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CALIBRATION PROCEDURE FOR OSCILLOSCOPE TEKTRONIX, MODEL 2430A

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REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

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SECTION I
IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Oscilloscope Tektronix, Model 2430A. Manufacturers' manuals were used as the prime data sources in compiling these instructions. The equipment being calibrated will be referred to as the TI (test instrument) throughout this bulletin.

a. Model Variations. None.

b. Time and Technique. The time required for this calibration is approximately 5 hours, using the dc and low frequency technique.

2. Forms, Records, and Reports

a. Forms, records, and reports required for calibration personnel at all levels are prescribed by TB 750-25.

b. Adjustments to be reported are designated (R) at the end of the sentence in which they appear. When adjustments are in tables, the (R) follows the designated adjustment. Report only those adjustments made and designated with (R).

3. Calibration Description. TI parameters and performance specifications which pertain to this calibration are listed in table 1.

Table 1. Calibration Description

Test instrument parameters	Performance specifications
Vertical	
Deflection & Volts cursors	Range: 2 mV to 5 V/div Cursor accuracy: ± 2%
Bandwidth	Range: DC to 150 MHz
Triggering	
Internal A	Range: 1 div @ 150 MHz
Internal B	2 div @ 150 MHz
External A	50 mV @ 150 MHz
External B	100 mV @ 150 MHz
Horizontal	
Sweep (A&B)	Range: 5 ns to 0.5 s/div Accuracy: ± 1%
Time cursors	Range: ± 5 div from CRT center Accuracy: ± 1%
Calibrator	Range: 0.4 Vp-p Accuracy: ± 1%

SECTION II
EQUIPMENT REQUIREMENTS

4. Equipment Required. Table 2 identifies the specific equipment to be used in this calibration procedure. This equipment is issued with Secondary Transfer calibration Standards Set AN/GSM-286, AN/GSM-287, or AN/GSM-705. Alternate items may be used by the calibrating activity. The items selected must be verified to perform satisfactorily prior to use and must bear evidence of current calibration. The equipment must meet or exceed the minimum use specifications listed in table 2. The accuracies listed in table 2 provide a four-to-one ratio between the standard and TI.

5. Accessories Required. The accessories required for this calibration are common usage accessories issued as indicated in paragraph **4** above and are not listed in this calibration procedure.

Table 2. Minimum Specifications of Equipment Required

Common name	Minimum use specifications	Manufacturer model (part number)
CALIBRATOR	Voltage output: Range: .000200 to 20 V dc Accuracy: ±0.25%	John Fluke, Model 5720A (MIS-35947)
OSCILLOSCOPE CALIBRATOR	Voltage output: Range: 10 mV to 5 V Accuracy: ±0.25% Time markers: 0.5 ns to .5 s Leveled sine wave: Range: 10 mV to 3 V p-p Frequency: 10 Hz to 150 MHz Accuracy: ±0.25%	(MIS38938) John Fluke, Model 5820A (5820A-5C-GHz)

SECTION III
CALIBRATION PROCESS

6. Preliminary Instructions

a. The instructions outlined in paragraphs **6** and **7** are preparatory to the calibration process. Personnel should become familiar with the entire bulletin before beginning the calibration.

b. Items of equipment used in this procedure are referenced within the text by common name as listed in table 2.

c. Unless otherwise specified, verify the result of each test and, whenever the test requirement is not met, take corrective action before continuing with the calibration. Adjustments required to calibrate the TI are included in this procedure. Additional maintenance information is contained in the manufacturers' manuals for this TI.

d. Unless otherwise specified, all control and control settings refer to the TI.

7. Equipment Setup

WARNING

HIGH VOLTAGE is used or exposed during the performance of this calibration. DEATH ON CONTACT may result if personnel fail to observe safety precautions. REDUCE OUPUT(S) to minimum after each step within the performance checks where applicable.

a. Ensure the **POWER-ON-OFF** pushbutton is in the **OFF** position (out).

b. Connect TI to appropriate power source.

c. Press **POWER-ON-OFF** pushbutton to **ON** (in) and allow 20 minutes for TI to warm-up and stabilize.

d. Press **MENU OFF/EXTENDED FUNCTIONS** pushbutton once or twice.

NOTE

Two presses are necessary if any menu is presently displayed and one press if no menu is displayed.

NOTE

"Select" means to press appropriate front panel pushbutton to obtain a menu on CRT. "Set" means to press appropriate menu pushbutton located on lower portion of CRT bezel by underlining (turn on) or removing underline (turn off) desired menu selection.

e. Set **CAL/DIAG**.

f. Set **SELF CAL**.

NOTE

RUNNING will be displayed in lower right corner of crt screen for approximately 10 seconds. Upon successful completion of self calibration, **PASS** will be displayed above **SELF CAL** menu pushbutton.

g. Press **MENU OFF/EXTENDED FUNCTIONS** pushbuttons.

h. If TI displays **EXTENDED DIAGNOSTICS** menu, repeat **d** through **g** above. If TI displays **EXTENDED DIAGNOSTICS** menu again, corrective action must be taken before continuing procedure.

i. Select **TRIGGER MODE** and set **AUTO** to on.

j. Select **VERTICAL MODE** and set **CH 2** to on.

k. Select **CH 1 COUPLING/INVERT** and set **50 Ω ON/OFF COUPLING** to **ON**.

l. Select **CH 2 COUPLING/INVERT** and set **50 Ω ON/OFF COUPLING** to **ON**.

m. Set **A SEC/DIV** to **500 µs**.