

Instructions



050-3625-00 and Above TMS817 and TMS818 PCI Express Slot Adapter Board Modification 075-0892-00

Warning

The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

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- In North America, call 1-800-833-9200.
- Worldwide, visit www.tektronix.com to find contacts in your area.

Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the *General Safety Summary* in the product service manual or the instruction manual.

Do Not Service Alone. Do not perform internal service or adjustments of this product unless another person capable of rendering first aid and resuscitation is present.

Disconnect Power. To avoid electric shock, switch off the instrument power, then disconnect the power cord from the mains power.

Use Care When Servicing With Power On. Dangerous voltages or currents may exist in this product. Disconnect power, remove battery (if applicable), and disconnect test leads before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections.

Kit Description

This kit provides parts and instructions for modifying the PCI Express Slot Adapter board. When you install the PCI Express Interposer Fix circuit board, you must also cut two traces on the original Slot Adapter board and solder six connections between the Slot Adapter board and the new PCI Express Slot Adapter board.

This document supports Tektronix modification: ECR30395

Products

TMS817 and TMS818 All PCI Express Slot Adapter boards
PCI Express Bus Supports

Minimum Tool and Equipment List

Required tools and equipment	Part number
Exacto knife	
Soldering iron and solder	
Needle-nose pliers	

Kit Parts List

Circuit/figure number	Quantity	Part number	Description
-	1 EA	389-3846-XX	Ckt BD Subassy; PCI Express Interposer Fix TMS817,TMS818:
-	1 EA	075-0892-00	Kit instructions, 050-3625-XX
-	1 EA	175-0729-XX	Wire,Electrical; STRD,22 AWG,150V RMS,Red, PVC, 5 inches
-	1 EA	175-0523-XX	Wire,Electrical; STRD,22 AWG,300V RMS,black,PVC,UL style 1430, 5 inches
-	1 EA	174-5282-XX	Cable Assy; 30 AWG,120 Ω ,Unsheilded,Twisted Pair,Black and Brown,12 inches
	1 EA	253-0176-XX	Tape,Press Sens; Vinyl Foam,0.5 X 0.062,double sided adhesive

Installation Instructions

These instructions are for personnel who are familiar with servicing the product. If you need further details for disassembling or reassembling the product, refer to the appropriate product manual. Contact your nearest Tektronix, Inc., Service Center or Tektronix Factory Service for installation assistance.



CAUTION. To prevent static discharge damage, service the product only in a static-free environment. Observe standard handling precautions for static-sensitive devices while installing this kit. Always wear a grounded wrist strap, grounded foot strap, and static-resistant apparel while installing this kit.

Remove

Perform the following steps to modify the Slot Adapter board:

1. Place the Slot Adapter board with the black slot connector visible. See Figure 1.

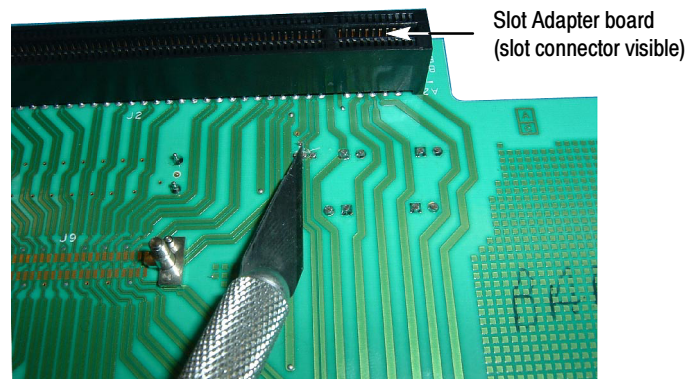


Figure 1: Cut the board traces



CAUTION. To prevent damage to other traces on the Slot Adapter board, use care when removing the following two traces.

2. Using an Exacto knife, cut the two traces as close as possible to the J7 connector (between J7 and J2).
3. Using an Exacto knife, separate the traces from pin 3 of the J7 connector on the Slot Adapter board by lifting the traces and peeling them towards the J2 slot connector. See Figure 2.

NOTE. The traces on the Slot Adapter boards are removed easily with the help of needle-nose pliers. If the traces do not completely separate from the board, use an Exacto knife to cut the traces as close to the J2 slot connector (black) as possible.

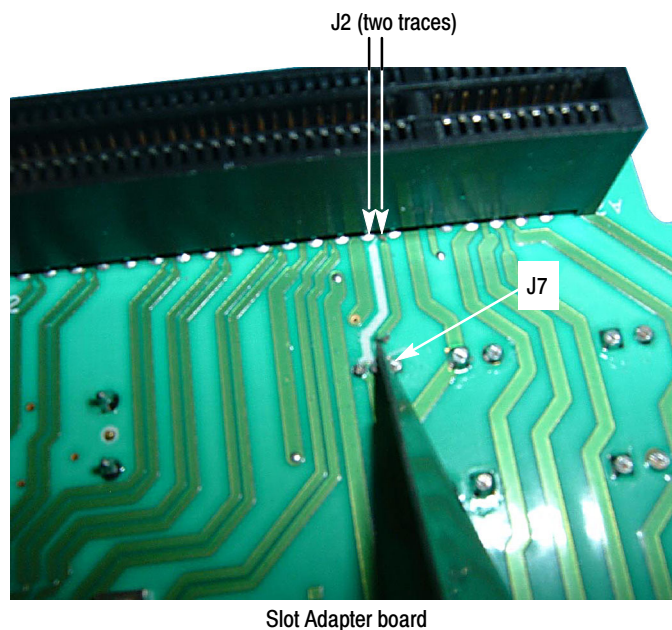


Figure 2: Removing the two traces (side B)

4. Turn the Slot Adapter board over to the solder side of the slot connector.
5. Remove the center pin (pin 2) from the J7 square pin connector. See Figure 3.

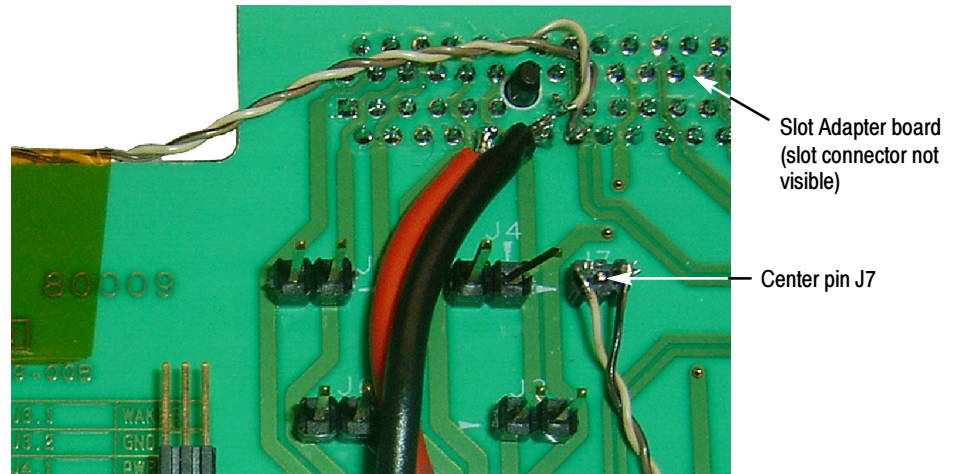


Figure 3: Removing the center pin from J7

Install

Perform the following steps to install the Interposer Fix board:

1. Place the Interposer Fix board as shown in Figure 4.
2. Attach double-sided adhesive vinyl-foam tape to the Interposer Fix board. See Figure 4.

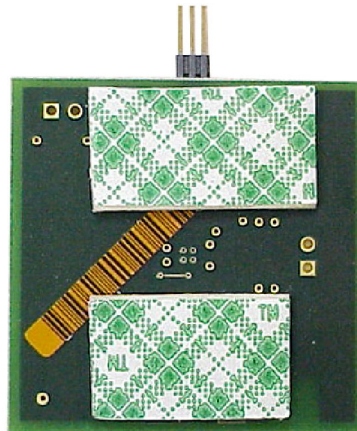


Figure 4: Tape attached to Interposer Fix board

3. Attach the Interposer Fix board to the Slot Adapter board. See Figure 5.

NOTE. Do not cover the mounting holes on the Slot Adapter board. See Figure 5.

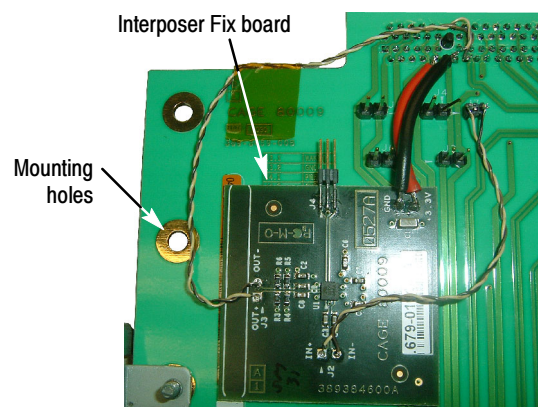


Figure 5: Correctly attached Interposer Fix board

4. Solder the red power wire to pin 10 of the J2 connector on the back of the slot connector. See Figures 6 and 7.
5. Solder the black ground wire to pin 12 of the J2 connector on the back of the Slot connector.

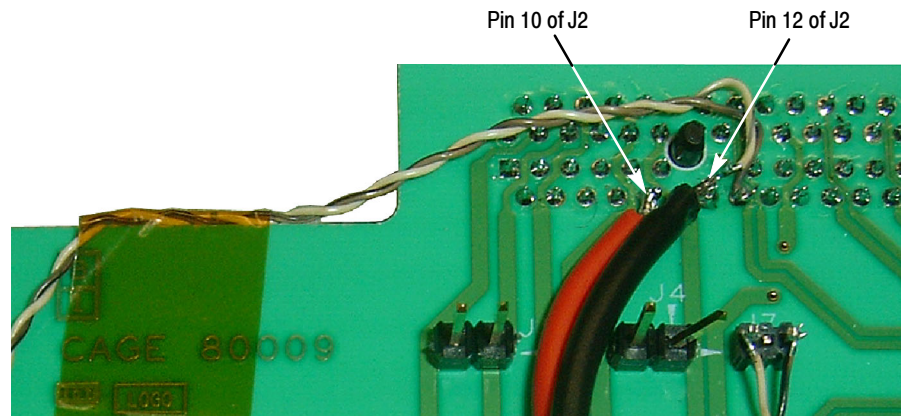


Figure 6: Solder power and ground wires

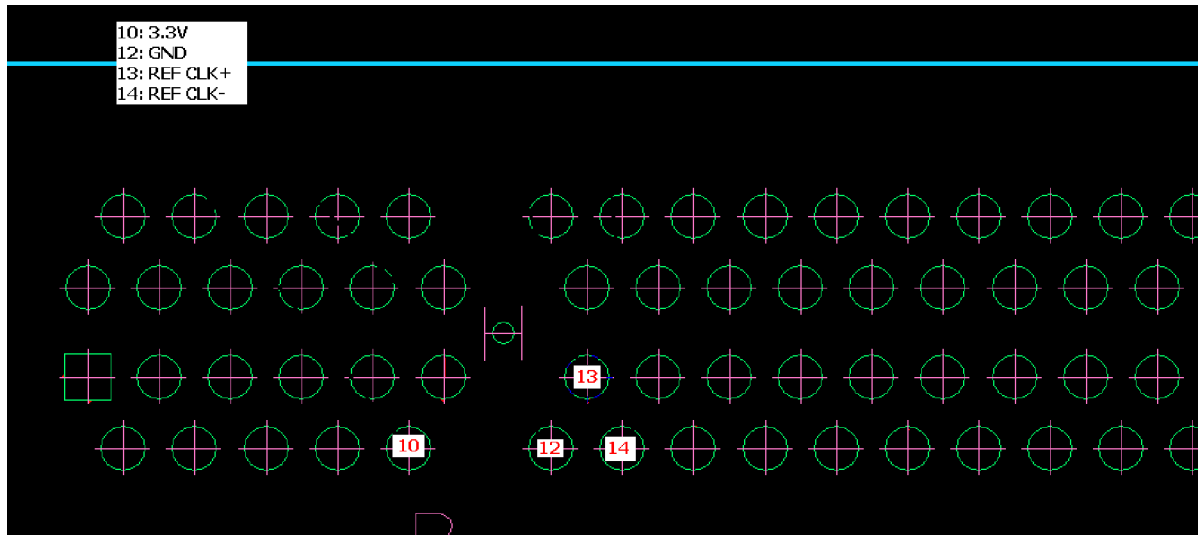


Figure 7: J2 pin locations

6. Solder the other end of the red power wire to pin 1 of J1 on the Interposer Fix board (labeled 3.3 V).
7. Solder the other end of the black ground wire to pin 2 of J1 on the Interposer Fix board (labeled GND).

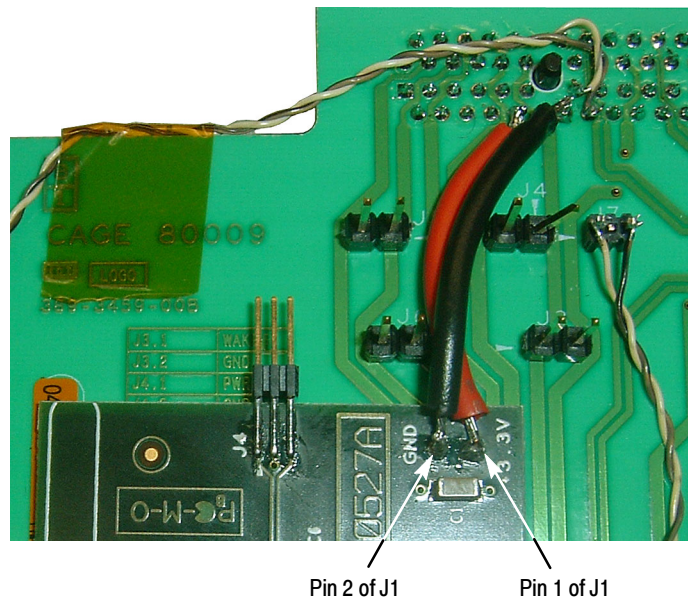


Figure 8: Attach red and black wires to Interposer Fix board

8. Cut the 100 Ω twisted-pair wire into two equal lengths.



CAUTION. To avoid damaging the solder connections by snagging overly long wires, use a short length of wire for the power and ground wires.

NOTE. When you solder the 100 Ω twisted-pair wires, match the wire lengths as closely as possible. Cut both wires at the same time when trimming the wire length.

9. Solder the brown twisted-pair wire from pin 13 of the J2 connector on the Slot Adapter board to pin 1 of the J3 connector on the Interposer Fix board. See Figure 9.
10. Solder the black twisted-pair wire from pin 14 of the J2 connector of the Slot Adapter board to pin 2 of the J3 connector on the Interposer Fix board.

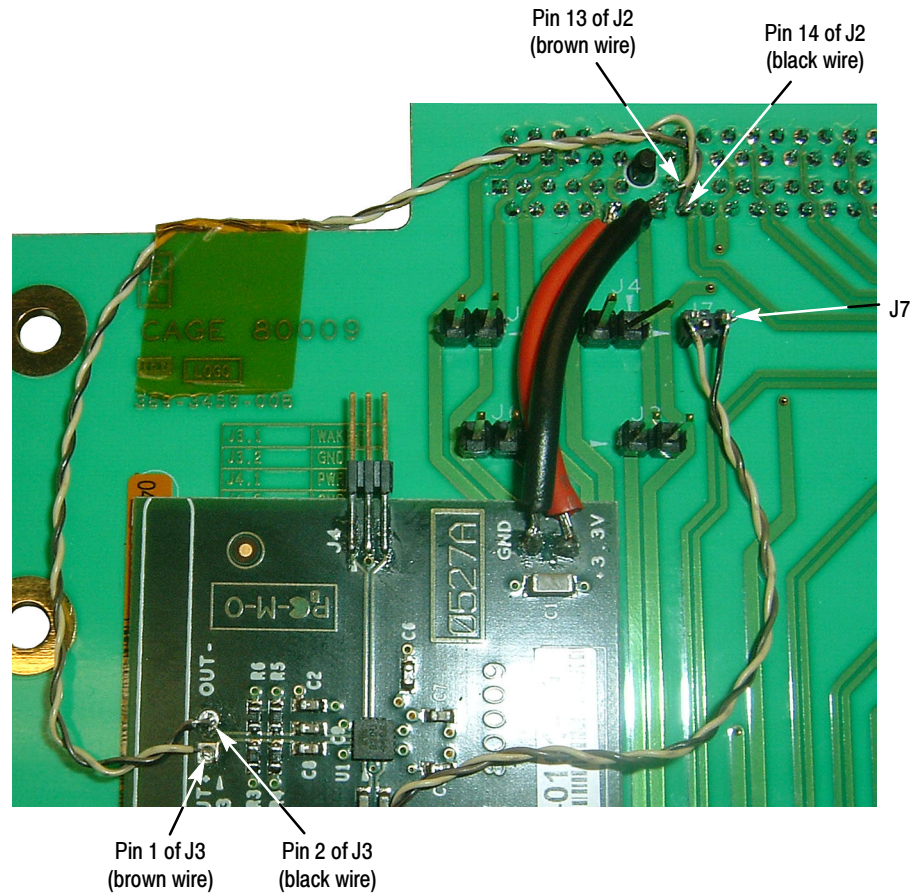


Figure 9: Attach twisted-wire pairs to Slot Adapter board

NOTE. After soldering, clip any excess J7 connector pins. See Figure 9.

11. Solder the second brown twisted-pair wire from pin 1 of the J7 connector on the Slot Adapter board to pin 1 of the J2 connector to the Interposer Fix board. See Figure 10.
12. Solder the black twisted-pair wire from pin 3 of the J7 connector on the Slot Adapter board to pin 2 of the J2 connector on the Interposer Fix board.

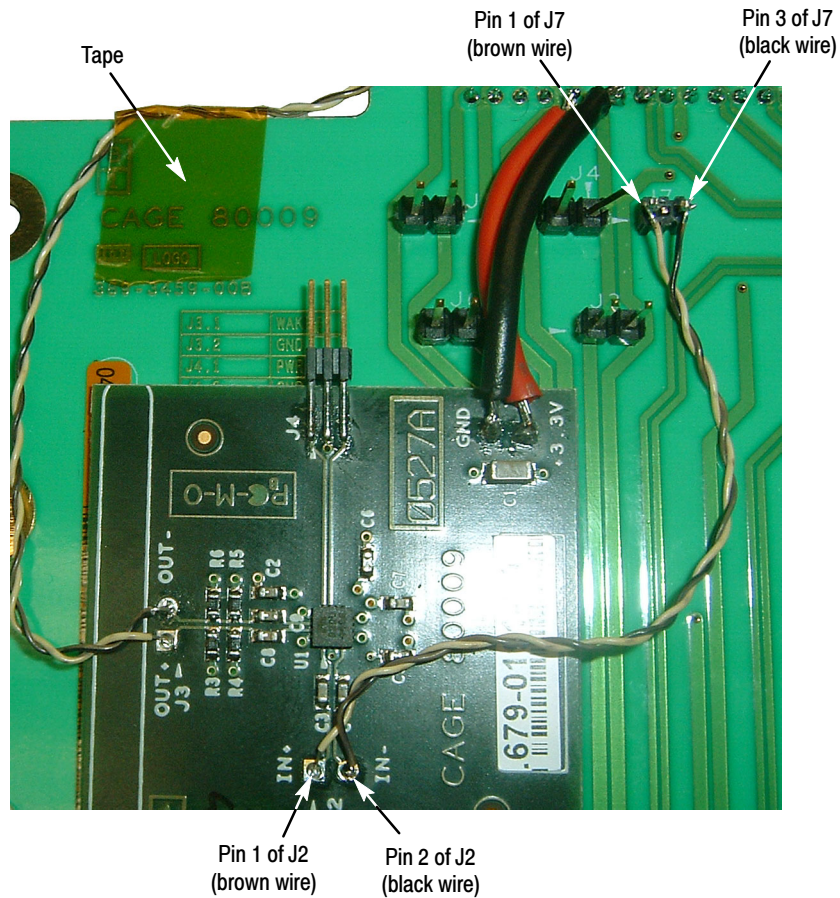


Figure 10: Slot Adapter board modification completed

13. (Optional) Using small strips of Kapton tape, tape the wires to the Slot Adapter board to prevent the wires from snagging and coming loose.

Verify Operation

NOTE. *Connect the Slot Adapter board to the target system, but do not install the PCI Express card.*

Performing the following steps to verify instrument operation:

1. Power on the test platform. Use a differential probe and oscilloscope to verify a 100 MHz reference clock across pins 1 and 3 of the J2 connector on the Interposer Fix board.
2. Use a differential probe to verify a clean 100 MHz clock without steps on the rising and falling edges across pins 1 and 3 of the J4 connector on the Interposer Fix board.
3. Use a differential probe to verify a clean 100 MHz clock without steps on the rising and falling edges across pins 13 and 14 of the J2 connector on the back of the PCI Express Interposer board.

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