



046-0016-00

M60696

FIRMWARE UPDATE

For TEKTRONIX[®] 2430 Digital Oscilloscopes

Serial Numbers B010100 - B011410

This kit contains parts and instructions to update firmware to version 2.0. Version 2.0 upgrades the current firmware (version 1.0) by changing the way some features are implemented and also corrects firmware bugs that affected product operation for some users.

NOTE

All firmware included in this kit must be installed as a complete set. After installation, firmware may be replaced on a one for one basis. Where facilities exist to reprogram U670, U680, U682, U690 and U692, kit 045-0114-XX should be used in lieu of this kit.

CAUTION

STATIC SENSITIVE DEVICES

Static discharge can damage any semiconductor component in this instrument. Static voltages of 1kV to 30kV are common in unprotected environments.

TO AVOID DAMAGE, OBSERVE THE FOLLOWING:

1. Minimize handling of static-sensitive components.
2. Transport and store static-sensitive components or assemblies in their original containers, on a metal rail, or on conductive foam. Label any package that contains static-sensitive assemblies or components.
3. Discharge the static voltage from your body by wearing a wrist-strap while handling these components. Servicing static-sensitive assemblies or components should be performed only at a static-free work station by qualified service personnel.
4. Nothing capable of generating or holding a static charge should be allowed on the work station surface.
5. Keep the component leads shorted together whenever possible.
6. Pick up components by the body, never by the leads.
7. Do not slide the components over any surface.
8. Avoid handling components in areas that have a floor or work-surface covering capable of retaining a static-charge.

KIT PARTS LIST:

Ckt. Number	Quantity	Part Number	Description
U680	1 ea	160-2551-02	Microcircuit, dgtl, 16384 x 8 EPROM
U682	1 ea	160-2552-02	Microcircuit, dgtl, 16384 x 8 EPROM
U690	1 ea	160-2553-02	Microcircuit, dgtl, 16384 x 8 EPROM
U692	1 ea	160-2554-02	Microcircuit, dgtl, 16384 x 8 EPROM
U670	1 ea	160-2555-02	Microcircuit, dgtl, 16384 x 8 EPROM
U480	1 ea	160-2556-02	Microcircuit, dgtl, 2048 x 8 PROM
U490	1 ea	160-2557-02	Microcircuit, dgtl, 2048 x 8 PROM
	1 ea	-----	Label, 046-kit

INSTRUCTIONS:

WARNING

Before proceeding, ensure the mainframe power switch is in the off position, then disconnect the instrument from the power source.

- () 1. Remove the outer cabinet from the instrument.
- () 2. Unlatch and lift up the Processor circuit board, A12, to gain access to the firmware microcircuits.
- () 3. Using the kit parts list as a check off list, replace the firmware with the microcircuits included in the kit.
- () 4. After the firmware is updated, the extended calibration routine must be run. Perform the following steps:
 - () a. Remove J156, install the cabinet and turn on the 2430.
 - () b. Do a "COLD START".
 - () c. After the *NOT WARMED UP* no longer appears in the readout, start the EXT CAL.
 - () d. Perform the Extended Cal REPET calibration.
 - () e. Do an ATTEN calibration using the appropriate signals.
 - () f. Do a TRIGGER calibration using the appropriate signals.
 - () g. Do a SELF CAL to complete the calibration.

NOTE

While in the extended Cal, you will see that the DISPLAY label has changed to ADJUSTS. The difference is the addition of semi-automatic adjustments for the CCDs. If the CCDs have not been changed, this adjustment is not necessary and should not be attempted.

- () 5. Correct the electrical parts list in the Service Manual with the information included in the kit parts list.
- () 6. Remove the protective backing from the 046-kit label (included in the kit) and place it on a clean, dry area of the rear panel.
- () 7. Carefully pack the old firmware to be returned (refer to the attached Return Materials Notice) using the same packaging the kit came in.
- () 8. Complete the information requested on the attached Return Materials Notice. Include the Return Materials Notice in the package and return the package as directed.

RH:rh

RETURN MATERIALS NOTICE

046 KITS ONLY

Place a Return Materials Notice in each carton you return to the factory. Ship the return packages to:

Tektronix, Inc.
P. O. Box 500
Beaverton, OR 97077
Attn: 2430 Manufacturing
Delivery Station C1-307

Firmware in this shipping carton are being returned per Service UPDATE Program #4008 Instructions. Items in this carton are only those specified below.

Authorized Parts List:

Part number	Description
160-2551-XX	MICROCIRCUIT, DGTL, 16384 X 8 EPROM
160-2552-XX	MICROCIRCUIT, DGTL, 16384 X 8 EPROM
160-2553-XX	MICROCIRCUIT, DGTL, 16384 X 8 EPROM
160-2554-XX	MICROCIRCUIT, DGTL, 16384 X 8 EPROM
160-2555-XX	MICROCIRCUIT, DGTL, 16384 X 8 EPROM
160-2556-XX	MICROCIRCUIT, DGTL, 2048 X 8 PROM
160-2557-XX	MICROCIRCUIT, DGTL, 2048 X 8 PROM

Name _____

Company or Tek Field Office _____