

Instructions



040-1721-00 and above Adjustable Power-Up Delay Upgrade ECO422D SD/HD Changeover Unit

075-0947-00

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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- 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* before performing any service procedures.

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 needed to install the power-up delay upgrade on the main board in ECO442D SD/HD Changeover units.

This document supports Tektronix modification: ECR30976.

Products

ECO422D B020000 - B029999

Minimum Tool and Equipment List

Required tools and equipment	Part number
Screwdriver handle	Standard tool
T-10 TORX drive bit	Standard tool
$\frac{9}{16}$ " Deep Socket Wrench	Standard tool
$\frac{1}{4}$ " Wrench	Standard tool
Surface Mount Soldering Station	Standard tool

Kit Parts List

Circuit/figure number	Quantity	Part number	Description
U16	1	163-0375-XX	IC,DIGITAL; PRGM 156-9086-00, CMOS,PLD;ISP EEPLD, MAX 7000S FAMILY
S13	1	260-5013-XX	SWITCH,ROTARY; DIP;HEXADECIMAL,16 POS, 100MA AT 50V, FLUSH ACTUATOR
R370, R371, R372, R373	4	321-5427-XX	RESISTOR, FXD, FILM; 10.0K OHM, 1%, 50V
-----	1	NS	Label

NS - Not Saleable

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.*



WARNING. *To avoid electric shock, disconnect the power cord from the mains power. Failure to do so can cause injury or death.*

Remove

1. Place the instrument on a flat work surface with the back facing you.
2. Use a 9/16" deep socket wrench to remove all the nuts and washers from the bottom row of BNCs.
3. Place the instrument with the front toward you and use a T-10 TORX screwdriver to unscrew the sixteen screws securing the top cover to the chassis.
4. Remove the top cover.
5. Disconnect all the cables between the top connector board and the main board, and between the main board and the chassis. See Figure 1.



Figure 1: Board removal preparation

6. Unscrew the six T-10 TORX screws securing the main board to the chassis.
7. Unscrew the two T-10 TORX screws from the posts in the top connector board.
8. Use a 1/4" wrench to unscrew the posts from the main board as seen in Figure 2 and carefully bend the top connector board to clear the posts from their holes.



Figure 2: Post removal

9. Keeping the main board level, slide the board toward the front of the instrument until the BNCs clear both the rear chassis panel and the top connector board. See Figure 3.

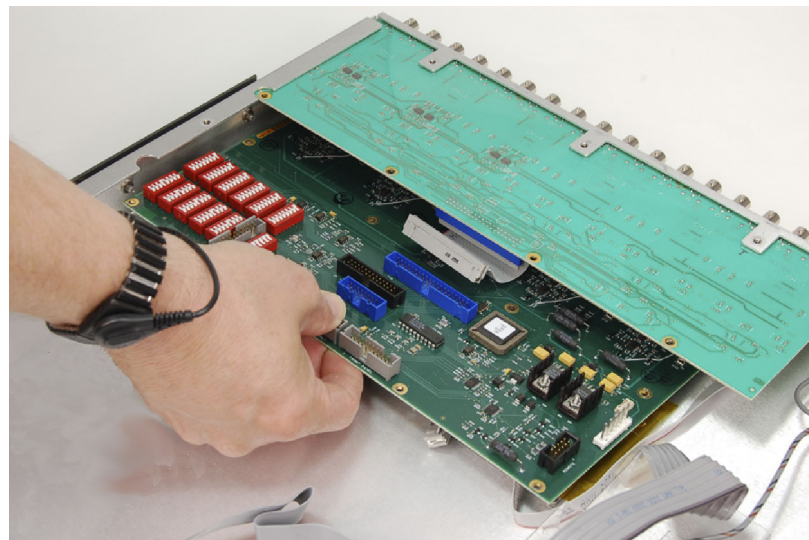


Figure 3: Main board removal

Install

1. Use a surface mount soldering station to install the Power-Up Delay hex switch, A2S13, in the S13 position on the main board as seen in Figure 4.
2. Add label saying “Power-Up Delay” by S13 as seen in Figure 4.

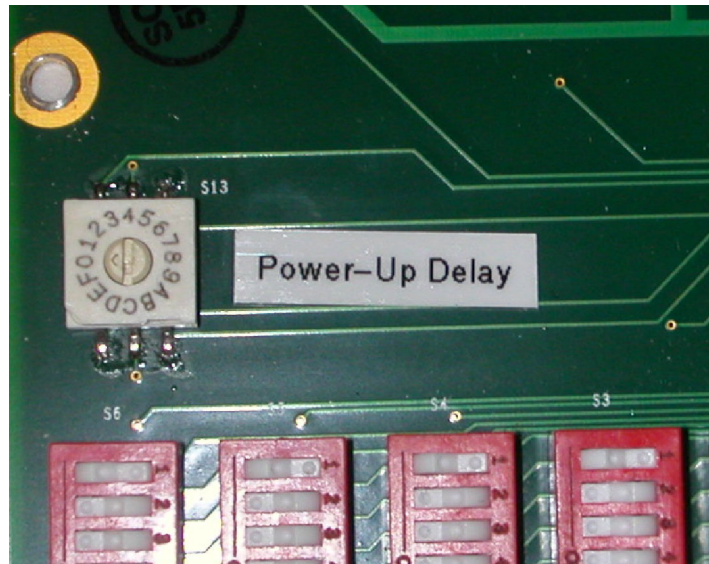


Figure 4: S13 Power-Up Delay Location



CAUTION. Be careful not to damage the plastic socket of A2U16 while installing the resistors, in step 3. Instrument operation may be affected if the socket is damaged.

3. Use a surface mount soldering station to install R370, R371, R372 and R373 on the main board as seen in Figure 5, circled in the outlet.
4. Replace A2U16 on the main board with the IC supplied in the kit, circled in Figure 5.

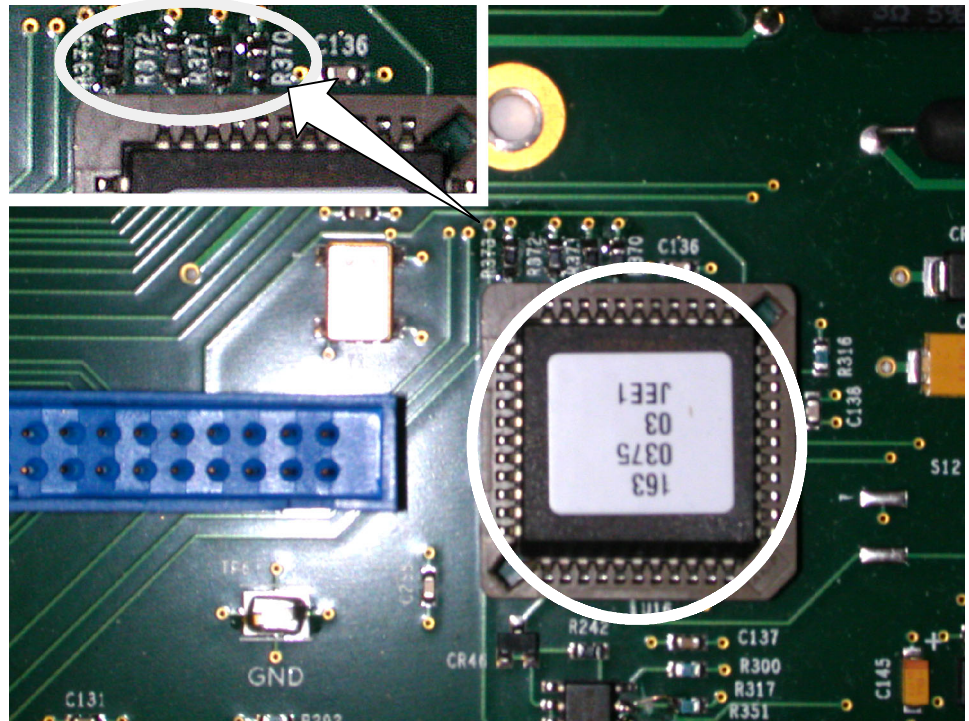


Figure 5: R370, R371, R372, R373 and U16 Locations

Reassemble

1. Reassemble in reverse order of the *Remove* procedure.

Verify Operation

Perform a complete performance verification as detailed in *ECO422D SD/HD Changeover Unit Instruction Manual* (Tektronix part number 071-1792-xx).

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