

Manual for Installing LCD Kit into a Tektronix TDS Color Oscilloscope



WARNING - DANGER

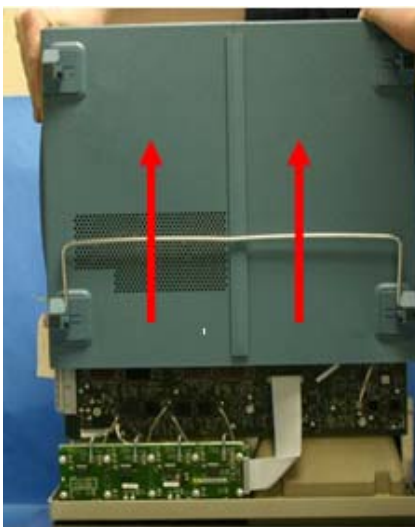
If you are not qualified to work on this equipment, please send it to us and we will install the TDS kit for only \$125. We will even ship to you a custom foamed box that will fit your scope for \$50.

This equipment has high, possibly fatal voltages inside. Do not attempt to work on unless you are qualified to work with High Voltages.

Read through and understand each step in this manual before proceeding.



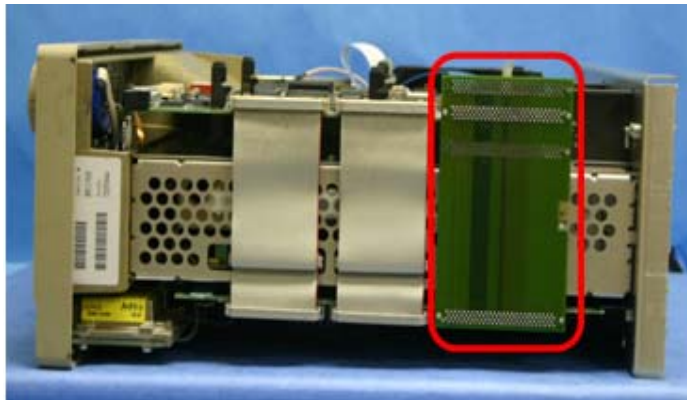
1. Make sure the scope is turned off and unplugged. Looking at the back of the scope, remove the four corner screws in order to take off the back cover.



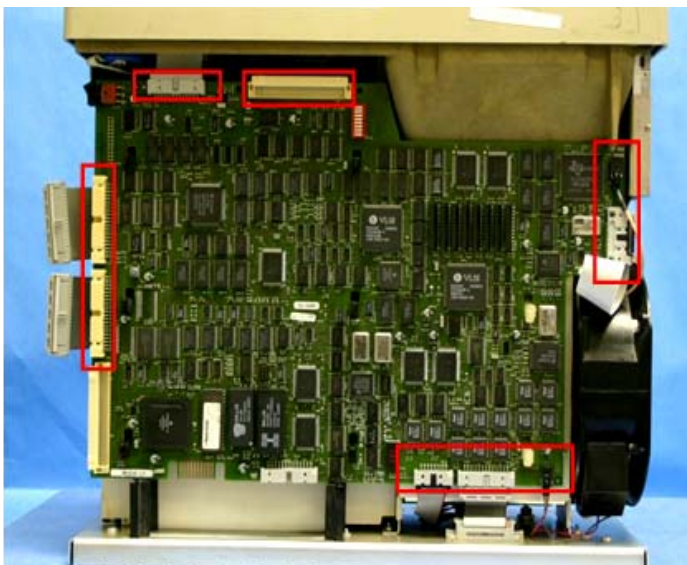
2. Pick up the scope and place the front screen down on a soft surface, such as a pad or your lap. Gently slide off blue exterior case, making sure no parts gets caught in the inside. If the case won't come off, take a moment and try and determine if there are any parts that may have caught on the case.



3. Place the scope so that the back of the unit is easily accessible. Find the rectangular cover held in place by two screws. Remove the screws and slide off the cover.



4. Looking straight at the front of the scope, rotate it to the left. On the newly visible side, there are two cables and a board attached to the side of the scope. Remove the green board found there by gently pushing out both the top and the bottom connectors. Set aside.



5. Position scope so that the top is easily accessible. From there, remove all the cables that are linked to the top of the circuit board. After ensuring that all parts have been disconnected from the top board, remove the board from the scope carefully and set it aside.



6. After removing the board, you will see a housing unit that has a High Voltage warning that reads,

**“DANGER HIGH VOLTAGE
LINE VOLTAGES
EXIST IN THIS UNIT
DANGER
HIGH VOLTAGE INSIDE
REFER SERVICING TO
QUALIFIED PERSONNEL”**

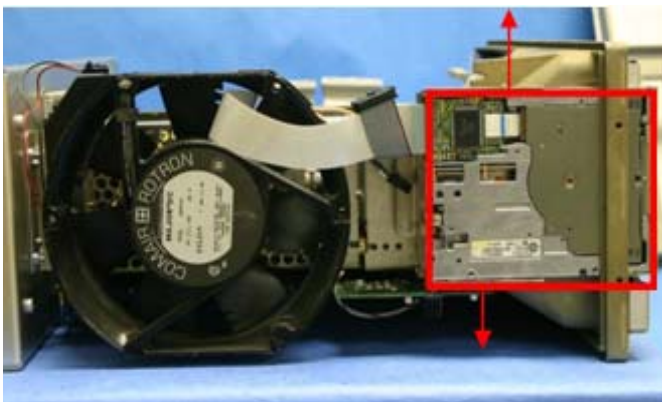
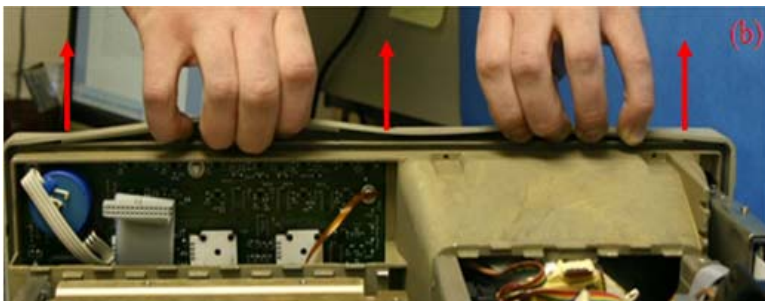
Remove all the screws from this casing unit, remove the casing, and set aside.

WARNING - DANGER

In addition to the high voltages associated with the color CRT assembly, DC voltages in excess of 400VDC are present in the main power supply. Never remove this cover while the instrument is plugged in. Always assume that these voltages are present when working under this cover. A malfunction in the instrument could allow these voltages to persist even after the unit is unplugged.



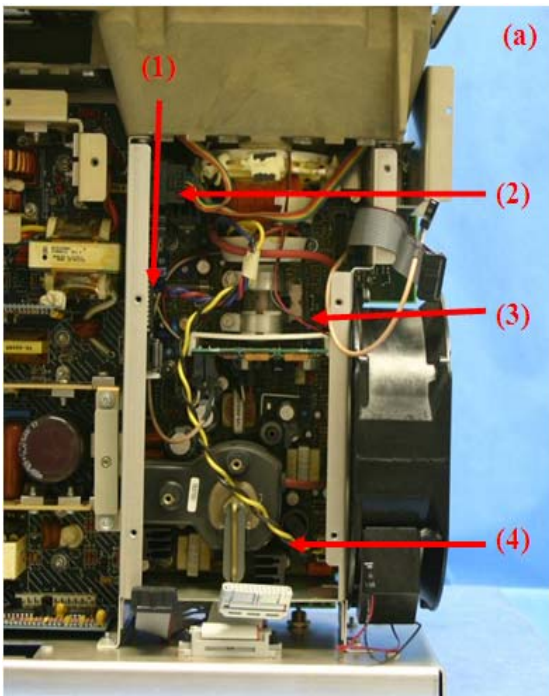
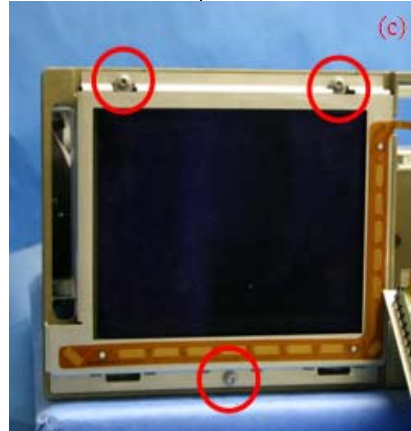
7. Around the perimeter of the scope (a) there is a bezel that must be removed. It is not screwed in, but a series of six miniature “snaps” hold it in place: three on the top, and three on the bottom. Use your hands to “pop” the snaps out of place (b), taking care to do so gently to ensure the snaps don’t break. Remove the plastic bezel and set aside.



8. Looking directly at the front of the scope, rotate the unit to the right. The new side should have a cooling fan and a floppy unit on the side. The floppy unit is held in by two screws: one on the top, and one on the bottom. Remove those two screws to take out the unit. Remove the floppy unit, the thin piece of metal underneath it, and set them aside.



9. Looking directly at the front of the scope, you will see a metal frame surrounding the screen, held in by three screws. To the right of the screen is the control panel of the scope. Press it out gently (a) and remove the orange flex cable from the back of the button panel: if applicable, remove the green ground cable as well (b). Remove the three screws around the CRT (fig. C) and set them aside. This will allow you to remove the metal casing (c). Last, remove any screws that are holding the CRT in place.



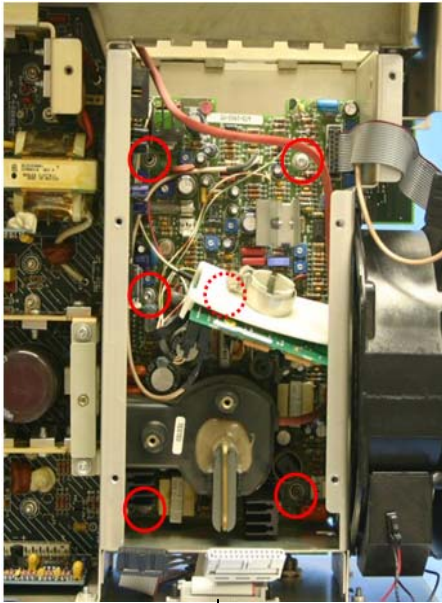
10. Looking down on the scope
(a), there are four cables that you will want to disconnect from their ports: the red and blue wire (1), a rainbow ribbon wire (2), red and black (3), and a yellow and black wire (4). At the base of the CRT, there is a fastener around the tube closest to the white piece of plastic.
(b) Loosen it with a screwdriver enough so that the CRT can be pulled out of the white piece of plastic and out of the scope.
(c) When you first try pulling out the screen, there will be a big red wire holding it there with a suction cup.

****SEE WARNING BELOW****

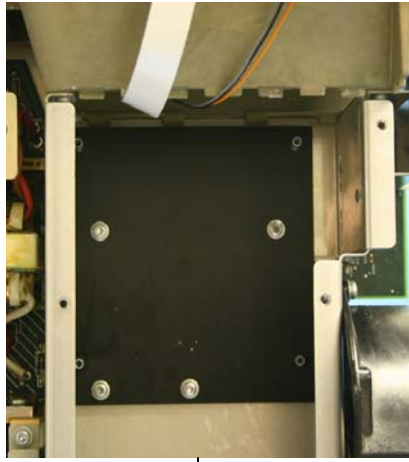
Peel back the cup and there will be two wires holding it to the CRT. Pinch them and they will allow the wire to disconnect from the CRT. Pull out the screen and set it aside.

**** WARNING – DANGER**

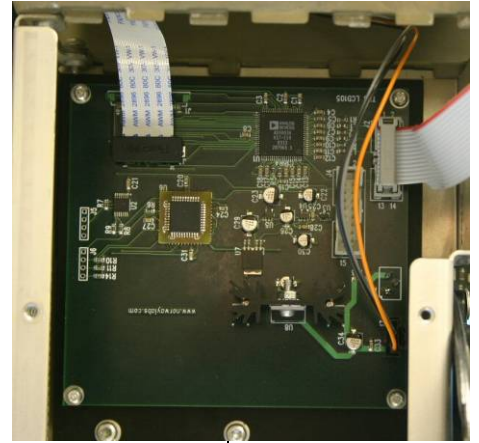
Always discharge the anode lead of the CRT before attempting to remove it. If you are not trained to do this, do not attempt to work on this unit. High voltages on the anode lead can persist long after the instrument is unplugged.



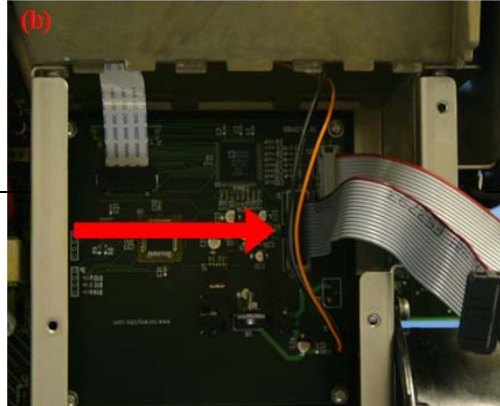
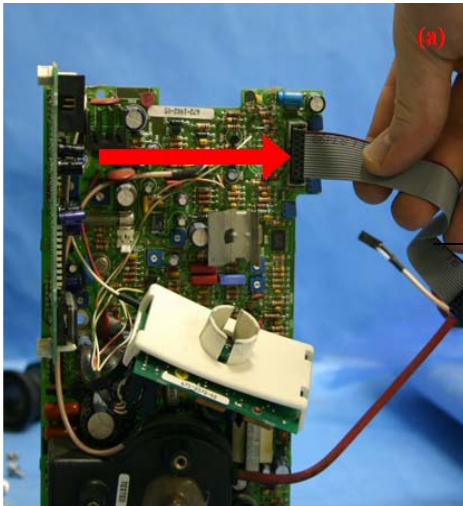
11. Remove the six screws that hold down the board that's in the same compartment as the CRT, and pull it out.



12. Open up the kit and remove the four mounting screws that are on the control board that connect them to the black piece of metal. Using the screws that were holding the old board, screw the black piece of metal to the bottom, lining up the corresponding holes.



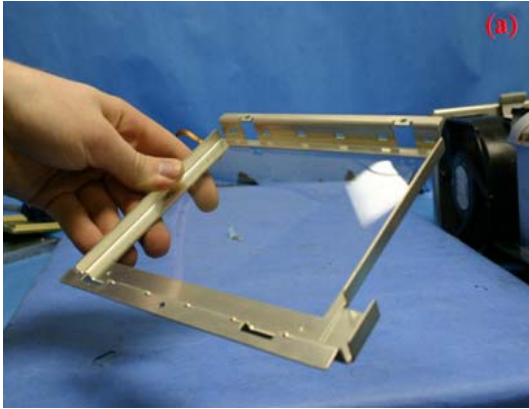
13. Install the board back onto the black piece of metal, using the same screws that were originally with it.



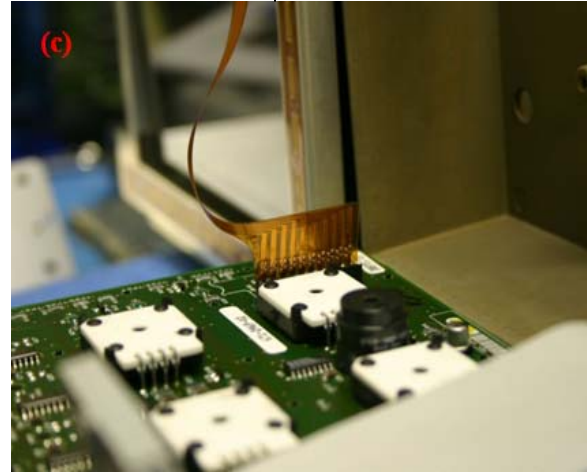
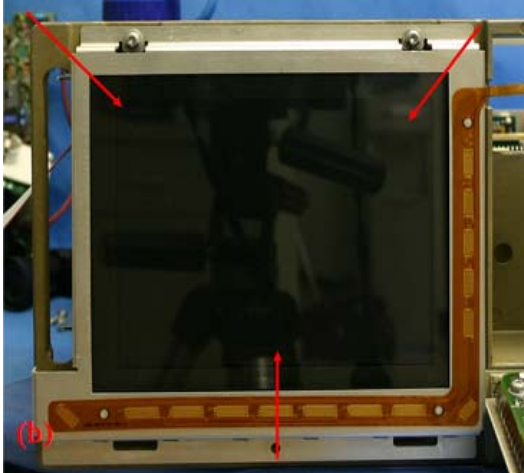
14. Take off the ribbon cable from the original board (a) and place it onto the corresponding outlet on the new board (b).



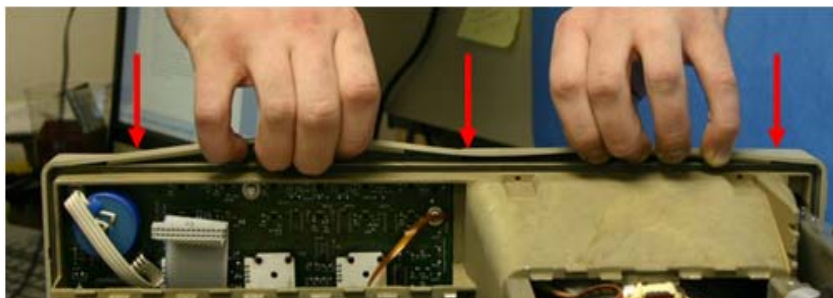
15. In order to secure the screen to the scope, place the LCD screen in the same opening as the CRT was in, line up the two bottom holes, and screw them in: don't put the top screws in at this point.



16. Take off the protective covering on the Plexiglass sheet and place it inside the metal frame that goes around the LCD screen (a). When finished, the Plexiglass should be in between the screen and the metal frame, protecting the screen: screw the frame back on: two on the top, and one on the bottom (b). Lastly, take the ribbon on the frame and reconnect it to its plug behind the panel (c). Also reconnect the green ground wire (if applicable).



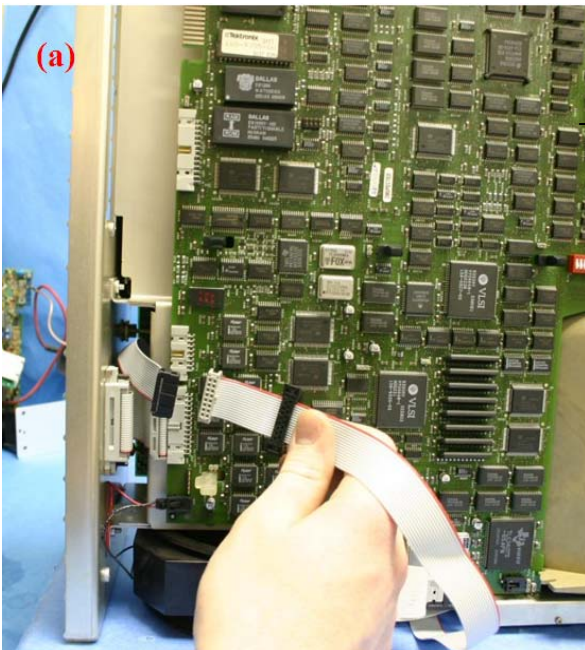
17. Put the piece of metal that was behind the floppy drive back in and re-screw the floppy drive back into position.



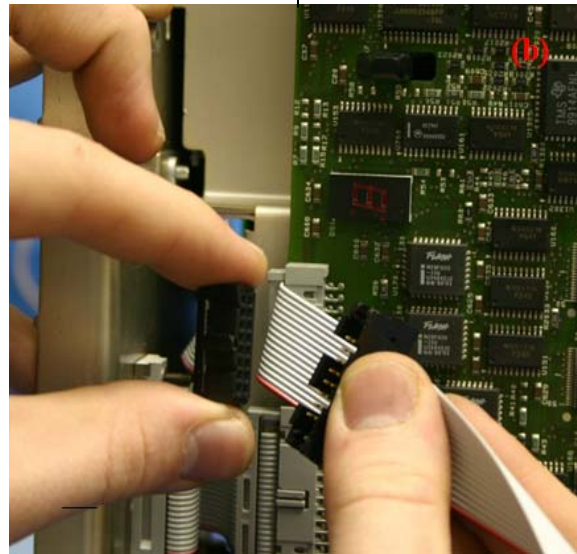
18. Re-snap the bezel back into position.



20. Reinstall the metal plating that has the “High Voltage” warning



21. Place the board back on top and place in original position. Take ribbon wire from new screen (long ribbon with grey end connector and black connector one inch up) and run it to back section (a). Take the wire and plug it into the designated grey port and take the old ribbon wire with the black connector and plug it into the new cable (b).



22. Replace all other wires back into their position, making sure the circuit board on the right side is placed correctly. Double check that the plug-in board is oriented as shown. It is possible to plug this board in upside down. If you do, the scope will not work.

23 Place scope back into blue protective case

24 Re-install back cover