SIGNAL CORPS
REPAIR STANDARD

NO. REP-218
ISSUE NO. 1

REPAIRED EQUIPMENT STANDARD

FOR

AMPLIFIER BC-730-B and C

PROJECT 4422D

1 December 1952

SIGNAL CORPS ENGINEERING LABORATORIES

FORT MONMOUTH, N. J.

SIGNAL CORPS ENGINEERING LABORATORIES
PROCUREMENT-MAINTENANCE ENGINEERING DIVISION
MAINTENANCE ENGINEERING BRANCH

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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 standards 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, comments or requests for additional copies should be addressed to:

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

REPAIRED EQUIPMENT STANDARD FOR AMPLIFIER BC-730-B and C

I. STATEMENT COVERING APPLICABILITY

A. This repair standard covers inspection requirements to be used in determining the quality and acceptability of repaired Amplifier BC-730-B and C. Its use is mandatory in the Maintenance Divisions of Signal Depots and the Signal Sections of General Depots. The use, insofar as limitations of test and calibration equipment permit, is recommended for all Signal Repair organizations.

B. Safety Precautions

1. Exercise Safety Precautions at all times.
2. Select and apply the proper tools.
3. Avoid makeshift methods.
4. Don't damage yourself or the equipment.
5. BE CAREFUL

II. APPLICABLE REFERENCES

Applicable paragraphs of the following form a part of this standard:

A. Repair Standards

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

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

	Title	Manufacturer
1.	Preliminary Instructions for BC-730-B	Amplifier Corp. of America
2.	Instruction Book for BC-730-C	Transformer Corp. of America

III. TEST EQUIPMENT

A. The following test 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.

	Equipment	Stock Number	Number Used	REP
1.	Audio Oscillator SG-15/PCM	3F4325-427	1	-
2.	Distortion Meter TS-723/U	3F1722-5.4	1	-
3.	Electronic Multimeter ME-6/U	3F4073-20.6	1	-

B. Associated Equipment

	Equipment	Stock Number	Number Used	REP
1.	Headset HS-30	2B830	1	80

C. Accessories

	Item	Stock Number	Number Used
1.	Resistor, fixed, comp 600 ohms ±5% 1w		2

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IV. TEST REQUIREMENTS

A. General Test Conditions. General test conditions will be as follows:

1. Power supply will be 115 ±5 or 230 ±10 volts, 50-60 cycle, single phase, AC.

2. A 600 ohm 1 watt resistor will be used as a load.

3. An audio oscillator capable of furnishing an output signal from .01 to 2.5 volts with less than 2% distortion and a 600 ohm output impedance will be connected to the amplifier input and set at 400 cps.

4. A vacuum tube voltmeter will be set up to measure input and output voltage.

5. A distortion test set capable of measuring 5-10% total distortion from a 1.9 volt fundamental signal will be connected across the load resistor.

B. Detailed Tests. Detailed tests will be made as follows and the equipment shall meet the requirements indicated below and on the CHECK LIST on page 5.

1. Power Output. Standard power output is 6 milliwatts into 600 ohms (1.9 volts). The output shall remain constant within ±1 db (2.13 volts to 1.69 volts) as the input is varied between 0.034 and 0.106 volts (-35 to -25 db).

2. Frequency Response. The output shall remain constant within ±1 db (2.13 volts to 1.69 volts) as the frequency of the audio oscillator is varied from 100 to 4000 cycles per second.

3. Distortion. Total distortion, as measured at 400 cycles per second, at rated output (1.9 volts) shall not exceed 10% of the fundamental output signal.

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4. Noise Level. Remove the audio oscillator and connect a 600 ohm resistor across the input terminals of the amplifier. The output shall not exceed 0.019 volts (40 db below rated output).

5. Operational check. The output shall be monitored on a headset or loudspeaker (600 ohms impedance) as the equipment is operated at rated output for 30 seconds on a vibration table. There shall be no evidence of intermittents, microphonics, or other extraneous noises during this test.

CLW/jl

Army - Ft. Monmouth, N. J.

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APPENDIX A

Serial No._____

Date_____

CHECK LIST

FOR

AUDIO AMPLIFIER BC-730-B,C

	Test	Required Value	Measured Value
1.	Output (.034-.106 volts input)	2.13 volts max 1.69 volts min	
2.	Frequency Response (100-4000 cps)	2.13 volts max 1.69 volts min	
3.	Distortion	10% max (at rated output)	
4.	Noise Level	.019 volts max (40 db down)	
5.	Operational Check	(on Vibration table)	
	Intermittents	Absent	
	Microphonics	Absent	
	Noise	Absent	

Tested by_____

Inspector_____

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