

SIGNAL CORPS
REPAIR STANDARD

NO. REP-686
ISSUE NO. 1

REPAIRED EQUIPMENT STANDARD
FOR
HOMING BEACON AN/CRN-12

PROJECT 4422D

31 August 1953



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**SIGNAL CORPS
REPAIR STANDARD**

PREFACE

Signal Corps Repair Standards (formerly Signal Corps Repaired Equipment Requirements) are prepared by the Maintenance Engineering Branch, Procurement-Maintenance Engineering Division, Signal Corps Engineering Laboratories, and cover various items of signal equipments which are subject to repair, test and inspection. These repair standards are documents which set forth the specific repair requirements and test standards to be applied to the individual equipments being repaired and tested.

Signal Corps Repair Standards are prepared for the specific use of the fifth echelon Signal Repair Shops in repairing and determining the quality and acceptability of repaired signal equipments covered by these standards. The use of Signal Corps Repair Standards is recommended as a guide and reference for any agency having occasion to repair, test or inspect an item of signal equipment for which a repair standard has been prepared.

Signal Corps Repair Standard No. REP-1001 is a general standard and is subsidiary to any individual standard prepared. No individual standard is to be considered complete in itself, but is to be used in conjunction with Signal Corps Repair Standard No. REP-1001, "General Standards for Repaired Signal Equipment."

Reports of any discrepancies or any other constructive comments bearing upon this repair standard are invited. A series of Comments and/or Notes pages will be found in the back of this standard which are designed to facilitate reporting any inaccuracies noted. All such reports or comments as well as requests for additional copies, should be addressed to:

COMMANDING OFFICER
Signal Corps Engineering Laboratories, SIGEL-PMM-3
Fort Monmouth, New Jersey.

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REPAIRED EQUIPMENT STANDARD
FOR
HOMING BEACON AN/CRN-12

I. STATEMENT COVERING APPLICABILITY

This repair standard covers inspection requirements to be used in determining the quality and acceptability of repaired Homing Beacon AN/CRN-12. Its use is mandatory in the Maintenance Divisions of Signal Depots and the Signal Section of General Depots. The use, insofar as limitations of test and calibration equipment permit, is highly recommended for all Signal Repair organizations.

C A U T I O N 400 VOLTS

II. APPLICABLE REFERENCES

A. Repair Standards. Applicable paragraphs of the repair standards listed below form a part of this standard:

Title	Number
1. General Standards for Repaired Signal Equipment	REP-1001
2. Class "C" Receiver and Low Power Transmitter Vacuum Tubes	REP-242

B. Technical Publications. The following technical publication forms a part of this standard to the extent referenced herein:

Title	Number
Homing Beacon AN/CRN-12	TM 11-5046

NOTE: All applicable Modification Work Orders pertaining to this equipment shall be performed.

III. TEST AND ADDITIONAL EQUIPMENT

The following equipments, or suitable equivalents of known accuracy, will be employed in determining compliance with the requirements of this Signal Corps Repair Standard and will be capable of conforming to their respective Repair Standards:

A. Test Equipment

	Equipment	Stock Number	Number Used
1.	Multimeter TS-352/U	3F4325-352	1
2.	RF Ammeter MR-25W001RFAA	3F1001-33	1

B. Additional Equipment

	Item	Stock Number	Number Used
1.	Battery BB-54-A	3B54A	3
2.	Dummy Antenna TS-392/CRN-12	2A203A-392	1
3.	Radio Set SCR-536 OR Any AM radio receiver covering the range of at least 3.5 to 6 mc	2S536	1
4.	Crystal Holder FT-243 w/crystal	2X14- (frequency)	4

NOTE: The difference between the lowest and the highest frequency of the crystals to be used must not exceed 140 kc and the group of four crystals selected may be anywhere within the range of 3.5 and 6 mc.

IV. REQUIREMENTS

A. General Test Conditions. Tests will be conducted under the following conditions unless otherwise specified:

1. Dummy Antenna TS-392/CRN-12 shall be installed in accordance with instructions contained in TM 11-5046, paragraph 8c.

2. Select and insert suitable test crystals in accordance with paragraph 13b of the Technical Manual.

3. Supply voltage shall be 6 v DC.

B. Power Output

1. A 0 to 1 ampere RF ammeter shall be connected in series with the ground wire of the dummy antenna and the grounding screw located on top of the case. The AUT-OFF-MAN switch shall be set to the MAN position and the CRYSTAL FREQUENCIES switch to anyone of the crystal positions. Hold the manual key down for short intervals while tuning the ANT TUNING control. Observe the indication on the ammeter while tuning for maximum output. It may be necessary to change position of the BAND SWITCH to obtain a maximum reading. The maximum reading shall be between 0.7 and 0.9 ampere. Both the neon indicator lamp and the ammeter should indicate maximum at the same time. Repeat the above test for each of the four crystals to be used.

2. Adjust the transmitter for automatic frequency selection, following the instructions in paragraph 23a of the Technical Manual. During the 19 second dash, observe the reading on the ammeter. The reading shall be between 0.7 and 0.9 ampere for each of the four crystals used.

C. Operational Test. Disconnect the test equipment used in the power output test. Operate the transmitter in conjunction with Radio Set SCR-536, placed not less than 25 feet apart. With the transmitter adjusted for automatic transmission of a predetermined code letter and automatic selection of each of the four crystal controlled frequencies, the signals transmitted shall be in the following order on each of the four frequencies:

1. Eight 1-second dashes, interspersed with eight, 1-second off periods.
2. One 19-second dash.
3. Eight 1-second dashes, interspersed with eight, 1-second off periods.
4. Code letter.

The code letter received shall be easily copied on all of the frequencies used.

TEST DATA

Power Output

Measured Valve

Manual Operation - 0.7 to 0.9 amp _____ amp
Automatic Operation - 0.7 to 0.9 amp _____ amp

Operational Test

Satisfactory _____
Unsatisfactory _____

ATA/ss

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COMMENTS AND / OR NOTES