TEKTRONIX

product modification

045-0188-00

M70209

11302 FIRMWARE REPLACEMENT

For the following TEKTRONIX® instrument:

11302   All Serial Numbers

This kit contains parts and instructions that replaces the firmware in the 11302 Programmable Oscilloscope. The firmware is upgraded to version 3.1.

CHECK FIRMWARE VERSION

This kit is compatible only with instruments that contain firmware version 2.5 or greater.

If the the instrument has firmware below version 2.5. Trigger Reliability Kit pn 045-0160-XX, must be installed before proceeding any further.

KIT PARTS LIST:

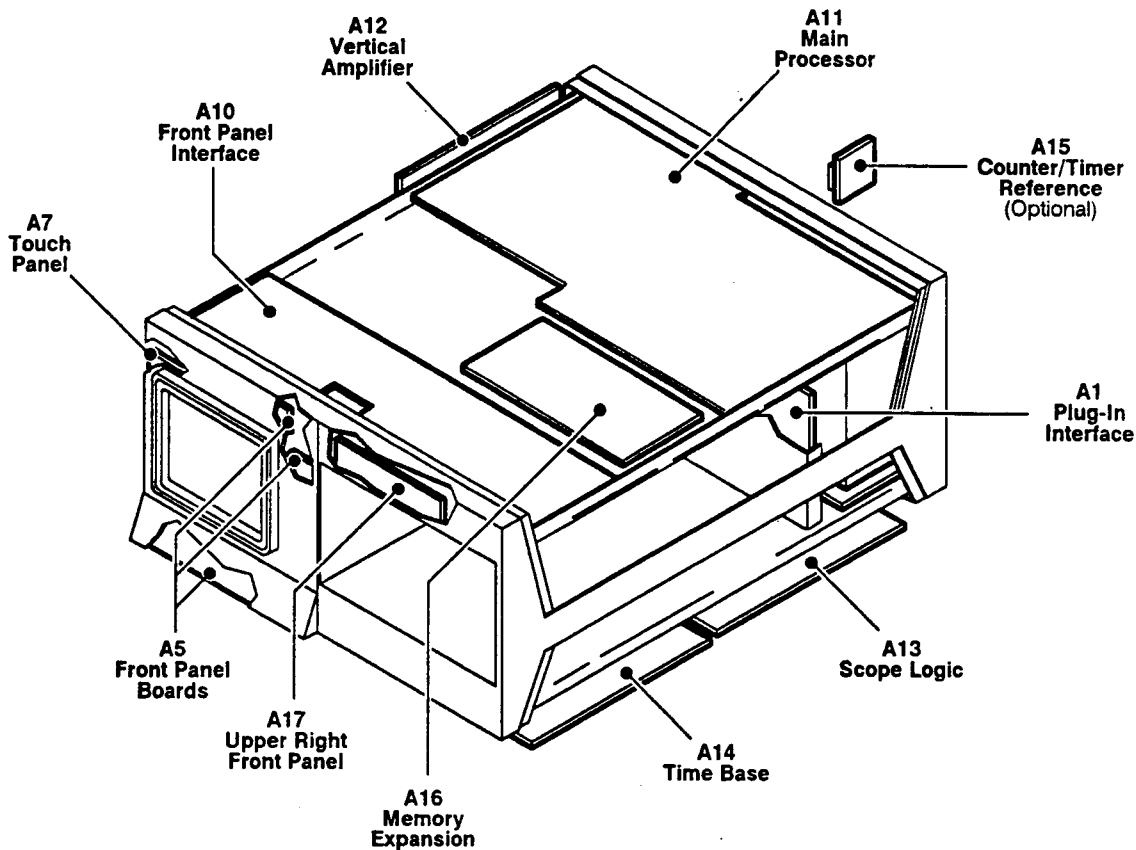| Ckt Number	Quantity	Part Number	Description
	1 ea	020-1578-XX	Component Kit:Ver 3.1
			Consisting of the following:
U1330	1 ea	160-4470-08	Microckt,dgtl:NMOS,EPROM ver 3.1
U1430	1 ea	160-4471-08	Microckt,dgtl:NMOS,EPROM ver 3.1
U1400	1 ea	160-4472-08	Microckt,dgtl:NMOS,EPROM ver 3.1
U1100	1 ea	160-4473-08	Microckt,dgtl:NMOS,EPROM ver 3.1
U1200	1 ea	160-4474-08	Microckt,dgtl:NMOS,EPROM ver 3.1
U1300	1 ea	160-4475-08	Microckt,dgtl:NMOS,EPROM ver 3.1
U1000	1 ea	160-4476-08	Microckt,dgtl:NMOS,EPROM ver 3.1
U1230	1 ea	160-4477-08	Microckt,dgtl:NMOS,EPROM ver 3.1

WARNING

Dangerous shock hazards may be exposed when the instrument covers are removed. Before proceeding, ensure the mainframe power switch is in the off position. Then, disconnect the instrument from the power source. Disassembly should only be attempted by qualified service personnel.
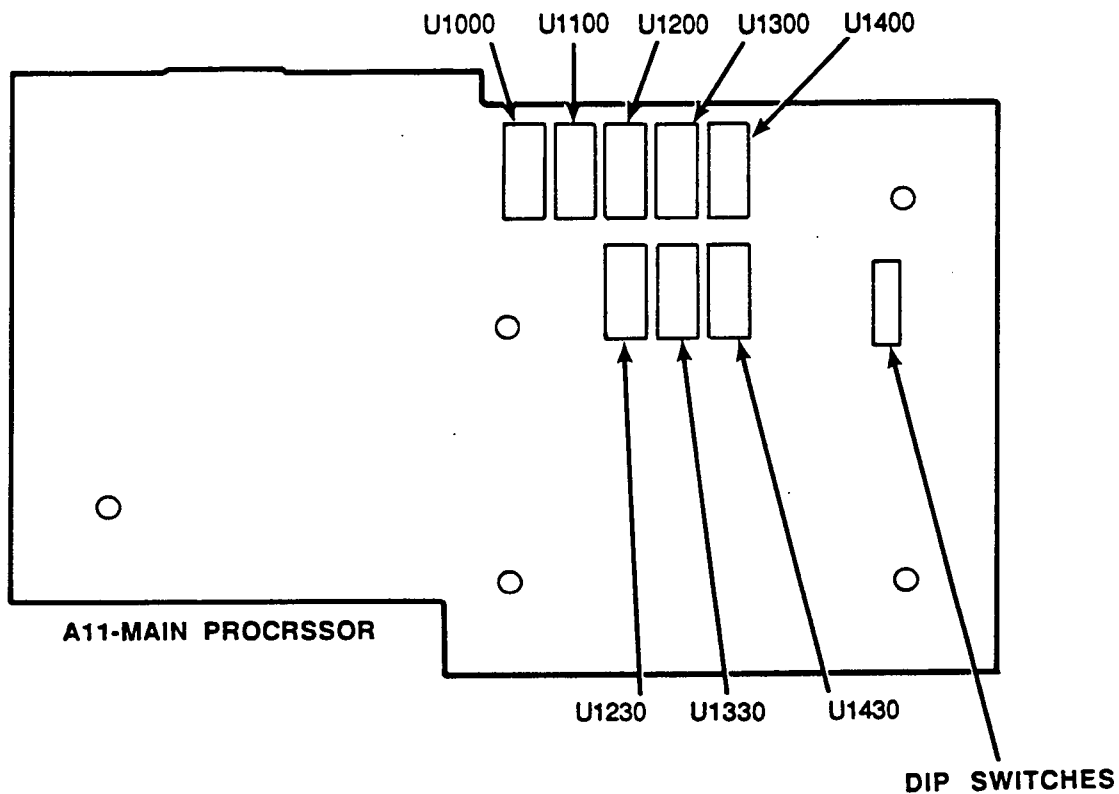
NOTE

These instructions assume a familiarity with the instrument. If additional assembly or disassembly details are required, refer to the 11301/11302 Service Reference Manual.

CAUTION

Many components within the 11300 Series mainframe are extremely susceptible to static-discharge damage. Service the instrument only in a static-free environment. Observe standard handling precautions for static-sensitive devices while installing this kit. Always wear a grounded wrist strap.

045-0188-00

Figure 1. - Circuit Board locations.

Figure 2. - EPROM locations, Main Processor ckt bd A11

NOTE
Run Enhanced Accuracy and Extended Diagnostics
and verify that there are no other failures. Repair all
failures before replacing firmware.

☐ 1. Turn the slotted fasteners on the top dust cover one quarter turn counter clockwise. Then remove the dust cover by lifting away from the instrument.

NOTE
Position the instrument with the bottom of the
instrument (Time Base circuit board A14) is facing up
towards the installer.

NOTE
Refer to Figure 1, while performing steps 2 through
10, in this section.

☐ 2. Set number 2, number 4, and number 5 DIP switches on the Main Processor circuit board A11, to their closed positions.

NOTE
Be certain that pin 1 is positioned correctly when
replacing EPROM's.

☐ 3. Replace U1000, U1100, U1200, U1230, U1300, U1330, U1400, and U1430 with the new EPROM's that are provided in this kit. Refer to Figure 2, for EPROM locations.

☐ 4. Turn the instrument POWER SWITCH to ON. Initially the PROCESSOR diagnostic (BBr Quick) test will fail; this will only occur during the first power-up sequence following the firmware installation.

☐ 5. Press the Display Adjust Menu button and wait for the screen message **Diagnostics are complete**.

☐ 6. Connect an RS-232-C terminal or a GPIB controller to the instrument.

☐ 7. Press the DISP ADJ button and set FOCUS, ASTIGMATISM, and TRACE ROT

☐ 8. Press the ENHANCED ACCURACY button twice.

    ☐ a. If the instrument passes, proceed to the next step.

    ☐ b. If the instrument fails to do an successful EA, run the GRAT-PREP procedure, Test List No. 24 in the CATS disk (Computer Aided Test Software).

    ☐ c. If the instrument fails, try it again. If it still fails, refer to "Restoring Factory Calibration" and try it again. If it still fails, refer to the Main Processor board information in "Checks After FRU Replacement."

❑ 9. Turn the POWER SWITCH to OFF.

❑ 10. Set number 2, number 4, and number 5 DIP switches on the Main Processor circuit board A11 to there open positions.

❑ 11 Replace the top dust cover removed in step 1.

❑ 12. For future reference fasten the attached Manual Modification Insert in the Service Reference manual.

● · TEKTRONIX
MANUAL MODIFICATION INSERT

11302 FIRMWARE REPLACEMENT

for

11302 Programmable Oscilloscope   All Serial Numbers

This modification insert is provided to supplement the manual for
the above listed product(s). The information given in this insert
supersedes that given in the manual.

GENERAL INFORMATION

This kit contained parts and instructions that replaces the firmware in
the 11302 Programmable Oscilloscope. New firmware version 3.1 was
installed with this upgrade. The following insert·pages describes the
new firmware features included with this upgrade.

Tektronix®
COMMITTED TO EXCELLENCE

MANUAL CHANGE INFORMATION

Date: 18-Jan-90   Change Reference: M70209 Rev-1

Product: 11300 Series User Ref Manual

Manual Part No.: See Below

Product Group: 47

DESCRIPTION

11301/11302: manual part No.: 070-6106-00
   The new features are for firmware version 3.1

Revised 9Feb90

11301A/11302A: manual part No.: 070-7175-00
   The new features are for firmware version 1.1

Add this new display to page 2-151:
The MEASURE major menu display has been changed as shown below:
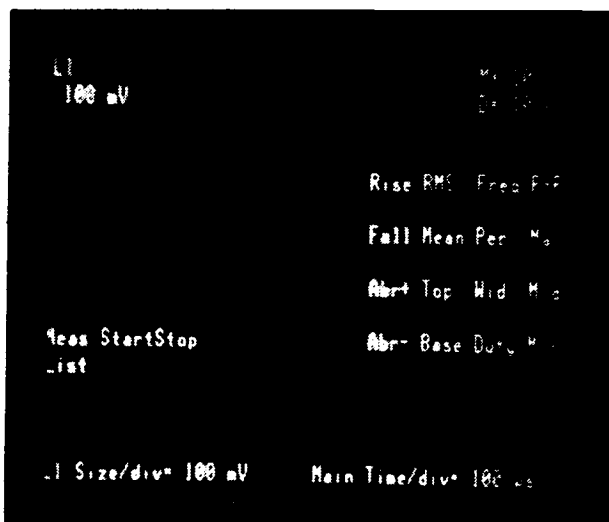

Figure   2-74. Measurement choices shown above.

Add the following text to page 2-152:
MEASUREMENT MENU, when auto measurements of rise time and fall time are being made, and the signal that is being measured is too fast or too noisy, the following statements will appear.   In the place of the rise time or fall time the statements **too fast** or **too noisy** will be displayed.

Scan by Zenith

Add this new display to page 2-162:
The STORE RECALL major menu display has been changed as shown below:
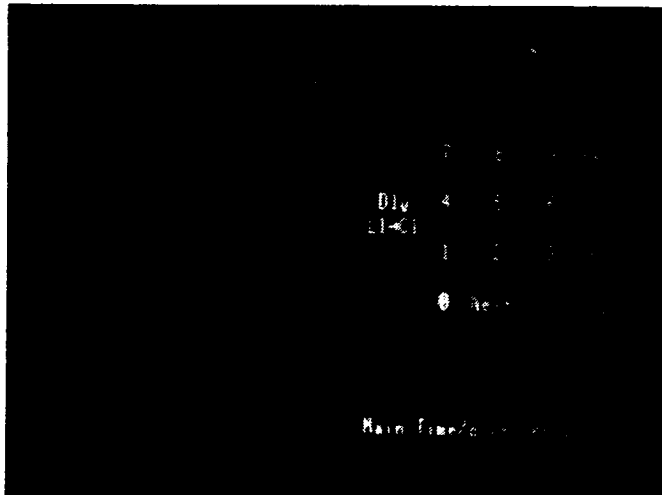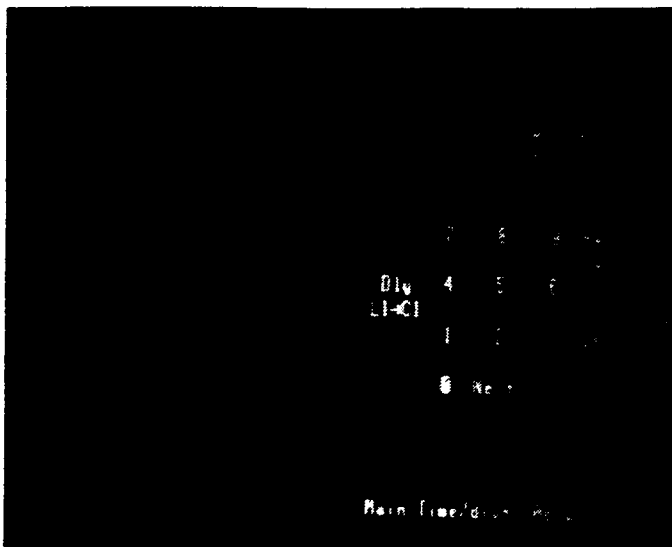

Figure 2-79.Non-volatile stored settings menu selections.

Product: <u>User Ref Manual</u>   Part No.:<u>070-7175-00</u>   Date:<u>18-Jan-90</u>   Change Ref.: <u>M70209</u>

Add this new feature to page 2-162, 070-6106-00
Add this new feature to page 2-163, 070-7175-00

STORE AND RECALL MENU

New Feature:
Dly
L1—»C1

When L1—»C1 is selected on the store recall menu
the scope will automatically setup to measure prop
delay between signals on the left CH   1 and center
CH   1. When this command is initiated the present
scope setup will be lost.

New Feature:
RECALL DLYL1C1

RS   232 & GPIB commands. Entering command
RECALL DLYL1C1 over the buss will initiate the Dly
L1—»C1.

Add this new feature to page 3-86:

RECALL COMMAND

Selecting DLYL1C1 as argument will display the
prop delay setup L1 TO C1.