

MIL-STD-1311B
NOTICE 3
4 March 1983

MILITARY STANDARD
TEST METHODS FOR ELECTRON TUBES

TO ALL HOLDERS OF MIL-STD-1311B

1. THE FOLLOWING TEST METHOD HAS BEEN REVISED AND SUPERSEDES THE TEST METHOD LISTED:

<u>REVISED METHOD</u>	<u>DATE</u>	<u>SUPERSEDED METHOD</u>	<u>DATE</u>
1501A	4 March 1983	1501	19 April 1968

2. RETAIN THIS NOTICE PAGE AND INSERT BEFORE THE TABLE OF CONTENTS.

3. Holders of MIL-STD-1311B will verify that changes and additions indicated above have been entered. The notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the Military Standard is completely revised or canceled.

Custodians:

Army - ER
Navy - EC
Air Force - 85

Preparing activity:

Navy - EC

(Project 5960-3311)

Review activities:

Army - MI, AR
Air Force - 11, 17, 99
DLA - ES

User activities:

Army - AV, ME, SM
Navy - AS, OS, MC, CG
Air Force - 19

Agent:

DLA - ES

MIL-STD-1311B
28 March 1975

METHOD 1501A - Continued

life test sample shall be used. Any tube found inoperable during life testing shall not be considered in the calculation of this average.

2.5 A resubmitted lot shall be subjected to all quality conformance inspection, part 1 and 2 tests, except the following:

- Vibration tests
- Shock tests
- Physical (including dimensions)
- Secureness of base, cap, or insert
- Lead fatigue
- Barometric pressure, reduced
- Base strain (miniature)
- Glass strain

2.6 Not more than one accidental breakage shall be allowed in the life-test sample. In the event that one life-test tube is accidentally broken, acceptability of the life-test sample shall be based upon the remaining tubes in the sample, provided the broken tube was not known to be a defective.

Supersedes METHOD 1501 of 19 April 1968.

METHOD 1501A

1501-2

METHOD 1501A
INTERMITTENT LIFE

1. When intermittent life-test is performed, the tubes shall be operated under the specified test conditions with the filament or heater supply interrupted periodically. There shall be 12 to 25 uniform cycles, totalling approximately 20 hours of "on" operation each 24 hours. The filament or heater supply shall be applied and removed instantaneously. Other potentials may be applied continuously, at the option of the manufacturer. The accumulation of the "on" time shall be the time considered in determining compliance with the minimum specified time value. The filament or heater-supply impedance shall not exceed 10 percent of the hot filament-load impedance. Warmup time, t_k , when specified on the TSS as a test condition for intermittent life test, shall be adhered to at the beginning of each "on" period. This is a destructive test.

2. Tube intermittent life-test procedure. Regular life test shall be in effect initially and shall continue in effect until the eligibility criteria for the reduced-hours life test have been met. Sampling shall be as specified in MIL-E-1. This is a destructive test.

2.1 Regular life test.

- (a) Regular life test shall be conducted for 500 hours.
- (b) Regular life-test acceptance shall be on the basis of the specified 200- and 500-hour life-test end-point limits.

2.2 Reduced-hours life test.

- (a) Eligibility for reduced-hours life tests is established when no first sample failure due to the regular 500-hour life test has occurred in the preceding 3 consecutive lots.
- (b) Reduced hours life test shall be conducted for 200 hours and acceptance shall be based on the 500-hour life-test end-point limits. Two 200-hour life-test lot failures occurring in the last 3 consecutive lots shall result in loss of eligibility for reduced-hours life testing.
- (c) The life-test sample from the first lot accepted each quarter shall continue on life test for an additional 300 hours (500 hours total life-test time). Failure of this sample to meet the 500-hour life-test end-point limits shall result in loss of eligibility for reduced-hours testing.

2.3 The life-test sample shall be read at the following times:

	0 hours
200	+24 hours
	-0
500	+24 hours
	-0

Additional reading periods may be used at the discretion of the tube manufacturer.

2.4 Acceptance criteria. The lot shall be considered satisfactory for acceptance if the specified allowable defects are not exceeded and the change in average of any characteristic in the life-test sample specified for life-test control of averages is not exceeded. The average percentage change shall be obtained from the determination of the individual changes for each tube in the life test sample from the zero-hour value for the specified characteristics. For purposes of computation of this average percentage change, the absolute values of the individual changes for each tube in the

Supersedes METHOD 1501 of 19 April 1968.