Instructions

040-1489-04 & 040-1489-54
TVS600 Series Firmware Upgrade

070-9544-04

Tektronix Internal Use Only
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.

Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the safety summaries in your product manual 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, disconnect the main power by means of the power cord or, if provided, the power switch.

Avoid Exposed Circuitry. To avoid injury, remove jewelry such as rings, watches, and other metallic objects. Do not touch exposed connections and components when power is present.

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 includes software that provides additional features for a TVS600 Series instrument.

The customer will install the VXI*plug&play* front panel and driver software at the customer location. This upgrade will provide the customer with a new user manual and reference.

This document supports Tektronix mod: **M84965**.

Products

TVS621	B010100 to B010275
TVS625	B010100 to B010159
TVS641	B010100 to B010205
TVS645	B010100 to B010205

Minimum Tool and Equipment List

Required tools and equipment	Part number
IBM compatible PC	n/a
Windows 3.X (not Windows '95)	n/a
VXI Mainframe, Install controller in slot 0	Tektronix VX1410 or equivalent
Controller, MXI	n/a
PC adapter ckt bd, MXI to VXI	n/a
Cable, connect PC to slot 0 controller	n/a
VISA/VTL Version 3 or greater	n/a
Tweezers or needle-nose pliers	n/a

Kit Parts List

Installation	Quantity	Part number	Description
Tektronix	1 ea.	070–9544-XX	Manual, tech: Kit Instructions
Tektronix	1 ea.	063-1873-XX	Software Package: TVS600 software and Flash ROM Loader Utility 1.7 (or later)
Tektronix	1 ea.	131-0993-00	Link, term, conn: Jumper 0.025 inch sq
Tektronix	1 ea.	334-4645-XX	Label, Field: 040-1489-XX, FW Ver 1.8 (or later)
Customer	1 ea.	063-1874-XX	Software Package: TVS600 VXI*plug&play* front panel and driver (2 disks)
Customer	1 ea.	061-4087-XX	Instructions: Customer
Customer	1 ea.	070-9283-01	Manual, tech: User
Customer	1 ea.	070-9284-01	Manual, tech: Reference, pocket

Installation Instructions

These instructions are for Tektronix 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 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.*

Common Procedure For All Tasks

This section provides common procedures used for all firmware loading tasks. These instructions describe how to set up the TVS600 Series unit and how to use the Loader application.

⚠️ *CAUTION. Upgrading or modifying the firmware will erase all instrument setups that were previously saved in the instrument.*

1. Power off the VXI mainframe.

2. Remove the TVS600 Series unit from the mainframe.

3. Before loading firmware you must install a jumper (provided in this kit) on the write protection pins. The jumper will switch the instrument to the unprotected (write-enable position). The protection pins are located in the rear panel. See Figure 1.

NOTE. Be careful not to drop the jumper inside the instrument while installing the jumper onto the pins. It may be easier to install the jumper using a pair of tweezers or needle nose-pliers.
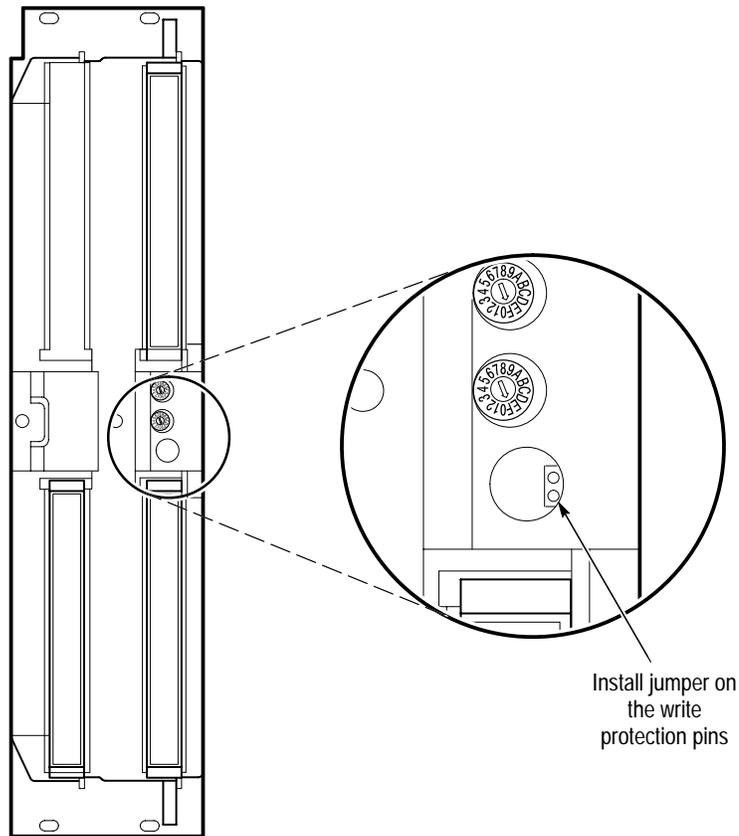
Install jumper on
the write
protection pins

Figure 1: Write protection pins on rear panel

4. Reinstall the TVS600 Series unit into the VXI mainframe.

NOTE. If the Loader is not installed, perform the Installing Loader Software *procedure on page 7.*

5. Double click the Loader icon.

6. Under the File menu, select Properties. The Program Item Properties dialog box appears.

7. In the Command Line, change the -S to -M and click OK. This changes the mode of operation to Manufacturing.

8. Double click the VXITools Firmware Loader icon.

9. Under the File menu, select Service Password, enter the password 5768 and click OK.

10. Select the instrument from the Found list box, by double clicking on it. This moves it to the Select list box. Repeat if more instruments need to be updated.

11. Click the instrument to be updated in the Selected list box. If there are more instruments to be updated, press and hold down the shift key while clicking the instruments to be updated.

12. Perform the appropriate firmware loading procedures listed in this kit:

- *Upgrading an Instrument's Firmware*

- *Initial Firmware Loading*

- *Changing the Instrument's Serial Number*

Installing the Loader Software

The following instructions will guide you through installing the Loader firmware on a PC or embedded controller:

1. Power on the PC or embedded controller.

2. Open Windows by typing WIN at the DOS prompt. Some systems will automatically open Windows when the PC is powered on.

3. Open NI–VXI in the Program Manager. Click the Resman (Window) and run the routine. Make sure the VXI mainframe is powered on before running Resman (Window).

4. Insert the Loader disk into the PC's floppy disk drive.

5. From the file manager's File menu, enter Run. A dialog box appears.

6. Enter A:\SETUP in the edit box, then click OK.

7. Follow the online screen instructions for the setup.

8. After completing all the installation instructions remove the Loader disk from the PC or embedded controller.

Upgrading an Instrument's Firmware

1. In the Execute menu, select Archive & Load Firmware. This saves the current firmware image in the instrument and then downloads a new image.

2. Enter a file name for the archive in the Save as dialog and click OK. Do this for each highlighted instrument in the Selected list box.

3. Enter the name of the .LOD file that contains the update in the Load dialog box and click OK. The Serial Number & Option Word dialog box is now displayed.

4. Enter the instrument's serial number (for example, B010100) and option word XFFFF and click OK. Loader will now load the file to the instrument. A dialog will be displayed to indicate the progress of the download. The archive will now take place. This will take several minutes.

5. Repeat steps 2, 3 and 4 for all instruments that are to be updated (names are highlighted in the Selected List list box).

6. When firmware loading is complete, exit the program and Windows application. Power off the system and remove the TVS600 Series unit from the mainframe.

7. Remove the jumper from the write protection pins. Discard the jumper. Do not send the jumper with the upgraded instrument to the customer.

8. Verify that the firmware version resides in the flash ROM.

9. Perform all self-calibration functions, CALibration SUBsystems. Refer to the user manual provided in this kit.

10. Refer to the *Install The Kit Label* and *Package TVS600 for Customer Shipping* sections on page 10.

Initial Firmware Loading

1. In the Execute menu select Load Firmware. This will download firmware to an unprogrammed instrument.

2. Enter the name of the .LOD file that contains the update in the Load dialog box and click OK. The Serial Number & Option Word dialog box is now displayed.

3. Enter the instrument's serial number (for example, B010100) and option word XFFFF and click OK. Loader will now load the file to the instrument. A dialog will be displayed to indicate the progress of the download. This will take several minutes. If multiple instrument entries have been highlighted, the same firmware will be loaded into all the instruments.

4. When firmware loading is complete, exit the program and Windows application. Power off the system and remove the TVS600 Series unit from the mainframe.

5. Remove the jumper from the write protection pins. Discard the jumper. Do not send the jumper with the upgraded instrument to the customer.

6. Verify that the firmware version resides in the flash ROM.

7. Perform all self-calibration functions, CALibration SUBsystems. Refer to the user manual provided in this kit.

8. Refer to the *Install The Kit Label* and *Package TVS600 for Customer Shipping* sections on page 10.

Changing the Instrument's Serial Number

1. In the Edit menu select Change Serial Number & Option.

2. In the dialog box enter the instrument's serial number and click OK. The Loader will write the serial number to the instrument.

3. When firmware loading is complete, exit the program and Windows application. Power off the system and remove the TVS600 Series unit from the mainframe.

4. Remove the jumper from the write protection pins. Discard the jumper. Do not send the jumper with the upgraded instrument to the customer.

5. Verify that the firmware version resides in the flash ROM.

6. Perform all self-calibration functions, CALibration SUBsystems. Refer to the user manual provided in this kit.

7. Refer to the *Install The Kit Label* and *Package TVS600 for Customer Shipping* sections on page 10.

Adjustment Procedure

⚠ *CAUTION. Make sure you removed the jumper from the write protection pins in the rear panel. Discard the jumper. Do not send the jumper with the upgraded instrument to the customer.*

Refer to the Tektronix service manual part number 070-9285-XX. Perform all necessary steps in Section 5, *Adjustment Procedure*. Adjustments are performed using the Field Adjust/PV software, provided with the service manual.

Install the Kit Label

Remove the protective backing from the 040-kit label, provided in this kit, and apply it to a clean area on the side panel of the instrument. This label indicates that this kit has been installed. Refer to Figure 2.
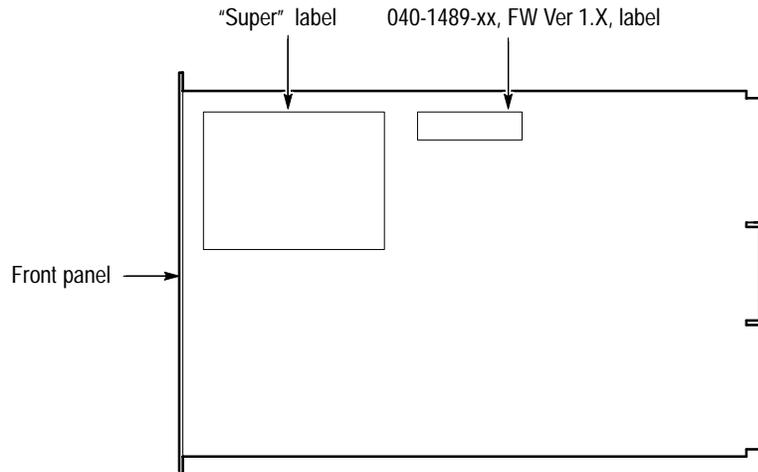
"Super" label   040-1489-xx, FW Ver 1.X, label

Front panel

Figure 2: Field kit label location

Package TVS600 for Customer Shipping

1. Enclose the following kit materials with the upgraded TVS600 instrument being sent to the customer:

- *VXIplug&play Upgrade Instructions*, part number 061-4087-01.

- User Manual, part number 070-9283-01

- Reference, part number 070-9284-01

- Software Package, VXI*plug&play*, part number 063-1874-XX

2. Do not include the following kit materials with the upgraded instrument being shipped to the customer. Discard the following when the firmware upgrade is completed:

- Firmware Kit Instructions (this document) part number 040-1489-XX.

- Software Package, Flash ROM Utility part number 063-1873-XX.

- Jumper part number 131-0993-00.

■■ **End of document** ■■