

Replacing the USB HUB in the D448Pro programming unit

How-To-Do-It Manual

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Introduction

This how-do-it manual is designated to guide the user with replacing an original USB HUB (with the Cypress HUB controller) of the D448Pro programming unit with a new USB HUB (with the SMSC HUB controller). Manual contains sequences for removing and replacing USB HUB of the programming unit safely.

Terms definition:

Site - the site is a component of the D448Pro programming unit. Each site has its own ZIF programming socket. The sites are independent of each other.

Site position – number of the site in the D448Pro programming unit. Number of the site is printed on the upper cover of the programming unit above the ZIF programming socket (sites are numbered from left to right in the programming unit - the programming unit is placed so that the ZIF socket levers point toward you).

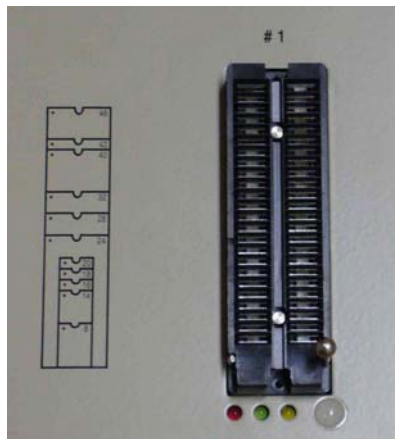


Figure 2: The number of the site above the ZIF programming socket

D448Pro USB HUB upgrade kit contains:

- USB HUB with SMSC USB HUB controller (board number 307-904-02)
- Supply cable the new USB HUB

Required tools:

- Bench with smooth surface or with a soft working pad
- Cross-screwdriver PHILIPS #2, a box for screws

Procedure, sequence of steps

Notes:

- *Observe the principles of handling electrostatic sensitive devices; the minimum precautions include operator discharging to a larger metal object prior starting the work itself, and avoiding excessive motions on a chair during operation.*
- *The procedure below describes the sequence of steps starting from the top. Omit, please, none of the steps in the sequence.*

Replacing the USB HUB in the D448Pro programming unit

1. Removing the upper cover of the programming unit

- Remove the supply and the USB cables from the programming unit.
- Place the programming unit on the bench in such a way that the ZIF socket levers point towards you.
- Unscrew the four screws from the bottom edge of the front side of the programming unit. Store the screws in a box.
- Turn the programming unit so, that the connectors point toward you.
- Unscrew the four screws from the upper edge of the rear side of the programming unit. Store the screws in a box.
- Turn the programming unit so, that the ZIF socket levers point toward you.
- Move the ZIF socket levers to the up position.
- Carefully lift the upper cover of the programming unit.

Lift up the right side of the upper cover and disconnect POWER LED cable from the connector on the board of the site #4.



Figure 3: Position of the LED POWER cable connector on the site #4

- Get hold of the upper cover by left hand (tilt to left side of the programming unit) so that you'll be able pull out (with right hand) the connector attached to the earthing cable from the upper cover. Pull by the connector by its plastic insulation. This operation requires a good deal of force and patience. Avoid spreading the connector or pulling by the cable!

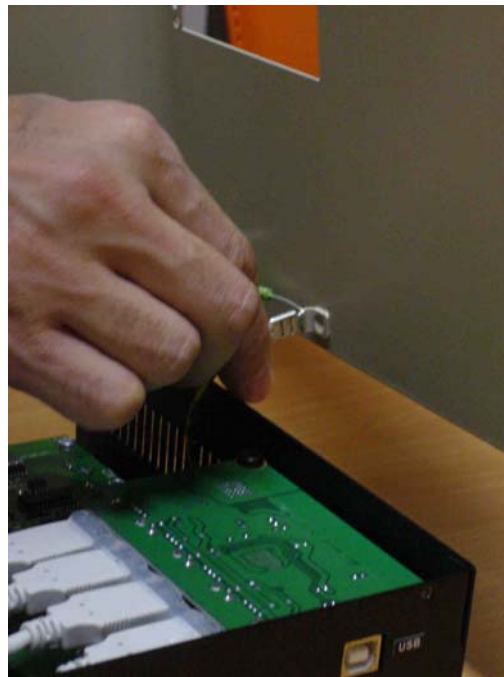


Figure 4: Removing the connector with the earthing cable from the upper cover

- Put the upper cover in the upside-down position in a safe place.

2. Replacing the USB HUBs

- Remove the two screws from the USB HUB near the back edge of the lower cover of the programming unit. Store screws in a box.
- Remove the third screw from the USB HUB, this screw is held on the HUB board by the two insulated washers. Take out the screw from the USB HUB and store it in a box
- Tear off the silicon cement paste from the USB cable connector and remove the USB cables from the USB HUB. Clean up the connectors of the USB cables from the residue of the silicon cement paste.

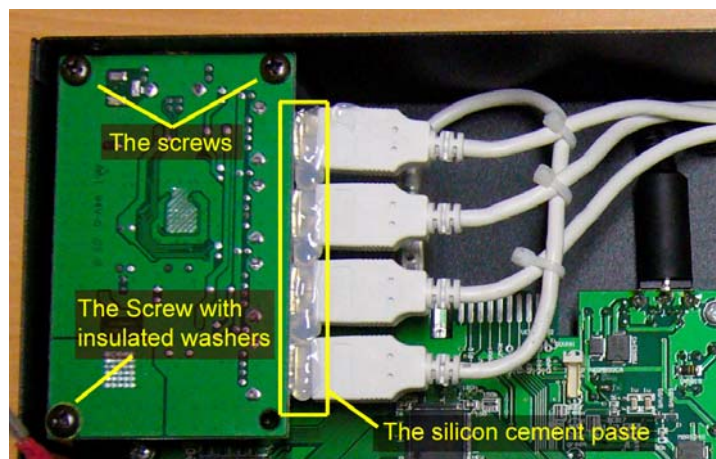


Figure 5: The screws on the original USB HUB

Replacing the USB HUB in the D448Pro programming unit

- Take the new USB HUB (board number 307-904-02) and check if the two insulated washers are glued on the HUB's board (see picture below). In the case that one or both washers are missing take the insulated washer/s (thickness about 0.2mm) and glue it/them on the HUB's board (to its/their position).

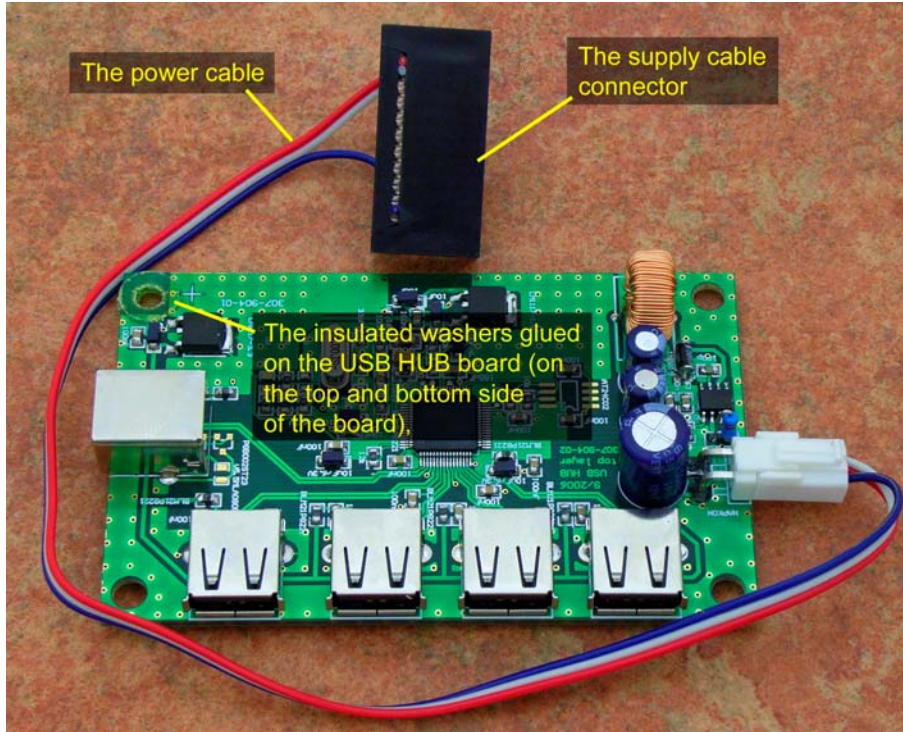


Figure 6: The new USB HUB

- Insert the USB communication cables (from the sites) into the USB HUB. See picture below for proper positions of each cable.

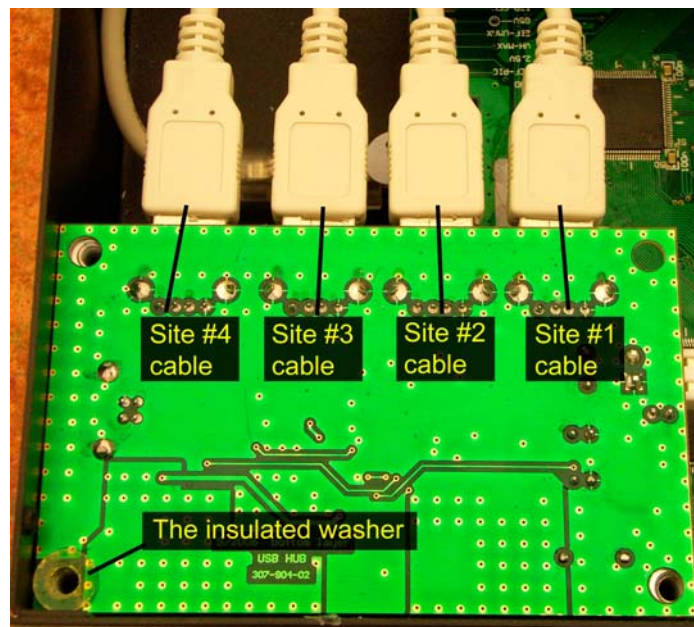


Figure 7: The USB cables positions

Replacing the USB HUB in the D448Pro programming unit

- Place the USB HUB into its position. Take care of the position of the USB ports!
- Fix the HUB by screwing the three screws into the pillars. Tighten all the screws fixing the USB HUB.
- Connect the supply cable of the HUB onto the connector of the site #2 (see picture). Be careful when inserting the connector onto the board because the power cable connector has a notch which can be broken if a lot of force is applied.
- Optionally you can use a silicon cement paste to fix the connectors in their positions, see picture. After cementing leave the programmer unit open for 2 or 3 hours (at least) for the silicon cement paste to cure.

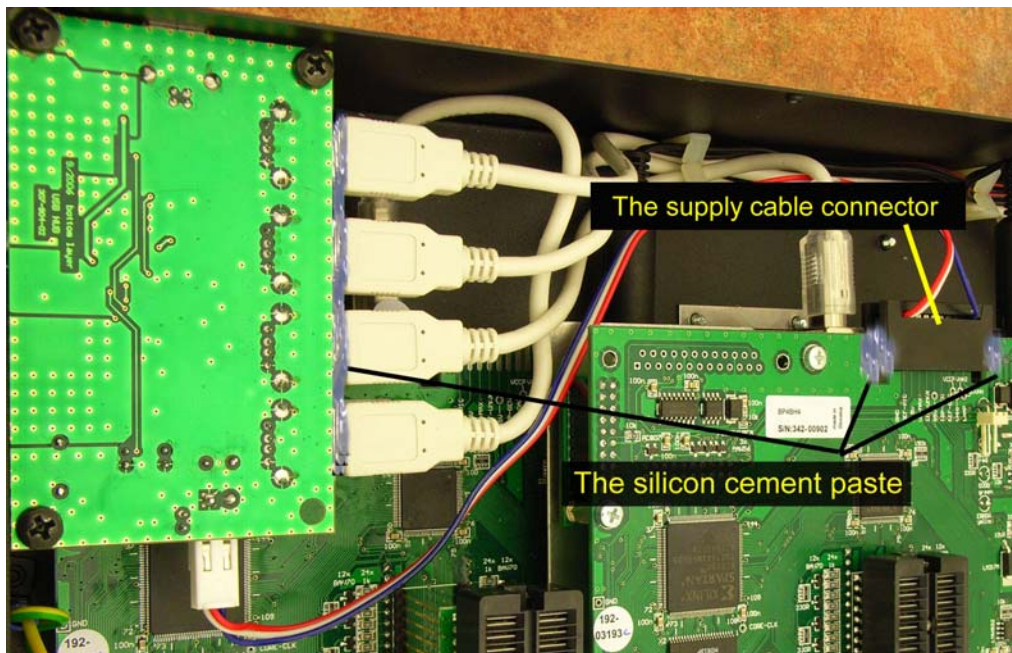


Figure 8: The new USB HUB after replacing

3. Assembling the upper cover of the programming unit.

- Take the upper cover by your left hand (tilt to left side of the programming unit) so that you'll be able to insert (with right hand) the connectors attached to the earthing cable.
- Move the ZIF socket levers to the up position.
- Insert LED POWER cable into its connector on the board of the site #4.
- Shut the upper cover by tilting it down on the programming unit. **Check the LEDs for the correct position and take care with the LED POWER cable!**
- Screw the four screws into the front side of the programming unit.
- Turn the programming unit so that the connectors point toward you.
- Screw the four screws on the rear side of the programming unit.
- Insert the USB cable and the power supply cable into the programming unit.
- **Conclude the work by running the Selftest Plus procedure. Test must be performed without an error message.**

If any problems are encountered please contact the Dataman technical support team on +44 (0)1300 322903