NOHAU

ADAPTER WORKS

Part Number ADP/EVAL-167CR - for the Infineon C167 and the ST Microelectronics ST10 Families   Version 2.0

General Description

This adapter is designed to connect the Nohau EMUL166-PC and EMULST10-PC to targets containing a 144 pin Infineon C167 or a ST10 processor. An industry standard layout for the target PC board is employed. This connector will adapt the Nohau emulators to the Phytec Kitcon-167 evaluation board sold by Infineon. For a custom target board, pads must be provided for the four surface mount sockets. For detailed mechanical specifications for these pads, please contact Nohau Technical Support at support@nohau.com.

Refer to the photo of the adapter. The top of the adapter shows the part number and the words "Top Side". This is the side that attaches to the emulator. The other side shows "Bottom Side" and this connects to the target.

There is a triangle on both sides of the adapter PC board and this indicates the corner of the microcontroller that contains the index mark and marks pin 1. This index mark is a depressed circle on the C167 or ST10. The target C167 or ST10 will be disabled by the emulator and will be tri-stated (ADAPT mode).

Target Board Sockets

Four dual in-line sockets must be soldered to the target board and these socket are provided with the adapter. Note there is one guide extrusion on each socket and on the corresponding plugs on the adapter for orientation purposes. Match the sockets with the adapter bottom for orientation.

The sockets must be installed correctly on the target board or the adapter will not fit. Have the sockets soldered on with the appropriate soldering equipment or the board or sockets may be damaged.

This view will be visible when the adapter is connected to the target. The emulator plugs into this side.

Installation of the Adapter on to the Target Board

Align the triangle on the adapter with the depressed circle on the processor and gently press the adapter on the target board. Use no more than normal finger pressure. Make sure the adapter is seated evenly.

Installation of the Adapter on the Emulator Pod

The underside of the emulator will have a large white printed outline of a square with a corner truncated. This square surrounds the four sockets that connect to the bondout controller on the pod. This truncated corner must be aligned with the triangle on the adapter.

When the adapter is correctly connected to the pod: the triangle on the adapter will point towards the 5 volt power supply connector on the pod. Some emulator models have an extra 10 pin connector but it is not used with this adapter.
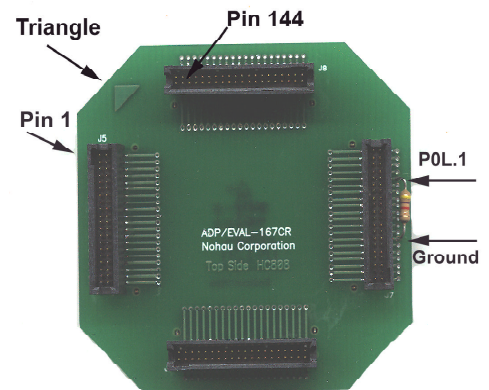
Emulation

Pin 1of Port 0 (P0L.1) must be pulled low during reset to put the target controller into Adapt Mode. This disables the target controller and effectively removes it from the circuit except for a tiny amount of capacitance. The bondout controller on the emulator pod becomes the target processor.
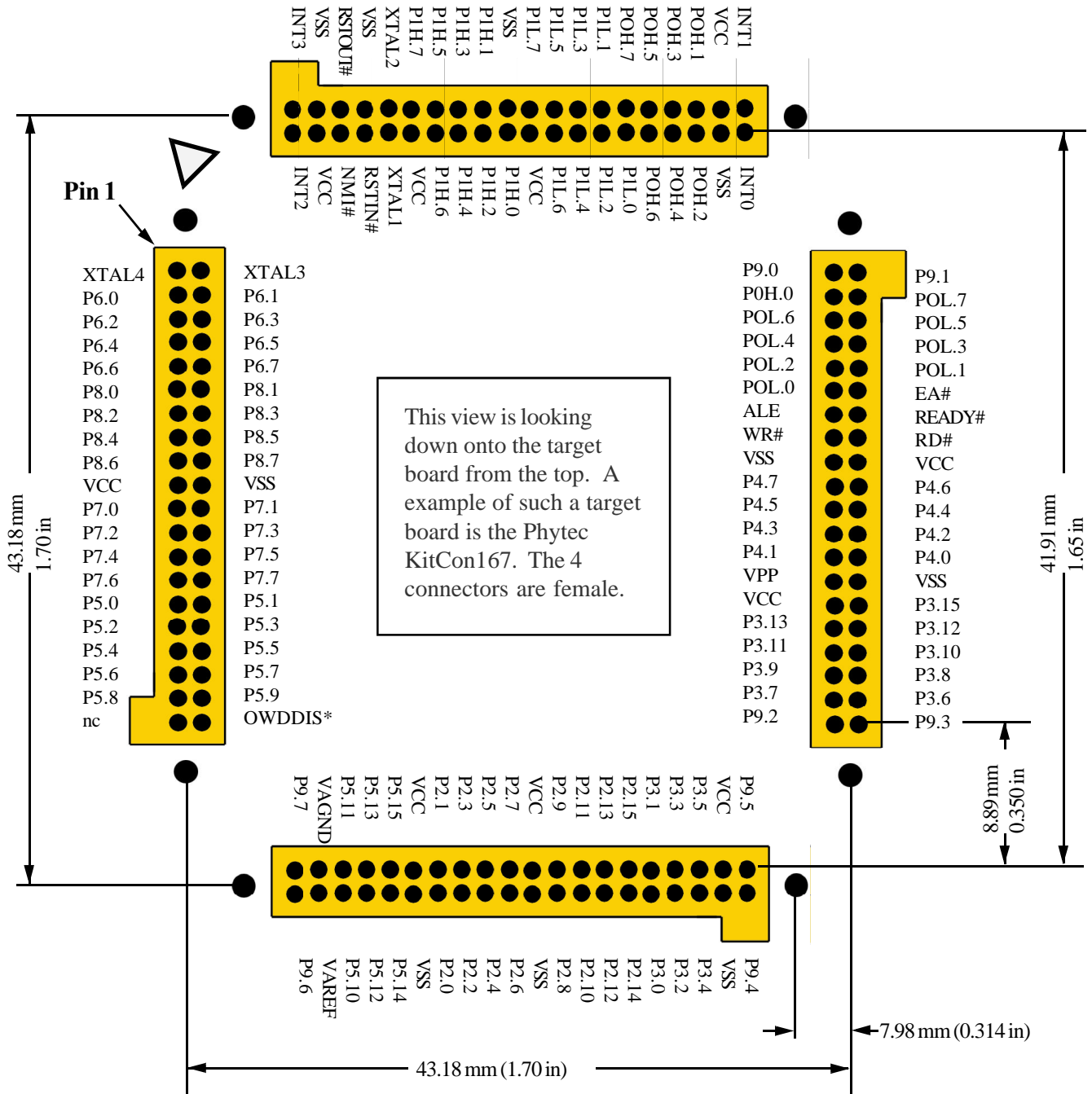
Nohau C166 and ST10 emulators contain a 10K ohm pulldown resistor to accomplish this. This will be sufficient in almost all cases but if the target has enough pullup resistance an external resistance may be necessary.

The photo of the adapter shows such a resistor installed. P0L.1 is the 4th pin from the end and ground is 14 pins down. Nohau suggests values from 10K to 4.7K. P0L.0 must not be pulled low as this will put both the target and pod controllers into the Emulation Mode. The emulator will not run in this mode.

For more information regarding the operation of your emulator connected to your target, consult the operating manual and the on-line help. If you experience problems, contact your local Nohau representative for assistance. Attempt first to run your emulator in stand-alone mode without being connected to the target. For information concerning operation with Nohau emulators and the Phytec evaluation boards, contact Nohau tech support at support@nohau.com. c167adapt.p65

Nohau ADP/EVAL-167CR Adapter
for the PHYTEC KitCon C167 & ST10
Evaluation Boards and customer targets.
This is the top view of the target board.

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Pin 1

Top connector (top labels): INT3, VSS, RSTOUT#, VSS, XTAL2, PIH.7, PIH.5, PIH.3, PIH.1, VSS, PIL.7, PIL.5, PIL.3, PIL.1, POH.7, POH.5, POH.3, POH.1, VCC, INT1

Top connector (bottom labels): INT2, VCC, NMI#, RSTIN#, XTAL1, VCC, PIH.6, PIH.4, PIH.2, PIH.0, VCC, PIL.6, PIL.4, PIL.2, PIL.0, POH.6, POH.4, POH.2, VSS, INT0

Left connector (left labels): XTAL4, P6.0, P6.2, P6.4, P6.6, P8.0, P8.2, P8.4, P8.6, VCC, P7.0, P7.2, P7.4, P7.6, P5.0, P5.2, P5.4, P5.6, P5.8, nc

Left connector (right labels): XTAL3, P6.1, P6.3, P6.5, P6.7, P8.1, P8.3, P8.5, P8.7, VSS, P7.1, P7.3, P7.5, P7.7, P5.1, P5.3, P5.5, P5.7, P5.9, OWDDIS*

Right connector (left labels): P9.0, P0H.0, POL.6, POL.4, POL.2, POL.0, ALE, WR#, VSS, P4.7, P4.5, P4.3, P4.1, VPP, VCC, P3.13, P3.11, P3.9, P3.7, P9.2

Right connector (right labels): P9.1, POL.7, POL.5, POL.3, POL.1, EA#, READY#, RD#, VCC, P4.6, P4.4, P4.2, P4.0, VSS, P3.15, P3.12, P3.10, P3.8, P3.6, P9.3

This view is looking down onto the target board. A example of such a target board is the Phytec KitCon167. The 4 connectors are female.

Bottom connector (top labels): P9.7, VAGND, P5.11, P5.13, P5.15, VCC, P2.1, P2.3, P2.5, P2.7, VCC, P2.9, P2.11, P2.13, P2.15, P3.1, P3.3, P3.5, VCC, P9.5

Bottom connector (bottom labels): P9.6, VAREF, P5.10, P5.12, P5.14, VSS, P2.0, P2.2, P2.4, P2.6, VSS, P2.8, P2.10, P2.12, P2.14, P3.0, P3.2, P3.4, VSS, P9.4

43.18 mm / 1.70 in

41.91 mm / 1.65 in

8.89 mm / 0.350 in

7.98 mm (0.314 in)

43.18 mm (1.70 in)

Notes:
1) This pinout is for the EMUL-ST10. The EMUL166 is the same except the two end pins at each end of the 4 connectors (16 pins total) are not connected (nc).
2) Pin 1 of the adapter is indicated by a triangle in one corner on the adapter and on the Phytec KitCon board. These connectors are soldered on to the target board.