

**MIL-HDBK-161**

**DEPARTMENT OF THE ARMY TECHNICAL MANUAL TM 11-487A**  
**DEPARTMENT OF THE NAVY PUBLICATION NAVEXOS P-2058**  
**DEPARTMENT OF THE AIR FORCE TECHNICAL ORDER TO 31-3-73**

# **MILITARY HANDBOOK**

## **ELECTRONIC COMMUNICATION EQUIPMENT**





\* TM 11-487A/NAVEXOS P-2058/TO 31-3-73

DEPARTMENTS OF THE ARMY, THE NAVY,  
AND THE AIR FORCE  
WASHINGTON 25, D. C., 11 June 1959

TM 11-487A/NAVEXOS P-2058/TO 31-3-73 is issued for the use of all concerned.

[AG 413.44 (23 Apr 59)]

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USA Elet PG (6)  
Frankford Arsenal (2)

Redstone Arsenal (2)  
Detroit Arsenal (2)  
Sig Fld Maint Shops (2)  
Yuma Test Sta (2)  
Boston Army Base (2)  
Brooklyn Army Base (2)  
Units organized under following  
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11-587 (1)  
11-592 (1)  
11-597 (1)

NG: None.

USAR: None.

For explanation of abbreviations used, see AR 320-50.



MIL-HDBK-161

**MILITARY HANDBOOK**

**ELECTRONIC  
COMMUNICATION EQUIPMENT**



**OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE  
(SUPPLY AND LOGISTICS)  
WASHINGTON 25, D. C.**



DEPARTMENT OF DEFENSE  
OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE  
(SUPPLY AND LOGISTICS)  
Washington, D. C.

Electronic Communication Equipment  
Supply and Logistics  
Standardization Military Handbook 161

1. This handbook was prepared by the United States Army under the direction of the Assistant Secretary of Defense (Supply and Logistics).

2. This handbook was approved for printing and inclusion in the Supply and Logistics series of handbooks.

3. This handbook is designed to supplement department manuals and directives and is intended for use in the standardization to the greatest extent possible, of the design, development, procurement, and application of military electronic communication equipment.

4. Every effort has been made to reflect the latest data and information on electronic communication equipment of current interest to each of the Departments of the Department of Defense. This handbook is to be reviewed and supplemented, periodically, to insure its completeness and currency. Those making use of this document are encouraged to report any errors and/or omissions discovered and any recommendations for changes or inclusions to the custodians.

Copies may be obtained by requisitioning through normal publications supply channel.

**Custodian:**

Army—Signal Corps

Navy—Bureau of Ships

Air Force—Air Materiel Command



## ELECTRONIC COMMUNICATION EQUIPMENT

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\* For complete lists of specific items covered in this handbook, refer to appendixes II and III.



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## INTRODUCTION

### 1. Purpose

This publication presents data and information on the technical, physical, operational, and logistical characteristics of the electronic communication equipment used in the Department of Defense. It is intended primarily for use by the standardization, design, development, and procurement activities of the Department of Defense, and in the technical planning and coordinating of logistical operations involving the use and maintenance of military equipment in a theater of operations.

### 2. Scope

This publication contains information on electronic communication equipment that is used by the Army, the Navy, and the Air Force to establish communication systems for military purposes. It covers equipments used in both wire and radio communication systems, and includes equipment for use at all echelons of command.

### 3. Arrangement of Content

a. Items of equipment are arranged and identified in accordance with type nomenclature designations of the Joint Electronics Type Designation System, or "AN" System, as described in MIL-STD-196. This system is an alphabetical arrangement of basic indicators, followed by a numerical arrangement of types of equipment for each set or series of basic indicators.

b. Items of equipment with service, commercial, or other types of nomenclature are arranged under the most appropriate TYPE of AN System/indicator nomenclature. Within each set or series of basic AN/TYPE designation, equipments are arranged numerically and alphabetically. All such

AN/TYPE designations follow items of equipment arranged as outlined in *a* above.

#### Examples:

AN/ARC-33	AN/FRR-3	AN/GRR-3
AN/ARC-34	AN/FRR-4	AN/GRR-5
AN/ARC-36	AN/FRR-7	AN/GRR-7
AN/ARC-type	AN/FRR-type	AN/GRR-type
SCR-274	RAO	BC-312
SCR-522	RBF	R-247/URR
SCR-542	RBP	RCF

c. Items not bearing set designations of the AN series can be readily located by reference to Appendix II or III. Appendix II is arranged in alphabetical sequence by official nomenclature. This appendix includes all items of equipment described in this publication, and the listing is maintained in narrative style, rather than in normal catalog style. For example, Frequency-Shift Converter CV-115( )/URR is listed under F, instead of under C for Converter, Frequency-Shift. Appendix III also contains a complete listing of all items covered in this publication, arranged in alpha-numerical order by assigned type number, regardless of whether the type number was assigned by a specific department or under the Joint Electronics Type Designation System. Commercial equipments are listed by their manufacturer's number within this appendix. All items listed in Appendix II also show the arbitrarily assigned type designation used in this publication.

*Note.* Assignment of an item to a particular type designation within this publication is arbitrary, and should not be construed as a limitation or indication that this equipment is suitable for use only as implied by its classification herein.

d. For convenience, Table I is a listing of the meanings assigned to the first, second, and third letters of the three-letter group following the AN/ of the Joint Electronic Type Designation System.

Table I. Set or Equipment Indicator Letters

1st Letter Installation	2nd Letter Type of equipment	3rd Letter Purpose
A—Airborne (installed and operated in aircraft). B—Underwater mobile, submarine.	A—Invisible light, heat radiation. B—Pigeon. C—Carrier (wire).	A—Auxiliary assemblies (not complete operating sets). B—Bombing.

Table I. Set or Equipment Indicator Letters—Continued

1st Letter Installation	2nd Letter Type of equipment	3rd Letter Purpose
C—Air transportable (inactivated, do not use).	D—Radiac.	C—Communications (receiving and transmitting).
D—Pilotless carrier.	F—Photographic.	D—Direction finder.
F—Fixed.	G—Telegraph or teletype (wire).	G—Gun or searchlight directing.
G—Ground, general ground use (includes two or more ground installations).	I—Interphone and public address.	H—Recording (photographic, meteorological and sound).
K—Amphibious.	K—Telemetering.	L—Searchlight control (inactivated, use "G").
M—Ground, mobile (installed as operating unit in a vehicle which has no function other than transporting the equipment).	L—Countermeasures (inactivated, do not use).	M—Maintenance and test assemblies (including tools).
P—Pack or portable (animal or man).	M—Meteorological.	N—Navigational aids (including altimeters, beacons, compasses, racons, depth sounding, approach and landing).
S—Water surface craft.	N—Sound in air.	P—Reproducing (photographic and sound).
T—Ground, transportable.	P—Radar.	Q—Special, or combination of types.
U—General utility (includes two or more general installation classes, airborne, shipboard and ground).	Q—Sonar and underwater sound.	R—Receiving.
V—Ground, vehicular (installed in vehicle designed for functions other than carrying electronic equipment, etc., such as tanks).	R—Radio.	S—Detecting and/or range and bearing.
W—Ship, submarine	S—Special types, magnetic, etc. or combinations of types.	T—Transmitting.
	T—Telephone (wire).	W—Remote control.
	V—Visual and visible light.	X—Identification and recognition.
	X—Facsimile or television.	

#### 4. Glossary of Abbreviations

Appendix I contains a glossary of the standard abbreviations used in this publication. The abbreviations are listed in alphabetical order, together with the exact terminology of the word or phrase for which the abbreviation is used.

#### 5. Details of Content

Descriptions of individual items of equipment in this publication are all organized in a standard format. The first page of each item usually contains all information necessary for general and rapid identification of the equipment, including a photograph, if available. Information more often required after selection and identification of an item generally appears on the second page of an item description.

a. Normally the latest model or models of equipment are used as a basis of the descriptive matter. The nomenclature type-designation printed at the top of each page indicates the specific item or model of an item covered by material on that page. The use of parentheses ( ) in the type-designation at the top of each page is intended to indicate coverage of more than one model of the item; if only specific items are covered by an entry, each item so covered is listed at the top of each page of that entry.

b. The *Cognizant Service* is defined as that service responsible for procuring the item of equipment and/or applying for its official nomenclature.

c. *FSN* is the Federal Stock Number assigned to the item for supply cataloguing. The FSN is a combination of the Federal Supply Classification number and the Federal Item Identification Number.

d. The meaning of the various terms used to describe the status—or *type classification*—of items of equipment covered in this publication are defined in paragraph 6. Also included in the publication are items which have not been assigned formal or official type classification, but which have been issued and are available for, or are in, current use (par. 6d).

e. Where available, a *photograph* of each item of equipment has been included. Some larger, complex items have been illustrated with stylized drawings. The photograph often does not show the entire equipment—most minor accessories have been deleted from the photographs, and some of the illustrations may not show all the major operating components. However, if major operating components are not shown in the accompanying illustration, this fact generally is stated in the accompanying functional description.



f. Data pertaining to the *major components* usually includes only the *major operating* components. To conserve space, power equipment often is not included in this listing. Such accessory items as headsets, handsets, and antennas generally are not included in the listings. Interconnecting cables and wire is not listed, even though it may be furnished with the item of equipment. In general, where a complete detailed listing of components is needed, refer to the appropriate supply documents that pertain to the specific item of equipment concerned.

g. *Shipping Data*, which is given in tabular form, includes the number of packages, total volume, and total weight of the equipment when packaged for shipment. Unless otherwise specified, the data refers to export shipment packaging.

h. That service having *Procurement Cognizance* for an item of equipment is defined as the Procuring Service.

i. The following breakdown of *Design Cognizance* is used throughout this publication:

USA, Sig C.....	United States Army, Signal Corps
USN, BuAer.....	United States Navy, Bureau of Aeronautics.
USN, BuOrd.....	United States Navy, Bureau of Ordnance.
USN, BuShips.....	United States Navy, Bureau of Ships.
USAF, RADC.....	United States Air Force, Rome Air Development Center.
USAF, WADC.....	United States Air Force, Wright Air Development Center.

## 6. Type Classification Definitions

Each Department of the Department of Defense uses its own system of status of equipment classification.

a. *U.S. Army Definitions.* The following terms are used by the U.S. Army to describe the status of its equipment:

- (1) *Standard* type is used to designate the most advanced and satisfactory item or assemblage that has been adopted and is preferred for procurement. Normally, there will be only one standard type of each requirement.
- (2) *Substitute standard* type is used to designate an item or assemblage which is not so satisfactory as the standard type, but is a usable substitute therefor, and may be procured only to supplement the supply of the standard type.

(3) *Limited standard* type is used to designate an item or assemblage that is less satisfactory than the standard or substitute standard type but which is acceptable and used as a substitute therefor until the supply is exhausted unless specific exception is made by the General Staff. A limited standard type item or assemblage is considered as an asset in the Army supply system to the extent to which it is determined acceptable for meeting supply demands for the standard or substitute standard items. Care must be exercised to insure that limited standard types acceptable solely for certain specific purposes such as training are not considered as assets for meeting operational requirements. Additional complete units of limited standard types will not be procured, but component parts and accessories may be procured by purchase, manufacture, or cannibalization as necessary to maintain the complete items in serviceable condition throughout an economical and reasonable life expectancy.

(4) *Obsolete* type is a type of item or assemblage which has been declared unsuitable for military (Army) use. Obsolete items will not be issued and will be disposed of at the earliest practicable date by the chief of the responsible agency in accordance with existing instructions, except in those special cases where they are to be retained for special requirements outside of the established Army supply program. Where the development and procurement status of new types make such action desirable, the chief of the responsible development agency will recommend reclassification of former types through the technical committee.

b. *U. S. Navy Definitions.* The following terms are used by the U.S. Navy to describe the status of its equipment:

- (1) *Standard.* The most advanced and satisfactory articles adopted, and those which are preferred for procurement.
- (2) *Limited standard.* Articles which do not have satisfactory military characteristics as standard articles, but are usable substitutes for standard articles. Complete

major units will not be procured, but component parts and accessories and complementary articles, even though they may be limited standard articles, may be procured if necessary and economical, to maintain the complete major units in serviceable condition throughout a reasonable life expectancy.

- (3) *Substitute standard.* Articles which do not have as satisfactory military characteristics as standard articles and, when necessary, may be procured to supplement the supply of standard articles.
- (4) *Planned standard.* Those articles under evaluation which have been indicated by the Ship Characteristics Board for installation through the Ship Improvement Guide on new construction and conversion projects. Approval for service use prior to installation is required for articles in this category.
- (5) *Obsolescent.* Those articles which do not have satisfactory military characteristics. Complete units, component parts, accessories, and complementary articles will normally not be procured for the specific purpose of maintaining this equipment; however, spare parts common to other equipment in the supply established may be used for their maintenance.
- (6) *Obsolete.* Those articles that have been declared unsuitable for their original military purpose. Disposal of stocks of obsolete articles will, in all cases, be expedited.

*c. U.S. Air Force Definitions.* The following terms are used in this publication to describe the status of equipment used by the U.S. Air Force:

- (1) *Standard.* An item that meets an established need and is considered suitable for Air Force use.
- (2) *Alternate standard.* An item that may not be so satisfactory as a standard item, but which is a usable alternate for procurement in quantity in place of the standard item when the standard item cannot be

procured in quantities to satisfy Air Force needs.

- (3) *Limited standard.* An item in stock that is not so satisfactory as either standard or alternate standard items but which is usable in place thereof. Limited standard items may be used until stocks are exhausted. Limited standard end items will not be procured. Additional parts and components may be procured when necessary to maintain the item in serviceable condition.
- (4) *Tentative standard.* An item that appears promising enough operationally to warrant the risk of initiating production of limited quantities prior to the completion of development or prior to completion of testing.
- (5) *Obsolete.* An item that no longer meets Air Force needs.

*d. Status Designation "Used By," Definition.*

Certain items of equipment are not listed by a particular service as carrying any of the specific status designations in *a* through *c* above. However, in some instances, it is known that certain quantities of the equipment are in use at installations under the control of that particular service. These items are designated as "Used by" under the type classification of the service involved.

## 7. Currency of Information

Information and data in this publication is current as of the date printed on the first page of coverage for each item of equipment.

## 8. Stock Numbers

Throughout this publication, Federal Stock Numbers are given when available. In addition, the stock number formerly assigned by each department of the Department of Defense is given, if it can be determined.

## 9. Data Not Available

Blank spaces have been left under appropriate headings, to permit the user of this publication to enter any data that could not be determined during preparation.

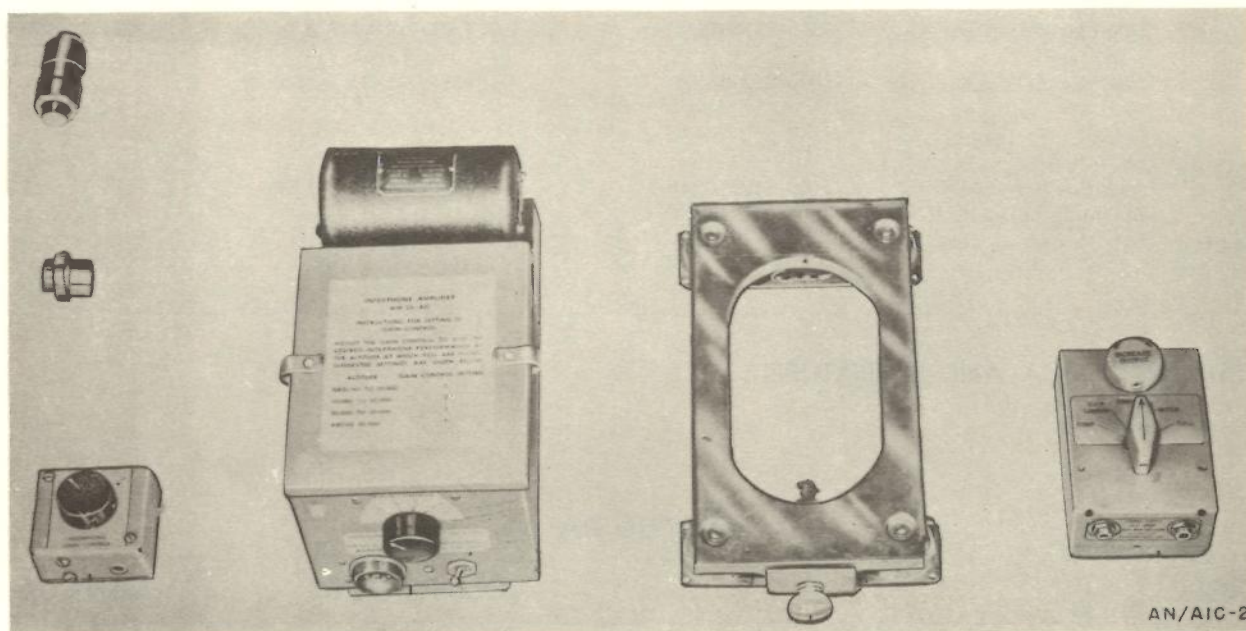


## INTERPHONE EQUIPMENT AN/AIC-2, -2A

12 November 1958

Cognizant Serv: USAF FSN:

	USA	USN	USAF
TYPE CLASS:	--	--	L/Std
STOCK NO:	--	--	1600-266487340



## FUNCTIONAL DESCRIPTION:

Interphone Equipments AN/AIC-2 and AN/AIC-2A are lightweight, high altitude (40,000 feet) multiplane aircraft communication units used by interceptor fighters and light medium bombers to provide interphone communication between the various interphone stations. They are operated by a push-to-talk button on the microphone.

The AN/AIC-2 is a high impedance unit used with radio equipment connected for high impedance output; the AN/AIC-2A is a low impedance unit used with radio equipment connected for low impedance output.

## TECHNICAL CHARACTERISTICS:

**Facilities:** Affords operation of 15 stations (maximum), each capable of selecting compass, VHF liaison, command, interphone, and call circuits

**Type Controls:** Each station has a manual volume control and a 5-position rotary switch for selection of any circuit from the following: compass, VHF liaison, command, interphone, and call. Interphone Amplifier AM-26/AIC can be controlled either by its local gain control or by means of Remote Gain Control C-97/AIC-2. Interphone Amplifier AM-26A/AIC is controlled by Automatic Gain Control C-158/AIC which is included in the amplifier case.

**Power Output:** 4 w into a 250-ohm load

**Distortion:** 6%

**Power Requirements:** 1.7 amp at 24- to 28-v dc

**AN/AIC-2, -2A** INTERPHONE EQUIPMENT

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
(USAF)				
1	Interphone Amplifier AM- 26/AIC	1600-211304960	9-3/4 x 5-1/4 x 5-1/8	6.8
1	Interphone Amplifier AM- 26A/AIC	1600-211304964	9-3/4 x 5-1/4 x 5-1/8	6.8
1	Jack Box BC-1266	1600-212996500	4-11/16 x 3-1/2 x 3-1/16	1.0
or				
1	Jack Box BC-1366M	1600-212996700	4-11/16 x 3-1/2 x 3-1/16	1.0
1	Mounting MT-28/ARN-5	1600-293345050	11-3/4 x 6 x 1-1/4	1.2
As re- quired	Remote Gain Control C-97/AIC-2	1600-211687270	2-3/4 x 2-1/2 x 2-1/16	.3

## REFERENCE DATA AND LITERATURE:

TO 12R2-2AIC2-2, -14

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
4	0.67	15.25

## PROCUREMENT DATA

PROCURING SERVICE: USAF  
SPEC &/or DWG:

DESIGN COG: USAF, ARDC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST

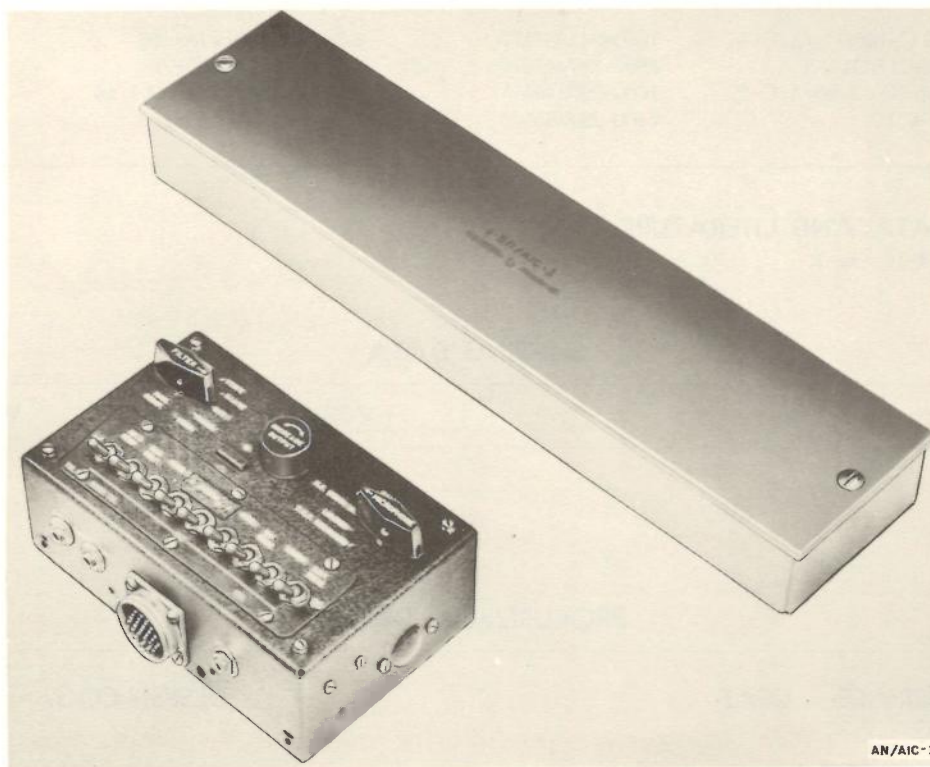


## INTERPHONE EQUIPMENT AN/AIC-3

12 November 1958

Cognizant Serv: USAF FSN:

	USA	USN	USAF
TYPE CLASS:	--	--	L/Std
STOCK NO:	--	--	1600-266487350



AN/AIC-3

**FUNCTIONAL DESCRIPTION:**

Interphone Equipment AN/AIC-3 is an airborne interplane, intraplane, and air-to-ground intercommunication system having not less than two nor more than five interphone stations. It is designed for aircraft requiring not more than five master stations with all control facilities available at each station. The system is normally supplied for light bombers and cargo aircraft.

This equipment has five functions: voice communications between any or all interphone stations; individual selections at each station of the audio output of eight receivers; means of switching the microphone to any one of three transmitters or to interphone; a call facility whereby all positions may be called by voice regardless of the microphone or facility switch

setting at any of the call stations; and a filter facility whereby the output signal of the automatic radio compass receiver may be fed through a radio range filter—at each interphone station—to the operator.

**TECHNICAL CHARACTERISTICS:**

*Facilities:* Affords intraplane and interplane communication and control of radio equipment

*Type Controls:* Manual; 3-position switch for voice, range, or both; 5-position switch for VHF command, liaison, HF command transmitters, and interphone call

*Power Output:* 60 mv at 600 ohms impedance (per unit)

*Power Requirements:* 0.445 amp (per station) at 24- to 28-v dc

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**AN/AIC-3 INTERPHONE EQUIPMENT**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
(USAF)				
2 to 5	Control C-166( )/AIC-3	1600-211687477	8-3/4 x 5-3/4 x 3-9/16	4.0 ea
2 to 5	Filter F-21/ARA-9	1600-387447470	3-3/4 x 2-3/4 x 2-1/2	1.62 ea
1	Junction Box J-90/AIC-3	1600-298349415	20-3/32 x 4-57/64 x 2-1/16	3.3
2 to 5	Plug U-6/U	3300-294385500	-----	0.22

**REFERENCE DATA AND LITERATURE:**

TO 12R2-2AIC3-14, -1, -2

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
2	0.57	8.95

**PROCUREMENT DATA**

PROCURING SERVICE: USAF  
SPEC &/or DWG:

DESIGN COG: USAF, ARDC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
------------	----------	--------------------------	---------------------



## INTERPHONE-RADIO CONTROL SET AN/AIC-4

12 November 1958

Cognizant Serv: USN FSN:

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	--	--

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Interphone-Radio Control Set AN/AIC-4 provides the pilot and radio operator of an aircraft with control over the microphone, radio transmitter, radio receiver audio output, and the interphone circuits of the aircraft communication facilities.

This equipment also provides all crew members with interphone communication, access to the audio output from the vhf receiver, and control of the vhf transmitter.

## TECHNICAL CHARACTERISTICS:

*Frequency Range:* 0 to 4,000 cps*Power Output:*

Low: 1.5 w

High: 4 w

*Input Impedance:*

Microphone: 200 ohms

Radio Channel: 0 to 3,000 ohms

*Output Impedance:*

Low: 120 ohms

High: 30 ohms

*Power Requirements:* 63 w, 28-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Interphone Amplifier AM-40/AIC	-----	9-1/8 x 13-13/32 x 5-3/4	10.7
1	Operator's Control Unit C-174/AIC-4	-----	4-1/8 x 4-5/32 x 3-5/16	1.38
	or			
	Control Unit C-387/AIC-4	-----	6 x 3-3/8 x 4-15/16	.9
	or			
1	Control Unit C-387A/AIC-4	-----	6 x 3-3/8 x 4-15/16	.9
	Pilot's Control Unit C-242/AIC-4	-----	6 x 3-3/8 x 4-23/32	1.7
	or			
	Pilot's Control Unit C-172/AIC-4	-----	5-7/8 x 5-15/32 x 3-1/2	2.8
	or			
	Pilot's Control Unit C-150/AIC-4	-----	6 x 3-3/8 x 4-13/16	1.7
1 to 3	Station Control Unit C-173/AIC-4	-----	4-1/8 x 4-5/32 x 3-7/16	1.31

MIL-HDBK-161

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**AN/AIC-4** INTERPHONE-RADIO CONTROL SET

REFERENCE DATA AND LITERATURE:

AN16-30AIC4-2

SHIPPING DATA

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PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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PROCUREMENT DATA

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PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

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CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Magnavox Co.	Ft. Wayne, Ind.	NOas-6885	

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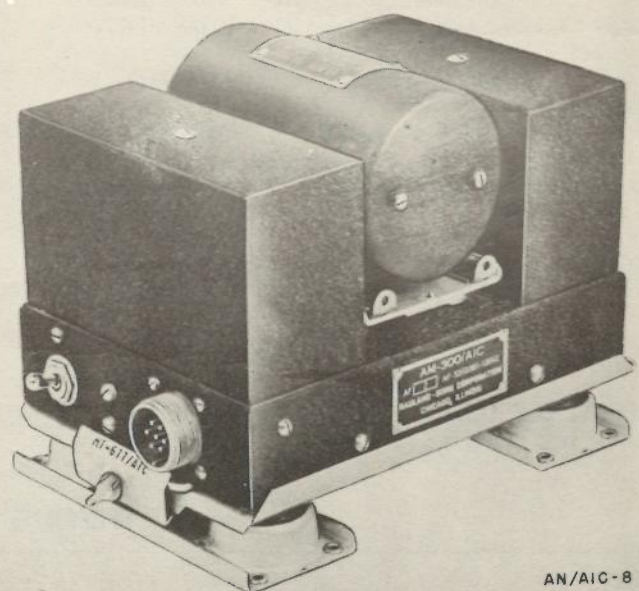
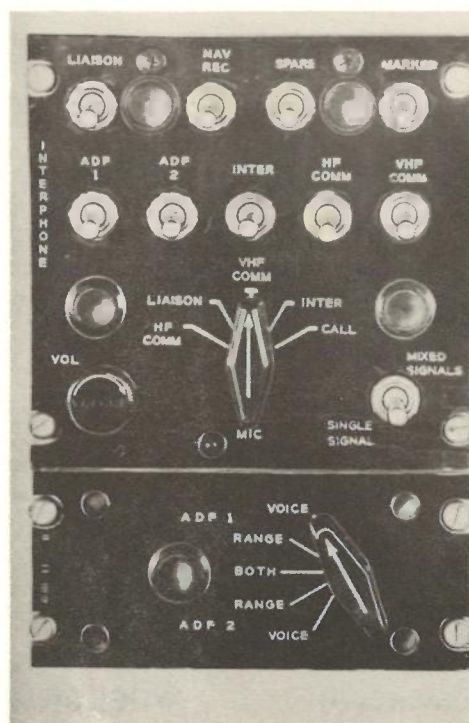


## INTERCOMMUNICATION SET AN/AIC-8

12 November 1958

Cognizant Serv: USAF FSN:

	USA	USN	USAF
TYPE CLASS:	--	--	L/Std
STOCK NO:	--	--	--

**FUNCTIONAL DESCRIPTION:**

Intercommunication Set AN/AIC-8 is an aircraft intercommunication and intraplane system having not less than two nor more than five interphone stations, as well as a number of auxiliary stations. The maximum combined total of the interphone and auxiliary stations is 20. The system is normally installed on fighter bombers and cargo, as well as on transport aircraft.

Basically the equipment consists of an audio amplifier (including dynamotor), an interphone control, and filter assembly components.

The filter assembly permits reception of either one or both ADF receivers.

**TECHNICAL CHARACTERISTICS:**

*Facilities:* Affords voice communication between any or all interphone stations, individual selection at each interphone station of the audio output of eight receivers and of the

intercommunication system; also provides a means of switching a microphone to any of three transmitters or the intercommunication system; all stations may be called by voice regardless of the setting of the microphone or the receiver switches at any of the stations.

**Type Controls:**

Operation: Manual

Toggle Switches:

Number: 9

Designations: LIAISON, NAV REC, SPARE, MARKER, ADF 1, ADF 2, INTER, HF COMM, VHF COMM

Rotary Switch:

Number of Positions: 5

Designations: HF COMM, LIAISON, VHF COMM, INTER, CALL

Rotary Switch:

Number of Positions: 5

Designations:

ADF 1: VOICE, RANGE, BOTH

ADF 2: VOICE, RANGE, BOTH

**AN/AIC-8 INTERCOMMUNICATION SET***Power Requirements:*

AF Amplifier AM-300/AIC: 1.6 amp at 24- to 28-v dc

Mixer Amplifier AM-142/AIC: 0.6 amp at 24- to 28-v dc

Interphone Control C-633/AIC-8: 0.2 amp at 24- to 28-v dc

Filter Assembly F-90/AIC: 0.04 amp at 24- to 28-v dc

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
(USAF)				
1	AF Amplifier AM-300/AIC	1600-211307300	7-1/2 x 4-5/16 x 5-3/16	6.3
As re- quired	Filter Assembly F-90/AIC	1600-387477740	5-3/4 x 2-5/8 x 3-3/4	
As re- quired	Interphone Control C-633/AIC-8	1600-211944745	5-3/4 x 5-5/8 x 3-3/4	2.3
As re- quired	Jack Box J-139A/AIC	1600-212919391	3-3/8 x 2 x 2	.3
As re- quired	Mixer Amplifier AM- 142/AIC	1600-211305824	5-1/4 x 6 x 1-3/4	1.9
As re- quired	Mounting Plate MT- 556/AIC	1600-298359990	5-1/4 x 5 x 1-1/4	.35
	Mounting Plate MT- 677/AIC	1600-293348744	8-1/2 x 5-7/16 x 1-1/2	.47

**REFERENCE DATA AND LITERATURE:**

TO 12R2-2AIC8-2, -14

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
4	0.49	8.1

**PROCUREMENT DATA**

PROCURING SERVICE: USAF  
SPEC &/or DWG:

DESIGN COG: USAF, ARDC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST



## INTERCOMMUNICATION SET AN/AIC-10, -10A

12 November 1958

Cognizant Serv: USAF FSN:

USA

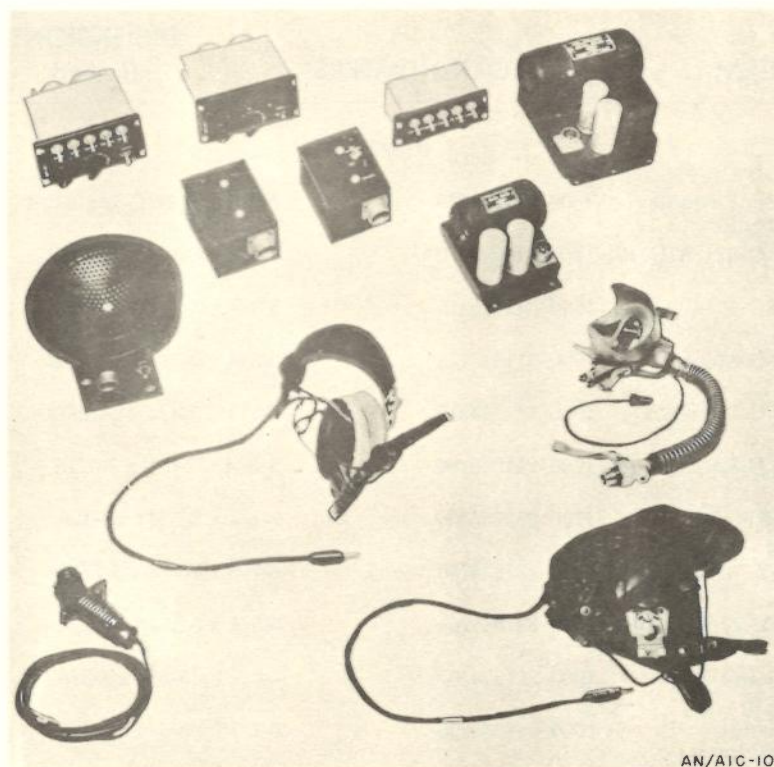
USN

USAF

TYPE CLASS:

Std

STOCK NO:

**FUNCTIONAL DESCRIPTION:**

Intercommunication Set AN/AIC-10 and AN/AIC-10A are communication equipments designed for maximum exclusion of ambient acoustic distortion and for improved stability at high altitudes. Further, they provide electronic automatic gain control, give good signal-to-noise ratio under extreme noise conditions, and improved intelligibility at high altitudes, with excellent reliability.

These equipments consist of a line of dynamic microphones, connectors, cables, interphone controls and accessories, an amplifier and headsets. An interphone system for any specific aircraft is made up by selecting items from this line of equipment that will provide the particular interphone facilities desired at each crew position in the aircraft. Application is in all types of military aircraft.

The AN/AIC-10A is identical to the AN/AIC-10 in all respects except as follows: a transistorized amplifier is used in

place of the vacuum tube amplifier in Interphone Control C-823/AIC-10, Control Panels C-824/AIC-10 and C-825/AIC-10, Relay Assembly RE-94/AIC-10, and Dynamic Loudspeaker LS-184/AIC-10. Dynamotor high voltage power supplies are eliminated since the transistor amplifiers operate directly from the 28-volt direct current aircraft power supply.

**TECHNICAL CHARACTERISTICS:**

*Facilities:* Affords partial control and intermixing of a maximum of 10 receiver outputs, talking on 6 positions; loudspeaker monitoring and automatic volume compression; automatic gain control; and communication beyond the aircraft through means of radio equipment.

*Type Controls:* 5 to 10 toggle switches for audio output of 5 to 10 receivers; 6-position rotary switch to permit talking

**AN/AIC-10, -10A INTERCOMMUNICATION SET**

over private interphone, command, liaison, intercommunication, interphone and call circuits; mixing or single-receiver; monitoring; loudspeaker when desired.

*Power Output:* 200 mw (nominal) per interphone station

*Power Requirements:*

AN/AIC-10: 450 ma at 27.5-v dc (nominal) per interphone station

AN/AIC-10A: 330 ma at 27.5-v dc (nominal) per interphone station

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
(USAF)				
As required	Amplifier, Audio Frequency AM-843/AIC-10	1600-010022035	5-21/32 x 4-21/32 x 2-3/4	2.95
As required	Control Panel C-824/AIC-10	1600-211945170	5-3/4 x 3-3/4 x 6-21/32	3.3
As required	Control Panel C-824A/AIC-10	1600-011245310	5-3/4 x 3-3/4 x 6-21/32	3.3
As required	Control Panel C-825/AIC-10	1600-211945175	5-3/4 x 3-3/4 x 6-21/32	3.1
As required	Control Panel C-825A/AIC-10	1600-011245315	5-3/4 x 3-3/4 x 6-21/32	3.1
As required	Control Panel C-826/AIC-10	1600-211945180	5-3/4 x 2-5/8 x 3-9/16	0.9
As required	Dynamic Loudspeaker LS-184/AIC-10	1790-052735500	7-1/4 x 8-5/32 x 4-1/8	3.1
As required	Dynamotor DY-76/AIC-10	1600-337838756	6-7/8 x 7-7/8 x 5-7/16	9.2
As required	Dynamotor DY-77/AIC-10	1600-337838766	5-5/8 x 5 x 4-9/16	4.2
As required	Interphone Control C-823/AIC-10	1600-211945165	5-7/16 x 3-5/8 x 4-3/8	2.1
As required	Interphone Control C-823A/AIC-10	1600-011245305	5-7/16 x 3-5/8 x 4-3/8	2.1
As required	Mounting MT-1059/U	1600-012830010	7-11/16 x 5-1/2 x 1-7/16	.5
As required	Mounting MT-1060/U	1600-012830020	5-11/16 x 4-13/16 x 1-1/14	.3
As required	Mounting MT-1424	1600-012827910		

**REFERENCE DATA AND LITERATURE:**

TO 12R2-2AIC10-1, -2, 4

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
9	1.09	23.7



INTERCOMMUNICATION SET **AN/AIC-10, -10A**

## PROCUREMENT DATA

PROCURING SERVICE: USAF  
SPEC &/or DWG: MIL-I-26122 (USAF)  
MIL-I-6699 (USAF)  
MIL-I-6699A (USAF)

DESIGN COG: USAF, ARDC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Andrea Radio Corp.	Long Island, N. Y.	AF33(600)30102	
Andrea Radio Corp.	Long Island, N. Y.	AF33(600)31688	
Radio Corp. of America	Camden, N. J.	AF33(038)18977	
Radio Corp. of America	Camden, N. J.	AF33(600)22924	





## PUBLIC ADDRESS SET AN/AIC-13

12 November 1958

Cognizant Serv: USAF FSN: 5831-

	USA	USN	USAF
TYPE CLASS:	--	--	Std
STOCK NO:	--	--	--

(No Illustration Available)

**FUNCTIONAL DESCRIPTION:**

Public Address Set AN/AID-13 is an announcing system that provides communications in areas where the ambient noise level is high. It may be effectively employed in directing loading operations or in giving instructions to maintenance crews. Further, it may be used in providing entertainment and radio reception for passengers or in announcing instructions and messages to flying personnel.

This equipment is designed to be operated with Intercommunication Sets AN/AIC-10, AN/AIC-10A, and AN/AIC-18.

The system can be installed for use in cargo and bomber type aircraft. It provides loudspeaker communication from aircraft to ground or within the aircraft.

**TECHNICAL CHARACTERISTICS:**

*Facilities:* Audio Frequency Amplifier AM-944/AIC-13 is capable of operating up to four loudspeakers simultaneously. When area and ambient requirements demand more power and more coverage, up to three amplifiers may be operated from Public Address Set Control C-1614/AIC-13. When operating conditions do not require the use of this panel, amplifiers may be connected in parallel, each driving four

Magnetic Loudspeakers LS-211/AIC-13. In installations requiring high power external announcing, Audio Frequency Amplifier AM-944/AIC-13 is equipped with relays so that one or another Magnetic Loudspeaker LS-211/AIC-13 may be operated individually or in unison.

*Type Controls:* Public Address Set Control C-1614/AIC-13 has a volume control circuit arranged so that loudspeaker volume may be directly adjusted or remotely controlled from any loudspeaker position. The control also has a four-position rotary switch for selection of individual or a combination of loudspeakers. Five monitoring facility switches are available to provide radio reception.

*Power Output:* 20 w (nominal) per amplifier

*Power Requirements:*

Audio Frequency Amplifier AM-944/AIC-13:

*Standby:* 0.04 amp at 27-v dc

One Loudspeaker: 1.1 or 1.22 at 27-v dc

Two Loudspeakers: 1.22 amp at 27-v dc

Four Loudspeakers: 1.34 amp at 27-v dc

Public Address Set Control C-1614/AIC-13:

*Standby:* 0.12 amp at 27-v dc

*Monitor Reaction:* 0.16 amp at 27-v dc

*P. A. Announce:* 0.24 amp at 27-v dc

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
(USAF)				
1	Amplifier, Audio Frequency AM-944/AIC-13	-----	5-3/4 x 5-1/2 x 3-3/4	5
1	Control, Public Address Set C-1614/AIC-13	-----	5-3/4 x 3-3/4 x 4	2
As re- quired	Loudspeaker, Magnetic LS- 211/AIC-13	-----	7-1/2 x 3-3/4 x 4	3.15
1	Mounting MT-1412	1600-012827910	7 x 5 x 2-1/2	.6



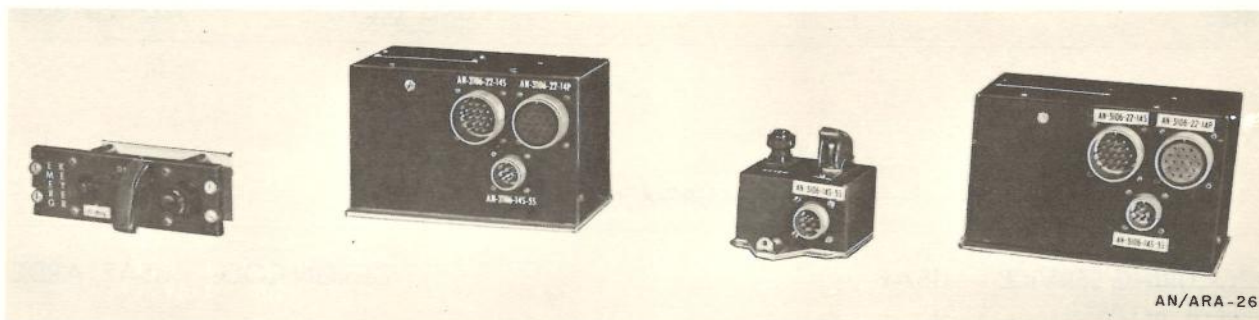


## CONTROL-KEYER GROUP AN/ARA-26

12 November 1958

Cognizant Serv: USAF FSN:

	USA	USN	USAF
TYPE CLASS:	--	--	Std
STOCK NO:	--	--	--



AN/ARA-26

## FUNCTIONAL DESCRIPTION:

Control-Keyer Group AN/ARA-26 is designed to automatically operate an airborne command or liaison transmitter in the event of an emergency.

The keyer automatically turns on a transmitter and channels it to the distress frequency and simultaneously sets controls on the transmitter for modulated continuous wave emission. Following the completion of channeling, it modulates continuous wave distress signals in international morse code.

A time delay, which can be preset for any interval from 5 to 30 seconds, allows time for transmitter warmup and channeling.

This equipment is used in bomber, reconnaissance, air support, trainer, cargo, and fighter aircraft. It is applicable

for emergency operation of Radio Sets AN/ARC-3, -8, -21-21X, -27, -34, -36, -49, -66, and Collins 618S-1.

## TECHNICAL CHARACTERISTICS:

*Type Controls:* Control Panel C-790/ARA-26 is rack mounted in the cockpit of the aircraft and provides the following functions: ON-OFF starting switch and switch guard; edge lighting panel light; and indicator light with push-to-test ferrule. Keyer Control C-789/ARA-26 is mounted at a remote location in the aircraft so as to be readily accessible for operation by the radio or radar operator. It has the same function as the C-790/ARA-26.

*Frequency Range in Mc:* Operates on distress frequency  
*Power Requirements:* 0.7 amp at 27.5 v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(USAF)		
1	Control Panel C-790/ARA-26	1600-211688980		
1	Keyer KY-65/ARA-26	1600-211613353		
	or			
1	Keyer KY-65A/ARA-26	1600-012514100		
1	Keyer Control C-789/ARA-26	1600-211945099		
1	Mounting FT-292-A	1600-293160000		
1	Mounting MT-796/U	1600-293348969		

MIL-HDBK-161

**AN/ARA-26** CONTROL-KEYER GROUP

**REFERENCE DATA AND LITERATURE:**

TO 12R5-2ARA26-1, -2, -3

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
3	0.21	7.19

**PROCUREMENT DATA**

PROCURING SERVICE: USAF  
SPEC &/or DWG:

DESIGN COG: USAF, ARDC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Courter Products Division	----	AF33-(600)-32093	
Suffolk Products Corp.	Northport, N. Y.	AF33(600)-32-64	
Webster-Chicago Corp.	Chicago, Ill.	AF33(038)-16702	\$151.00

TWO CHANNEL REKEYER **AN/ARA-type**

4 December 1958

Cognizant Serv: USN FSN:

AFSAV 39C

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	--	--

(No Illustration Available)

**FUNCTIONAL DESCRIPTION:**

Two Channel Rekeyer AFSAV 39C is designed for use in fixed radio receiving stations although the equipment is rugged enough for mobile operation. It converts keyed tone signals received from any communication receiver, such as ASAN5 and the DEN 35, into 30- or 60-milliampere direct current pulses and provides for operation of two teleprinters. It contains no noise rejecting circuits; however, under ideal conditions, it may be used directly from a receiver. The signal is printed on either a standard model 14 Typing Reperforator or model 15 Page Printer.

The equipment consists of a single unit 5-1/4 inches high which will mount in a standard 19-inch rack.

Electrically similar to Two Channel Rekeyer AFSAV 39A.

The following equipment is used with, but is not supplied as a part of, the Two Channel Rekeyer AFSAV 39C: any communications receiver, such as the ASAN5 and the DEN 35, or; model 14 Typing Reperforator; model 15 Page Printer; oscilloscope with dc input; vacuum-tube voltmeter; and a standard electronic equipment repair kit.

**TECHNICAL CHARACTERISTICS:***Input Data:*

Impedance: 600 ohm (balanced or unbalanced)  
 Type Tone Data: 300 to 10,000 cps; tone frequency, ON-OFF keyed  
 Band Length: 5 ms  
 Signal Input Level:  
 Nominal: 0 dbm  
 Maximum: +20 dbm  
 Minimum (Threshold Level): -12 dbm  
 Signal Input Lines: 2  
 Signal to Noise Ratio: 4 to 1 (maximum)

*Output Data:*

Recording Method: 2 model 14 typing reperforators or 2 model 15 page printers or any combination of both  
 Current: 30 ma per channel for holding-type printers, 60 ma per channel for pulling-type printers  
 Band Distortion: 0.5 ms  
 Power Requirements: 1 amp current drain at full load, 95- to 125-v 48- to 62-cycle 1-phase ac (Power input of Two Channel Rekeyer AFSAV 39C is 115 w, 115-v ac.)

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Cable, power	-----	72 lg	1
1	Cable, signal	-----	72 lg	1.5
2	Plug, phone	-----	1/2 dia x 20-25/32 long	
1	Two Channel Rekeyer AFSAV 39C	-----	5-1/4 x 16 x 19	43

**REFERENCE DATA AND LITERATURE:**



MIL-HDBK-161

**AN/ARA-type** TWO-CHANNEL REKEYER

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	4.98	100

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Radiation Inc.	Melbourne, Fla.	DA49-170-sc-1702, 29 June 58 MIPR-R-55-881-57023	\$362.00 with equipment spares

20 October 1958

RADIO FREQUENCY TUNER **AN/ARA-type**

Cognizant Serv: USN FSN: 5820-519-5074

TN-273/URT

USA

USN

USAF

TYPE CLASS: --

Used by

--

STOCK NO: --

--

--

(No Illustration Available)

**FUNCTIONAL DESCRIPTION:**

Radio Frequency Tuner TN-273/URT is designed for automatic tuning of open, fixed wire antennas from 45 to 100 feet long and the coupling of the 52-ohm output circuit of an aircraft transmitter having 50 to 100 watts power output to such antennas over a frequency range of 2 to 25 mc. Most grounded-end antennas of similar length also are fully tunable, but in some cases may require a different fixed shunt capacitance.

The tuner includes an antenna transfer relay circuit. This circuit transfers the aircraft antenna directly to a separate receiver when the transmitter is not being used; thus, separate components may be operated in the same manner as a transmitter-receiver.

Ac Power Supply PP-1477(XN-1)/URT is required for the operation of the tuner.

**TECHNICAL CHARACTERISTICS:***Frequency Range in Mc:* 2 to 25*Input Impedance:* 52 ohms*Antenna Tuning Data:*

Type: Fixed open wire

Length: 45 to 100 feet

*Power Requirements:*

Primary Power Supply: 27.5-v dc

Transmitter Plate Supply: 400- or 250-v dc

*Aircraft or Transmitter**Power Source:* 15 w, 115-v 400-cycle 1-phase ac**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Mounting	-----	1-1/2 x 10-3/8 x 10-5/8	1.25
1	Radio Frequency Tuner TN-273/URT	-----	7-11/16 x 10-3/8 x 13-7/8	17.3

(Equipment consists of only one major operating component.)

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 92844

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

MIL-HDBK-161

**AN/ARA-type** RADIO FREQUENCY TUNER

PROCUREMENT DATA

PROCURING SERVICE: USN BuShips  
SPEC &/OR DWG: Collins Radio Model 180L-3

DESIGN COG: Commercial

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Collins Radio Co.	Cedar Rapids, Iowa	NObsr-71044	\$1,800



## RADIO SET AN/ARC-1, -1X, -1A, -1AX

12 November 1958

Cognizant Serv: USN FSN: 5820-665-1477 (AN/ARC-1)

USA

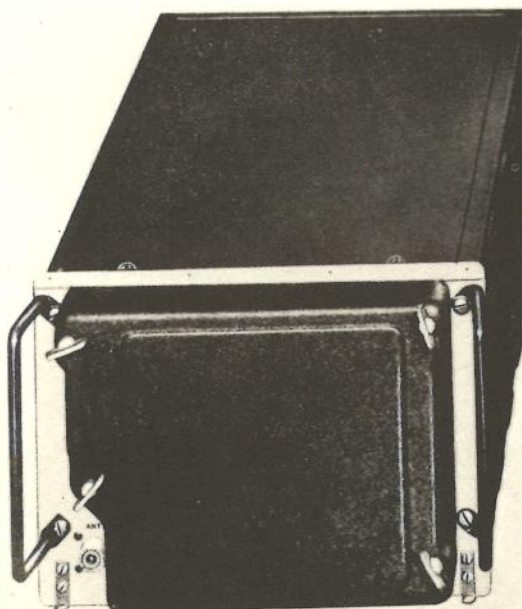
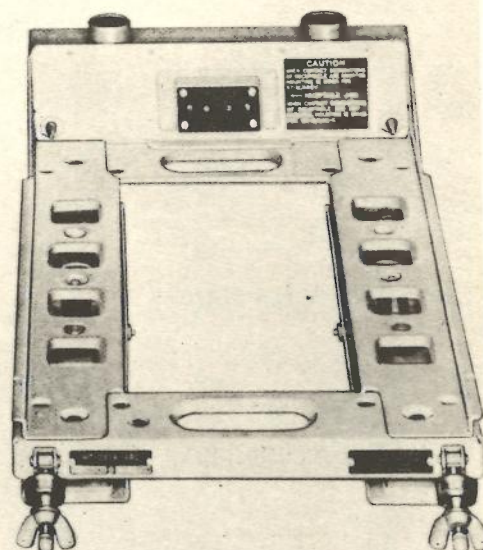
USN

USAF

TYPE CLASS: --

Used by --

STOCK NO: --

F16-Q-106721-200  
(AN/ARC-1)RADIO TRANSMITTER-RECEIVER  
RT-18A/ARC-1MOUNTING BASE MT-230A/ARC  
AND CABLING CX-181B/ARC-1

AN/ARC-1A

**FUNCTIONAL DESCRIPTION:**

Radio Sets AN/ARC-1, AN/ARC-1X, AN/ARC-1A, and AN/ARC-1AX are aircraft amplitude modulated (A3) transmitter-receivers designed to operate within the vhf band on any of nine preset crystal-controlled frequencies. The channel selector is operated by the aircraft pilot. An additional restricted guard channel frequency permits monitoring or simultaneous sending and receiving operation under restricted conditions.

These equipments, intended for air-to-air and air-to-ground communication, are suitable for flying control, tactical control, or formation flying.

Radio Sets AN/ARC-1 and AN/ARC-1X are similar to Radio Set AN/ARC-12 except for the frequency range.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 100 to 156

*Preset Channels:* 10 (including guard channel)

*Guard Channel:* 121.5 mc

*Frequency Stability:* 0.025%

*Maximum Range (normal Conditions):* Line of sight distance (about 280 miles) at 5,000 ft

*Receiver:*

*Intermediate Frequency:* 9.72 mc

*Audio Frequency Output:* Dual output arranged for either 300- or 400-ohm load

*Noise Suppression:* Squelch circuit and peak-noise limiter

*Sensitivity:* 2.8 uv (approx)

## AN/ARC-1, -1X, -1A, -1AX RADIO SET

*Transmitter:*

Output Impedance: 50 ohms  
 Power Output (Rf Carrier): 8 w (approximately)  
 Modulation Type: Amplitude  
 Selectivity: 25 db down at 100 kc from resonance  
 Peak Power Output: 4 times carrier output

*Power Requirements:*

Dynamotors DY-9/ARC-1, DY-9A/ARC-1, DY-9B/ARC-1:

*Rated Input:*

Continuous: 4 amp at 26-v dc  
 Intermittent: 7.5 amp at 26-v dc

*Rated Output:*

Continuous: 0.135 amp at 360-v dc  
 Intermittent: 0.355 amp at 310-v dc

*Power Supply PP-1092/U:*

*Input:* 450 w 115- or 230-v, 60-cycle, 1-phase ac  
*Output:* 360 ma at +360-v dc; 30 ma at -150-v dc; 4 amp at either 13-v or 26-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
<i>For AN/ARC-1:</i>				
1	Cabling CX-181B/ARC-1	-----	-----	1.75
1	Control Unit C-45/ARC-1	-----	-----	
	or			
	Control Unit C-115/ARC-1	-----	-----	
	or			
	Radio Set Control C-865/ARC-1	-----	-----	1.0
	Dynamotor DY-9/ARC-1	-----	-----	
	or			
	Dynamotor DY-9A/ARC-1	-----	-----	
	or			
6	Dynamotor DY-9B/ARC-1	-----	3-1/2 x 5-1/4 x 9	7.0
	Grip terminal (diamond)	-----	-----	
1	Mounting Plate MT-4/ARR-2 (for C-45/ARC-1)	-----	-----	
1	Plug AN-3106-20-1P with Cable Clamp AN-3057-12	-----	1-7/8 dia	
1	Plug AN-3106-20-1S with Cable Clamp AN-3057-12	-----	1-7/8 dia	
1	Plug AN-3106-20-16P with Cable Clamp AN-3057-12	-----	1-7/8 dia	
1	Radio Transmitter-Receiver RT-18/ARC-1, including:	-----	9-1/32 x 10-7/8 x 24-3/8	40.0
1	Mounting Base MT-100/ARC-1, MT-230/ARC, or MT-239A/ARC	-----	-----	4.4
2	Terminal lug (25 amp)	-----	-----	

## RADIO SET AN/ARC-1, -1X, -1A, -1AX

## MAJOR COMPONENTS—Continued

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
<i>For AN/ARC-1X:</i>				
1	Cabling CX-181B/ARC-1			
1	Control Unit C-45/ARC-1			
	or			
	Control Unit C-115/ARC-1	-----	-----	1.0
	or			
	Radio Set Control C-865/ARC-1	-----	-----	1.0
6	Grip terminal (diamond)			
1	Mounting Plate MT- 4/ARR-2 (for C-25/ARC- 1)			
1	Plug AN-3106-20-1P with Cable Clamp AN- 3057-12	-----	1-7/8 dia	
1	Plug AN-3106-20-1S with Cable Clamp AN-3057-12	-----	1-7/8 dia	
1	Plug AN-3106-20-16P with Cable Clamp AN-3057-12	-----	1-7/8 dia	
1	Power Supply PP-1092/U	-----	15 x 16 x 20	85
1	Radio Transmitter-Receiver RT-18/ARC-1, including: Mounting Base MT- 100/ARC-1, MT-230/ARC, or MT-239A/ARC	-----	9-1/32 x 10-7/8 x 24-3/8	40
2	Terminal lug (25 amp)	-----	-----	4.4
<i>For AN/ARC-1A:</i>				
1	Cabling CX-181B/ARC-1	-----	-----	1.75
1	Dynamotor DY-9B/ARC-1	-----	3-1/2 x 5-1/4 x 9	5.7
1	Plug AN-3106-20-1P with Cable Clamp AN-3057-12	-----	1-7/8 dia	
1	Plug AN-3106-20-16P with Cable Clamp AN-3057-12	-----	1-7/8 dia	
1	Radio Transmitter-Receiver RT-18A/ARC-1 including: Mounting Base MT- 230A/ARC	-----	9-1/32 x 10-7/8 x 24-3/4	40
1	Tools	-----	-----	4.4
1 set				
<i>For AN/ARC-1AX:</i>				
1	Cabling CX-181B/ARC-1	-----	-----	1.75
1	Plug AN-3106-20-1P with Cable Clamp AN-3057-12	-----	1-7/8 dia	





12 November 1958

Cognizant Serv: USN FSN:

USA

USN

USAF

TYPE CLASS: --

Used by

STOCK NO: 2S921-2

N16-R-27135-2281

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**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARC-2 is a general purpose, medium power, amplitude modulated transceiver designed for installation in all types of naval aircraft. It provides manual selection by pilot or radio operator of eight preset master-oscillator controlled channels or remote control of the auto-tune system of channel selection.

This equipment is similar to Radio Set AN/ARC-2A except for its receiver-transmitter component.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range:* 2,000 to 9,050 kc

*Transmitter Rf Output:* 17 to 30 w (minimum)

*Receiver Audio Output:* Consistent at 500 mw (maximum) with automatic volume control and noise limiter action

*Audio Response:*  $\pm 3$  db relative to the response at 1,000 cps for modulated frequencies of 300 to 3,500 cps

*Type Emission and Reception:* A1, A2, A3

**Operating Limits:**

Temperature:  $-58^{\circ}$  to  $+150^{\circ}$  F.

Altitude: 40,000 feet (maximum) above sea level

*Type of Control:* Autotune system, manual or electrical selection

*Power Requirements:* 20 amp at 26.5-v dc continuous duty (must withstand surge of 60 amp for 0.5 second)

## AN/ARC-2 RADIO SET

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1 or more	Control Box C-243/ARC-2	.....	5-15/16 x 3-1/2 x 3-1/4	2.0
1 or more	Control Box C-244A/ARC-2	.....	8-2/16 x 3-5/8 x 3-1/4	1.3
1 or more	Control Panel C-245A/ARC-2	.....	7-23/32 x 6 x 2-1/4	1.3
1	Dynamotor DY-31/ARC-2	.....	9-3/32 x 4-1/16 x 4-1/16	9.5
1	Mounting Base MT-421/AR	.....	5-3/16 x 16-1/2 x 23-15/32	6.0
1 or more	Mounting Plate MT- 163/ART-13	.....	5-1/4 x 3-5/8 x 3/16	.25
1	Transmitter-Receiver RT- 91/ARC-2	.....	7-23/32 x 15-9/16 x 21-13/32	63.9

## REFERENCE DATA AND LITERATURE:

AN 16-30ARC2-3

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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## PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Collins Radio Co.	Cedar Rapids, Iowa	NXsa 90807, 1 July 1945 NOas 11025, 15 December 1946	



## RADIO SET AN/ARC-2A

12 November 1958

Cognizant Serv: USN FSN:

USA

USN

USAF

TYPE CLASS: --

Used by

STOCK NO: --

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Radio Set AN/ARC-2A is a general purpose, medium power, amplitude modulated equipment designed for installation in all types of naval aircraft. It provides two-way radio communication by voice, cw, or mcw on any one of eight preset channels that may be selected from the transmitter-receiver panel or from a remote control panel.

This equipment is similar to Radio Set AN/ARC-2 except for its receiver-transmitter component.

## TECHNICAL CHARACTERISTICS:

*Frequency Range:* 2,000 to 9,050 kc*Power Output:* 15 to 30 w*Type Emission and Reception:* A1, A2, A3*Type Receiver:* Superheterodyne*Operating Limits:*

Temperature: 58°F. to +140°F. (-50°C. to +60°C.)

Altitude: 40,000 feet (maximum)

*Power Requirements:* 20 amp at 26.5 v-dc  $\pm 10\%$ 

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1 or more	Control Box C-244A/ARC-2	.....	3-1/4 x 3-5/8 x 8-1/8	1.3
1 or more	Control Panel C-245A/ARC-2	.....	2-1/4 x 6 x 7-23/32	1.3
1	Dynamotor DY-31/ARC-2	.....	4-1/16 x 4-1/16 x 9-3/32	9.5
1	Mounting Base MT-421/AR or Mounting Base MT- 421A/AR	.....	5-3/16 x 16-1/2 x 23-15/32	6.0
1 or more	Mounting Plate MT- 163/ART-13	.....	3/16 x 3-5/8 x 5-1/4	.25
1 or more	Radio Set Control C-732/ARC-2	.....	2-1/4 x 5-1/4 x 6-5/8	1.9
1 or more	Radio Set Control C-732A/ARC-2	.....	2-1/4 x 5-1/4 x 5-3/4	1.7
1	Transmitter Receiver RT- 298/ARC- A	.....	7-23/32 x 15-9/16 x 21-13/32	63.5

## REFERENCE DATA AND LITERATURE:

AN 16-3ARC2-21

MIL-HDBK-161

**AN/ARC-2A** RADIO SET

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

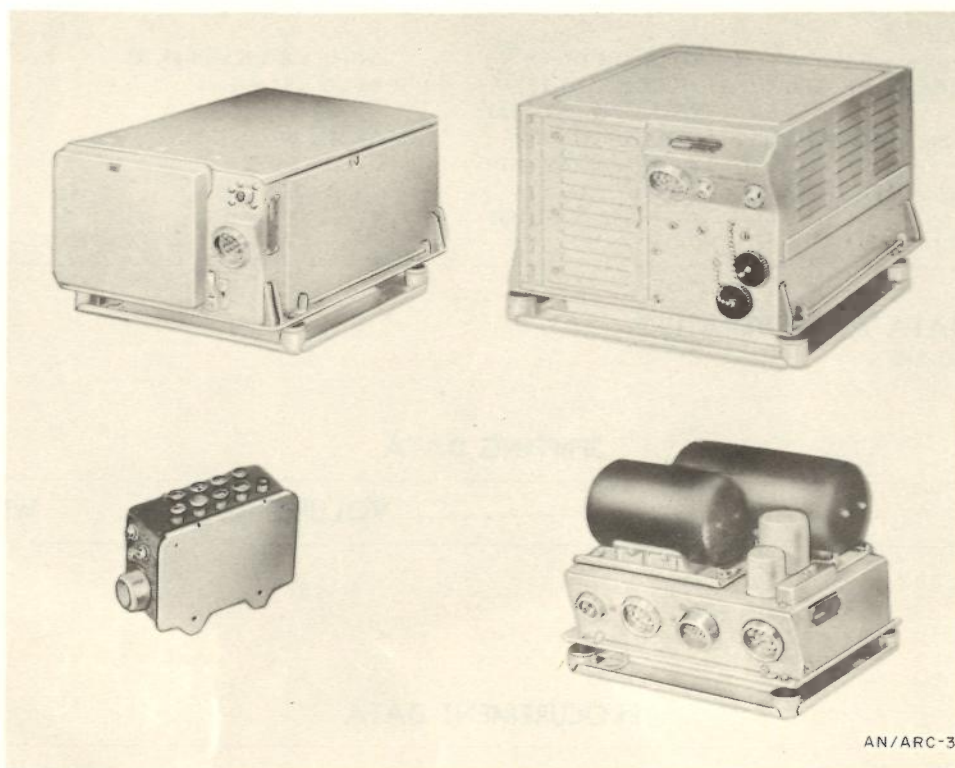
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Collins Radio Co.	Cedar Rapids, Iowa	NOas 52-918, 16 May 1952	\$2,690.00

## RADIO SET AN/ARC-3( )

1 July 1958

Cognizant Serv: USAF FSN:

	USA	USN	USAF
TYPE CLASS:	Used by	Used by	L/Std
STOCK NO:	2S918-3		AN/ARC-3: 1600- 266487170 AN/ARC-3A: 1600- 013388050 AN/ARC-3B: 1600- 013388060

**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARC-3( ) is an airborne command vhf communication system for air-to-air and air-to-ground communication. It operates on any eight preset crystal-controlled channels in the 100- to 156-mc range, by pushbuttons located on Control Box C-118/ARC-3.

The crystals are capable of operating under conditions of high humidity and temperature.

The transmitter has an output impedance of 52 ohms matching low impedance transmission lines, such as RG-8/U.

It is normally operated with Antenna Mast AN-104-B.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 100 to 156 on any 8 preset crystal-controlled channels

*Type Modulation:* AM

*Type of Signal:* Voice, tone

*Power Output:* 8 w

*Power Requirements:*

Starting: 3,324 w, 28-32-v dc

Continuous operation: 385 w, 28-32-v dc



## AN/ARC-3( ) RADIO SET

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Antenna Mast AN-104-B	(USA)2A286-104B		
1	Control Box C-118A/ARC-3	(USA)2C666-118A	6-1/2 x 2-1/2 x 6	2.1
1	Control Panel C-404A	(USA)2C667-404A	5 x 2-5/8 x 2	
1	Control Unit C-197/ARC-3	(USA)2C684-197 (FSN)5821-503-1020	2-1/2 x 1-5/8 x 2-1/16	
1	Dynamotor Unit DY-21/ARC-3	(FSN)6125-635-4095	7-1/2 x 3-3/4 x 3-1/2	8.4
1	Dynamotor Unit DY-22/ARC-3	(USA)3H1535-22	7-1/4 x 3-3/4 x 3-1/2	4.8
1	Power Junction Box	(USA)3H2676-68	5-3/16 x 8-3/8 x 10-11/32	6.7
1	Radio Receiver R-77/ARC-3	(USA)2C4180-77 (FSN)5821-194-7090	15-1/2 x 11 x 6	20.5
1	Radio Set Control C-753A	(USA)2C684-753 (FSN)5820-697-9678	5-3/4 x 3-3/8 x 6-1/2	
1	Transmitter T-67/ARC-3	(USA)2C6900-67 (FSN)5821-503-3431	7-1/2 x 15 x 12-1/4	21

REFERENCE DATA AND LITERATURE:  
TO 12R2-2ARC-3-2

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	5	96

## PROCUREMENT DATA

PROCURING SERVICE: USAF  
SPEC &/or DWG:

DESIGN COG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
		R-52-1866-SC-21	\$2,415.43

RADIO EQUIPMENT **AN/ARC-5**

14 November 1958

Cognizant Serv: USN FSN:

USA

USN

USAF

TYPE CLASS: --

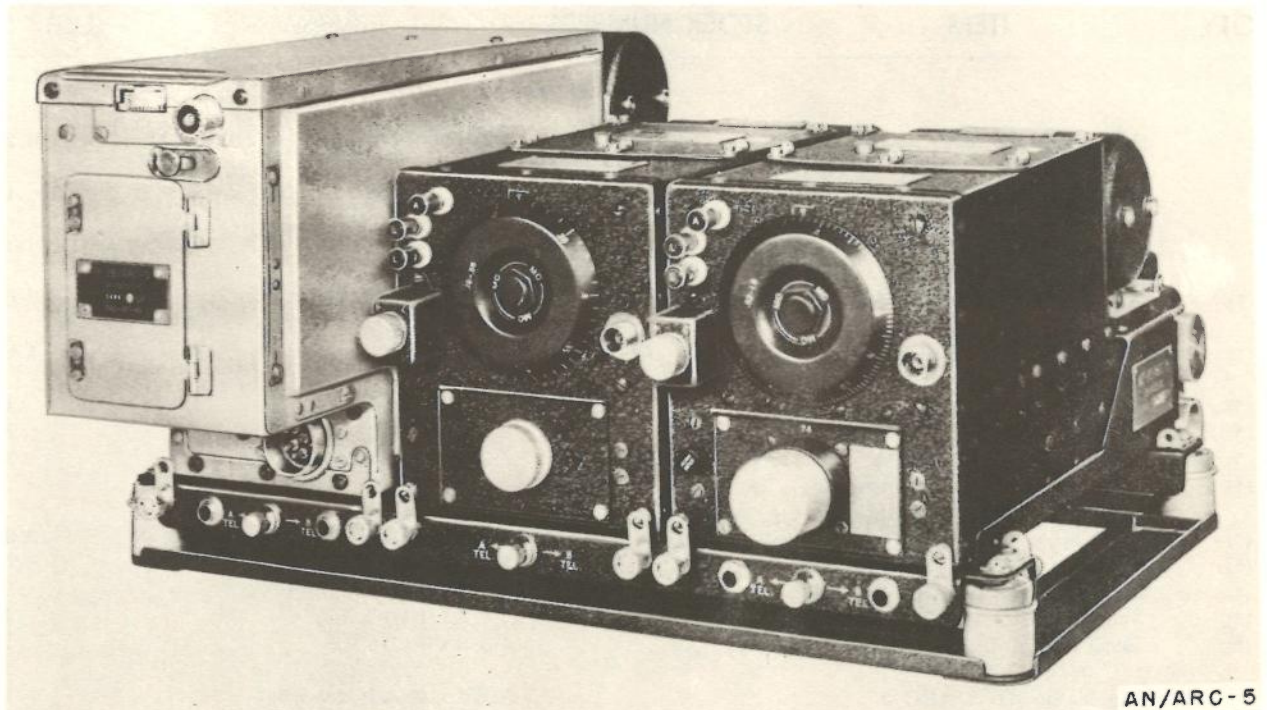
Used by

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STOCK NO: --

F16-Q-106810-200

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AN/ARC-5

**FUNCTIONAL DESCRIPTION:**

Radio Equipment AN/ARC-5 is a multichannel amplitude modulation transmitting and receiving group designed for installation in aircraft. It is used for general air-to-ground communications, and for reception of instrument landing and navigational signals.

This multiple-unit equipment may employ a maximum of five receivers and eight transmitters, depending upon the type of installation.

**TECHNICAL CHARACTERISTICS:****Transmitting:****Frequency Range in Mc:**

- Radio Transmitter T-15/ARC-5: 0.5 to 0.8*
- Radio Transmitter T-16/ARC-5: 0.8 to 1.3*
- Radio Transmitter T-17/ARC-5: 1.3 to 2.1*
- Radio Transmitter T-18/ARC-5: 2.1 to 3.0*
- Radio Transmitter T-19/ARC-5: 3.0 to 4.0*
- Radio Transmitter T-20/ARC-5: 4.0 to 5.3*

*Radio Transmitter T-21/ARC-5: 5.3 to 7.0*

*Radio Transmitter T-22/ARC-5: 7.0 to 9.1*

*Radio Transmitter T-23/ARC-5: 100 to 156*

*Type Emission: A1, A2, A3*

**Power Output:**

*2.1 to 3.0 mc: 16 w on A1; 7 w on A2; 5 w on A3*

*3.0 to 4.0 mc: 24 w on A1; 11 w on A2; 6 w on A3*

*4.0 to 9.1 mc: 39 w on A1; 20 w on A2; 13 w on A3*

*100 to 156 mc: 6 w on A3*

**Features:** Ganged master oscillator and power amplifier circuits; plate and screen grid modulation permits tuning for maximum A3 output; frequency check by magic eye; check of lock tune by crystal resonator

**Receiving:****Frequency range in mc:**

*Radio Receiver R-23/ARC-5: 0.19 to 0.55*

*Radio Receiver R-24/ARC-5: 0.52 to 1.5*

*Radio Receiver R-25/ARC-5: 1.3 to 3.0*

*Radio Receiver R-26/ARC-5: 3.0 to 6.0*

## AN/ARC-5 RADIO EQUIPMENT

Radio Receiver R-27/ARC-5: 6.0 to 9.1  
 Radio Receiver R-28/ARC-5: 100 to 156  
 Type: Superheterodyne  
 Type Reception: A1, A2, A3  
 Sensitivity: 5.0 to 7.0 mv at 30% for 10 mw output

Features: Automatic or manual sensitivity control, automatic volume control, automatic gain control, remote controlled tuning or *lock tune* A3 operation  
 Antenna: Long fore and aft inverted L or T  
 Power Requirements: 24- to 28-v dc aircraft supply

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
(*)	<i>LF-Mf-Hf Components</i>			
(*)	Adapter, Audio MX-19/ARC-5	-----	1-5/8 x 3-1/16 x 2	0.2
(*)	Adapter, Power MX-20/ARC-5	-----	1-5/8 x 3-1/16 x 2	.15
(*)	Adapter, Remote Control MX-21/ARC-5	-----	1-5/8 x 3-1/16 x 2	.15
(*)	Antenna Loading Coil TN-6/ARC-5	-----	8-3/16 x 5-9/16 x 4-1/8	2.0
(*)	Antenna Relay Unit RE-2/ARC-5	-----	5 x 5-5/8 x 1-3/16	1.9
(*)	Control Unit C-25/ARC-5	-----	1-3/8 x 2 x 2-1/2	.1
(*)	Control Unit C-26/ARC-5	-----	5-15/32 x 3-1/4 x 3	.7
(*)	Control Unit C-27/ARC-5	-----	1-3/4 x 1-3/16 x 4-3/8	.25
(*)	Crystal Frequency Generator 0-4/ARC5	-----		
(*)	Dynamotor DY-2A/ARR-2	-----	2-3/4 x 4-3/4 x 3-1/4	3.0
(*)	Dynamotor DY-8/ARC-5	-----	3-3/8 x 7-5/8 x 4	8.2
(*)	Junction Box J-34/ARC-5	-----	2-1/2 x 4-1/8 x 4-3/16	.5
(*)	Junction Box J-28/ARC-5	-----	2-1/2 x 4-1/8 x 4-3/16	.4
(*)	Local Control Unit C-24/ARC-5	-----	1-5/8 x 3-1/16 x 2	.15
(*)	Modulator MD-7/ARC-5	-----	8-1/4 x 10-1/16 x 6-5/8	9.1
(*)	Mounting Base MT-5/ARR-2	-----	10-23/32 x 6-11/16 x 1-9/16	.6
(*)	Mounting Base MT-62/ARC-5	-----	10-23/32 x 11-5/8 x 1-19/16	.8
(*)	Mounting Base MT-64/ARC-5	-----	10-23/32 x 16-9/16 x 1-9/16	1.0
(*)	Mounting Base MT-66/ARC-5	-----	10-23/32 x 21-1/2 x 1-9/16	1.1
(*)	Mounting Base MT-68/ARC-5	-----	11-13/16 x 7-1/4 x 1-11/16	.7
(*)	Mounting Base MT-70/ARC-5	-----	11-13/16 x 12-13/16 x 1-3/4	.8
(*)	Mounting Base MT-72/ARC-5	-----	11-13/16 x 18-1/4 x 1-13/16	.9
(*)	Mounting Base MT-74/ARC-5	-----	11-13/16 x 23-13/16 x 1-7/8	1.1
(*)	Mounting Base MT-76/ARC-5	-----	10-3/16 x 8-7/8 x 1-1/8	.7
(*)	Mounting Base MT-77/ARC-5	-----	5 x 5-3/8 x 1	.3

(\*) Selection and quantities of units depend on type of installation desired and corresponding coverage of units.



RADIO EQUIPMENT **AN/ARC-5**

## MAJOR COMPONENTS—Continued

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
<i>LF-Mf-Hf Components—Continued</i>				
(*)	Mounting Base MT-159/ARC-5	-----	8-3/4 x 5-5/8 x 1-3/8	.5
(*)	Mounting Plate MT-4/ARR-2	-----		
(*)	Mounting Plate MT-78/ARC-5	-----	1/4 x 1-3/16 x 4-3/8	.04
(*)	Mounting Plate MT-80/ARC-5	-----	1/4 x 4-1/8 x 4-3/16	.09
(*)	Rack MT-7A/ARR-2	-----	13-1/8 x 6 x 4-3/8	1.4
(*)	Rack MT-63/ARC-5	-----	13-1/8 x 11 x 4-3/8	2.7
(*)	Rack MT-65/ARC-5	-----	13-1/8 x 16 x 4-3/8	4.0
(*)	Rack MT-67/ARC-5	-----	13-1/8 x 20-7/8 x 4-3/8	5.0
(*)	Rack MT-69/ARC-5	-----	14-5/8 x 6-5/8 x 3-7/8	1.4
(*)	Rack MT-71/ARC-5	-----	14-5/8 x 12-1/8 x 3-7/8	2.5
(*)	Rack MT-73/ARC-5	-----	14-5/8 x 17-5/8 x 3-7/8	3.3
(*)	Rack MT-75/ARC-5	-----	14-5/8 x 23-1/8 x 3-7/8	4.4
(*)	Radio Receiver R-23/ARC-5	-----	11-1/2 x 4-13/16 x 5-5/8	6.0
(*)	Radio Receiver R-24/ARC-5	-----	11-1/2 x 4-13/16 x 5-5/8	6.0
(*)	Radio Receiver R-25/ARC-5	-----	11-1/2 x 4-13/16 x 5-5/8	6.0
(*)	Radio Receiver R-26/ARC-5	-----	11-1/2 x 4-13/16 x 5-5/8	6.0
(*)	Radio Receiver R-27/ARC-5	-----	11-1/2 x 4-13/16 x 5-5/8	6.0
(*)	Radio Transmitter T-15/ARC-5	-----	12-3/4 x 5-1/4 x 7-1/16	9.0
(*)	Radio Transmitter T-16/ARC-5	-----	12-3/4 x 5-1/4 x 7-1/16	9.0
(*)	Radio Transmitter T-17/ARC-5	-----	12-3/4 x 5-1/4 x 7-1/16	9.0
(*)	Radio Transmitter T-18/ARC-5	-----	12-3/4 x 5-1/4 x 7-1/16	9.0
(*)	Radio Transmitter T-19/ARC-5	-----	12-3/4 x 5-1/4 x 7-1/16	9.0
(*)	Radio Transmitter T-20/ARC-5	-----	12-3/4 x 5-1/4 x 7-1/16	9.0
(*)	Radio Transmitter T-21/ARC-5	-----	12-3/4 x 5-1/4 x 7-1/16	9.0
(*)	Radio Transmitter T-22/ARC-5	-----	12-3/4 x 5-1/4 x 7-1/16	9.0
* sets	Spare parts			
(*)	Transmitter Control Unit C-29/ARC-5	-----	2-11/16 x 4-1/8 x 4-3/16	.5
(*)	Transmitter Control Unit C-30/ARC-5	-----	2-11/16 x 4-3/16 x 4-1/2	.7
<i>Vhf Components</i>				
(*)	Adapter 49192	-----	-----	.07
(*)	Auxiliary Control Unit C-39/ARC-5	-----	-----	.9
(*)	Auxiliary Control Unit C-48/ARC-5	-----	-----	.9

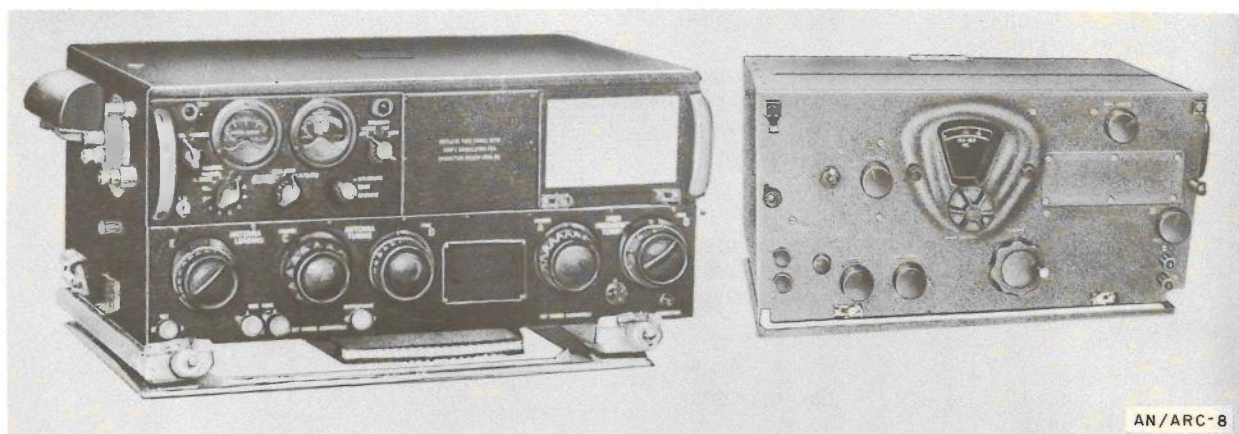


RADIO SET **AN/ARC-8**

14 November 1958

Cognizant Serv: USAF FSN:

	USA	USN	USAF
TYPE CLASS:	--	--	L/Std
STOCK NO:	--	--	1600-266487307

**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARC-8 is an airborne, low- and high-frequency communication system for air-to-air and air-to-ground communication. Application of the set is in bomber, air-sea rescue, trainer and cargo aircraft.

This equipment includes Radio Receiving Set AN/ARR-11 and Radio Transmitting Set AN/ART-13( ). The AN/ARR-11 contains Radio Receiver BC-348( ), which is designed for local continuous tuning. The AN/ART-13( ) uses an autotune system that permits rapid selection of any one of 11 preset channels.

Antenna requirements vary with the operating frequency of the equipment. Normally, for high frequency operation a fore-and-aft inverted L or T type antenna is used; and for low frequency operation a trailing wire and Antenna Loading Unit CU-32/ART-13A are used.

**TECHNICAL CHARACTERISTICS:***Frequency Range in Mc:*

Transmitter: 0.2 to 0.5; 2 to 18

Receiver: 0.2 to 0.5; 1.5 to 18

*Type Controls:* Control Unit C-87/ART-13 provides an OFF-VOICE-CW-MCW switch, an 11-position CHANNEL switch, a pilot lamp, a voice jack, and a key used for keying the transmitter on cw or mcw. A modified version of the key contains a toggle switch that permits selection of two frequencies for each of the 10 high frequency channels of the autotune system—provided Radio Transmitting Set

AN/ART-13B is using crystal-controlled operation. For installations having standardized control panels, Control Panel C-405( )/A replaces and performs all functions (except key) of Control Unit C-87/ART-13.

*Type of Modulation:* AM*Type Emission and Reception:* Voice, tone, mcw*Power Output:***Transmitter:**

200 Kc: 4.0 w

300 Kc: 7.5 w

400 Kc: 11 w

500 Kc: 14 w

600 Kc: 18 w

2.0 Mc: 30 w

3.0 Mc: 60 w

4.0 Mc: 80 w

5.5 Mc to 13.5 Mc: 90 w

15.5 Mc: 75 w

18.1 Mc: 65 w

*Note:* Power output is automatically reduced to one-half its nominal value at altitudes from 20,000 to 25,000 feet.

Receiver: 3 w maximum into 300- or 4,000-ohm resistive load

*Power Requirements:*

Transmitter: 33 amp at 28-v dc

Receiver: 1.5 amp at 28-v dc



**AN/ARC-8** RADIO SET

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
(USAF)				
1	Antenna Loading Unit CU-32/ART-13A	1600-203621020	23-1/2 x 13 x 12	24.75
1	Control Unit C-87/ART-13	1600-211939950	3-1/2 x 6-5/32 x 3-1/4	1.44
	or			
	Control Panel C-405/A	1600-211687989	2-1/2 x 5 x 2-5/8	1.5
	or			
1	Control Panel C-405A/A	1600-337491906		
1	Crystal Control Unit CDA-T	1600-013066001	5-3/8 x 9-1/2 x 6-1/2	3.
1	Dynamotor Unit DY-17/ ART-13A	1600-337837400	7-1/8 x 11-7/8 x 8-7/8	28
	or			
	Dynamotor Unit DY-17A/ ART-13A	1600-011728057		
1	Mounting Base MT-198/ ART-13A	1600-293346301	22-1/2 x 10-11/16 x 2	
1	Mounting Base MT-284A/ ART-13	1600-012830800	20-1/2 x 14-3/4 x 2-1/2	2.94
1	Mounting Plate MT-163/ ART-13	1600-293346058	3-5/8 x 5-1/4 x 1/4	.11
1	Mounting Plate MT-164/ ART-13	1600-349197150	7-1/8 x 11-5/32 x 1-1/4	1.13
1	Oscillator O-17/ART-13A	1600-213573820		
1	Radio Receiver BC-348-Q	1600-216460000	18 x 10-1/2 x 9-1/2	38
	or			
	Radio Receiver BC-348-R	1600-216466000		
	or			
	Radio Receiver BC-348-S	1600-216468500		

## REFERENCE DATA AND LITERATURE:

12R2-2ART13-1, -2  
 12R2-3BC-112  
 12R2-3BC348-2

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
10	15.22	222.62

RADIO SET **AN/ARC-8**

## PROCUREMENT DATA

PROCURING SERVICE: USAF  
SPEC &/or DWG: 71-872-A(BC-348-( ))

DESIGN COG: USAF, ARDC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
The Hallicraft Co.	Chicago Ill.	AF33(600)-24620 (BC-348-R only)	\$397.00

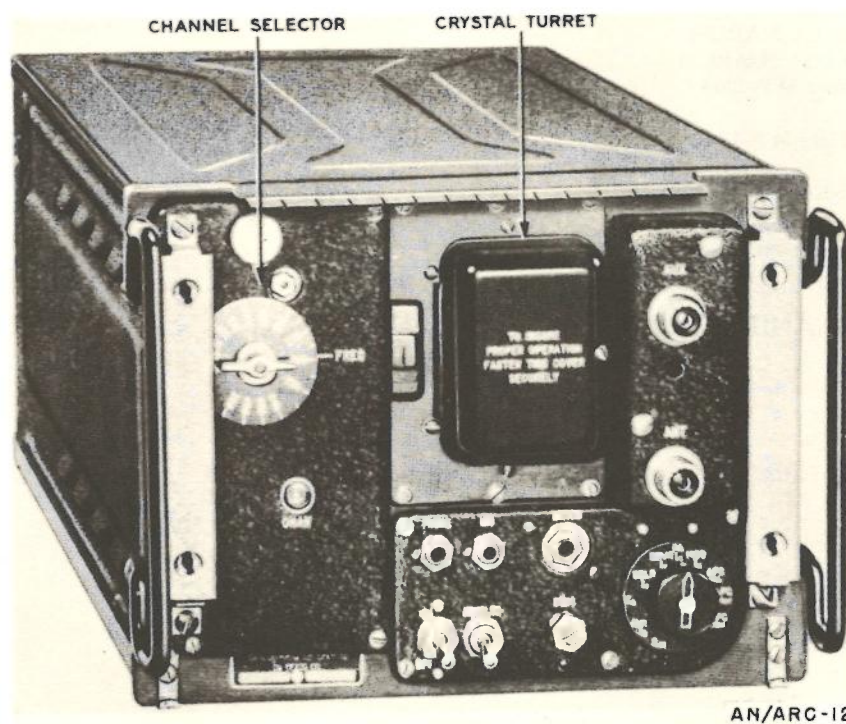




14 November 1958

Cognizant Serv: USAF FSN:

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	--	--



### FUNCTIONAL DESCRIPTION:

Radio Set AN/ARC-12 is designed to provide radio telephone communication between aircraft or between aircraft and ground stations.

Provision is made for the remote selection of any one of nine predetermined main channel frequencies or a fixed guard channel frequency.

The receiver circuit includes a separate radio frequency unit that permits monitoring on the guard channel while operating on one of the main channels.

This equipment may be used separately or as a component of Radio Set AN/ARC-30, an airborne communications relay system. The AN/ARC-30 consists essentially of two AN/ARC-12's receiving on one frequency and transmitting on a different frequency.

Radio Set AN/ARC-12 is functionally similar to Radio Sets AN/ARC-1 and AN/ARC-1X except for the frequency range covered.

### TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 225 to 350; nine preset main frequencies and one guard frequency

*Type Modulation:* AM

*Type Emission and Reception:* Voice

*Approximate Range:* Line of sight

*Receiver Output:* 100 mw into at 300-ohm resistive load with an RF input of 10 uv, 30% modulated at 1,000 cps; 500 mw (-10% +20%) with an RF input of 1,000 uv, 30% modulated at 1,000 cps

*Transmitter Output:* 6w (RF output)

*Power Requirements:*

Reception: 9 amp continuous at 26.5-v dc

Transmission: 11.5 amp (maximum) continuous at 26.5-v dc  
Channel Switching Interval Reception: 11 amp intermittent at 26.5-v dc

Channel Switching Interval Transmission: 13.5 amp (maximum) intermittent at 26.5-v dc

MIL-HDBK-161

**AN/ARC-12** RADIO SET

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Cabling CX-181B/ARC-1	-----	-----	1.75
1	Control Unit C-115/ARC-1	-----	2-1/4 x 6 x 6-1/2	0.8
	or			
1	Control Unit C-45/ARC-1	-----	-----	-----
1	Dynamotor DY-9B/ARC-1	-----	3-1/2 x 5-1/4 x 9-3/16	5.7
1	Mounting Base MT-230A/ ARC	-----	-----	4.13
1	Mounting Plate MT-4/ ARR-2	-----	-----	0.1
1	Transmitter-Receiver RT-58/ ARC-12	-----	9-1/32 x 10-7/8 x 24-1/2	45.3

**REFERENCE DATA AND LITERATURE:**

AN-16-30ARC12-3

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

**PROCUREMENT DATA**

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
RCA, Victor Division, Radio Corp. of America	New York, N. Y.	NObsa 30232	\$4,000.00
Western Electric Co.	New York, N. Y.	NObsa 30181	\$4,000.00

## RADIO SET AN/ARC-21( )

14 November 1958

Cognizant Serv: USAF FSN:

USA

USN

USAF

TYPE CLASS: --

--

Alt-Std

STOCK NO: --

--

1600-266490141

**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARC-21( ) is an airborne liaison type long distance communication system for air-to-air and air-to-ground communication. It is used in bombers, reconnaissance, and air support aircraft. The receiver-transmitter is in a pressurized container to provide full power output at altitudes up to 50,000 feet.

The system provides a total of 44,000 possible frequencies, spaced in increments of 500 cycles, within the tuning range of the set. Any 20 of these channels can be preset in the Radio Set Control C-451( )/ARC-21 in any order. As many as five supplementary controls (Radio Set Control C-455/ARC) may also be used for selection of any one of the 20 preset frequencies.

Intercommunication Set AN/AIC-10 is required for input and output circuits. Frequency shift keying for teletype operation requires Frequency Shift Converter CV-357/A and a teletypewriter. The system can operate with Control

Keyer Group AN/ARA-26 and auxiliary Radio Set AN/ARR-36.

A fixed wire or flush-mounted aircraft can be used with this equipment. An automatic antenna coupler (type 3000 or 3100) is required to match the impedance of the aircraft antenna to the 52-ohm coaxial transmission line used by the system.

Radio Set AN/ARC-21 and AN/ARC-21X are identical except for power requirements. The AN/ARC-21 operates from direct current only; the AN/ARC-21X, from both alternating and direct current.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 2 to 24

*Type Controls:* Radio Set Control C-451( )/ARC-21 provides access to preset frequency control drums, VOLUME control, CONTROL off-on switch, CW TUNE fine tuning control, CW SHARP-CW Broad-VOICE-FSK type of



## AN/ARC-21( ) RADIO SET

operation selector switch, NOISE control, POWER-HI-LOW switch, and a CHANNEL selector switch. Radio Set Control C-455/ARC is a supplementary control unit enabling operations from points other than the Radio Set Control C-451( )/ARC-21. Only controls for VOICE operation and channel selection are provided in this unit.

Type Modulation: AM

Type Emission and Reception: Cw, voice, frequency shift keying

Power Output:

Transmitter: 100 w (nominal)

Receiver: 900 mw into 200-ohm impedance

## Power Requirements:

Dynamotor Assembly DY-50/ARC-21:

Transmit Operation: 59 amp at 27.5-v dc

Receive Operation: 25 amp at 27.5-v dc

Tuning Operation: 45 amp at 27.5-v dc

Power Supply PP-298/ARC-21X:

Transmit Operation: 21 amp at 27.5-v dc; 8 amp, 115-v 380- to 1,000-cycle ac

Receive Operation: 17 amp at 27.5-v dc; 2.5 amp, 115-v 380- to 1,000-cycle ac

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(USAF)		
1	Dynamotor Assembly DY-50/ARC-21	1600-011728020	7-1/4 x 8-7/8 x 12-3/4	30.5
	or			
	Power Supply PP-298/ ARC-21X	1600-013323015	7-23/32 x 8-7/8 x 12-3/4	25.5
1	Keyer Group Adapter MX-1394/ARC-21	1600-010012000	3-3/4 x 2-3/4 x 5	1.6
1	Mounting MT-971/U	1600-293349175	2-1/8 x 18-5/8 x 18-3/8	4
1	Mounting MT-972/U	1600-293349176	2-7/8 x 8-3/4 x 13-7/32	1.38
1	Mounting MT-1555/U	1600-012829040	2-25/32 x 3-3/4 x 7-7/8	1
1	Radio Receiver-Transmitter RT-128/ARC-21	1600-218996925	19 x 18-1/8 x 26-1/8	132
	or			
	Radio Receiver-Transmitter RT-128A/ARC-21	1600-013570075		
1	Radio Set Control C-451/ ARC-21	1600-211944406	7-1/8 x 5-3/4 x 5-1/8	5.34
	or			
	Radio Set Control C-451A/ ARC-21	1600-011270120		
1 to 5	Radio Set Control C-455/ ARC	1600-011270030	2-5/8 x 5-3/4 x 4-13/32	1.5
1	Solenoid Relay RE-132/ARC	3380-701525-4415	8 x 3-1/4 x 3-1/4	2.5

## REFERENCE DATA AND LITERATURE:

TO 12R2-2ARC21-1, -2, -3, -4, -505

RADIO SET **AN/ARC-21( )**

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
8	13.59	279.90

## PROCUREMENT DATA

Procuring Service: USAF  
SPEC &/or DWG: MIL-R-6471A(USAF)-AN/ARC-21, MIL-R-6472(USAF)-AN/ARC-21X

DESIGN COG: USAF, ARDC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Radio Corp. of America	Camden, N. J.	AF33(600)-32231	\$18,171.00





## RADIO SET AN/ARC-27

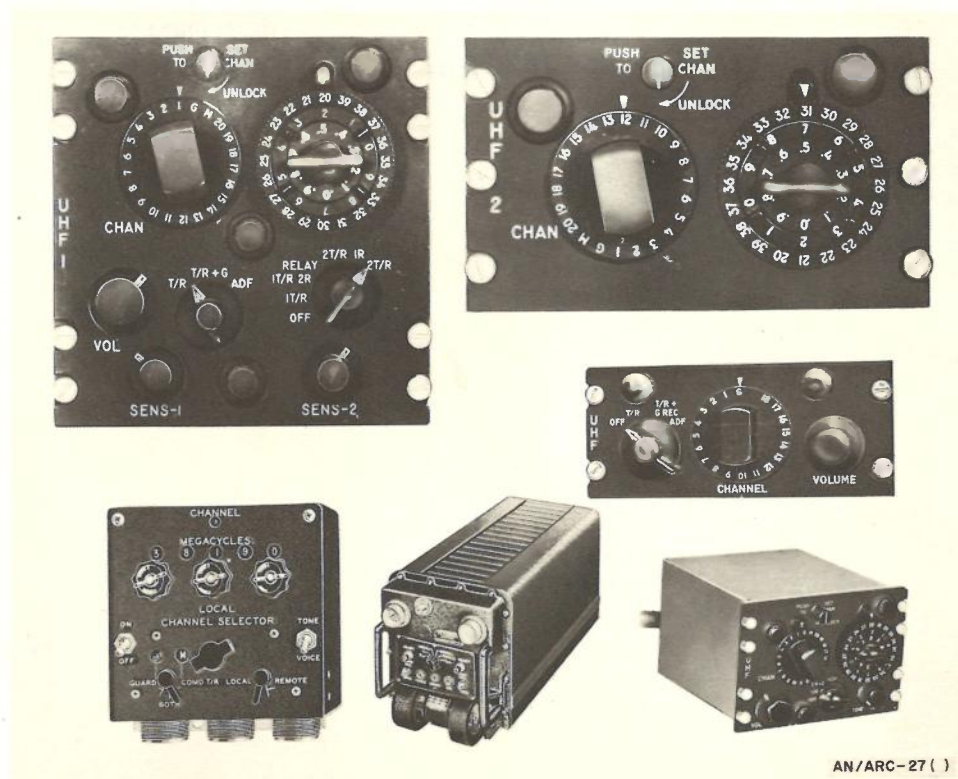
14 November 1958

Cognizant Serv: USN FSN: 5821-503-1114, 5821-644-4926(USN)

USA

USN

USAF

TYPE CLASS: --  
STOCK NO: --Used by  
F16-Q-106856-200Alt-Std  
R-51-5688-AMG

AN/ARC-27 ( )

**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARC-27 is an airborne, two-way, ultra high frequency command radio equipment for voice or tone signals. It is used for air-to-air, air-to-ship, and ground-to-air communication in all types of fighter, bomber, and cargo aircraft.

The receiving equipment consists of a triple-conversion, superheterodyne unit using three crystal oscillators, and a double-conversion superheterodyne auxiliary guard channel receiver. Both receivers work into a common audio output circuit. The triple-conversion receiver operates with Direction Finder Group AN/ARA-25 for navigational purposes, as well as for voice communication.

Provision is made for the remote selection of any one of 18 preset frequencies or for operation on a guard channel frequency, and for constant monitoring of the guard frequency.

Any aircraft antenna using a 52-ohm coaxial transmission

line, such as Radio Frequency Cable RG-8/U or RG-58/U, may be used.

This equipment is similar to Radio Set AN/ARC-19, except for differences in channel spacing.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 225 to 400

*Frequency Channels:* 1750; spaced 100 kc apart

*Preset Frequencies:* 18

*Approximate Range:* Line of sight

*Type Modulation:* AM

*Type Emission and Reception:* Voice or tone

*Transmitter:*

Modulation: 90% to 95%

Power Output: 9 w

*Receiver:*

Type: Superheterodyne

Input: 5 uv 30% modulated at 1,000 cps

MIL-HDBK-161

## AN/ARC-27 RADIO SET

Minimum Output: 50 mw

Maximum Output: 2 w

**Antenna:**

Type: Borad-band

Impedance: 50 ohms

**Power Requirements:**

Transmitting: 19.1 amp at 27.5-v dc

Receiving: 16.5 amp at 27.5-v dc

Channel Switching: 25.5 amp at 27.5-v dc

### MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Mounting MT-821/ARC-27	-----	6-11/16 x 6-37/64 x 3/8	0.6
1	Mounting MT-822/ARC-27	-----	2-3/8 x 11-1/8 x 19-3/4	3.7
1	Radio Receiver-Transmitter RT-178/ARC-27	-----	12-3/8 x 11-1/4 x 27-7/8	72.2
1	Radio Set Control C-626/ ARC-27	-----	9-9/16 x 6-3/8 x 5-1/2	9.75
1	Radio Set Control C-628/ ARC-27	-----	2-5/8 x 3-5/8 x 5-3/4	1.5
1 set	Spare parts			

### REFERENCE DATA AND LITERATURE:

AN 16-30ARC27-3

### SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

### PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG: MIL-R-5068

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Collins Radio Co.	Cedar Rapids, Iowa	NObsr-30199, 4 October 1946	

14 November 1958

Cognizant Serv: USAF FSN:

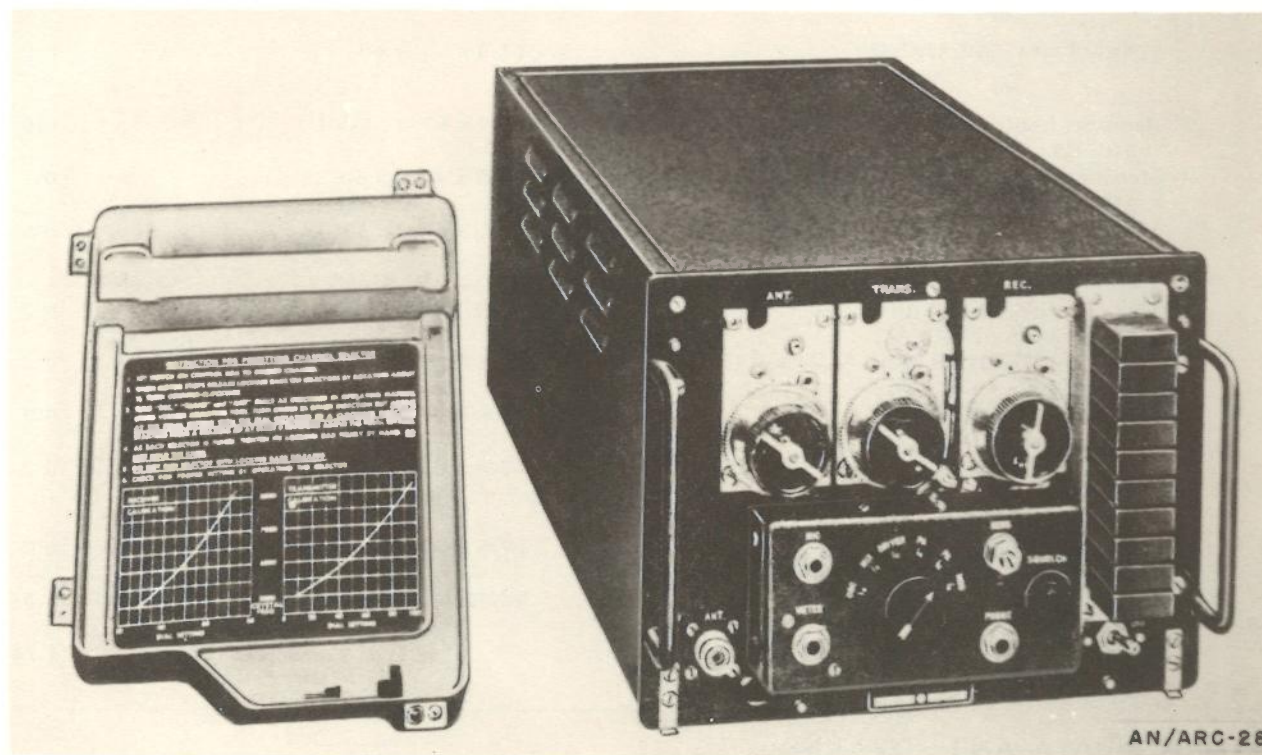
USA

USN

USAF

TYPE CLASS: --  
STOCK NO: --

Used by

--  
--

AN/ARC-28

**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARC-28 is an airborne very-high frequency automatic relay station equipment designed to extend the range of voice radio communication between either a shore station or a ship and other aircraft.

A signal transmitted from a shore station or a ship is received by one transceiver and applied through a relay unit to the second transceiver for relaying to the aircraft with which contact is desired.

Two radio Sets AN/ARC-1, interconnected by a relay unit, are required but not supplied. Each transceiver provides 10 preset crystal-controlled channels, one of which is used as a guard channel. Provision is made for either individual or simultaneous use of the two transmitter-receivers.

Remote controls are available for individual transceiver

operation, as well as for the control of the automatic relay system.

Remote controls are available for individual transceiver operation, as well as for the control of the automatic relay system.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 100 to 156; nine main channels, one guard channel

*Type Modulation:* AM

*Type Signal:* Voice

*Transmitter Output:* 8w

*Receiver Output:* 400 mw into 300-ohm resistive load for each output circuit

*Frequency Stability:* 0.25% at  $-40^{\circ}$  to  $+50^{\circ}$ C.

*Power Requirements:* 28-v aircraft battery

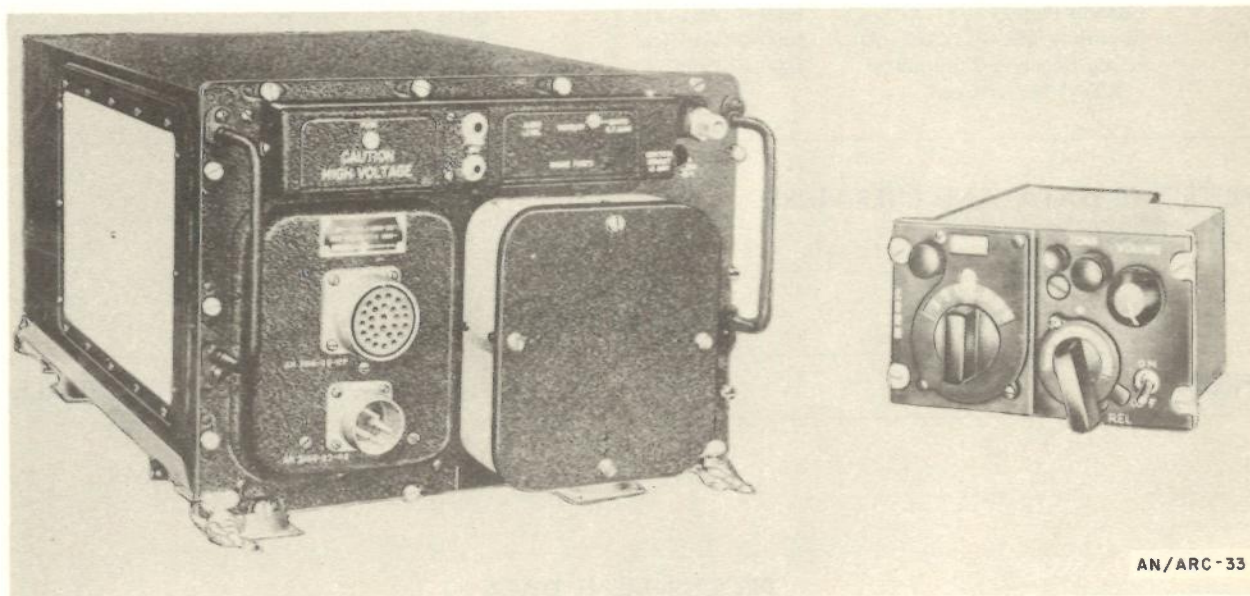




14 November 1958

Cognizant Serv: USAF FSN:

	USA	USN	USAF
TYPE CLASS:	--	--	Alt-Std
STOCK NO:	--	--	1600-266490165



AN/ARC-33

### FUNCTIONAL DESCRIPTION:

Radio Set AN/ARC-33 is an airborne command, receiving-transmitting equipment designed for air-to-air and air-to-ground voice communication in the ultra high frequency range. Primary application of the equipment is for voice communication in fighter aircraft at altitudes up to 50,000 feet.

This equipment is normally operated with remote Control Panel C-784/ARC-33, which automatically increases the gain of the modulator speech amplifier with an increase in altitude. The control also permits presetting of any 20 channels of the total range of frequencies. One guard channel in the 238- to 248-megacycles range can be monitored simultaneously with normal operation of the equipment.

Flush-tail cap-type arrays, Antenna AT-256A/ARC, or any other ultra high frequency antenna having a 52-ohm coaxial transmission line, such as Radio Frequency Cable RG-8/U, can be used.

The receiver-transmitter component has been modified for use with Direction Finder Group AN/ARA-25. Remote Channel Indicator ID-572/ARC and associated Control Box C-2006/ARC-33 are designed for use with the AN/ARC-33 installed in fighter aircraft to enable the pilot to select

a channel without having to look away from the flight instruments. Additional aircraft wiring is required for this function.

This equipment is interchangeable with, as well as operationally and physically similar to Radio Set AN/ARC-27.

### TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 225.0 to 399.9

*Number of Frequencies:* 1,750; spaced in increments of 100 kc

*Approximate Operational Range:* 75 miles at 3,000 feet altitude

*Type Controls:* Control Panel C-784/ARC-33 provides a guard indicator, a tone pushbutton, a volume control, an on-off switch, a Main-Both-G function switch, a memory cylinder assembly panel, a channel selector switch, and a preset channel indicator. This control is being replaced in USAF aircraft by Control C-2006/ARC-33, functionally and physically similar to Control C-1057A/ARC-34.

*Type Modulation:* AM

*Type Emission and Reception:* Voice, tone

*Transmitter Power Output:* 8 w (minimum)

*Power Requirements:*

Transmitting: 15.5 amp at 27.5-v dc

Receiving: 12.5 amp at 27.5-v dc

Peak: 20.25 amp at 27.5-v dc

MIL-HDBK-161

**AN/ARC-33** RADIO SET

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(USAF)		
1	Control Panel C-784/ARC-33	1600-373061550	5-3/4 x 3-3/4 x 7-5/8	3.43
1	Mounting MT-611/ARC-33	1600-293348500	2-3/8 x 14-3/4 x 21	2.75
1	Radio Receiver-Transmitter RT-173A/ARC-33	1600-013569950	15-3/16 x 10-3/8 x 21-1/2	83.56

REFERENCE DATA AND LITERATURE:

TO 12R2-2ARC33-1, -2, -4

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
3	8.93	139.35

PROCUREMENT DATA

PROCURING SERVICE: USAF  
SPEC &/or DWG: MIL-R-25061

DESIGN COG: USAF, ARDC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Bendix Radio Corp.	Towson, Md.	AF33(038)-20409	\$4,100.00

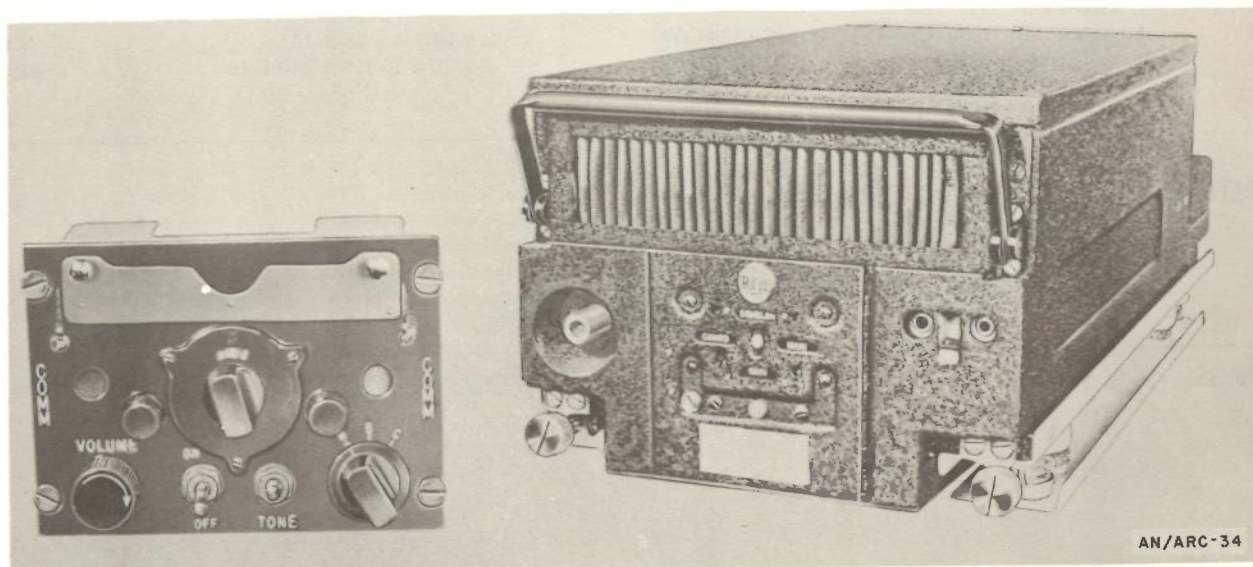


RADIO SET **AN/ARC-34**

14 November 1958

Cognizant Serv: USAF FSN:

	USA	USN	USAF
TYPE CLASS:	--	--	Std
STOCK NO:	--	--	1600-013388000

**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARC-34 is a minaturized version of Radio Set AN/ARC-33. It is an airborne command, receiving-transmitting equipment designed for air-to-air and air-to-ground voice communication in the ultra high frequency range. Its primary application is for voice communication in fighter, bomber, reconnaissance and air support aircraft. It will operate at altitudes up to 50,000 feet.

Radio Set Control C-1057/ARC-34 permits presetting, in any order desired, of any 20 channels. One guard channel in the 238- to 248-megacycle range can also be monitored simultaneously with normal operation of the equipment.

The set has 150-ohm impedance, nominal, input and output circuits for use with either Intercommunication Set AN/AIC-10 or Microphone T-17 and Headset HS-33. Other intercommunications systems can be used if the input and output impedances and interwiring can be matched.

Flush-tail cap-type arrays, Antenna AT-256A/ARC, or any other ultra high frequency antenna having a 52-ohm coaxial transmission line, such as Radio Frequency Cable RG-8/U, can be used.

This equipment can operate with Direction Finder Group

AN/ARA-25 and Control Keyer Group AN/ARA-26. Remote Channel Indicator ID-572/ARC and associated Radio Set Control C-1057A/ARC-34 are designed for use with the AN/ARC-34 installed in fighter aircraft to enable the pilot to select a channel without having to look away from the flight instruments. Additional aircraft wiring is required for this function.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 225.0 to 399.9

*Number of Frequencies:* 1,750; spaced in increments of 100 kc

*Approximate Operational Range:* 75 miles at 3,000 feet altitude

*Type Controls:* Radio Set Control C-1057/ARC-34 provides an OFF-MAIN-BOTH-ADF switch and a MANUAL-PRESET-GUARD switch.

*Type Modulation:* AM

*Type Emission and Reception:* Voice, tone

*Transmitter Power Output:* 8 w (minimum)

*Power Requirements:*

Maximum: 21 amp at 22 to 29-v dc

Transmitting: 18 amp 27.5-v dc (nominal)

Receiving: 13.5 amp at 27.5-v dc (nominal)

Tuning: 17 amp 27.5-v dc (nominal)

MIL-HDBK-161

**AN/ARC-34** RADIO SET

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(USAF)		
1	Control, Radio Set C-1057/ ARC-34	1600-011270020	4-7/8 x 5-3/4 x 7-1/10	2.7
1	Mounting MT-1099/U	1600-012830090	2 x 10-3/4 x 21-5/16	3.6
1	Radio Receiver-Transmitter RT-263/ARC-34	1600-013570000	7-9/16 x 10-1/8 x 20-11/16	46.9

REFERENCE DATA AND LITERATURE:

TO 12R2-2ARC34-1, -2, -3, -4

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
3	7.42	105.1

PROCUREMENT DATA

PROCURING SERVICE: USAF  
SPEC &/or DWG: MIL-R-7646C (USAF)

DESIGN COG: USAF, ARDC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Magnavox Co.	Fort Wayne, Ind.	AF33(600)31283	\$4,300.00
Radio Corp. of America	Camden, N. J.	AF33(600)29041	\$4,300.00
		AF33(600)30587	

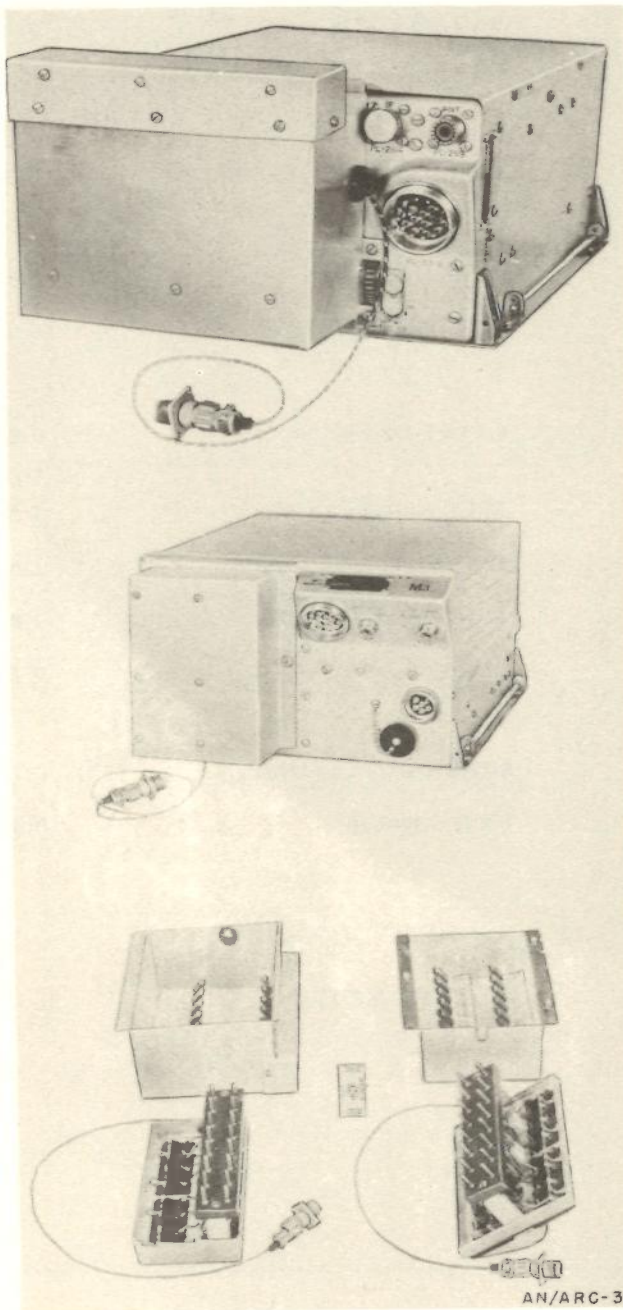
14 November 1958

Cognizant Serv: USAF FSN:

USA

USN

USAF

TYPE CLASS:  
STOCK NO:L/Std  
AN/ARC-36: 1600-  
266490175  
AN/ARC-36A: 1600-  
013388030  
AN/ARC-36B: 1600-  
013388040**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARC-36( ) is an airborne communication system for air-to-ground and air-to-air communications in the very high frequency range. Sixteen preset crystal-controlled channels are remotely controlled by Control Box C-118( )/ARC-3 or Control Panel C-404( )/A.

The transmitter has an output impedance of 52 ohms matching low impedance lines, such as Radio Frequency Cable RG-8/U. It normally operates with Antenna Mast AN-104-B.

This equipment is similar to Radio Sets AN/ARC-3 and AN/ARC-49 except for the number of frequency channels. The AN/ARC-3 has eight, the AN/ARC-36( ) has 16, and the AN/ARC-49 has 48 channels.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 100 to 156

*Number of Crystals Required:* 32

*Type Controls:* Control Box C-118( )/ARC-3 provides eight channel selector pushbuttons, an OFF pushbutton, a MIC receptacle, a TEL jack and a Tone button. Control Panel C-404( )/A provides a channel selector switch, a tone switch, a volume control, and an ON-OFF switch.

*Approximate Operational Range:* Line of sight

*Type Modulation:* AM

*Type Emission and Reception:* Voice, tone

*Power Output:*

Transmitter: 8 w into a 50-ohm resistive load

Receiver: 600 mw into 50- or 600-ohm load impedance

*Power Requirements:*

Starting: 3,324 w, 118 amp at 28-v dc

Transmitting: 12.4 amp 28-v dc

Receiving: 5.9 amp at 28-v dc



## AN/ARC-36( ) RADIO SET

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(USAF)		
1	Control Box C-118/ARC-3 or Control Box C-118A/ARC-3 or Control Panel C-404/A or Control Panel C-404A/A	1600-211939981  1600-211687425  1600-211687988  1600-211688471	6 x 2-5/8 x 6-7/8    5 x 2-5/8 x 2-5/8	2.1    0.9
1	Dynamotor Unit DY-21/ ARC-3	1600-337837500	4 x 3-7/16 x 7-1/2	8.4
1	Dynamotor Unit DY-22/ ARC-3	1600-337837590	4 x 3-7/16 x 6-1/2	4.8
1	Modification Kit MX-1131( )/ ARC	1600-012674500		
1	Mounting FT-240-A (u/w Control Box C-118( )/ ARC-3)	1600-293030000	5/16 x 5-1/2 x 6-3/8	0.3
1	Mounting Base MT-236B/ ARC-3	1600-293346524	10-1/8 x 8-1/2 x 2-1/8	1.2
1	Mounting Base MT-237C/ ARC-3	1600-293346534	11-5/16 x 10-5/8 x 2-1/8	1.6
1	Mounting Base MT-238C/ ARC-3	1600-293346544	12-1/2 x 11-7/8 x 2-1/8	1.8
1	Power Junction Box J-68/ ARC-3 or Power Junction Box J-68A/ ARC-3	1600-347541000  1600-012490200	3-3/16 x 8-3/8 x 10-11/32  3-3/16 x 8-3/8 x 10-11/32	6.7  6.7
1	Radio Receiver R-77/ARC-3 or Radio Receiver R-77A/ARC-3 or Radio Receiver R-77B/ARC-3	1600-215157921  1600-224564921  1600-013424030	6 x 11 x 14-5/16   7-1/2 x 12-1/8 x 15-1/4	20.5   21
1	Radio Transmitter T-67/ ARC-3 or Radio Transmitter T-67A/ ARC-3 or Radio Transmitter T-67B/ ARC-3	1600-224643270  1600-014480300  1600-014480300		

RADIO SET AN/ARC-36( )

## REFERENCE DATA AND LITERATURE:

TO 12R2-2ARC-2, -34, -503

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
11	5.26	99.38

## PROCUREMENT DATA

PROCUREMENT SERVICE: USAF  
 SPEC &/or DWG: MIL-M-5818 (USAF)

DESIGN COG: USAF, ARDC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
For AN/ARC-36( ): Sylvania Electric Products, Inc.	Buffalo, N. Y.	AF33(600)23386	\$1,040.00
For Modification Kit MX-1131A/ARC	----	AF33(600)32814	93.00





RADIO SET **AN/ARC-38**

14 November 1958

Cognizant Serv: USN FSN:

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	--	--

(No Illustration Available)

**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARC-38 provides cw and phone, two-way communication between aircraft in flight, aircraft and ship, and aircraft and shore. It provides both transmitting and receiving facilities for high-frequency communication.

Radio Set Controls C-1398/ARC-38 and C-1399/ARC-38 permit the selection of 20 preset channels. The set may also be operated at the receiver-transmitter location if the type of emission and channel have been previously selected.

Operated at the pilot's control position, only phone emission is available on the 20 preset channels. Full frequency choice and cw emission are made available at the radio operator's control position.

**TECHNICAL CHARACTERISTICS:**

Frequency Range in Mc: 2 to 25

*Transmitter:*

Power Output: 2.0 to 14.2495 MC: 100 w minimum;  
14.250 to 25 Mc: 90 w minimum

Type Emission: A1, A3

Modulation Level: 95 to 100% when 1,000 cps input voltage is 1.0 v

*Receiver:*

Output: 100 mw minimum with 5-uv input modulated 30% at 1,000 cps

Distortion: 12% maximum of a 30%, 1,000 cps modulated wave with input of 50 to 100,000 uv

Audio Response:  $\pm 3.5$  db relative to 1,000 cps output for frequency between 300 to 3,500 cps

Power Requirements: 174 va, 115-v, 400-cycle ac; 26 amp at 27.5-v dc

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Dynamotor-Power Supply DY-118/ARC-38	-----	4-7/8 x 6-3/4 x 18-5/16	22.0
1	Mounting MT-1414/ARC-38	-----	3-7/8 x 5-7/8 x 15-7/8	4.0
1	Mounting MT-1415/ARC-38	-----	7-1/8 x 16-3/8 x 21-7/16	9.4
1	Radio Receiver-Transmitter RT-311/ARC-38	-----	7-13/16 x 51-5/16 x 23-7/16	63.6
1	Radio Set Control C-1398/ ARC-38	-----	5-3/4 x 6 x 7-3/16	7.0
1	Radio Set Control C-1399/ ARC-38	-----	1-7/8 x 3-7/8 x 5-3/4	1.25

**REFERENCE DATA AND LITERATURE:**

NAVAER 16-30ARC83-501

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
4	3.5	96

MIL-HDBK-161

**AN/ARC-38** RADIO SET

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG: MIL-R-18173 (Aer)

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Collins Radio Co.	Cedar Rapids, Iowa	NOas 55-821, 29 August 1956 NOas 52-670, 22 December 1951	\$6,240.00 \$6,240.00

## RADIO SET AN/ARC-44

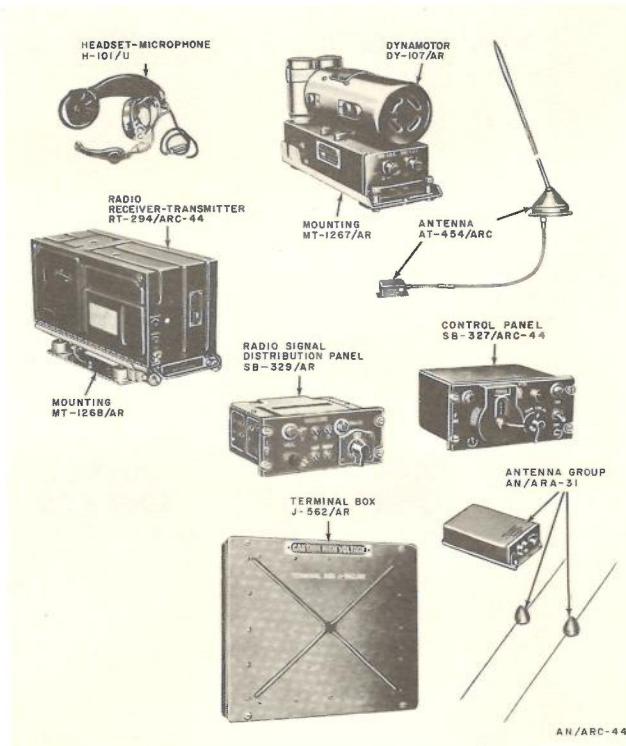
1 July 1958

Cognizant Serv: USA FSN: 5821-503-2586

USA

USN

USAF

TYPE CLASS:  
STOCK NO:Std  
2S921-44--  
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## FUNCTIONAL DESCRIPTION:

Radio Set AN/ARC-44 is a compact FM radio equipment that operates in the vhf range and can be used for communication, retransmission, and homing in Army aircraft.

It consists essentially of a receiver-transmitter that is operated from remote-control panel equipment and a radio distribution panel that enables the selection and operation of as many as six receivers (singly or in combination), three transmitters, or the aircraft interphone channel.

This equipment is capable of functioning as an airborne radio relay station between two stations that cannot communicate with each other because of distance. In such applications, an additional transmitter is required and different receive and transmit channels are used.

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 24 to 51.9 (280 channels, 100 kc apart)

*Type Modulation:* FM

*Type of Signal:* Voice; keyed FM; keyed cw for homing

*Power Output:* 50 mw (rcvr); 8 w (xmtr)

*Power Requirements:* Dynamotor DY-107/AR: 475 amp, 27-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
(USA)				
1	Antenna Group AN/ARA-31	2A289A-31	-----	3.38
(*)	Control Panel SB-327/ARC-44	2Z6955-327	3 x 6 x 5-3/4	2.19
1	Radio Receiver-Transmitter RT-294/ARC-44	2C5130-294	7-1/4 x 13-7/8 x 5-1/8	14
(*)	Radio Signal Distribution Panel SB-329/AR	2Z6955-329	2-5/8 x 5-5/16 x 5-3/4	1.63
1	Radio Test Set AN/ARM-8	3F4318-6.3	6 x 9 x 9-5/32	8.69
1	Terminal Box J-562/AR	3Z12501-5.4	2 x 11 x 12	4.25

\* Quantity depends on aircraft in which installed.



MIL-HDBK-161

**AN/ARC-44** RADIO SET

REFERENCE DATA AND LITERATURE:

TM 11/517

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
9	5.2	92.75

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG: MIL-R-12483A

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Admiral Corp.	Chicago, Ill.	50727-P-57-55	\$1,400.00

RADIO SET **AN/ARC-48**

17 November 1958

Cognizant Serv: USN FSN:

USA

USN

USAF

TYPE CLASS: --

Used by --

STOCK NO: --

(No Illustration Available)

**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARC-48 is a small, light-weight communication equipment designed for use in all types of rotary wing and reconnaissance type fixed wing aircraft. It provides two-way communication with properly equipped surface stations and other aircraft.

This equipment meets essential communication requirements for the aircraft in which it is installed and in addition functions as a common control point for other communications equipments installed in the aircraft.

**TECHNICAL CHARACTERISTICS:***Frequency Range:*

Three Channel Settings: 233.8 mc, 234.6 mc, 236.2 mc

Guard Channel: Preset at 243.0 mc

Spare Crystal: For 237.8 mc (provided)

*Transmitter Power Output:* 2 w at 90% modulation*Receiver Power Output:* 100 mw*Sensitivity:* 6 uv*Selectivity:* 6 db signal-plus-noise-to-noise ratio*Power Requirements:* 1.6 amp at 27.5-v dc**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
2	Antenna AT-481/ARC-48			
1	Dynamotor DY-128/ARC-48			
1	Mounting MT-1381/ARC-48			
1	Mounting MT-1382/ARC-48			
1	Radio Set Control C-1363/ARC-48			
1	Receiver-Transmitter, Radio RT-307/ARC-48			

**REFERENCE DATA AND LITERATURE:**

NAVER 16-30ARC48-501

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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MIL-HDBK-161

**AN/ARC-48** RADIO SET

PROCUREMENT DATA

PROCURING SERVICE: USN, BuAer  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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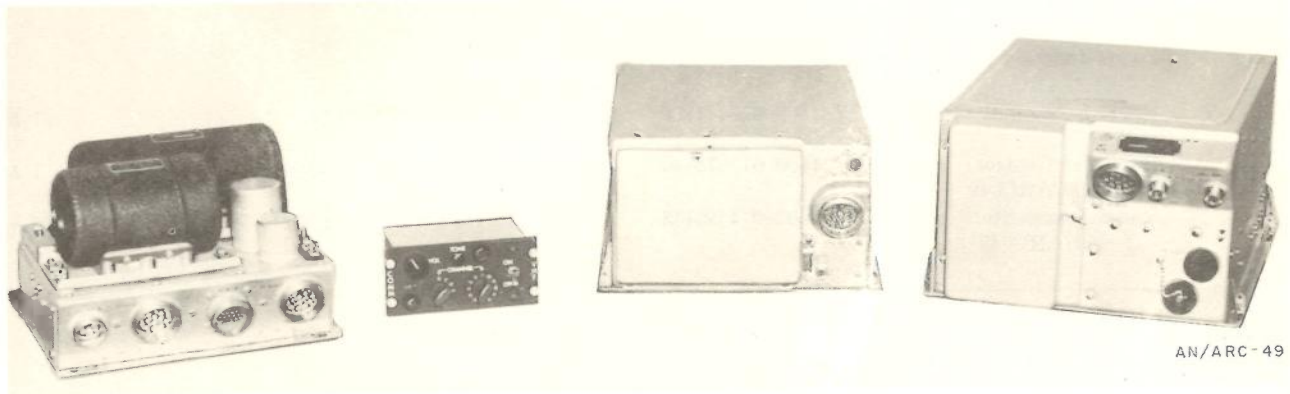


RADIO SET **AN/ARC-49**

17 November 1958

Cognizant Serv: USAF FSN:

	USA	USN	USAF
TYPE CLASS:	--	--	Std
STOCK NO:	--	--	1600-013388025



AN/ARC-49

**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARC-49 is an airborne communication system for air-to-air and air-to-ground communication in the very high frequency range. Forty-eight preset crystal-controlled channels are remotely controlled by Control Radio Set C-1400/ARC-49.

This equipment is similar to Radio Sets AN/ARC-3 and AN/ARC-36( ) except for the number of frequency channels. The AN/ARC-3 has eight, the AN/ARC-36( ) has 16, and the AN/ARC-49 has 48 channels.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 100 to 150

*Type Controls:* Radio Set Control C-1400/ARC-49 provides a VOLUME control, a TONE button, a crystal selector switch, a channel selector, and an ON-OFF switch.

*Type Modulation:* AM

*Type Emission and Reception:* Voice, tone

*Power Output:*

Transmitter: 8 w into a 50-ohm resistive load

Receiver: 600 mw into 50- or 600-ohm load impedance

*Power Requirements:*

Continuous Operation: 385 w, 13.75 amp at 28-v dc,

Starting: 3,324 w, 118 amp at 28-v dc

Transmitting: 12 amp at 28-v dc

Receiving: 5.5 amp at 28-v dc

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(USAF)		
1	Dynamotor Unit DY-21/ARC-3	1600-337837500	4 x 3-7/16 x 7-1/2	8.4
1	Dynamotor Unit DY-22/ARC-3	1600-337837590	4 x 3-7/16 x 6-1/2	4.8
1	Mounting Base MT-236B/ARC-3	1600-293346524	10-1/8 x 8-1/2 x 2-1/8	1.2
1	Mounting Base MT-237C/ARC-3	1600-293346534	11-5/16 x 10-5/8 x 2-1/8	1.6
1	Mounting Base MT-238C/ARC-3	1600-293346544	12-1/2 x 11-7/8 x 2-1/8	1.8

MIL-HDBK-161

**AN/ARC-49** RADIO SET

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Power Junction Box J-68/ARC-3	1600-347541000	3-3/16 x 8-3/8 x 10-11/32	6.7
	or			
	Power Junction Box J-68A/ARC-3	1600-012490200		
1	Radio Receiver R-608/ARC-49	1600-013424200	6 x 11 x 15-9/16	21.5
1	Radio Set Control C-1400/ARC-49	1600-011270110	5-3/4 x 2-5/8 x 4-5/8	1.5
1	Radio Transmitter T-452/ARC-49	1600-014480143	7-1/2 x 12-1/8 x 15-1/4	22.4

REFERENCE DATA AND LITERATURE:

TO 12R2-2ARC3-2, -34

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
9	4.25	86.83

PROCUREMENT DATA

PROCURING SERVICE: USAF  
SPEC &/or DWG: MIL-R-8389 (USAF)

DESIGN COG: USAF, ARDC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Sylvania Electric Products Inc.	Buffalo, N. Y.	AF33(600)-25777	\$1,812.00

RADIO SET **AN/ARC-55**

1 July 1958

Cognizant Serv: USN FSN: 5821-510-4545

USA

USN

USAF

TYPE CLASS:

Used by

Std

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STOCK NO:

2S921-55

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AN/ARC-55

**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARC-55 is an airborne, two-way, point-to-point equipment used for air-to-air, air-to-ship, and ground-to-air communication in all types of fighters, bombers, helicopters, and cargo aircraft.

This equipment operates on any one of 18 preset, crystal-controlled frequencies of 1,750 available channels. It consists of a triple-conversion superheterodyne receiver with three crystal oscillators and a double-conversion superheterodyne

auxiliary guard channel, both working into a common audio output circuit.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 225 to 399.9

*Type Modulation:* AM

*Type of Signal:* Voice or tone

*Power Output:* 9 w

*Power Requirements:* 25 amp at 24-28-v dc



**AN/ARC-55** RADIO SET

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Radio Receiver-Transmitter RT-349/ARC-55	5821-697-9902	11 x 9-5/8 x 25-1/16	57.5
1	Radio Set Control C-626/ARC-27	-----	6-3/8 x 9-9/16 x 5-1/2	9
1	Radio Set Control C-628/ARC-27	-----	3-5/8 x 2-5/8 x 5-3/4	1
1	Radio Set Control C-1827/ARC-55	5355-534-2787	5-3/4 x 3 x 2-1/4	1.7

## REFERENCE DATA AND LITERATURE:

AN 16-30ARC27-2, -502

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
	1.6	61

## PROCUREMENT DATA

PROCURING SERVICE: USN  
 SPEC &/or DWG: MIL-R-5068C

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Admiral Corp.	Chicago, Ill.	R-02-890006-SC-01-23	\$1,507.00

## RADIO SET AN/ARC-60

1 July 1958

Cognizant Serv: USA FSN: 5821-543-0643

USA

USN

USAF

TYPE CLASS:

Std

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STOCK NO:

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## FUNCTIONAL DESCRIPTION:

Radio Set AN/ARC-60 is an assemblage of radio and accessory equipment for installation in observation and reconnaissance fixed and rotary wing aircraft of low weight-carrying capability. It provides these aircraft with air-to-ground and air-to-air voice communication in the uhf range.

It consists primarily of a crystal-controlled AM transmitter and a continuously tunable superheterodyne receiver. Separate control boxes permit selection of 16 preset operating frequencies.

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 228 to 258

*Type Modulation:* AM

*Type of Signal:* Voice

*Power Output:* 0.5 w

*Power Requirements:* 6.8 amp at 28-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Antenna AT-701/AR	5985-321-0690	7-5/8 x 1-31/32 x 1-31/32	0.4
3	Electrical Equipment Rack MT-1140/ARC	5820-503-3449	1 x 11-21/32 x 4-15/16	.5
2	Frequency-Converter Trans- mitter CV-431/AR	5321-320-8639	4-3/4 x 11-1/2 x 4-3/4	5.9
1	Oscillator-Relay O-423/AR	5821-321-0242	5 x 2-3/4 x 5-1/16	1.1
1	Radio Receiver R-508/ARC	5821-503-1517	6-7/16 x 11-3/8 x 4-5/16	8.8
1	Radio Set Control C-1917/AR	5821-321-0683	3-3/4 x 3-3/4 x 5-3/4	1.4
1	Relay Switch RE-275/AR	5945-325-6587	1-3/4 x 3-1/4 x 2-1/2	.41

MIL-HDBK-161

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**AN/ARC-60** RADIO SET

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**REFERENCE DATA AND LITERATURE:**

TM 11-522-10  
TM 11-522-25

**SHIPPING DATA**

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PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	8	150

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**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

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CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Aircraft Radio Corp.	Boonton, N. J.	32430-P-56-55	\$814.00

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RADIO SET **AN/ARC-66**

17 November 1958

Cognizant Serv: USAF FSN:

	USA	USN	USAF
TYPE CLASS:	--	--	Tent.-Std
STOCK NO:	--	--	--

(No Illustration Available)

**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARC-66 is an airborne command, receiving-transmitting equipment for air-to-air and air-to-ground voice communication in the ultra high frequency range. This equipment, primarily designed for use in fighter aircraft, is a functional part of Communication-Identification-Navigation Sub-Systems AN/ASQ-30 and AN/ASQ-31.

This set provides a total of 1,750 crystal controlled frequencies. Any 20 of these channels can be preset in Radio Set Control C-1057/ARC-34. One guard channel in the 238- to 248-mc range can also be monitored simultaneously with normal operation of the set.

Audio input and output circuits are designed for use with Microphone Headset H-78A/AIC. Although this system is not physically similar to Radio Set AN/ARC-34, it uses the same subassemblies, with the exception of a 115-volt three-phase, 400-cycle Power Supply PP-1730/ARC-66. Two additional Audio Frequency Amplifier Subassemblies AM-1657/ARC-66 and AM-1658/ARC-66 are incorporated in this equipment.

Flush-tail cap-type arrays, Antenna AT-256A/ARC, or any other ultra high frequency aircraft antenna with a 52-ohm

coaxial transmission line, such as Radio Frequency Cable RG-8/U, can be used.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 225.0 to 399.9

*Number of Frequencies:* 1,750; spaced in increments of 100 kc

*Approximate Operational Range:* 75 miles at 3,000 feet altitude

*Type Controls:* Radio Set Control C-1057/ARC-34 provides an OFF-MAIN-BOTH-ADF switch, a MANUAL-PRESET-GUARD switch, a TONE push button, a preset channel selection knob, four manual frequency knobs, and a volume control.

*Type Modulation:* AM

*Type Emission and Reception:* Voice, tone

*Transmitter Power Output:* 8 w (minute)

*Power Requirements:*

Transmitting: 165 va, 115-v  $\pm 10$  v 400-cycle 3-phase ac  
8 amp at 26.5-v  $\pm 2.5$  v dc

Receiving: 75 va, 115-v  $\pm 10$  v 400-cycle 3-phase ac 8 amp  
at 26.5-v  $\pm 2.5$  v dc

Tuning: 75 va, 115-v  $\pm 10$  v 400-cycle 3-phase ac 9.5 amp  
26.5-v  $\pm 2.5$  v dc

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
(USAF)				
1	Control, Radio Set C-1057/ARC-34	1600-011270020	4-7/8 x 5-3/4 x 7-1/10	2.7
1	Radio Receiver-Transmitter RT-423/ARC-66	1600-013570105	7-19/32 x 24-5/16 x 11-1/2	56

**REFERENCE DATA AND LITERATURE:**

TO 12R2-4-19-2, -3, -4

MIL-HDBK-161

**AN/ARC-66** RADIO SET

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SHIPPING DATA

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PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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PROCUREMENT DATA

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PROCURING SERVICE: USAF  
SPEC &/or DWG:

DESIGN COG: USAF, ARDC

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CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Radio Corp. of America	Camden, N. J.	AF 04(606)5946	\$6,177.00

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14 November 1958

Cognizant Serv: USAF FSN:

18S-4

	USA	USN	USAF
TYPE CLASS:	--	--	L/Std
STOCK NO:	--	--	1600-013380500



18S4 (COLLINS)

### FUNCTIONAL DESCRIPTION:

Radio Set 18S-4 is a high-frequency airborne communications system for air-to-air and air-to-ground communication. Normally, it is used in aircraft operating at altitudes under 31,000 feet. The equipment consists of a transmitter-receiver with a self-contained dynamotor unit, and antenna-matching network or automatic antenna tuner, and a remote control unit.

The transmitter-receiver operates on up to 20 crystal-controlled frequencies on 10 tuned channels. Each channel can be used for two frequencies that differ in basic frequency by not more than 1 percent. Frequency selection, as well as audio input and output, may be remotely controlled by an autotune system consisting of a remote control unit and interconnecting cable.

Antenna Matching Network 180K-3 and Automatic Antenna Tuner 180L-2 are designed to match the 52-ohm output circuit of the transmitter to various aircraft antennas at selected frequencies. Radio Frequency Cable RG-8/U is

used to connect the transmitter-receiver to antennas of 45 feet or more in length.

### TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 2 to 18.5

*Frequency Control:* Crystal

*Type Signal:* AM

*Type Transmission and Reception:* Cw, voice

*Number of Channels:* 10

*Number of Preset Frequencies:* 20 (maximum)

*Power Output:*

Transmitter: 100 w (nominal)

Receiver: 50 mw (minimum) into 600-ohm load

*Power Consumption:*

Standby: 192 w, 8 amp

Transmitting: 912 w (nominal), 38 amp at 24-v dc

*Power Requirements:*

Receiving: 8 amp at 28-v dc

Transmitting: 38 amp at 28-v dc





## RADIO SET AN/ARC-type

17 November 1958

Cognizant Serv: USAF FSN:

618S-1

USA

USN

USAF

TYPE CLASS: --

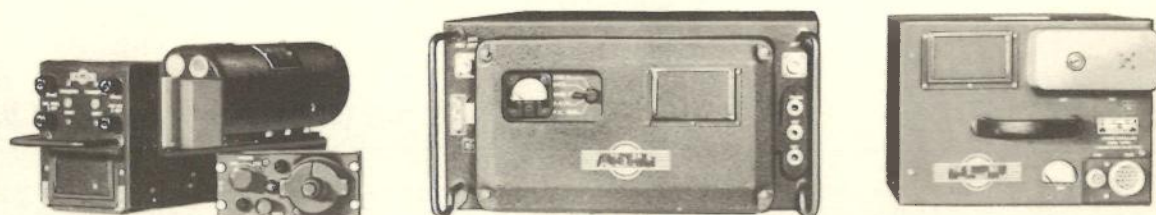
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A/Std

STOCK NO: --

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1600-013380550



COLLINS 618S-1

## FUNCTIONAL DESCRIPTION:

Radio Set 618S-1 is an airborne liaison type high-frequency communications system for air-to-air and air-to-ground communication. It is used primarily for long-range communication on cargo and transport aircraft. The equipment consists of a transmitter-receiver with a self-contained dynamotor unit, an automatic antenna tuner, and a radio set control.

The transmitter-receiver operates on any one of 144 crystal-controlled frequencies that are selected by the operator. A common crystal controls transmitting and receiving frequency on selected channels. The automatic antenna tuner normally is used to match the impedance of the aircraft antenna to the 52-ohm output of the transmitter.

The radio set is designed to operate with any high-frequency amplitude-modulated system having the same frequency range.

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 2 to 25*Frequency Control:* Crystal*Type Signal:* AM*Type Transmission and Reception:* Cw, voice*Number of Channels:* 4

Band 1: 2 to 3.75 mc

Band 2: 3.75 to 7.25 mc

Band 3: 7.25 to 14.25 mc

Band 4: 14.25 to 25 mc \*

*Number of Preset Frequencies:* 144 (maximum)*Power Output:*

Transmitter: 100 w (nominal)

Receiver: 300 mw into 300-ohm load

*Power Requirements:* 30 amp at 27.5-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Automatic Antenna Tuner 180L-3	1600-012980030	13-3/8 x 10-5/16 x 2-19/32	18.3
1	Mounting 350D-3	1600-012827540	10-5/8 x 10-3/16 x 1-1/2	1
1	Mounting 350S-1	1600-012842000	25-3/16 x 16-3/8 x 6-3/16	9
1	Mounting 350T-3	1600-012830415	17-9/16 x 5-7/8 x 3-15/16	4
1	Power Supply 418W-1	1600-011775000	18-1/16 x 4-7/8 x 6-3/4	22
1	Radio Set Control 614C-2	1600-011270100	4-9/16 x 5-3/4 x 2-19/32	1.75
1	Radio Transmitter-Receiver	1600-013570055	23-7/16 x 15-7/16 x 7-25/32	55





RADIO TRANSMITTING AND RECEIVING SET **AN/ARC-type**

26 November 1958

Cognizant Serv: USN FSN:

GF-11/RU-16

USA

USN

USAF

TYPE CLASS:            --                           Used by                   --  
 STOCK NO:            --                           --                        --

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Radio Transmitting and Receiving Set GF-11/RU-16 is made up of Aircraft Radio Transmitting Equipment GF-11 and Aircraft Radio Receiving Equipment RU-16. It is used in aircraft with a 12-volt direct-current power supply. This equipment is designed to transmit or receive voice, tone-modulated, or continuous-wave signals.

Some of the components of the GF-11/RU-16 are interchangeable with those of the GF-8/RU-13 (serial No. 121 and above). Components of the GF-8/RU-13 (serial No. 1 to 120 inclusive) are interchangeable with those of the GF-3/RU-4A, GF-4/RU-5A, and GF-5/RU-7 and differ from the GF-11/RU-16 only in certain modifications in Receiver Switch Box 23096 and Dynamotor Filter Unit 21109. Subject to slightly modified performance, these switch boxes and dynamotor filter units are interchangeable.

## TECHNICAL CHARACTERISTICS:

*Frequency Range:*

Receiver: 195 to 13,575 kc

Transmitter: 2,000 to 9,050 kc

*Type Emission:* Voice, cw, mcw*Modulation:* Am, voice 95%, mcw 100%*Tone Frequency:* 1,000 cps*Power Output Data:*

2,000 to 3,200 kc:

Voice: 2 to 7 w peak

Cw: 2 to 7 w

Mcw: 2 to 7 w peak

3,000 to 9,050 kc:

Voice: 12 to 15 w peak

Cw: 12 to 15 w

Mcw: 12 to 15 w peak

*Dynamotor Output:* 425-v at 163 ma*Power Requirements:* 12- to 15-v dc at 8 amp

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Antenna Relay Unit 23049	-----	-----	0.8
1	Antenna-Loop Remote Control 23051	-----	-----	.06
1	Aircraft Radio Receiver 46051A	-----	-----	12.9
1	Aircraft Radio Transmitter 52063A	-----	-----	10.8
8	Container 47092 (for GF-11 coil sets)	-----	-----	.3
5	Container 47029 (for RU-16 coil sets).	-----	-----	9.6
8	Coil set for GF-11:			
1	Coil Set 47135	-----	-----	.9
1	Coil Set 47136	-----	-----	.9
1	Coil Set 47137	-----	-----	.9
1	Coil Set 47138	-----	-----	.9
1	Coil Set 47139	-----	-----	.9
1	Coil Set 47140	-----	-----	.9
1	Coil Set 47141	-----	-----	.9
1	Coil Set 47142	-----	-----	.9

**AN/ARC-type RADIO TRANSMITTING AND RECEIVING SET****MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
5	Coil set for RU-16:			
1	Coil Set 47068	-----	-----	1.7
1	Coil Set 47069	-----	-----	1.7
1	Coil Set 47070	-----	-----	1.7
1	Coil Set 47072	-----	-----	1.7
1	Coil Set 47075	-----	-----	1.7
5	Dual Coil Set Local Control 23053 (for RU-16 dual coil sets)	-----	-----	.02
5	Dual coil set for RU-16:			
1	Dual Coil Set 47105	-----	-----	2.6
1	Dual Coil Set 47107	-----	-----	2.6
1	Dual Coil Set 47108	-----	-----	2.6
1	Dual Coil Set 47112	-----	-----	2.6
1	Dual Coil Set 47204	-----	-----	2.6
1	Dual Coil Set Remote Control 23054	-----	-----	.006
1*	Dynamotor-Filter Unit 21109A	-----	-----	13.5
1	Extension Control Box 23099	-----	-----	.8
1	Junction Box 62008A	-----	-----	2.2
1	Receiver Switch Box 23096A	-----	-----	.9
2	Remote Switching Mechanical Linkage 23052	-----	-----	.14
1	Remote Tuning Control 23012	-----	-----	.9
1*	Remote Tuning Control Me- chanical Linkage 23021	-----	-----	.12
1*	Test Meter 22266	-----	-----	
1	Transmitter Control Box 23097	-----	-----	.7

*Accessories:*

1 set	Cables and plugs
1*	Receiver slip cover
1	Receiver tuning chart
1*	Transmitter slip cover

\* Optional, not furnished with all lots of equipment.

**REFERENCE DATA AND LITERATURE:**

NA 08 5G-400

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

RADIO TRANSMITTING AND RECEIVING SETS **AN/ARC-type**

## PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	Chicago Ill.	NOs-84530, 21 April 1941	





EMERGENCY MOBILE COMMUNICATION EQUIPMENT **AN/ARC-type**

3 December 1958

Cognizant Serv: USN FSN: 5820-347-9172

MAM

USA

USN

USAF

TYPE CLASS: --

STOCK NO: --

(No Illustration Available)

**TECHNICAL CHARACTERISTICS:**

Emergency Mobile Communication Equipment MAM is a very-high-frequency communication unit designed for use in aircraft. The unit is intended for two-way communication by radio telephone between airplanes and between ground stations and airplanes. The equipment may be pretuned for operation on four crystal-controlled frequencies in the 140- to 144-megacycle band.

**FUNCTIONAL DESCRIPTION:***Frequency Range in Mc:* 140 to 144*Type of Signal:* Voice*Frequency Control:* Crystal and master oscillator*Power Requirements:* 115-v 60-cycle 1-phase ac, or 12-v dc (battery)**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Aircraft Radio Receiving Equipment RAX-1, con- sisting of:	-----	7-1/2 x 7-1/2 x 17	22
1	Unit 1, Radio Receiver 46115 (GFE)	-----		
1	Unit 2, Radio Receiver. 46116 (GFE)	-----	7-1/2 x 7-1/2 x 17	22
1	Gasoline Engine Generator 73003 (GFE)	-----	16 x 19 x 21-1/2	195
1	Radio Transmitter 52357 (GFE)	-----	9-1/2 x 11-13/16 x 13-3/4	41
1	Radio Transmitter-Receiver RT-19/ARC-4 (GFE)	-----	7-11/16 x 10-7/16 x 19-1/2	35
1	Rectifier and Audio Amplifier 20339	-----	8-1/4 x 9 x 10-15/16	35
1	Rectifier Power Unit 20338 (GFE)	-----	7-1/2 x 8-13/16 x 9-15/32	29
1	Rotary Converter 21485	-----	8-1/4 x 11-1/8 x 16-3/4	76

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 900588

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

MIL-HDBK-161

**AN/ARC-type** EMERGENCY MOBILE COMMUNICATION EQUIPMENT

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Air-Track Mfg. Corp.	College Park, Md.	NXsr 90766	



## AIRCRAFT RADIO TRANSMITTER-RECEIVER AN/ARC-type

4 December 1958

Cognizant Serv: USN FSN:

MB

USA

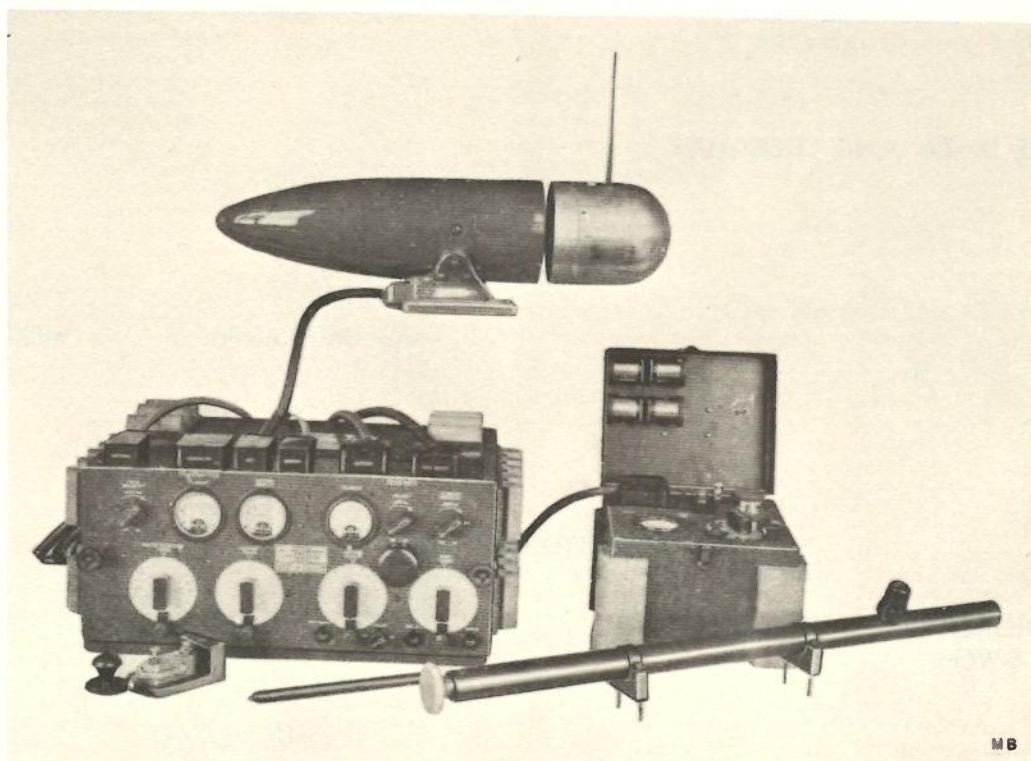
USN

USAF

TYPE CLASS: —

Used by —

STOCK NO: —

**FUNCTIONAL DESCRIPTION:**

Aircraft Radio Transmitter-Receiver MB is designed for use on aircraft and is intended for fire control spotting work. The transmitter and receiver are inclosed in one case, which is connected by detachable cables to the frequency meter, wind driven generator, battery, key, antenna, and counterpoise.

Breakin operation is obtained by means of a relay that connects the antenna to the transmitter when the key is closed but leaves the antenna connected to the receiver at all other

times. Transmission is continuous wave with complete keying. The receiver is one of the nonradiating type and arranged for damped and undamped wave operation.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range:* 550 to 1,000 kc

*Number of Bands:* 19

*Bandwidth:* 25 kc each

*Power Requirements:* Wind-Driven Generator 2501



AIRCRAFT RADIO TRANSMITTER-RECEIVER **AN/ARC-type**

4 December 1958

Cognizant Serv: USN FSN:

ME

USA

USN

USAF

TYPE CLASS: --

Used by

STOCK NO: --

(No Illustration Available)

**FUNCTIONAL DESCRIPTION:**

Aircraft Radio Transmitter-Receiver ME is designed for use with aircraft of the reconnaissance and observation types. Its purpose is for communication with ships and other aircraft.

The transmitter and receiver are inclosed in one case and connected by detachable cables to the wind driven generator, battery, key, antenna, and frame of the aircraft.

Breakin operation is obtained by means of a relay that connects the antenna to the transmitter when the key is

closed but leaves the antenna connected to the receiver at all other times. Transmission is continuous wave, crystal-controlled, at a predetermined frequency. The receiver is of the nonradiating type arranged for damped or undamped reception.

**TECHNICAL CHARACTERISTICS:***Frequency Range:* 3,000 to 4,000 kc*Antenna Type:* 1/4-wave reel type*Power Requirements:* Wind Driven Generator 3063**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Transmitter 3061, Receiver 3062, Case 3060			
1	Wind Driven Generator 3063			

**REFERENCE DATA AND LITERATURE:****SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)

MIL-HDBK-161

**AN/ARC-type** AIRCRAFT RADIO TRANSMITTER-RECEIVER

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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## RADIO RECEIVING EQUIPMENT AN/ARR-1

17 November 1958

Cognizant Serv: USN FSN:

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	--	--

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Radio Receiving Equipment AN/ARR-1 is an adapter designed for aircraft homing. It is not a complete self-contained radio equipment but applicable solely for operation in conjunction with standard aircraft radio receivers.

This unit delivers the keyed modulation component of the signal to the receiver input where it is further amplified and converted to an audio frequency signal. The resulting audio frequency signal is keyed to conform to the keying on the modulation frequency of the received signal.

All units of this equipment are similar to and functionally identical with corresponding units of Homing Adapter Equipments ZB, ZB-1, and ZB-3.

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 234 to 258

*Reception:* Radio signals amplitude modulated with frequencies from 540 to 830 kc

*Output Impedance:* 50 ohms

*Output Frequency:* 540 to 830 kc

*Antenna:*

Type: AT-5/ARR-1, a quarter wave length, or three-quarter wave length

Input Impedance: 50 ohms

*Power Requirements:* 0.28 amp at 12-v dc or 0.14 amp at 24-v dc, 10 ma at 220-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Control Box C-1/ARR-1	-----	2-9/16 x 3 x 3	0.56
1	Eight conductor cable	-----	1/2 dia x 120	
1	Flexible transmission line	-----	0.410 dia x 240	
2	Plug 49062	-----	1-1/4 dia x 2-3/8	.15
1	Plug 49132	-----	1-1/8 dia x 2-3/8	.1
2	Plug 49133	-----	1-1/4 dia x 2-3/8	.1
1	Plug 49134	-----	1-1/4 dia x 2-3/8	.12
4	Plug 49195	-----	11/16 dia x 1-9/16	.06
1	Portable Test Oscillator TS-1/ARR-1	-----	6-3/4 x 7-1/8 x 11-1/8	14.5
1	Radio Receiver R-1/ARR-1	-----	3-3/4 x 3-7/8 x 12-1/4	4.0
1	Switching Relay RE-1/ARR-1	-----	2-5/16 x 4 x 4-15/16	1.4
1	Three conductor cable	-----	3/8 dia x 120	

## REFERENCE DATA AND LITERATURE:

NAVAER 08-5Q-1

MIL-HDBK-161

**AN/ARR-1** RADIO RECEIVING EQUIPMENT

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Corp. Zenith Radio Corp.	New York, N. Y. Chicago, Ill.	Nos 84433 NXs 2959	

## RADIO RECEIVING EQUIPMENT AN/ARR-2, -2A, -2X, -2AX

17 November 1958

Cognizant Serv: USN FSN:

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	--	--

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Radio Receiving Equipments AN/ARR-2, AN/ARR-2A, AN/ARR-2X, and AN/ARR-2AX are designed for aircraft reception of signals transmitted by Homing Beacon Equipment. The signal must be amplitude modulated at a lower radio frequency, which usually is keyed telegraphically but may be amplitude modulated in turn by a voice signal.

The modulation may be set at any one of six frequencies. These equipments are for remote control operation only.

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 234 to 258

*Reception:* Receiver will respond to a superimposed modulation frequency at any one of six preset frequencies within the range of 540 to 830 kc.

*Power Output:*

Continuous Wave: 500 mw

Modulated Continuous Wave: 900 mw

*Output Impedance:* 300 ohms; 4,000 ohms

*Sensitivity:*

Continuous Wave Reception: 10-uv input for 1.7 v across a 300-ohm load or 6.3 v across a 4,000-ohm load

Voice Reception: 450-uv input for 1.7 v across a 300-ohm load or 6.3 v across a 4,000-ohm load

*Antenna:*

Type: Quarter wave

Input Impedance: 50 ohms

*Power Requirements:*

AN/ARR-2: 1.6 amp (total) at 28-v dc

Heaters: 0.5 amp

Dynamotor: 1.1 amp

AN/ARR-2A: 2.2 amp (total) at 28-v dc

Heaters: 0.5 amp

Adapter Motor Field: 0.25 amp

Armature: 9.35 amp

AN/ARR-2X: 3.2 amp (total) at 14-v dc

Heaters: 1.0 amp

Dynamotor: 2.2 amp

AN/ARR-2AX: 4.4 amp (total) at 14-v dc

Heaters: 1.0 amp

Dynamotor: 2.2 amp

Adapter Motor Field: 0.5 amp

Armature: 0.7 amp

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
<i>For AN/ARR-2:</i>				
1	Adapter MX-2/ARR-2	-----	1-7/32 dia	0.12
1	Cable WF-1/U (4-conductor)	-----	1/2 dia x 60	
1	Cable WM-1/U (8-conductor)	-----	1/2 dia x 120	
1	Coaxial Plug 49195 or PL-259	-----	13/16 dia	.06
1	Control Unit C-2/ARR-2	-----	3 x 3-3/8 x 5-15/32	1.3
1	Control Unit Mounting Plate MT-4/ARR-2	-----	1/16 x 3-9/16 x 5-9/16	.2
3	Decode card	-----		
1	Dynamotor DY-2/ARR-2	-----	2-23/32 x 3-9/32 x 4-13/16	3.0
1	Dynamotor DY-2B/ARR-2	-----	2-3/4 x 3-19/32 x 4-1/2	2.2
1	Mechanical Linkage # 6151 or Tuning Shaft MC-215	-----	5/8 dia	
1	Plug PL-147, PL-147A, or 9127	-----	1-7/32 dia	.12
	Plug PL-152, PL-152A, 6577, or 9125	-----	1-7/32 dia	.12

## AN/ARR-2, -2A, -2X, -2AX RADIO RECEIVING EQUIPMENT

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Radio Frequency Cable RG-8/U	-----	13/32 dia x 180	
1	Right angle adaptor for Mechanical Linkage MX-22/ARR-2	-----	5/8 x 1-11/32 x 1-19/32	.2
1	Right Angle Coaxial Adapter 49192 or M-359	-----	13/16 dia	.1
<i>For AN/ARR-2A:</i>				
1	Adapter MX-2/ARR-2	-----	1-7/32 dia	.12
1	Cable WF-1/U (4-conductor)	-----	1/2 dia x 60	
1	Cable WM-1/U (8-conductor)	-----	1/2 dia x 120	
1	Clamp for Plug AN-3057-12	-----		
1	Coaxial Plug 49195 or PL259	-----	13/16 dia	.06
1	Control Unit C-35/ARR-2A	-----	2-15/32 x 3-3/8 x 5-15/32	.9
1	Control Unit C-116/ARR-2A	-----	2-1/8 x 6 x 6-5/16	.75
1	Control Unit Mounting Plate MT-4/ARR-2	-----	1/16 x 3-9/16 x 5-9/16	.2
3	Decode card	-----		
1	Dynamotor DY-2/ARR-2	-----	2-23/32 x 3-9/32 x 4-13/16	3.0
1	Dynamotor DY-2B/ARR-2	-----	2-3/4 x 3-19/32 x 4-1/2	2.2
1	Electric Tuning Control Adapter C-37/ARR-2A	-----	1-19/32 x 3-13/64 x 4-3/16	.94
1	Mechanical Linkage #6151 or Tuning Shaft MC-215	-----	5/8 dia	
1	Plug AN-3106-20-27S-Position 8	-----	1-1/2 dia	.18
2	Plug G-33069 or B-33069-2	-----	1-7/32 dia	.12
1	Plug PL-147, PL-147A or 9127	-----	1-7/32 dia	.12
2	Plug PL-152, PL-152A, 6577 or 9125	-----	1-7/32 dia	.12
1	Radio Frequency Cable 9G-8/U	-----	13/32 dia x 180	
1	Right Angle Coaxial Adapter 4192 or M-359	-----	13/16 dia	.1
<i>For AN/ARR-2X:</i>				
1	Adapter MX-2/ARR-2	-----	1-7/32 dia	.12
1	Cable WF-1/U (4-conductor)	-----	1/2 dia x 60	
1	Cable WM-1/U (8-conductor)	-----	1/2 dia x 120	
1	Coaxial Plug 49195 or PL-259	-----	13/16 dia	.06
1	Control Unit C-2/ARR-2	-----	3 x 3-3/8 x 5-15/32	1.3
1	Control Unit Mounting Plate MT-4/ARR-2	-----	1/16 x 3-9/16 x 5-9/16	.2
3	Decode card	-----		
1	Dynamotor DY-1/ARR-2X	-----	2-23/32 x 3-9/32 x 4-13/16	3.0
1	Mechanical Linkage #6151 or Tuning Shaft MC-215	-----	5/8 dia	
1	Plug PL-147, PL-147A, or 9127	-----	1-7/32 dia	.12



## RADIO RECEIVING EQUIPMENT AN/ARR-2, -2A, -2X, -2AX

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
2	Plug PL-152, PL-152A, 6577, or 9125	-----	1-7/32 dia	.12
1	Radio Frequency Cable RG-8/U	-----	13/32 dia x 180	
1	Right angle adapter for Me- chanical Linkage MX-22/ ARR-2	-----	5/8 x 1-11/32 x 1-19/32	.2
1	Right Angle Coaxial Adapter 49192 or M-359	-----	13/16 dia	.1
<i>For AN/ARR-2AX:</i>				
1	Adapter MX-2/ARR-2	-----	1-7/32 dia	.12
1	Cable WF-1/U (4-conductor)	-----	1/2 dia x 60	
1	Cable WM-1/U (8-conductor)	-----	1/2 dia x 120	
1	Clamp for Plug AN-3057-12	-----		
1	Coaxial Plug 49195 or PL-259	-----	13/16 dia	.06
1	Control Unit C-35/ARR-2A	-----	2-15/32 x 3-3/8 x 5-15/32	.9
1	Control Unit C-116/ARR-2A	-----	2-18/ x 6 x 6-5/16	.75
1	Control Unit Mounting Plate MT-4/ARR-2	-----	1/16 x 3-9/16 x 5-9/16	.2
3	Decode card	-----		
1	Dynamotor DY-1/ARR-2X	-----	2-23/32 x 3-9/32 x 4-13/16	3.0
1	Electric Tuning Control Adapter C-36/ARR-2AX	-----	3-13/64 dia x 4-3/16	
1	Mechanical Linkage # 6151 or Tuning Shaft MC-215	-----	5/8 dia	
1	Plug AN/3106-20-27S- Position 8	-----	1-1/2 dia	.18
2	Plug G-33069 or B-33069-2	-----	1-7/32 dia	.12
1	Plug PL-147, PL-147A, or 9127	-----	1-7/32 dia	.12
2	Plug PL-152, PL-152A, 6577, or 9125	-----	1-7/32 dia	.12
1	Radio Frequency Cable RG-8/U	-----	13/32 dia x 180	
1	Right Angle Coaxial Adapter 49192 or M-359	-----	13/16 dia	.1

## REFERENCE DATA AND LITERATURE:

AN 16-30ARR2-2

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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**AN/ARR-2, -2A, -2X, -2AX** RADIO RECEIVING EQUIPMENT

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PROCUREMENT DATA

---

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

---

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	New York, N. Y.	X-NXS-4967 NXsr-38075, 5 May 1944	
Zenith Radio Corp.	Chicago, Ill.	NXsr-59128, 5 May 1944	

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RADIO RECEIVING EQUIPMENT **AN/ARR-3A, -3B**

17 November 1958

Cognizant Serv: USN FSN:

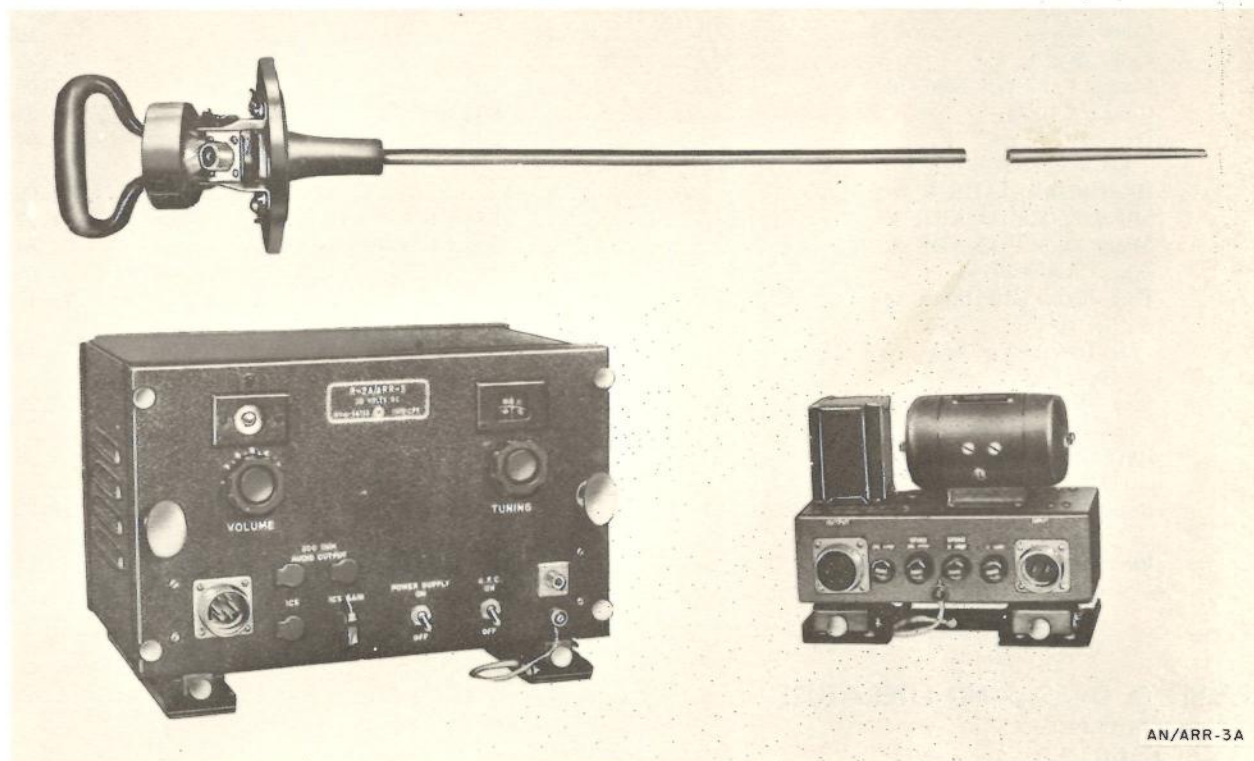
USA

USN

USAF

TYPE CLASS: --  
STOCK NO: --

Used by



AN/ARR-3A

**FUNCTIONAL DESCRIPTION:**

Radio Receiving Equipments AN/ARR-3A and AN/ARR-3B are frequency-modulated, airborne units designed to be used with Radio Transmitting Equipments AN/CRT-1A and AN/CRT-1B having hydrophones for submarine detection.

Sounds emitted by submarines are transmitted on frequency bands to which these radio receiving equipments are tuned. The receivers, in conjunction with their associated transmitters, enable an aircraft in flight to determine the approximate location of a submerged submarine.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 62 to 72

*Number of Channels:*

Radio Receiver R-2/ARR-3: 6

Radio Receiver R-2A/ARR-3: 12

*Audio Output Jack:* 300 ohms impedance

*Antenna:*

Type: Whip

Impedance: 70 ohms

*Power Requirements:* 72.5 w, 24-v to 28-v dc

**AN/ARR-3A, -3B** RADIO RECEIVING EQUIPMENT

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Adapter, Angle, Coaxial Plug NT49192	-----	-----	0.08
1	Antenna AT-3A/ARR-3	-----	-----	2.23
1	Cable, 4-wire	-----	-----	.125
1	Cable, 2-wire	-----	-----	.122
3	Clamp, Cable AN-3057-12	-----	-----	.061
2	Cord CX-3/AR	-----	60 long	.31
1	Dynamotor Unit DY-5A/ARR-3	-----	5/16 x 6-5/8 x 8-7/16	6.91
2	Headset H-3A/ARR-3	-----	-----	1.06
1	Mounting MT-11/ARR-3	-----	3/4 x 10-1/4 x 13	1.22
1	Mounting MT-13/ARR-3	-----	3/4 x 4-11/16 x 8-11/16	.84
2	Plug, Coaxial 49195	-----	-----	.05
1	Plug, Dynamotor Input AN- 3106-20-5S	-----	-----	.14
1	Plug, Dynamotor Output AN- 3106-22-5P	-----	-----	.14
1	Plug, Receiver Power Input AN-3108-22-5S	-----	-----	.23
1	Radio Frequency Cable RG- 11/U	-----	-----	.096
1	Radio Receiver R-2/ARR-3 (for AN/ARR-3A)	-----	9-1/2 x 11-1/4 x 14-5/8	18.72
1	Radio Receiver R-2A/ARR-3 (for AN/ARR-3B)	-----	9-1/2 x 11-1/4 x 14-5/8	18.72

## REFERENCE DATA AND LITERATURE:

AN 08-30ARR3-2;  
AN 16-30ARR3-3

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
4	2.986	52



RADIO RECEIVING EQUIPMENT **AN/ARR-3A, -3B**

## PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Freed Radio Corp.	New York, N. Y.	NX <sub>sa</sub> 60026 NX <sub>sa</sub> 66738	



## RADIO SET AN/ARR-15

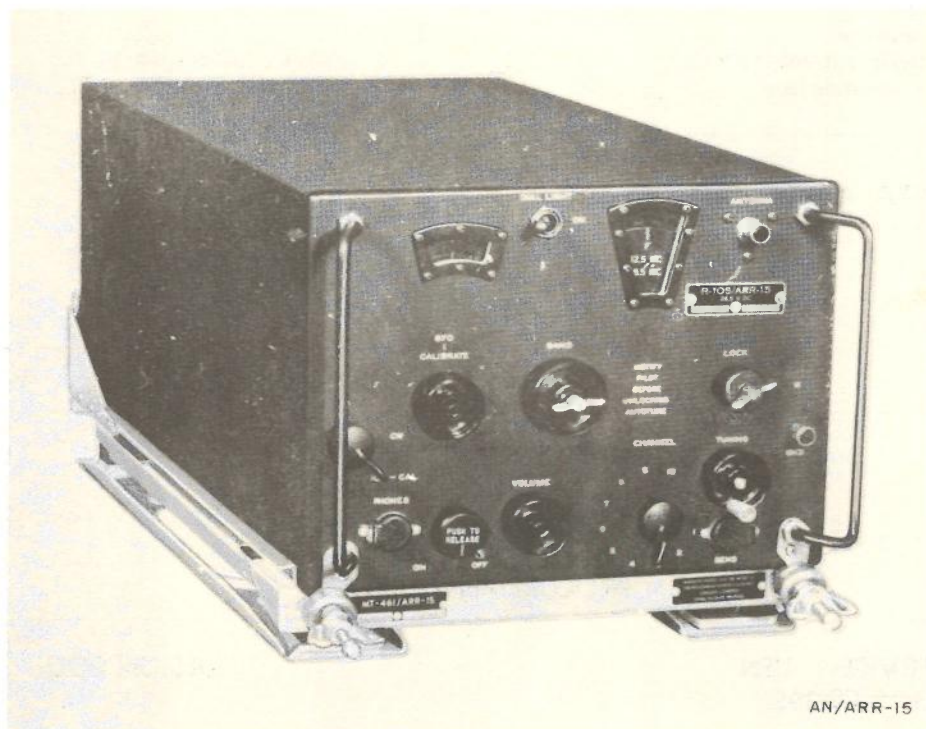
17 November 1958

Cognizant Serv: USN FSN: 5820-665-2538

USA

USN

USAF

TYPE CLASS: --  
STOCK NO: --Used by --  
F16-Q-108338-200 (USN) --

AN/ARR-15

**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARR-15 is a general purpose receiver designed for medium high frequency communication. It may be controlled locally or from a remote position.

An autotune system permits automatic mechanical selection of any one of 10 preset crystal-controlled channels within the provided frequency range.

This equipment is similar to Radio Set AN/ARR-15A except that the A model has an electron tube substituted for a crystal.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 1.5 to 18.5

*Frequency Control:* Crystal (10 preset channels)

*Type Modulation:* AM

*Type Reception:* Cw, mcw, voice

*Antenna:* Fixed aircraft; 17 to 34 feet long

*Design:* Contained in single compact case

*Mounting Data:* Detachable aircraft mounting base

*Audio Output:* 500 w

*Power Equipment:* Self-contained dynamotor

*Power Requirements:* 47.7 w, 1.8 amp at 26.5-v dc

MIL-HDBK-161

**AN/ARR-15** RADIO SET

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
2	Connector plug			
1	Control box	-----	-----	1.37
1	Control console unit	-----	-----	1.37
1	Dynamotor			
1	Power connector	-----	-----	.43
1	Radio Receiver R-105/ARR-15	-----	23-1/4 x 10-3/8 x 9-9/16	40
1	Receiver mounting base	-----	-----	3.18

REFERENCE DATA AND LITERATURE:

AN 16-30ARR15-3

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG: CS-395

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Collins Radio Co.	Cedar Rapids, Iowa		\$1,500.00



RADIO SET **AN/ARR-15A**

17 November 1958

Cognizant Serv: USN FSN: 5820-642-6829

USA

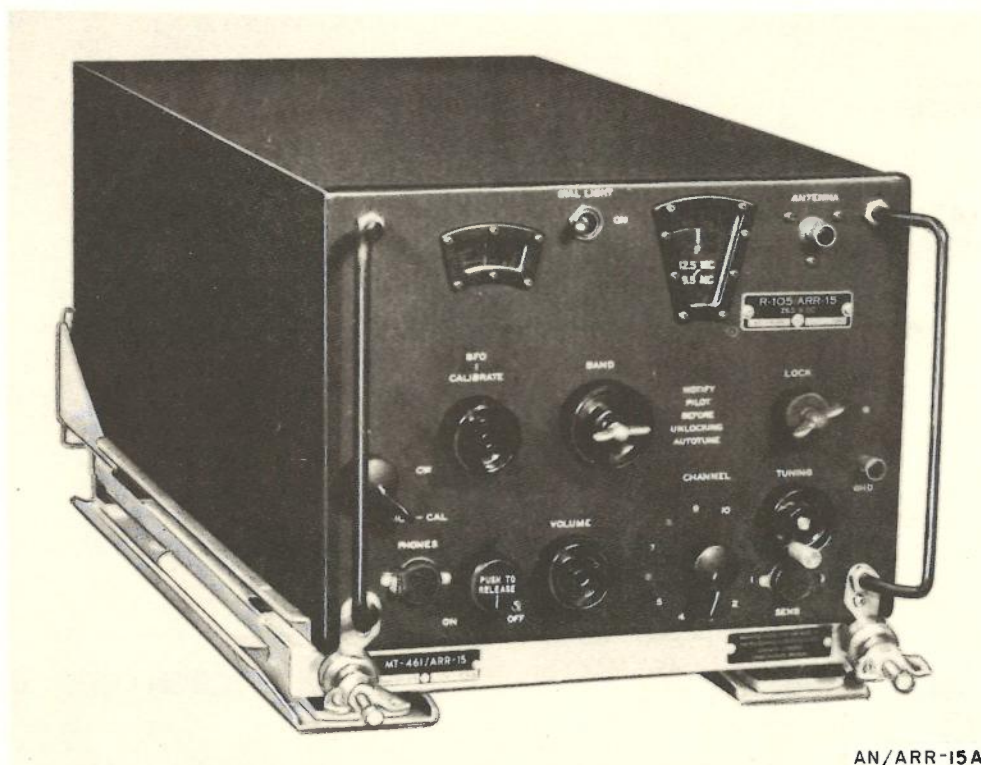
USN

USAF

TYPE CLASS: --

Used by --

STOCK NO: --



AN/ARR-15A

**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARR-15A is a general purpose receiver designed to provide preset, multichannel, voice, continuous wave, or modulated continuous wave, pilot or radio operated reception. It is suitable for installation in all types of naval aircraft.

This equipment may be controlled from the receiver panel or from a remote position.

An autotune system permits the selection of any one of 10 channels and may be adjusted to select any 10 frequencies within the range of the set.

Radio Sets AN/ARR-15 and AN/ARR-15A are functionally similar. However, the AN/ARR-15A incorporates an improved autotune unit and minor component changes; an electron tube has been substituted for a crystal.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 1.5 to 18.5 in six bands

Band A: 1.5 to 2.5 mc

Band B: 2.5 to 3.5 mc

Band C: 3.5 to 5.5 mc

Band D: 5.5 to 8.5 mc

Band E: 8.5 to 12.5 mc

Band F: 12.5 to 18.5 mc

*Type Modulation:* AM

*Type Reception:* Voice, mcw, cw

*Operating Temperature Range:* -40°C. to +60°C.

*Altitude:* 40,000 feet above sea level (maximum)

*Audio Output:* 500 mw (maximum)

*Power Requirements:* 26.5-v dc

MIL-HDBK-161

**AN/ARR-15A** RADIO SET

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Mounting Base MT-461/ARR-15	-----	3-15/16 x 10-7/8 x 23-27/32	3.31
1	Power connector	-----	1-5/16 x 2-15/32 x 4-15/16	.69
1	Radio Receiver R-105A/ARR-15	-----	7-7/8 x 10-3/8 x 21-9/16	39.5
1	Radio Set Control C-733/ARR-15A	-----	2-1/4 x 5-11/32 x 5-3/4	1.7

REFERENCE DATA AND LITERATURE:

AN 16-30ARR15-3

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Collins Radio Co.	Cedar Rapids, Iowa	NOas-51-259-i, 25 October 1950	

RADIO SET **AN/ARR-36**

17 November 1958

Cognizant Serv: USAF FSN:

	USA	USN	USAF
TYPE CLASS:	--	--	Tent-Std
STOCK NO:	--	--	1600-013424120 (Ref)

(No Illustration Available)

**FUNCTIONAL DESCRIPTION:**

Radio Set AN/ARR-36 is an airborne receiving set that can be operated independently of any other communication equipment. It is normally used in conjunction with Radio Set AN/ARC-21 or AN/ARC-21X to provide auxiliary receiving facilities and cross band operation.

The equipment will receive continuous wave and voice transmission, as well as frequency-shift keying transmission when a suitable converter is used.

Remote, automatic tuning is provided in the high frequency range covered by the set. Radio Set Controls C-451/ARC-21

and C-455/ARC-21 may be used with this equipment to provide 20 preset frequencies.

**TECHNICAL CHARACTERISTICS:***Frequency Range in Mc:* 2 to 24*Number of Frequencies:* 44,000*Type Modulation:* AM*Type Reception:* Voice, cw*Operational Altitude:* 50,000 feet (maximum)*Power Output:* 900 mw into 200 ohms impedance*Power Requirements:*

Receiving: 9 amp at 27.5-v dc

Tuning: 12 amp at 27.5-v dc

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
(USAF)				
1	Dynamotor Power Supply DY-108/ARR-36	1600-011728160	3-1/4 x 8-1/8 x 3	4.5
1	Mounting MT-1276/ARR-36	1600-012830430	3-15/16 x 12-3/4 x 23-1/2	5
1	Radio Receiver R-224/ARR-36	1600-013424180	10-1/4 x 12 x 25	53.4

**REFERENCE DATA AND LITERATURE:**

TO 12R2-2ARC21-1, -2, -3, -4

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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MIL-HDBK-161

**AN/ARR-36** RADIO SET

PROCUREMENT DATA

PROCURING SERVICE: USAF  
SPEC &/or DWG: MIL-R-9453

DESIGN COG: USAF, ARDC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Radio Corporation of America	Camden, N. J.	AF33(600)-32231	\$9,000.00



## RADIO EQUIPMENT AN/ARR-type

5 December 1958

Cognizant Serv: USN FSN:

ABD

USA

USN

USAF

TYPE CLASS:                    --                                   Used by                                   --  
 STOCK NO:                    --                                   --                                   --

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Radio Equipment ABD is designed for aircraft use.  
 This equipment consists essentially of two major operating components—a radio receiver and a control unit.

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:*

Band 1: 38 to 52

Band 2: 195 to 220

*Power Requirements:*

Control Unit: 5 amp at 12- to 14-v dc

Radio Receiver: 5 amp at 12-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
2	Antenna insulator bushing			
2	Antenna plug			
2	Antenna shock cord assembly			
1	Control Unit 23ABE	-----	3-7/8 x 6-1/8 x 7-1/2	3.5
1	"D" plug			
1	"D" plug shield assembly			
1	Detonator			
1	Detonator indicator			
1	Equipment spare parts group			
1	Five-prong female plug	-----		.14
2	Five-prong male plug	-----		.14
2	Five-prong plug shield assembly	-----		
1	Fuse assembly	-----		.25
1	Junction Box			
1	Pilot control switch	-----		.6
1	Power socket assembly	-----		.4
1	Radio Receiver Unit 43AAH	-----	9-1/2 x 13 x 13-1/2	24
1	Receiver shock mounting	-----		.9
1	Seven-prong female plug	-----		.15
1	Seven-prong male plug	-----		.15
1	Seven-prong plug shield assembly	-----		
1	Shielded cable (3 conductor)	-----		.09
1	Shielded cable (6 conductor)	-----		.18
1	Shielded cable (8 conductor)	-----		.19
1	Terminal block (bakelite)			
1	Terminal block (ceramic)			

## REFERENCE DATA AND LITERATURE:

NAVER 08-55-30

MIL-HDBK-161

**AN/ARR-type** RADIO EQUIPMENT

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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Phileo Corp.	Philadelphia, Pa.	NOs-99911, 25 February 1942	
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AIRCRAFT RADIO RECEIVING EQUIPMENT **AN/ARR-type**

4 December 1958

Cognizant Serv: USN FSN:

ABK, ABK-1, -2, -3, -4,  
-5, -6, and -7

	USA	USN	USAF
TYPE CLASS:	Used by	--	--
STOCK NO:	--	ABK: F16-Q-124401-200 (12-v dc)	--
		ABK-1: F16-Q-124421- 200 (24-v dc)	
		ABK-2: F16-Q-124402- 200 (12-v dc)	
		ABK-3: F16-Q-124422- 200 (24-v dc)	
		ABK-4: F16-Q-124403- 200 (12-v dc)	
		ABK-5: F16-Q-124423- 200 (24-v dc)	
		ABK-6: F16-Q-124404- 200 (12-v dc)	
		ABK-7: F16-Q-124424- 200 (24-v dc)	

(No Illustration Available.)

**FUNCTIONAL DESCRIPTION:**

Aircraft Radio Receiving Equipments ABK, ABK-1, -2, -3, -4, -5, -6, and -7 are part of the Mark III IFF System, and are primarily intended for use in aircraft as a means of establishing identity.

They are combination receivers and transmitter-coders which respond with the appropriate coded signal when excited by the signal from an interrogator.

All models of the ABK-series are similar except for power supply voltage.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 158 to 186, continuous sweep

*Power Requirements:*

ABK, ABK-2, -4, -6: 12-v dc

ABK-1, -3, -5, -7: 24-v dc

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
	<i>For ABK, ABK-2, -4, -6:</i>			
1	Aircraft Radio Receiver (Transponder) 43AAX	-----	13 x 9 x 12-5/16	30
1	Antenna Assembly 66AAV	-----	-----	.8
	or			
1	Antenna Assembly 66AAW	-----	-----	1.5
1	Control Unit 23ABG	-----	3-1/2 x 8 x 6-1/4	1
1 set	Equipment spares	-----	21 x 9-1/4 x 6-5/8	28
1	Selector Unit 23ABH	-----	3-1/2 x 8 x 6-1/4	.5

**AN/ARR-type** AIRCRAFT RADIO RECEIVING EQUIPMENT

## MAJOR COMPONENTS—Continued

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
<i>For ABK-1, -3, -5, -7:</i>				
1	Aircraft Radio Receiver (Transponder) 43AAY	-----	13 x 9 x 12-5/8	30
1	Antenna Assembly 66AAV	-----	-----	.8
	or			
1	Antenna Assembly 66AAW	-----	-----	1.5
1	Control Unit 23ABG	-----	3-1/2 x 8 x 6-1/4	1
1	Equipment spares	-----	21 x 9-1/4 x 6-5/8	28
1	Selector Unit 23ABH	-----	3-1/2 x 8 x 6-1/4	.5

## REFERENCE DATA AND LITERATURE:

CSP 1375

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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## PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuAer

SPEC &/or DWG: ABK-RE-9079-A  
ABK-1-RE-9079-A

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
<i>For ABK, ABK-1:</i>			
Hazeltine Electronics Corp.	New York, N. Y.	NOs-95492	
<i>For ABK-2, -3:</i>			
Stromberg-Carlson Co.	Rochester, N. Y.	NXs-8127	
<i>For ABK-4, -5:</i>			
Zenith Radio Corp.	Chicago, Ill.	NXs-8128	
<i>For ABK-6, -7:</i>			
Stewart Warner Corp.	Chicago, Ill.	NXs-8129	



## AIRCRAFT RADIO RECEIVING EQUIPMENT AN/ARR-type

4 December 1958

Cognizant Serv: USN FSN:

ARA

USA

USN

USAF

TYPE CLASS: --

Used by

--

STOCK NO: --

--

--

(No Illustration Available.)

## FUNCTIONAL DESCRIPTION:

Aircraft Radio Receiving Equipment ARA is used with Aircraft Radio Transmitting Equipment ATA to make up a complete multichannel radio transmitting and receiving set for use on aircraft equipped with a 24-volt dc power supply. When the ARA and ATA are used together, the system is designed to transmit and receive voice, tone-modulated, or continuous-wave signals.

The receivers cover the frequency range of 190 to 9,100 kc in five independent units, any two or three of which may be installed and operated one at a time or simultaneously, depending on the requirements. The frequency ranges are 190 to 550 kc, 520 to 1,500 kc, 1.5 to 3 mc, 3 to 6 mc, 6 to 9.1 mc.

ARA receivers are interchangeable with RAV receivers in

corresponding frequency ranges except those in 190- to 550-kc and 520- to 1,500-kc ranges. The receiver units of the RAT-1 equipment may be operated in the ARA receiver racks, or vice versa.

The following equipment is used with, but not supplied with, Aircraft Radio Receiving Equipment ARA: antennas as required, receiver test set.

## TECHNICAL CHARACTERISTICS:

*Frequency Range:* 190 to 9,100 kc in 5 units

*Reception:* Voice, cw, mew

*Frequency Accuracy:* 0.3%

*Type:* Superheterodyne

*Power Requirements:* 22- to 30-v dc, 1.6 amp at 28-v dc for each receiver

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
	Auxiliary Outlet Adapter NT-62036 (for NT-46145 receiver only)			
	Dials, Receiver Control Box, 190-550 kc, 520-1, 500 kc, 1.5-3 mc, 3-6 mc, 6-9 mc			
	Radio Receiver NT-46104 (1.5 to 3 mc)	-----	4-3/4 x 5-3/4 x 10-7/16	5.7
	Radio Receiver NT-46105 (3 to 6 mc)	-----	4-3/4 x 5-3/4 x 10-7/16	5.7
	Radio Receiver NT-46106 (6 to 9.1 mc)	-----	4-3/4 x 5-3/4 x 10-7/16	5.7
	Radio Receiver NT-46129 (190 to 550 kc)	-----	4-3/4 x 5-3/4 x 10-7/16	5.7
	Radio Receiver NT-46145 (520 to 1,500 kc)	-----	4-3/4 x 5-3/4 x 10-7/16	5.7
	Receiver Control Box NT- 23155 (2-unit) with dials for receiver frequency	-----	3 x 4-1/8 x 6-3/8	1.8
	Receiver Control Box NT- 23251 (3-unit) with dials for receiver frequency	-----	3 x 6-3/8 x 9-1/2	2.7
	Receiver Control Box Mount- ing 6831 (2-unit)	-----	1/4 x 5-15/32 x 6-3/8	

## AN/ARR-type AIRCRAFT RADIO RECEIVING EQUIPMENT

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
	Receiver Control Box Mounting 7054	-----	1/4 x 5-15/32 x 9-1/2	
	Receiver Dynamotor Unit 21531	-----	-----	3.0
	Receiver Mounting NT-46085 (2-unit)	-----	1-7/16 x 10-23/32 x 11-5/8	.8
	Receiver Mounting NT-46150 (3-unit)	-----	1-7/16 x 10-23/32 x 16-9/16	1.0
	Receiver Rack NT-46110 (2-unit)	-----	-----	2.7
	Receiver Rack NT-46149 (3-unit)	-----	-----	4.0
1 set	Cable assemblies			
1 set	Mechanical linkage			
1 set	Spare parts			
1 set	Tools			
	Switch Panel Adapter NT-49107 (for NT-46129, NT-46104, NT-46105, NT-46106 receivers)	-----	-----	.15

## REFERENCE DATA AND LITERATURE:

NA-08-5Q-4

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)

## PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Aircraft Radio Corp.	Boonton, N. J.	NOs-74912, 29 June 1940	

## AIRCRAFT RADIO RECEIVER AN/ARR-type

4 December 1958

Cognizant Serv: USN FSN:

ARB

USA

USN

USAF

TYPE CLASS: -- Used by --  
 STOCK NO: -- --

(No Illustration Available.)

## FUNCTIONAL DESCRIPTION:

Aircraft Radio Receiver ARB consists of a superheterodyne receiver designed for the reception of voice, cw, or mcw signals. A group of controls and accessories supplied permit control of the receiver from either one or two remote locations.

The frequency range is divided into four bands. On the two lower bands (A and B), either a loop or an extended antenna may be used; on the upper frequency bands (C and D), only an extended antenna may be used. The receiver selectivity may be broadened on the two high frequency bands to facilitate the locating of signals.

An accessories plug is provided on the receiver unit to power auxiliary equipment through the receiver.

## TECHNICAL CHARACTERISTICS:

*Frequency Range:* 195 to 9,050 kc in four bands

Band A: 195 to 560 kc

Band B: 560 to 1,600 kc

Band C: 1.6 to 4.5 mc

Band D: 4.5 to 9.05 mc

*Antenna:* Loop or extended type on Bands A and B; extended type only on Bands C and D*Reception:* Voice, mcw or cw*Intermediate Frequency:* 134 kc on Bands A and B; 915 kc on Bands C and D*Frequency Control:* Manual at either local or remote positions*Output Impedance:* 300 and 4,200 ohms*Power Requirements:* 28-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
	<i>For One Remote Location</i>	<i>For Two Remote Locations</i>		
1	1	Aircraft Radio Receiver NT-56151	7-11/16 x 8-5/16 x 17	26.8
1 set	0	Bulk cable and fittings (p/o RCA MI-8689)		
0	1 set	Bulk cable and fittings (p/o RCA MI-8689-A)		
1 set	0	Combined operating spare parts (and box) for ARB receiver and ATB Trans- mitter (RCA MI-8695)		
0	1 set	Combined operating spare parts (and box) for ARB Receiver and ATB Trans- mitter (RCA MI-8695-A)		
1	2	Flexible tuning shaft		
1	1	Local tuning unit		
0	1	Mechanical linkage		
0	1	Operators Control Box 23256	3 x 4-15/16 x 5-3/4	2
1	1	Pilots Control Box 23254	2-1/4 x 3 x 5-3/4	1.2

MIL-HDBK-161

**AN/ARR-type** AIRCRAFT RADIO RECEIVER

MAJOR COMPONENTS—Continued

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	1	Receiver Mounting Base 10081		
1	1	Receiver slip cover		
1	2	Receiving Tuning Head 23253		
1	1	Right angle tuning drive		
0	1	"T" tuning drive		

REFERENCE DATA AND LITERATURE:

NAVAER 08-5Q-3

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAe

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Radio Corp. of America	----	NOs-98559	



AIRCRAFT RADIO RECEIVING EQUIPMENT **AN/ARR-type**

5 December 1958

Cognizant Serv: USN FSN: 5820-316-8686

RAX-1

USA

USN

USAF

TYPE CLASS: --

Used by --

STOCK NO: --

(No Illustration Available.)

## FUNCTIONAL DESCRIPTION:

Battery-powered Aircraft Radio Receiving Equipment RAX-1 is designed for use in the 200- to 27,000-kc frequency range. The equipment is arranged in three receiver units; unit one covers from 200 to 1,500 kc in 4 bands; unit two covers from 1,500 to 9,000 kc in 4 bands; unit three covers from 7,000 to 27,000 kc in 5 bands.

## TECHNICAL CHARACTERISTICS:

*Type of Reception:* A1, A2, and A3  
*Frequency Range:* 200 to 27,000 kc  
*Power Source Required:* 24-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1 set	Accessories			
1 set	Cables			
1	Junction Box	CG68028	2 x 4 x 5-7/16	1.0
1	Radio Receiver Unit 1	CG46115	7-1/2 x 7-1/2 x 17	21.6
1	Radio Receiver Unit 2	CG46116	7-1/2 x 7-1/2 x 17	22.2
1	Radio Receiver Unit 3	CG46117	7-1/2 x 7-1/2 x 17	22.5
3	Receiver Racks	CG46128	3-3/8 x 7-1/2 x 16-5/8	2.8
3	Slip covers			

## REFERENCE DATA AND LITERATURE:

NAVAER 08-5Q-245

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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MIL-HDBK-161

**AN/ARR-type** AIRCRAFT RADIO RECEIVING EQUIPMENT

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
			\$220.00

## AIRCRAFT RADIO EQUIPMENT AN/ARR-type

20 November 1958

Cognizant Serv: USN FSN:

RU-18, -19

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	--	--

(No Illustration Available.)

## FUNCTIONAL DESCRIPTION:

Aircraft Radio Equipments RU-18 and RU-19 are complete aircraft receiving sets. These sets are capable of receiving mew of cw signals in the frequency range of 195 to 13,575 kc, with proper selection of interchangeable coil units.

The RU-18 is designed for installation in aircraft with a 12- to 15-volt source of dc supply; the RU-19 is designed for installation in aircraft with a 24- to 30-volt supply. Junction boxes and dynamotor-filter units of the two equipments are the only corresponding items that are not interchangeable.

## TECHNICAL CHARACTERISTICS:

Frequency Range: 195 to 13,575 kc, in various bands:

Range O: 195 to 290 kc

Range P: 290 to 435 kc

Range L: 400 to 600 kc

Range C: 545 to 850 kc

Range D: 850 to 1330 kc

Range E: 1,330 to 2,040 kc

Range F: 2,040 to 3,000 kc

Range G: 3,000 to 4,525 kc

Range H: 4,000 to 6,000 kc

Range N: 6,000 to 9,050 kc

Range K: 9,050 to 13,575

Other available sets of coils cover:

Range M: 5,200 to 7,700 kc

Range Q: 540 to 830 kc

Power Requirements: RU-18: 12-15-v dc; RU-19: 24-30-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Aircraft Radio Receiver NT-46048/D w/Mounting Base NT-46011	-----	7-3/16 x 8-1/8 x 15-3/4	13.9
1	Dynamotor Filter Unit NT-21215A (u/w RU-18)	-----	4-3/8 x 5-3/4 x 7-3/8	9
	or			
1	Dynamotor Filter Unit NT-21441 (u/w RU-19)	-----	4-3/8 x 5-3/4 x 7-3/8	9
(*)	Dual Coil Set Local Control NT-23053	-----		
1	Dual Coil Set Remote Control NT-23087	-----		
1	Junction Box NT-62007A	-----	2-15/16 x 5-1/2 x 7-3/8	1.9
1	Junction Box NT-62017	-----	4-1/16 x 5-1/2 x 7-3/8	2.4
1	Receiver Remote Tuning Control NT-23012	-----	2-1/2 x 3 x	0.9
1	Receiver Switch Box NT-23087	-----	2-3/8 x 3-11/16 x 5-1/16	0.9
	Selected Receiver Coil Sets and containers			

\* Furnished on basis of one per Dual Coil Set supplied with particular equipment.

**AN/ARR-type** AIRCRAFT RADIO EQUIPMENT

**REFERENCE DATA AND LITERATURE:**

Technical Manual for Navy Model RU-18 and Navy Model RU-19 Aircraft Radio Telegraph and Telephone Receiving Equipments

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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**PROCUREMENT DATA**

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co., Inc.	Chicago, Ill.	NOs-84530	

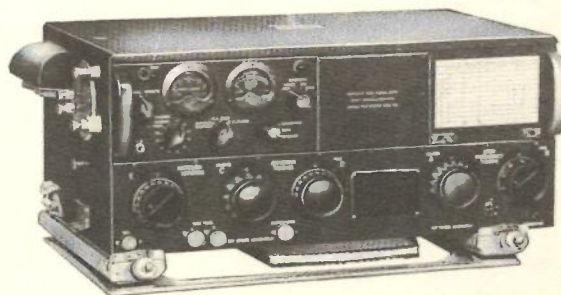


RADIO TRANSMITTING SET **AN/ART-13**

17 November 1958

Cognizant Serv: USN FSN: 5820-665-2307

	USA	USN	USAF
TYPE CLASS:	Obsolete	Used by	--
STOCK NO:	--	F16-Q-109310-200	--



AN/ART-13

**FUNCTIONAL DESCRIPTION:**

Radio Transmitting Set AN/ART-13 is a compact, light-weight, radio transmitter for air-ground communication in aircraft. An autotune system permits rapid selection of 10 preset channels within the high frequency range. Selection of operating method is accomplished through a local remote switch by the radio operator or the pilot.

The danger of permitting antenna radiated power to cover a longer range than is necessary has been eliminated by the use of a pressure operated relay.

This equipment includes a set of connectors and adapters but not the necessary interconnecting wires and cables. Microphones, a table-type key, a throttle switch, headphones, and an antenna system are required but not supplied.

Either a trailing long wire antenna or a fixed antenna with a shunt capacitor can be used. A transmitter-to-receiver antenna transfer relay switch is included.

This equipment is identical with aircraft Radio Transmit-

ting Equipment ATC and similar to Radio Transmitting Set AN/ART-13A and Radio Transmitting Equipment TCZ.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 2 to 18.1; 0.2 to 1.5 with additional equipment

*Number of Channels:* 10 hf channels only; use of a lf oscillator provides an additional channel in the frequency band 0.2 mc to 1.5 mc.

*Frequency Control:* Crystal

*Type Emission:* Voice, cw, mcw

*Keying:* Relay keying; 30 wpm (maximum speed)

*Mounting:* Shock-mounting base

*Power Output:*

High Frequency Range: 31 to 90 w

Optional Low Frequency Range: 5 to 80 w

*Power Supply Equipment:* Dynamotor

*Power Requirements:* 770 to 896 w, 28-v dc

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Antenna Shunt Capacitor CU-24/ART-13	-----	3-7/8 x 4-1/8 x 5	1.68
1	Antenna Switching Unit SA-22/ART-13	-----		
1	Control Unit C-87/ART-13	-----	3-1/4 x 3-1/2 x 6-3/16	1.4

MIL-HDBK-161

**AN/ART-13** RADIO TRANSMITTING SET

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONJ (Inches)	WEIGHT (Lbs)
1	Dynamotor Unit DY-12/ ART-13	-----	8-1/2 x 7-1/8 x 12-3/16	30
1	Mounting Base MT-284/ ART-13	-----	2-1/2 x 15-15/32 x 20-33/64	1.88
1	Radio Transmitter T-47/ ART-13	-----	11-11/32 x 15-15/32 x 23-9/16	67

REFERENCE DATA AND LITERATURE:

AN 08-30ART13-5

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuAer

SPEC &/or DWG: RE13A583B, EN28/2280-43, RE13A1040

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Collins Radio Co., Inc.	Cedar Rapids, Iowa	NOs-73238	\$14,000.00
		NXsa-44558	14,000.00
		NXsa-95145	14,000.00
		N5sa-4687	14,000.00
		NXsa-66789	14,000.00
		N5sa-7232	14,000.00
Zenith Radio Corp.	Chicago, Ill.	NObsr-43061	14,000.00
		NXss-18932	14,000.00
		NXsa-45461	14,000.00
		NXsa-67955	14,000.00

## RADIO TRANSMITTING SET AN/ART-13A

18 November 1958

Cognizant Serv: USAF FSN:

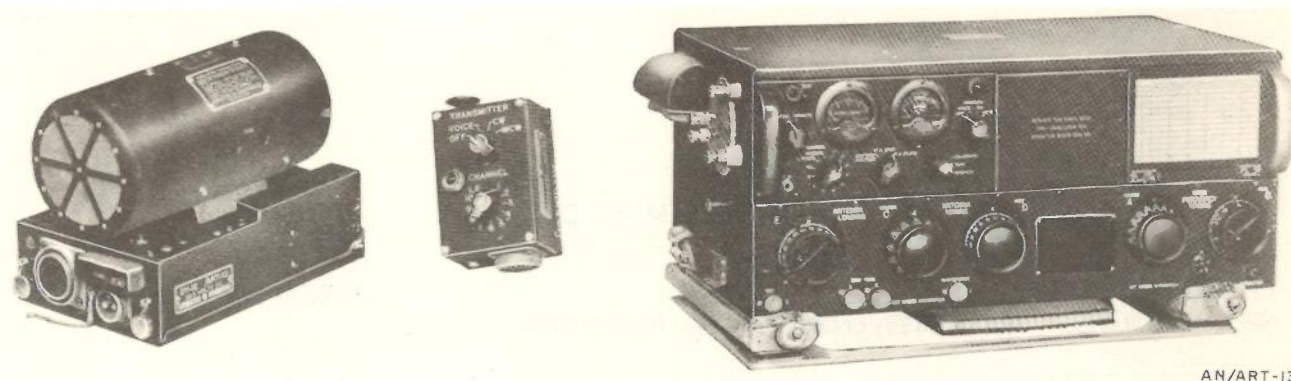
USA

USN

USAF

TYPE CLASS: Obsolete  
STOCK NO:

Used by



AN/ART-13A

## FUNCTIONAL DESCRIPTION:

Radio Transmitting Set AN/ART-13A is designed for air-ground communication in aircraft. It uses an autotune system that permits rapid selection of any one of 11 channels, as well as choice of type of emission. The autotune system can be controlled either by the radio operator or by the pilot.

A pressure operated relay automatically reduces the power output by 50 percent whenever the aircraft reaches an altitude of 25,000 feet.

This equipment is similar to Radio Transmitting Set AN/ART-13 and Aircraft Radio Transmitting Equipment ATC.

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:*

Low: 0.2 to 1.5

High: 2 to 13

*Frequency Control:* Crystal*Number of Channels:*

Low Frequency: 1

High Frequency: 10

*Type Modulation:* AM*Type Emission:* Voice, cw, mew*Keying:* Relay keying; max speed 30 wpm*Mounting:* Shock-mounting base*Power Output:*

Low Frequency: 5 to 80 w

High Frequency: 31 to 90 w

*Power Requirements:* 770 to 896 w, 28-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Antenna Loading Unit CU-32/ART-13A			
1	Antenna Shunt Capacitor CU-24/ART-13	-----	3-7/8 x 4-1/8 x 5	1.68
1	Control Unit C-87/ART-13	-----	3-1/4 x 3-1/2 x 6-3/16	1.4
1	Dynamotor Unit DY-17/ ART-13A	-----	8-13/16 x 7-3/16 x 11-15/16	28
1	Oscillator O-17/ART-13A			
1	Radio Transmitter T-47A/ ART-03	-----	11-11/32 x 15-15/32 x 23-9/16	67



**AN/ART-13A** RADIO TRANSMITTING SET

## REFERENCE DATA AND LITERATURE:

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

## PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuAer

SPEC &amp;/or DWG: RE13A583B; EN28/2280-43; RE13A1040

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Collins Radio Co., Inc.	Cedar Rapids, Iowa	NOs-73238	\$14,000.00
		NXsa-44558	14,000.00
		NXsa-95145	14,000.00
		N5sa-4687	14,000.00
		NXsa-66789	14,000.00
		N5sa-7232	14,000.00
Zenith Radio Corp.	Chicago, Ill.	NObsr-43061	14,000.00
		NXss-18932	14,000.00
		NXsa-45461	14,000.00
		NXsa-67955	14,000.00



## RADIO TRANSMITTING SET AN/ART-28

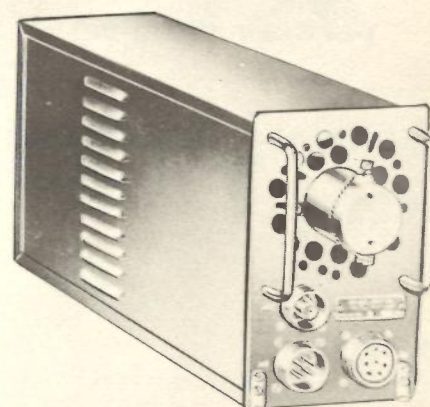
18 November 1958

Cognizant Serv: USN FSN:

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	--	--



TRANSMITTER, RADIO  
T-271/ART-28



POWER SUPPLY  
PP-615/ART-28

AN/ART-28

## FUNCTIONAL DESCRIPTION:

Radio Transmitting Set AN/ART-28 is primarily designed to relay radar information from an aircraft early warning radar set to the receiving and indicating equipment in a surface control station. The application of this equipment permits the plan position indicator presentation, obtained by radar scanning from the aircraft at a high altitude, to be reproduced in the surface control station.

The relay transmitter is installed in the aircraft to operate directly from the output signals of the aircraft early warning synchronizer. However, the transmitter also may be installed in an intermediate aircraft to re-relay the radar signals picked up by a relay receiver from another aircraft early warning relay transmitter.

This equipment is used with Airborne early warning units, such as Radar Set AN/APS-20 and Radio Receiving Set AN/ARR-27.

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 460 to 510

*Channel Frequencies:* 464.87 mc, 477.43 mc, 490 mc, 502.56 mc

*Output Characteristics:*

Emission: Coded pulse-modulated carrier

Pulse Repetition Frequency: 300 pps

Basic, Sine, Cosine, Main Bang Pulses: Composed of three

1  $\mu$ sec pulses whose leading edges are separated by +3 or -0.5  $\mu$ sec and +5 or -0.5  $\mu$ sec respectively at 40% of peak amplitude

*Power Output:*

Peak Video: 100 w or more at antenna receptacle

Peak Synchronized: 400 w or more at antenna receptacle

Unmodulated: Adjusted to 20 w as measured at antenna receptacle

Synchronized Power-video Power Ratio: 4 to 1 or greater; approximately 2 to 1 or greater in voltage

*Power Requirements:**Ac Voltage:*

*Line to Neutral (Optimum):* 115 v

*Line to Neutral (Operating Range):* 102 to 124 v

*Line to Neutral Peak and Best Operating Range:* 110 to 120 v

*Phase to Phase (Optimum):* 200 v

*Frequency:* 320 to 1,000 cps

*Phase:* 3 (4-wire system)

*Volt-amperes:* 1,000

*Current Drain:* 1.7 amp (2 phase); 2.5 amp (3 phase)

*Dc Voltage:*

*Range:* 24 to 29 v

*Optimum:* 26.5 v

*Operating Current:* 5.6 amp

*Starting Current:* 8.5 amp

**AN/ART-28** RADIO TRANSMITTING SET

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Mounting MT-828/ART-28	-----	4-1/32 x 11-1/8 x 22-1/4	4.5
1	Mounting MT-829/ART-28	-----	2-7/16 x 5-7/8 x 21-5/8	2.5
1	Power Supply PP-615/ ART-28	-----	4-15/16 x 7-13/16 x 21-1/2	24
1	Transmitter T-271/ART-28	-----	7-7/8 x 11-3/64 x 20-1/4	42.5

## REFERENCE DATA AND LITERATURE:

AN 16-30ART28-1

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

## PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Westinghouse Electric Corp.	Washington, D. C.	NOas-51-730f, 12 February 1951	\$2,340.00

## AIRCRAFT RADIO TRANSMITTING EQUIPMENT AN/ART-type

4 December 1958

Cognizant Serv: USN FSN:

ATA

USA

USN

USAF

TYPE CLASS: --

Used by --

STOCK NO: --

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Aircraft Radio Transmitting Equipment ATA is used with Aircraft Radio Receiving Equipment ARA to make up a complete multichannel radio transmitting and receiving set for use on aircraft equipped with a 24-volt, dc power supply. When the ATA and ARA are used together, the system is designed to transmit and receive voice, tone-modulated, or continuous-wave signals.

The transmitters cover the frequency range of 2.1 to 9.1 mc in five independent units, any two of which may be installed and operated one at a time, depending on the requirements. The frequency ranges are 2.1 to 3 mc, 3 to 4 mc, 4 to 5.3 mc, 5.3 to 7 mc, 7 to 9.1 mc.

The following equipment is used with, but not supplied

with, Aircraft Radio Transmitting Equipment ATA: antennas as required, transmitter test set.

## TECHNICAL CHARACTERISTICS:

*Frequency Range:* 2.1 to 9.1 mc in 5 units

*Power Output:*

Optimum antenna loading conditions: 40 w for cw and 15 w for voice at 28-v dc input

Normal conditions: 25 w cw, 12 w mcw, 8 w voice

*Frequency Accuracy:* 0.04%

*Type Emission:* Voice, cw, mcw

*Power Requirements:* 22- to 30-v dc, 8.8 amp at maximum power output on cw, 2.5-amp heater current

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
	Antenna Relay Unit NT-29125	-----	4-5/8 x 4-7/8 x 6-9/16	1.9
	Antenna Relay Unit Mounting NT-29126	-----	29/32 x 5 x 5-5/8	.3
1 Set	Cable assemblies			
1 Set	Mechanical linkage			
1 Set	Spare parts			
1 Set	Tools			
	Modulator Unit NT-50083	-----	6-11/16 x 7-1/8 x 10-1/8	9.0
	Modulator Unit Mounting NT-50084	-----	1 x 8-7/8 x 10-3/16	.7
	Radio Transmitter NT-52208 (3 to 4 mc)	-----	5-1/2 x 7-1/4 x 11-3/16	8.3
	Radio Transmitter NT-52209 (4 to 5.3 mc)	-----	5-1/2 x 7-1/4 x 11-3/16	8.3
	Radio Transmitter NT-52210 (5.3 to 7 mc)	-----	5-1/2 x 7-1/4 x 11-3/16	8.3
	Radio Transmitter NT-52211 (7 to 9.1 mc)	-----	5-1/2 x 7-1/4 x 11-3/16	8.3
	Radio Transmitter NT-52232 (2.1 to 3 mc)	-----	5-1/2 x 7-1/4 x 11-3/16	8.3
	Transmitter Control Box NT-23243	-----	2-11/16 x 4-1/8 x 4-3/8	.9



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**AN/ART-type** AIRCRAFT RADIO TRANSMITTING EQUIPMENT

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
	Transmitter Control Box Mounting 7083	-----	3/16 x 4-1/8 x 4-3/16	
	Transmitter Dynamotor Unit NT-21626	-----	-----	8.0
	Transmitter Mounting NT- 52213 (2-unit)	-----	1-3/8 x 11-3/16 x 12-3/4	.8
	Transmitter Rack NT-52212 (2-unit)	-----	-----	2.0

REFERENCE DATA AND LITERATURE:

NA-08-5Q-4

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Aircraft Radio Corp.	Boonton, N. J.	NOs-74912, 29 June 1940	



## AIRCRAFT RADIO EQUIPMENT AN/ART-type

4 December 1958

Cognizant Serv: USN FSN:

ATB

USA

USN

USAF

TYPE CLASS: --

Used by

--

STOCK NO: --

--

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(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Aircraft Radio Equipment ATB is supplied in two forms, for single place and for dual place operation. It is of compact design and is intended for either continuous-wave, modulated continuous-wave, or voice transmission.

*Type Emission:* cw, mew, voice*Power Output:*

Cw: 3.5 w

Mew: 2.8 w (carrier)

Voice: 2.8 w (carrier)

*Dynamotor:*

Input: 27.5-v dc

Output: 0.320 amp at 425-v dc

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 2.3 to 9.05

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Aircraft Radio Transmitter 52233 consists of:	-----	7-3/16 x 10-3/8 x 15-1/2	35.0
2	Tuning Unit 47192	-----		
1	Mounting Base, Right 10082	-----		
1	Mounting Base, Left 10083	-----		
1	Dynamotor Assembly 21724 consists of:	-----	5-1/2 x 7-5/8 x 7-15/16	14.3
1	Mounting Base 10084	-----		
1	Metering Kit 60025	-----	2-27/32 x 5-7/8 x 7-25/32	1.9
1**	Operators Control Box 23313	-----	3-23/32 x 4-9/32 x 5-15/16	4.2
1*	Pilots Control Box 23258	-----	2-1/4 x 3 x 5-15/16	.7
1**	Pilots Control Box 23314	-----	3-23/32 x 4-9/32 x 6-1/16	1.8
1	Set bulk cables and fittings	-----		
1	Slip cover for dynamotor	-----		
1	Slip cover for transmitter	-----		
1	Tuning Unit 47191 consists of:	-----	6 x 7-13/16 x 12-3/16	10.3
1	Tuning Unit Carrying Case 10085	-----		

\* Supplied only with single place equipment

\*\* Supplied only with dual place equipment

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**AN/ART-type** AIRCRAFT RADIO EQUIPMENT

REFERENCE DATA AND LITERATURE:

NA 08-5Q-51

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
RCA Victor Division of RCA	Camden, N. J.	NOs-98559, 23 February 1942	

AIRCRAFT RADIO TRANSMITTING EQUIPMENT **AN/ART-type**

4 December 1958

Cognizant Serv: USN FSN:

ATD

USA

USN

USAF

TYPE CLASS: --

Used by

--

STOCK NO: --

--

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(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Aircraft Radio Transmitting Equipment ATD is a low power transmitter designed for use in single- or double-cockpit aircraft; it is also sufficiently flexible for use on larger aircraft. The transmitter is designed for local or remote control operation. All power for the equipment is supplied by the primary battery supply of the plane.

The following equipment is used, but is not supplied with Aircraft Radio Transmitting Equipment ATD: power supply (1); receiver (1); carbon microphone (2), or mask-type carbon microphone (2).

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Kc:* 540 to 9,050*Emission:* A1, A2, A3*Power Output:* 50 w (A1), 40 w (A2, A3)*Operating Condition:*

CW Tune-Operate Switch in Tune Position: 11.0 amp

CW Key Up: 9.3 amp

CW Key Down: 17.6 amp

Phone Carrier: 18.5 amp

Phone Normal Modulation: 19.0 amp

Phone Standby (dynamotor stopped): 5.0 amp

*Power Requirements:* 19 amp at 28-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Accessories and operating spare parts			
1	Aircraft Transmitter Unit 52253	-----	10-15/16 x 13-25/32 x 23-3/8	70
1	Dynamotor assembly Unit 21748	-----	6-7/8 x 8-13/32 x 11-7/16	24.1
1	Remote Control Unit 23280	-----	2-3/4 x 3-1/16 x 5-27/32	1.06
1	Remote Indicator Unit 55079	-----	2-3/16 x 2-5/16 x 3-5/16	.75

## REFERENCE DATA AND LITERATURE:

NAVAER 08-5Q-39

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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MIL-HDBK-161

**AN/ART-type** AIRCRAFT RADIO TRANSMITTING EQUIPMENT

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Bendix Aviation Corp. Radio Division	Baltimore, Md.	NOs-73237	



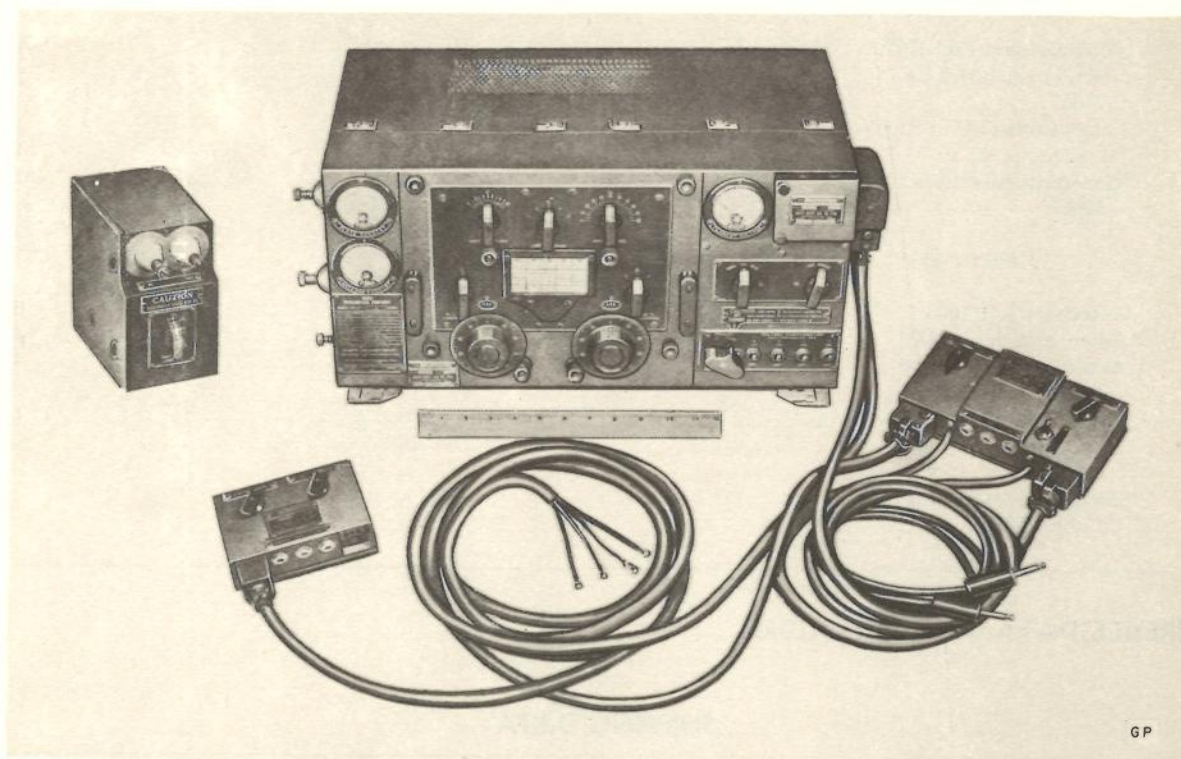
## AIRCRAFT RADIO TRANSMITTING EQUIPMENT AN/ART-type

25 November 1958

Cognizant Serv: USN FSN:

GP, GP-2

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	--	--

**FUNCTIONAL DESCRIPTION:**

Aircraft Radio Transmitting Equipments GP and GP-2 are high-power radio-transmitting equipments for aircraft service, featuring compactness, light weight, and unusual flexibility of installation and usage. They are intended primarily for use in observation and scouting airplanes but can be employed in any aircraft equipped with proper power supplies and radiating systems.

Both models are fundamentally identical, differing only in that certain accessories required for an operative installation and furnished with the GP are omitted in the GP-2.

The following equipment is used with, but is not supplied with, Aircraft Radio Transmitting Equipments GP and GP-2: one Alternator NEA-1, NEA-1A, or NEA-2 complete with regulator, one 12-volt storage battery, two 600-ohm headsets, one antenna installation, one low-pass switch, and one Aircraft Radio Receiving Equipment RU-2 or RU-3.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range:* 350 to 9,050 kc in six bands

Band A: 350 to 800 kc

Band B: 800 to 1,500 kc

Band C: 1,500 to 3,000 kc

Band D: 3,000 to 4,525 kc

Band E: 4,525 to 6,500 kc

Band F: 6,500 to 9,050 kc

*Type Emission:* Cw, mcw, voice

*Power Output:*

350 to 500 Kc:

*Cw and Mcw:* 85 w

*Voice:* 60 w

500 to 800 Kc:

*Cw and Mcw:* 100 w

*Voice:* 75 w

800 to 1,500 Kc:

*Cw and Mcw:* 125 w

*Voice:* 85 w

3,000 to 9,050 Kc:

*Cw and Mcw:* 125 w

*Voice:* 85 w

*Power Requirements:* 850 ma, 120-v 600- to 800-cycle ac; 0.5 amp at 12-v dc

**AN/ART-type** AIRCRAFT RADIO TRANSMITTING EQUIPMENT

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
<i>For GP:</i>				
1	Antenna Load Coil 47079	-----	-----	52
1	Operator's Control Unit 23057	-----	-----	3.1
1	Pilot's Control Unit 23058	-----	-----	1.3
1	Power input cable	-----	-----	1.2
1	Transmitter-Rectifier Unit 52051	-----	-----	52
<i>For GP-2:</i>				
1	Antenna Reel 71006	-----	-----	3.4
1	Antenna Weight 71003	-----	-----	4.2
1	Antenna Wire Model J (500 ft)	-----	-----	4.2
1	Fairlead 61083	-----	-----	1.1
2	Microphone with plug and cable	-----	-----	.49
2	Microphone with plug and Cable 26003A	-----	-----	.9

## REFERENCE DATA AND LITERATURE:

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

## PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
------------	----------	--------------------------	---------------------

RCA Manufacturing Co.

*For GP:*  
NOs-35625, 14 April 1934  
*For GP-2:*  
NOs-42717, 17 June 1935

## AIRCRAFT RADIO TRANSMITTING EQUIPMENT AN/ART-type

25 November 1958

Cognizant Serv: USN FSN:

GP-7

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	--	--

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Aircraft Radio Transmitting Equipment GP-7 is an airborne, high frequency radio transmitter designed to transmit continuous wave, modified continuous wave, and voice signals for long range communication. The transmitter may be started or stopped from either the operator's or pilot's position. The circuit is such that neither the operator nor the pilot can lock out the other; that is, the equipment can be started at the radio operator's position and stopped at the pilot's position or vice versa.

The following equipment is used with, but is not supplied with, Aircraft Radio Transmitting Equipment GP-7: aircraft microphones, helmet with headphones, flameproof telegraph keys, fairlead with antenna length counter, antenna reel with 350-foot Model J antenna wire, and antenna weight.

## TECHNICAL CHARACTERISTICS:

*Frequency Range:* 350 to 9,050 kc*Type Emission:* A1, A2, A3*Power Output:*

350 to 800 Kc: 85 w (cw and mcw)

800 to 3,000 Kc:

*Cw and Mcw:* 100 w*Voice:* 35 w

3,000 to 9,050 Kc:

*Cw and Mcw:* 125 w*Voice:* 40 w*Dynamotor Output:* 120-v 600- to 800-cycle ac*Power Requirements:* 12- to 14-v dc or 14- to 28-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Aircraft Radio Transmitter 52173-A	-----	10-3/4 x 13 x 23-3/8	49.5
1	External Antenna Loading Coil 47125	-----	4 x 6-7/8 x 7	4
	Interconnection cables (bulk)			
1	Operator's Control Box 23220	-----	2-5/16 x 4-1/2 x 8	3
1	Pilot's Control Box 23219	-----	2-9/32 x 4-1/2 x 5-1/2	1
1	Plug-in Tuning Unit Con- tainer 47124 (Aluminum)	-----	9-1/16 x 10-7/8 x 12	5
1	Plug-in Tuning Unit Con- tainer 47226 (Steel)	-----	9-1/16 x 10-7/8 x 12	6.25
1	Range A Plug-in Tuning Unit 47150-A	-----	8-1/4 x 9-1/2 x 10-13/16	15
1	Range B Plug-in Tuning Unit 47151-A	-----	8-1/2 x 9-1/2 x 10-13/16	14
1	Range C Plug-in Tuning Unit 47155	-----	8-1/2 x 9-1/2 x 10-13/16	14
1	Range D Plug-in Tuning Unit 47152-A	-----	8-1/2 x 9-1/2 x 10-13/16	14
1	Range E Plug-in Tuning Unit 47153-A	-----	8-1/2 x 9-1/2 x 10-13/16	13
1	Range F Plug-in Tuning Unit 47154-A	-----	8-1/2 x 9-1/2 x 10-13/16	15
1 set	Spare parts	-----	15 x 16 x 21	45
1	Waterproof slip cover	-----	-----	0.5



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**AN/ART-type** AIRCRAFT RADIO TRANSMITTING EQUIPMENT

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**REFERENCE DATA AND LITERATURE:**

Instruction Book 7243, Serial No. 862

**SHIPPING DATA**

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PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
2	26.97	400

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**PROCUREMENT DATA**

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PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

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CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Westinghouse Electric & Manu- facturing Co.	Baltimore, Md.	NOs-74844, 27 June 1940	

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## RADIO SET AN/ARW-2

18 November 1958

Cognizant Serv: USN FSN:

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	F16-Q-109860-200	--

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Radio Set AN/ARW-2 is an airborne unit forming the receiving end of a remote control link. It provides remote radio control of ten separate electrical circuits and receives frequency modulated signals transmitted by Radio Set AN/ARW-3.

The receiver is capable of actuating any of ten separate control functions by means of self-contained relays. Properly adjusted, the ten control channels may be used in any combination, provided that no more than three are actuated at any one time.

This equipment is identical with Radio Set AN/ARW-2X except for input power requirements.

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 30 to 42

*Tone Channel Frequencies:* 300 cps; 420 cps; 590 cps; 830 cps; 1,155 cps; 1,620 cps; 2,270 cps; 3,180 cps; 4,450 cps; 6,230 cps

*Type Modulation:* FM, 15 kc maximum deviation (with suppressor disconnected)

*Type Receiver:* Superheterodyne

*Sensitivity:* Adjustable, 1 to 5 uv (with suppressor operating)

*Input Impedance (RF):* 50 ohms, adjustable from 4 to 30 uv

*Output Circuits:* 10 circuits switched individually by action of tone operated relays, each rated 1 amp dc

*Power Requirements:* 87.7 w, 27-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Antenna cable and plug			
1	Control cable and plug			
1	Mounting Base MT-52/UR	-----	22 x 10-7/16 x 2-3/16	3.9
1	Power cable and plug			
1	Radio Receiver R-32/ARW-2	-----	8 x 10-7/16 x 22-3/8	44.7

## REFERENCE DATA AND LITERATURE:

AN 16-30ARW2-3

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)

MIL-HDBK-161

**AN/ARW-2** RADIO SET

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Fred M. Link	New York, N. Y.	NXsa-33081 NXsa-95103	

RADIO TRANSMITTER **AN/ARW-3**

18 November 1958

Cognizant Serv: USN FSN:

USA

USN

USAF

TYPE CLASS: --

Used by

STOCK NO: --

(No Illustration Available)

**FUNCTIONAL DESCRIPTION:**

Radio Transmitter AN/ARW-3 is a crystal controlled frequency modulated unit equipped with ten tone oscillators used for modulation. It is designed for application in aircraft.

This equipment plus Radio Set AN/ARW-2 as receiver form a remote radio control system capable of actuating any of ten remote control channels. These may be actuated in any combination provided no more than three are used at one time.

The transmitter may be operated with the radio frequency carrier on continuously or normally off and keyed on only by energizing one or more of the control channels. It may utilize an amplifier unit to increase the operating range.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 30 to 42

*Transmitter Tone Channel Frequencies:* 300 cps; 420 cps; 590 cps; 830 cps; 1,155 cps; 1,620 cps; 2,270 cps; 3,180 cps; 4,450 cps; 6,230 cps

*Type Modulation:* Fm  $\pm 15$  kc maximum deviation

*Output Impedance (RF):* 50 to 250 ohms

*Amplifier Input Impedance:* 50 ohms (approximately)

*Amplifier Power Input (RF):* 15 w (approximately)

*Transmitter Power Supply:* 8 amp at 27-v dc

*Power Output:*

Transmitter: 25 w

Amplifier: 250 w (nominal), 400 w (maximum)

*Power Requirements:* 310 w (standby), 675 w (transmitting at 250-w output), 750 w (transmitting at 350-w output), 115-v, 800- to 2,400-cycle ac

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Amplifier Unit AM-10/ ARW-3	-----	12-1/4 x 15-7/16 x 22-3/8	61.4
1	Mounting Base MT-52/UR	-----	2-3/16 x 10-7/16 x 22	3.9
1	Mounting Base MT-53/UR	-----	2-3/16 x 15-7/16 x 22	4.1
1 set	Plugs and accessories			
1 set	Power and antenna cables			
1	Radio Transmitter T-24/ ARW-3	-----	9-3/16 x 10-7/16 x 22-3/8	30.7

**REFERENCE DATA AND LITERATURE:**

AN 16-30ARW2-3

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

**AN/ARW-3** RADIO TRANSMITTER

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Link Radio Corp.	New York, N. Y.	NXsa-33081	\$2,800.00
		NXsa-68000	2,800.00
		NXsa-95103	2,800.00



## AIRCRAFT RADIO EQUIPMENT AN/ARW-34

18 November 1958

Cognizant Serv: USN FSN:

USA

USN

USAF

TYPE CLASS: --

Used by --

STOCK NO: --

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Aircraft Radio Equipment AN/ARW-34 is an airborne frequency modulated, remote transmitting unit. It provides remote radio control of ten separate electrical circuits. Control is accomplished by selectively modulating the transmitter with audio tones that, at the receiver, selectively operate relays controlling external electrical circuits.

This equipment is similar to Radio Transmitting Set AN/ARW-3 except for the frequency range.

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 52 to 65*Frequency Control:* Crystal*Type Modulation:* FM  $\pm 15$  kc maximum deviation*Type Emission:* F2*Output Impedance:* 50 to 250 ohms*Power Output:* 10 w; 175 w (with amplifier)*Power Requirements:* 8 amp at 28-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Amplifier AM-82/ARW-34	-----	12-1/4 x 15-7/16 x 22-3/8	65.5
1	Cable, Power DCOP-09	-----		
2	Cable, Power PAR-12	-----		
1	Mounting Base MT-52/UR	-----	2-3/16 x 10-7/16 x 22	3.9
1	Mounting Base MT-53/UR	-----	2-3/16 x 15-7/16 x 22-3/8	65.5
1	Plug AN3108-20-4S with Clamp AN-3057-12	-----		.35
1	Plug AN3108-24-12S with Clamp AN-3057-12	-----		.35
1	Plug AN3108-28-2P with Clamp AN-3057-16	-----		.35
3	Plug 49190	-----		.06
2	Radio Frequency Cable RG-8/U	-----		
1	Radio Transmitter T-125A/ ARW-34	-----	9-3/16 x 10-7/16 x 22-3/8	34.6

## REFERENCE DATA AND LITERATURE:

AN 16-30ARW34-3



AIRCRAFT RADIO RECEIVING EQUIPMENT **AN/AXR-type**

4 December 1958

Cognizant Serv: USN FSN:

ARJ

USA

USN

USAF

TYPE CLASS: --

Used by --

STOCK NO: --

(No Illustration Available)

**FUNCTIONAL DESCRIPTION:**

Aircraft Radio Receiving Equipment ARJ is an aircraft radio television receiver designed for use with Aircraft Radio Transmitting Equipment ATJ. It may be adjusted to operate on any one of five different frequency channels, permitting simultaneous operation of up to five separate sets of equipments within the same general area. Under favorable operating conditions, scenes clearly visible at the transmitting aircraft may be reproduced in the receiving aircraft at a distance of at least 10 miles.

Test equipment is used with, but is not supplied with, Aircraft Radio Receiving Equipment ARJ.

**TECHNICAL CHARACTERISTICS:***Intermediate Frequency:* 23.5 mc*Presentation:* 7-inch cathode ray tube in receiver and monitor units*Resolution:* 230 scanning lines vertical and horizontal*Type Receiver:* Superheterodyne*IF Bandwidth:* 8 mc*Input Impedance:* 50 ohms*Power Requirements:*

Receiver: 27- to 31-v dc; 10 amp at 28.6 v dc

Monitor: 27- to 31-v dc; 4 amp at 28.6-v dc

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Antenna Assembly 66ADT	-----	4-1/4 x 8 x 20-1/2	2.5
1	Antenna Assembly 66AFW	-----	4-5/32 x 7-29/32 x 20-1/2	1.8
1 set	Interconnecting cables	-----		
1	Monitor Unit 60ABK	-----	8-21/32 x 10-17/32 x 19-5/8	30
1	Radio Receiver 46ACC	-----	10-13/32 x 17-7/8 x 22-3/8	53.75

**REFERENCE DATA AND LITERATURE:**

NAVAER 08-5S-45

NAVAER 08-5S-79

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

MIL-HDBK-161

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**AN/AXR-type** AIRCRAFT RADIO RECEIVING EQUIPMENT

---

PROCUREMENT DATA

---

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

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CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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## AIRCRAFT RADIO RECEIVING EQUIPMENT AN/AXR-type

4 December 1958

Cognizant Serv: USN FSN:

ARK

USA

USN

USAF

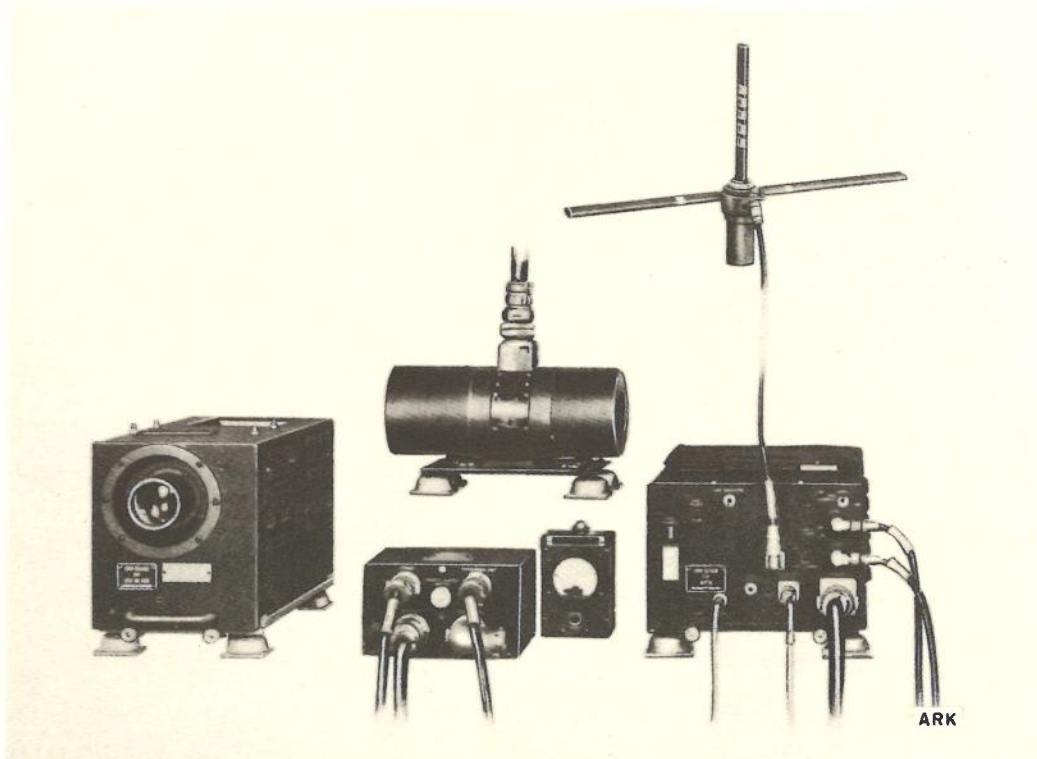
TYPE CLASS: --

Used by

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STOCK NO: --

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**FUNCTIONAL DESCRIPTION:**

Aircraft Radio Receiving Equipment ARK is an ultra-high frequency receiver for use in and by aircraft in conjunction with Aircraft Radio Transmitting Equipment ATK to comprise a complete system for plane-to-plane radio television reception. Scenes visible from an aircraft using Radio Transmitting Equipment ATK may be reproduced in another aircraft using Aircraft Radio Receiving Equipment ARK, at a distance of about 10 miles.

The equipment can operate on any one of 10 frequency channels, and up to 10 separate sets of equipments may be operated simultaneously within the same general area. The equipment will operate under severe conditions of vibration temperature, humidity, and altitude.

Either the cylindrical or elliptical type antenna is supplied for frequency channels 1 to 5; elliptical type only for channels 6 to 10.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 264 to 372 in 10 channels (preset)  
*Presentation:* Television scan on 7-inch cathode ray tubes in receiver and monitor units  
*Vertical Resolution:* 350 scanning lines  
*Horizontal Resolution:* Equivalent to vertical resolution  
*Aspect Ratio:* 4:3  
*Frames Per Second:* 40  
*Synchronizing Signals:* Pulses  
*Type of Receiver:* Superheterodyne  
*Intermediate Frequency:* 50 mc  
*IF Bandwidth:* 8 mc  
*Input Impedance:* 50 ohms  
*Range:* 10 miles or more under favorable conditions  
*Power Requirements:*  
 Radio Receiver: Dynamotor requires 286 w, 27- to 31-v dc from a regulated power source  
 Monitor Unit: Dynamotor requires 115 w, 27- to 31-v dc



AIRCRAFT RADIO TRANSMITTING EQUIPMENT **AN/AXT-type**

4 December 1958

Cognizant Serv: USN FSN:

ATK

USA

USN

USAF

TYPE CLASS: --

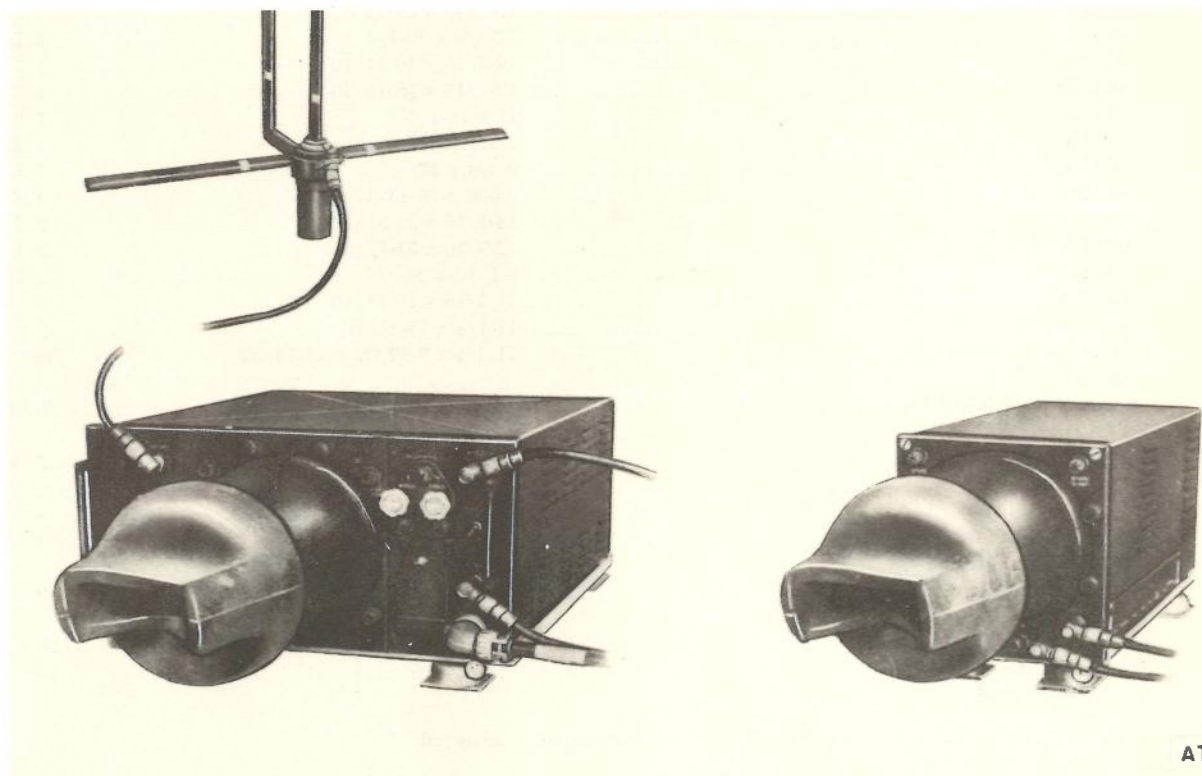
Used by

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STOCK NO: --

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ATK

**FUNCTIONAL DESCRIPTION:**

Aircraft Radio Transmitting Equipment ATK is an ultra-high frequency transmitter for use in and by aircraft, in conjunction with Aircraft Radio Receiving Equipment ARK, to comprise a complete system used for plane-to-plane television transmission. Scenes visible from an aircraft using the ATK may be reproduced in another aircraft using the ARK, at a distance of about 10 miles.

The equipment can operate on any one of 10 frequency channels, and up to 10 separate sets of equipments may be operated simultaneously within the same general area. The equipment will operate under severe conditions of vibration, temperature, humidity, and altitude.

Either cylindrical or elliptical type antenna is supplied for

channels 1 through 5; elliptical type only for channels 6 through 10.

**TECHNICAL CHARACTERISTICS:***Transmitter:*

Frequency Range in Mc: 264 to 372 in 10 bands  
 Operating Range: 10 miles  
 Type of Emission: Pulse  
 Power Output: 30 w  
 Output Impedance: 70 ohms

*Antenna:*

Type: Ground plane  
 Feed: 50-ohm concentric transmission line  
 Input Impedance: 50 ohms  
 Power Requirements: 27- to 31-v dc, regulated

## AN/AXT-type AIRCRAFT RADIO TRANSMITTING EQUIPMENT

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Antenna Assembly*			
	66AED	-----	13-1/8 x 22-3/8	1.7
	66AEE	-----	12-9/16 x 21-13/32	1.7
	66AEF	-----	12-5/8 x 20-1/2	1.7
	66AEG	-----	12-7/16 x 19-11/16	1.7
	66AEH	-----	12-7/16 x 18-15/16	1.7
	66AEJ	-----	11 x 18-1/4	1.9
	66AEK	-----	10-1/2 x 17-9/16	1.8
	66AEL	-----	9-3/4 x 17	1.8
	66AEM	-----	9-5/8 x 16-13/32	1.8
	66AFX	-----	13-1/16 x 22-3/8	2.2
	66AFY	-----	12-9/16 x 21-7/16	2.1
	66AFZ	-----	8-1/16 x 20-1/2	2.1
	66AGA	-----	11-9/16 x 19-11/16	2
	66AGB	-----	11-1/4 x 18-15/16	2
1	Conversion Unit CRV- 59AAE	-----	11-3/4 x 9-13/32 x 23-15/32	36
1	Dynamotor CEK-21981 or CC-21981	-----	9-9/32 x 13-13/32 x 6-1/2	26.25
1	Dynamotor Mounting Base 10166	-----	-----	2.25
1	Filter Junction Box 53AAB	-----	5-9/64 x 8-33/64 x 7-27/32	8
1	Mounting base for Aircraft Radio Transmitter 10167	-----	-----	2
1	Mounting plate for Junction Box 10174	-----	-----	0.5
1	Radio Transmitter 52ACB	-----	9-31/32 x 12-13/64 x 18-1/32	26
1	Set, cables and plugs	-----	-----	14
1**	Test Meter 60058	-----	-----	

\* Antenna supplied depends on frequency channel to which transmitter is adjusted.

\*\* Not supplied with every equipment.

## REFERENCE DATA AND LITERATURE:

AN-O8-45-69

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------



AIRCRAFT RADIO TRANSMITTING EQUIPMENT **AN/AXT-type**

## PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
RCA Victor Division of RCA	Camden, N. J.	NXs-6722	



LOOP ANTENNA SYSTEM **AN/BRA-type**

5 December 1958

Cognizant Serv: USN FSN:

AT-317/BRR

USA

USN

USAF

TYPE CLASS: --

Used by

--

STOCK NO: --

--

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(No Illustration Available)

**FUNCTIONAL DESCRIPTION:**

Loop Antenna System AT-317/BRR is a very-low-frequency, streamlined loop antenna designed for submarine service. Its primary use is to operate with Radio Receiving Equipments RAK or RBA, and Radio Receiving Set AN/SRR-11.

Antenna Coupler CU-352/BRR is an integral part of the system. It functions as an adapter to provide various modes of

radio reception including omnidirectional coverage of radio signals with the submarine surfaced or submerged.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range:* 14.6 to 38 kc

*Type:* Crossed-loop

*Hydrostatic Pressure:* Ability to withstand 600 pounds per square inch

*Presentation:* 3 modes of reception: (1) single-plane fore-aft, (2) single-plane athwartships, (3) omnidirectional

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Antenna Cable RG-160/U	-----	1-1/8 dia x 75 ft lg	
1	Antenna Coupler CU-352/BRR	-----	7-3/16 x 8-3/4 x 10-5/8	11.5
1	Interconnecting Cable RG-11/U	-----	13/32 dia x 36 lg	
1	Loop Antenna AT-317/BRR	-----	-----	126

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 93182

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	10.3	310

MIL-HDBK-161

**AN/BRA-type** LOOP ANTENNA SYSTEM

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
American Phenolic Corp.	Chicago, Ill.	NObsr-52691, 5 May 1952	\$2,100.00 with spares



## ANTENNA AN/BRA-type

5 December 1958

Cognizant Serv: USN FSN:

AT-317(XN-1)/BRR

USA

USN

USAF

TYPE CLASS: --

Used by

--

STOCK NO: --

--

--

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Antenna AT-317(XN-1)/BRR is a very-low-frequency underwater loop antenna designed for submarine service in conjunction with Radio Receiving Equipment RAK or RBA. The outline of the antenna resembles a streamlined teardrop, and it is mounted in line with the submarine for the purpose of reducing sea water drag.

This cross-loop antenna may be used for bi-directional

reception in a plane for fore-aft or in a plane athwart ships by means of a switching arrangement contained in the antenna coupler. The antenna coupler also contains matching transformers, tuning capacitors and a phasing network, so that both loop inductors can be phased electrically to produce omnidirectional reception.

## TECHNICAL CHARACTERISTICS:

Antenna Coupler Frequency: 14 to 38 kc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Antenna AT-317(XN-1)/ BRR includes:	-----	-----	126
1	Antenna Coupler CU- 352(XN-1)/BRR	-----	-----	11.5
1	Coupler cable	-----	36 lg	
1	Transmission line	-----	900 lg	

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 92084

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)

MIL-HDBK-161

**AN/BRA-type** ANTENNA

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
American Phenolic Corp.	Chicago, Ill.	NObsr-52333	\$2,100.00 with spares

RADIO TRANSMITTING BUOY **AN/BRT-type**

1 December 1958

Cognizant Serv: USN FSN:

T-616/SRT

USA

USN

USAF

TYPE CLASS: --

Used by

--

STOCK NO: --

--

--

(No Illustration Available)

**FUNCTIONAL DESCRIPTION:**

Radio Transmitting Buoy T-616/SRT is a self-contained, low-power transmitter powered by a magnesium silver chloride battery, which is an integral part of the equipment.

This equipment is designed for ejection from a sunken or submerged submarine. It rises to the surface and automatically transmits radio signals to aid in the location of a distressed vessel.

**TECHNICAL CHARACTERISTICS:***Preset Frequency:* 243 mc*Frequency Control:* Master oscillator*Type of Signal:* Mew; modulating frequency 1,000 cps,  $\pm 10\%$ *Power Output:* 0.75 w*Power Requirements:* 7.5-v dc from self-contained magnesium silver chloride battery**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Radio Transmitting Buoy T-616/SRT (Equipment consists of only one major component.)	-----	3-1/4 dia. x 39-3/4	

**REFERENCE DATA AND LITERATURE:****SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)

MIL-HDBK-161

---

**AN/BRT-type** RADIO TRANSMITTING BUOY

---

PROCUREMENT DATA

---

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

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CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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## RADIO TELEGRAPH TRANSMITTING EQUIPMENT AN/BRT-type

1 December 1958

Cognizant Serv: USN FSN:

TAR-2

USA

USN

USAF

TYPE CLASS:            --                                   Used by                   --  
 STOCK NO:             --                                   --                         --

(No Illustration Available)

**FUNCTIONAL DESCRIPTION:**

Radio Telegraph Transmitting Equipment TAR-2 is designed for installation on certain classes of submarines. It is a complete equipment capable of operating in the medium and high frequency bands.

This equipment, designed for a minimum of weight, gives maximum output in the small space allowed.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range:* 300 to 600 kc; 4,000 to 4,525 kc; 8,000 to 9,050 kc; 12,000 to 13,575 kc; and 16,000 to 18,100 kc

*Power Output:* 200 w*Type of Signal:*

300 to 600 Kc: Cw, mew

All Hf Bands: Cw only

*Frequency Control:*

300 to 600 Kc: Master oscillator

All Hf Bands: Crystal or master oscillator

*Modulation Frequency:* 800 cps*Keying Speed:* 40 wpm (maximum)*Antenna Requirements:* Flat top or single loop*Power Requirements:* 120/230-v dc**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Filter Unit 4222	-----	13-1/2 x 13-7/8 x 15-13/16	42
1	Motor-Generator 3865 (120-v dc)	-----	15 x 17-7/8 x 36-3/8	500
	or			
1	Motor-Generator 4490 (230-v dc)	-----	15 x 17-7/8 x 36-3/8	500
1	Radio Transmitter 4218	-----	14-3/16 x 32 x 60	470
1	Starter 4491 (230-v dc)	-----	11-1/6 x 14-1/8 x 19-7/16	75
1	Starter 4492 (120-v dc)	-----	11-1/16 x 14-1/8 x 19-7/16	75

**REFERENCE DATA AND LITERATURE:**

Technical Manual (Navy) for Navy Model TAR-2 Intermediate and High Frequency Radio Telegraph Transmitting Equipment

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

MIL-HDBK-161

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**AN/BRT-type** RADIO TELEGRAPH TRANSMITTING EQUIPMENT

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PROCUREMENT DATA

---

PROCURING AGENCY: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

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CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Westinghouse Electric & Manu- facturing Co.	Chicopee Falls, Mass.	NOs-18078	

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## RADIO TRANSMITTING EQUIPMENT AN/CRT-1A, -1B

18 November 1958

Cognizant Serv: USAF FSN:

	USA	USN	USAF
--	-----	-----	------

TYPE CLASS:	--	Used by	--
STOCK NO:	--	AN/CRT-1A: F16-Q-	--
		111624-100	
		AN/CRT-1B: F16-Q-	
		111625-200	

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Radio Transmitting Equipments AN/CRT-1A and AN/CRT-1B are self-contained miniature radio units constructed in the form of a buoy. These units detect and transmit underwater sounds made by a submarine. They are used with Radio Receiving Equipment AN/ARR-3 or Radio Set AN/ARR-16.

Radio Transmitting Equipment AN/CRT-1A is preset to operate on one of six frequencies; the AN/CRT-1B is preset to operate on one of 12 frequencies. Each unit is color coded to indicate its respective frequency.

The buoys are launched from aircraft and dropped by parachute to the water. The open parachute checks the fall of the buoy and the tightening of the shroud lines releases the power switch turning on the transmitter. The impact of the buoy striking the water operates the hydrophone release, which drops the hydrophone 24 feet below the surface.

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:*

AN/CRT-1A: 67.6 to 71.7 preset on one of six frequencies

AN/CRT-1B: 62 to 72 preset on one of 12 frequencies

*Type Emission:* F3*Operating Range:*Aircraft Receiver: 5 to 10 miles at an altitude of 300 feet;  
30 to 40 miles at an altitude of 5,000 feet

Vessel Receiver: 1 to 6 miles (approximately)

Underwater sound Pick-up: Variable, depending on sea conditions; speed, depth, and type of submarine; and radio transmission conditions

Antenna: Quarter wave (approximately), telescopic nondirectional, 39 inches extended (approximately)

*Power Output:* 0.08 w*Power Requirements:* Four 1.5-v Batteries BA-30(19031); two 67.5-v Batteries BA-51(19032)

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Radio Transmitting Equipment AN/CRT-1A	-----	40-1/2 high x 5-1/4 wide	16
	or			
	Radio Transmitting Equipment AN/CRT-1B	-----	41 high x 5-1/2 wide	16

## REFERENCE DATA AND LITERATURE:

AN/CRT-1A: AN 16-30CRT1-7

AN/CRT-1B: AN 16-30CRT1-3

MIL-HDBK-161

**AN/CRT-1A, -1B** RADIO TRANSMITTING EQUIPMENT

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
For AN/CRT-1A: 1	3.66	63.5
For AN/CRT-1B: 1	3.40	61

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG: RE13A820

DESIGN COG: USN, BuShips

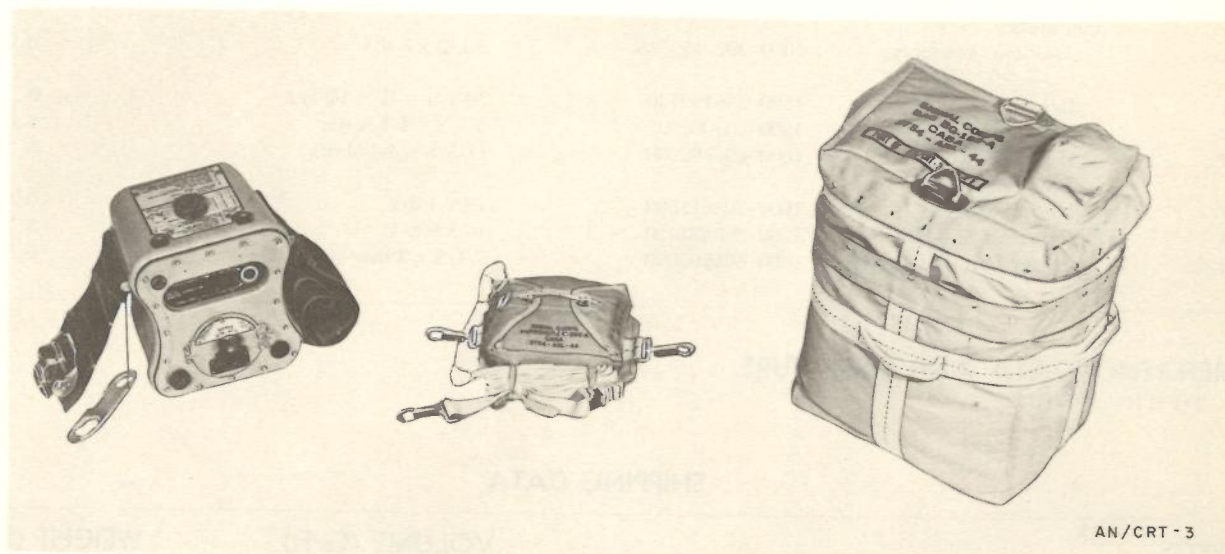
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
For AN/CRT-1A: Emerson Radio Co.	New York, N. Y.	NXsa 36246	\$320.00
Freed Radio Co.	New York, N. Y.	NXsa 36247	320.00
For AN/CRT-1B: Emerson Radio Co.	New York, N. Y.	NXsa 65283	320.00
Freed Radio Co.	New York, N. Y.	NXsa 65296	320.00



18 November 1958

Cognizant Serv: USAF FSN:

	USA	USN	USAF
TYPE CLASS:	--	11	Std
STOCK NO:	--	--	1600-014490700



AN/CRT-3

### FUNCTIONAL DESCRIPTION:

Radio Set AN/CRT-3A is a hand-powered emergency transmitter designed for sea rescue work for use from raft or life boat by survivors. It is air transportable and dropped by parachute and permits ground-to-air and point-to-point communication.

This equipment is capable of three types of signaling; hand keyed signal light; automatic transmission of SOS on 0.5 megacycle tone-modulated, and SOS on 8.364 megacycles unmodulated, automatically shifting from one frequency to the other every 40 to 50 seconds; and hand keyed, tone-modulated transmissions on .05 megacycle.

One kite and two balloons are supplied to support a single long wire antenna.

All power for operation of the equipment is supplied by a hand cranked generator.

### TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 0.5 mc; 8.364 mc

*Type Controls:* Operating controls are located in an elongated oval depression in the front panel of the transmitter. Controls consist of a three-position selector switch and a push-button telegraph key.

*Type Modulation:* AM

*Type Signal:* Mew on 0.5 mc with 1,000-cycle tone; cw only on 8.364 mc

*Power Output:* 2-1/2 w (approximately) on 0.5 mc; 2 w (approximately) on 0.5 mc

*Power Requirements:* Furnished by hand-powered generator in the transmitter cabinet

**AN/CRT-3A** RADIO SET

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(USA)		
1	Radio Set AC/CRT-3A including:	1600-014490700	10-1/2 x 10 x 9	16
2	Antenna Assembly AS-207/CRT-3	1600-202-152538	2-1/2 x 3 dia	0.7 ea
1	Bag BG-155-A	1600-286162130	20-1/4 x 17 x 14-1/2	8.1
2	Balloon M-278-A	1600-203062995	5-1/8 x 4-1/4 dia	1.3 ea
2	Hydrogen Generator M-315-B	1600-696792900	11-5/8 x 4-1/4 dia	6 ea
1	Kite M-357-A	1600-203611500	19 x 4 dia	0.8
1	Parachute M-390-B	1600-293487490	16 x 9 x 4	3.7
1	Signal Lamp M-308-B	1600-606905000	3-1/8 x 3 dia	0.7

## REFERENCE DATA AND LITERATURE:

TO 12R5-2CRT3-2

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	1.1	40

## PROCUREMENT DATA

PROCURING SERVICE: USAF  
SPEC &/or DWG: MIL-R-8153

DESIGN COG: USAF, ARDC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST

## RADIO TRANSMITTING EQUIPMENT AN/CRT-4

18 November 1958

Cognizant Serv: USN FSN: 5845-665-1416

USA

USN

USAF

TYPE CLASS: --

Used by --

STOCK NO: --

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Radio Transmitting Equipment AN/CRT-4 is a directional radio-sono buoy consisting of a self-contained miniature radio transmitter. It is launched from specially equipped aircraft and is used to detect and transmit underwater sounds made by a submarine.

The radio signal transmitted from the buoy to the aircraft or to a surface ship, indicates both the presence of underwater craft and the direction of the craft in relation to the buoy.

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 62.9 to 71.7*Number of Frequency Settings:* 12*Operational Range:*

At 300 Feet: 5 to 10 nautical miles

At 5,000 Feet: 30 to 40 nautical miles

*Power Requirements:* 1.5-v dc; 67.5-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Radio Transmitting Equipment (Equipment consists of only one major component.)	-----	6-5/32 x 52-11/32 (with antenna folded, less battery)	28.13

## REFERENCE DATA AND LITERATURE:

AN 16-30CRT4-3

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1		200

MIL-HDBK-161

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**AN/CRT-4** RADIO TRANSMITTING EQUIPMENT

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PROCUREMENT DATA

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PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

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CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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## RADIO SET AN/CRT-5

18 November 1958

Cognizant Serv: USAF FSN:

USA

USN

USAF

TYPE CLASS: --

Std

STOCK NO: --



## FUNCTIONAL DESCRIPTION:

Radio Set AN/CRT-5 is a portable, short-range transmitter used in airfield traffic control operations or as a standby or supplementary transmitter for ground-to-air and point-to-point communication.

The low frequency operations of this equipment necessitates the application of a long antenna, such as Antenna Assembly AS-326/CRT-5 (350 to 450 feet), at least 20 feet above the ground.

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Mc:* 0.2 to 0.4

*Type Modulation:* AM

*Type Emission:* Voice

*Operational Range:* 10 to 15 miles

*Power Output:* 10 w

*Power Requirements:* 350 w, 110- to 125-v, 50- to 60-cycle, 1-phase ac or 144 w (full load), 12 amp at 12-v dc supplied by Vibrator Power Unit PP-203/CRT-5.

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Antenna Assembly AS-326/CRT-5	-----	-----	7
1	Microphone T-17-D	-----	69 x 2-3/4 x 2-1/4	1
1	Power Cable Assembly CX-1172/U	-----	1-3/4 dia x 72	
1	Power Cable Assembly CX-1173/U	-----	1-3/4 dia x 24	0.5
1	Radio Transmitter T-151/CRT-5	-----	12-7/16 x 18-3/8 x 23-5/32	140
1	Vibrator Power Unit PP-203/CRT-5	-----	24-1/4 x 7-3/8 x 15-9/16	54

MIL-HDBK-161

**AN/CRT-5** RADIO SET

REFERENCE DATA AND LITERATURE:  
TO 16-30CRT5-4

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	17.51	340

PROCUREMENT DATA

PROCURING SERVICE: USAF  
SPEC &/or DWG:

DESIGN COG: USAF, ARDC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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## AUDIO FREQUENCY AMPLIFIER AN/FCA-type

7 November 1958

Cognizant Serv: USN FSN:

50101

USA

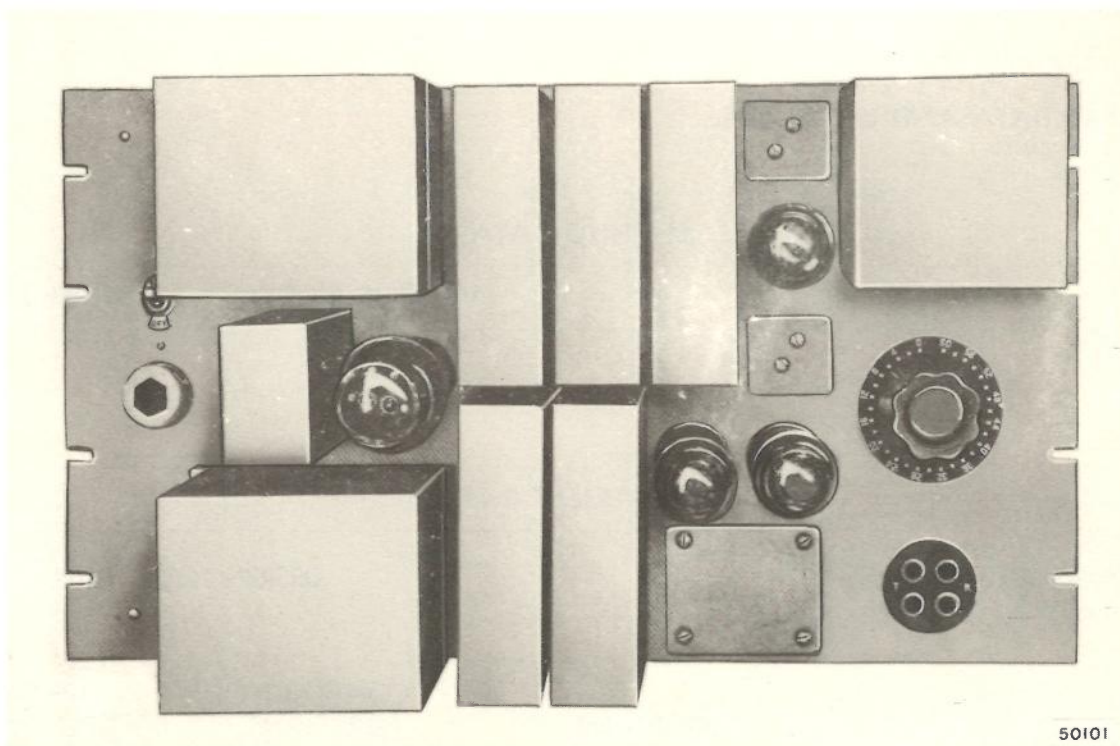
USN

USAF

TYPE CLASS: --

Used by --

STOCK NO: --



50101

**FUNCTIONAL DESCRIPTION:**

Audio Frequency Amplifier 50101 is a two-stage vacuum tube amplifier with a self-contained power rectifier circuit. It is used to raise the energy level in telephone and telegraph communication circuits operating in the frequency range of 300 to 10,000 cycles per second. The amplifier is a part of Carrier Control System UN.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range:* 300 to 10,000 cps.  
*Amplifier Gain:* Adjustable from -10 to +50 db  
*Output Power Level:* +30 dbm maximum permissible single frequency power output.  
*Power Consumption:* 125 w  
*Power Source Requirements:* 105- to 125-v 50- to 60-cycle ac

MIL-HDBK-161

**AN/FCA-type** AUDIO FREQUENCY AMPLIFIER

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Audio Frequency Amplifier 50101	-----	10 x 10-1/2 x 19	65
(Equipment consists of only one major component.)				

REFERENCE DATA AND LITERATURE:

NAVSHIPS 900591

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	5.8	130

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	New York, N. Y.	NXsr-83392	



## REPEATER TELEGRAPH AN/FCA-type

20 October 1958

Cognizant Serv: USN FSN:

TH-29/UG(TR-2)

USA

USN

USAF

TYPE CLASS: --

Used by --

STOCK NO: --

(No Illustration Available)

**FUNCTIONAL DESCRIPTION:**

Repeater Telegraph TH-29/UG (TR-2) is an in-line repeater designed for one-way reversible operation. It also may be connected for four-wire or two- to four-wire operation.

The unit is fully electronic and has complete isolation between input and output circuits. It is adaptable to either 20- or 60-ma neutral telegraph loops. The repeater uses tone couplers for isolation on the input sides and low-resistance vacuum-tube keying on the output sides.

For in-line, two-wire service, two one-way repeaters are operated with the input of one connected in series with the output of the other. The two repeaters are electronically coupled, so that the output keying tube of one repeater, in series with the input circuits of the other repeater, is con-

tinuously on mark during transmission. An open circuit at the receiving end will put the sending end on space.

**TECHNICAL CHARACTERISTICS:***Type of Loop:* 20 or 60 ma neutral*Effective Mark Input or Output Impedance:* 425 ohms  $\pm 5\%$ *Four-wire Service (Each Loop):*

Input: 270 ohms, 20 ma loop; 90 ohms, 60 ma loop

Output: 330 ohms (mark)

*Keying Speed:* Up to 150 cps (dot cycles or reversals).*Distortion:* Less than 2%*Battery Voltage:* 150 v (In series with repeater, this provides a loop supply of 120 v for a 60-ma loop.)*Power Requirements:* 50 w, 105- to 125-v 50- to 60-cycle 1-phase ac.**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Repeater Telegraph TH-29/UG (Equipment consists of only one major component.)			

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 92873

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)

MIL-HDBK-161

**AN/FCA-type** REPEATER TELEGRAPH

PROCUREMENT DATA

PROCURING SERVICE: USN, BuShips  
SPEC &/or DWG: Stelma Model TR-2

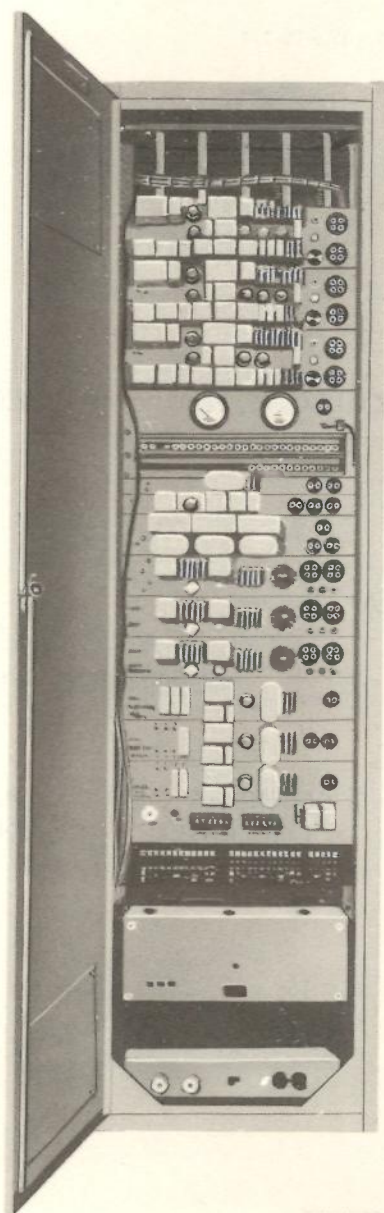
DESIGN COG: **Commercial**

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Stelma, Inc.	Stamford, Conn.	NObsr-71279, 20 April 1956	\$1,760 with equipment spares.

## CARRIER TERMINAL SET AN/FCC-2

1 July 1958  
 Cognizant Serv: USA FSN: 5805-222-1925

	USA	USN	USAF
TYPE CLASS:	Std	--	--
STOCK NO:	4A2795.1PF	--	--



AN/FCC-2

## FUNCTIONAL DESCRIPTION:

Carrier Terminal Set AN/FCC-2 is a six-channel, voice-frequency dc telegraph and teletypewriter terminal equipment used in long-distance communication over fixed plant landlines or radio channels.

This equipment consists essentially of a commercial (Western Electric Co 42B1) carrier telegraph equipment and includes four cabinets of panel-mounted apparatus. Each cabinet accommodates apparatus for three channels; two sending cabinets (one of which is shown here) and two receiving cabinets comprising a complete six-channel terminal. It operates on an equivalent four-wire basis and can be used in conjunction with teletypewriter equipment, a remotely keyed radio transmitter, Boehme detector and recorder units, and IBM receiver apparatus.

## TECHNICAL CHARACTERISTICS:

*Facilities Required:* Open wire, cable pairs, radio channels

*Facilities Provided:* Six-channel, two-way operation

*Frequency:* Channel spacing; 340 cps

Midchannel Frequency: 425, 765, 1,105, 1,445, 1,785, 2,125 cps

Tone Frequency (for Boehme and Similar Equipment): 1,785 cps

*Type Modulation:* AM

*Power Requirements:* 180 to 200 w, 103-126/203-253-v 50/60-cycle ac

MIL-HDBK-161

**AN/FCC-2 CARRIER TERMINAL SET**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Receiving Terminal WECO NO. X-61848C	-----	84 x 17 x 22-1/4	
1	Receiving Terminal WECO NO. X-61848D	-----	84 x 17 x 22-1/4	
1	Sending Terminal WECO NO. X-61848A	-----	84 x 17 x 22-1/4	
1	Sending Terminal WECO NO. X-61848B	-----	84 x 17 x 22-1/4	

**REFERENCE DATA AND LITERATURE:**

Instruction Book for WECO Carrier Terminal Model 42B1

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
	76	

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG: WECO NO. 42B1

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	New York, N. Y.		



## TELEGRAPH CARRIER TERMINAL AN/FCC-3

18 November 1958

Cognizant Serv: USN FSN: 5805-692-6775

USA

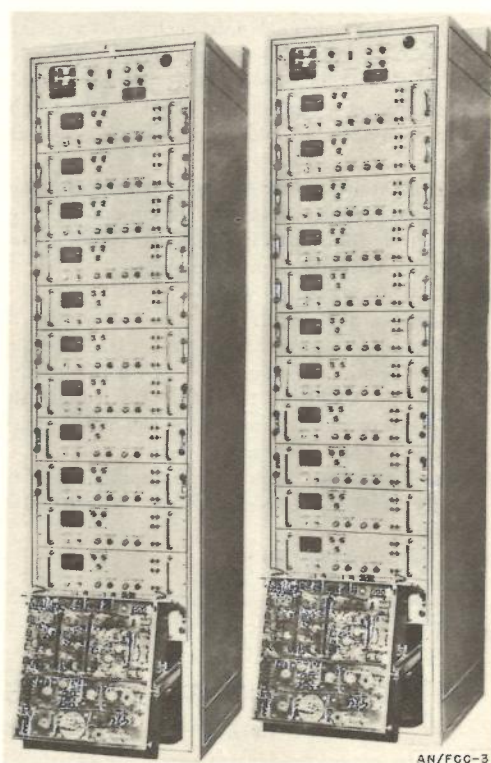
USN

USAF

TYPE CLASS: --

Used by --

STOCK NO: --



AN/FCC-3

## FUNCTIONAL DESCRIPTION:

Telegraph Carrier Terminal AN/FCC-3 is a shore-based system providing one-way multichannel telegraph or teletypewriter communications over wire lines or a radio link. It combines eight low-speed channels and four high-speed channels into one voice-frequency carrier signal.

This equipment accepts neutral, polar, or tone input signals and furnishes neutral or polar signal outputs.

It consists of two cabinets, one containing the transmitting equipment and the other containing the receiving equipment. Any two receivers may be operated in frequency diversity to improve the quality of the transmission.

The system can be used for remote controlled keying of continuous wave or voice radio transmitting equipment. Line current for the polar or neutral loops can be supplied either externally or by the equipment.

This equipment is similar to Carrier Telegraph Terminals AN/FCC-7 and AN/FCC-8 except for the number of wide-

band receivers and transmitters. In addition, the AN/FCC-3 uses two frequency converters, which the AN/FCC-8 does not include.

## TECHNICAL CHARACTERISTICS:

*System:**Frequency:*

Range: 300 to 3,400 cps

Carrier Signal Frequencies (cps):

Channel	Midband Center	Mark	Space	Modulated Channels		
				Midband Center	Mark	Space
85-cycle frequency shift						
1-----	425	467.5	382.5	2,975	2,932.5	3,017.5
2-----	595	637.5	552.5	2,805	2,762.5	2,847.5
3-----	765	807.5	722.5	2,635	2,592.5	2,677.5
4-----	935	977.5	892.5	2,465	2,422.5	2,507.5
5-----	1,105	1,147.5	1,063.5	2,295	2,252.5	2,337.5
6-----	1,275	1,317.5	1,232.5	2,125	2,082.5	2,167.5
7-----	1,445	1,487.5	1,402.5	1,955	1,912.5	1,997.5
8-----	1,615	1,657.5	1,572.5	1,785	1,742.5	1,827.5
170-cycle frequency shift						
9-----	1,955	2,040	1,870			
10-----	2,380	2,465	2,295			
11-----	2,800	2,890	2,720			
12-----	3,280	3,315	3,145			

*Channels:* 12 audio telegraph carrier*Type Modulation:* Frequency shift

*Facilities:* Eight to 40 dot-cycle and four 100 dot-cycle channels suitable for polar or neutral telegraph or teletypewriter operation.

*Power Output (Transmitter Group):* 6 dbm (maximum) into 600 ohms

*Sensitivity (Receiver Group):* -40 to +6 dbm on a single channel

*Power Requirements:*

Receiver Group: 1,645 w, 115- or 230-v 50- to 60-cycle ac.

Transmitter Group: 1,125 w, 115- or 230-v 50- to 60-cycle ac.

## AN/FCC-3 TELEGRAPH CARRIER TERMINAL

*Telegraph Carrier Transmitter:*

Input: 20- or 60-ma neutral telegraph loop with battery supplied by the loop; 30-ma polar telegraph loop with battery supplied from the loop; 20- or 60-ma neutral telegraph loop with battery supplied from the transmitter.

Output: 600-ohm line; audio level is continuously variable over range of -24 dbm to +6 dbm; transmitter operates in parallel with one or more transmitters.

Keying Rate: With narrow-band filters, the maximum keying rate is 40 dot-cycles; with wide-band filters, 100 dot-cycles.

Frequency: MARK and SPACE signals with  $\pm 3$  cps of normal values.

Power Consumption: 73 w

*Telegraph Carrier Receiver:*

Input: 600-ohm line; steady or slow varying audio signal between -40 dbm and +10 dbm at frequency of the receiver filter set used; receiver operates in parallel with one or more receivers.

Output: Dc pulses of 20- or 60-ma neutral telegraph loop with battery supplied from either the loop or receiver; 30-ma polar telegraph loop with battery supplied from the receiver

Keying Rate: With narrow-band filters, the maximum keying rate is 40 dot-cycles; with wide-band filters, 100 dot-cycles.

Frequency: MARK and SPACE frequencies

Power Consumption: 110 w

*Electronic Frequency Converter**CV-243/FCC-3:*

Input: Two 600-ohm inputs—one for signal to be frequency converted, the other for signal to be combined with the frequency converted signal; normal input level for eight channels into each input is -0.5 dbm. Maximum combined peak signal is 4.3 v at each input. For eight channels into the converted input alone, maximum peak signal input is 5.9 v. For 12 channels with normal input alone, maximum peak signal is 7.3 v.

Output: 600-ohm line ungrounded; equipment gain of 1 for signals from converted and normal input circuits to output; line ATTENUATOR provides from 0- to 40-db Attenuation in 2-db steps.

Power Consumption: 50 w

*Electronic Frequency Converter**CV-244/FCC-3:*

Input: 600-ohm line, ungrounded; includes line transformer and ATTENUATOR ranging from 0- to 40-db in 2-db steps; normal input level is 0.5 dbm; maximum combined input peak signal is 8.6 v.

Output: Two 600-ohm outputs; equipment gain of 1 for signals from input to converted and normal output circuits

Power Consumption: 50 w

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
13	Cable Assembly, Power Electrical CX-3125/U	-----	52 long	
13	Cable Assembly, Special Purpose Electrical CX- 3224/FCC-3	-----	52 long	
1	Electronic Frequency Con- verter CV-243/FCC-3	-----	5-1/4 x 16 x 19	
1	Electronic Frequency Con- verter CV-244/FCC-3	-----	5-1/4 x 16 x 19	
1	Maintenance parts kit	-----		
1	Telegraph Carrier Receiver R-525/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-526/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-527/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-528/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-529/FCC-3	-----	5-1/4 x 16 x 19	

## TELEGRAPH CARRIER TERMINAL AN/FCC-3

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Telegraph Carrier Receiver R-530/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-531/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-532/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-533/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-534/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-535/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-536/FCC-3	-----	5-1/4 x 16 x 19	
2	Telegraph Carrier Terminal Cabinet CY-1196/FCC-3	-----	24 x 24 x 93	
1	Telegraph Carrier Trans- mitter T-371/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-372/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-373/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-374/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-375/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-376/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-377/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-378/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-379/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-380/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-381/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-382/FCC-3	-----	5-1/4 x 16 x 19	
1	Wiring Harness CX-2448/ FCC-3	-----	67 long	
1	Wiring Harness CX-2449/ FCC-3	-----	67 long	

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 91901



MIL-HDBK-161

**AN/FCC-3** TELEGRAPH CARRIER TERMINAL

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
3	101.3	3,705

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG: MIL-T-15294A

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Radio Frequency Laboratories Inc.	Boonton, N. J.	NObsr 52374, 5 April 1956	\$11,900.00

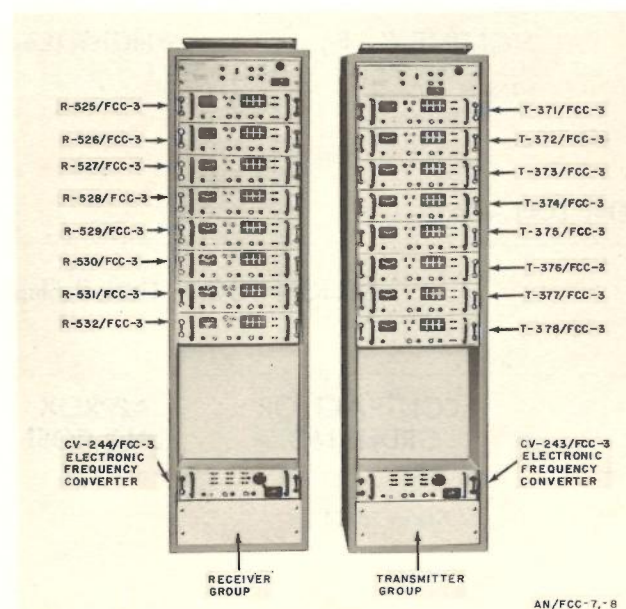


## TELEGRAPH CARRIER TERMINAL AN/FCC-8

20 November 1958

Cognizant Serv: USN FSN: 5805-665-1966

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	--	--



## FUNCTIONAL DESCRIPTION:

Telegraph Carrier Terminal AN/FCC-8 consists of both transmitting and receiving groups of terminals for a voice-frequency telegraph carrier communication system. It provides eight channels and may be used on radio circuits and wire units.

This equipment is identical with Telegraph Carrier Terminals AN/FCC-3 and AN/FCC-7 except for the number of wide-band units and the exclusion of the electronic frequency converters in the AN/FCC-8.

## TECHNICAL CHARACTERISTICS:

*Frequency Range:* 425 to 1,615 cps; spaced 170 cps between channels

*Number of Channels:* 8 per group

*Power Requirements:* 115- or 230-v 50- to 60-cycle 1-phase ac

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Telegraph Carrier Receiver R-525/FCC-3	-----	5-1/4 x 16 x 19	
2	Telegraph Carrier Terminal Cabinet CY-1195/FCC-3	-----	24 x 24 x 93	
1	Telegraph Carrier Trans- mitter T-371/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-372/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-373/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-374/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-375/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-376/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-377/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-378/FCC-3	-----	5-1/4 x 16 x 19	



## TERMINAL, TELEPHONE AN/FCC-9

20 November 1958

Cognizant Serv: USN FSN: 5805-501-3758

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	--	--

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Telephone Terminal AN/FCC-9 is a four-channel voice-frequency carrier equipment. It consists of four carrier channels and one order wire channel for use over any suitable four-wire line or equivalent four-wire facility.

This equipment is used in military communications at fixed plant installations. It is similar to Telephone Terminal AN/TCC-3 except for ringing facilities.

## TECHNICAL CHARACTERISTICS:

*Frequency Range:* 300 to 20,000 cps

*Channel Frequencies:*

Order Wire: 300 to 3,500 cps

Channel 1: 4,500 to 7,700 cps

Channel 2: 2,500 to 11,700 cps

Channel 3: 12,500 to 15,700 cps

Channel 4: 16,500 to 19,700 cps

*Channel Width:* 3,200 cps

*Attenuation:* 30 db (maximum)

*Transmission Variation:* 1 db (maximum)

*Speech Band:* 300 to 3,500 cps

*Cross Talk Attenuation:* -50 db

*Sending Level:* 0 dbm

*Receiving Level Range:* -30 to 0 dbm

*Power Requirements:* 103- to 127-v or 206- to 254-v 50- to 60-cycle 1-phase ac

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Hand telephone			
1	Meter			
1 Set	Patch cord and spares			
1	Terminal, Telephone TA-292/FCC-9			
1	Test oscillator			
1	Voice-frequency ringer			
1	Volume limiter			
4	Wire terminating set and adjustable attenuator			

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 92338

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)

MIL-HDBK-161

**AN/FCC-9** TERMINAL, TELEPHONE

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Radio Engineering Products, Ltd.	Montreal, Canada	63200, 23 June 1953	\$10,400.00



## TELEGRAPH CARRIER TERMINAL AN/FCC-type

5 December 1958

Cognizant Serv: USN FSN:

C-2T

USA

USN

USAF

TYPE CLASS: L/Std

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STOCK NO:

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(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Telegraph Carrier Terminal C-2T transmits mark and space frequency-shift-modulated telegraph communication signals on a single-sideband carrier and receives telegraph signals under *space diversity* operation.

The equipment provides 12 single carrier transmitter channels and 12 pairs of receiving channels having the same mid-band frequencies for diversity reception. It is designed for fixed station installation to operate telegraph printers and other telegraph end equipment.

Telegraph Carrier Terminal C-2T is a modified version of

Carrier Telegraph Terminal AN/FCC-3 which permits space diversity operation.

## TECHNICAL CHARACTERISTICS:

*Frequency Range in Cycles:* 300 to 3,400; 12 audio telegraph carrier channels

*Sensitivity:* -40 dbm to +6 dbm on a single channel

*Power Output:* 6-dbm maximum output into 600 ohms

*Power Consumption:*

Receiver Group: 1,645 w

Transmitter Group: 1,125 w

*Power Requirements:* 115/230 v, 50- to 60-cycle ac

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Electronic Frequency Converter CV-243/FCC-3	-----	5-1/4 x 16 x 19	
1	Electronic Frequency Converter CV-244/FCC-3	-----	5-1/4 x 16 x 19	
2	Telegraph Carrier Receiver R-525/FCC-3	-----	5-1/4 x 16 x 19	
2	Telegraph Carrier Receiver R-526/FCC-3	-----	5-1/4 x 16 x 19	
2	Telegraph Carrier Receiver R-527/FCC-3	-----	5-1/4 x 16 x 19	
2	Telegraph Carrier Receiver R-528/FCC-3	-----	5-1/4 x 16 x 19	
2	Telegraph Carrier Receiver R-529/FCC-3	-----	5-1/4 x 16 x 19	
2	Telegraph Carrier Receiver R-530/FCC-3	-----	5-1/4 x 16 x 19	
2	Telegraph Carrier Receiver R-531/FCC-3	-----	5-1/4 x 16 x 19	
2	Telegraph Carrier Receiver R-532/FCC-3	-----	5-1/4 x 16 x 19	
2	Telegraph Carrier Receiver R-533/FCC-3	-----	5-1/4 x 16 x 19	
2	Telegraph Carrier Receiver R-534/FCC-3	-----	5-1/4 x 16 x 19	
2	Telegraph Carrier Receiver R-353/FCC-3	-----	5-1/4 x 16 x 19	

## AN/FCC-type TELEGRAPH CARRIER TERMINAL

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
2	Telegraph Carrier Receiver R-536/FCC-3	-----	5-1/4 x 16 x 19	
3	Telegraph Carrier Terminal Cabinet CY-1195/FCC-3	-----	24 x 24 x 93	
1	Telegraph Carrier Trans- mitter T-371/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-372/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-373/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-374/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-375/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-376/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-377/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-378/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-379/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-380/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-381/FCC-3	-----	5-1/4 x 16 x 19	
1	Telegraph Carrier Trans- mitter T-382/FCC-3.	-----	5-1/4 x 16 x 19	
	Accessories:			
39	Cable Assembly, Special Purpose Electrical CX-2124/FCC-3	-----	56	
39	Cable Assembly, Power, Electrical CX-2125/U	-----	52	
1	Maintenance parts kits	-----	12 x 15 x 24	
1	Wiring Harness (Re- ceiver Group Cabinet Unit #1) 1H	-----	67	
1	Wiring Harness (Re- ceiver Group Cabinet Unit #2) 2H	-----	67	
1	Wiring Harness (Trans- mitter Group Cabinet) CX-2448/FCC-3	-----	67	

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 92370(A)  
NAVSHIPS 91901

TELEGRAPH CARRIER TERMINAL **AN/FCC-type**

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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## PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Radio Frequency Laboratories, Inc.	Boonton, N. J.	No-HC-6279 NObsr-64168	\$3750.00 with spares





REGENERATIVE REPEATER **AN/FCC-type**

1 July 1958

Cognizant Serv: USA FSN: 5805-164-7128

OA-3/FC

USA

USN

USAF

TYPE CLASS:

L/Std

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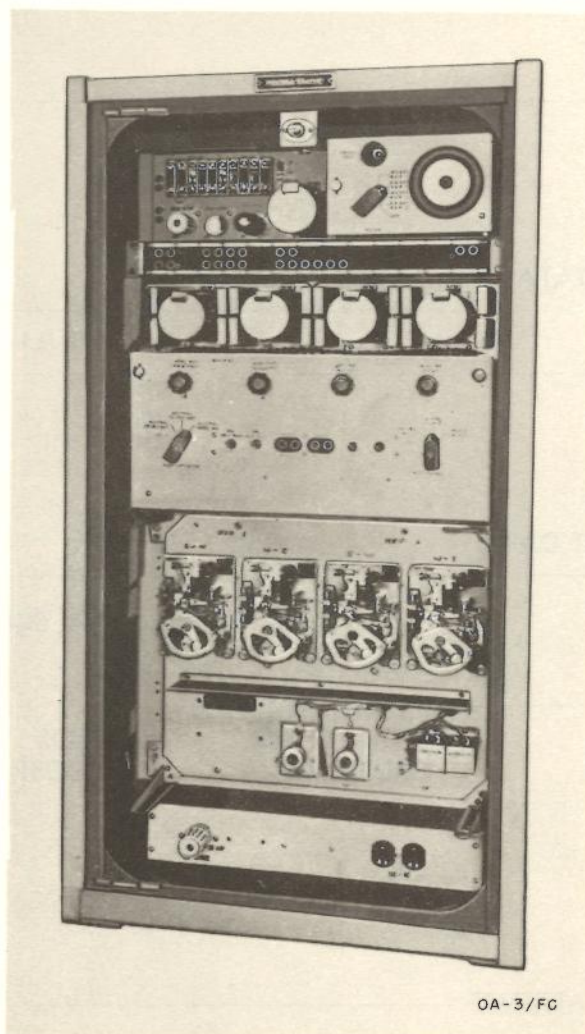
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STOCK NO:

4A2117

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OA-3/FC

**FUNCTIONAL DESCRIPTION:**

Regenerative Repeater OA-3/FC is an intermediate dc, neutral only, repeater equipment used at points between two Telegraph Repeaters OA-6/FC in fixed-plant facilities.

This equipment consists of two panel-mounted dc telegraph regenerative repeaters housed in a single floor-type cabinet. It re-forms, re-times, and re-transmits teletypewriter signals and enables operation in tandem of several line sections, thus effectively increasing the overall length (or operating distance) of a telegraph line circuit.

When operated in conjunction with carrier equipment, it is used only with the dc portion of the circuit.

**TECHNICAL CHARACTERISTICS:**

*Number and Type of Facilities:* Neutral half-duplex, neutral full-duplex, and neutral three-way duplex.

*Power Requirements:* 150 w, 115-v 50/60-cycle ac.

MIL-HDBK-161

**AN/FCC-type** REGENERATIVE REPEATER

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Regenerative Repeater OA-3/FC	5805-164-7128	22-1/4 x 17 x 42	315
(Equipment consists of only one major component.)				

REFERENCE DATA AND LITERATURE:

TM 11-2032

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
	23.8	510

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG: WECO X-66031A

DESIGN COG: USA, SigC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	New York, N. Y.		

## CARRIER TERMINAL AN/FCC-type

1 July 1958

Cognizant Serv: USA FSN: 5805-223-7449

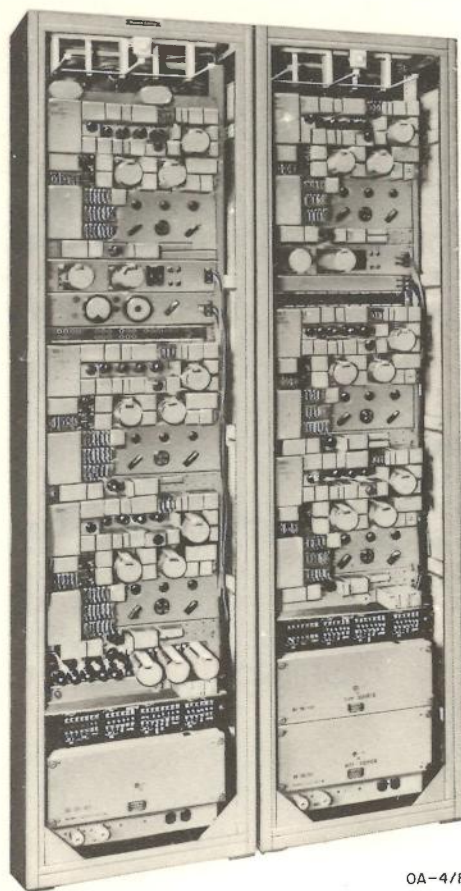
OA-4( )/FC

USA

USN

USAF

TYPE CLASS: L/Std  
 STOCK NO: 4A2794



OA-4/FC

**FUNCTIONAL DESCRIPTION:**

Carrier Terminal OA-4( )/FC is a six-channel carrier terminal equipment used as part of the equipment necessary to provide a maximum of 12 two-way telegraph circuits on a four-wire basis, over type C or type H carrier facilities. It is used in long distance teletypewriter communication applications at fixed-plant installations.

This equipment consists of two cabinet inclosed units or bays. Each bay provides three channel terminations (numbered 1 through 6).

It is designed to be used with Carrier Terminal OA-5( )/FC to provide 12 channels of telegraph communication over a single normal telephone channel.

It may be used separately or with Carrier Terminal OA-5( )/FC. It can be operated over channel two of a three-channel carrier telephone system derived through Carrier Terminal OA-11/FC or OA-12/FC, or on either the voice-frequency or the carrier channel of Carrier Terminal OA-13/FC.

**TECHNICAL CHARACTERISTICS:**

*Facilities Required for Transmission:* Wire or cable having maximum loss of 30 dbm.

*Facilities Provided:* Six-channel, two-way operation on a four-wire basis; separate sending and receiving paths using the same frequency for each direction of transmission; monitoring of local side of all channels provided.

*Frequency:* 425 to 1,275 cps; 6 channels spaced 170 cps apart

*Type of Modulation:* AM

*Type Ringing:* V1

*Power Requirements:* 700 w, 115/230-v 50/60-cycle ac

MIL-HDBK-161

**AN/FCC-type CARRIER TERMINAL**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Cabinet No. 1, channels 1, 2, and 3	-----	84 x 22-1/2 x 17	600
1	Cabinet No. 2, channels 4, 5, and 6	-----	84 x 22-1/4 x 17	600

**REFERENCE DATA AND LITERATURE:**

TM 11-2024  
TM 11-2029

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
3	66	1,520

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG: WECO X61822A

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	New York, N. Y.		



## CARRIER TERMINAL AN/FCC-type

1 July 1958

Cognizant Serv: USA FSN: 5805-222-1934

OA-5( )/FC

USA

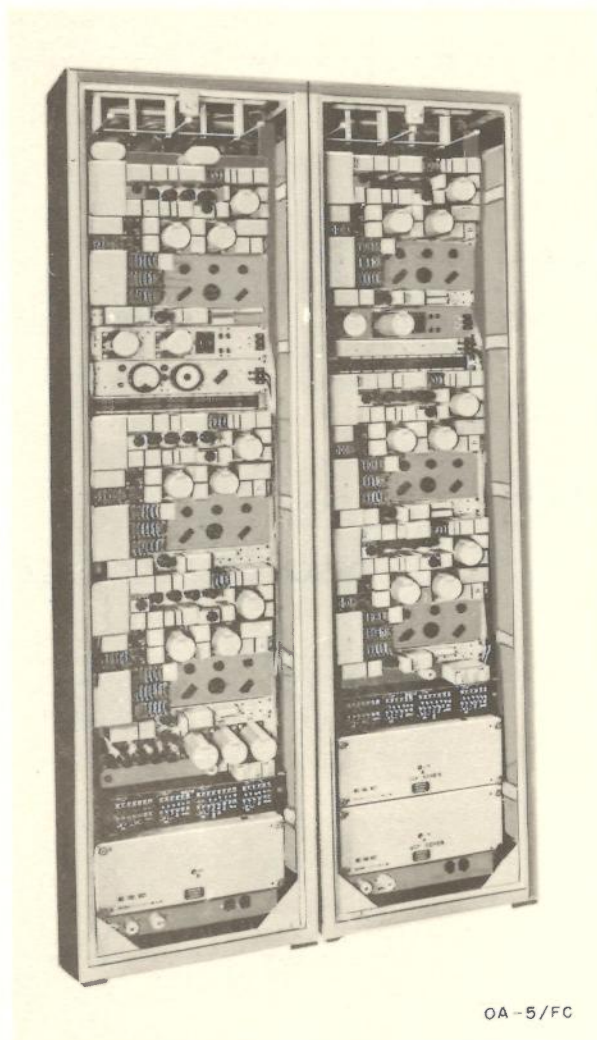
USN

USAF

TYPE CLASS: L/Std  
 STOCK NO: 4A2794.1

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OA-5/FC

## FUNCTIONAL DESCRIPTION:

Carrier Terminal OA-5( )/FC is a six-channel carrier terminal equipment used as part of the equipment necessary to provide a maximum of 12 two-way telegraph circuits, on a four-wire basis, over type C or type H carrier facilities. It is used in long distance teletypewriter communication applications at fixed-plant installations.

This equipment consists of two bays of apparatus contained in individual steel floor-type cabinets. Each bay provides three channel terminations.

This terminal equipment is designed to be used in conjunction with Carrier Terminal OA-4( )/FC to provide 12 carrier channels over a single telephone channel.

It may be used separately or with Carrier Terminal OA-4( )/FC. It can be operated over channel two of a three-channel carrier telephone system derived through Carrier Terminal OA-11/FC or OA-12/FC, or on either the vf or the carrier channel of Carrier Terminal OA-13/FC.

## TECHNICAL CHARACTERISTICS:

*Facilities Required for Transmission:* Wire or cable having maximum loss of 30 dbm

*Facilities Provided:* Six-channel, two-way operation on a four-wire basis; separate sending and receiving paths using the same frequency for each direction of transmission; monitoring of local side of all channels provided

*Frequency:* 1,445 to 2,295 cps; 6 channels spaced 170 cps apart

*Type of Modulation:* AM

*Type Ringing:* Vf

*Power Requirements:* 700 w, 115/230-v 50/60-cycles ac

MIL-HDBK-161

**AN/FCC-type CARRIER TERMINAL**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Cabinet No. 3, channels, 7, 8, and 9	-----	84 x 22-1/4 x 17	600
1	Cabinet No. 4, channels 10, 11, and 12	-----	84 x 22-1/4 x 17	600

**REFERENCE DATA AND LITERATURE:**

TM 11-2024  
TM 11-2029

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
3	66	1,520

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG: WECO X-61822B

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	New York, N. Y.		

## TELEGRAPH REPEATER AN/FCC-type

1 July 1958

Cognizant Serv: USA FSN: 5805-224-4963

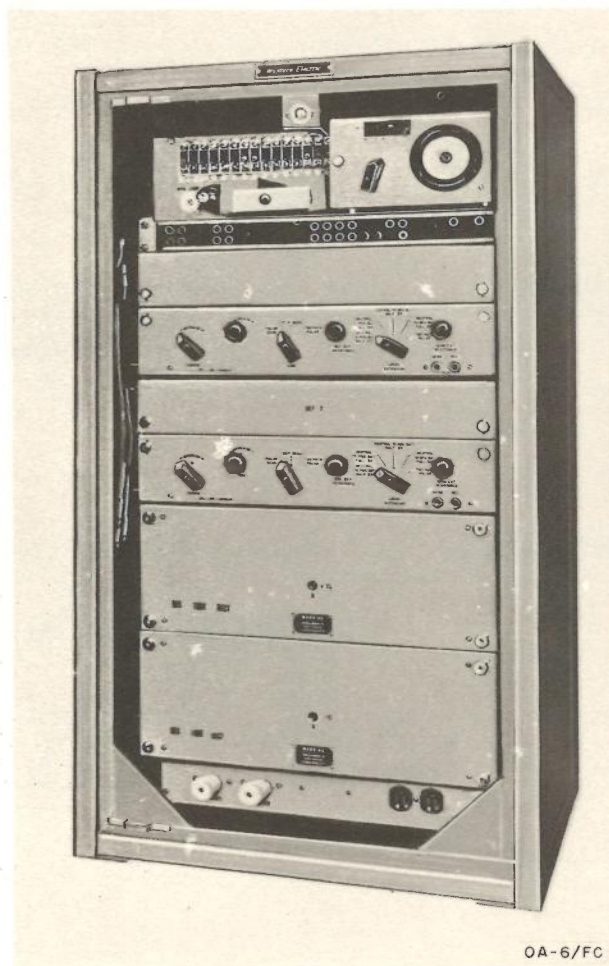
OA-6/FC

USA

USN

USAF

TYPE CLASS: L/Std  
 STOCK NO: 4A2798



OA-6/FC

**FUNCTIONAL DESCRIPTION:**

Telegraph Repeater OA-6/FC is a packaged, dc repeater equipment that extends the operating range of telegraph systems used for teletypewriter communication over composited or simplexed open wire or cable facilities.

This equipment consists of two complete commercial (Western Electric X-61824) dc telegraph repeaters and associated rectifiers. It may be adapted to various modes of transmission on both line and local sides, and has provision for connection of a monitoring printer.

It may be used as an intermediate or a terminal repeater, and is used in conjunction with Regenerative Repeater OA-3/FC, Carrier Terminal OA-4( )/FC, and Carrier Terminal OA-5( )/FC in long distance telegraph systems.

**TECHNICAL CHARACTERISTICS:***Number and Type of Facilities:*

*Line Side:* Polarential or two-path polar operation

*Local Extension (Loop or Drop) Side:* Neutral half- or full-duplex, plus two-path polar operation; jack provided for monitoring pointer

*Power Requirements:* 420w, 105/125-v 50/60-cycle ac

MIL-HDBK-161

**AN/FCC-type TELEGRAPH REPEATER**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Telegraph Repeater OA-6/FC	5805-224-4963	22-1/4 x 17 x 42	400
(Equipment consists of only one major operating component.)				

**REFERENCE DATA AND LITERATURE:**

TM 11-2034

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	23	550

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG: WECO Dwg. No. X61824B-1

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	New York, N. Y.	36311-P-43	



## TELEPHONE REPEATER AN/FCC-type

5 December 1958

Cognizant Serv: USA FSN: 5805-164-7075

OA-7/FC

USA

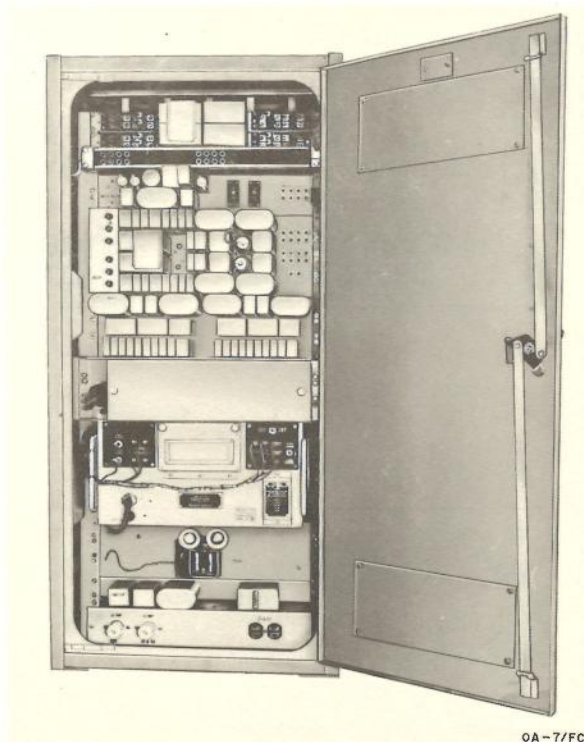
USN

USAF

TYPE CLASS: L/Std  
 STOCK NO: 4B3198.1

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OA-7/FC

## FUNCTIONAL DESCRIPTION:

Telephone Repeater OA-7/FC is a telephone equipment used to extend the operating range of two- or four-wire telephone systems operating over open wire or cable.

This equipment is contained in a floor-type steel cabinet and includes two composite sets, monitoring apparatus, a balancing network, ringing equipment, and a power supply circuit.

The OA-7/FC can be used as a terminal repeater or an intermediate repeater.

## TECHNICAL CHARACTERISTICS:

*Frequency Range:* 200 to 2500 cps

*Facilities Required for Transmission:* Two- or four-wire lines

*Facilities Afforded:* Two- or four-wire phantom circuit; two- or four-wire physical circuit

*Power Requirements:* 60 w, 105/125-v 50/60-cycle ac

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Telephone Repeater OA-7/FC (Equipment consists of only one major component.)	5805-164-7079	49 x 22-1/4 x 17	420

## REFERENCE DATA AND LITERATURE:

TM 11-2028

MIL-HDBK-161

**AN/FCC-type** TELEPHONE REPEATER

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	30.9	610

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG.

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	Kearny, N. J.		

TELEPHONE REPEATER **AN/FCC-type**

5 December 1958

Cognizant Serv: USA FSN: 5805-164-7076

OA-8/FC

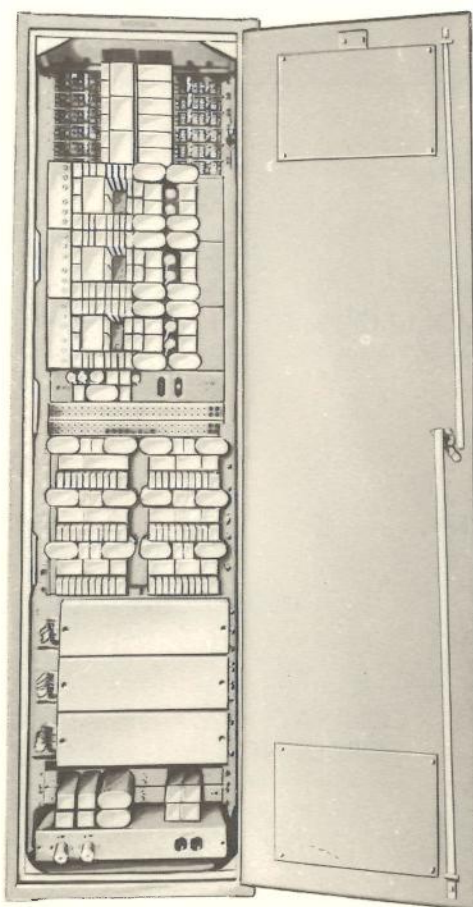
USA

USN

USAF

TYPE CLASS: L/Std  
 STOCK NO: 4B3199.1

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OA-8/FC

**FUNCTIONAL DESCRIPTION:**

Telephone Repeater OA-8/FC is a vf telephone equipment used to extend the operating range of three separate two-wire or four-wire telephone systems operating over open wire or cable.

This equipment consists of three separate vf telephone amplifiers mounted in a single floor-type steel cabinet and includes composite sets, equalizers, and balancing networks for each of the three systems handled.

The OA-8 can be used as a terminal repeater or intermediate repeater.

**TECHNICAL CHARACTERISTICS:**

*Facilities Required for Transmission:* two- or four-wire lines

*Facilities Afforded:* two- or four-wire phantom circuit; two- or four-wire physical circuits

*Frequency Range:* 200 to 2500 cps

*Power Requirements:* 60 w, 105/125-v 50/60-cycle ac

MIL-HDBK-161

**AN/FCC-type TELEPHONE REPEATER**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Telephone Repeater OA-8/FC	5805-164-7069	84 x 22-1/4 x 17	540
(Equipment consists of only one major component.)				

**REFERENCE DATA AND LITERATURE:**

TM 11-2028

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
2	37.9	916

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	Kearny, N. J.		



CARRIER REPEATER **AN/FCC-type**

5 December 1958

Cognizant Serv: USA FSN: 5805-164-7078

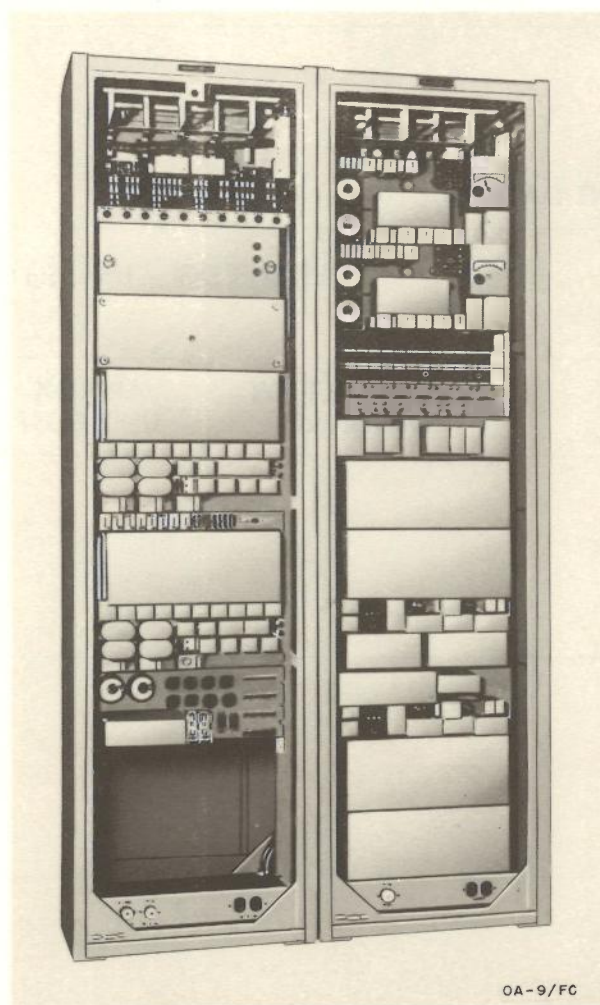
OA-9/FC

USA

USN

USAF

TYPE CLASS: S/Std  
 STOCK NO: 4B3202C.1



OA-9/FC

**FUNCTIONAL DESCRIPTION:**

Carrier Repeater OA-9/FC is used to extend the range of a carrier system using Carrier Terminals OA-11/FC and OA-12/FC. The equipment is used in fixed plant installations.

The OA-9/FC consists of apparatus mounted on standard rack panels in two floor-type steel cabinets installed side by side.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range:* 6 to 29 kc

*Facilities Required for Transmission:* two- or four-wire open wire circuit, transposed.

*Facilities Afforded:* 3 vf channels

*Type of Modulation:* AM

*Power Requirements:* 200 w, 105-120-v 50-60-cycle ac; or 6 Batteries BA-34, 2 Batteries BA-8, and 10 Batteries BA-27

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Carrier repeater bay	-----	22-1/4 x 17 x 84	540
1	Repeater line and power bay	-----	22-1/4 x 17 x 84	540



## CARRIER REPEATER AN/FCC-type

1 July 1958

Cognizant Serv: USA FSN: 5805-164-7067

OA-10( )/FC

USA

USN

USAF

TYPE CLASS:

L/Std

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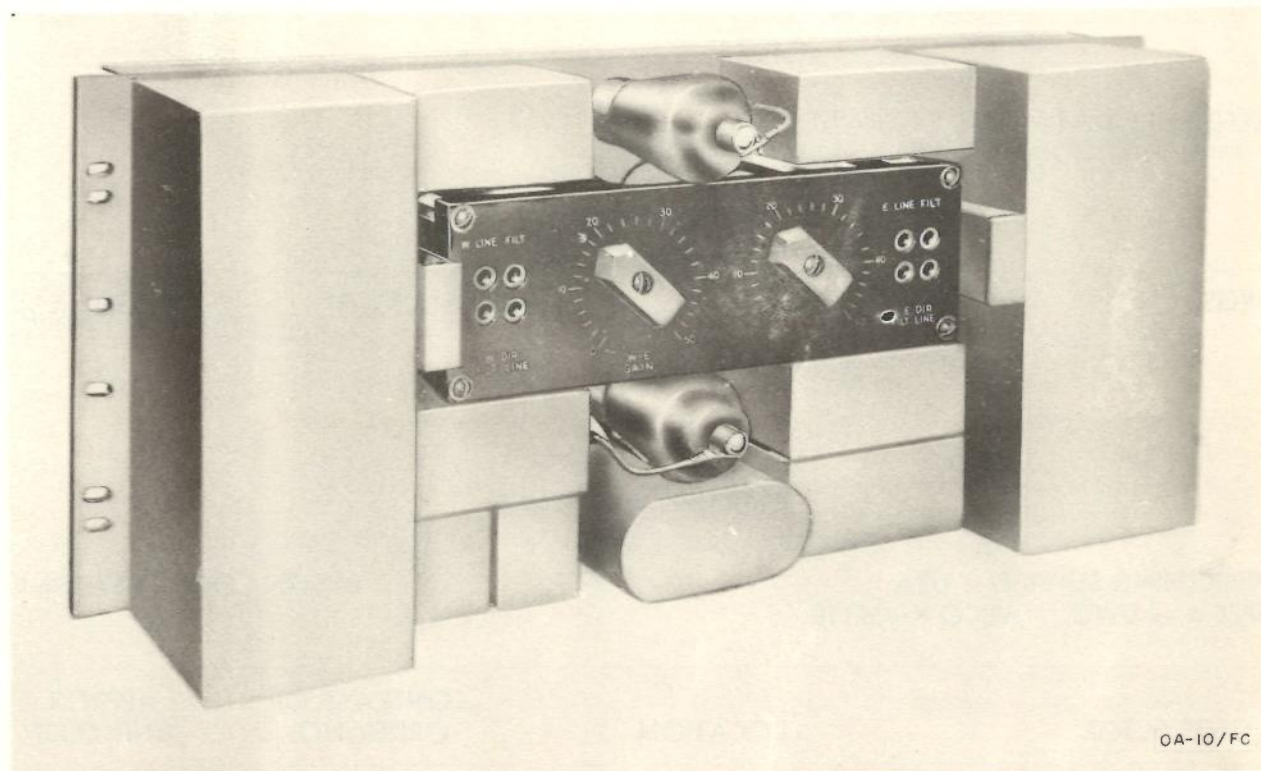
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STOCK NO:

4B3202H

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**FUNCTIONAL DESCRIPTION:**

Carrier Repeater OA-10( )/FC is a single-channel, type H telephone and telegraph carrier-repeater equipment used to extend the range, in both directions, of transmission in a system using Carrier Terminal OA-13/FC, or equivalent terminal apparatus. It is used at fixed station installations.

This equipment consists of two amplifiers, two sets of line and filter jacks, and associated telephone apparatus on a single rack panel that can be mounted in Cabinet CY-413/FC or

CY-414/FC. It can be used in conjunction with radio relay and related terminal equipment in a system and can be installed at intermediate points of a section of facility.

**TECHNICAL CHARACTERISTICS:**

*Facilities Required:* Two-wire

*Facilities Provided:* Compositated or simplex circuits

*Frequency:* 4.15 to 10.15 kc

*Power Requirements:* 15w, 105/125-v 50/60-cycle ac

MIL-HDBK-161

**AN/FCC-type** CARRIER REPEATER

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Carrier Repeater OA-10/FC (Equipment consists of only one major component.)	5805-164-7067	-----	35

REFERENCE DATA AND LITERATURE:

TM 11-2022, TM 11-2025

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	4.5	70

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG: WECO X-66217B

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	New York, N. Y.		



## CARRIER TERMINAL AN/FCC-type

5 December 1958

Cognizant Serv: USA FSN: 5805-170-4771, 5805-128-6262

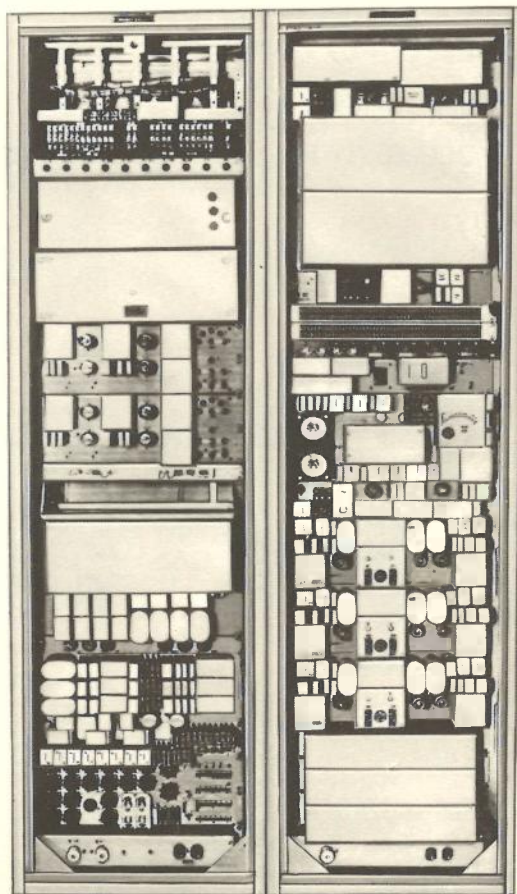
USA

USN

USAF

TYPE CLASS: S/Std  
 STOCK NO: 4B8363C-2.1

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OA-11/FC

## FUNCTIONAL DESCRIPTION:

Carrier Terminal OA-11( )/FC is a fixed-plant wire communication terminal equipment used in conjunction with OA-12/FC to provide a means of superimposing three additional two-way telephone circuits on an existing open wire facility.

This equipment consists of panel-mounted apparatus, enclosed in two floor-type steel cabinets, comprising a self-contained operating unit, including power supply equipment. This terminal is arbitrarily designated EAST; the companion OA-12/FC is arbitrarily designated WEST.

To increase the operating range of a system using this equipment Carrier Repeater OA-9/FC must be used.

## TECHNICAL CHARACTERISTICS:

*Facilities Required for Transmission:* Two- or four-wire open wire circuit, transposed

*Facilities Afforded:* 3 vf channels

*Frequency Range:* 6 to 29 kc

*Type of Modulation:* AM

*Power Requirements:* 250 w, 105-125-v 50-60-cycle ac

MIL-HDBK-161

**AN/FCC-type** CARRIER TERMINAL

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Line and power bay	-----	22-1/4 x 17 x 84	600
1	Terminal bay	-----	22-1/4 x 17 x 84	600

REFERENCE DATA AND LITERATURE:

TM 11-2023, TM 11-2026

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
3	75	1,680

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG: WECO X-61819P

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	Kearny, N. J.	4633-P-45	

CARRIER TERMINAL **AN/FCC-type**

5 December 1958

Cognizant Serv: USA FSN: 5805-170-7855

OA-12/FC

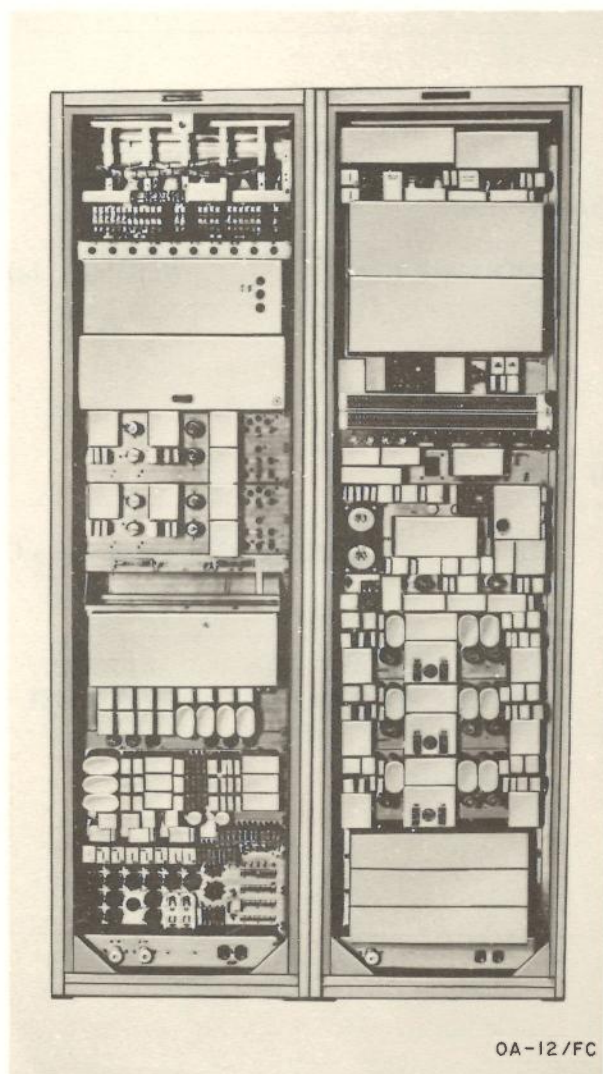
USA

USN

USAF

TYPE CLASS: S/Std  
 STOCK NO: 4B8363C-2.1

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OA-12/FC

**FUNCTIONAL DESCRIPTION:**

Carrier Terminal OA-12/FC is fixed-plant wire communication terminal equipment used in conjunction with Carrier Terminal OA-11( )/FC to provide a means of superimposing three additional two-way telephone circuits on an existing open wire facility.

This equipment consists of panel-mounted apparatus, inclosed in two floor-type steel cabinets, comprising a self-contained operating unit, including power supply equipment. This terminal is arbitrarily designated WEST; the companion OA-12/FC is arbitrarily designated EAST.

To increase the operating range of a system using this equipment Carrier Repeater OA-9/FC must be used.

**TECHNICAL CHARACTERISTICS:**

*Facilities Required for Transmission:* two- or four-wire open wire circuit, transposed

*Facilities Afforded:* 3 vf channels

*Frequency Range:* 6 to 29 kc

*Type of Modulation:* AM

*Power Requirements:* 250 w, 105-125-v 50-60-cycle ac

MIL-HDBK-161

**AN/FCC-type** CARRIER TERMINAL

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Line and power bay	-----	22-1/4 x 17 x 84	600
1	Terminal bay	-----	22-1/4 x 17 x 84	600

REFERENCE DATA AND LITERATURE:

TM 11-2023, TM 11-2026

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
3	75	1,680

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG: WECO X-61819R

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	Kearny, N. J.	4633-P-45	



CARRIER TERMINAL **AN/FCC-type**

5 December 1958

Cognizant Serv: USA FSN: 5805-170-5288

OA-13( )/FC

USA

USN

USAF

TYPE CLASS:

L/Std

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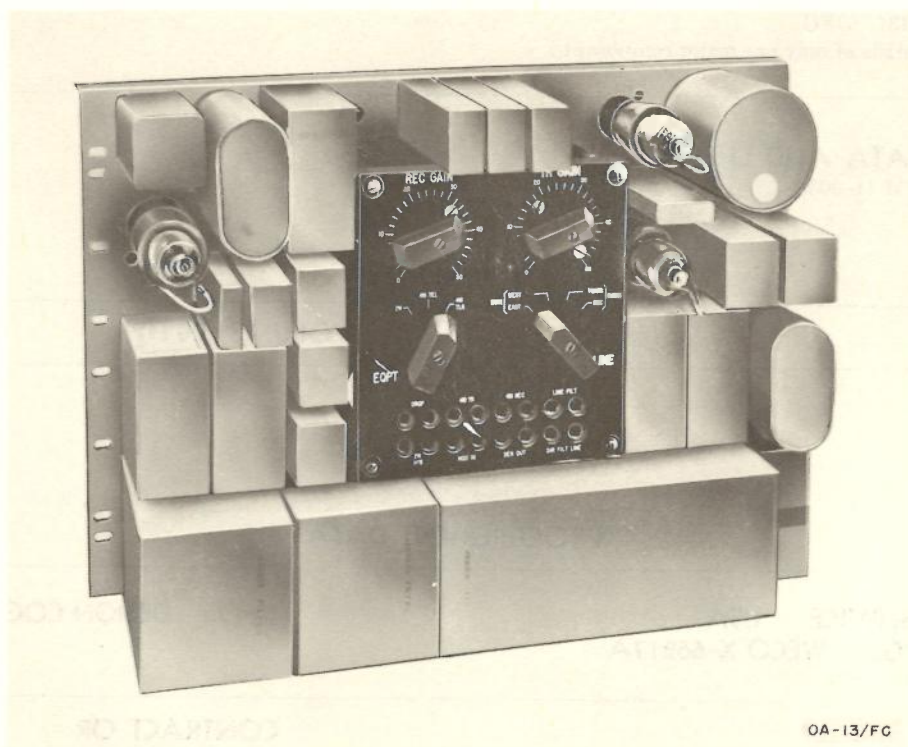
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STOCK NO:

4B8375

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OA-13/FC

**FUNCTIONAL DESCRIPTION:**

Carrier Terminal OA-13/FC is fixed-plant wire communication terminal equipment used to provide a means of superimposing one additional telephone channel on an existing open wire facility.

This equipment consists of panel-mounted apparatus which can be installed on a standard 19-inch relay rack. It converts  $\nu f$  signals to carrier frequencies for transmission, and carrier

frequencies to  $\nu f$  for reception, with amplification in both directions.

**TECHNICAL CHARACTERISTICS:**

*Facilities Required for Transmission:* Two- or four-wire open-wire circuit

*Facilities Afforded:* 1  $\nu f$  channel

*Frequency Range:* 4 to 11 kc

*Type of Modulation:* AM

*Power Requirements:* 20 w, 105-125-v 50-60-cycle ac

MIL-HDBK-161

**AN/FCC-type CARRIER TERMINAL**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Carrier Terminal OA-13( )/FC (Equipment consists of only one major component.)	5805-170-5288	-----	50

**REFERENCE DATA AND LITERATURE:**

TM 11-2025, TM 11-2038

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	6	125

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG: WECO X-66217A

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	Kearny, N. J.	4633-P-45	

## TELEGRAPH TERMINAL AN/FCC-type

23 October 1958

Cognizant Serv: USA FSN: 5805-240-6225

TH-1/TCC-1

USA

USN

USAF

TYPE CLASS:

Obs

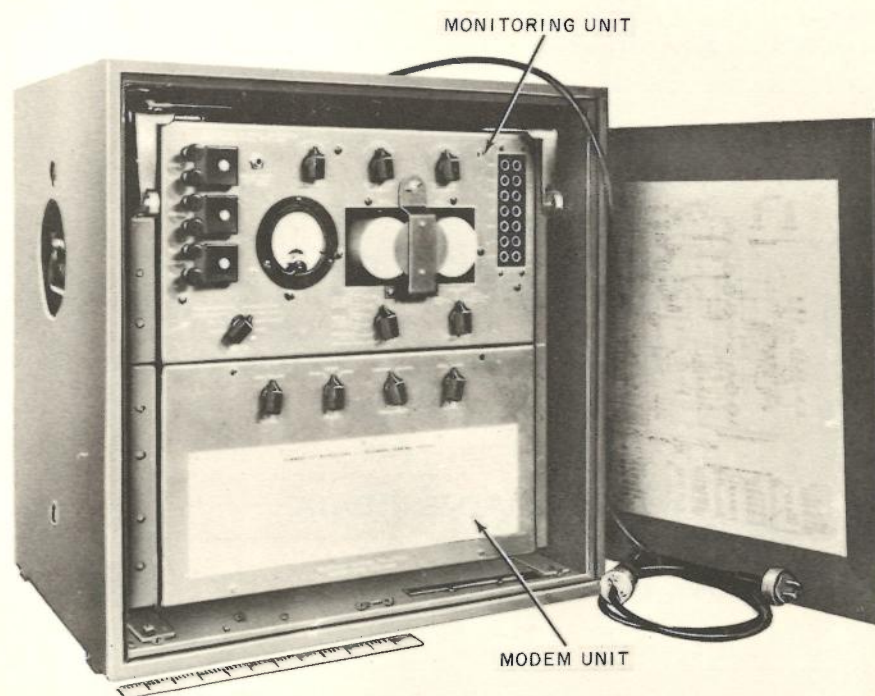
Used by

STOCK NO:

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**FUNCTIONAL DESCRIPTION:**

Telegraph Terminal TH-1/TCC-1 is a carrier telegraph terminal equipment that provides two-way voice-frequency telegraph or teletypewriter communication over a portion of the frequency range of a voice-frequency circuit. It is used principally at fixed plant installations.

The telegraph terminal can be used to provide speech-plus-duplex operation in connection with open wire lines, cable, field wire or repeatered lines, or carrier facilities. Filter F-1/GG is required at intermediate points in the telephone circuit to separate telephone and telegraph circuit frequencies.

The terminal equipment consists essentially of three panels of operating apparatus. One is a modem unit, one a monitoring unit, and one a voice-frequency ringer panel. The monitor-

ing unit panel is mounted above the modem unit panel in a wooden cabinet. The ringer panel is mounted at the top rear of the cabinet.

**TECHNICAL CHARACTERISTICS:***Frequency:*

Telephone Circuit: 200 to 3,000 cps

Telegraph Circuit: 1,500 to 2,000 cps

*Type Signal:* AM*Type Ringing:* 20-cycle vf (1,000- or 500-cycle signals interrupted at 19 cycles)*Facilities Afforded:* Speech plus duplex*Power Requirements:* 160 w (maximum), 100-130/200-250-v 50- to 60-cycle ac; 12.5 amp at 12-v dc

MIL-HDBK-161

**AN/FCC-type TELEGRAPH TERMINAL**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
-----	------	---------------	------------------------	-----------------

(FSN)

1	Telegraph Terminal TH-1/TCC-1	5805-240-6225		
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(Equipment consists of only one major component.)

**REFERENCE DATA AND LITERATURE:**

TM 11-2206

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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## CARRIER CONTROL SYSTEM AN/FCC-type

14 November 1958

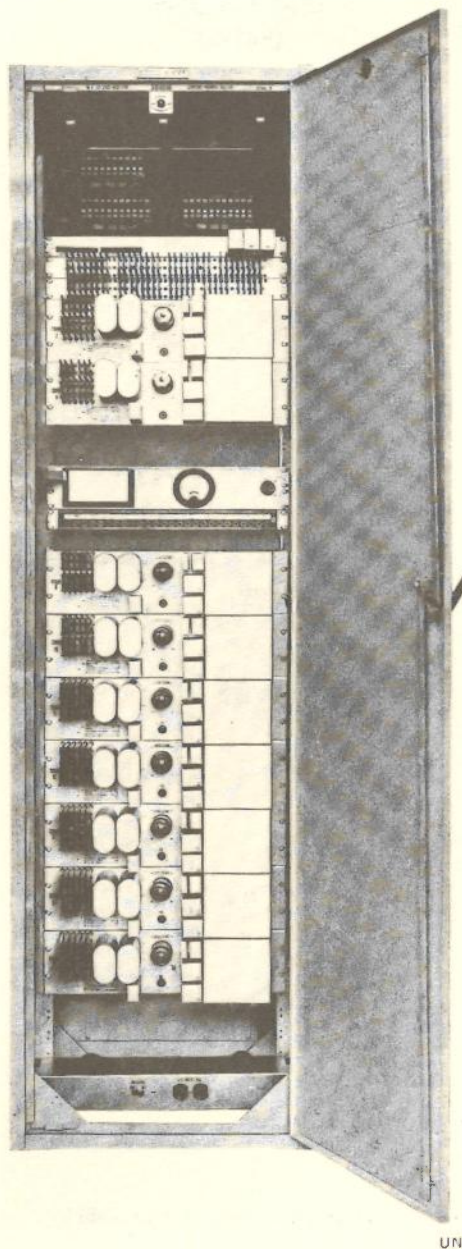
Cognizant Serv: USN FSN: 5805-665-0556, 5805-644-3445 (with equipment spares)

UN

USA

USN

USAF

TYPE CLASS: --  
STOCK NO: --Used by --  
F16-Q-341515-200 --

## FUNCTIONAL DESCRIPTION:

Carrier Control System UN is a multichannel carrier communications system for shore station use. It is capable of the simultaneous operation of voice channels and a variety of narrow- and wide-band audio-frequency telegraph channels over one radio carrier or a two- or four-wire line. The system consists of a number of panel units, available as required, which provide different combinations of telegraph and telephone terminal facilities.

When the voice-frequency telegraph equipment and telephone carrier equipment are used conjunctively, operation is possible on three voice telephone channels, which together approximately cover the frequency range of the system. One of these channels is a voice telephone circuit that may be used with or without the telephone carrier equipment, and the other two are voice carrier telephone channels that are provided only through the use of the telephone carrier equipment. Any one or all three of these channels may be used for either 3 wide-band or 12 narrow-band vf telegraph carriers. Without the use of the telephone carrier equipment, the maximum service obtainable on the normal voice telephone circuit are 3 or 12 narrow-band vf telegraph channels in combination with 3 wide-band telegraph channels. The narrow-band carriers are capable of keying speeds of about 100 words per minute; the wide-band carriers are capable of keying speeds up to 300 words per minute.

The UN system permits operation over a nonmetallic link and is operated on an equivalent four-wire basis with each channel a one-way circuit. To provide two-way communication between two points, two channels—one sending and one receiving—are necessary, thus involving two radio circuits. The system also may be operated over a two- or four-wire metallic circuit capable of transmitting frequencies from 200 to 10,300 cycles per second.

## TECHNICAL CHARACTERISTICS:

*Frequency Range:* 300 to 10,150 cps*Type Signal:* AM*Type Transmission and Reception:* Cw, voice*Type Ringing:* 1,000/20 cps*Number of Channels:*

With Telephone Terminal Equipment: 3 voice channels

Without Telephone Terminal Equipment: 12 narrow-band or 3 wide-band telegraph channels or single voice channel

## AN/FCC-type CARRIER CONTROL SYSTEM

## Channel Frequencies:

Narrow Band: 170 cps  
 Medium Band: 340 cps  
 Wide Band: 850 cps

## Oscillator Frequency: 85 cps

Power Requirements: 1 kw (approximately), 105- to 125-v 50- to 60-cycle 1-phase ac—ringing satisfactory only with a 60-cycle power source

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Attenuator 631193	-----	6-25/32 x 4-5/32 x 4-15/32	4.5
1	Audio-Frequency Panel 50101 (1 required at sending terminal, 1 at receiving terminal)	-----	10-1/2 x 19	65
1	Base-Frequency Amplifier 50100 <sup>a,b</sup>	-----	5-1/4 x 19	16
1	Base-Frequency Oscillator 35023 <sup>a,b</sup>	-----	10-1/2 x 19 x 3-1/2	44.5
1	Channel Oscillator: Narrow-band channels <sup>b</sup> 1 through 12, 35010 through 35021	-----	5-1/4 x 19 x 3-1/2	21.5
1	Wide-band channels <sup>b</sup> 22, 35024; 23, 35025; 24, 35026	-----	5-1/4 x 19 x 3-1/2	21.5
1	Demodulator <sup>b,c</sup> : 50103 (used only with ungrounded load)	-----	10-1/2 x 19 x 10	63
	50124 (used with grounded ungrounded load)	-----	10-1/2 x 19 x 10	60
1	Harmonic Generator Alarm Panel 10094 <sup>a</sup>	-----	3-1/2 x 19	7.5
1	Harmonic Generator Panel 35002 <sup>a</sup>	-----	5-1/4 x 19 x 3-1/2	16
1	HI Carrier Telephone Terminal Panel 23295 (includes sending and receiving circuits for upper sideband)	-----	15-3/4 x 19	80
1	HI Carrier Telephone Terminal Panel 23296 (includes sending and receiving circuits for lower sideband)	-----	15-3/4 x 19	80
1	Modulator <sup>b,d</sup> : 50102 (contact keying only)	-----	5-1/4 x 19 x 8	58
	50217 (permits contact keying)	-----	5-1/2 x 19 x 10-1/2	17
1	Receiving Channel Terminal: Medium-band channels <sup>b</sup> 1, 3, 5, 7, 9, and 12, (type number unassigned)	-----	3-1/2 x 19	17

<sup>a</sup> Used in a system to prevent interchannel interference when more than six telegraph channels are provided.

<sup>b</sup> Supplied as required for each specific installation.

<sup>c</sup> One required at receiving terminal for each telegraph channel.

<sup>d</sup> One required at sending terminal for each telegraph channel.

## CARRIER CONTROL SYSTEM AN/FCC-type

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
	Narrow-band channels <sup>b</sup> 1 through 3, 53102; 4 through 6, 53103; 7 through 8, 53104; 10 through 12, 53105; 1, 3, and 5, 53106; 1 and 3, 53114; 1 and 5, 53115; 3 and 5, 53116	-----	7 x 19	28.5
	Wide-band channels <sup>b</sup> 22 through 24, 53107	-----	7 x 19	28.5
1	Receiving Line Terminal Panel 23297 (without line filter) or 23298 (with line filter) <sup>e</sup>	-----	1-3/4 x 19	6.5
1	Receiving Voice Channel Terminal Panel 23303	-----	1-3/4 x 19	4
1	Rectifier Power Unit 20140	-----	15-3/4 x 23 x 11	140
1	Rectifier Power Unit 20141	-----	2-21/32 x 9-1/2 x 2-21/32	
1	Rectifier Power Unit 20142	-----	9-1/4 x 7-1/2 x 6-1/2	20
1	Sending Channel Terminal: Medium-band channels <sup>b</sup> 1, 3, 5, 7, 9, and 11, (type number un- assigned)	-----	3-1/2 x 19 x 8	17
	Narrow-band channels <sup>b</sup> 1 through 3, 53096; 4 through 6, 53097; 7 through 9, 53098; 10 through 12, 53099; 1, 3, and 5, 53100	-----	3-1/2 x 19 x 8	18.5
	Wide-band channels <sup>b</sup> 22 through 24, 53100	-----	3-1/2 x 19 x 8	16
	Sending Line Terminal Panel 23297 (without line filter) or 23298 (with line filter) <sup>e</sup>	-----	1-3 4 x 19	6.5
1	Sending Voice Channel Terminal Panel 50112	-----	3-1/2 x 19	12.5
1	Transmission Measuring Set 60036	-----	11 x 8-1/2 x 6-1/2	14
1	Voltmeter Test Panel 60035	-----	3-1/2 x 19	5.5

<sup>e</sup> Type used at both sending and receiving terminals depends on combination of services used.

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 900, 116



MIL-HDBK-161

**AN/FCC-type** CARRIER CONTROL SYSTEM

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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## TWO-TONE CARRIER CONTROL SYSTEM AN/FCC-type

14 November 1958

Cognizant Serv: USN FSN:

UP

USA

USN

USAF

TYPE CLASS:

Used by

Used by

--

STOCK NO:

--

--

--



UP

**FUNCTIONAL DESCRIPTION:**

Two-tone Carrier Control System UP is a multichannel voice-frequency carrier telegraph system that provides six two-way telegraph circuits over one radiotelephone circuit. Four one-way regenerative repeaters are provided to improve the quality of transmission by restoring distorted teletypewriter signals to almost perfect form and timing. The equipment is designed primarily for use with single-sideband, short-wave radio transmission. It is used at fixed shore stations.

To obtain better transmission in teletypewriter operation where there is selective fading of the radio signals, two tones usually are transmitted for each mark and two for each space, thus forming a frequency-diversity circuit. Visual and aural indications of signal deterioration are provided by a monitoring bay.

The carrier control can communicate with terminal, repeater, and related equipment operating in the connecting facility or comprising the system. Required for operation of the control are radio communication circuits and wire lines or radio link circuits between radio equipment and terminal equipment. A telegraph adapter unit provides proper coupling and equalization of a wire line connecting a radio receiver to the terminal equipment. All circuits must be capable of operation up to 4,900 cycles per second.

The UP is similar to Carrier Terminal OA-64/FRC-10, described under Radio Set AN/FRC-10( ).

**TECHNICAL CHARACTERISTICS:***Frequency Range:*

Without Frequency Diversity: 425 to 2,465 cps

With Frequency Diversity: 425 to 4,930 cps

*Maximum System Length (Between Carrier Equipment and Radio Receiver or Transmitter):*

128-mil Copper Open Wire: 200 miles

19-gage Loaded Cable: 20 miles

19-gage Nonloaded Cable:

*Type Signal:* AM (two-tone and two-tone frequency diversity)*Type Transmission and Reception:* CW*Channel Frequencies:*

Channel 1: 425 cps mark, 595 cps space

Channel 2: 765 cps mark, 935 cps space

Channel 3: 1,105 cps mark, 1,275 cps space

Channel 4: 1,445 cps mark, 1,615 cps space

Channel 5: 1,785 cps mark, 1,955 cps space

Channel 6: 2,125 cps mark, 2,295 cps space

*Power Requirements:* 3 kw, 105- to 125-v 50- to 60-cycle 1-phase ac





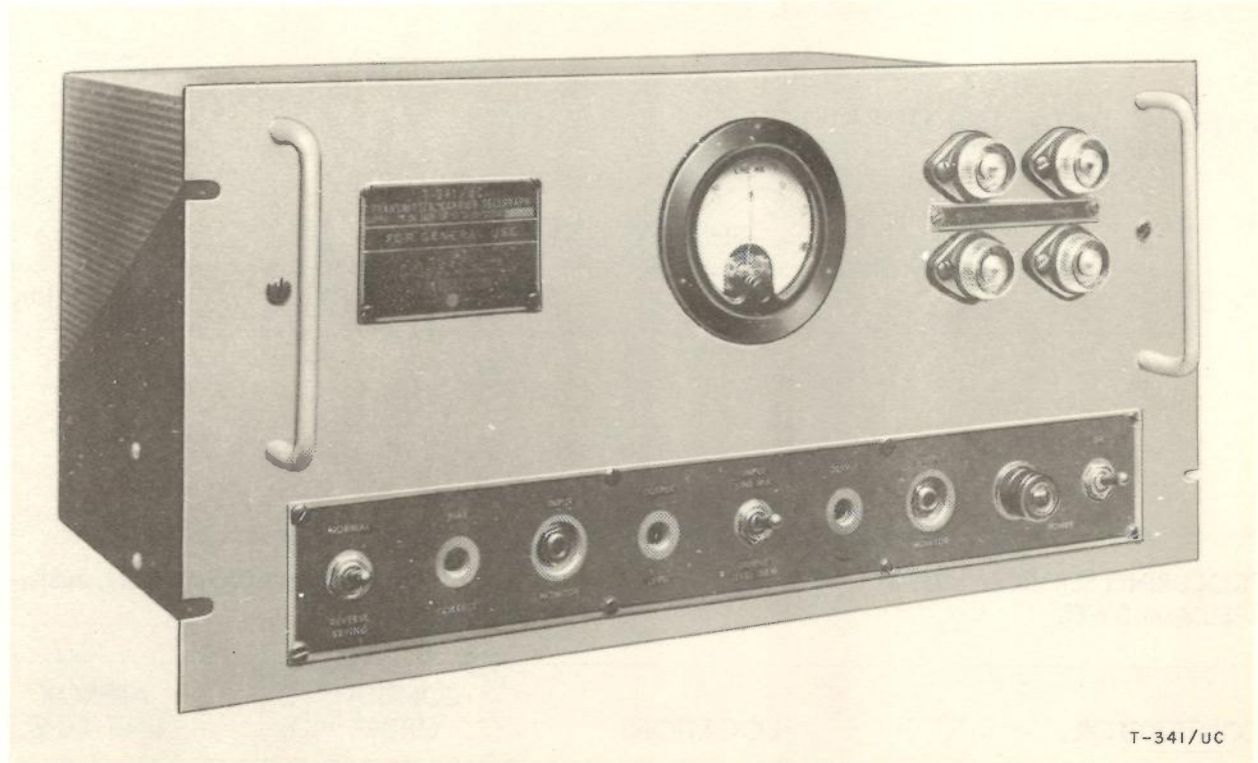
## CARRIER TELEGRAPH TRANSMITTER AN/FCT-type

20 November 1958

Cognizant Serv: USN FSN:

T-341/UC

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	--	--



T-341/UC

**FUNCTIONAL DESCRIPTION:**

Carrier Telegraph Transmitter T-341/UC is capable of accepting a direct current telegraph signal (polar or neutral) and translating this signal into a corresponding on-off tone signal.

This equipment can be used, in conjunction with Carrier Telegraph Receiver R-466/UC, to provide tone keying facilities to Carrier Telegraph Terminal AN/FCC-3. It also can be used in various system applications to provide hand-keyed or teletypewriter order-wire service.

It is designed for rack mounting and is equipped with provisions for manual adjustment of both the audio tone frequency and the bias in the transmitted signals.

**TECHNICAL CHARACTERISTICS:**

*Input Keying:* 20- to 60-ma neutral remote battery; 20- to 60-ma neutral local battery; 30- ma polar remote battery.

*Keying Speed:* 20 to 200 dot-cycles (equivalent to 60 to 600 wpm telegraph); higher keying speeds can be handled if input level variations are not over  $\pm 5$  dbm.

*Output:* 600-ohm balanced or unbalanced line; on-off tone, selected frequency between 400 and 8,000 cps.

*Output Distortion:* Less than 5%

*Output Level:* Within  $\pm 2$  db of level at 1,000 cps over the range.

*Visual Operation Indicator:* Light on front panel (keying); meter for dbm level and output current

*Power Requirements:* 70 w, 115/230-v 50-60-cycle ac

MIL-HDBK-161

**AN/FCT-type** CARRIER TELEGRAPH TRANSMITTER

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Carrier Telegraph Transmitter T-341/UC	-----	8-23/32 x 14-3/8 x 19	34.5
(Equipment consists of only one major component.)				

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91663

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	9.25	92.5

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
C. G. S. Laboratories, Inc.	Stanford, Conn.	NObsr-52381	\$600.00



## FREQUENCY SHIFT KEYER EQUIPMENT AN/FGA-type

5 December 1958

Cognizant Serv: USN FSN:

FSB

USA

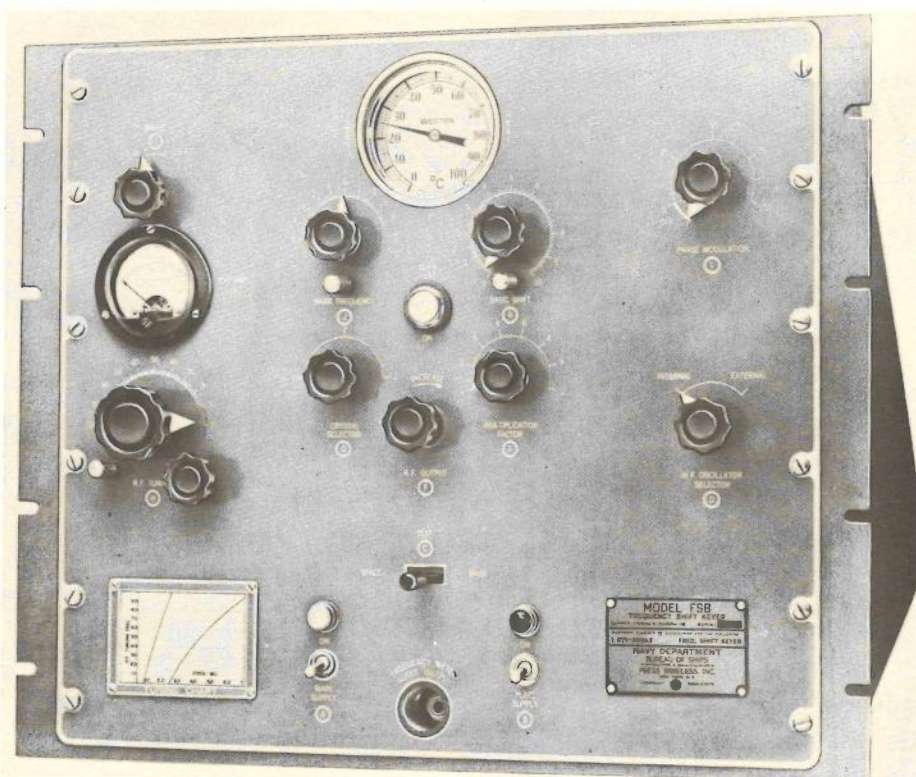
USN

USAF

TYPE CLASS: --

Used by

STOCK NO: --



FSB

**FUNCTIONAL DESCRIPTION:**

Frequency Shift Keyer Equipment FSB is an auxiliary keying equipment for radiotelegraph transmitters. It is used at shore stations to impress intelligence on a radio frequency carrier by the frequency-shift method to minimize the effects of fading, noise interference, and static disturbances at the receiving equipment. It produces a radio frequency signal capable of being shifted back and forth between two distinct preset frequencies, with the output used to excite the associated transmitter. In addition to frequency-shift keying, facilities for phase modulation of the carrier and for use of the equipment in radiophoto frequency-shift transmission are provided.

The keyed input for this equipment may be any type of signal, including Morse code, teletypewriter, radiophoto, or facsimile.

A crystal oscillator with three preset channels is used and provision is made for the alternate use of an external oscillator, such as the transmitter oscillator.

The equipment may be permanently installed in the associated transmitter cabinet or mounted in a separate mobile cabinet. A coupler unit must be connected between the transmitter and frequency-shift keyer for impedance matching.

The FSB is used with Radio Transmitting Equipments TDN, TEB, and TEC without coupling networks, and may be adapted for use with any radio transmitter with an intermediate frequency of 1.0 to 6.7 mc.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range in Mc:* 1.0 to 6.7

*Frequency Shift:* 0 to 1,000 cps

*Type Modulation:* FM

*Type of Signal:* Frequency-shift keying

*External Rf Input:* 0.8 to 6.5 mc

*Internal Crystal Rf:* 0.8 to 6.5 mc

*200-kc Oscillator Accuracy:*  $\pm 6$  cps in any 6-hour period

*Phase Modulation:* Up to 1 radian at 200-cycle rate

*Keying Voltage:*

Polar:  $\pm 50$  to  $\pm 150$  v, one side grounded.

Neutral:  $-50$  to  $-150$  v, positive side grounded

*Input Impedance:* 75 ohms

*Output Impedance:* 75 ohms

*Mounting Data:* Standard relay rack

*Power Output:* 2 w

*Power Requirements:* 175 w, 115- to 230-v, 50- to 60-cps, 1-phase ac

MIL-HDBK-161

**AN/FGA-type** FREQUENCY SHIFT KEYER EQUIPMENT

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1 set	Cables			
1 set	Equipment spares	-----	13 x 32 x 17	53
1	Frequency Shift Keyer Equipment CYV-35062	-----	16 x 19 x 15	88

REFERENCE DATA AND LITERATURE:

NAVSHIPS 900, 928

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
2	15	315

PROCUREMENT DATA

PROCURING SERVICE: USN C  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Press Wireless Manufacturing Corp.	New York, N. Y.	NXsr-67976, 29 June 1944 N5sr-10565, 23 July 1945	\$700.00 <sup>1</sup>

## TELEGRAPH TERMINAL AN/FGA-type

26 November 1958

Cognizant Serv: USN FSN:

G-1T

USA

USN

USAF

TYPE CLASS: --

Used by --

STOCK NO: --

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Telegraph Terminal G-1T is a high speed communication unit designed for transmission and reception of teletypewriter messages at the rate of 60, 120, 480, or 960 words per minute.

To accomplish this, teletypewriter signals from standard teletypewriter transmitters are recorded on magnetic tape at 60 words per minute, and played back through the output channel at any one of the five speeds.

This unit has dual input channels and recorders to permit simultaneous recording of two separate signals. It also has dual output channels.

The following equipment is required, but is not supplied,

with Telegraph Terminal G-1T: At least 8 reels of cellulose telemetering tape, one tape splicer, and electrical splicing tape.

## TECHNICAL CHARACTERISTICS:

*Keying Input:* 2,184 cps tone

*Speed:* 60, 120, 240, 480, or 960 wpm

*Output Data:*

*Output Impedance:* 500-ohm, unbalanced

*Output Level:* 0 dbm ( $\pm 6$  dbm)

*Input Data:*

*Input Impedance:* 500-ohm, balanced or unbalanced

*Input Level:* 0 dbm ( $\pm 6$  dbm)

*Power Requirements:* 1.5 kw, 115-v 60-cycle 1-phase ac

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Playback Amplifier and Tone-to-DC Converter, Unit 1800-1900			
1	Record-Playback Chassis, Unit 2000			

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 92312

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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MIL-HDBK-161

**AN/FGA-type** TELEGRAPH TERMINAL

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Transmitter Equipment Manufacturing Co., Inc.	Brooklyn, N. Y.	NObsr-63197, 2 February 1953	\$17,500.00 with spares



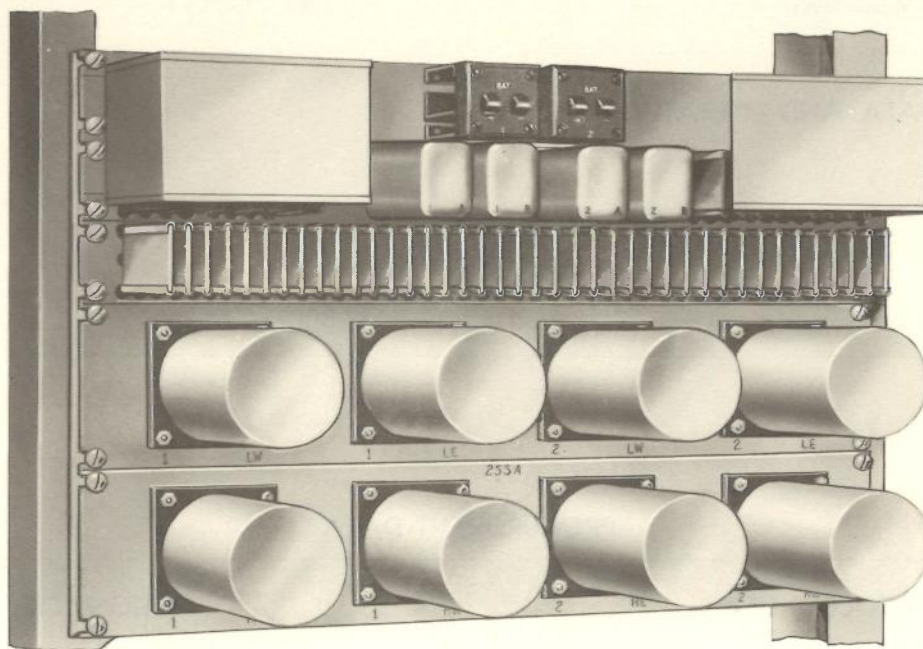
## TELEGRAPH REPEATER AN/FGA-type

1 December 1958

Cognizant Serv: USA FSN:

TH-7/FG

	USA	USN	USAF
TYPE CLASS:	L/Std	Used by	--
STOCK NO:	--	--	--



TH-7/FG

**FUNCTIONAL DESCRIPTION:**

Telegraph Repeater TH-7/FG is a dc telegraph repeater used to extend the operating range between two dc teletypewriter stations. It includes the equipment for two single-line repeaters, one of which is designated repeater 1, the other repeater 2. With repeater 1 used in a system, repeater 2 may be used in another system or used as standby equipment. The equipment may be operated on a one-way reversible, neutral, or polar basis. It is designed to be mounted on a standard 19-inch relay rack.

A repeater of the TG-7/FG may be used in three types of dc telegraph systems. When one loop of the repeater is operated on either a polar or neutral basis, the other loop must be operated on a neutral basis. When the TG-7/FG is used as an intermediate repeater between two teletypewriter stations or to extend the loop circuit of a carrier telegraph terminal, one loop of the repeater must be operated on a neutral basis and the other loop may be operated on either a neutral or polar basis. When the TH-7/FG is used to extend a tandem (back-to-back) loop between two carrier telegraph terminals, one loop must be operated on a neutral basis and the other nor-

mally is operated on a polar basis. No monitoring facilities are available.

No power supply is furnished as a part of the telegraph repeater. However, positive and negative 130-volt dc sources are required.

**TECHNICAL CHARACTERISTICS:**

*Type Transmission:* Neutral and polar

*Distance Ranges:*

Teletypewriter Equipment: 12 miles to each station if station is equipped with wave-shaping equipment. 3 miles to each station if station is not equipped with wave-shaping equipment.

Cw Operation: Inductance of each loop must not exceed the equivalent of six 3C sounders; when more than two sounders are used, each must be equipped with a 1,000-ohm shunt.

*Power Requirements:*

Neutral Operation: Two each  $\pm 130$ -v dc sources, two each  $-130$ -v dc sources

Polar Operation: Three each  $\pm 130$ -v dc sources, two each  $-130$ -v dc sources

**AN/FGA-type TELEGRAPH REPEATER**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Telegraph Repeater TH-7/FG	-----	12-3/4 x 8-1/2 x 19	
8	Relay (WEC0 225A)	-----	2-3/4 x 2-3/4 x 5	

**REFERENCE DATA AND LITERATURE:**

None

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	3.1	

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST

## TELEGRAPH TERMINAL AN/FGA-type

20 October 1958

Cognizant Serv: USN FSN: 5805-506-4523 (with equipment spares)

TH-21/UC

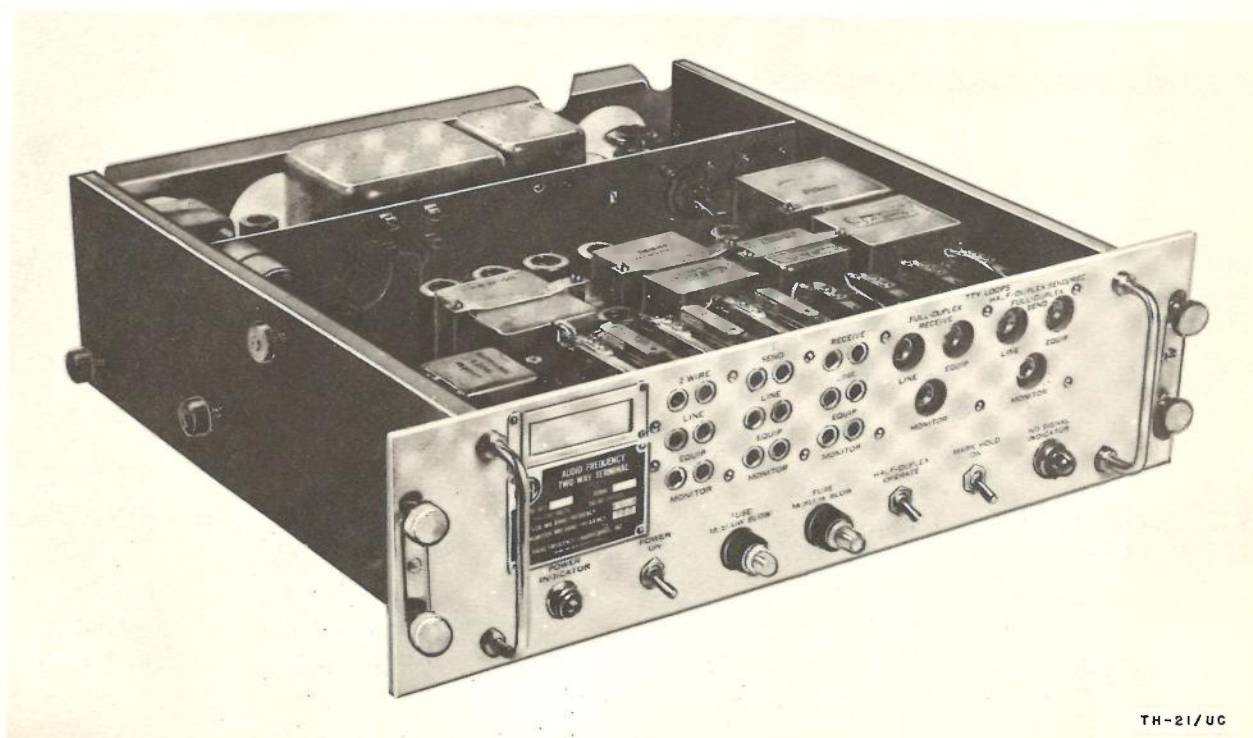
USA

USN

USAF

TYPE CLASS:  
STOCK NO:--  
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Used by

--  
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TH-21/UC

**FUNCTIONAL DESCRIPTION:**

Telegraph Terminal TH-21/UC is a teletypewriter communications terminal that makes possible the transmission and reception of teletypewriter messages by radio communication equipment. It may be used for either half- or full-duplex operation.

In the SEND position, the terminal converts current pulses from a teletypewriter into two-tone audio frequencies of similar time duration for transmission over open-wire lines or cable or by radio. In the RECEIVE position, teletypewriter

signals from distant teletypewriter transmitting equipment are demodulated and amplified for operation of an associated teletypewriter.

**TECHNICAL CHARACTERISTICS:**

*Frequency Range:* 382 to 3,315 cps

*Operating Speed:*

85 Cps Frequency-shift: 100 wpm

170 Cps Frequency-shift: 250 wpm

*Mode of Operation:* Half- or full-duplex

*Power Requirements:* 115- or 230-v 60-cycle 1-phase 2-wire ac



MIL-HDBK-161

**AN/FGA-type TELEGRAPH TERMINAL**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Telegraph Terminal TH-21/UC (Equipment consists of only one major component.)			

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 92737

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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**PROCUREMENT DATA**

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Radio Frequency Laboratories, Inc.	Boonton, N. J.	NObsr-71039, 9 Sep- tember 1955	\$1,500 with equipment spares



## TRANSMITTER DISTRIBUTOR AN/FGA-type

21 October 1958

Cognizant Serv: USA FSN: 5815-222-4297

TT-25/FG

USA

USN

USAF

TYPE CLASS:

L/Std

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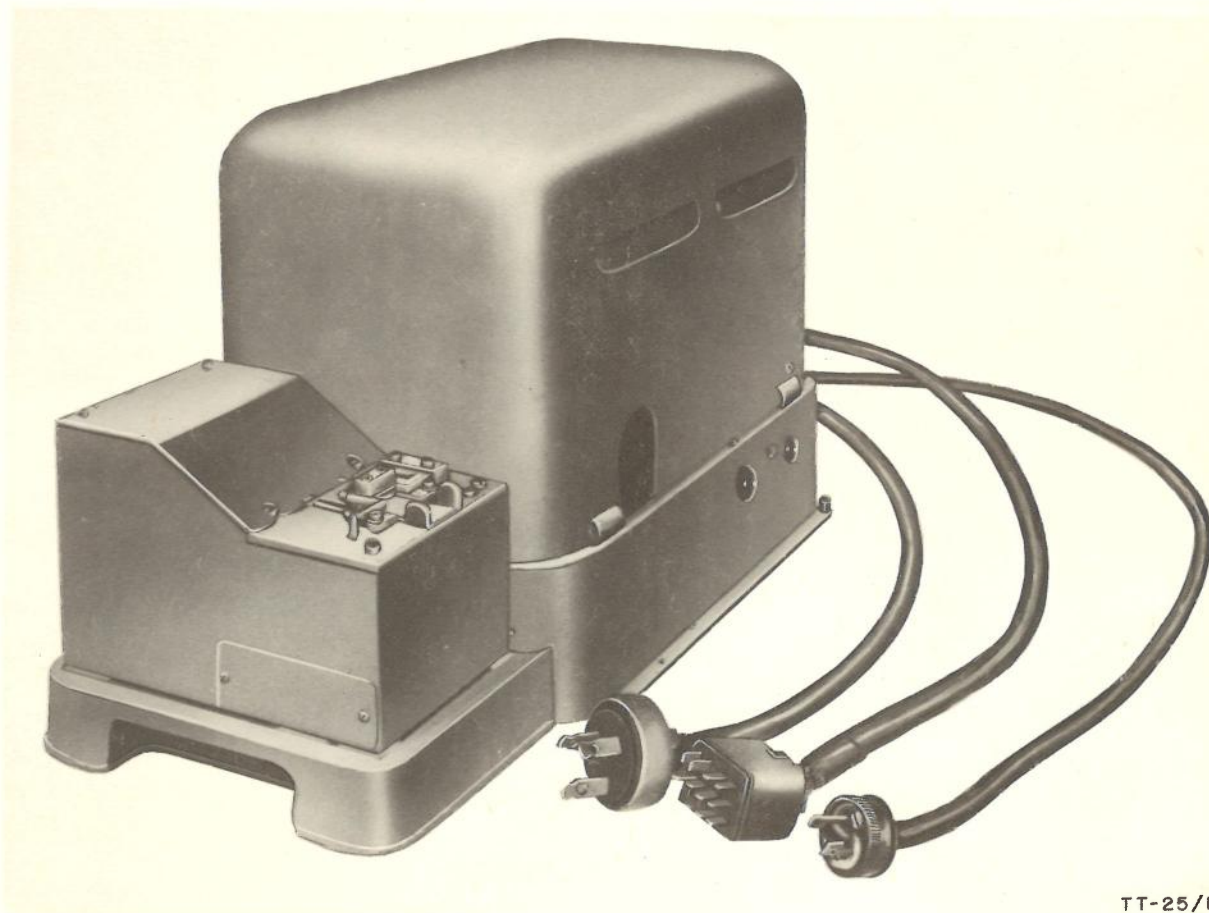
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STOCK NO:

4TXD95GW

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TT-25/FG

**FUNCTIONAL DESCRIPTION:**

Transmitter Distributor TT-25/FG is an automatic transmitter distributor, called a receiving transmitter distributor, designed for use as part of a code room communication system. The unit translates code combinations from fully perforated or chadless tape into electrical impulses that are set up locally and then are combined with impulses from an external source. The combined signals are used in teletypewriter transmitting and receiving circuits.

The TT-25/FG is a single-channel equipment consisting principally of tape sensing and tape feeding mechanisms, a special distributor commutator, and a motor, all of which are inclosed in a metal housing.

**TECHNICAL CHARACTERISTICS:**

*Operating Speed:* 368 or 404 opm

*Type Signaling Code:* 5-unit, start-stop

*Type Signals:* Neutral

*Type Motor:* Synchronous or series-governed

*Motor Speed:*

Synchronous: 1,800 rpm

Series-governed: 2,102 or 2,308 rpm

*Power Requirements:*

Synchronous Motor: 105- to 125-v 50- to 60-cycle ac

Series-governed Motor: 105- to 125-v 25- to 60-cycle ac

MIL-HDBK-161

**AN/FGA-type TRANSMITTER DISTRIBUTOR**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Transmitter Distributor TT- 25/FG (Equipment consists of only one major component.)	-----	-----	28

**REFERENCE DATA AND LITERATURE:**

TM 11-2222

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	5	70

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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## RADIOTELETYPE TERMINAL EQUIPMENT AN/FGC-1( )

1 July 1958

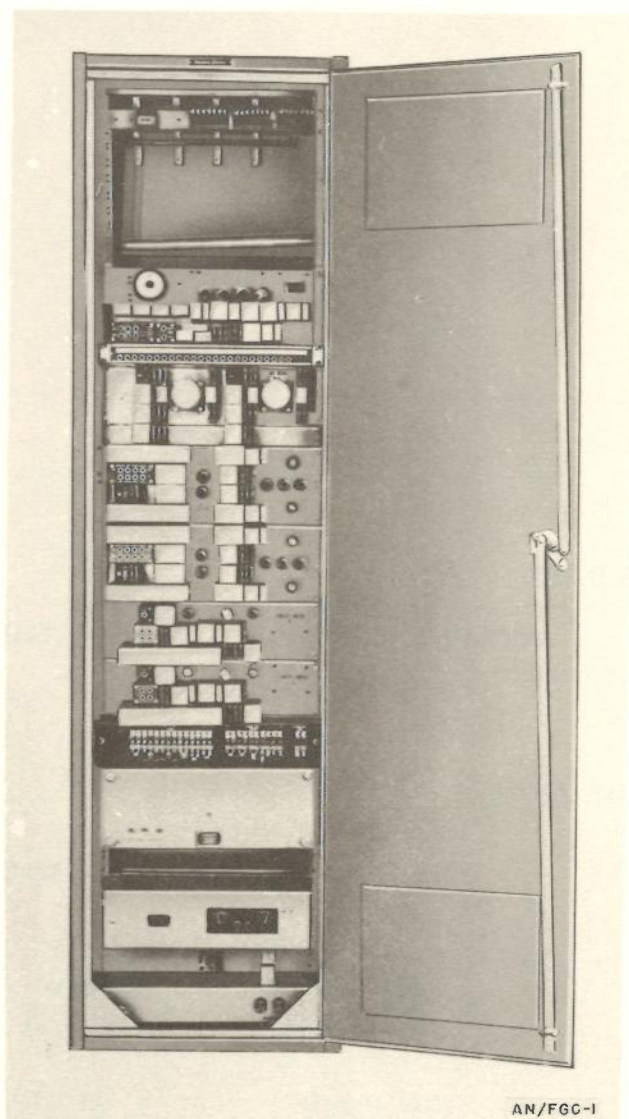
Cognizant Serv: USA FSN: AN/FGC-1: 5815-228-3103 AN/FGC-1X: 5805-503-2757

USA

USN

USAF

TYPE CLASS: Std  
 STOCK NO: AN/FGC-1:  
 4TW61789-2  
 AN/FGC-1X:  
 4TW61789-3

**FUNCTIONAL DESCRIPTION:**

Radioteletype Terminal Equipment AN/FGC-1( ) is an assemblage of control and filtering apparatus designed to translate frequency-shift-keyed teletypewriter signals into dc pulses that will operate a teletypewriter.

This equipment is contained in a steel floor-type cabinet.

The equipment is designed for fixed-plant operation, and contains facilities for disabling the radio receiver during periods of transmission, thus providing either full duplex or one-way reversible operations.

This equipment can be operated in systems using Diversity Receiving Equipment AN/FRR-3 or other suitable fixed-plant receiving equipment.

**TECHNICAL CHARACTERISTICS:***Input Signal:*

Hf Radio: Mark, 2,125-cycle tone; space, 2,975-cycle tone; transmission speed, 60 wpm.

Lf Radio: Mark, 2,465-cycle tone; space, 2,635-cycle tone; transmission speed, 60 wpm.

*Output Signal:* Dc, neutral, or polar*Power Requirements:*

AN/FGC-1: 103-127/207-253-w 50/60-cycle ac

AN/FGC-1X: 103-127/207-253-v 25/60-cycle ac



MIL-HDBK-161

**AN/FGC-1 ( ) RADIOTELETYPE TERMINAL EQUIPMENT**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Current Regulator CN-164/ FGC-1			
1	Electrical Equipment Cabinet CY-1071/FGC-1	-----	84 x 17 x 19-5/8	
1	Power Supply PP-763/FGC-1 or			
1	Power Supply PP-737/FGC-1			
1	Receiver Control C-948/FGC-1			
1	Telegraph Repeater TH-11/ FGC-1			
1	Terminal Box J-447/FGC-1			
1	Trigger Amplifier AM-591/ FGC-1			
1	Signal Data Converter CV- 205/FGC-1			
1	Under Voltage Alarm BZ-27/ FGC-1			

\* Components not stocked separately.

**REFERENCE DATA AND LITERATURE:**

TM 11-356

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	35	680

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG: SC-DL-55029

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Adler Electronics, Inc.	New Rochelle, N. Y.	29381-P-56-51	\$4,272.51
Continental Electronics, Ltd.	Brooklyn, N. Y.	4861-P-52-09	4,597.04
Peer, Inc.	Benton Harbor, Mich.	28191-P-55-51	4,006.97
The Gamewell Co.	Newton Upper Falls, Mass.	4680-P-52-09	5,173.33



## OCEAN CABLE TERMINAL SET AN/FGC-3

1 July 1958

Cognizant Serv: USA FSN:

USA

USN

USAF

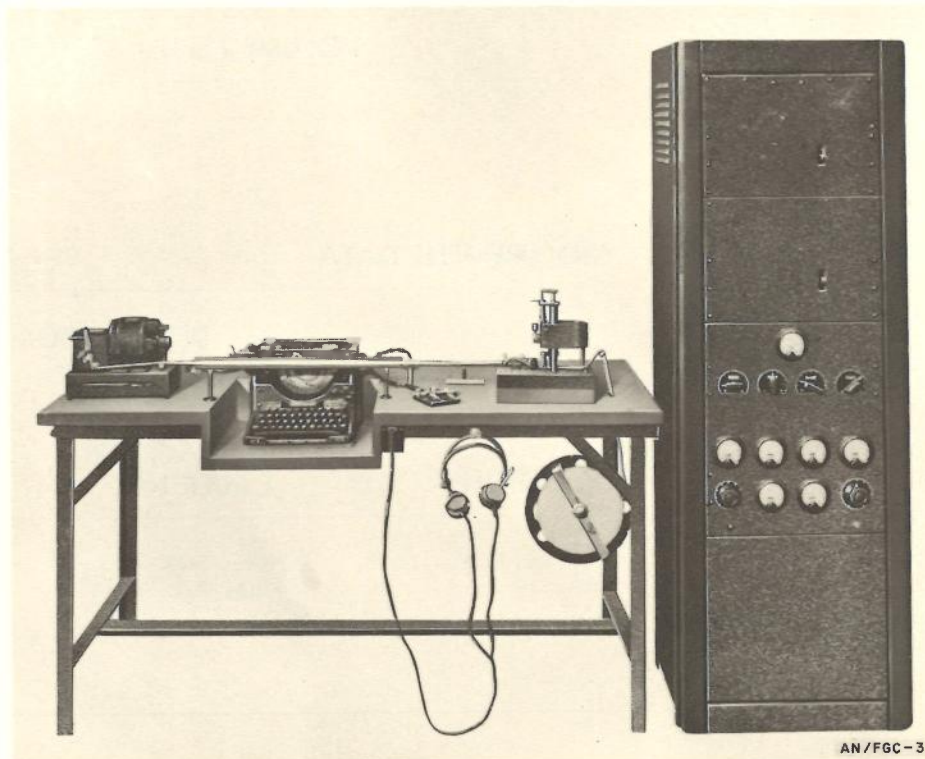
TYPE CLASS: L/Std

Used by

STOCK NO: --

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**FUNCTIONAL DESCRIPTION:**

Ocean Cable Terminal Set AN/FGC-3 is a complete, fixed, shore ground terminal for transmitting and receiving signals over a submarine cable.

This equipment consists of a signal-shaping amplifier, operating table, direct writer (inked-tape), and associated keying and recording equipment.

It is used for manually keyed code signals and, with auxiliary equipment, for teletypewriter communication.

**TECHNICAL CHARACTERISTICS:**

*Type of Signal:* Morse code, teletypewriter, direct writer, or similar

*Type of Communication Circuit:* Dc telegraph, simplex operation

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Amplifier Unit 560-A	-----	27 x 24 x 72	
1	Direct Writer 4-A			
1	Operating Table 175-A	-----	60 x 32 x 30	
1	Tape Puller 4-A			
1	Tape Reel 2-B			

MIL-HDBK-161

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**AN/FGC-3 OCEAN CABLE TERMINAL SET**

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**REFERENCE DATA AND LITERATURE:**

TM 11-2213

**SHIPPING DATA**

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PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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**PROCUREMENT DATA**

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PROCURING SERVICE: USN  
SPEC &/or DWG: MIL-T-15294

DESIGN COG: USN, BuShips

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CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Northern Radio Co. Inc.	New York, N. Y.	NObrs-64283 R54-0352-SC-43	\$7,980.00

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## TELETYPEWRITER SET AN/FGC-4

1 July 1958  
 Cognizant Serv: USA FSN: 5815-164-7101

USA

USN

USAF

TYPE CLASS: Std  
 STOCK NO: 4TW14B.1

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AN/FGC-4

**FUNCTIONAL DESCRIPTION:**

Teletypewriter Set AN/FGC-4 is a sending and receiving teletypewriter station equipment. It produces a typed tape that is not perforated, and that is used for communication and monitoring purposes.

This equipment consists of a commercial teletypewriter (Teletype Corp. Model 14) with a standard communications

keyboard and type pallets. It can be operated on a half- or full-duplex basis.

**TECHNICAL CHARACTERISTICS:**

*Operating Speed:* 368.1 opm (60 wpm)

*Motor Characteristics:* Series governed; resistor assembly provided for operation on dc

*Power Requirements:* 110 w; 110-v 60-cycle ac; 110-v dc when arranged with special resistor assembly

MIL-HDBK-161

**AN/FGC-4** TELETYPEWRITER SET

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(USA)		
1	Teletype Base FK61MG1			
1	Teletype Copy Holder 74833	4T115700AA		
1	Teletype Cover C55	4TFPC201AA		
1	Teletype Table XRT82	4TXRT200AA		
1	Teletype Typing Unit FT- 23D275			

REFERENCE DATA AND LITERATURE:

Commercial Instruction Book

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.	3429-P-52-09	\$719.00



## TELEGRAPH TERMINAL SET AN/FGC-5

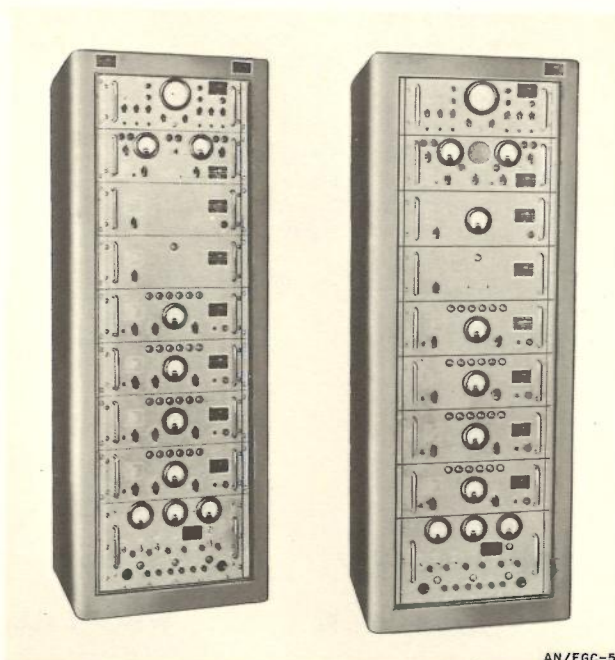
20 November 1958

Cognizant Serv: USAF FSN: 5805-247-9307 (USAF) 5805-665-3510 (USN)

USA

USN

USAF

TYPE CLASS: --  
STOCK NO: --Used by  
F16-T-989403

AN/FGC-5

## FUNCTIONAL DESCRIPTION:

Telegraph Terminal Set AN/FGC-5 is a complete send-receive electronic time-division multiplex unit. It consists of Telegraph Receiving Group OA-150/FGC-5 and Telegraph Transmitting Group OA-151/FGC-5.

This equipment provides two-, three-, or four-channel multiplex teletypewriter operation on a single voice channel on the basis of a time-division system.

All components except the power supply are of a tilt-up drawer type; the power supply slides out horizontally on rails.

The set, as supplied, is for 60 word-per-minute operation but may be modified by a wiring change to 75 word-per-minute operations.

The number of channels in which the set can be operated depends upon the circuit characteristics. Narrow bands or circuits with excessive distortion may limit operation to three, or even two, multiplex channels.

## TECHNICAL CHARACTERISTICS:

*Frequency:* 101.25 kc*Frequency Control:* Quartz crystal*Channel Speed:* 60 wpm*Characters Per Line:* 72*Channels:* 2, multiplex*Code:* 5 unit*Oscillator Characteristics:*

*Frequency Control:* Temperature regulated quartz crystal in a modified Colpitts oscillator circuit.

*Operating Frequency:* 101.25 kc*Keying Frequency:*

60 wpm: 150 cps; 112.5 cps

75 wpm: 187.5 cps; 140.62 cps

*Frequency Stability:* +0.0001% per degree C., with crystal heater at 55° C. ±1° (131° F.) ±1°.

*Transmitting Group Signals:*

*Output Multiplex Signal:* 120-v internal source, variable up to 0.06 amp, + polarity to station ground; 120-v or less external source, variable up to 0.03 amp, + polarity to station ground.

*Input Start-stop Signals:* On-off dc + or - polarity, 0.06 amp from external battery source.

*Receiving Group Signals:*

*Input Multiplex Signal:* On-off dc, 0.06 amp from external source of + or - polarity or from a 115-v internal positive battery source.

*Output Start-stop Signals:* On-off dc, + or - polarity, 0.06 amp, external battery source.

*Heat Dissipation:*

Transmitting Group: 690 w

Receiving Group: 690 w

*Power Requirements:* 690 w, 6.9 amp, 0.86 pf, 115- or 230-v ±10% 50- or 60-cycle 1-phase ac.

## AN/FGC-5 TELEGRAPH TERMINAL SET

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Cabinet CY-700/FGC-5	-----	72-7/8 x 27 x 24-3/16	405
1	Cabinet CY-743/FGC-5	-----	72-7/8 x 27 x 24-3/16	405
4	Code Converter CV-81/FGC-5	-----	6-31/32 x 17-1/8 x 19	64
4	Code Converter CV-94/FGC-5	-----	6-31/32 x 17-1/8 x 19	64
1	Control Monitor C-620/FGC-5	-----	6-31/32 x 17-1/8 x 19	14
1	Control Monitor C-621/FGC-5	-----	6-31/32 x 17-1/8 x 19	14
1	Distributor Drive 0-101/FGC-5	-----	6-31/32 x 17-1/8 x 19	15
1	Distributor Drive 0-100/FGC-5	-----	6-31/32 x 17-1/8 x 19	15
2	Oscilloscope OS-11/FGC-5	-----	6-31/32 x 17-1/8 x 19	22 ea
2	Power Supply PP-484/FGC-5	-----	10-1/2 x 19 x 22	187 ea
1	Signal Distributor TT-58/ FGC-5	-----	6-31/32 x 17-1/8 x 19	13
1	Signal Distributor TT-64/ FGC-5	-----	6-31/32 x 17-1/8 x 19	13
1 set	Spares	-----	12-1/4 x 16 x 31	595

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 91265(a)

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
11	187.4	3,104

## PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuShips

SPEC &amp;/or DWG: MIL-T-15259 (Ships)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.	NObsr-39309, 23 June 1947	\$19,000.00



## TELETYPEWRITER SET AN/FGC-6

20 November 1958

Cognizant Serv: USN: FSN:

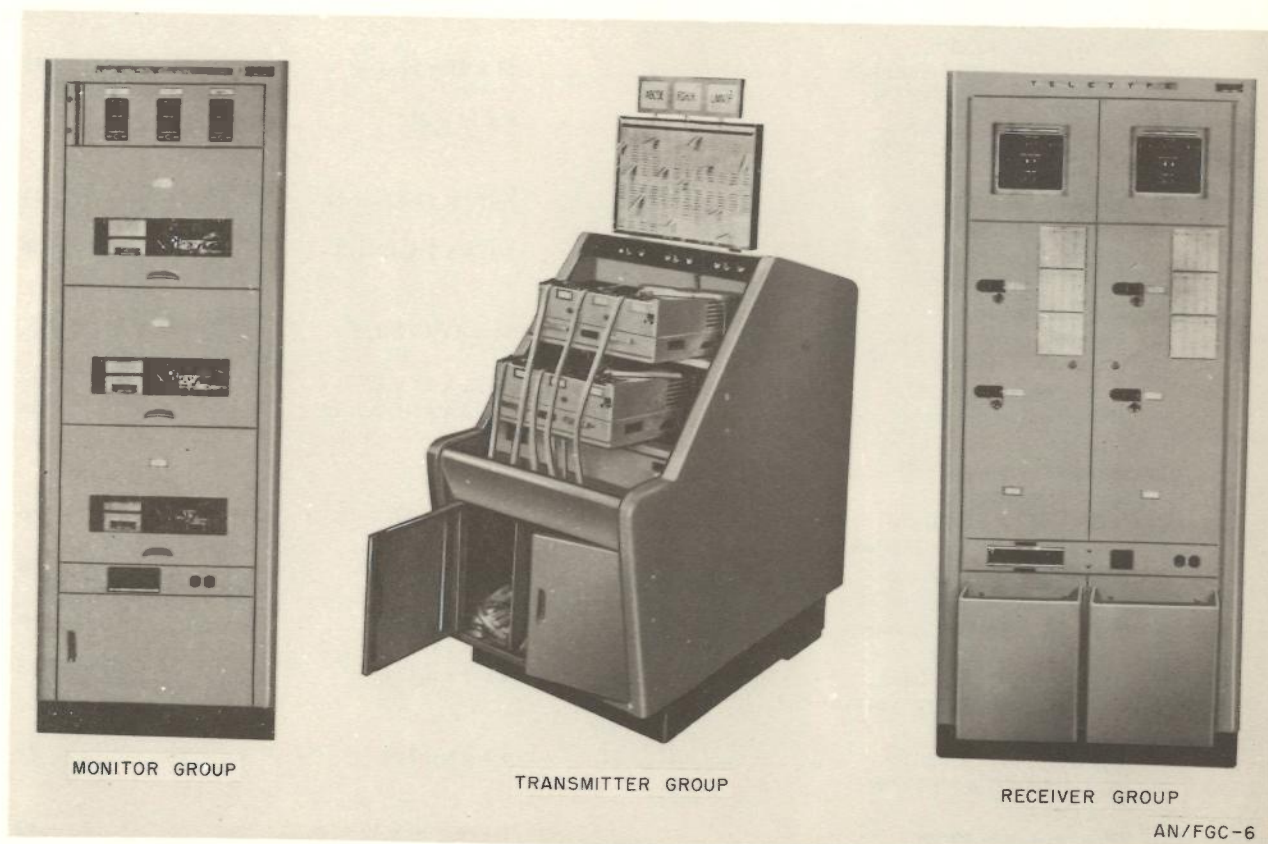
USA

USN

USAF

TYPE CLASS: --  
STOCK NO: --

Used by --

**FUNCTIONAL DESCRIPTION:**

Teletypewriter Set AN/FGC-6 is used at a relay station to receive, transmit, and monitor telegraph messages. It consists essentially of a receiver group, a transmitter group, and a monitor group. A typical station installation may consist of several sets.

The receiver group receives automatic telegraph signals at 60, 75, or 100 (experimental) words per minute from three incoming signal lines and converts the signals to perforated tape. Characters are also typed on the tape.

The transmitter group transmits from perforated tape to three outgoing signal lines at 60, 75, or 100 (experimental) words per minute. Circuits in series with the distributor-transmitters provide monitoring. Each transmitted message is numbered consecutively.

The monitor group receives messages from the transmitter group and records each transmitted message on tape in the

same manner as the receiver group. Time and date are stamped every minute on the message tape, which is taken up on a reel for storage.

**TECHNICAL CHARACTERISTICS:**

*Signal Frequency (Maximum Dot-Cycles):*

60 Wpm: 22.8 cps

75 Wpm: 28.5 cps

100 Wpm: 37.1 cps

*Frequency Control:* Depends on use of synchronous motor and regulated 60-cycle power supply.

*Telegraph Signals (Transmitted or Received):*

Neutral: 0.06 amp (nominal)

Polar: 0.03 amp (nominal)

*Power Factors:* 0.3 (approx) for each group

*Power Requirements:* 10 amp (monitor group), 12 amp (transmitter group), 14 amp (receiver group), 115-v  $\pm 10\%$  60-cycle  $\pm 0.5$  cycle 1-phase ac

## AN/FGC-6 TELETYPEWRITER SET

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Maintenance parts kit	-----	11 x 16-1/4 x 18-3/4	30
1	Monitor Group OA-519/ FGC-6 consisting of:			
1	Cabinet, Electrical Equip- ment CY-1423/FGC-6	-----	24 x 27 x 77-3/8	411
3	Reeling Machine, Tape, Motor Driven RL-173/ FGC-6	-----	5 x 12 x 21	47
3	Reperforator, Teletype- writer TT-140/FGC-6	-----	7-1/2 x 11-1/2 x 12	111
3	Stamp, Time MX-1527/U	-----	4-1/4 x 7 x 13-3/4	50
1	Receiver Group OA-518/ FGC-6 consisting of:			
1	Cabinet, Electrical Equip- ment CY-1422/FGC-6	-----	24 x 33 x 77-3/8	544
1	Power Supply PP-987/U	-----	7-1/2 x 10 x 12	49
4	Reperforator, Teletype- writer TT-141/FGC-6	-----	7-1/2 x 11-1/2 x 12	156
1	Transmitter Group OA-517/ FGC-6 consisting of:			
1	Base, Distributor-Trans- mitter MT-1258/FGC-6	-----	11 x 16 x 17	36
2	Base, Distributor-Trans- mitter MT-1259/FGC-6	-----	6-1/2 x 16 x 17	56
1	Cabinet, Electrical Equip- ment CY-1421/FGC-6	-----	27 x 43 x 67	346
3	Distributor-Transmitter, Teletypewriter TT-138/ FGC-6	-----	4 x 5 x 5-1/4	14
6	Distributor-Transmitter, Teletypewriter TT-139/ FGC-6	-----	4 x 5 x 5-1/4	27
1	Power Supply PP-987/U	-----	7-1/2 x 10 x 12	49

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 91899(a)

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
12	210.6	2,955



TELETYPEWRITER SET **AN/FGC-6**

## PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG: MIL-T-16280A (Ships)

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.	NObsr 52445, 3 April 1953	\$17,790.00



## TELETYPEWRITER REPEATER SET AN/FGC-7

20 November 1958

Cognizant Serv: USN FSN: 5805-501-1411

USA

USN

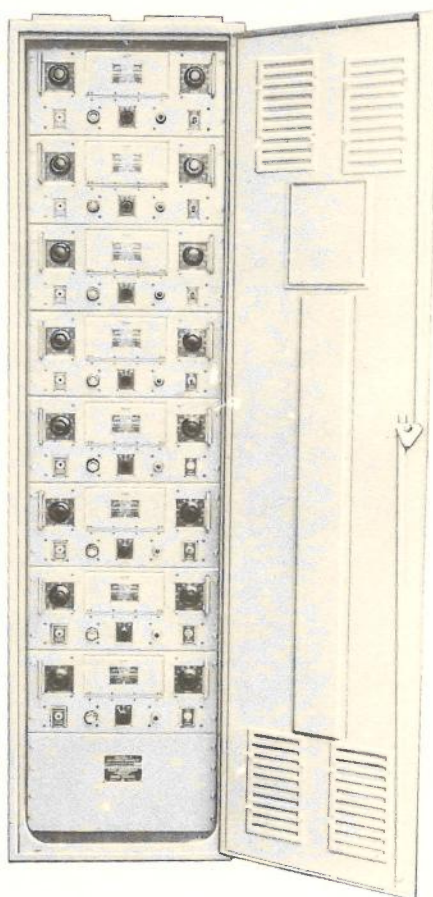
USAF

TYPE CLASS: --

Used by --

STOCK NO: --

F16-T-995466 --



AN/FGC-7

**FUNCTIONAL DESCRIPTION:**

Teletypewriter Repeater Set AN/TGC-7 is a shore-based electronic regenerative type equipment for use on 60, 75, or 100 word-per-minute long-line teletypewriter wire circuits. It consists of eight teletypewriter repeaters housed in a single cabinet.

This equipment is capable of receiving audio or polar and neutral teletypewriter signals having a maximum bias distortion of 45% and of regenerating the signal with less than 5% bias distortion at the output.

This equipment is functionally similar to Teletypewriter Repeater Set AN/FGC-7A; both are similar mechanically but not electrically.

**TECHNICAL CHARACTERISTICS:**

*Operating Facilities:* Can handle eight simplex or four duplex channels simultaneously

*Operating Speed:* 60, 75, or 100 wpm

*Keying Input:*

Tone: 500 to 3,600 cps

Direct Current: 30 ma polar; 60 ma neutral

*Tone Input Level:* 20 to 0 db

*Input Distortion:* 45% maximum mark or space bias

*Output:* Relay contacts in series with a 310-ohm resistor; contacts closed on mark during operation or during any steady input state.

*Output Distortion:* 5% (maximum)

*Power Requirements:* 85-w (per repeater), 115-v 50- to 60-cycle 1-phase ac

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Cabinet CY-614/G	-----	87-1/2 x 22-3/8 x 24	
1 set	Equipment spares			
8	Teletypewriter Repeater TT-63/FGC			

MIL-HDBK-161

**AN/FGC-7** TELETYPEWRITER REPEATER SET

REFERENCE DATA AND LITERATURE:  
NAVSHIPS 91247

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	46.7	670

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG: MIL-T-16264 (Ships)

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Meridian Inc.	Stamford, Conn.	NObsr-42501, 25 June 1948	\$3,500.00



## TELETYPEWRITER REPEATER SET AN/FGC-7A

20 November 1958

Cognizant Serv: USN FSN: 5805-382-1898 5815-392-7742 (USN)

USA

USN

USAF

TYPE CLASS: --

Used by

STOCK NO: --

F16-T-993417

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Teletypewriter Repeater Set AN/FGC-7A is a shore-based electronic regenerative type equipment consisting of eight regenerative teletypewriter repeaters in a standard relay cabinet. These repeaters receive on-off tone or polar and neutral teletypewriter signals having a maximum bias distortion of 45% and regenerate the signal with less than 5% bias distortion at the output.

Two repeaters may be used to receive a duplex teletypewriter signal, one producing a leading duplex signal regenerated to standard simplex timing, the other producing a lagging duplex signal regenerated to standard simplex timing.

This equipment is used in long-line wire teletypewriter circuits at teletypewriter relay and receiving stations. Provision is made for connection of a monitor teletypewriter.

Teletypewriter Repeater Set AN/FGC-7A is functionally

similar to Teletypewriter Repeater Set AN/FGC-7; both are similar mechanically but not electrically.

## TECHNICAL CHARACTERISTICS:

*Operating Facilities:* Can handle eight simplex or four duplex channels simultaneously

*Operating Speed:* 60, 75, or 100 wpm

*Keying Input:*

Tone: 500 to 3,600 cps

Direct Current: 30 ma polar, 60 ma neutral

*Tone Input Level:* 20 to 0 dbm

*Input Distortion:* 45% maximum mark or space bias

*Output:* Relay contacts in series with a 310-ohm resistor; contacts closed on mark during operation or during any steady input state.

*Output Distortion:* 5% (maximum)

*Power Requirements:* 85 w, 115-v 50- to 60-cycle 1-phase ac

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Cabinet CY-614/G	-----	87-1/2 x 22-3/8 x 24	575 (including eight repeaters)
1 set	Equipment spares			
8	Teletypewriter Repeater TT-63A/FGC			

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 91689; TM 11-2247

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	83.92	1,075

MIL-HDBK-161

**AN/FGC-7A** TELETYPEWRITER REPEATER SET

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Stelma Inc.	Stamford, Conn.	NObrs-52696, 27 June 1951	

## TELETYPEWRITER SET AN/FGC-8

20 November 1958

Cognizant Serv: USN: FSN: 5815-669-7909

USA

USN

USAF

TYPE CLASS: --  
STOCK NO: --Used by --  
--**FUNCTIONAL DESCRIPTION:**

Teletypewriter Set AN/FGC-8 is a general purpose equipment used for the transmission of messages from keyboard or tape and the reception of incoming messages in printed page form. The typing unit and keyboard have standard English characters.

This equipment provides for direct interchange of typewritten telegraph messages, perforation of tape for subsequent transmission, and automatic transmission of printing-telegraph messages under control of perforated tape.

The perforator transmitter keyboard, used in direct sending, may also be operated independently (whether or not receiving an incoming message) as a high-speed perforator in the preparation of tape for subsequent transmission.

**TECHNICAL CHARACTERISTICS:***Keyboard:* Standard commercial*Characters:* English*Characters per Line:* 72*Feed:* Friction*Operating Speed:* 368 opm*Code:* 5 unit*Circuits:* Wire and radio*Installation:* Fixed station*Power Requirements:* 115-v 50- to 60-cycle 1-phase ac**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Base, Teletype Corp. No. BB50			
1	Cover, Teletype Corp. No. C-156			
1 set	Gears, Teletype Corp. No. 80374			
1	Motor Unit, Teletype Corp. No. MU27			
1	Perforator Transmitter, Teletype Corp. No. PEX25JX			
1	Power Supply PP-315/GGA-1		15 x 9-3/4 x 25-1/2	
1	Table, Teletype Corp. No. XRT116			

**AN/FGC-8** TELETYPEWRITER SET

## MAJOR COMPONENTS—Continued

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Transmitter-Distributor TT-52/FG			
1	Typing Unit, Teletype Corp. No. BP119/210			

## REFERENCE DATA AND LITERATURE:

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)

## PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.	NObsr-42466	\$2,220.00



## TELETYPEWRITER SET AN/FGC-9

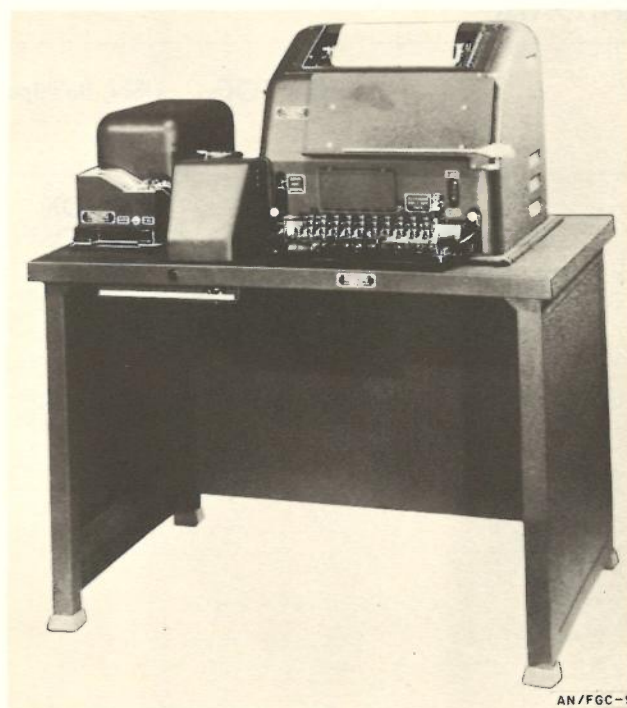
20 November 1958

Cognizant Serv: USN FSN: 5815-665-1515

USA

USN

USAF

TYPE CLASS: --  
STOCK NO: --Used by --  
F16-T-995468 --

## FUNCTIONAL DESCRIPTION:

Teletypewriter Set AN/FGC-9 is used for ship-to-ship and ship-to-shore radioteletype communication. It provides either direct keyboard or tape transmission.

This equipment has resilient shock mounts between the mounting table and the printer and also on the transmitter-distributor to reduce vibration. The table is bolted to the deck of the ship on which the unit is used.

The set can communicate with any five-unit code teletypewriter equipment geared for 368 operations per minute.

## TECHNICAL CHARACTERISTICS:

*Operating Functions:* Page printing of incoming messages; keyboard or perforated tape transmission of outgoing messages.

*Operating Speed:* 368 opm; 60 wpm (approximately)

*Motor Characteristics:* Synchronous, capacitor start motor

*Power Requirements:* 110- to 115-v, 60-cycle  $\pm 0.5$  cycle 1-phase ac

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Motor Unit, Teletype Corp. No. MU-4			
1	Perforator Transmitter, Teletype Corp. No. PEX25JX			
1	Power Supply PP-315/GGA-1		15 x 9-3/4 x 15-1/2	
1	Transmitter-Distributor TT-57/FG			
1	Typing Unit, Teletype Corp. No. BP119/210			

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 91239

MIL-HDBK-161

**AN/FGC-9** TELETYPEWRITER SET

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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Teletype Corp.

Chicago, Ill.

TELETYPEWRITER SET **AN/FGC-10**

20 November 1958

Cognizant Serv: USN FSN: 5815-665-3733

USA

USN

USAF

TYPE CLASS: --

Used by

STOCK NO: --

F16-T-992423



AN/FGC-10

**FUNCTIONAL DESCRIPTION:**

Teletypewriter Set AN/FGC-10 is designed for the transmission and reception of teletypewriter messages over wire or radio communication circuits.

This equipment is installed at shore stations and communicates with any five-unit code teletypewriter equipment geared for 368 operations per minute.

The set is identical with Teletypewriter TT-5FG, except

that the latter uses a series motor with unregulated power sources.

**TECHNICAL CHARACTERISTICS:**

*Operating Functions:* Page printing of incoming messages; keyboard transmission of outgoing messages

*Operating Speed:* 368 opm; 60 wpm (approximately)

*Power Requirements:* 115-v 60-cycle 1-phase ac (a regulated power supply is required for satisfactory operation)

MIL-HDBK-161

**AN/FGC-10** TELETYPEWRITER SET

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Base, Teletype Corp. No. BB-44			
1	Keyboard, Teletype Corp. No. BK22LD			
1	Motor Unit, Teletype Corp. No. MU4			
1	Power Supply PP-424/U			
1	Table, Teletype Corp. No. XRT200AA			
1	Typing Unit, Teletype Corp. No. BP128/247			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91240

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)

PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuShips

SPEC &/or DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.	NObsr-42421 NObsr-52210	



## TELETYPEWRITER SET AN/FGC-20( )

1 July 1958

Cognizant Serv: USA FSN: 5815-503-2652

	USA	USN	USAF
TYPE CLASS:	Std	--	Std
STOCK NO:	4T900-20	--	--



AN/FGC-20

**FUNCTIONAL DESCRIPTION:**

Teletypewriter Set AN/FGC-20( ) is a page-printing equipment used for the transmission, monitoring, and reception of messages in fixed communication centers.

This set consists essentially of a teletypewriter, table, and power supply.

This set is similar to Teletypewriter Set AN/FGC-21, except for the keyboard and type pallets.

**TECHNICAL CHARACTERISTICS:**

*Operating Speed:* 368.1, 404, or 600 opm (60, 66, or 100 wpm)

*Motor Characteristics:*

AN/FGC-20: Synchronous

AN/FGC-20X: Series governed

*Power Requirements:*

AN/FGC-20: 105-125-v 60-cycle 1-phase ac

AN/FGC-20X: 105-125-v 60-cycle 1-phase ac; or  
105-125-v dc

MIL-HDBK-161

**AN/FGC-20( ) TELETYPEWRITER SET**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(USA)		
1	Power Supply PP-978/G	3H4497-978	9 x 4 x 4	7
1	Teletypewriter table	4T901-59	20 x 21 x 27	
1	Teletypewriter TT-98/FG (AN/FGC-20)	4TTT98	20-5/8 x 24 x 13-1/2	54
	or			
1	Teletypewriter TT-100/FG (AN/FGC-20X)	4TTT100	20-5/8 x 24 x 13-1/2	54

**REFERENCE DATA AND LITERATURE:**

TM 11-2230

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
2	18	125

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG: MIL-T-11749

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Kleinschmidt, Inc.	Deerfield, Ill.	55196-P-57-51	

## TELETYPEWRITER SET AN/FGC-21( )

1 July 1958

Cognizant Serv: USA FSN: 5815-503-2653

	USA	USN	USAF
TYPE CLASS:	Std	--	Std
STOCK NO:	4T900-21	--	--

(SEE ILLUSTRATION OF AN/FGC-20( ) p. 245)

## FUNCTIONAL DESCRIPTION:

Teletypewriter Set AN/FGC-21( ) is a page-printing equipment used for the transmission, monitoring, and reception of weather information in fixed weather communication stations.

This equipment is the same as Teletypewriter Set AN/FGC-20, except that it is equipped with a weather keyboard and type pallets.

It consists essentially of a teletypewriter, table, and power supply.

## TECHNICAL CHARACTERISTICS:

*Operating Speed:* 368.1, 404, or 600 opm (60, 66, or 100 wpm)

*Motor Characteristics:*

AN/FGC-21: Synchronous

AN/FGC-21X: Series governed

*Power Requirements:*

AN/FGC-21: 105-125-v 60-cycle 1-phase ac

AN/FGC-21X: 105-125-v 60-cycle 1-phase ac; or 105-125-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
(USA)				
1	Power Supply PP-978	3H4497-978	9 x 4 x 4	7
1	Teletypewriter table	4T901-59	20 x 21 x 27	
1	Teletypewriter TT-97/FG (AN/FGC-21)	4TTT97	20-5/8 x 24 x 13-1/2	54
	or			
1	Teletypewriter TT-99/FG (AN/FGC-21X)	4TTT99	20-5/8 x 24 x 13-1/2	54

## REFERENCE DATA AND LITERATURE:

TM 11-2230

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
2	18	125

MIL-HDBK-161

AN/FGC-21( ) TELETYPEWRITER SET

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG: MIL-T-11749B

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Kleinschmidt, Inc.	Deerfield, Ill.		

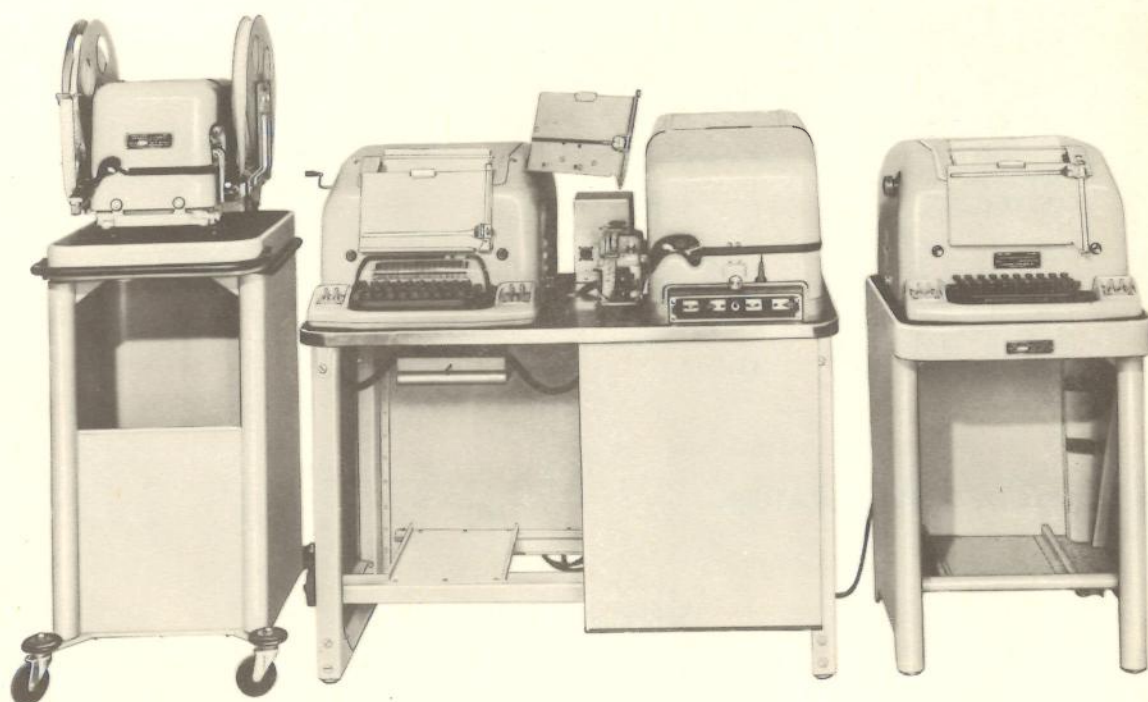


## TELETYPEWRITER SET AN/FGC-25( )

1 July 1958

Cognizant Serv: USA FSN: 5815-503-3316

	USA	USN	USAF
TYPE CLASS:	Std	--	Std
STOCK NO:	4T900-25	--	1730-044500198



AN/FGC-25

**FUNCTIONAL DESCRIPTION:**

Teletypewriter Set AN/FGC-25( ), a typical installation of which is shown above, is a fixed-station equipment used for transmitting, receiving, or monitoring.

This equipment includes a teleprinter, a perforator having a transmitter distributor, and power and accessory components. A patch panel provides for the selection of a variety of operating circuit arrangements.

This equipment may be operated on a half- or full-duplex basis. It can produce printed page copy and/or perforated-and-printed tape of messages transmitted or received, or it can transmit from such tape.

The AN/FGC-25 has a synchronous motor; the AN/FGC-25X, a series-governed motor.

**TECHNICAL CHARACTERISTICS:**

*Operating Speed:* 368.1, 404, 460, or 600 opm (60, 66, 75, or 100 wpm)

*Motor Characteristics:*

AN/FGC-25: Synchronous

AN/FGC-25X: Series-governed

*Power Requirements:*

AN/FGC-25: 105-125-v 50/60-cycle 1-phase ac

AN/FGC-25X: 105-125-v 50/60-cycle (regulated or unregulated) 1-phase ac

MIL-HDBK-161

**AN/FGC-25( ) TELETYPEWRITER SET**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(USA)		
1	Copy holder	4TK56550	10 x 6	
1	Teletypewriter TT-117/FG (AN/FGC-25)	4TTT117	11-1/4 x 17-1/8 x 20-9/16	58
	or			
1	Teletypewriter TT-119/FG (AN/FGC-25X)	4TTT119	11-1/4 x 17-1/8 x 20-9/16	58
1	Teletypewriter Reperforator- Transmitter TT-178/FG (AN/FGC-25X)	4TTT178	13-3/32 x 17-1/8 x 22-3/16	79
	or			
1	Teletypewriter Reperforator- Transmitter TT-179/FG (AN/FGC-25X)	4TTT179	13-3/32 x 17-1/8 x 22-3/16	79
1	Teletypewriter Table FN- 65/FG	4TFN65	27 x 23-1/2 x 40	52

**REFERENCE DATA AND LITERATURE:**

TM 11-2246

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
3	37.8	320

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG: MIL-T-11979A

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Kleinschmidt, Inc.	Deerfield, Ill.	47581-P-57-51	\$3,575.08

## TELEGRAPH TERMINAL AN/FGC-29

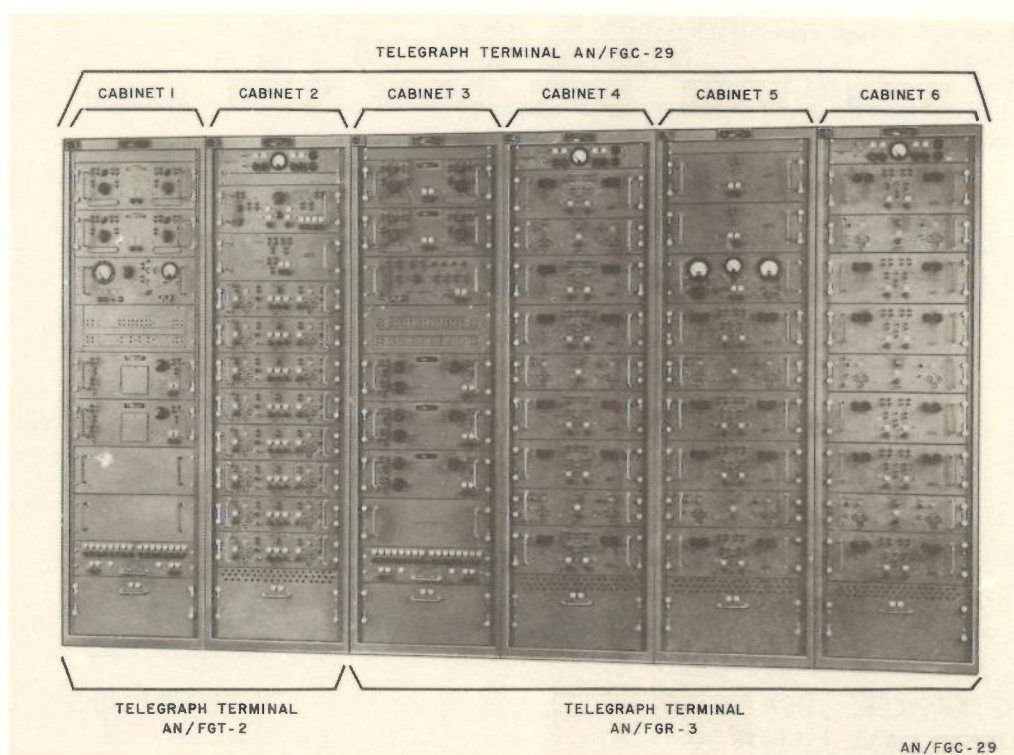
1 July 1958

Cognizant Serv: USA FSN: 5805-338-4450

USA

USN

USAF

TYPE CLASS:  
STOCK NO:Std  
4A2816-29--  
--T/Std  
--**FUNCTIONAL DESCRIPTION:**

Telegraph Terminal AN/FGC-29 is the fixed-plant terminal equipment for a 16-channel carrier telegraph system that provides communication over long-range, twin-channel single-sideband radio circuits operating in the hf band.

Facilities are provided for both two-channel and four-channel diversity combining to overcome the effects of radio fading.

The available radio bandwidth of 200 to 6,000 cps is divided by this equipment into two circuits, each with a nominal bandwidth of 375 to 3,025 cps. Thus, various combinations of

teletypewriter, voice, and/or facsimile facilities are available through this terminal equipment.

Equalizer and amplifier equipment are also provided to permit operation of the terminal over wire line facilities to remote radio stations.

**TECHNICAL CHARACTERISTICS:**

*Operating Speed of Teletypewriter Channels (Maximum):* 100 wpm

*Power Requirements:* 4,000 w, 107-122/210-250-v 50/60-cycle ac



MIL-HDBK-161

**AN/FGC-29 TELEGRAPH TERMINAL**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)	
		(USA)			
1	Cabinet 3	Telegraph Terminal AN/FGR-3	4A2817-3	75 x 22-1/2 x 24	749
1	Cabinet 4			75 x 22-1/2 x 24	869
1	Cabinet 5			75 x 22-1/2 x 24	900
1	Cabinet 6	Telegraph Terminal AN/FGT-2	4A2818-2	75 x 22-1/2 x 24	874
1	Cabinet 1			75 x 22-1/2 x 24	662
1	Cabinet 2			75 x 22-1/2 x 24	809

**REFERENCE DATA AND LITERATURE:**

TM 11-2245

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
7	665	8,344

**PROCUREMENT DATA**

PROCURING SERVICES: USA  
SPEC &/or DWG: MIL-T-11958

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Union Telegraph Co.	New York, N. Y.	374-P-54-93	\$68,180.95

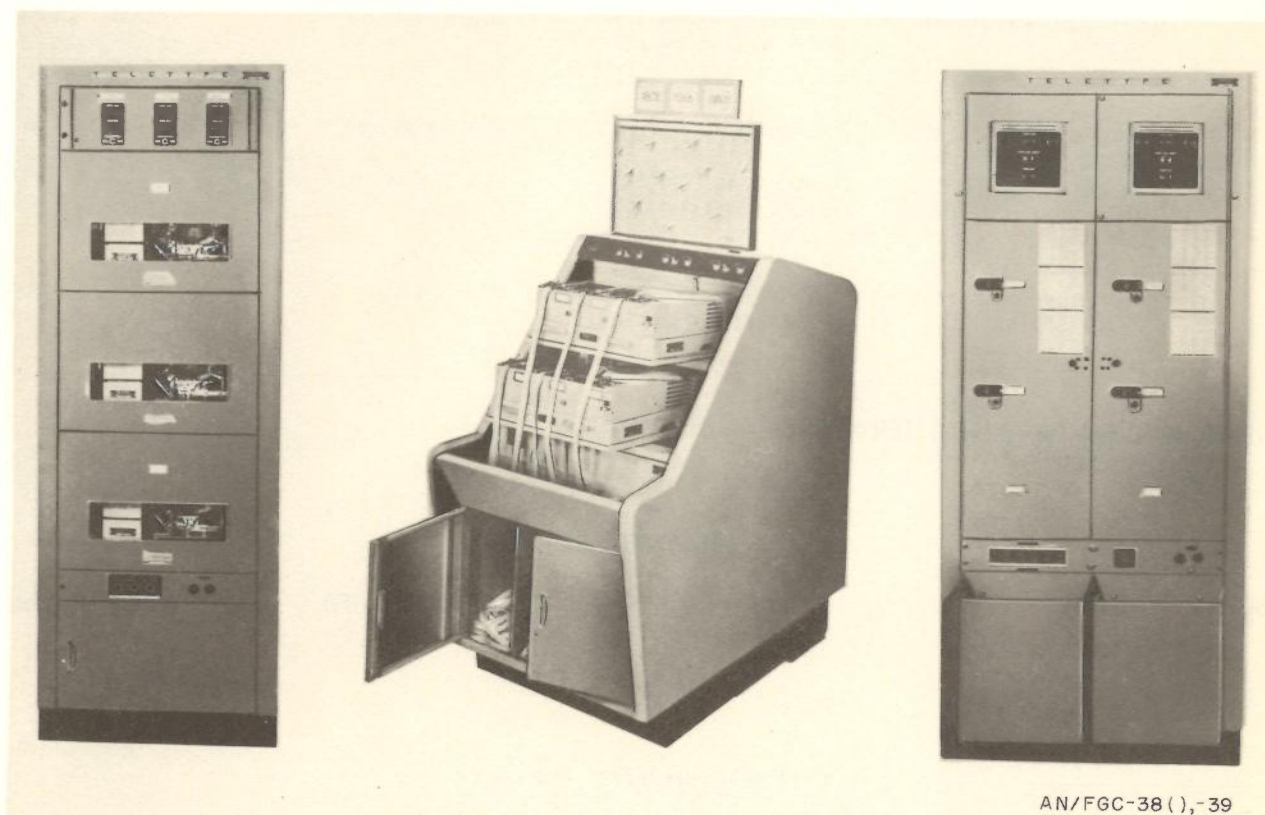


## TELETYPEWRITER SET AN/FGC-38( ), -39

1 July 1958

Cognizant Serv: USN FSN: AN/FGC-38: 5815-523-8639  
 AN/FGC-38X: 5815-523-8640

	USA	USN	USAF
TYPE CLASS:	Used by	Std	AN/FGC-38, -38X: Std AN/FGC-39: L/Std
STOCK NO:	AN/FGC-38: 4T900-38 AN/FGC-38X: 4T900-38X	--	--

**FUNCTIONAL DESCRIPTION:**

Teletypewriter Set AN/FGC-38( ) or AN/FGC-39 is used at relay stations ashore to receive, transmit, and monitor telegraph messages.

This equipment consists of three groups: transmitter, receiver, and monitor.

The AN/FGC-38 uses the 7.42 unit code and synchronous motors for all units; the AN/FGC-38X, the 7.42 unit code and series-governed motors; and the AN/FGC-39, the 7.00 unit code and synchronous motors.

*Operating Functions:* Transmits automatic teletypewriter signals from punched tape; receives automatic teletypewriter signals, producing typed and punched tape.

**TECHNICAL CHARACTERISTICS:***Operating Speed:*

AN/FGC-38, -38X: 60, 75, or 100 wpm

AN/FGC-39: 60 wpm

*Motor Types:*

AN/FGC-38, -39: Synchronous

AN/FGC-38X: Series-governed

*Power Requirements:*

AN/FGC-38, -39: 115-v ( $\pm 10\%$ ) 60-cycle ( $\pm 0.5$  cycle)  
1-phase ac

AN/FGC-38X: 115-v ( $\pm 10\%$ ) 50-70-cycle 1-phase ac

## AN/FGC-38( ), -39 TELETYPEWRITER SET

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Monitoring Group OA-617/ FGC-38	(FSN)5815-092-1396 (USA)4T900-38-617	77-3/8 x 27 x 24	420
	or			
1	Monitoring Group OA-620/ FGC-38X	(USA)4T900-38X-620	77-3/8 x 27 x 24	420
1	Receiving Group OA-616/ FGC-38	(FSN)5815-096-7414 (USA)4T900-38-616	77-3/8 x 33 x 24	505
	or			
1	Receiving Group OA-619/ FGC-38X	(USA)4T900-38X-619	77-3/8 x 33 x 24	505
1	Transmitter Group OA-615/ FGC-38	(FSN)5815-309-3783 (USA)4T900-38-615	67 x 27 x 43	484
	or			
1	Transmitter Group OA-618/ FGC-38X	(FSN)5815-099-0651 (USA)4T900-38X-618	67 x 27 x 43	284

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 92378, TM 11-2248

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
12	212.2	3,020

## PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG: MIL-T-16280

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.	RO 3-69196-SC-01-23	\$17,960.00

5 December 1958

TELETYPEWRITER REPEATER AN/FGC-type

Cognizant Serv: USN FSN:

PM

USA

USN

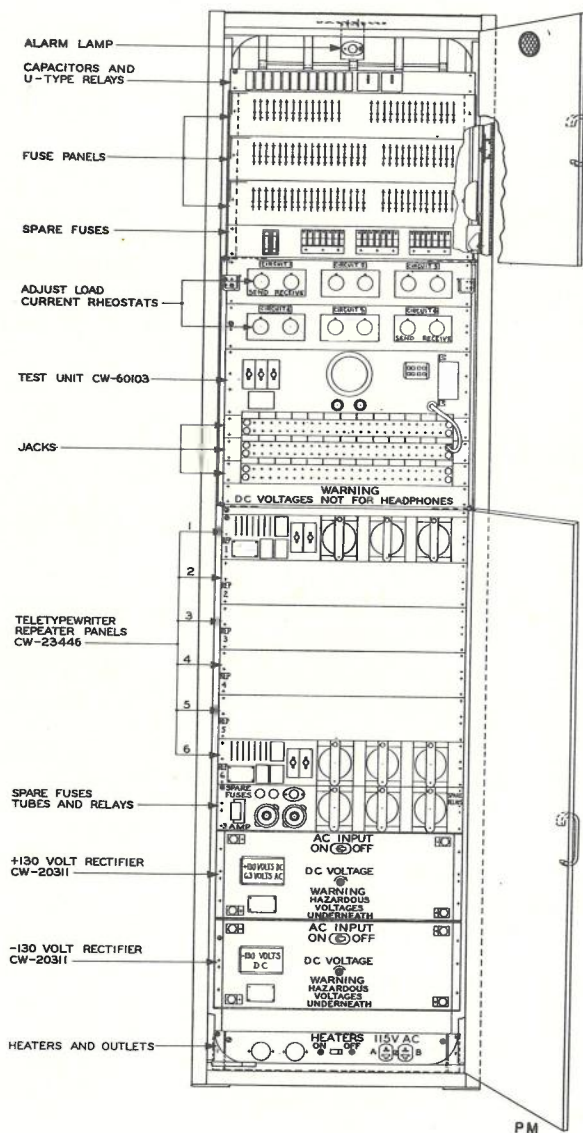
USAF

TYPE CLASS:  
STOCK NO:

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Used by

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FUNCTIONAL DESCRIPTION:

Teletypewriter Repeater PM is designed for use in the telegraph circuits of Carrier Control System UN. The general purpose of this repeater is to provide the necessary equipment and interconnections, so that teletypewriters may be used for sending and receiving on the telegraphs of the UN.

TECHNICAL CHARACTERISTICS:

Telegraph Signal Speed: 60 or 75 wpm  
Power Requirements: 103-126/207-253-v 50-60-cycle ac

MIL-HDBK-161

**AN/FGC-type** TELETYPEWRITER REPEATER

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Teletypewriter Repeater PM (Equipment consists of only one major component.)		17 x 22-1/4 x 84	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 900315

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
------	----------------	--------------

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	New York, N. Y.	NXsr-55602; NXsr-83392	\$3600.00



## RF AND AF SIGNAL DISTRIBUTION UNIT AN/FGC-type

20 November 1958

Cognizant Serv: USN FSN:

RF, AF, TYPE A, B, C

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	--	--

(No Illustration Available)

## FUNCTIONAL DESCRIPTION:

Signal Distribution Unit Types A, B, and C are standardized, rf and af, manually operated, switching and monitoring equipments for use in Naval Shore communication centers. Using standard component parts, these equipments provide maximum operational flexibility.

All components are designed to mount in standard 19-inch relay rack cabinets and may be arranged in any desired order. Blank panel space is provided to permit expansion as additional components are required.

Type A consists of three cabinets, type B of two cabinets, and type C of one cabinet. Basic operating procedures and components are the same in all three types but the number,

arrangement, and mounting of components are altered to fit the space available.

## TECHNICAL CHARACTERISTICS:

*Impedance of Rf Components:* 70 ohms (nominal)

*Impedance of Rf Loads:* 600 ohms (nominal)

*Connecting Capabilities:*

Type A: 32 antenna and 32 receivers

Type B: 22 antenna and 22 receivers

Type C: 11 antenna and 11 receivers

*Power Requirements:*

115-v (10%) 58-60-cycle 1-phase ac

or

230-v ( $\pm 10\%$ ) 58-60-cycle may be substituted if all components served are capable of operation on 230 volts

## MAJOR COMPONENTS

QTY			ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
A	B	C				
22	22	11	Af Patchcords, installed in MX-814/G NT-491397A		36 in. long	0.5
5	6	3	Blank Panels Size A		3/16 x 1-23/32 x 19	.6
5	3	2	Blank Panels Size B		3/16 x 3-15/32 x 19	1.3
2	2	1	Blank Panels Size C		3/16 x 5-7/32 x 19	1.9
2	3	1	Blank Panels Size D		3/16 x 6-31/32 x 19	2.5
1	1	1	Blank Panel Size E		3/16 x 8-23/32 x 19	3.1
1	1	--	Blank Panel Size F		3/16 x 10-15/32 x 19	3.7
1	--	1	Blank Panel Size G		3/16 x 12-7/32 x 19	4.4
1	--	--	Blank Panel Size H		3/16 x 13-31/32 x 19	5
3	2	1	Cabinet CY-597/G		22-3/8 x 26 x 87-1/2	276
2	2	2	Code Marker Sets			
1	1	2	Conduit end cover			
263	186	77	Connectors NT-49190			
16	11	--	Control C-443/G		5-7/32 x 7 x 7 3/4	5
		1	Frequency Meter IM-15a with Mounting Adapter Kit NT-K1-10625		8-23/32 x 15-1/2 x 19	123
1	1	--	Frequency Meter LR-1		17-1/2 x 22-3/4 x 19	155
2	1	1	Jack Panel J-237/G		1-23/32 x 2-1/8 x 19	2.3
3	2	1	Jack Panel J-238/G		3 x 5-7/32 x 19	10.2
3	2	1	Jack Panel J-239/G		1-23/32 x 4-1/4 x 19	4.9

## AN/FGC-type RF AND AF SIGNAL DISTRIBUTION UNIT

## MAJOR COMPONENTS—Continued

QTY		ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
3	2	1	Jack Panel J-243/G	7 x 8-23/32 x 19	70.3
1	1	--	Jack Panel J-265/G	1-23/32 x 2-1/8 x 19	14
6	5	2	Jack Mounting Strip NT-491394	1-23/32 x 3-3/8 x 19	5.8
1	1	--	Mounting MT-571/G	1-23/32 x 16-7/8 x 19	12.1
1	1	1	Multimeter OBQ-4	5-7/32 x 7-1/2 x 19	12
1	1	1	Ohmmeter ZM-1/U	3-15/32 x 11 x 19	11.9
1	1	1	Oscilloscope OBL-3a with Mounting Adapter Kit NT-RL-1062	6-31/32 x 15-1/2 x 19	26.7
20	15	10	Panel Screws #10/32 x 1/2 BH		
2	2	1	Patchcord Storage Panel MX-814/G	1-1/4 x 1-23/32 x 19	2
1	--	--	Power Supply NT-20130 with Rectifier Mounting Shelf NT-10348	10 x 14 x 19	52
1	--	--	Radio Receiver RBC Series with Rack Mounting Cabinet 10350	14-3/4 x 20-1/8 x 19	82
2	2	1	Retainer-Pulley Assembly MX-813/G	2-3/4 x 3-3/4 x 20-1/4	8.5
1	1	1	Speaker Assembly Panel LS-139/G	6-1/4 x 8-23/32 x 19	8.9
1	1	1	Switchboard Shelf FN-28/G	8-23/32 x 16-3/4 x 22-1/2	45.5
1	1	1	Switch Panel SA-134/G	2-7/8 x 6-31/32 x 20-5/8	10
1	1	--	Switch Panel SA-135/G	5-7/32 x 11-3/4 x 19	10.3
1	1	--	Switch Panel SA-137/G	12 x 12-7/32 x 19	25
6	5	2	Terminal Board Assembly J-242/G	3-15/32 x 4 x 19	2.9
1	1	1	Volume Level Indicator TS-629/U	3-15/32 x -- x 19	20

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 91047

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
Type A: 5	149.3	1,980
Type B: 4	101.3	1,403
Type C: 3	55.86	555

FR AND AF SIGNAL DISTRIBUTION SIGNAL **AN/FGC-type**

## PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Airplane and Marine Instruments, Inc.	Clearfield, Pa.	NObsr 30000	Type A: \$3,300.00
		NObsr 52521	Type B: \$2,600.00
			Type C: \$1,500.00





## TELEGRAPH SWITCHBOARD AN/FGC-type

20 November 1958

Cognizant Serv: USA FSN: 5805-242-5974

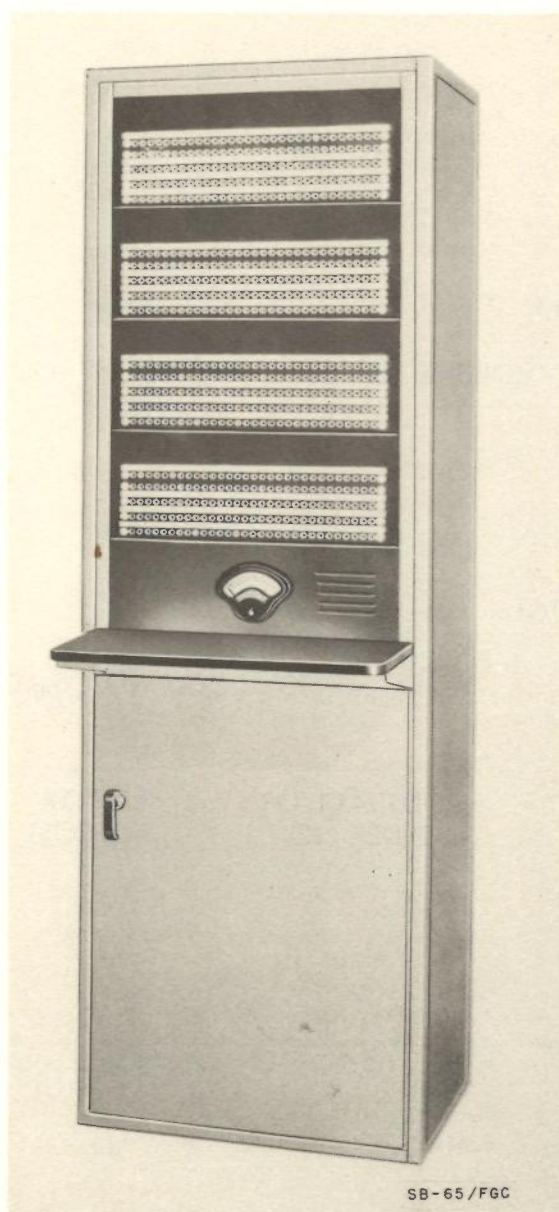
SB-65( )/FGC

USA

USN

USAF

TYPE CLASS: Std  
 STOCK NO: 4C9905-65



SB-65/FGC

**FUNCTIONAL DESCRIPTION:**

Telegraph Switchboard SB-65( )/FGC is a cord and jack patching switchboard for interconnecting loops, extensions, and teletypewriter sets.

Provision is made in the switchboard for connection of a telephone set for control purposes, and also for connection of a telegraph key and a telegraph sounder for transmitting and receiving tests and for emergency operation. It is equipped with a milliammeter which furnishes a means of making simple tests of line facilities.

The switchboard is mounted on top of a special storage cabinet and writing desk combination. A rack is included in this storage cabinet to hold the patchcords not in use.

On the face of the switchboard, each group of five jacks (vertical grouping) provides for permanent (normal-through) connection of two teletypewriter sets to two separate lines; one miscellaneous jack is also included. There are 30 such groups in each of four identical jack panel sections.

**TECHNICAL CHARACTERISTICS:**

*Number of Switchboard Positions:* 1

*Number and Type of Circuits:* 120 full-duplex loops, plus 120 miscellaneous jacks (two of which are required for testing purposes)

*Power Requirements:* None

MIL-HDBK-161

**AN/FGC-type TELEGRAPH SWITCHBOARD**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Cabinet	-----	26-1/4 x 17-1/2 x 84	*510
4	Jack panel sections			
1	Milliammeter w/panel			
30	Patch cord (3 feet)			
30	Patch cord (4 feet)			

\* Weight shown is total weight of switchboard installed.

**REFERENCE DATA AND LITERATURE:**

TM 11-2227

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	31.2	625

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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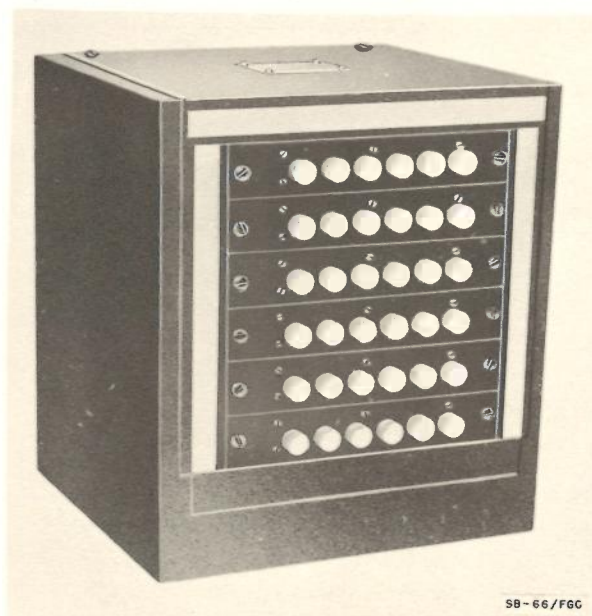
## SWITCHBOARD AN/FGC-type

20 November 1958

Cognizant Serv: USA FSN: 5305-498-7740

SB-66( )/FGC

	USA	USN	USAF
TYPE CLASS:	Std	--	L/Sta
STOCK NO:	4C9905-66	--	1730-429298270



## FUNCTIONAL DESCRIPTION:

Switchboard SB-66( )/FGC is a PBX-type switchboard for interconnecting up to six teletypewriters in a small network, with provision for grouping or conference circuits. It is designed for small fixed station applications.

This equipment consists of a single, cordless, manual switchboard unit. Switching is performed by push-key operation.

Two of these switchboards may be connected together to serve 12 teletypewriters; however, only 6 lines may be used at any one time.

No provision is made on the switchboard for signaling the operator and the equipment usually is used in circuits requiring switching on a prescheduled basis.

## TECHNICAL CHARACTERISTICS:

*Number of Switchboard Positions:* 1

*Number and Type of Circuits:* 6 line circuits; 6 teletypewriter circuits

*Power Requirements:* None; all power furnished by remote equipment

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Switchboard SB-66( )/FGC (Equipment consists of only one major component.)		7-3/4 x 9 x 7	

## REFERENCE DATA AND LITERATURE:

TM 11-2083

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	1.4	40

MIL-HDBK-161

**AN/FGC-type SWITCHBOARD**

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C.

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Power Equipment Co.	Detroit, Mich.	5294-P-57-51	\$407.00



## REPERFORATOR TRANSMITTER AN/FGC-type

23 October 1958

Cognizant Serv: USA FSN: 5815-503-2768

TG-26

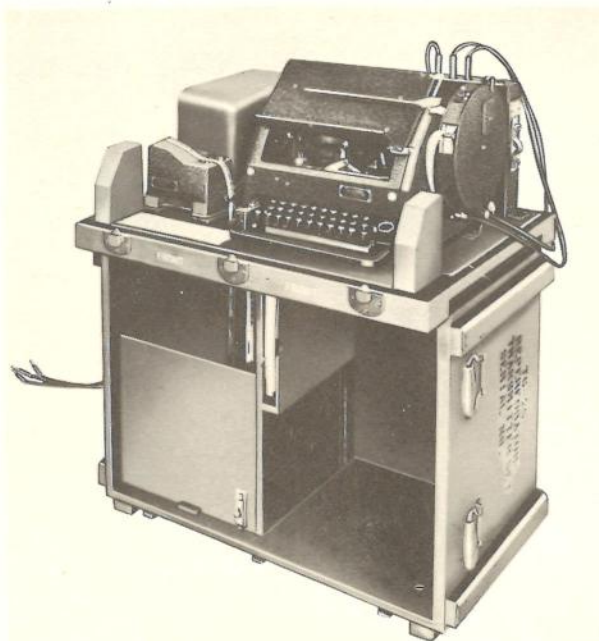
USA

USN

USAF

TYPE CLASS: L/Std  
 STOCK NO: 4T12.1A-1

L/Std  
 1730-480082300



TG-26

## FUNCTIONAL DESCRIPTION:

Reperforator Transmitter TG-26 is portable field teletypewriter tape relay station equipment designed for the automatic or manual transmission and the reception of messages in the form of perforated and typed paper tape. It is used in field wire, cable, or open wire systems.

The equipment consists of a typing reperforator having a perforator transmitter and a transmitter distributor. The perforator transmitter has a standard communications keyboard. The carrying cases may be set up to form an operating table.

Messages are received by the reperforator automatically in the form of typed and perforated tape. Sending may be performed either by operation of the keyboard, with or without simultaneous production of perforated and typed tape, or by feeding perforated tape to the transmitter distributor for automatic transmission to the line. The unit can be used for simultaneous transmission and reception, automatic monitoring, automatic transmission, automatic and manual transmission simultaneously, or for other modes of operation as required.

The TG-26 is the major operating component of Reperforator Teletypewriter Set TC-16. Other components of this set include Rectifier RA-87 and Line Unit BE-77-A.

## TECHNICAL CHARACTERISTICS:

*Operating Speed:* 368.1 opm, 60 wpm 404 opm, 66 wpm

*Type Motor:* Ac series-governed

*Power Requirements:* 225 w, 115-v 50- to 60-cycle ac 115-v dc

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Reperforator-Transmitter TG-26 (in carrying case) (Equipment consists of only one major component.)	5815-503-2768	19 x 33 x 38	225

## REFERENCE DATA AND LITERATURE:

TM 11-2201  
 TM 11-2222  
 TM 11-2223

MIL-HDBK-161

**AN/FGC-type** REPERFORATOR TRANSMITTER

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	21	290

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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TELEGRAPH REPEATER **AN/FGC-type**

1 July 1958

Cognizant Serv: USA FSN: 5805-164-7076

TH-8/FG

USA

USN

USAF

TYPE CLASS:

L/Std

Used by

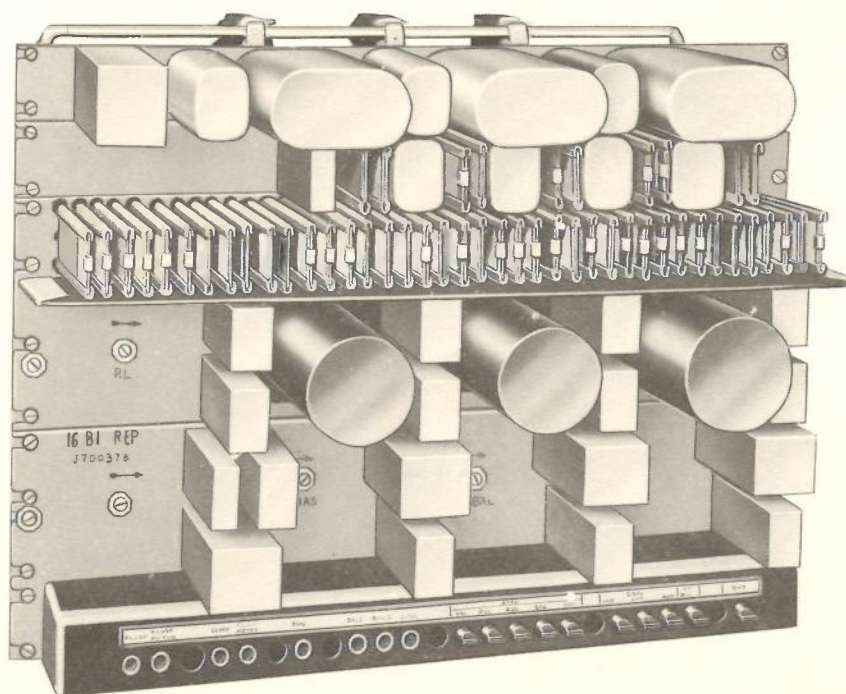
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STOCK NO:

4B3199.1

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TH-8/FG

**FUNCTIONAL DESCRIPTION:**

Telegraph Repeater TH-8/FG is a repeater equipment designed to be used in single-wire ground-return facilities in fixed-plant applications.

This equipment consists essentially of a commercial (Bell Telephone 16B1) terminal repeater mounted on a standard 19-inch panel.

It operates as the polar-sending or polar-receiving terminal

of a polarential system or as the terminal of a differential duplex system (with line normal or reversed, and battery normal or reversed).

**TECHNICAL CHARACTERISTICS:**

*Number and Type of Facilities:* Single-wire, ground-return; polar sending or polar receiving, or differential duplex.

*Power Requirements:* 130-v dc

MIL-HDBK-161

**AN/FGC-type TELEGRAPH REPEATER**

**MAJOR COMPONENTS**

<b>QTY</b>	<b>ITEM</b>	<b>STOCK NUMBERS</b>	<b>DIMENSIONS (Inches)</b>	<b>WEIGHT (Lbs)</b>
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(FSN)

1	Telegraph Repeater TH-8/FG (Equipment consists of only one major component.)	5845-164-7076	14 x 9 x 8	
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**REFERENCE DATA AND LITERATURE:**

**SHIPPING DATA**

<b>PKGS</b>	<b>VOLUME (Cu Ft)</b>	<b>WEIGHT (Lbs)</b>
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**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

<b>CONTRACTOR</b>	<b>LOCATION</b>	<b>CONTRACT OR ORDER NO.</b>	<b>APPROX UNIT COST</b>
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TELEGRAPH REPEATER **AN/FGC-type**

1 July 1958

Cognizant Serv: USA FSN: 5845-164-7078

TH-9/FG

USA

USN

USAF

TYPE CLASS:

L/Std

Used by

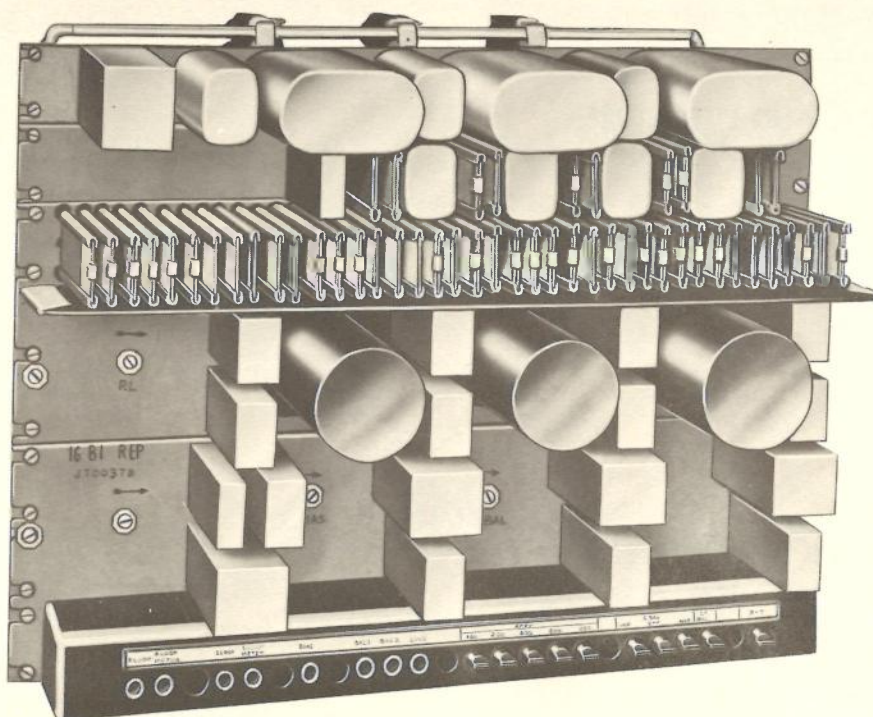
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STOCK NO:

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TH-9/FG

**FUNCTIONAL DESCRIPTION:**

Telegraph Repeater TH-9/FG is a repeater equipment designed to be used in full-metallic facilities in fixed-plant applications.

This equipment, mounted on a standard 19-inch panel, consists essentially of a commercial (Bell Telephone 16B1) terminal repeater modified for full metallic operation.

It operates as the polar-sending or polar-receiving terminal

of a polarential system or as the terminal of a differential duplex system (with line normal or reversed, and battery normal or reversed).

**TECHNICAL CHARACTERISTICS:**

*Number and Type of Facilities:* two-wire; polarential sending or receiving, or differential duplex

*Power Requirements:* 130-v dc

MIL-HDBK-161

**AN/FGC-type TELEGRAPH REPEATER**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Telegraph Repeater TH-9/FG (Equipment consists of only one major component.)	5845-164-7078	14 x 9 x 8	

**REFERENCE DATA AND LITERATURE:**

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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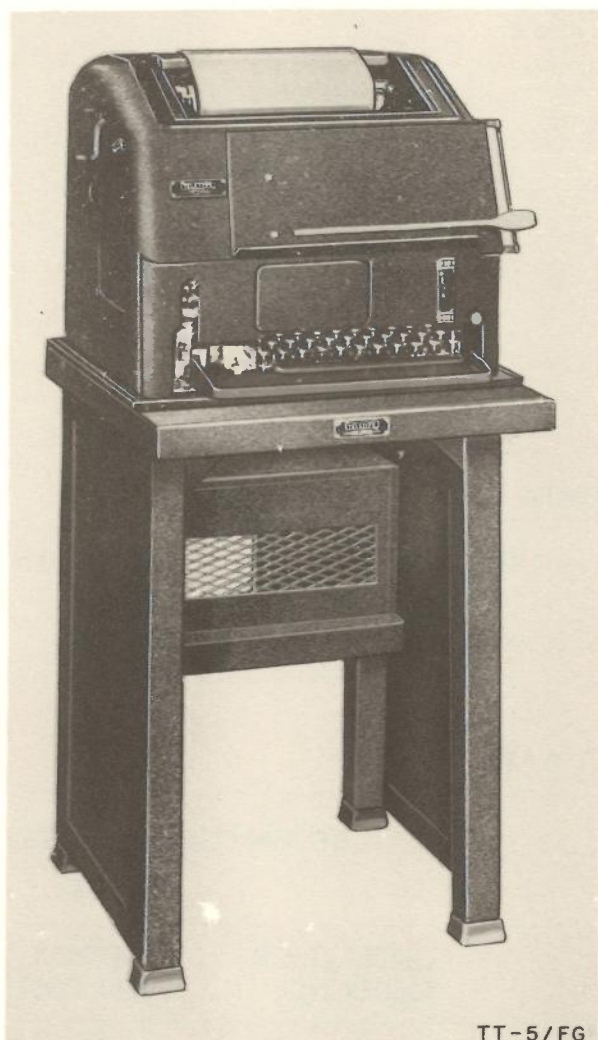
TELETYPEWRITER **AN/FGC-type**

TT-5/FG

20 October 1958

Cognizant Serv: USN FSN: 5815-164-7116  
 5815-199-0197  
 5815-698-8837

	USA	USN	USAF
TYPE CLASS:	L/Std	Used by	L/Std
STOCK NO:	4T2-18A-1	F16-T-995493	--

**FUNCTIONAL DESCRIPTION:**

Teletypewriter TT-5/FG is standard communication page-printing sending and receiving teletypewriter station equipment designed for interchanging typewritten messages between two or more points connected by telegraph communication channels. It is used in permanent and semipermanent installations.

The equipment consists essentially of a commercial teletypewriter (Teletype Model 15), an operating table, and a rectifier for use at ac stations for local teletypewriter circuits and for adjusting motor voltages to the correct values.

The unit can be operated on a half-duplex or receive-only basis and adapted to receive either neutral or polar signals. It sends and receives on a single loop, but can be used with additional equipment for double-loop operation and for transmitting polar or polarential signals.

The TT-5/G has a standard keyboard for use in ordinary message communication.

**TECHNICAL CHARACTERISTICS:**

*Type Keyboard:* Standard communications

*Characters Per Line:* 72

*Operating Speed:*

368 opm, 60 wpm

404 opm, 66 wpm

*Code:* 5-unit, start-stop

*Type Motor:* Ac series-governed

*Motor Speed:* 2,100 rpm

*Power Requirements:* 110-v 50- to 60-cycle 1-phase ac unregulated. (Alternate motors may be used for ac and dc regulated and unregulated power supplies.)

TT-5/FG

**AN/FGC-type TELETYPEWRITER****MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Rectifier REC-29	-----	12-9/16 x 9-1/4 x 8-3/16	46
1	Table XRT-115	-----	21-5/16 x 18 x 26-1/2	39
1	Teletypewriter printer (Tele- type Model 15), consisting of:	-----	18 x 21 x 15-1/2	112
1	Base BB-44	-----	9 x 15-3/4 x 16	21
1	Copyholder 91752			
1	Cover C-105			
1 set	Equipment spares and accessories			
1	Gear 80374			
1	Keyboard BK-22-KQ			
1	Motor Unit MU-27	-----	5-3/4 x 8-1/2 x 5-3/4	16
1	Relay RY-30			
1	Speed Indicator 103628			
1	Typing Unit BP-22/210	-----	12 x 14-1/2 x 15-1/4	37

**REFERENCE DATA AND LITERATURE:****SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
4	64.7	746

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
 SPEC &/or DWG: Teletype Model 15

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.	35431-Phila-43	\$1,200.00



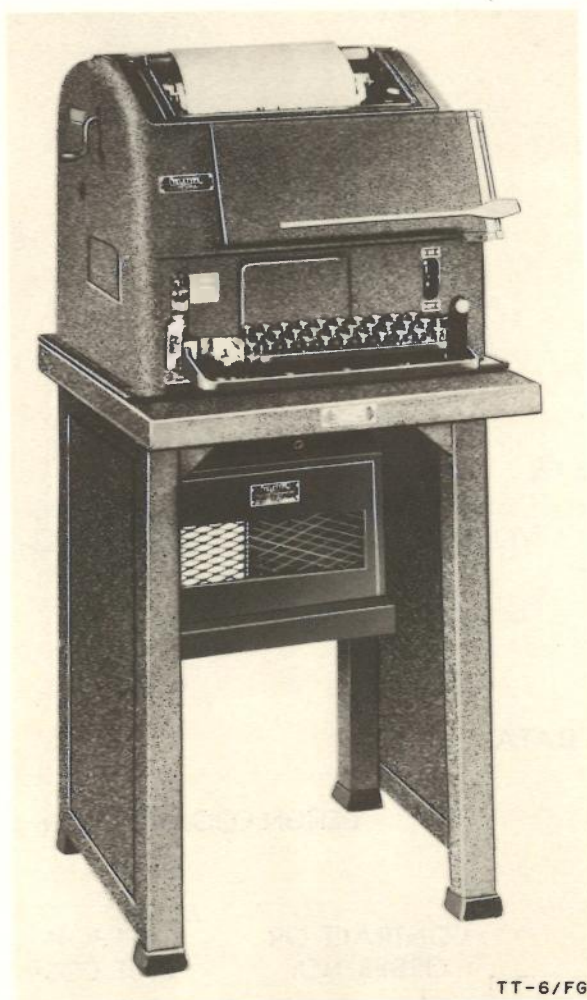
TELETYPEWRITER **AN/FGC-type**

TT-6/FG

20 October 1958

Cognizant Serv: USA FSN: 5815-164-7103  
5815-336-1631

	USA	USN	USAF
TYPE CLASS:	L/Std	Used by	L/Std
STOCK NO:	4T2-16A-2	F16-T-995497	--



TT-6/FG

**FUNCTIONAL DESCRIPTION:**

Teletypewriter TT-6/FG is standard communication page-printing sending and receiving teletypewriter station equipment designed for interchanging typewritten messages between two or more points connected by telegraph communication channels. It is used in permanent and semipermanent installations.

The equipment consists essentially of a commercial teletypewriter (Teletype Model 15), an operating table, and a rectifier for use at alternating current stations for local teletypewriter circuits and for adjusting motor voltages to the correct values.

The unit can be operated on a half-duplex or receive-only basis and adapted to receive either neutral or polar signals. It sends and receives on a single loop, but can be used with additional equipment for double-loop operation and for transmitting polar or polarential signals.

The TT-6/G keyboard incorporates weather symbols for use in weather report service.

**TECHNICAL CHARACTERISTICS:**

*Type Keyboard:* Weather communications

*Characters Per Line:* 76

*Operating Speed:*

368 opm, 60 wpm

404 opm, 66 wpm

*Code:* 5-unit, start-stop

*Type Motor:* Ac series-governed

*Motor Speed:* 2,100 rpm

*Power Requirements:* 110-v 50- to 60-cycle 1-phase ac unregulated. (Alternate motors may be used for ac and dc regulated and unregulated power supplies.)

MIL-HDBK-161

**AN/FGC-type TELETYPEWRITER**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Rectifier REC-29	-----	12-9/16 x 9-1/4 x 8-3/16	46
1	Table XRT-115	-----	21-5/16 x 18 x 26-1/2	39
1	Teletypewriter printer (Tele- type Model 15), consisting of:	-----	18 x 21 x 15-1/2	112
1	Base BB-44	-----	9 x 15-3/4 x 16	21
1	Copyholder 91752			
1	Cover C-105			
1	Cover Plate 91750			
1 set	Equipment spares and accessories			
1	Gear 80374			
1	Keyboard BK-22-JK			
1	Motor Unit MU-27	-----	5-3/4 x 8-1/2 x 5-3/4	16
1	Relay RY-30			
1	Speed Indicator 103628			
1	Typing Unit BP-22/210	-----	12 x 14-1/2 x 15-1/4	37

**REFERENCE DATA AND LITERATURE:**

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
4	64.7	746

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.	35431-Phila-43	\$1,125.00

## TELETYPEWRITER AN/FGC-type

1 July 1958

Cognizant Serv: USA FSN: 5815-164-7115

TT-7( )/FG

USA

USN

USAF

TYPE CLASS:

Std

Used by

L/Std

STOCK NO:

4T4.15A-1

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## FUNCTIONAL DESCRIPTION:

Teletypewriter TT-7( )/FG is a standard communication, page-printing, tape-perforating and transmitting, fixed station sending and receiving teletypewriter equipment.

This equipment consists essentially of a commercial (Teletype Corp Model 19) teletypewriter and includes an operating table and base, a transmitter-distributor, rectifier, and associated components.

It can be used for neutral half-duplex or full-duplex operation with or without simultaneous production of (or automatic transmission from) perforated paper tape. It can be arranged, by the addition of supplementary components, to operate in polar or polarential facilities, and can be used in a tape-relay station.

## TECHNICAL CHARACTERISTICS:

*Operating Functions:* Standard communication key board operation; tape perforation; tape transmission; remote motor stop control

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Cover	5815-125-8169	16-9/16 x 16-13/16 x 15-3/8	38
1	Motor Unit PU-109/GG	6105-189-1913	-----	14
1	Perforator-transmitter	5815-199-0204	18 x 12 x 6-1/4	24
1	Power supply	6130-233-3539	-----	
1	Teletypewriter Distributor- Transmitter TT-52/FG	5815-222-4292	-----	30
1	Teletypewriter subassembly	5815-162-8216	15-1/2 x 14 x 12	
1	Teletypewriter subassembly	5815-162-8249	16 x 16 x 9	
1	Teletypewriter Table FN- 89/FG	4TXRT116	36 x 23 x 27	112
1	Typing unit	5815-162-8249	-----	49



MIL-HDBK-161

**AN/FGC-type** TELETYPEWRITER

REFERENCE DATA AND LITERATURE:

TM 11-2216

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
7	97.4	1,352

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.	10673-P-54-33	\$2,127.06



## TELETYPEWRITER AN/FGC-type

1 July 1958

Cognizant Serv: USA FSN: 5815-164-7111

TT-8/FG

USA

USN

USAF

TYPE CLASS:

Std

Used by

Std

STOCK NO:

4T4.13A-1



TT-8/FG

## FUNCTIONAL DESCRIPTION:

Teletypewriter TT-8/FG (the weather communication version of Teletypewriter TT-7/FG) is a page-printing, tape-perforating and tape-transmitting, sending and receiving teletypewriter station equipment used for weather data communication at fixed plant installations.

This equipment consists essentially of a teletypewriter equipped with a perforator-transmitter and weather keyboard and type pallets, plus a transmitter-distributor, a rectifier, and operating table, and accessories.

It operates on a half-duplex or full-duplex basis. A line selector switch is provided and the equipment can function as a teletypewriter relay station. Wiring includes an integral testing circuit and connection terminals for a reperfocator.

## TECHNICAL CHARACTERISTICS:

*Operating Functions:* Keyboard operation or tape transmission; page printing and/or tape perforation (weather keyboard)

*Operating Speed:* 368.1 opm (60 wpm) or 404 opm (66 wpm)

*Motor Characteristics:* Ac series governed motor; 110-v 50/60-cycle ac

*Power Requirements:* 92-125/190-250-v 25/50/60-cycle ac

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Cover	5815-125-8169	16-9/16 x 16-13/16 x 15-3/8	38
1	Distributor-Transmitter Teletypewriter TT-52/FG	(USA) 4TXD86FR	-----	30
1	Motor Unit PU-109/GG	(FSN) 6105-189-1913	-----	14
1	Perforator-transmitter	(FSN) 5815-199-0202	18 x 12 x 6-1/4	24
1	Power Supply PP-315/GGA-1	(FSN) 6130-233-3539	25 x 8 x 11	
1	Table	(FSN) 5815-356-3196	21-5/16 x 18 x 26-1/2	112
1	Teletypewriter	(FSN) 5815-162-8247	15-1/2 x 14 x 12	29

MIL-HDBK-161

**AN/FGC-type** TELETYPEWRITER

REFERENCE DATA AND LITERATURE:

TM 11-2216

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
7	97.4	1,353

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.	3281-P-52-09	\$2,128.98

## TELETYPEWRITER AN/FGC-type

21 October 1958

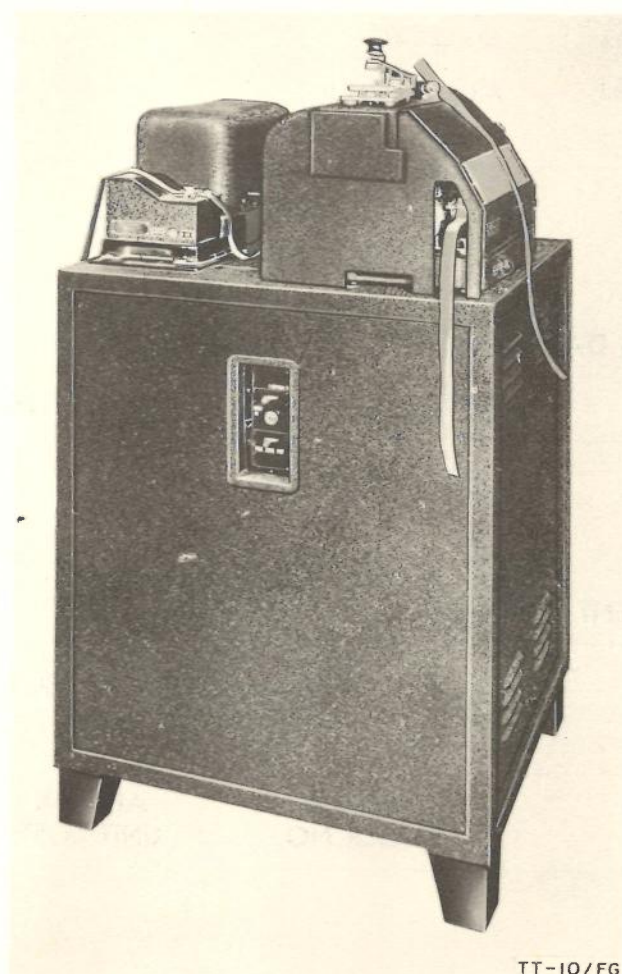
Cognizant Serv: USA FSN: 5815-198-9031

TT-10/FG

USA

USN

USAF

TYPE CLASS:  
STOCK NO:L/Std  
4TW132A2Used by  
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TT-10/FG

**FUNCTIONAL DESCRIPTION:**

Teletypewriter TT-10/FG is automatic sending and receiving station equipment used to receive, record, and retransmit teletypewriter messages. It is used primarily in conjunction with wire or radio carrier equipment.

Messages received are recorded on perforated tape by the typing reperforator. The perforated tape then may be fed directly to the transmitter distributor or it may be cut to permit splicing in tape-recorded messages that have been received or perforated by other equipments.

The TT-10/FG consists essentially of a reperforator teletypewriter, a transmitter distributor, an operating table, and a power supply. It is equipped with a synchronizing circuit that provides the receiving equipment with artificial start and stop impulses that keep the typing reperforator in perfect synchronization with the sending equipment.

**TECHNICAL CHARACTERISTICS:***Reperforator TT-53/FG:*

Motor Rating: 1/25 hp  
Input Voltage (Motor): 110-v 60-cycle 1-phase ac  
Selector Magnet Input: 60 or 20 ma at 120-v dc  
Motor Speed: 2,102 rpm  
Tape Speed: 368 opm

*Transmitter-Distributor TT-52/FG:*

Motor Rating: 1/25 hp  
Input Voltage (Motor): 110-v 60-cycle 1-phase ac  
Outgoing Signals: 0.03 amp or 0.06 amp at 120-v dc  
Motor Speed: 2,102 rpm  
Transmission Speed: 368 opm

*Power Supply PP-748/U:*

Power Input:  
95- to 250-v 25- to 60-cycle 1-phase ac  
105- to 125-v dc  
Power Output: 8 amp at 120-v dc



MIL-HDBK-161

**AN/FGC-type TELETYPEWRITER**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Power Supply PP-748/U	(FSN) 5815-643-0262	7-5/8 x 19-3/4 x 9-3/16	78
1	Reperforator TT-53/FG	(FSN) 5815-199-0188	16-3/4 x 13-1/2 x 11-1/2	63
1	Splicer TT-14/FG	-----	4 x 4 x 7	5
1	Teletypewriter Table FN-49/FG	(USA) 4TW132A2-13	26 x 22 x 34	215
1	Transmitter Distributor TT-52/FG	(FSN) 5815-222-4292	8-3/8 x 15-1/2 x 9	33

**REFERENCE DATA AND LITERATURE:**

TM 11-2210

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
3	33.75	652

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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## REPERFORATOR AN/FGC-type

1 July 1958

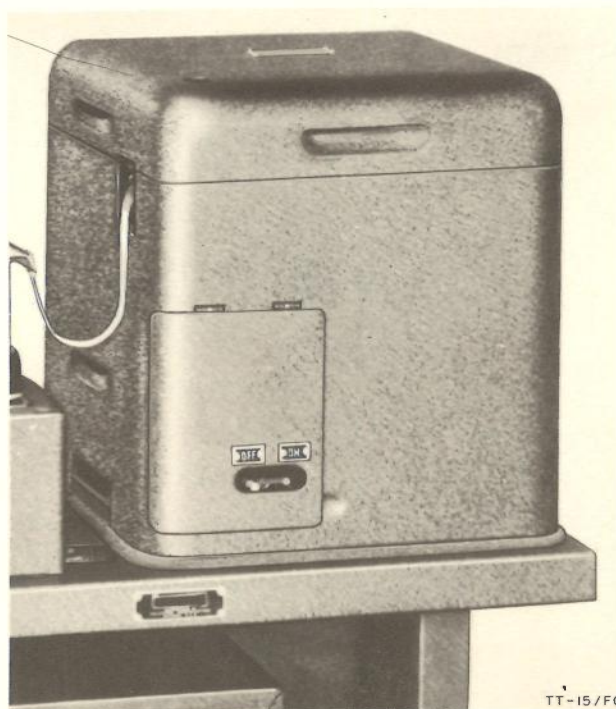
Cognizant Serv: USA FSN: 5815-199-0197

TT-15/FG

USA

USN

USAF

TYPE CLASS:  
STOCK NO:Std  
4T9.2-1Used by  
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## FUNCTIONAL DESCRIPTION:

Reperforator TT-15/FG is an automatic teletypewriter receiving equipment that delivers received messages in the form of perforated tape.

This equipment consists of the reperforating receiver and a low auxiliary table.

It can be used in conjunction with Teletypewriter TT-7/FG or similar equipment to provide an automatic tape-relay receiving facility. The perforated tape produced by this equipment can be used in a standard transmitter-distributor equipment.

## TECHNICAL CHARACTERISTICS:

*Operating Functions:* Automatic reception from line circuits on perforated tape without typing

*Operating Speed:* 368.1 or 404 opm (60 or 66 wpm)

*Motor Characteristics:* Series-governed

*Power Requirements:* 110-v 50/60-cycle a c

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Reperforator TT-15/FG (Equipment consists of only one major component.)	5815-199-0197	12-5/8 x 12-5/8 x 20-1/16	134

## REFERENCE DATA AND LITERATURE:

TM 11-2223

MIL-HDBK-161

**AN/FGC-type** REPERFORATOR

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	7	180

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.	3237-P-52-09	\$515.86

## REPERFORATOR AN/FGC-type

1 July 1958

Cognizant Serv: USA FSN: 5815-163-1860

TT-16/FG

USA

USN

USAF

TYPE CLASS:  
STOCK NO:Std  
4T10.4A-3

Used by

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TT-16/FG

## FUNCTIONAL DESCRIPTION:

Reperforator TT-16/FG is an automatic teletypewriter receiving equipment designed to operate in standard communication facilities and produce a perforated tape from teletypewriter signals received. The message is also typed on the perforated tape.

This equipment consists essentially of a single operating unit installed on a low operating table.

It can be used for automatic receiving or for monitoring. The message can be read from the printed portion of the tape, or the tape can be used to retransmit the message over another facility.

## TECHNICAL CHARACTERISTICS:

*Operating Functions:* Automatic reception from line circuits, producing perforated tape with typed characters

*Operating Speed:* 368.1 or 404 opm (60 or 66 wpm)

*Motor Characteristics:* Series-governed

*Power Requirements:* 110-v 50/60-cycle ac

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Reperforator TT-16/FG (Equipment consists of only one major component.)	5815-163-1860	21 x 13-3/4 x 13-7/8	62.5

## REFERENCE DATA AND LITERATURE:

TM 11-2223

MIL-HDBK-161

**AN/FGC-type** REPERFORATOR

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	9.8	150

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG: MIL-P-10437

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Parapak Corp. Teletype Corp.	Milwaukee, Wis. Chicago, Ill.	21863-P-57-51 47423-P-57-51	\$823.72



## REPERFORATOR AN/FGC-type

1 July 1958

Cognizant Serv: USA FSN: 5815-199-0182

TT-17/FG

USA

USN

USAF

TYPE CLASS:

Std

Used by

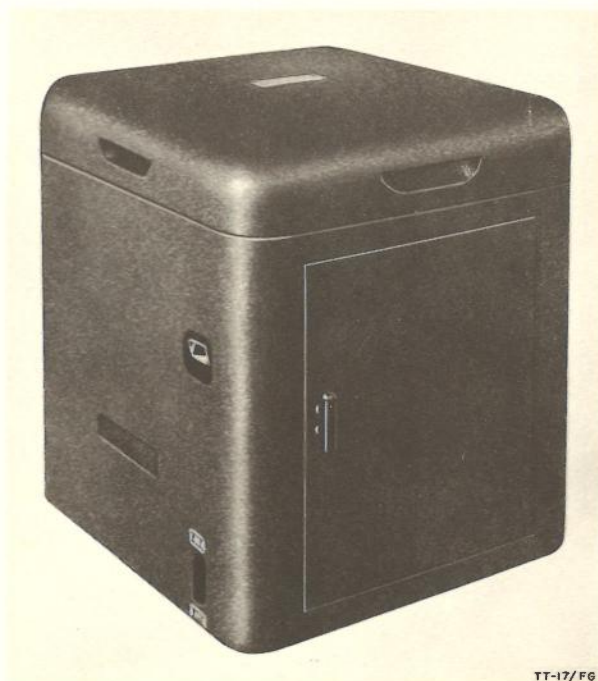
L/Std

STOCK NO:

4T10.5A-3

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TT-17/FG

**FUNCTIONAL DESCRIPTION:**

Reperforator TT-17/FG is an automatic teletypewriter receiving equipment designed to operate in weather data systems.

This equipment consists essentially of a single unit, with weather data type pallets.

It can be used for automatic receiving or for monitoring; it produces a typed and perforated tape of messages received. The message can be read directly from the typed portion of the tape, and the tape can be used to retransmit the message over another facility.

The equipment is inclosed in a steel housing and is installed on a low operating table.

**TECHNICAL CHARACTERISTICS:**

*Operating Functions:* Automatic reception from line circuits on perforated tape with typewritten characters

*Operating Speed:* 368.1 or 404 opm (60 or 66 wpm)

*Motor Characteristics:* Series-governed

*Power Requirements:* 110-v 50/60-cycle ac

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Reperforator TT-17/FG (Equipment consists of only one major component.)	5815-199-0182	21 x 13-3/4 x 13-7/8	62.5

**REFERENCE DATA AND LITERATURE:**

TM 11-2223

MIL-HDBK-161

**AN/FGC-type** REPERFORATOR

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	9.8	150

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.	38801-P-53-33	\$697.25

## TRANSMITTER-DISTRIBUTOR AN/FGC-type

1 July 1958

Cognizant Serv: USA FSN: 5815-222-4294

TT-21/FG

USA

USN

USAF

TYPE CLASS:

Std

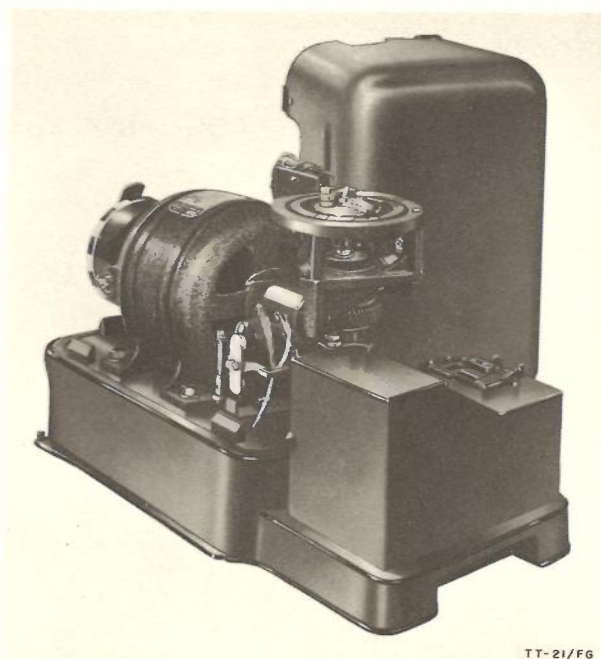
Used by

STOCK NO:

4TXD100GW

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## FUNCTIONAL DESCRIPTION:

Transmitter-Distributor TT-21/FG is an automatic teletypewriter transmitting equipment. It is used to transmit or retransmit teletypewriter messages from previously prepared or received perforated tape in large communication centers.

This equipment is a single-channel, motor-driven unit, consisting of tape-sensing, tape-feeding, and transmitting mechanisms and a motor inclosed in a metal housing. It includes a special start magnet, power and line cords, and end-of-line stop mechanism.

## TECHNICAL CHARACTERISTICS:

*Operating Functions:* Transmits five-unit, start-stop teletypewriter code impulses from a perforated tape

*Operating Speed:* 368.1 opm (60 wpm)

*Motor Characteristics:* Series governed; 87.6 vps tuning fork adjustment; 2,100 rpm speed

*Power Requirements:* 115-v 25/60-cycle ac

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Transmitter-Distributor TT-21/FG (Equipment consists of only one major component.)	5815-222-4294	15-1/2 x 8-3/4 x 9	35

## REFERENCE DATA AND LITERATURE:

TM 11-2222

MIL-HDBK-161

**AN/FGC-type** TRANSMITTER-DISTRIBUTOR

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	5.2	170

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG: (USA) XD228CA/GW

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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TELETYPEWRITER REPERFORATOR-TRANSMITTER **AN/FGC-type**

17 November 1958

Cognizant Serv: USN FSN:

TT-102/FG, TT-103/FG

USA

USN

USAF

TYPE CLASS:  
STOCK NO:--  
--Used by  
----  
--

TT-103/FG

**FUNCTIONAL DESCRIPTION:**

Teletypewriter Reperforator-Transmitters TT-102/FG and TT-103/FG are general purpose typing reperforator sets used to transmit and receive messages both in code perforations and in typewritten characters on the same paper tape. Messages may be transmitted directly from the keyboard of the reperforator-transmitter or by using the code-perforated tape in a transmitter distributor. The equipment normally is used in a ground station, such as an originating and relay signal center.

The TT-102/FG and TT-103/FG are identical except for the motors. The TT-103/FG has a synchronous motor; the TT-102/FG is equipped with a series-governed motor.

**TECHNICAL CHARACTERISTICS:**

*Operating Speed:* 368 opm

*Type Tape:* Chadless

*Code:* 5-unit, start-stop

*Type Motor:*

TT-102/FG: Series-governed

TT-103/FG: Synchronous

*Motor Speed (Synchronous Motor):* 1,800 rpm

*Power Requirements:* 160 w, 115-v 60-cycles 1-phase ac

MIL-HDBK-161

**AN/FGC-type** TELETYPEWRITER REPERFORATOR-TRANSMITTER

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Keyboard unit	-----	9 x 15 x 16	17
1	Teletypewriter table	-----		
1	Typing reperforator	-----	7-1/2 x 11-1/2 x 12	33

REFERENCE DATA AND LITERATURE:

Teletype manual 96MA

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
2	29.1	400

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.		

## TELETYPEWRITER REPEATER-MIXER AN/FGQ-1( )

1 July 1958

Cognizant Serv: USA FSN: 5815-256-4067

USA

USN

USAF

TYPE CLASS:

Std

--

--

STOCK NO:

4TW131-B2

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AN/FGQ-1

**FUNCTIONAL DESCRIPTION:**

Teletypewriter Repeater-Mixer AN/FGQ-1( ) is used with other teletypewriter equipment (shown above) to provide a secrecy system in which plain text messages may be automatically enciphered before transmission to a distant station. Incoming messages received in cipher are automatically deciphered and appear on the recording teletypewriter in plain text.

These teletypewriter station arrangements are adaptable for on-line and off-line operations.

**TECHNICAL CHARACTERISTICS:**

*Operating Speed:* 368.1 opm (60 wpm)

*Motor Characteristics:*

Ac Series or Universal: 95/105/115/125/190/210/230/250 v, 25/40/50/60 cycle

Ac Synchronous: 95-125 v, 60 cycle

Dc Universal: 105-125 v

MIL-HDBK-161

**AN/FGQ-1( ) TELETYPEWRITER REPEATER-MIXER**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS (FSN)	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Teletypewriter Repeater- Mixer AN/FGQ-1 (Equipment consists of only one major component.)	5815-256-4067	30-1/2 x 26 x 22	160

**REFERENCE DATA AND LITERATURE:**

TM 11-2209

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
2	20.9	408

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG: MIL-M-13231

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Western Electric Co.	New York, N. Y.	42273-P-56	\$1,201.00



## TELETYPEWRITER PRINTER-PROJECTOR AN/FGQ-type

1 July 1958

Cognizant Serv: USA FSN: 5815-356-3163

TT-71/UG

USA

USN

USAF

TYPE CLASS:

Std

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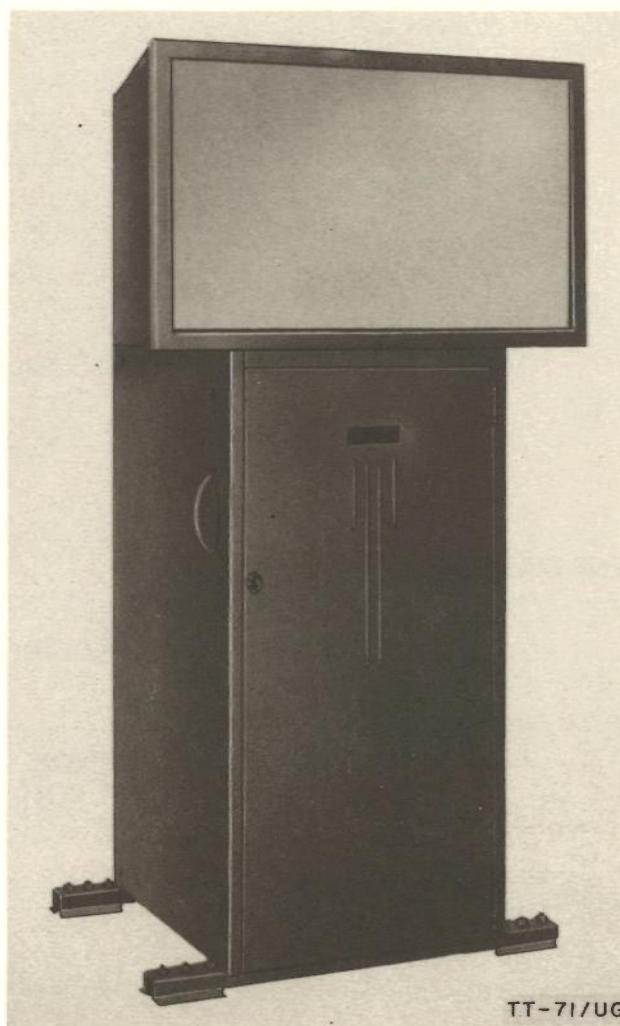
Std

STOCK NO:

4TTT71

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1730-486121855

**FUNCTIONAL DESCRIPTION:**

Teletypewriter Printer-Projector TT-71/UG is fixed station receiving-only equipment. It projects its received messages on a translucent screen and is used for teletypewriter conference communications, group orientation and instruction, and similar applications.

This equipment consists of a single cabinet containing two receiving units and the projection and illumination systems. One of the receiving units (essentially a commercial Teletype Corp. Model 14) is a page-printing teletypewriter. This unit prints the message in page form on a transparent web from which the message is projected on the 3- by 2-foot screen. The other receiving unit (commercial Teletype Corp. Model 14, modified, or equivalent) is a type-bar tape printer. This unit prints the message on a continuous strip of paper tape, which may be used for reference purposes.

**TECHNICAL CHARACTERISTICS:**

*Operating Functions:* Standard communications type pallet arrangements; five-unit start-stop code

*Lighting System:* 500-w lamp

*Operating Speed:* 368.1 opm (60 wpm)

*Motor Characteristics:* Synchronous; 10-amp start, 2-amp running load

*Power Requirements:* 1 kw, 110-v 60-cycle ac



CARRIER TELEGRAPH RECEIVER **AN/FGR-type**

5 December 1958

Cognizant Serv: USN

FSN:

R-405/MC: 5805-325-8818

R-405/MC thru R-412/MC

R-406/MC: 5805-313-4152

R-407/MC: 5805-313-4153

R-408/MC: 5805-313-4154

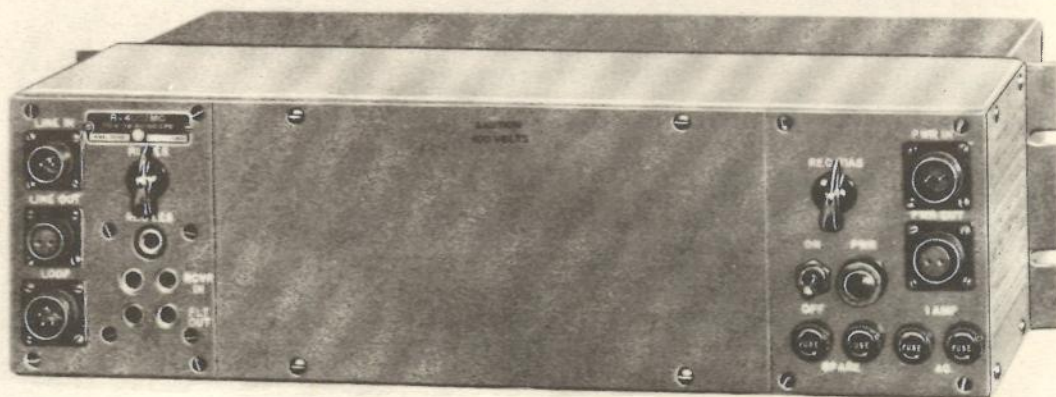
R-409/MC: 5805-665-3261

R-410/MC: 5805-665-3262

R-411/MC: 5805-665-3264

R-412/MC: 5805-568-2898

	USA	USN	USAF
TYPE CLASS:	--	Used by	--
STOCK NO:	--	R-405/MC: F17-T- 28591-1017	--
		R-406/MC: F17-T- 28591-1018	
		R-407/MC: F17-T- 28591-1019	
		R-408/MC: F17-T- 28591-1020	
		R-409/MC: F17-T- 28591-1021	
		R-410/MC: F17-T- 28591-1022	
		R-411/MC: F17-T- 28591-1023	
		R-412/MC: F17-T- 28591-1024	



R-405/MC



**AN/FGR-type CARRIER TELEGRAPH RECEIVER****FUNCTIONAL DESCRIPTION:**

Carrier Telegraph Receivers R-405/MC through R-412/MC are used to form an eight-channel carrier terminal—whereby a received frequency-modulated audio signal is translated by each of the eight carrier receivers into direct-current on-off telegraph signals that can operate up to eight teleprinters or other printing devices.

The R-405/MC through R-412/MC receive signals respectively from Carrier Telegraph Transmitters T-290/MC through T-297/MC.

The eight receivers are identical except for the characteristic center audio frequency to which each individual unit is adapted.

**TECHNICAL CHARACTERISTICS:***Operating Frequency:*

R-405/MC: 935 cps  
 R-406/MC: 1,105 cps  
 R-407/MC: 1,275 cps  
 R-408/MC: 1,445 cps  
 R-409/MC: 1,615 cps  
 R-410/MC: 1,785 cps  
 R-411/MC: 1,955 cps  
 R-412/MC: 2,125 cps

*Number of Channels:* 8 (one per receiver)

*Bandwidth:* 850 to 2210 cps

*Sensitivity:* -40 dbm to +10 dbm

*Type of Signal:* F3

*Power Requirements:* 280 w (per unit), 105/115/125-v 50-60-cycle 1-phase ac

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Carrier Telegraph Receiver R-405/MC	(FSN) 5805-325-8818 (USN) 17-T-28591-1017	5-1/4 x 19 x 14-1/2	27
1	Carrier Telegraph Receiver R-406/MC	(FSN) 5805-313-4152 (USN) F17-T-28591-1018	5-1/4 x 19 x 14-1/2	27
1	Carrier Telegraph Receiver R-407/MC	(FSN) 5805-313-4153 (USN) F17-T-28591-1019	5-1/4 x 19 x 14-1/2	27
1	Carrier Telegraph Receiver R-408/MC	(FSN) 5805-313-4154 (USN) F17-T-28591-1020	5-1/4 x 19 x 14-1/2	27
1	Carrier Telegraph Receiver R-409/MC	(FSN) 5805-665-3261 (USN) F17-T-28591-1021	5-1/4 x 19 x 14-1/2	27
1	Carrier Telegraph Receiver R-410/MC	(FSN) 5805-665-3262 (USN) F17-T-28591-1022	5-1/4 x 19 x 14-1/2	27
1	Carrier Telegraph Receiver R-411/MC	(FSN) 5805-665-3264 (USN) F17-T-28591-1023	5-1/4 x 19 x 14-1/2	27
1	Carrier Telegraph Receiver R-412/MC	(FSN) 5805-568-2898 (USN) F17-T-28591-1024	5-1/4 x 19 x 14-1/2	27

**REFERENCE DATA AND LITERATURE:**

Instruction Book for Carrier Telegraph Transmitters T-290/MC, T-291/MC, T-292/MC, T-293/MC, T-294/MC, T-295/MC, T-296/MC, and T-297/MC; and Carrier Telegraph Receivers R-405/MC, R-406/MC, R-407/MC, R-408/MC, R-409/MC, R-410/MC, R-411/MC and R-412/MC

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
8	14.48	252



CARRIER TELEGRAPH RECEIVER **AN/FGR-type**

## PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Lenkurt Electric Co. Inc.	San Carlos, Calif.	N189s-76108, 2 October 1951	



## REPERFORATOR AN/FGR-type

22 October 1958

Cognizant Serv: FSN: 5815-370-0055

TT-45/FG, TT-46/FG

USA

USN

USAF

TYPE CLASS: --  
STOCK NO: --Used by Std  
TT-45/FG: F17-T- --  
350013-304  
TT-46/FG:

TT-45/FG

**FUNCTIONAL DESCRIPTION:**

Reperforators TT-45/FG and TT-46/FG are receiving only typing reperforator units used to receive messages transmitted over wire or radio circuits and to record the messages in both code perforations and typed characters on the same tape. They are used in teletypewriter receiving and distributing stations, messages received by a typing reperforator may be transmitted to one or more stations by a transmitter distributor.

The reperforators consist essentially of a commercial typing reperforator (Teletype Model 14), an operating table, and a rectifier power supply. They may be used with five-unit code teletypewriter transmitting equipment geared for 368 operations per minute such as Teletypewriters TT-47/UG, TT-48/UG, TT-69/UG, TT-70/UG, TT-52/FG, and AN/FGC-11. The equipment also may be used with Teletype Panel TT-23/SG or TT-23B/SG and associated radio converters.

The TT-45/FG and TT-46/FG are identical with the exception of the motor units. The TT-45/FG has a synchronous motor; the TT-46/FG has a series-governed motor.

**TECHNICAL CHARACTERISTICS:**

*Type Signaling Code:* 5-unit, start-stop

*Transmission Speed:* 368 opm, 60 wpm

*Type Motor:*

TT-45/FG: Synchronous

TT-46/FG: Series-governed

*Power Requirements:* 115-v 60-cycle 1-phase ac

MIL-HDBK-161

**AN/FGR-type REPERFORATOR**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Reperforator TT-45/FG, con- sisting of:			
1	Base FB46/15			
1	Cover FPRC200AA			
1	Electrical Assembly 105014			
1	Rectifier REC29			
1	Relay RY30			
1	Table XRT200AA	-----	26-1/8 x 18 x 21-5/16	
1	Tape Container 115702			
1	Typing Reperforator FPR23H246	-----	11-1/2 x 15-3/4 x 13	

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 91241

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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**PROCUREMENT DATA**

PROCURING SERVICE: USN  
SPEC &/or DWG: Spec. No. S-5514

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.	NObsr-41979	\$1,000.00
		NObsr-52179	1,000.00
		NObsr-42421	



TELETYPEWRITER REPERFORATOR **AN/FGR-type**

17 November 1958

Cognizant Serv: USN FSN:

TT-92/FG

USA

USN

USAF

TYPE CLASS:  
STOCK NO:--  
--Used by  
----  
--

TT-92/FG

**FUNCTIONAL DESCRIPTION:**

Teletypewriter Reperforator TT-92/FG is a receiving only typing reperforator unit used to receive messages transmitted over wire or radio circuits and to record the messages in both code perforations and typed characters on the same tape. It is used in message and signal centers at ground stations. Messages received by a typing reperforator may be transmitted to one or more stations by a transmitter distributor.

**TECHNICAL CHARACTERISTICS:**

*Operating Speed:* 368 opm

*Type Signaling Code:* 5-unit, start-stop

*Type Motor:* Synchronous

*Motor Speed:* 1,800 rpm

*Power Requirements:* 160 w, 115-v 60-cycles 1-phase ac

MIL-HDBK-161

**AN/FGR-type TELETYPEWRITER REPERFORATOR**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Teletypewriter Reperator TT-92/FG	-----	7-1/2 x 11-1/2 x 12	67.5
(Equipment consists of only one major component.)				

**REFERENCE DATA AND LITERATURE:**

Teletype manual 96MA

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	13	180

**PROCUREMENT DATA**

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.		

## TELETYPEWRITER REPERFORATOR AN/FGR-type

1 July 1958

Cognizant Serv: USA FSN: 5815-503-1168

TT-107/FG

USA

USN

USAF

TYPE CLASS:

Std

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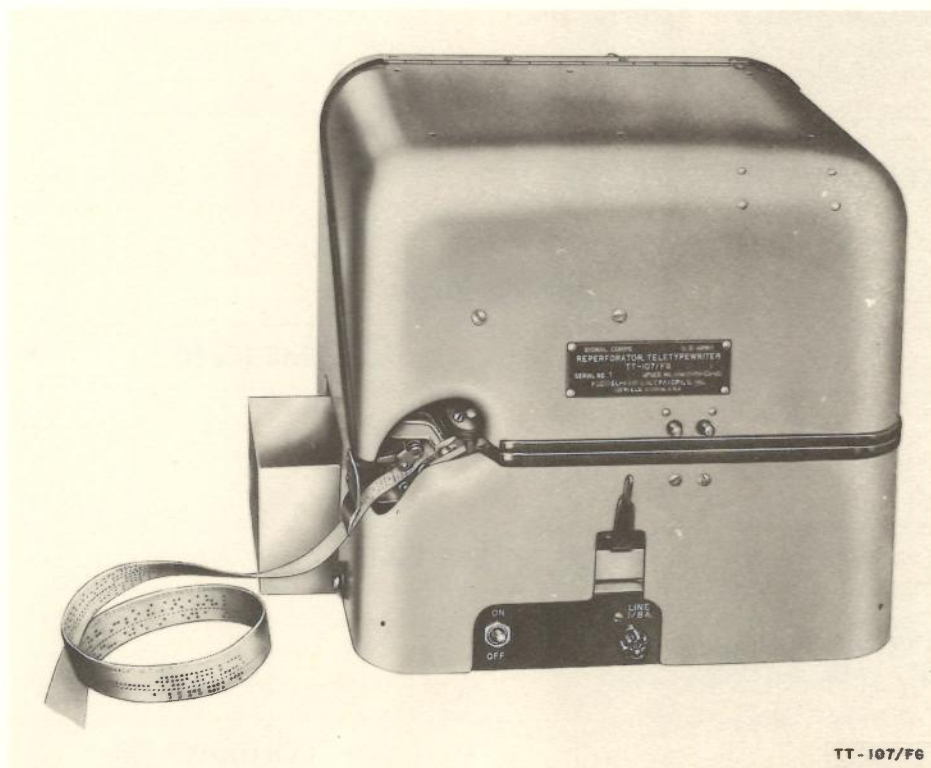
Std

STOCK NO:

4TTT107

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TT-107/FG

**FUNCTIONAL DESCRIPTION:**

Teletypewriter Reperforator TT-107/FG is a fixed station, receiving only, lightweight typing reperforator used to receive messages directly from the line, or to monitor copy produced by other teletypewriters. It may be operated by either polar or neutral signals.

It prints English characters and perforates standard start-stop five-unit code characters. Accessory drive gears are

available to convert the normal 60-wpm speed to 100-wpm operation.

**TECHNICAL CHARACTERISTICS:**

*Operating Functions:* Prints standard communication symbols and characters; perforates start-stop five-unit code groups

*Operating Speed:* 386.1 or 600 opm (60 or 100 wpm)

*Motor Characteristics:* Synchronous; 3,600 rpm

*Power Requirements:* 120 w, 115-v 60-cycle 1-phase ac

MIL-HDBK-161

**AN/FGR-type** TELETYPEWRITER REPERFORATOR

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(FSN)		
1	Teletypewriter-Reperforator TT-107/FG (Equipment consists of only one major component.)	5815-503-1168	12-5/16 x 12-5/8 x 12-1/4	37

REFERENCE DATA AND LITERATURE:

TM 11-2226

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	5.4	75

PROCUREMENT DATA

PROCURING SERVICE:

SPEC &/or DWG: MIL-T-11985

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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CARRIER TELEGRAPH TRANSMITTER **AN/FGT-type**

20 November 1958

Cognizant Serv: **USN** **FSN:**

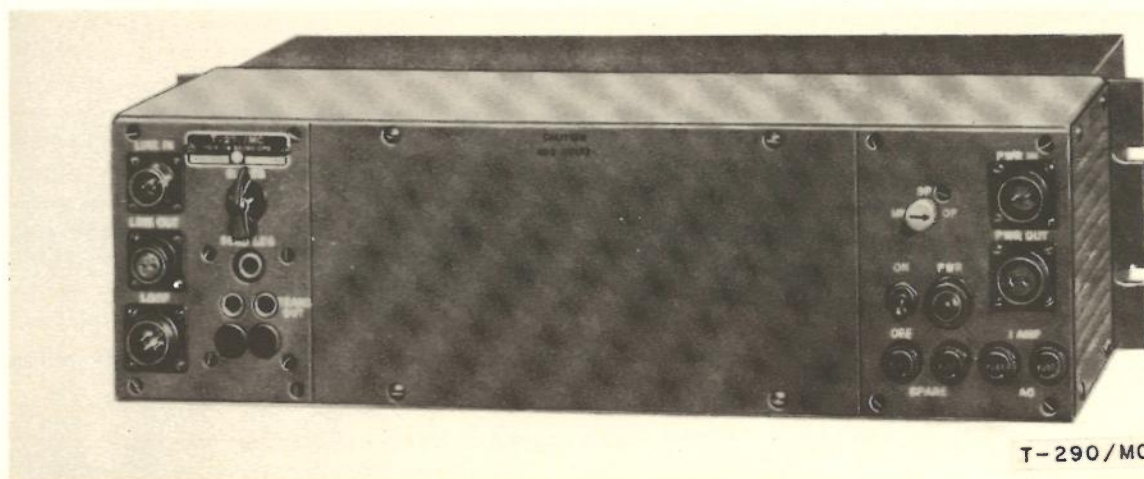
T-290/MC thru T-297/MC

**USA****USN****USAF**

TYPE CLASS: --

STOCK NO: --

Used by

T-290/MC: F17-T-  
28591-1025T-291/MC: F17-T-  
28591-1026T-292/MC: F17-T-  
28591-1027T-293/MC: F17-T-  
28591-1028T-294/MC: F17-T-  
28591-1029T-295/MC: F17-T-  
28591-1030T-296/MC: F17-T-  
28591-1031T-297/MC: F17-T-  
28591-1032

T-290/MC

**FUNCTIONAL DESCRIPTION:**

Carrier Telegraph Transmitters T-290/MC through T-297/MC are used to form an eight-channel carrier terminal, whereby mark and space signals from up to eight teletype-writers are translated into frequency-modulated audio signals which can be combined and sent to companion Carrier Telegraph Receivers R-405/MC through R-412/MC over a single wire, cable, or radio circuit.

These eight equipments are identical except for the center frequency of the audio fm signal. All are designed for rack mounting.

**TECHNICAL CHARACTERISTICS:**

*Channels:* 8 (one per transmitter)

*Bandwidth:* 850 to 2,210 cps

*Transmitter Output:* -20 dbm to +6 dbm

*Operating Channel Center Frequencies:*

T-290/MC: 935 cps

T-291/MC: 1,105 cps

T-292/MC: 1,275 cps

T-293/MC: 1,445 cps

T-294/MC: 1,615 cps

T-295/MC: 1,785 cps

T-296/MC: 1,955 cps

T-297/MC: 2,125 cps

*Power Requirements:* 232 w per unit, 105/115/125-v 50-60-cycle 1-phase ac

**AN/FGT-type CARRIER TELEGRAPH TRANSMITTER****MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(USN)		
1	Carrier Telegraph Transmitter T-290/MC	F17-T-28591-1025	5-1/4 x 19 x 14-1/2	24.5
1	Carrier Telegraph Transmitter T-291/MC	F17-T-28591-1026	5-1/4 x 19 x 14-1/2	24.5
1	Carrier Telegraph Transmitter T-292/MC	F17-T-28591-1027	5-1/4 x 19 x 14-1/2	24.5
1	Carrier Telegraph Transmitter T-293/MC	F17-T-28591-1028	5-1/4 x 19 x 14-1/2	24.5
1	Carrier Telegraph Transmitter T-294/MC	F17-T-28591-1029	5-1/4 x 19 x 14-1/2	24.5
1	Carrier Telegraph Transmitter T-295/MC	F17-T-28591-1030	5-1/4 x 19 x 14-1/2	24.5
1	Carrier Telegraph Transmitter T-296/MC	F17-T-28591-1031	5-1/4 x 19 x 14-1/2	24.5
1	Carrier Telegraph Transmitter T-297/MC	F17-T-28591-1032	5-1/4 x 19 x 14-1/2	24.5

(Each equipment consists of only one major component.)

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 91541

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
*9	1.81 ea	29 ea

\* Packaging consists of separate package for each of the eight equipments required to make up one complete transmitting unit for eight channels of teletypewriter, plus one package of accessories.

**PROCUREMENT DATA**

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Lenkurt Electric Co.	San Carlos, Calif.	N189s-76108	



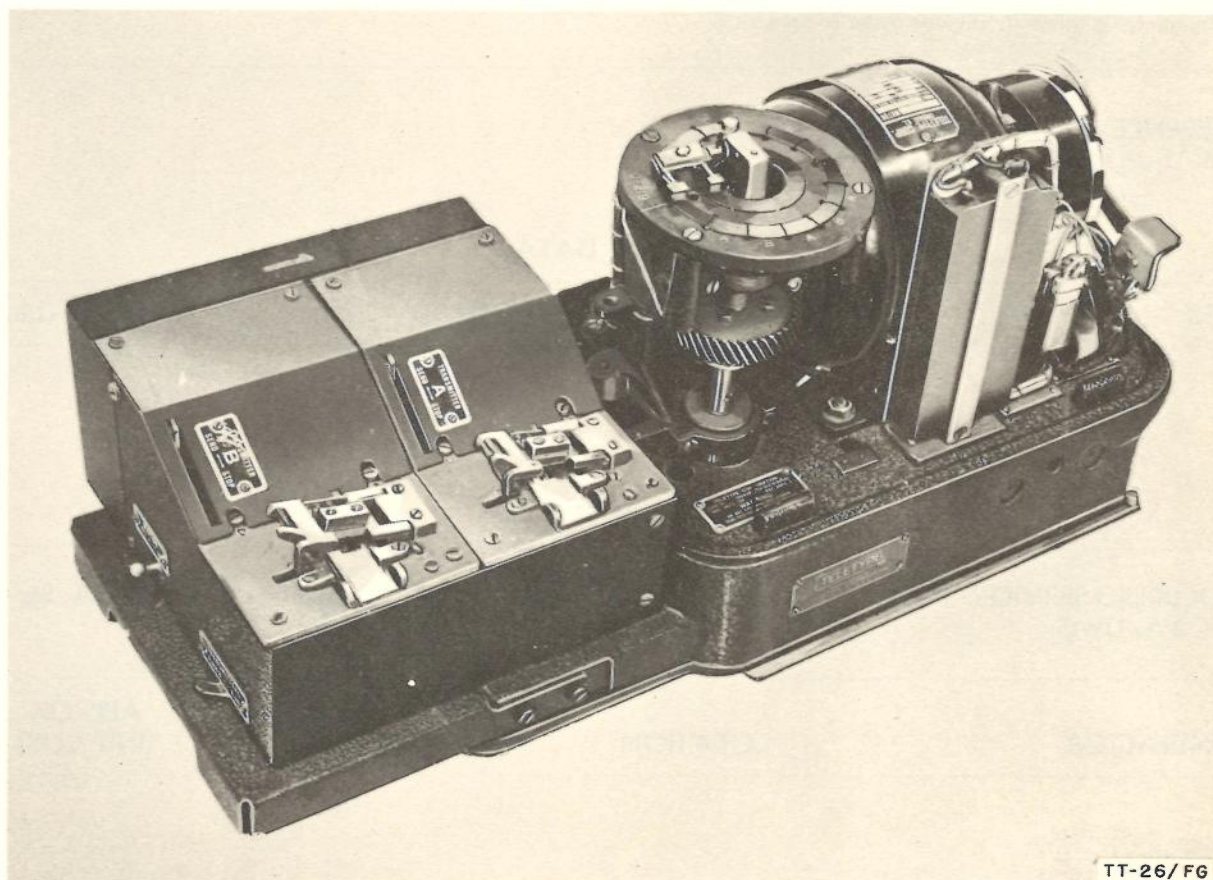
## TRANSMITTER DISTRIBUTOR AN/FGT-type

22 October 1958

Cognizant Serv: USA FSN: 5815-222-4288

TT-26/FG

	USA	USN	USAF
TYPE CLASS:	L/Std	--	--
STOCK NO:	4TXD91GL	--	--



TT-26/FG

**FUNCTIONAL DESCRIPTION:**

Transmitter Distributor TT-26/FG is a two-channel transmitter distributor that translates code perforations recorded on paper tape into electrical impulses and then transmits them as five-unit, start-stop teletypewriter code to receiving stations over dc wire lines, carrier systems, or radio channels. These impulses are identical with the code impulses transmitted from the keyboard of a teletypewriter operating at the same speed.

The TT-26/FG includes two tape sensing and two transmitting mechanisms, a special distributor commutator, and a motor unit. The commutator has 13 segments—5 pairs for the transmission of intelligence impulses, a start segment, a stop segment, and an X segment located between the start and stop segments.

This unit has no distributor clutch. Therefore, it requires fully attended service in which the operator inserts the message tape and starts and stops the transmitter manually.

**TECHNICAL CHARACTERISTICS:**

*Type Signaling Code:* 5-unit, start-stop

*Type Signals:* Neutral

*Transmission Speed:* 368 or 404 opm

*Type Motor:* Synchronous or series-governed

*Motor Speed:*

Synchronous: 1,800 rpm

Series-governed: 2,102 or 2,308 rpm

*Power Requirements:*

Synchronous Motor: 105- to 125-v 50- to 60-cycle ac

Series-governed Motor: 105- to 125-v 25- to 60-cycle ac

MIL-HDBK-161

**AN/FGT-type** TRANSMITTER DISTRIBUTOR

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Transmitter Distributor TT-26/FG (Equipment consists of only one major component.)			

REFERENCE DATA AND LITERATURE:

TM 11-2222

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	5	70

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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## TRANSMITTER-DISTRIBUTOR AN/FGT-type

13 November 1958

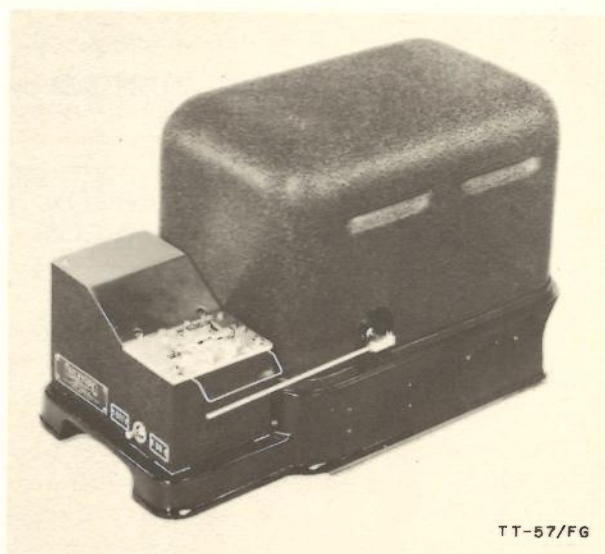
Cognizant Serv: USN FSN: 5815-644-4752

TT-57/FG

USA

USN

USAF

TYPE CLASS: Std  
STOCK NO: --Used by --  
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## FUNCTIONAL DESCRIPTION:

Transmitter-Distributor TT-57/FG is a single-channel distributor that translates code perforations recorded on paper tape into electrical impulses and then transmits them as five-unit, start-stop teletypewriter code to one or more receiving stations over dc wire lines, carrier systems, or radio channels. It can communicate with any 7.42-unit code teletypewriter receiving equipment geared for 368 operations per minute. The unit is designed for use at shore stations.

The TT-57/FG is fully automatic. It includes a tape sensing mechanism, a transmitting mechanism, a distributor motor, and a radio filter mounted on a teletypewriter table. It uses either fully perforated or chadless tape.

## TECHNICAL CHARACTERISTICS:

*Transmission Speed:* 368 opm*Type Signaling Code:* 5-unit, start-stop*Transmission Pattern:* 7.42-unit*Type Motor:* Synchronous*Motor Speed:* 1,800 rpm*Power Requirements:* 115-v 60-cycle 1-phase ac

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1	Transmitter-Distributor TT-57/FG, consisting of:			
1	Distributor motor and base			
1	Feeding and transmitting mechanism			
1	Radio filter and cover			
1	Tape sensing mechanism			
1	Teletypewriter Table FN-31/FG	-----	-----	40

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 900,116

MIL-HDBK-161

**AN/FGT-type** TRANSMITTER-DISTRIBUTOR

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
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PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/or DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
Teletype Corp.	Chicago, Ill.	NOsr-42421	

## AUDIO DISTRIBUTING CENTRAL AN/FIA-1

21 November 1958

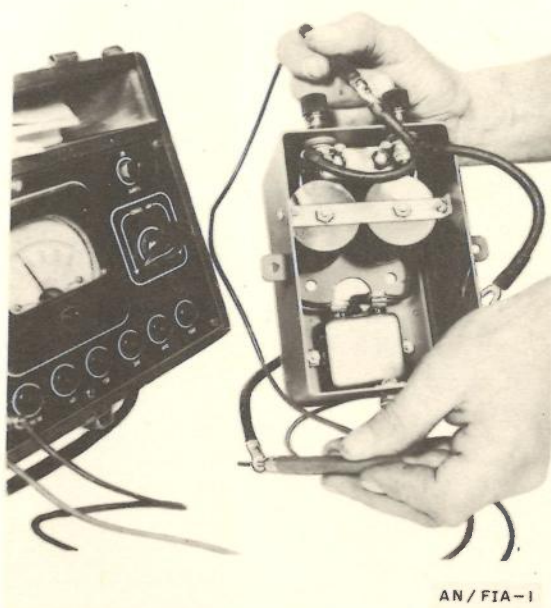
Cognizant Serv: USA FSN:

USA

USN

USAF

TYPE CLASS: L/Std  
 STOCK NO: 6C190-1



## FUNCTIONAL DESCRIPTION:

Audio Distributing Central AN/FIA-1 and its associated audio input equipment amplify and distribute program material to pillow, program, and paging speakers in hospitals and similar institutions.

This equipment can originate programs from recordings or transcriptions, and can pick up and amplify two frequency modulated, amplitude modulated, or short-wave broadcast programs simultaneously. Programs piped in from telephone lines or originated by speech input equipment, such as Amplifier AM-129/U, also can be distributed by this system.

Four program channels and one paging channel are available. Provisions have been made for the addition of a fifth program channel and two additional radio receiver program sources.

## TECHNICAL CHARACTERISTICS:

*Type Controls:* Input and output channel selection, radio tuner, turntable, and amplifier cabinet control

*Power Output:*

Driver Amplifier: 0.5 w

Power Amplifier: 50 w

*Power Requirements:*

Driver Amplifier: 60 w (maximum), 115-v 60-cycle 1-phase ac

Receiver: 120 w, 115-v 60-cycle 1-phase ac

Power Amplifier: 206 w (maximum), 115-v 60-cycle 1-phase ac

Console: 3,072 w (maximum), 115-v 60-cycle 1-phase ac

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
1 ea	Amplifier AM-124/U through AM-128/U	-----	73-1/4 x 16-1/2 x 22-1/2	171 to 293
1	Console OA-23/FIA-1, desk section	-----	4 x 15 x 32	30
1	Console OA-23/FIA-1, main section	-----	57-3/8 x 30 x 74-1/8	439
2	Console OA-23/FIA-1, phonograph section	-----	33-1/2 x 24 x 27	121
3	Microphone M-10/FIA-1	-----	10-1/4 h x 7-1/2 d	9.3

MIL-HDBK-161

**AN/FIA-1** AUDIO DISTRIBUTING CENTRAL

REFERENCE DATA AND LITERATURE:  
TM 11-2590

SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
16	----	4,969.5

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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INTERCOMMUNICATING STATION **AN/FIC-type**

3 December 1958

Cognizant Serv: USA FSN: 5830-170-9934

LS-124( )/FI

USA

USN

USAF

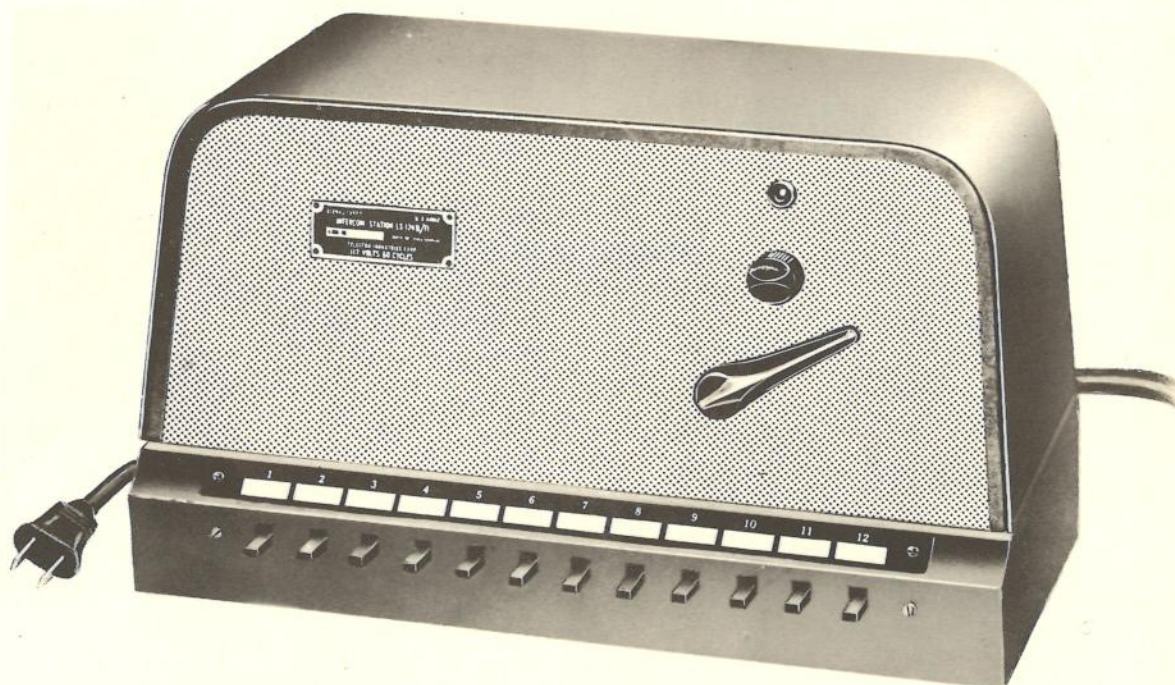
TYPE CLASS: Std  
 STOCK NO: 4B1485

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LS-124/FI

**FUNCTIONAL DESCRIPTION:**

Intercommunicating Station LS-124( )/FI is a master control station unit of an intercommunication system serving large headquarters buildings, depots, and communications centers at air stations or similar locations.

This equipment consists of a speaker microphone and an audio amplifier assembled as a single unit and is used in conjunction with as many as 12 other local station units on a one-way, talk-back, selected station, or all-talk basis.

The LS-124( )/FI usually is operated in conjunction with

remote speaker microphone station units that cannot signal this master station.

The LS-124( )/FI can operate over a trunk line to another master station; the resulting combination can provide intercommunication and paging facilities.

**TECHNICAL CHARACTERISTICS:**

*Input and Output Impedances:* 50 or 500 ohms

*Speaker Voice Coil Impedance:* 45 ohms

*Power Output:* 2 w to line; 1 w to speaker

*Power Requirements:* 25 w (in use), 12 w (idle), 110- 125-v 50/60-cycle ac

**AN/FIC-type INTERCOMMUNICATING STATION****MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(USA)		
1	Intercommunicating Station LS-124( )/FI (Equipment consists of only one major component.)	4B1485	7-3/8 x 6-7/8 x 13-3/8	20.5

**REFERENCE DATA AND LITERATURE:**

TM 11-2572 and TM 11-2572A

**SHIPPING DATA**

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	1.8	35

**PROCUREMENT DATA**

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST

## INTERCOMMUNICATING STATION AN/FIC-type

3 December 1958

Cognizant Serv: USA FSN: 5830-162-8168

LS-125( )/FI

USA

USN

USAF

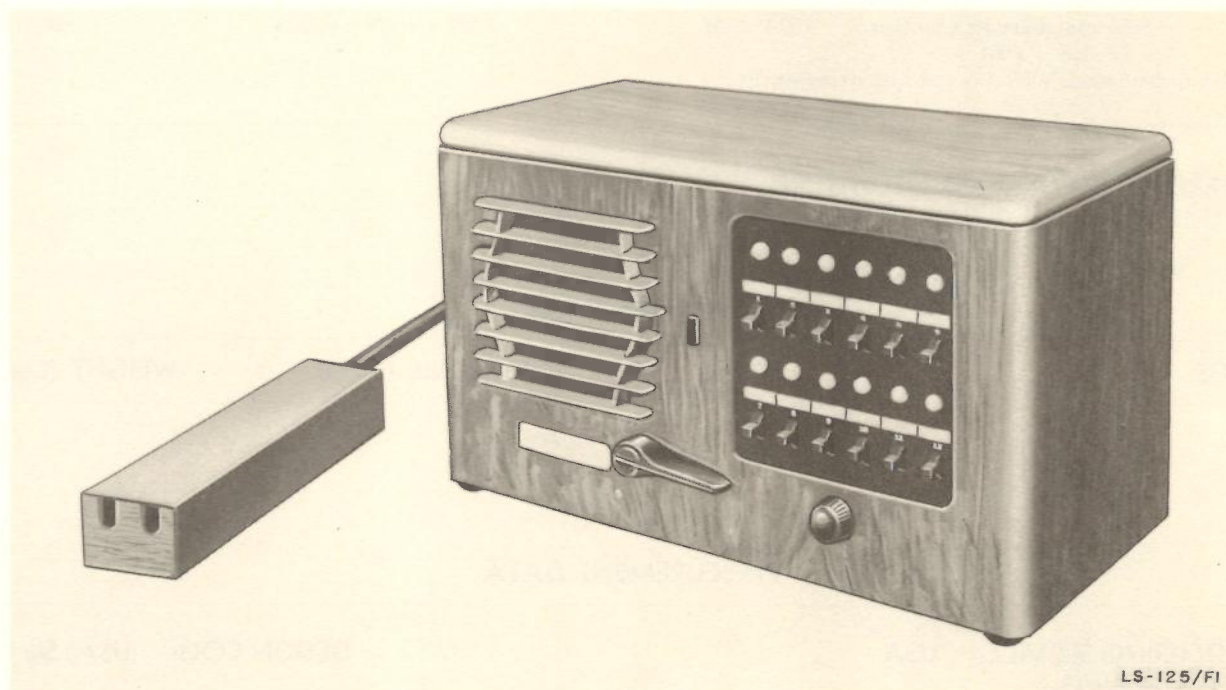
TYPE CLASS: Std  
 STOCK NO: 4B1482AM

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LS-125/FI

**FUNCTIONAL DESCRIPTION:**

Intercommunicating Station LS-125( )/FI is a master or control station unit used in an intercommunication system. It is used in headquarters buildings, depots, communications centers, or similar installations.

This equipment consists of a speaker microphone and an audio amplifier assembled as a single unit and is used in conjunction with as many as 12 other station units on a one-way, talk-back, selected station, or all-talk basis.

The LS-125( )/FI is designed specifically for use with Intercommunicating Station LS-129/FI or LS-130( )/FI.

**TECHNICAL CHARACTERISTICS:**

*Input and Output Impedances:* 50 or 500 ohms

*Speaker Voice Coil Impedance:* 45 ohms

*Power Output:* 2-1/2 w

*Power Requirements:* 30 w (in use), 15 w (idle), 110-125-v  
50/60-cycle ac



**AN/FIC-type** INTERCOMMUNICATING STATION

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(USA)		
1	Intercommunicating Station LS-125( )/FI (Equipment consists of only one major component.)	4B1482AM	7-3/8 x 6-7/8 x 13-3/8	20-1/2

## REFERENCE DATA AND LITERATURE:

TM 11-2572 and TM 11-2572A

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	3.3	70

## PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST



## INTERCOMMUNICATING STATION AN/FIC-type

3 December 1958

Cognizant Serv: USA FSN: 5830-164-8056

LS-126( )/FI

USA

USN

USAF

TYPE CLASS: Std  
 STOCK NO: 4B1486M

## FUNCTIONAL DESCRIPTION:

Intercommunicating Station LS-126( )/FI is a master or control station unit used in an intercommunication system. It is used in headquarters buildings, depots, communications centers, or similar locations.

This equipment consists of a speaker microphone and an audio amplifier assembled as a single unit and is used in conjunction with as many as six other local station units on a one-way, talk-back, selected station basis, or all-talk basis.

This unit is designed specifically for use with Intercommunicating Station LS-129/FI or LS-130( )/FI.

## TECHNICAL CHARACTERISTICS:

Input and Output Impedances: 50 or 500 ohms

Speaker Voice Coil Impedance: 45 ohms

Power Output: 2-1/2 w

Power Requirements: 30 w (in use), 15 w (idle), 115-v 50/60-cycle ac



LS-126/FI

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (Inches)	WEIGHT (Lbs)
		(USA)		
1	Intercommunicating Station LS-126( )/FI (Equipment consists of only one major component.)	4B1586M	7-3/8 x 6-7/8 x 13-3/8	20-1/2

## REFERENCE DATA AND LITERATURE:

TM 11-2572 and TM 11-2572A

## SHIPPING DATA

PKGS	VOLUME (Cu Ft)	WEIGHT (Lbs)
1	3.3	70

MIL-HDBK-161

**AN/FIC-type** INTERCOMMUNICATING STATION

PROCUREMENT DATA

PROCURING SERVICE: USA  
SPEC &/or DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX UNIT COST
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