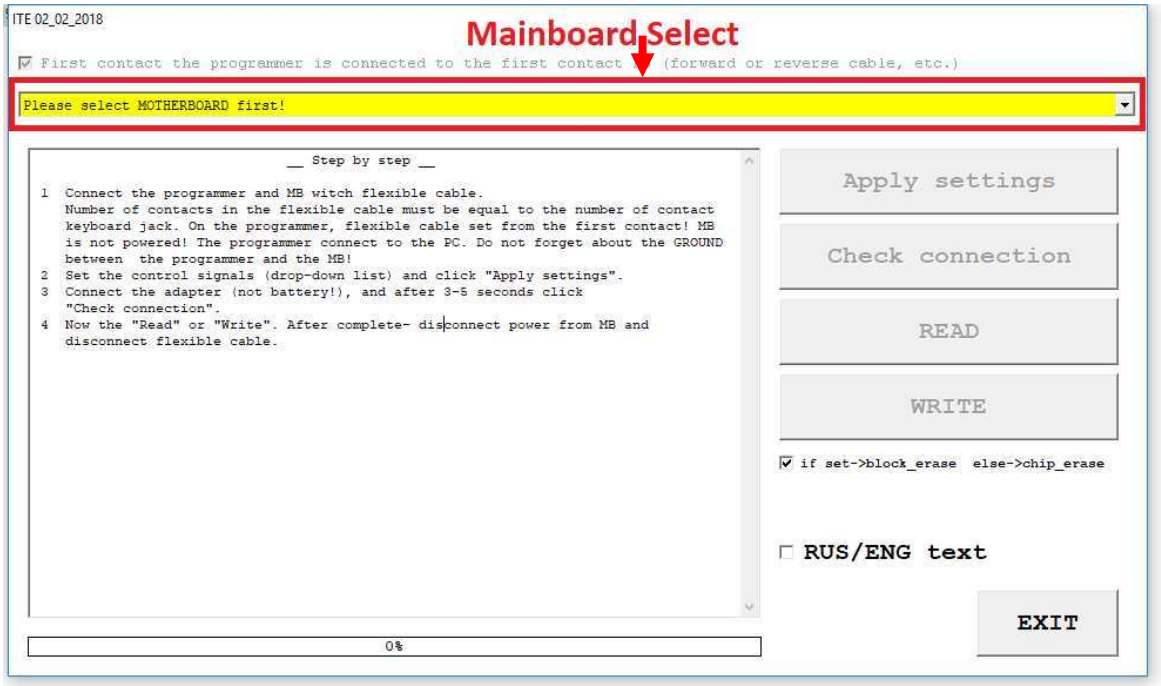
Example Connection:



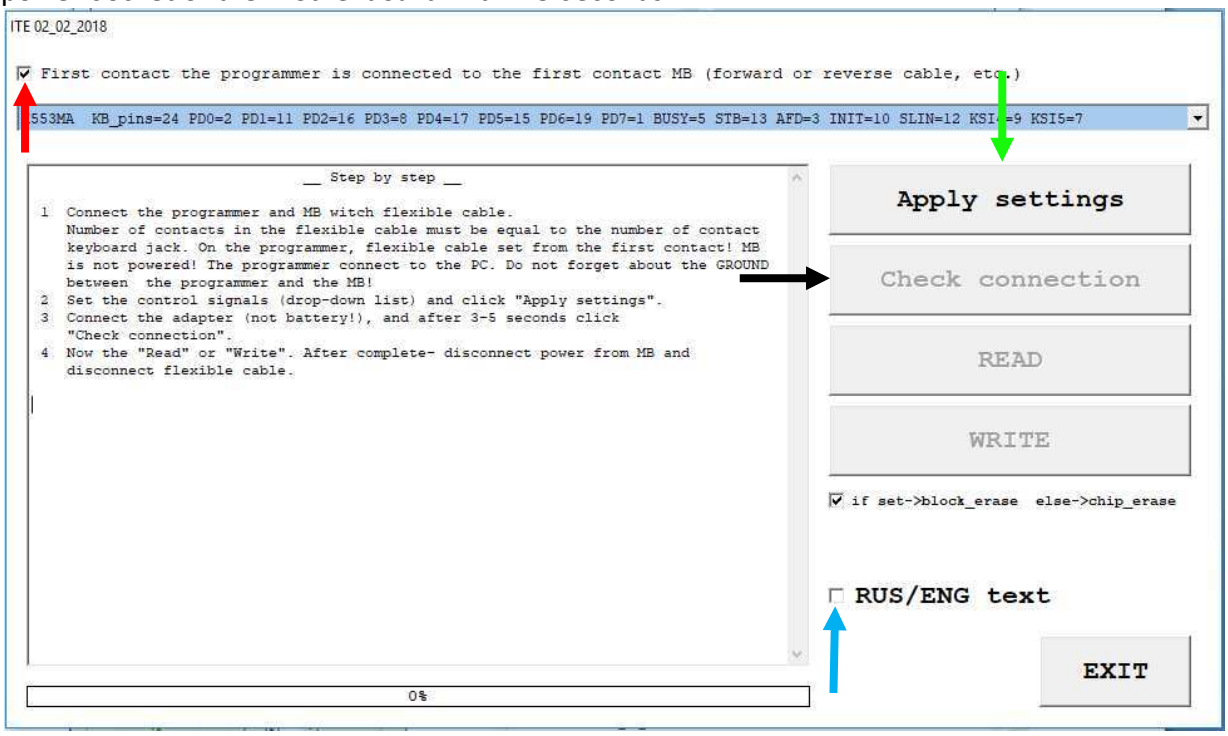
5. After making necessary connection, please run Vertyanov JIG ver 4.C program in .RAR file.
You will see the following screen. From Please Select pop up menu, select ITE chip, and press Start button.



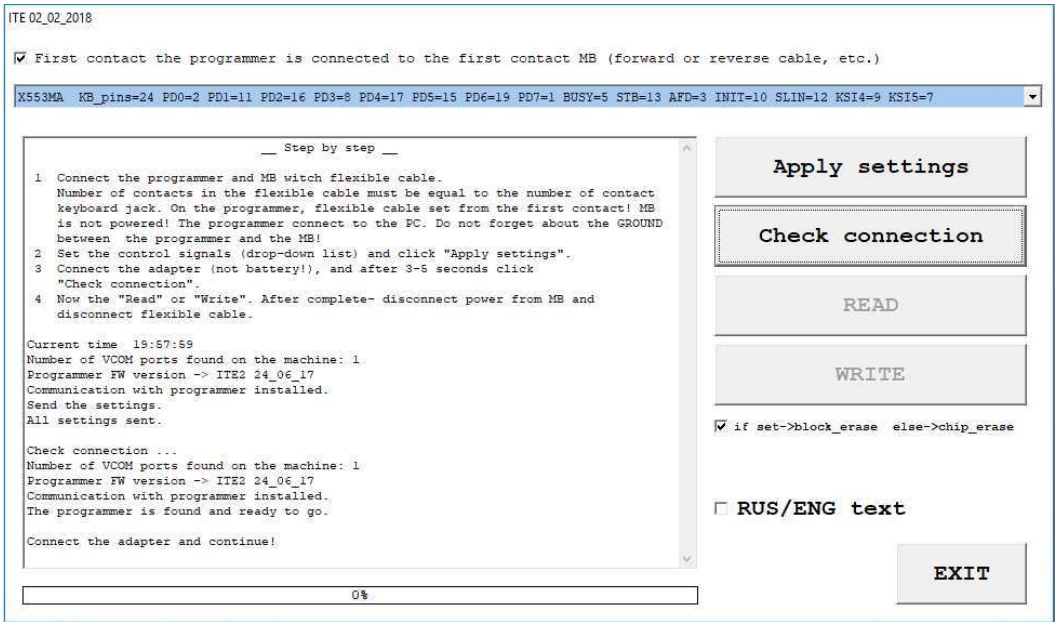
6. Click on the upper list on the pop-up menu and select the model of the motherboard. The purpose of this operation is to automatically define the communication between the communication pins of the processor and the communication pins of the keyboard.



7. Make sure that keyboard socket pin 1 on process is connected with keyboard socket pin 1 in the motherboard and approve the red **arrow**checkbox as shown in picture. If no.1 pin of the motherboard doesn't connect with no.1 pin of keyboard socket, uncheck the chechbox.
8. Then click on the **Apply settings** button indicated with **green** arrow.
9. Then click on**Check connection**button indicated with black arrow and connect the adaptor to the power socket of the motherboard within 5 seconds.



You can change program interface language by clicking on **blue** checkbox.
9. After pressing **Check connection** button, a text as shown below will appear. You need to connect the adapter to energise motherboard in 5 seconds.
10. When you need to plug in the adapter, you should connect the adaptor in 5 seconds and keep the adapter connected until the programming is completed.

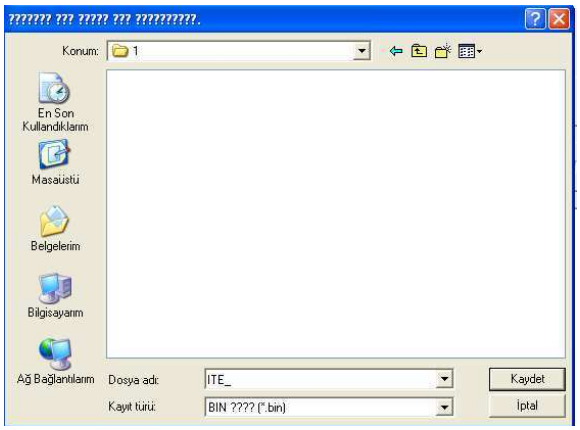


11. When all the operations are correct, the programmer will indicate ID -> 8586. This message is presented after the communication is obtained with I/O integrated circuit. If this message does not show up, you may have a problem with your connection. **If this message does not show up**; after connecting the adaptor you may click on the send settings button and check the connection with check connection button.

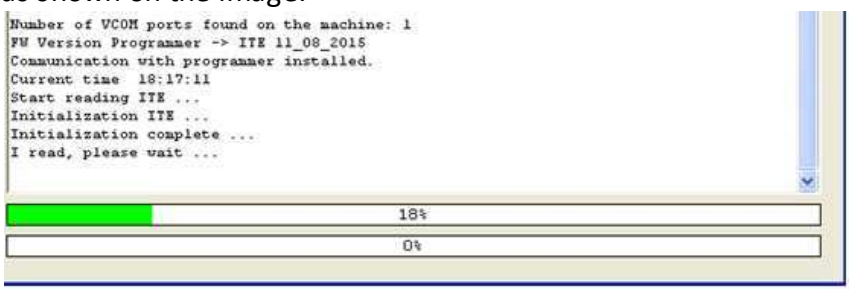
```
Check connection ...
Number of VCOM ports found on the machine: 1
FW Version Programmer -> ITE 11_08_2015
Communication with programmer installed.
The programmer is found and is ready for operation.

Now, as soon as possible, plug the adapter (5 sec) !
Найден ID мульта -> 8586 ревизия -> 06
```

12. After all the necessary connections and operations are completed, if you want to read and save the software inside I/O integrated circuit, you can click on**READ**button. Before the read operation starts, you will see a window to select the saving locations of the software in EPROM. You can choose the name and location of the file.



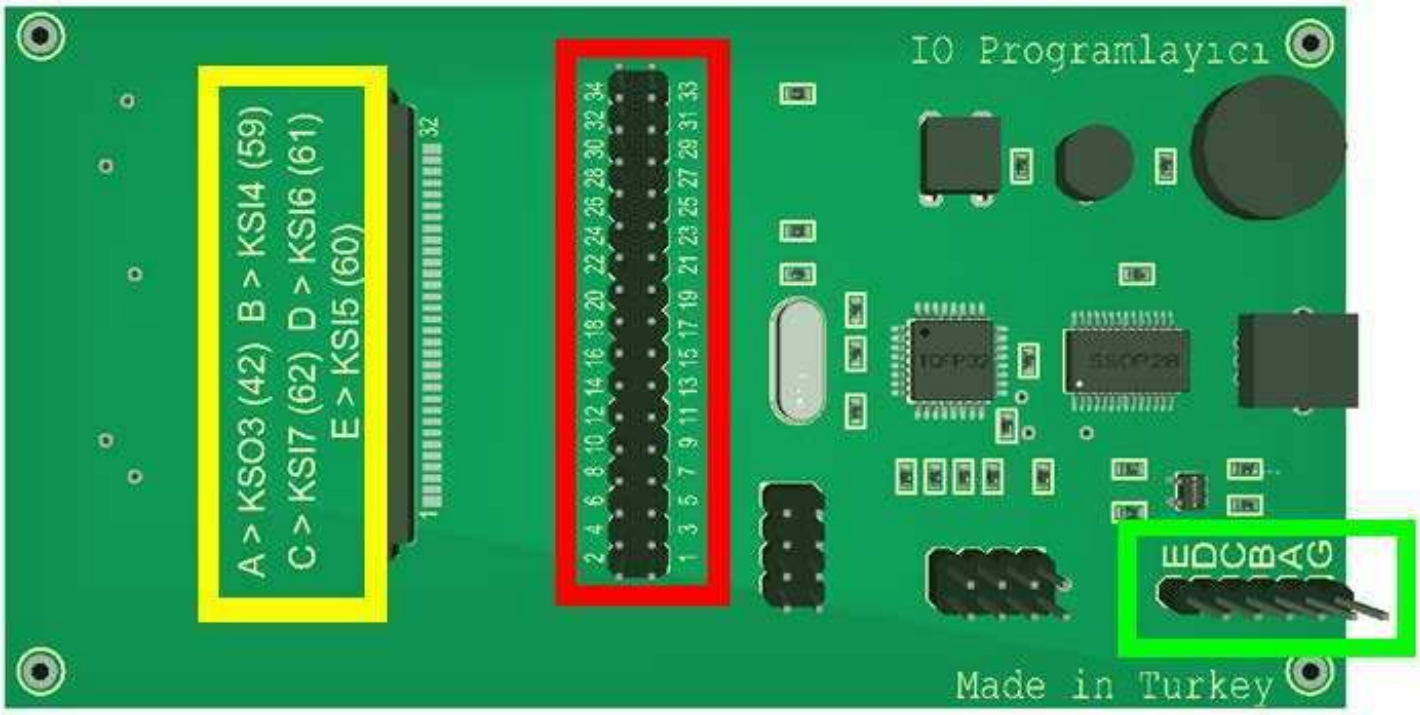
13. When the reading operation is initiated, you can follow the % progress level from the green indicator as shown on the image.



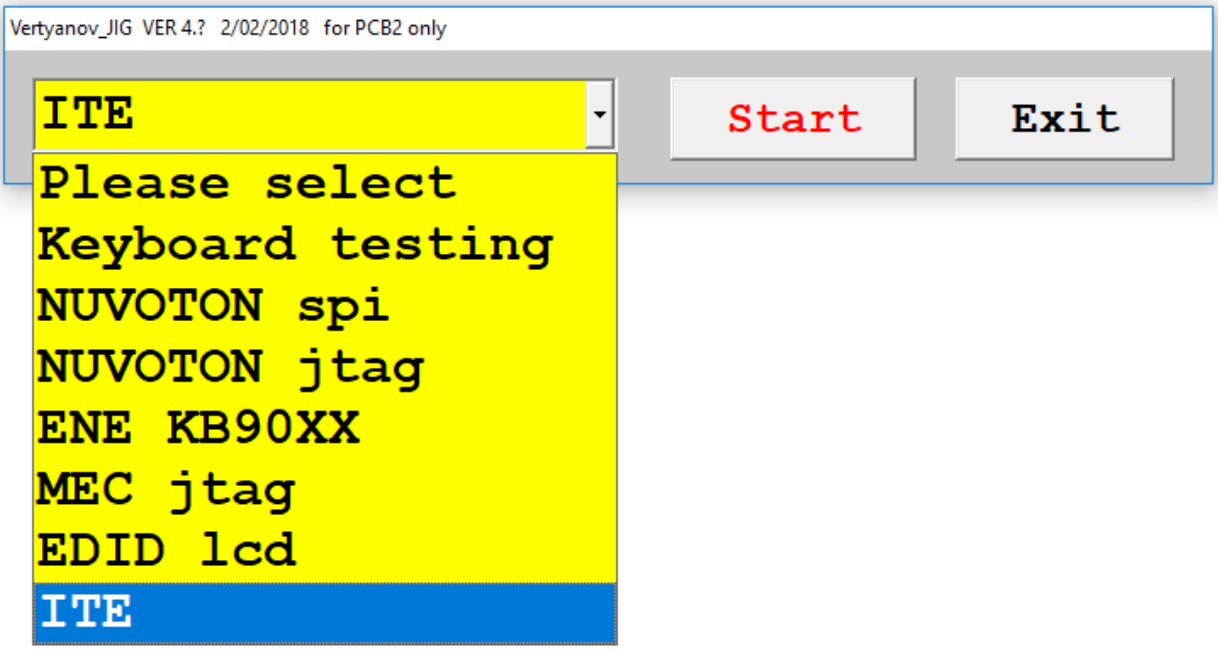
14. For writing operation, click on **Write** button and show ROM file that will be written inside I/O integrated circuit. Writing will start when the file is shown.
15 Writing process can take a while. You need to wait for the process to be completed.
16. When the writing operation is completed plug out the adaptor as you plug out the film cable from the microprocessor. Re-connect the adaptor and test the device. The device should work without a problem.

ENE IO Programming

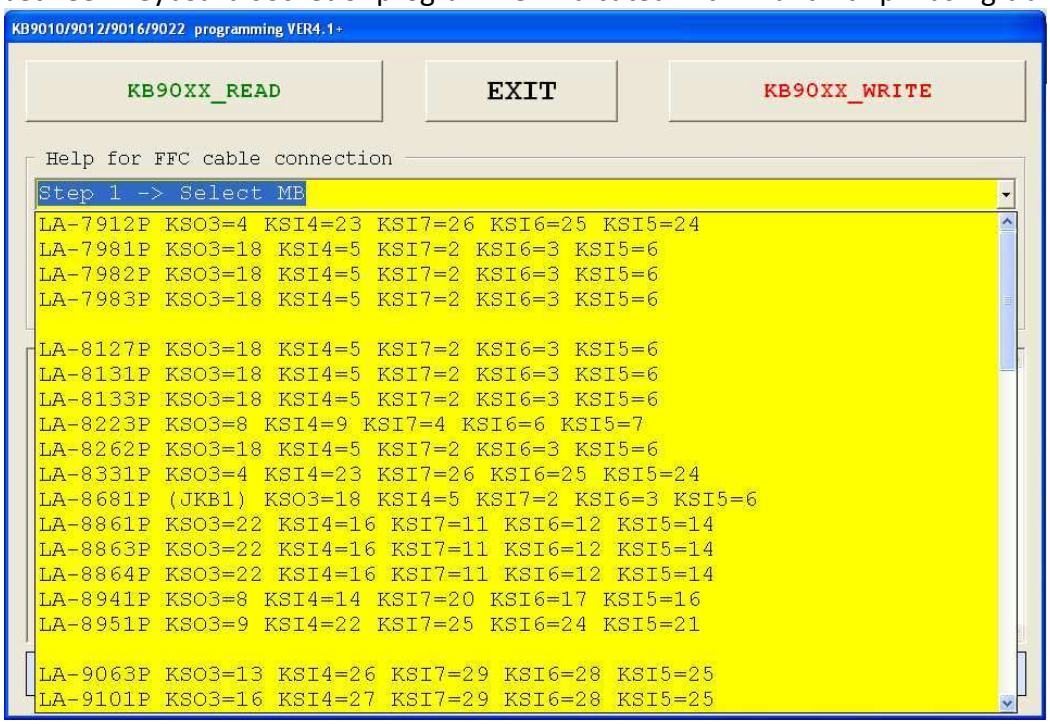
1. ENE IO integrated circuits can be programmed with pins and keyboard film cables shown below.
3. First, you need to identify driver of the card. Required tools are given in C section of the first page.
3. Letter counterpart of pins in the green square on the card are written inside the yellow square on the card.



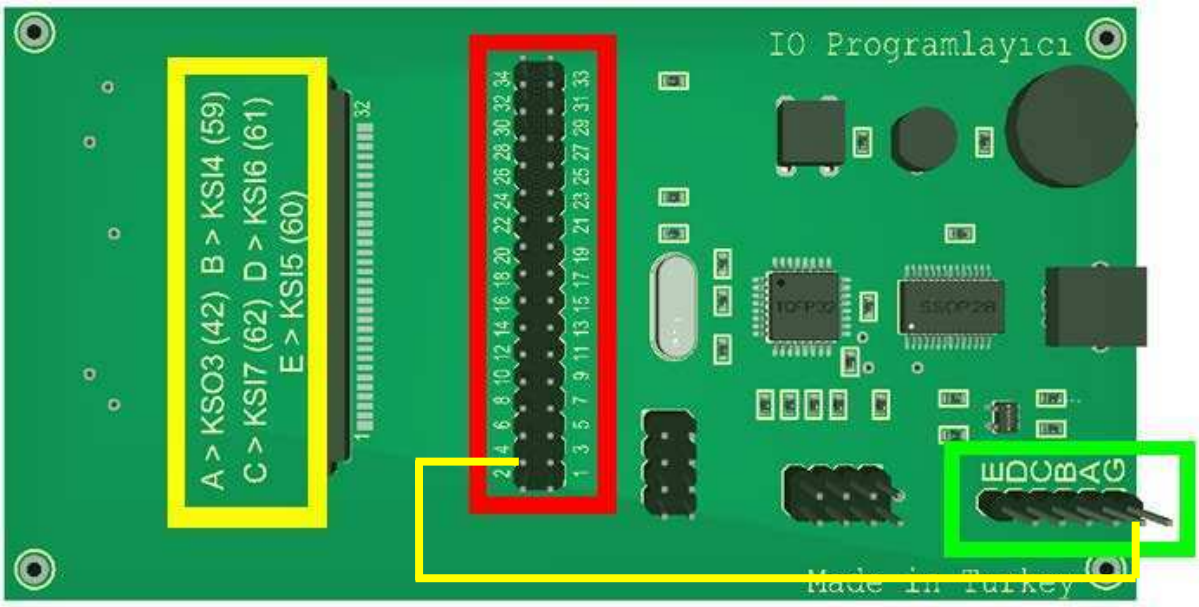
4. These letters should be transferred to pins inside the red square with transfer cables based on information given inside interface program of the programmer. Letter and pin number counterparts change according selected motherboard model.
E --> (KSI5)
D --> (KSI6)
C --> (KSI7)
B --> (KSI4)
A --> (KSO3)
G --> (GND) USB Cable should be connected to USB socket of motherboard and chassis should be provided.
5. Before connecting IO programming device to the computer, connect the motherboard and programmer. Connect motherboard and programmer with suitable film cable.
6. When you are doing this connection no 1 pin on keyboard socket should correspond to no 1 pin on the motherboard. The pins should correspond such us 1<>1, 2<>2, 3<>3 until 30.
7. After making the necessary connections with film cable, you can measure the pins with your measurement tool in the buzzer mode to make sure the connection is correct.
5. After making necessary connection, please run Programlayici_4.93 program in .RAR file.
You will see the following screen. From Please Select pop up menu, select KB9010/12/16/22 chip, and press Start button.



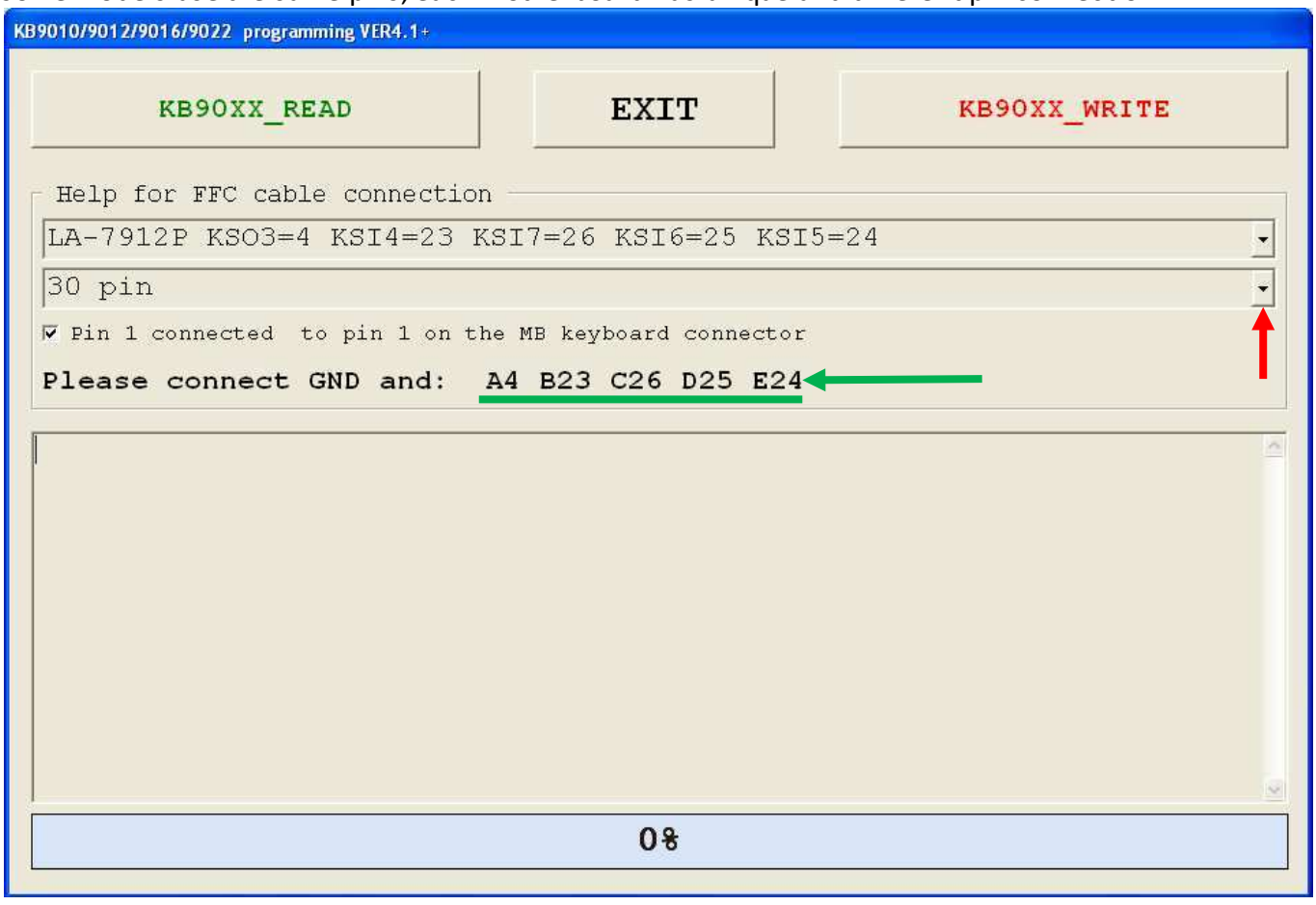
9. Click on the pop-up list on the top of the window and select motherboard model. On the left-hand side, LA initials are manufacturer model of the motherboard. KS information indicates which letters on the programmer are counterpart of which pins on 34-pin connection.
Model on the top, LA-7912P KSO3 represents letter Ad on programmer. You need to make connection between keyboard socket of programmer indicated with A and 4th pin using transfer cable.



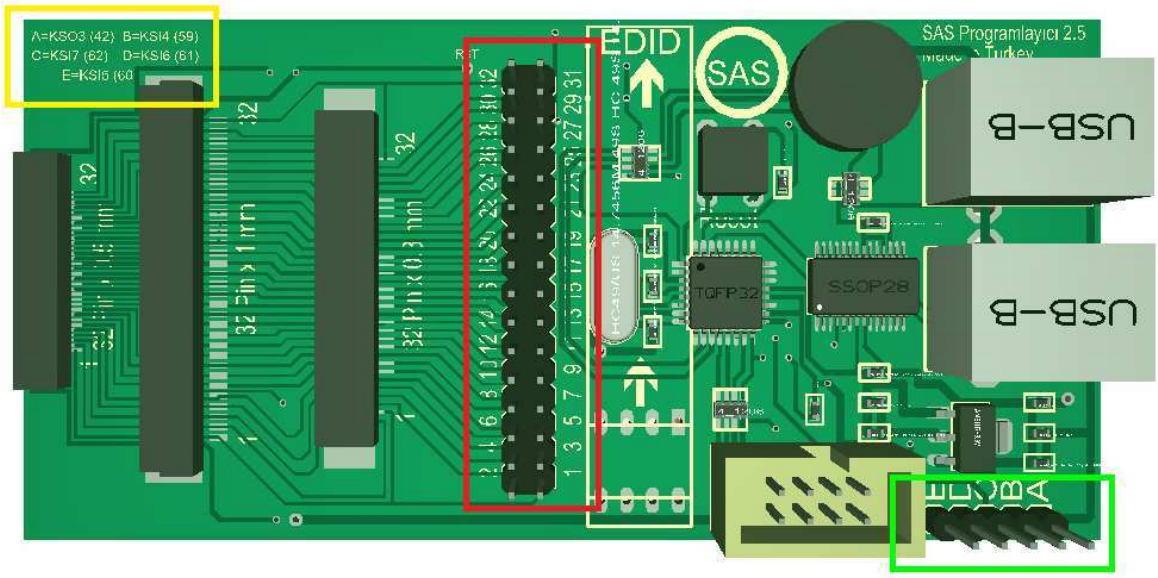
10. As shown in the picture below, based on board model selected from list, A letter corresponds to pin 4. You need to make a connection between KSI4 and pin 23. To learn which letter KSI+ is, you can check letter counterparts inside the yellow square. KSI4 indicates letter B.



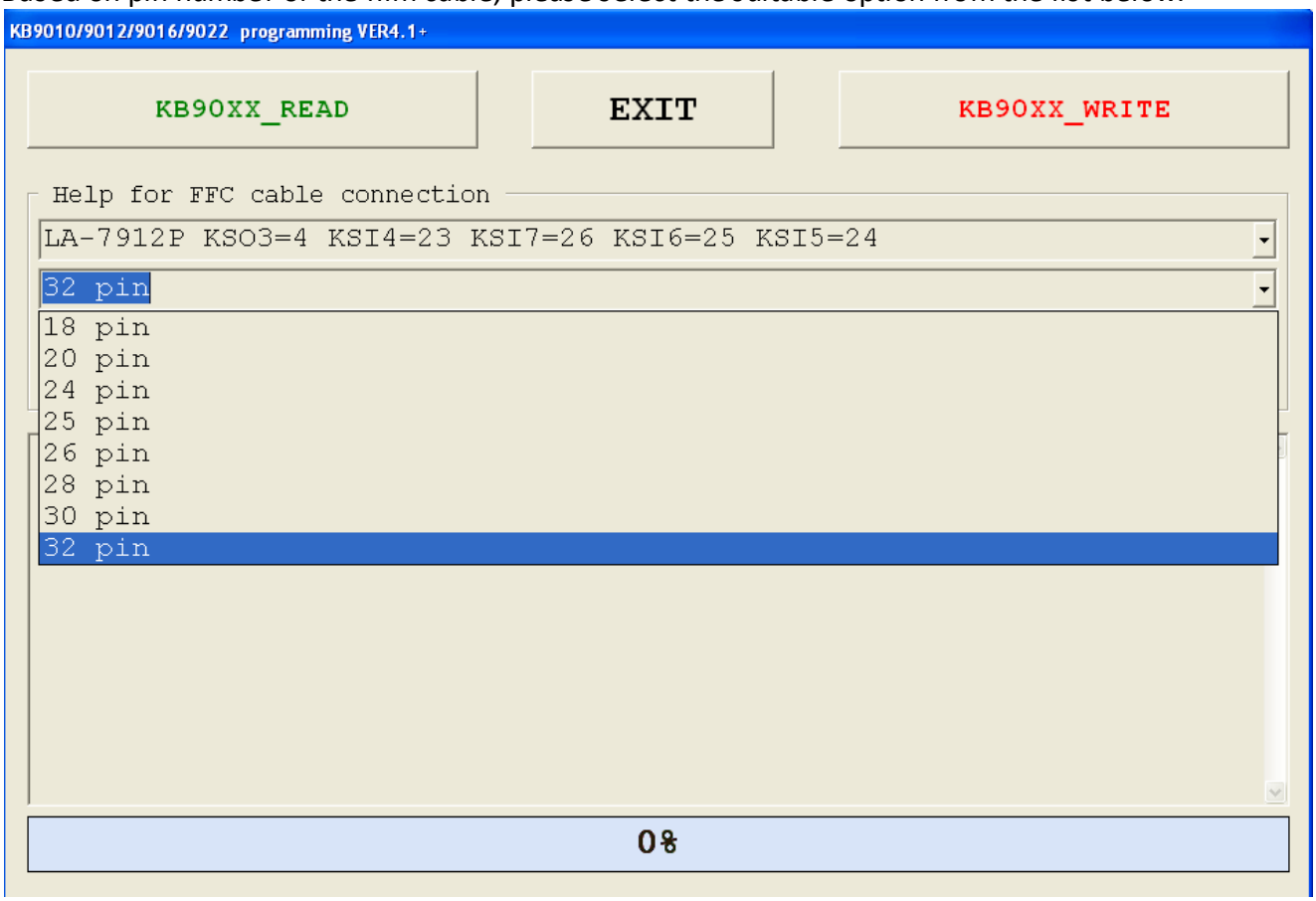
11. To make things easier, select number of pins on film cable used for connecting motherboard and programmer from the second pop-up menu indicated with red arrow. After this select, as shown in the picture below, you will see which letter will be connected with which pin as indicated with green arrow.
12. letter A should be connected to no.4, letter B should be connected to no.23, letter C should be connected to no.26, letter D should be connected to no.25,
letter E should be connected to no.24, and lastly, letter G should be connected to motherboard USB socket.
This way, you can see different pin connections on the screen based on your model selection. Although some models use the same pins, each motherboard has unique and different pin connection.



New Version:



Based on pin number of the film cable, please select the suitable option from the list below.



13. After making necessary connections, connect your programmer to computer via USB. Then, connect adapter of the motherboard to power socket. To read from and save to IO integrated circuit, click **KB90XX_Read** button.

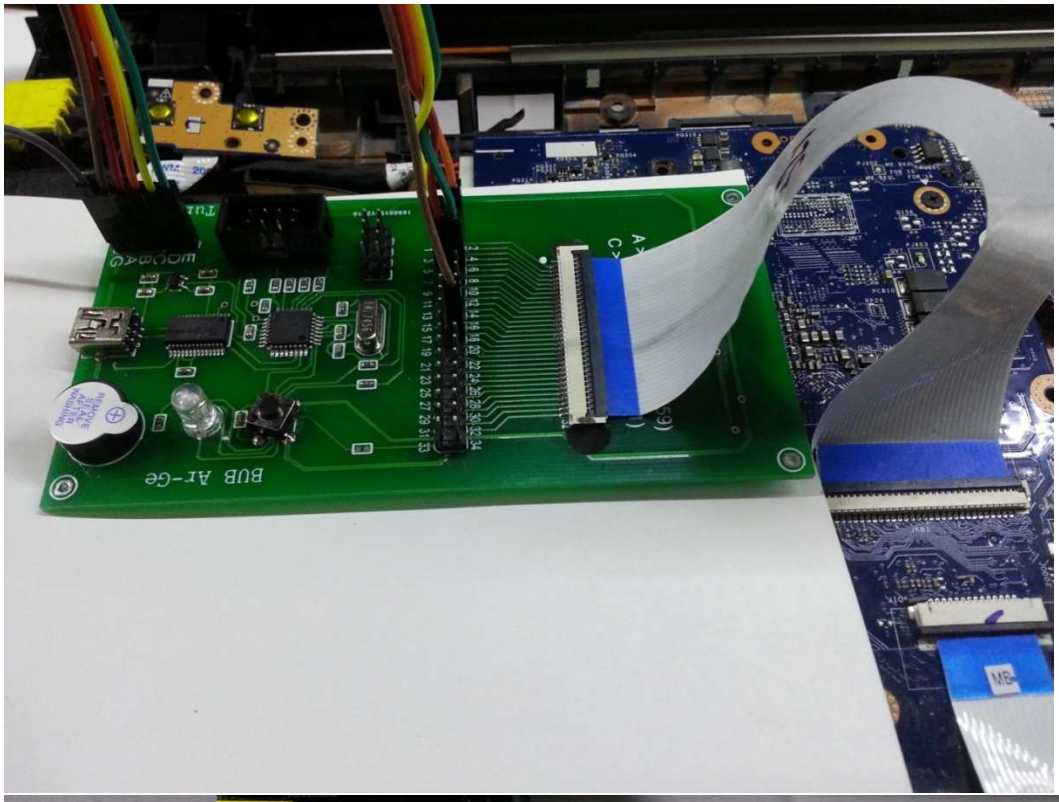
14. If you want to upload new software to IO integrated circuit, click on **KB90XX_Write**button and from this window, after showing the target of new software, writing operation will begin.

If you are experiencing an error, please check your adaptor.

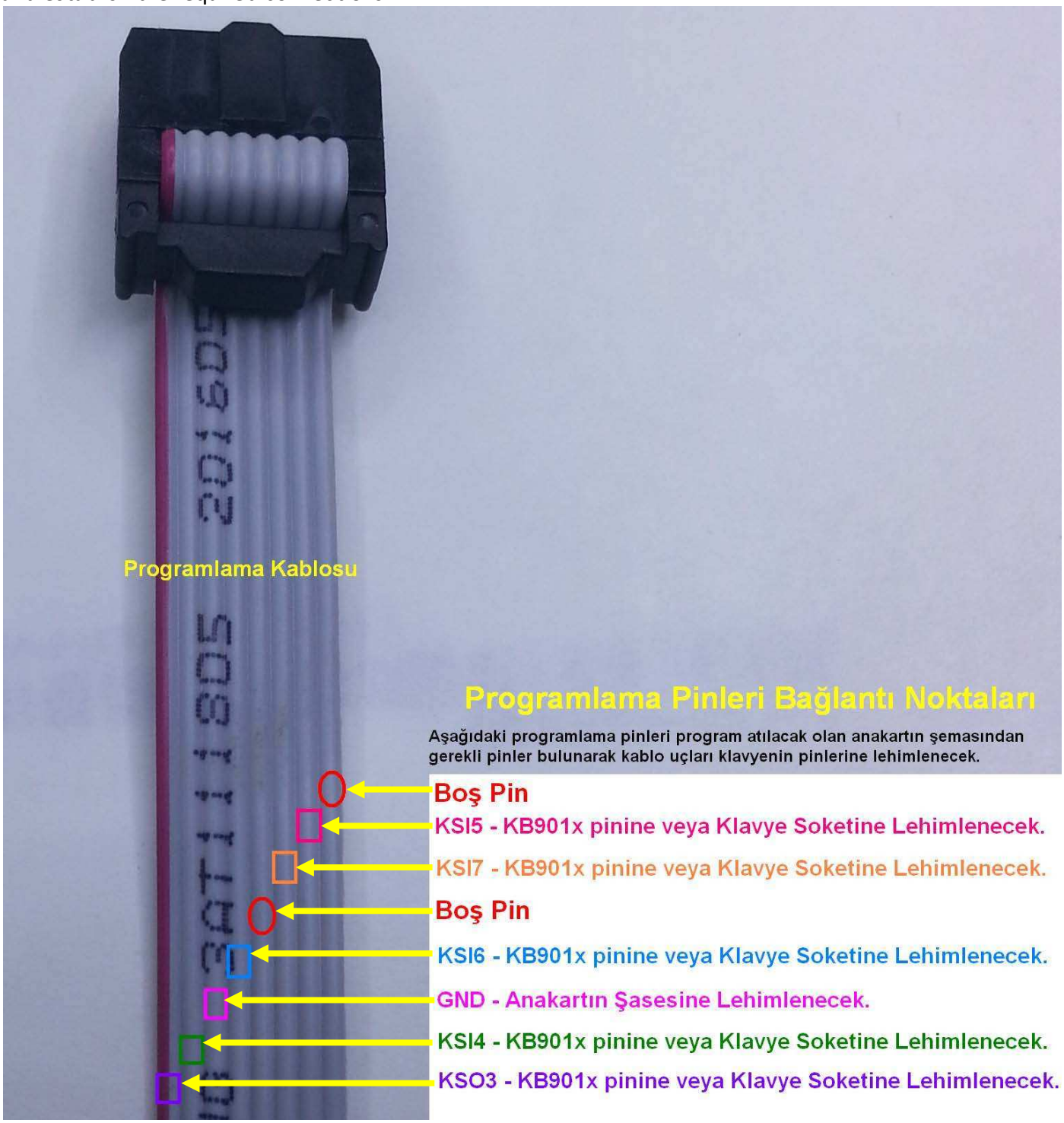
If your adapter is working, the problem may be caused by your motherboard or IO integrated circuit.

```
No connection to the KB90XX!
Motherboard is connected / powered ?
```

Example Connection:



15.If your film cables and keyboard socket do not match, you can solder the keyboard ins with the cable and establish the required connections.



Programming Cable – Programming Pin Connection Points

The programming pins below will be soldered on the keyboard pins according to the schematic of the related motherboard.

Empty Pin

KSI5 – Soldered on KB901X or Keyboard socket

KSI7 – Soldered on KB901X or Keyboard socket

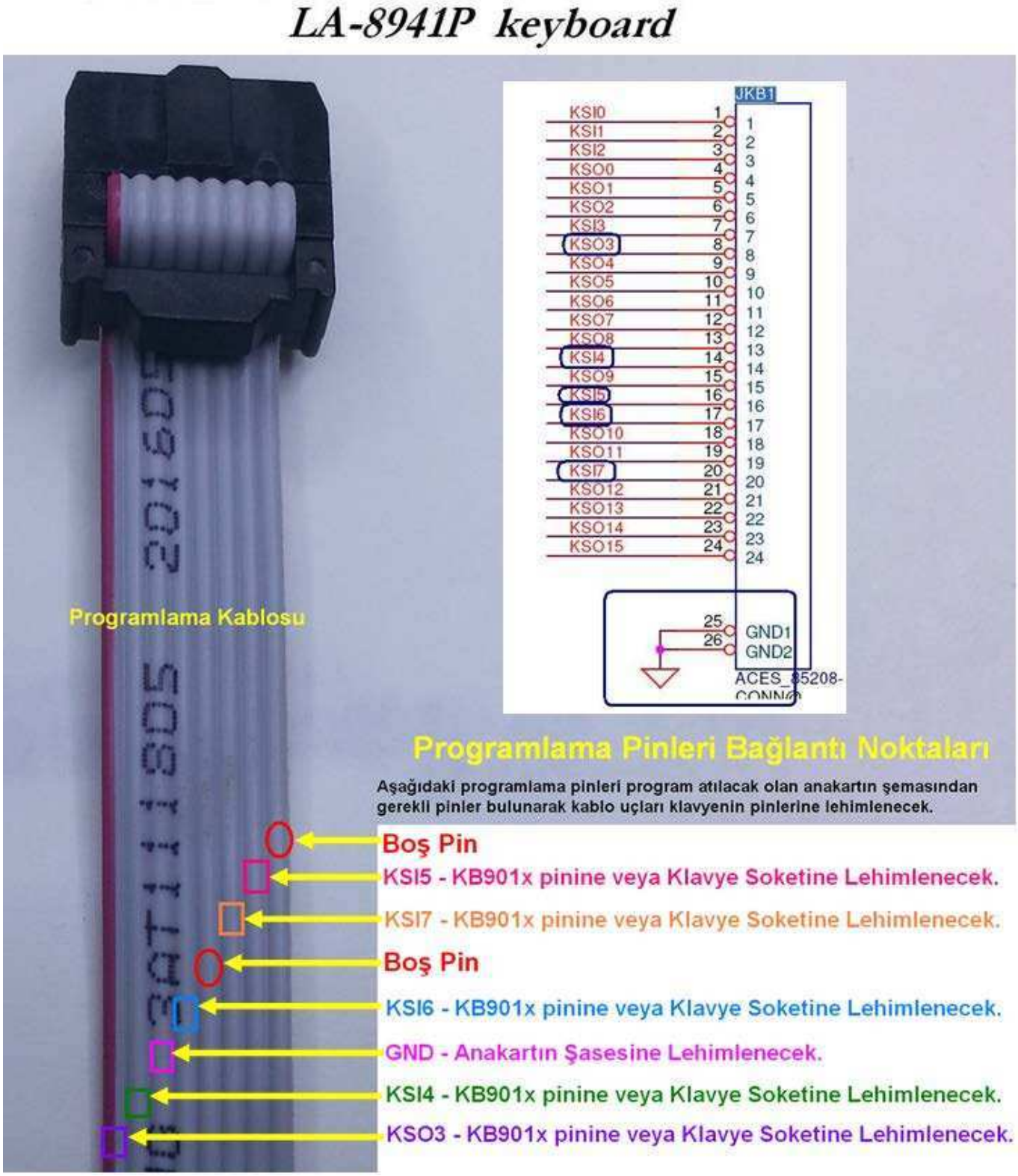
Empty Pin

KSI6 – Soldered on KB901X or Keyboard socket

GND – Soldered on Motherboard Ground

KSI4 – Soldered on KB901X or Keyboard socket

Example Connections:



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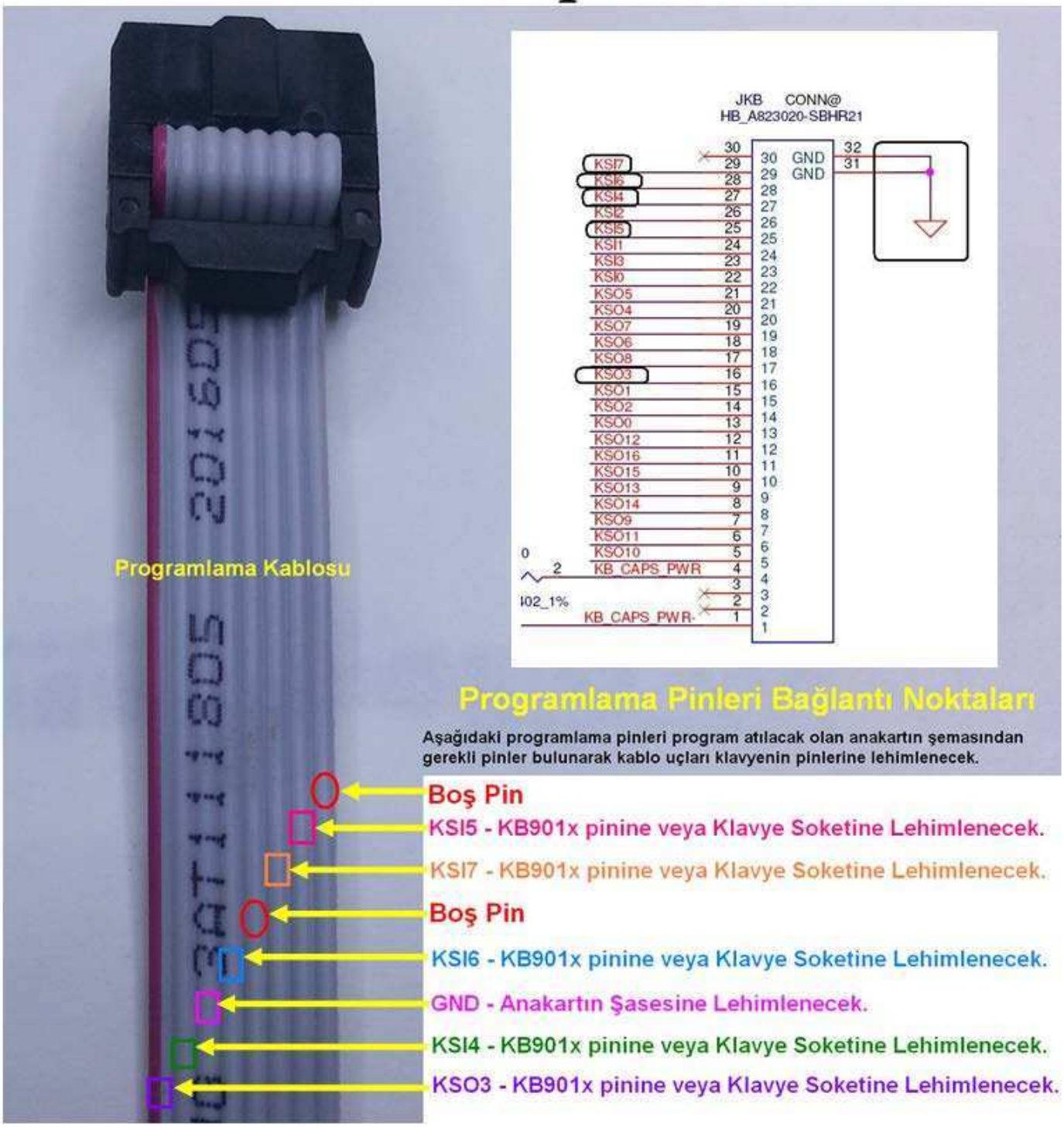
KSI7 – Soldered on KB901X or Keyboard socket
Empty Pin
KSI6 – Soldered on KB901X or Keyboard socket
GND – Soldered on Motherboard Ground
KSI4 – Soldered on KB901X or Keyboard socket
KSO3 – Soldered on KB901X or Keyboard socket

LA-9104P pinout



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The programming pins below will be soldered on the keyboard pins according to the schematic of the related motherboard.

Empty Pin
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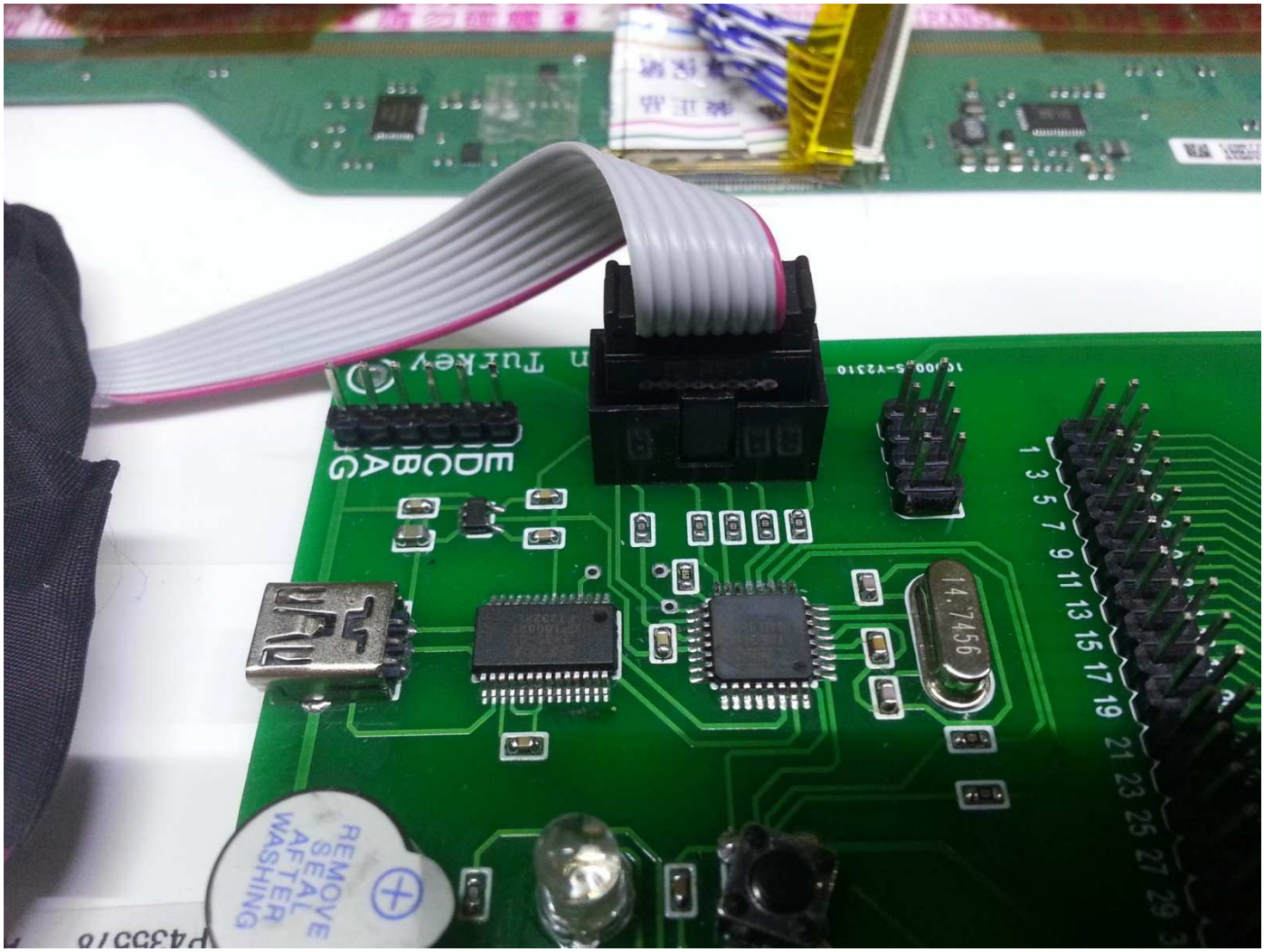
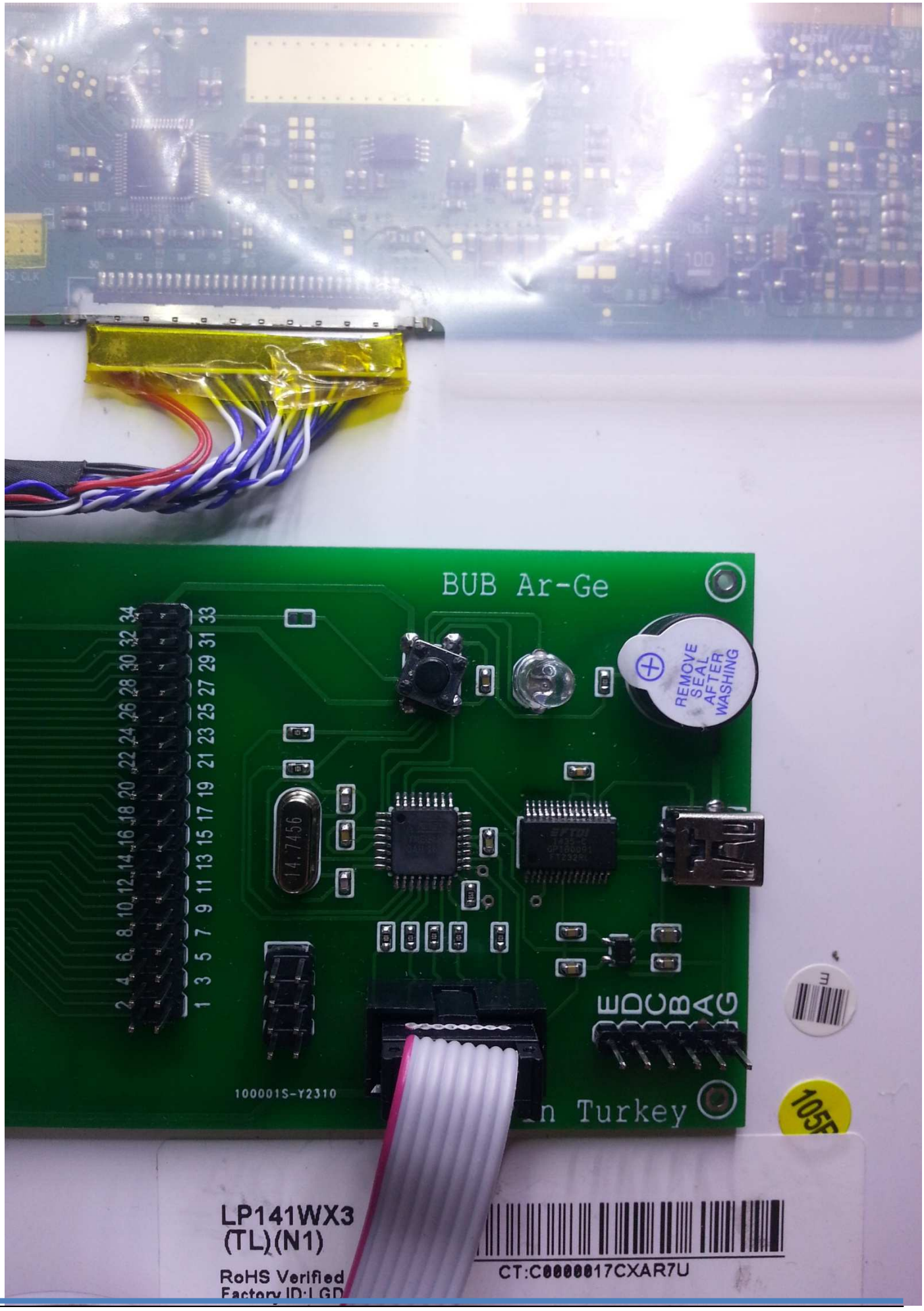
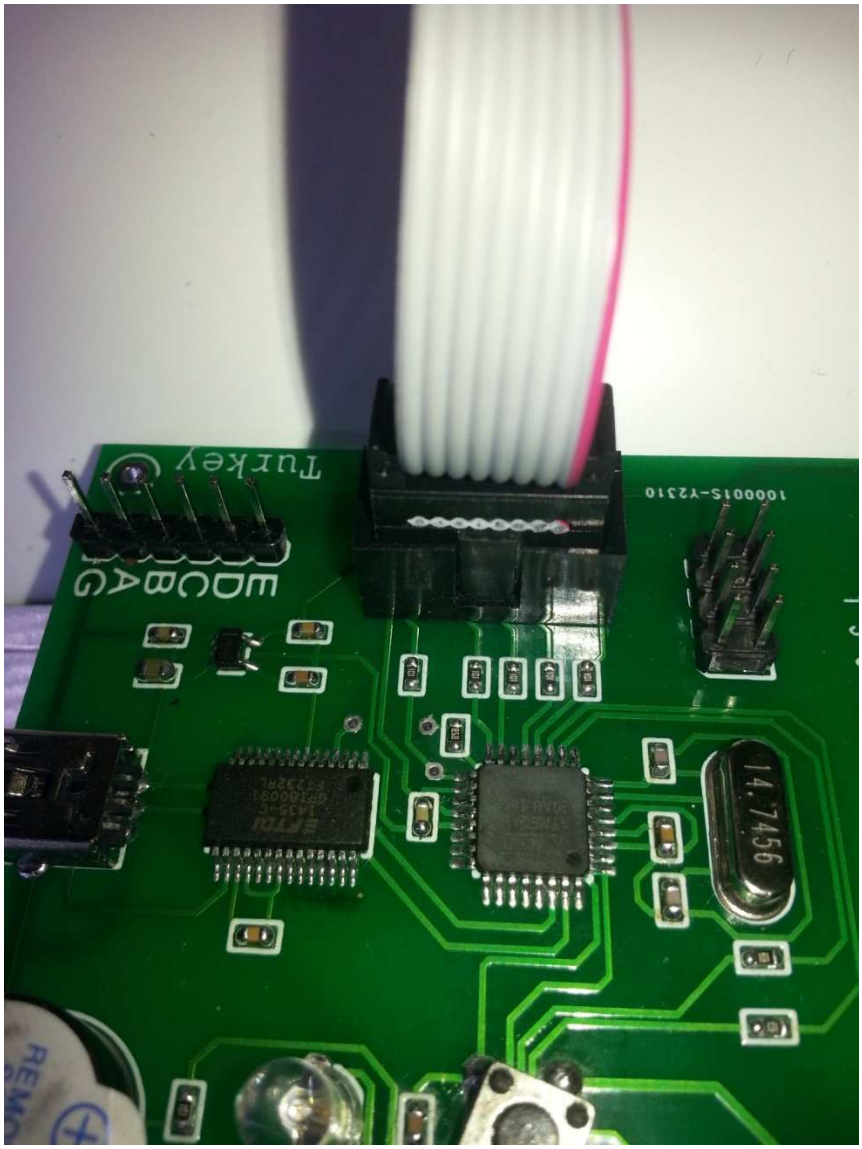
KSI7 – Soldered on KB901X or Keyboard socket
Empty Pin
KSI6 – Soldered on KB901X or Keyboard socket
GND – Soldered on Motherboard Ground
KSI4 – Soldered on KB901X or Keyboard socket
KSO3 – Soldered on KB901X or Keyboard socket



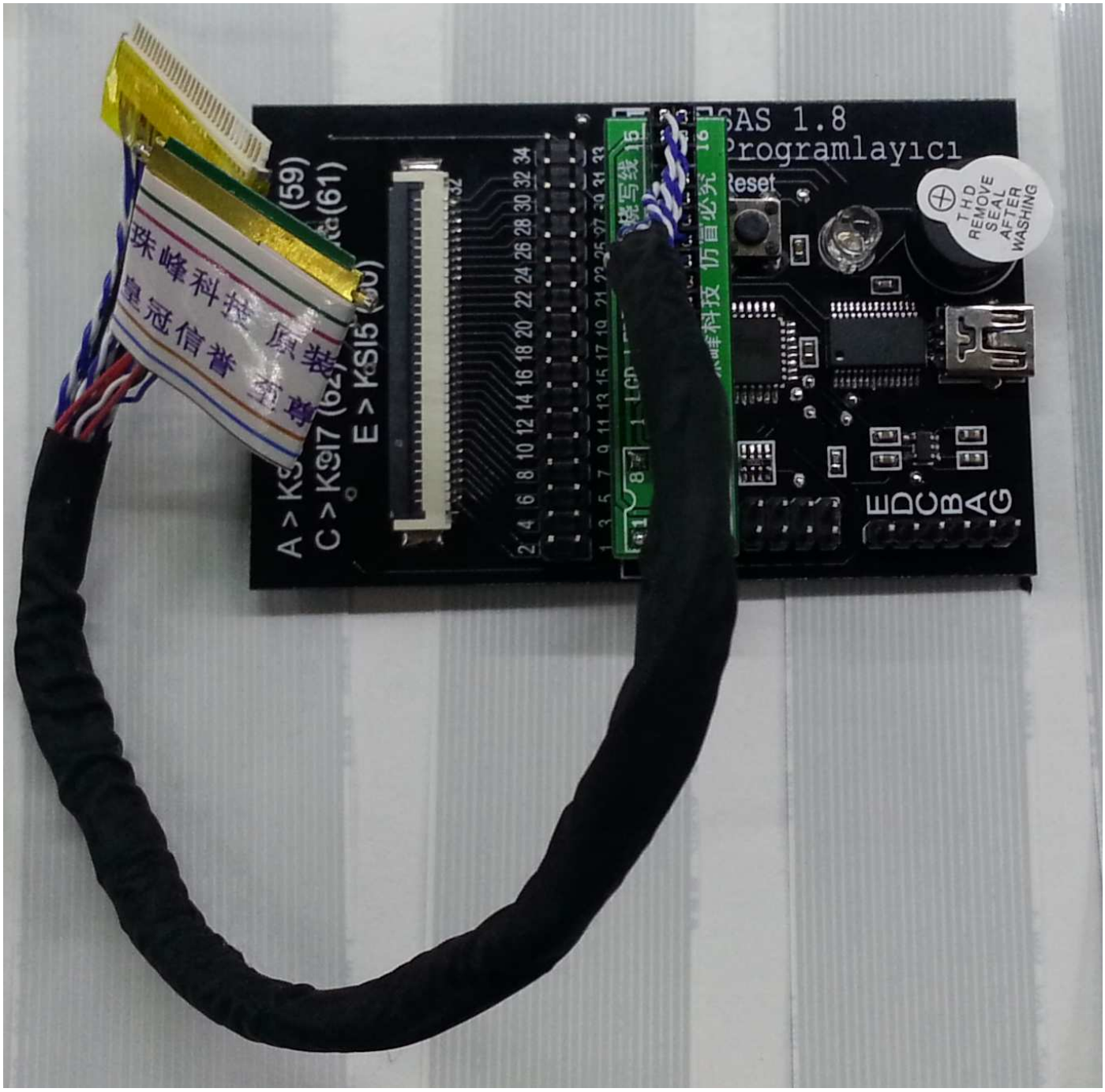
LCD Screen Programming Cable and Connection Example:


BUB Ar-Ge
REMOVE SEAL AFTER WASHING
14.7456
100001S-Y2310
LP141WX3
(TL)(N1)
RoHS Verified
CT:C0000017CXAR7U


Turkey
14.7456


SAMSUNG
Turkey
14.7456
REMOVE SEAL AFTER WASHING

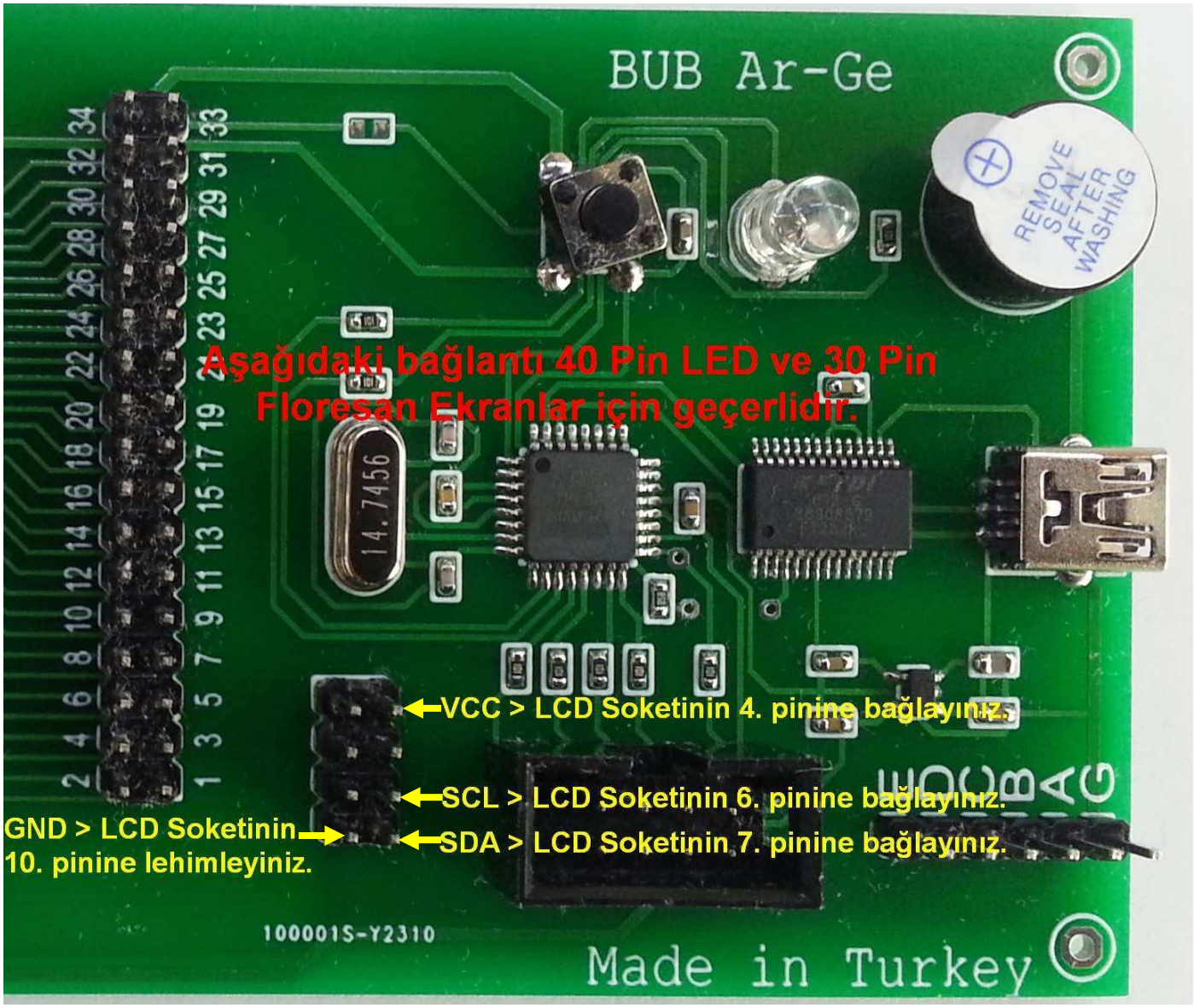
Connecting SAS 1.8 EDID Cable to Programmer:



How Is LCD Screen Programming Cable Connection Made?

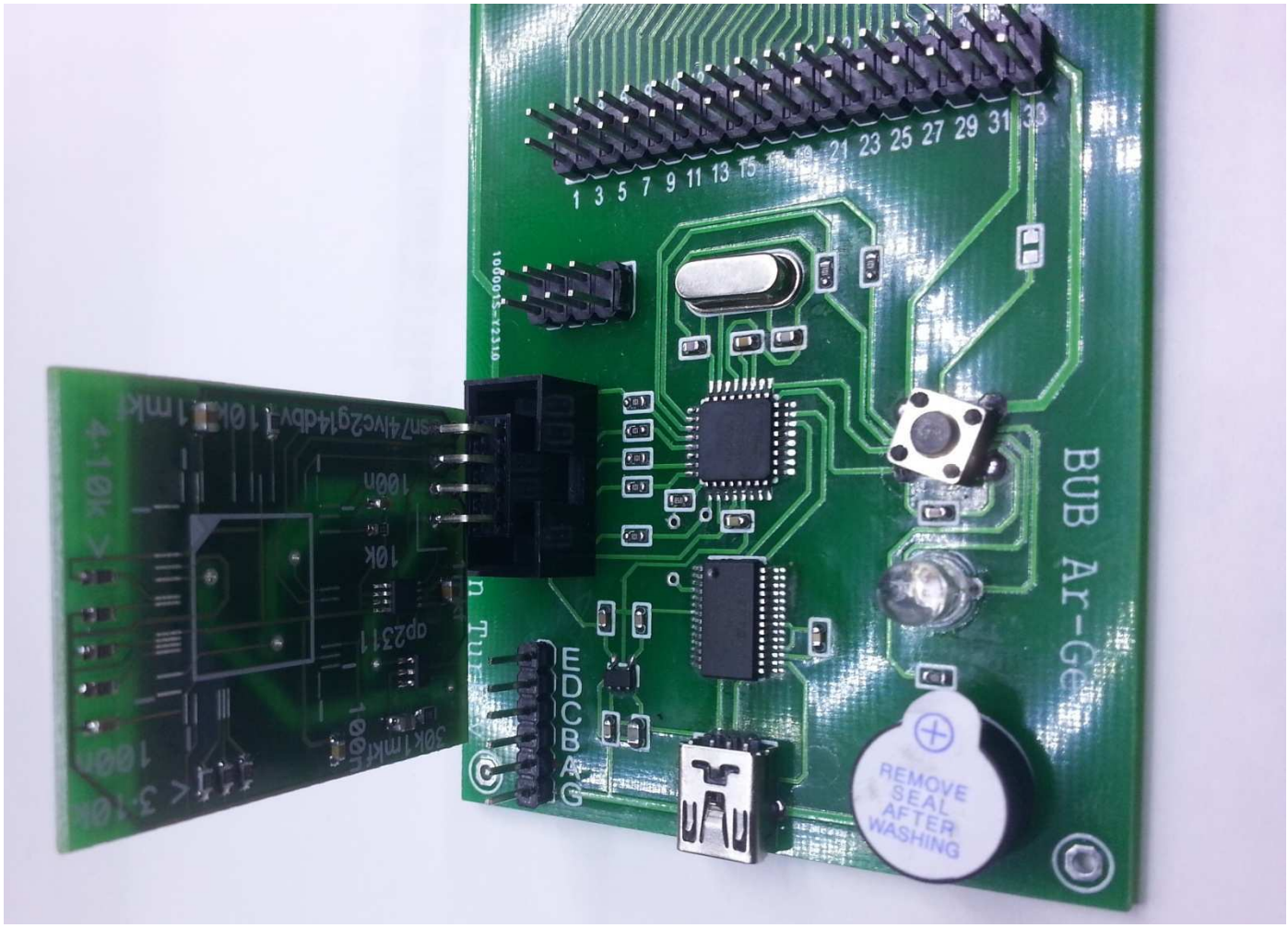
1. Find 40 pin LED or 30 pin fluorescent screen cables from scrap cables. Part that is inserted to LCD socket must be intact. Make sure there is no short circuit on the cable.

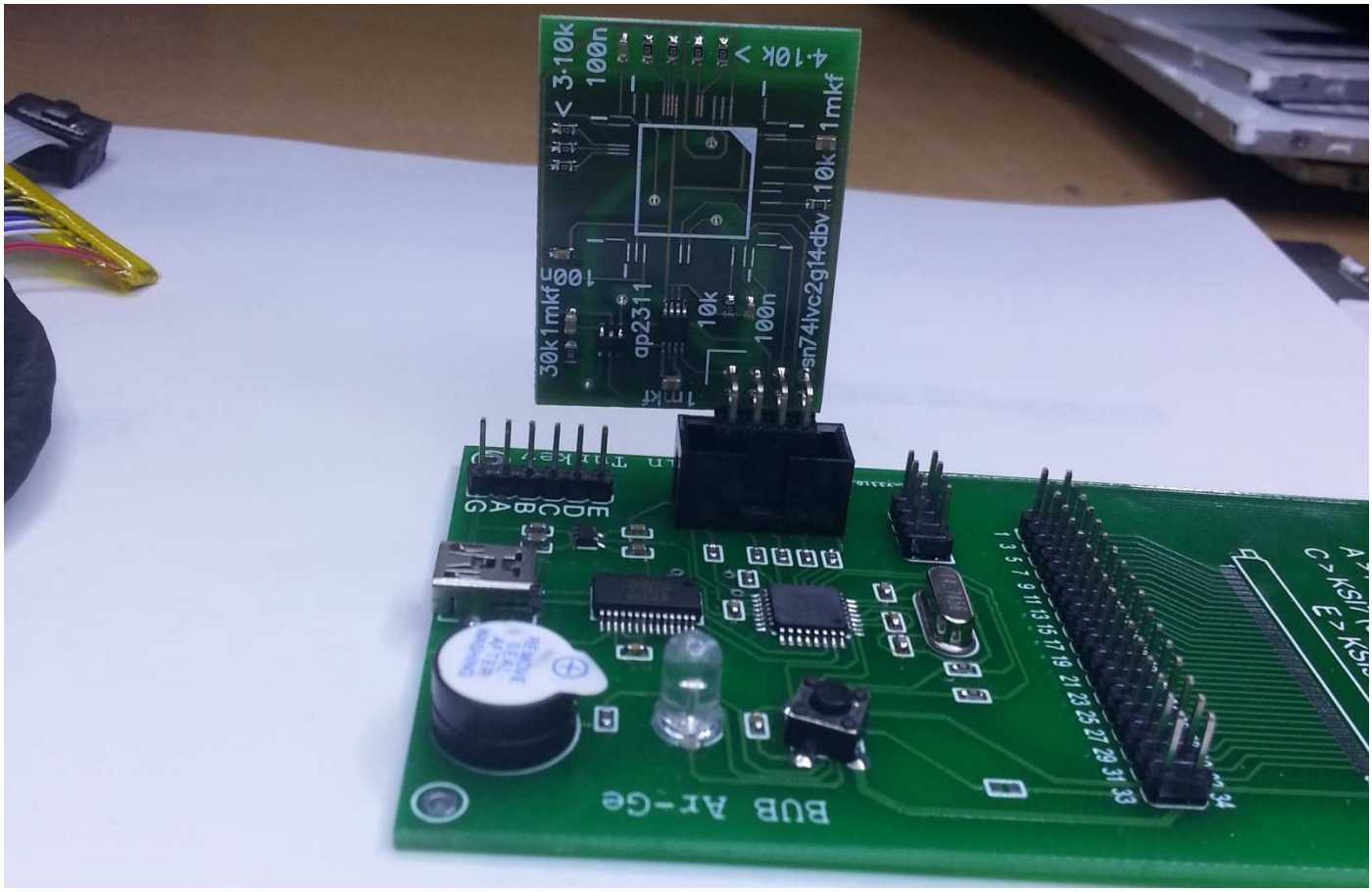
2. Based on following connection, you can make a customised, clean LCD screen programming cable. Recommended cable is **Dupont** cable.

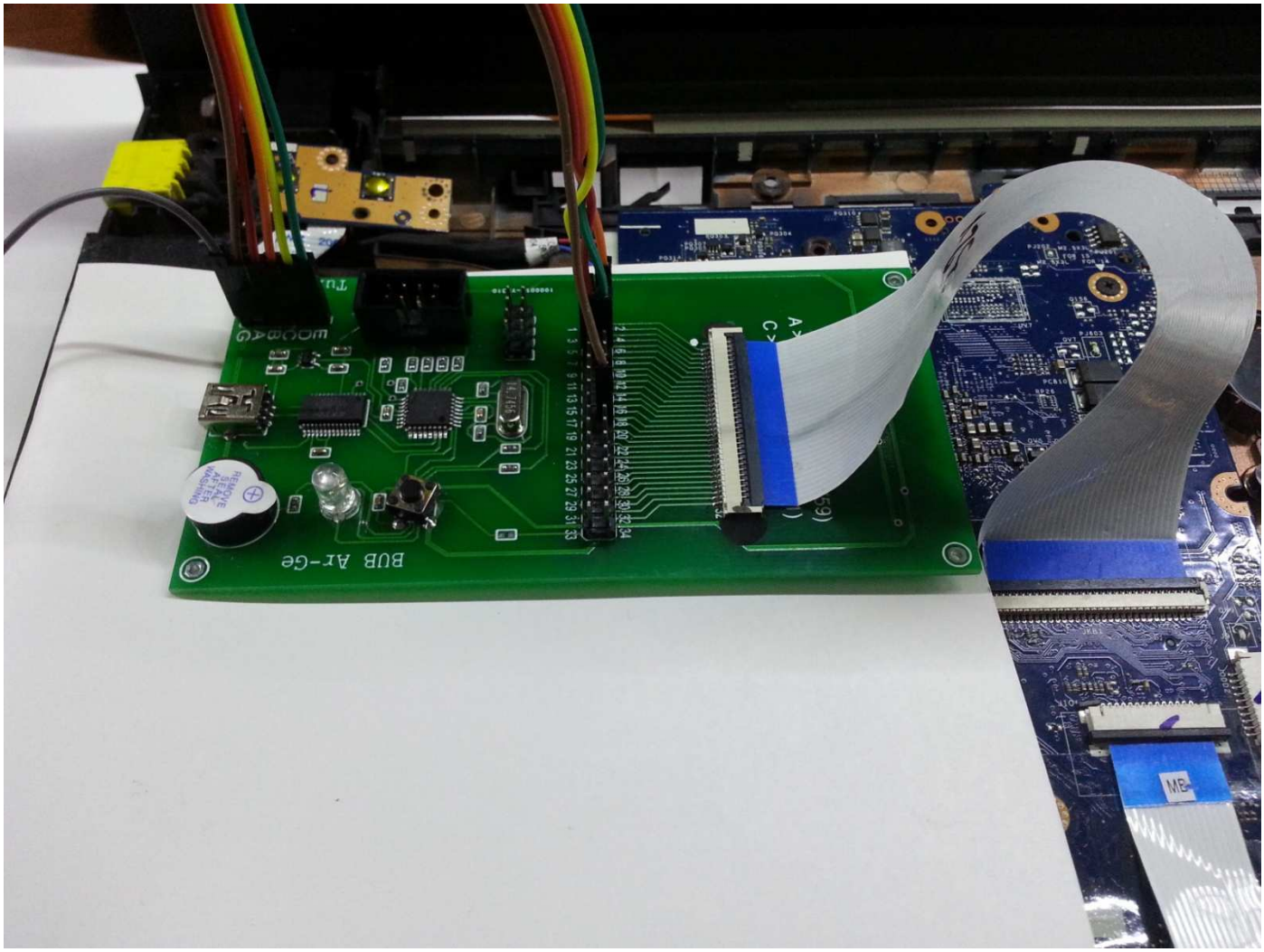


3. After making necessary connections, isolate all the cables.

Nuvoton IO Programming Equipment and Connection Example:

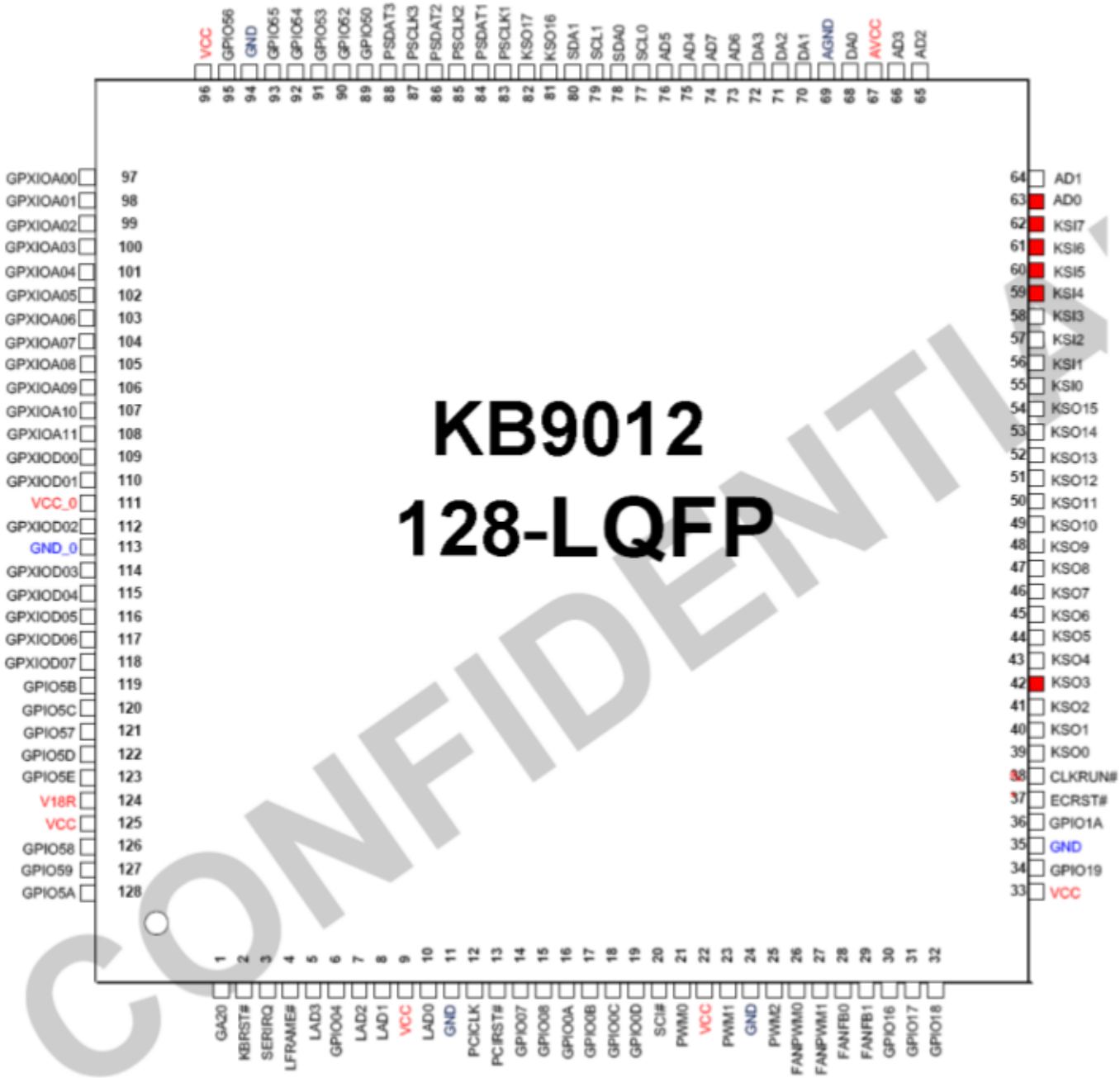

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33
BUB Ar-Ge
REMOVE SEAL AFTER WASHING
EDCBAG


< 3·10k
100n
< 4·10k
1mkf
30k
1mkf
ap2311
10k
100n
sn74lvc2g14dbv
10k
1mkf
BUB Ar-Ge



ENE Standard Programming Pins :

KSO3 (42 Number Pin)
KSI4 (59 Number Pin)
KSI7 (62 Number Pin)
KSI6 (61 Number Pin)
KSI5 (60 Number Pin)



For any possible case, each model software will be installed with multiple backups. Although it is rear, some devices may require ID and special software. A1, A2 etc short terms will be added at the end of software with same model. This Represents 1st alternative software. Depending on the number of alternatives, the numbers after the letter A will increase. The website is only open to the use of IO programmer users. **Sharing website content, technical documents, and user login information is strictly prohibited.**