

DATE 11/17/54
SH. 1 OF 4
COMPILED BY
K.Z.

TMC SPECIFICATION NO. S-237

TITLE: PRODUCTION TESTING OF NF-104

JOB 170

APPROVED *AZ* *AJS*

COMPLETE TEST PROCEDURE
AND INSTRUCTIONS FOR
NF-104

DATE 11/17/54
SH. 2 OF 4

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KZ A.S.S.

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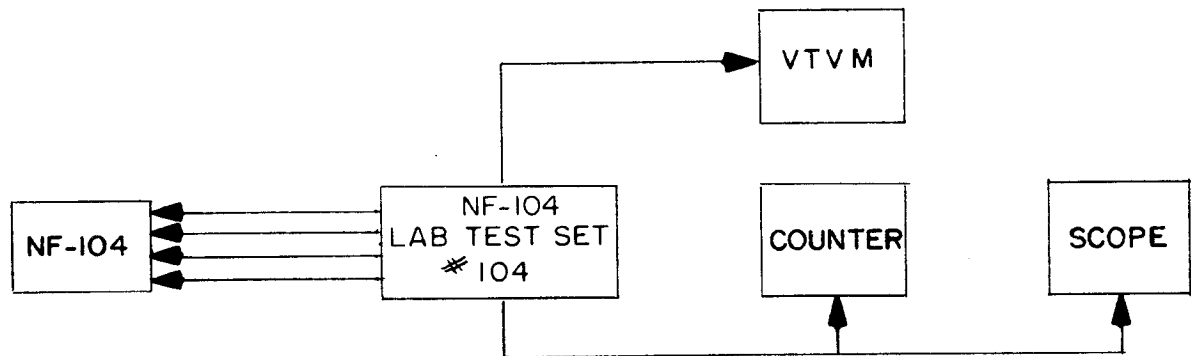
1. Purpose:

Determination of proper operation and elimination of defective units as a part of the manufacturing process.

2. Test Equipment Required:

- (a) 1 Lab Test Set # 104
- (b) 1 Frequency Counter, Berkeley 5500 or 5556
- (c) 1 V.T.V.M., AC type, Heathkit AV 2 or Daven type 170
- (d) 1 Oscilloscope, DuMont 304A or 304H

3. General Instrument Layout:



4. General Remarks:

There are altogether 15 types of the unit NF-104; theory of operation, design and construction are basically alike for all. The only point of difference between units is the choice of circuit constants and therefore, the frequency of operation. The design center frequency appears on each unit as a suffix to the model number NF-104. It follows from the foregoing that the test procedure also will be the same for all of the 15 types, with the exception of the fact that each unit will have to be tested for the specific frequency indicated by the type designation on the can.

5. Test Instructions:

- (a) Connect NF-104 under test to Lab Test Set by means of the **five** leads provided for this purpose. Make certain, that terminal numbers 1 through 4 correspond on test set and unit to be tested, also connect Can body to black lead.
- (b) Place control A in position 1; connect V.T.V.M. to J1; adjust control B for maximum amplitude of the waveform, while observing waveform carefully on scope. No distortion may be noticeable. Voltage reading to be between 2.0 and 5.0 volts (rms).
- (c) Adjust the control which forms part of NF-104 until the unit operates on the frequency indicated by the type designation on the can; accuracy: ±1 cps.

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This frequency must be obtained with the adjustable control in a position which is within +90 degrees from center of rotation in order to be acceptable.

- (d) While observing the wave shape on the scope, rotate control A rapidly several times between positions 2 and 3. If the unit is assembled correctly, no appreciable amplitude fluctuation will become apparent. Momentary cessation of oscillation as a result of this operation indicates improper assembly; the unit should be rejected.
- (e) Rotate control A to position 2 and note the indicated frequency.
- (f) Rotate control A to position 3 and note the indicated frequency.
- (g) Accept the unit on this test only, if:
 - 1- the difference in frequency between positions 2 and 3 of control A falls in the range of 80 cps to 85 cps.
 - 2- the difference in frequency between positions 1 and 2 falls within the range of 37 cps to 45 cps.
 - 3- the difference in frequency between positions 1 and 3 falls within the range of 37 cps to 45 cps.
- (h) Replacing control A to position 1, rotate the adjustable control of the unit NF-104 to the extreme clockwise end and note the frequency; repeat for the extreme counter clockwise end. Accept the unit on this test only if the difference in frequency between both extreme positions falls within the range of 8% to 14% of the frequency indicated by the type designation on the can.
- (i) Reajust the control as in step (c).

6. Acceptance Procedure:

If all tests specified in paragraph 5 are passed satisfactorily the unit should be stamped properly and accepted. The Test Report Sheet for the unit should be completed, signed and submitted to the supervisor.

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SAMPLE

THE TECHNICAL MATERIEL CORPORATION
MAMARONECK, NEW YORK

TEST REPORT SHEET NO. 1* MODEL: NF-104

For Each Item Check The Appropriate Column

	ACCEPT	REJECT
TEST 1: Distortion with 3.0 V at Jack 1
TEST 2: Center frequency with control +90 degrees from center of rotation
TEST 3: Amplitude fluctuation while rotating control A
TEST 4: Difference in frequency between positions 2 and 3 control A(80-85 cps)
TEST 5: Difference in frequency between positions 1 and 2 of control A(40-43 cps)
TEST 6: Difference in frequency between positions 1 and 3 of control A (40-43 cps)
TEST 7: Difference in frequency between both extremes of adjustable control (7% to 13% of center frequency)

Date _____ ACCEPTED _____
Tested By _____ REJECTED _____

tmc form 150

* This test report is for spare part orders only.

