

TB 9-6625-2083-35

CHANGE 2

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR OSCILLOSCOPE AN/USM-273 (OS-188U AND TEKTRONIX, TYPE 453) AND TEKTRONIX, TYPES 453A, 453A3, 453MOD703H, 454, 454MOD163D, AND 468

Headquarters, Department of the Army, Washington, DC

12 April 2005

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7 and 8
9 thru 12
21 thru 28
31 and 32
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Administrative Assistant to the
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General, United States Army
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CHANGE 1

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Headquarters, Department of the Army, Washington, DC
4 December 2003

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REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can improve this manual. If you find any mistakes, or if you know of a way to improve these procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: Commander, U.S. Army Aviation and Missile Command, ATTN: AMSAM-MMC-MA-NP, Redstone Arsenal, AL 35898-5000. A reply will be furnished to you. You may also provide DA Form 2028 information to AMCOM via e-mail, fax, or the World Wide Web. Our fax number is DSN 788-6546 or Commercial 256-842-6546. Our e-mail address is: 2028@redstone.army.mil. Instructions for sending an electronic 2028 may be found at the back of this manual. For the World Wide Web, use <https://amcom2028.redstone.army.mil>.

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SECTION I IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Oscilloscope AN/USM-273 (OS-188U and Tektronix, Type 453), and Tektronix, Types 453A, 453A3, 453MOD703H, 454, 454MOD163D, and 468. The 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. AN/USM-273 (OS188U) is the same as Tektronix, Type 453. TI's may vary in SN's circuit layout, adjustments, and component values. Where applicable these variations are indicated in this bulletin. TI's may have either BNC or UHF connectors.

b. Time and Technique. The time required for this calibration is approximately 3 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 on 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
AN/USM-273 (OS-188U) and Tektronix, Types 453, 453A, 453A3, and 453MOD703H	
Vertical deflection	Range: 5 mV/div to 10 V/div Accuracy: $\pm 3\%$
Risetime	7 ns or less
A and B sweep	Range: 5 s to .1 μ s/div except Type 453A3 reduced to .5 s and 50 ms/div respectively Accuracy: $\pm 3\%$
Calibrator	Range: .1 to 1 V p-p Accuracy: $\pm 1\%$
Repetition	Rate: 1 kHz Accuracy: $\pm .5\%$
Tektronix, Types 454 and 454MOD163D	
Vertical deflection	Range: 5 mV/div to 10 V/div Accuracy: $\pm 3\%$
Risetime	2.4 ns or less (20 mv range)
Sweep time	Range: 05 μ s/div to 5 s/div Accuracy: unmag $\pm 3\%$, mag $\pm 4\%$