

DEPARTMENT OF THE ARMY SUPPLY BULLETIN

Storage Serviceability Standard for USAECOM Material

AMPLIFIERS, AUDIO FREQUENCY

Headquarters, Department of the Army, Washington, D. C.

3 April 1970

	Paragraph	Page
Section I. INTRODUCTION		
Purpose	1	1
Scope	2	1
General	3	1
Definitions	4	2
Reporting of supply bulletin improvements	5	2
Section II. STORAGE AND SPECIAL INSTRUCTIONS		
Preservation, packaging, and packing	6	2
Marking	7	2
Storage	8	2
Appendix A. REFERENCES		3
B. FEDERAL STOCK NUMBERS AND TEST REQUIREMENTS		3
C. PRESERVATION, PACKAGING, AND PACKING		4
D. STORAGE QUALITY ASSURANCE PROVISIONS		6

SECTION I.

INTRODUCTION

1. Purpose. This bulletin provides a storage serviceability standard which establishes uniform criteria for determining the acceptability of the items designated herein for continued storage and /or issue, on the condition that all specifications and requirements applicable to the items have previously been met at the time of receipt from new procurement, or after repair, overhaul, or rebuild by a CONUS

depot maintenance shop.

2. Scope. This bulletin applies to all activities engaged in the receipt, storage, and issue of USAECOM Amplifiers, Audio Frequency listed in appendix 13 with the applicable Federal stock numbers.

a. General. It is the Army's objective to

attain and maintain a constant materiel readiness status for materiel in depot stocks. The scope of such an objective is of such magnitude that only general guidelines are provided by chapter 3, section VIII of TM 743-200-1 for the quality evaluation of materiel in the custody of supply and storage activities. This standard supplements TM 743-200-1 by providing a systematic procedure for storage cyclic inspection of the amplifiers specified in paragraph 2 and indicates the limiting degree of deterioration damage, unsatisfactory storage practices, and other characteristics which are acceptable. It also establishes the basis for identifying materiel requiring segregation remedial care and Preservation or reclassification action. Applicable requirements of the standard may be used for performing receipt and preshipment quality control inspections.

4. Definitions. *a.* Definitions for the majority of specialized terms used can be found in MIL-STD-109B.

b. Definitions for other specialized terms

are as follows:

(1) *Storage serviceability standard.* A written procedure providing storage methods and standards and prescribing the necessary requirements for the surveillance of materiel in storage.

(2) *Storage quality level (SQL).* That quality level applicable to storage sampling inspection expressed in terms of percent defective or defects per 100 units, whichever is applicable, specified for a given group of defects of a product. It is the maximum allowable accidental departure from specification requirements which can be tolerated.

5. Reporting of Supply Bulletin Improvements. Reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to Commanding General, U. S. Army Electronics Command, ATTN AMSEL-ME-NMP-EM, Fort Monmouth, N. J. 07703.

SECTION II.

STORAGE AND SPECIAL INSTRUCTIONS

6. Preservation Packaging, and Packing. Preservation, packaging, and packing will be in accordance with the requirements listed in appendix C. Items designated by 17-digit code shall be preserved and packaged in accordance with MIL-STD-726C; packing shall conform to the requirements specified in MIL-P-55585 (EL). Items designated by military specifications shall be preserved, packaged, anti packed in accordance with the requirements in the cited specification. Items designated by an asterisk (*) shall be preserved, packaged, and packed in accordance with the special instructions cited for the item.

7. Marking. Marking will be in accordance with MI L-ST D-129D.

8. Storage. *a. Type.* Controlled humidity warehouse or heated warehouse,

b. Age Control. Amplifiers will be issued on a first-in-first-out (FIFO) basis by date of manufacture, or date of rebuild.

c. Shelf Life. Amplifiers are subject to deterioration during storage and are required to be inspected and tested as specified in appendix D.

APPENDIX A

REFERENCES

MIL-A-10233	Amplifier, Audio Frequency AM-864/U.
MIL-A-13290	Amplifier, Audio Frequency AM-20/TIQ-2.
MIL-P-13616	Public Address Set AN/TIQ-3, Packaging and Packing.
MIL-P-55585 (EL)	Packing and Marking Requirements for Southeast Asia and Stratcom and Preparation for Delivery Requirements of Electronics Equipment and Components.
MIL-STD-109B	Quality Assurance Terms and Definitions.
MIL-STD-129D	Marking for Shipment and Storage.
MIL-STD-726C	Packaging Requirements Code.
TM 743-200-1	Storage and Materials Handling.

APPENDIX B

FEDERAL STOCK NUMBERS AND TEST REQUIREMENTS

Type	FSN	Publication	Test requirements
AM-20/TIQ-2	5830-164-6626	TM 11-2586	Paragraphs 101 through 108.
AM-34/TIQ-3	5830-164-7276	TM 11-2531	Paragraphs 41 through 45.
AM-92/TI	5830-162-8262	*REP 778	Perform all tests.
AM-465/FR	5830-503-3362	TM 11-5101	Paragraphs 53 through 55.
AM-864/U	5830-503-0927	TM 11-5081	Paragraphs 56 through 62.
AM-871/U	5830-503-3353	TM 11-2573B	Chapter 6.
AM-1003/G	5830-537-3947	TM 11-5830-220-35	Chapter 4.

*This REP publication may be obtained from Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-ME-NMP-PS, Fort Monmouth, N.J. 07703.

APPENDIX C

PRESERVATION, PACKAGING, AND PACKING

<i>Type</i>	<i>Requirements</i>
AM-20/TIQ-2	MIL-A-13290
AM-34/TIQ-3	MIL-P-13616
AM-92/TI	4Q-1-1-00-00-JJ-X-ED-0-00-A
AM-465/FR	4Q-1-1-00-00-JJ-X-ED-0-00-A
AM-864/U	MIL-A-10233
AM-871/U*	
AM-1003/G	4Q-1-1-00-00-JJ-X-ED-0-00-A

*Special packaging instructions (para 1, 2, and 3).

1. Preservation and Packaging. Preservation and Packaging shall be level A or C, as specified.

a. Level A.

(1) *Cleaning*. Cleaning shall be accomplished in accordance with process C-1 of MIL-P-1 16.

(2) *Drying*. Drying shall be accomplished in accordance with the applicable procedure of MIL-P-116.

(3) *Preservation application*. None required.

(4) *Unit packaging*. Unit packaging shall be in accordance with the methods prescribed in MIL-P-116 and as specified in this appendix.

(a) *Technical literature*. Each technical literature shall be packaged method 1C-1.

(b) *Electron tubes*. All tubes not securely clamped in place shall be removed and, with spare tubes, shall be individually packaged in accordance with MIL-E-75.

(c) *Fuses*. All fuses shall be packaged in accordance with method III as follows: Cushion the fuses by wrapping together in paperboard conforming to PPP-P-291, type I. Secure wrap with gummed paper tape conforming to PPP-T-45, type III, grade A.

(d) *Lamp*. Each lamp shall be packaged individually according to method III as follows: Cushion each lamp by wrapping in paperboard conforming to PPP-P-291, type I. Secure wrap with gummed paper tape

conforming to PPP-T-45, type III, grade A.

(e) *Connector*. Each connector shall be packaged individually according to method 1C- 1 as follows: Cushion each connector by wrapping in paperboard conforming to PPP-P-291, type I. Place each wrapped connector within a bag fabricated of material conforming to MIL-B-121, grade A, class I, type I or II, or transparent material conforming to type II of MIL-F-22191. Heat-seal bag.

(f) *Consolidated package*. Consolidate the items packaged as specified in 1a(4)(b) through 1a(4)(e) above within a close-fitting fiberboard box conforming to PPP-B-636, type CF, class weather resistant. Fill all voids with paperboard conforming to PPP-P-291, type III, to prevent movement. Box closure shall be as specified in the appendix of the box specification.

(g) *packaging development*. Each Amplifier, Audio Frequency AM-871()/U shall be individually packaged according to method III as follows: Cushion each amplifier on all surfaces with cells or pads or both conforming to PPP-F-320, W5C, weather-resistant designed and fabricated to protect all projections and absorb the shock of impact in handling and transit. Fabricate a U-shaped wood blocking frame the width and height of the fiberboard box to house and protect the consolidated spare parts package. Place the packaged amplifier with the wood blocking frame and the spare parts consolidated package as specified in 1a(4)(f) above to gether within a close-fitting fiberboard box conforming to PPP-B-636, W5C, weather-re-

sistant. Place the technical literature packaged as specified in 1a(4)(a) above in the box directly under the lid of the box. Box closure shall be as specified in the appendix of the box specification.

b. *Level C. Amplifier, Audio Frequency AM-871()/U* shall be packaged in a manner that will afford adequate protection against corrosion deterioration and damage during shipment from the supply source to the first receiving activity.

2. Packing. Packing shall be level A, B, or C as specified.

a. *Level A.*

(1) *Palletized load.* A quantity of Amplifier AM-871()/U packaged as specified in paragraph 1 above shall be placed on a pallet, load type I, conforming to MIL-STD-147. A fiberboard cap shall be employed over the load having two sides extending down the stacked load at least 12 inches to accommodate marking requirements. The cap shall be fabricated of fiberboard conforming to PPP-P-320, class weather-resistant, W5s. The load shall be *bonded* to the pallet by strapping.

(2) *Less than palletized load.* When quantities per destination are less than a pallet load, a quantity of items packaged as specified in paragraph 1 above shall be

packed with a close-fitting fiberboard box conforming to PPP-B-640, class 2, grade A, style E or MIL-B-43291. Closure shall be in accordance with the appendix of the applicable box specification. Reinforcing shall be by nonmetallic strapping or pressure-sensitive filament tape banding conforming to PPP-S-760, type II or PPP-T-97, type IV, respectively; selection of the material and application shall be in accordance with the appendix of the applicable box specification.

b. *Level B. Amplifier AM-871()/U*, packaged as specified in paragraph 1 above, shall be packed as specified in a above.

c. *Level C. Amplifier AM-871()/U*, packaged as specified in paragraph 1 above, shall be packed as specified in a above except that pallets, fiberboard boxes, and fiberboard caps shall be of the type and size commonly used for the purpose, and shall comply with the rules and regulations of the common carrier as applicable to the mode of transportation. Packing shall be accomplished in a manner that will afford adequate protection to the package and its contents during shipment from the supply source to the first receiving activity.

3. Inspection. Inspection of military packaging shall be in accordance with MIL-P-116.

APPENDIX D

STORAGE QUALITY ASSURANCE PROVISIONS

1. **Index Number.** The four-digit index number of this storage quality assurance provision (SQAP) (reserved for future use in automatic data processing) is to be assigned.

2. **Federal Stock Number.** Each item listed in appendix B, with its Federal stock number, is subject to the provisions of this SQAP.

3. **Definitions.** Special terms used in this SQAP are defined as follows:

a. Acceptance Quality Level (AQL). The nominal value expressed in terms of percent defective or defects per 100 units, whichever is applicable, specified for a given group of defects of a product. It is the maximum allowable accidental departure from specification requirements which can be tolerated.

b. Storage Quality Level (SQL). That quality level applicable to storage sampling inspection expressed in terms of percent defective or defects per 100 units, whichever is applicable, specified for a given group of defects of a product. It is the maximum allowable accidental departure from specification requirements which can be tolerated.

c. Defect. Any nonconformance of the unit of product with specified requirements.

d. Defective Unit. A unit of product which contains one or more defects.

e. Critical Defect. A defect that judgment and experience indicate is likely to result in hazardous or unsafe conditions for individuals using, maintaining, or depending on the product performance of the tactical function of a major end item, such as a ship, aircraft, tank, missile, or space vehicle.

f. Major Defect. A defect other than critical that could result in failure, or materially reduce the usability of the product for its intended purpose.

g. Minor Defect. A defect that does not materially reduce the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

h. Mechanical-Visual Inspection. An inspection by visual means to observe the item and/or its packaging and packing to detect deficiencies. Mechanical-visual inspection may require disassembly.

i. Technical Inspection. A complete functional inspection including disassembly, where required, and performance testing and/or laboratory testing.

4. **Specifications, Technical Manuals, and Other Documents.** The following documents, of the latest issue in effect, contain inspection and testing information, data, and instructions applicable to these quality assurance provisions:

<i>Publication</i>	<i>Title</i>
DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, and Lubrication Orders.
DA Pam 310-7	U. S. Army Equipment Index of Modification Work Orders.
AR 725-50	Requisitioning, Receipt, and Issue System.
MIL-P-116	Preservation, .Methods of.
MI L-P-11268F	Parts, Materials and Processes Used in Electronic Communication Equipment.
MIL-M-13231A	Marking of Electronic Items.
MIL-STD-105D	Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-109B	Quality Assurance Terms and Definitions.
MIL-STD-129D	Marking for Shipment and Storage.
MIL-STD-130C	Identification .Marking of U. S. Military Property.
MIL-STD-252A	Wired Equipment, Classification of Visual and Mechanical Defects.
MIL-STD-726C	Packaging Requirements Code.
TB SIG 355-1	Depot Inspection Standard for Repaired Signal Equipment.
TB SIG 355-2	Depot Inspection Standard for Refinishing Repaired Signal Equipment.
TB SIG 355-3	Depot Inspection Standard for Moisture and Fungus Resistant Treatment.

<i>Publication</i>	<i>Title</i>
TB SIG 355-4	Depot Inspection Standard for Balancing Rotating Parts and Assemblies.
TB 750-236	Calibration Requirements for the Maintenance of Army Materiel.
*REP 778	Specific Standard for Audio Amplifier AM-92/TI, AM-92B/TI.
TM 11-2531	Public Address Set AN/TIQ-3.
TM 11-2573B	Audio Frequency Amplifiers AM-87 I/U and AM-871A/U.
TM 11-2586	Operator, Organizational, DS, GS, and Depot Maintenance Manual Including Repair Parts and Special Tools List: Public Address Sets AN/TIQ-2A and AN/TIQ-2B.
TM 11-5081	Audio Frequency Amplifier AM-864/U.
TM 11-5101	AF Amplifier AM-465/FR.
TM 11-5830-220-35	DS, GS, and Depot Maintenance Manual: Amplifier, Audio Frequency AM-1003/G.
TM 38-750	Army Equipment Record Procedures.

*This REP publication may be obtained from Commanding General, U. S. Army Electronics Command, ATTN: AMSEL-ME-NMP-PS, Fort Monmouth, N. J. 07703.

5. Other Directives.

<i>Publication</i>	<i>Title</i>
AR 795-17	General Policies and Principles for Furnishing Army Materiel on a Grant Aid Basis.
AR 795-204	General Policies and Principles for Furnishing Defense Articles and Services on a Sale or Loan Basis.

6. Inspection Criteria. *a. Lot Criteria.*

(1) *Lot definition.* A lot is defined as a group of like items, from which a sample is to be drawn and inspected to determine conformance with the acceptability criteria. The following are examples:

(a) A group of like items in storage which were received in a shipment with the following identical markings:

1. Purchase order number.
2. Date packaged or packed.
3. Depot certification stamp and date.

(b) A group of like items repaired or rebuilt by the Maintenance Division in one production run.

(2) *Lot formation.* The items shall be assembled into identifiable lots. Each lot shall, as far as practicable, consist of units

of product of a single type, grade, class, size, and composition manufactured, repaired, or rebuilt at the same time and stored under the same conditions.

(3) *Lot size.* The lot size is the total number of individual like items in the lot that is to be inspected.

b. *Sampling Procedure.*

(1) *Sample selection.* Select samples of materiel in a way which will assure that each unit in the lot has an equal chance of being selected. Biased methods, such as selecting items from the same position in a cent airier, pallets, or stacks; taking items all from one location; or selecting items that appear defective, will not be used.

(2) *Sample size.* Use table I of MIL-STD-105D, General Inspection Level II, to obtain the sample size code letter, and table II-A of MIL-STD-105D to obtain the sample size using the storage quality levels shown in (3) below.

(3) *Storage quality levels (SQL).*

(a) Mechanical-visual inspection: Critical SQL 1.0 percent; major SQL 2.5 percent; minor SQL 10 percent.

(b) Electrical: Critical SQL 1.0 percent; major SQL 2.5 percent.

(c) Preservation, packaging, packing, and marking: Major SQL 4.0 percent; minor SQL 10 percent.

(d) The acceptance or reject number for the above SQL's shall be the same as those shown for comparable acceptance quality levels (AQL's) in table II-A of MIL-STD-105D.

c. *Inspection Requirements.* The following mechanical-visual inspections shall be performed:

(1) Inspect case for physical damage, condition, and finish.

(2) Inspect all controls and switches for proper operation and loose or missing hardware.

(3) Inspect all connectors, plugs, and cord receptacles for condition and damage.

(4) Inspect assembly for physical damage, condition, missing parts, foreign objects, and finish.

(5) Inspect cabling and wiring for po-

tential short circuits, cuts, breaks, fraying, deterioration kinks, and strain.

(6) Inspect solder connections for missing solder, cold solder, insufficient solder, excessive solder, and improper wrap.

(7) Inspect for illegible, incorrect, or missing markings.

(8) Inspect for corrosion, dirt, moisture, and fungus.

(9) Inspect all parts and hardware for damage and condition.

d. *Test Requirements.* Perform those tests that are specified for each amplifier listed in appendix B.

e. *Defect Classification.*

(1) *Mechanical-visual.*

(a) *Critical.* Refer to the definition of a critical defect.

(b) *Major.*

1. Damage due to handling or storage (crushed, deformed, or broken).

2. Soldering: defects as listed in MIL-STD-252A.

3. Solderless connectors: defects as listed in MIL-STD-252A.

4. Cabling and wiring: defects as listed in MIL-STD-252A.

5. Hardware: defects as listed in MIL-STD-252A.

6. Foreign objects: defects as listed in MIL-STD-252A.

7. Potential short circuits: defects as listed in MIL-STD-252A.

8. Finish: defects as listed in MIL-STD-252A.

9. Marking: defects as listed in MIL-STD-252A.

10. Parts: defects as listed in MIL-STD-252A.

11. Contacts: defects as listed in MIL-STD-252A.

12. Plating, painting, or MFP missing.

13. Dimensional: a dimensional defect which directly affects interchangeability, assembly, or operation.

(c) *Minor.*

1. Soldering: defects as listed in MIL-

STD-252A.

2. Solderless connectors: defects as listed in MIL-STD-252A.

3. Cabling and wiring: defects as listed in MIL-STD-252A.

4. Hardware: defects as listed in MIL-STD-252A.

5. Finish: defects as listed in MIL-STD-252A.

6. Marking: defects as listed in MIL-STD-252A.

7. Parts: defects as listed in MIL-STD-252A.

8. Contacts: defects as listed in MIL-STD-252A.

(2) *Electrical.*

(a) *Critical.* Refer to the definition of a critical defect.

(b) *Major.* Any electrical defect, other than critical, that does not meet the requirements specified for each item shall be considered a major defect.

(c) *Minor.* None. All electrical defects shall be considered critical or major, as applicable.

(3) *Packaging and marking — major.*

(a) Use of improper or defective material.

(b) Quantity in unit package not as specified.

(c) Incorrect packaging method applied.

(d) Cushioning or padding omitted.

(e) Cushioning or padding inadequate for the protection of the barrier material from projections, sharp edges, or other similar features of the item.

(f) Cushioning inadequate for the physical and mechanical protection of the item.

(g) Unsealed, punctured, or improperly sealed barrier bag, wrap, or envelope.

(h) Stock number omitted, incorrect, or illegible.

(i) Nomenclature omitted, incorrect, or illegible.

(j) Marking of quantity of items in package omitted, incorrect, or illegible.

(k) Different stock numbered items in the same unit package.

(4) *Packaging and marking - minor.*

(a) Item not properly blocked or braced within the unit package to prevent movement.

(b) Packaging material damaged.

(c) Conforming or cushioning wraps are not snug fitting and contain voids.

(d) Air not expelled from barrier prior to sealing.

(e) Any item of marking information other than (3)(h), (i), and (j) above listed under major defects omitted, incorrect, or illegible.

(5) *Packing and marking - major.*

(a) Use of improper or defective material.

(b) Quantity in pack not as specified.

(c) Gross weight in excess of specified amount.

(d) Box closure not as specified.

(e) Type, grade, class, and style of the shipping container not as specified.

(f) Strapping omitted (when required).

(g) Strapping inadequate or incorrectly applied (when required).

(h) Items not adequately blocked, braced, or cushioned within the shipping container to prevent movement or damage.

(i) Shipping documents or packing list omitted.

(j) Stock number omitted, incorrect, or illegible.

(k) Nomenclature omitted, incorrect, or illegible.

(l) Marking of quantities of items in pack omitted, incorrect, or illegible.

(m) Destination marking omitted, incorrect, or illegible.

(n) Special marking or labeling (when required) omitted, incorrect, or illegible.

(o) Overseas code marking (when required) omitted, incorrect, or illegible.

(6) *Packing and marking - minor.*

(a) Unsealed carton.

(b) Defective taping or sealing of carton.

(c) Any other box defect which may be considered minor by definition of MIL-STD-105.

(d) Any item of required marking information other than (5)(j) through (o) above listed under major defects omitted, incorrect, or illegible.

f. Calibration of Measuring and Test Equipment. All measuring and test equipment shall have been calibrated and certified within its prescribed period, in accordance with TB 750-236 before use. Certification shall be affixed in such a way as to preclude any altering or tampering.

g. Storage Inspection Records. Results of inspections and tests shall be recorded on data sheets and a copy attached to each unit.

7. Inspection Frequency. *a.* Controlled humidity warehouse: 60 months.

b. Heated warehouse: 36 months.

c. Unheated warehouse: 18 months.

8. Type of Storage. Controlled humidity warehouse or heated warehouse.

9. Other Instructions. *a. Rejected Lots.* Each rejected lot shall be tagged and reclassified into the proper condition code in accordance with AR 725-50. For other than new material, all defective units in a lot shall be repaired, or disposition requested in accordance with AMC and depot procedures.

b. Repackaging of Samples Inspected. Restore the packaging of the samples inspected and accepted to the level of the lot from which the samples were drawn.

10. Special Requirements. If the subject items are allocated for Foreign Military Sales, Grant Aid, or Loan, the following additional requirements must be met:

a. Policies and Special Conditions.

<i>Publication</i>	<i>Title</i>
AR 795-17	General Policies and Principles for Furnishing Army Materiel on a Grant Aid Basis.
AR 795-204	General Policies and Principles for Furnishing Defense Articles and Services on a Sale or Loan Basis.
DD Form 1513	Offer and Acceptance.

Note. Special terms, conditions, and agreements with the customer country and shown on DD Form 1513 must be complied with as well as any special instructions from the responsible commodity command.

b. Basic Issue List Items (BILI). BILI deck, normally furnished to the depots by USAECOM BILI Office, Lexington Blue Grass Army Depot, Lexington, Ky. office symbol AMSEL-ME-NMP-MR-L, shall be used.

c. Level A Packaging and Packing. Level A packaging and packing is mandatory for Foreign Military Sales and Grant Aid shipments.

d. Depot Documentation. Depot documentation of final acceptance shall be furnished the ECOM quality check team *before* ECOM inspection.

By Order of the Secretary of the Army:

Official:

KENNETH G. WICKHAM,
*Major General, United States Army,
The Adjutant General.*

W. C. WESTMORELAND,
*General, United States Army,
Chief of Staff.*

Distribution

Active Army:

CNGB (1)	USAMECOM (3)
ACSC-E (2)	USAWECOM (3)
USAARENBD (1)	Armies (2)
USACDCCEA (1)	Corps (2)
USACDCCEA, Ft Huachuca (1)	USAESC (40)
USAMC (1)	USARV (5)
USCONARC (5)	Depots (2) except
ARADCOM (2)	SAAD (50)
OS Maj Comd (4)	LBAD (20)
USASTRATCOM (2)	TOAD (20)
LOGCOMD (2) except	LEAD (7)
1st LOGCOMD (5)	ANAD (10)
9th LOGCOMD (5)	ATAD (10)
USAMICOM (3)	Gen Deps (2)
USAECOM (3)	Sig Sec Gen Deps (5)
USATECOM (3)	Sig Deps (12)
USAMUCOM (3)	

NG: State AG (3).

USAR: None.

For explanation of abbreviations used, see AR 310-50.