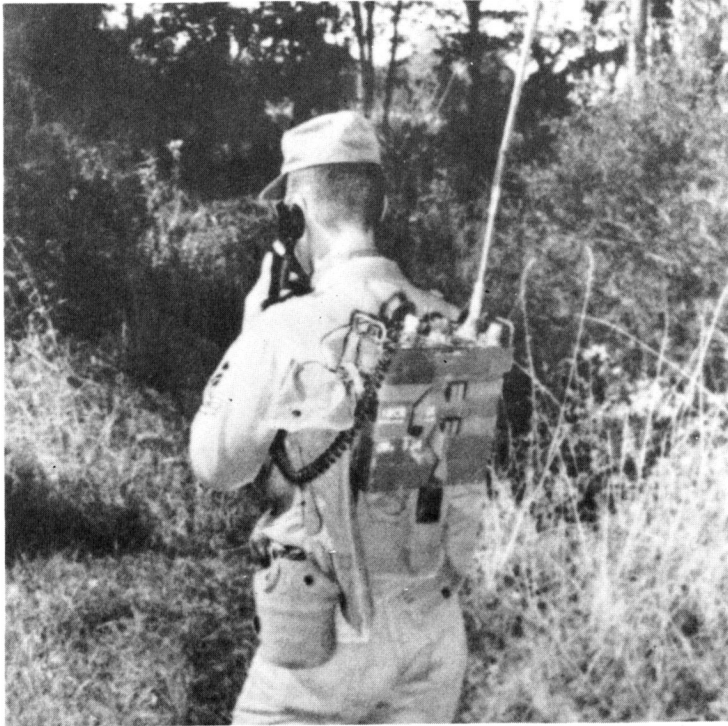


## Chapter 2

# GROUND RADIO EQUIPMENT



## AN/PRC-25 PORTABLE VHF FM RADIO

DESCRIPTION: The AN/PRC-25 is a short-range, man-pack portable, FM, receiver-transmitter, operating in the VHF frequency range, and is used to provide two-way voice communications. When used at a fixed location, the AN/PRC-25 can be remotely controlled using a remote control unit such as the AN/GRA-39. The operating range can be extended by use of a fixed, elevated ground plane antenna, or a long wire antenna (AT-984A/G). The set is battery operated, with a duty cycle of 9:1, receive-transmit ratio. Range is from 5 to 15 miles dependent upon terrain and type antenna. Used to enter Army tactical radio nets by both DASC and TACPs. For vehicular operation, the transceiver is connected to the vehicle power source and redesignated the AN/GRC-125.

CAPABILITY: Single channel simplex with 920 channels spaced 50 Kc apart in two bands.

FREQUENCY RANGE: Low Band.....30.00 to 52.95 Mcs.  
High Band.....53.00 to 75.95 Mcs.

POWER INPUT: BA-386/PRC-25 dry cell battery (2.5  
volts DC, 0.4 amp; 12.5 volts DC, 1.4  
amps).

POWER OUTPUT: 2 watts low band.  
1.5 watts high band.

SITING CRITERIA: Line of sight operation, no special  
siting criteria.

ERECTION TIME: Five minutes.

PERSONNEL REQUIRED: One each 304X4

MAJOR COMPONENTS:

<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
RT-505/PRC-25.....	Receiver-Transmitter.
AT-892/PRC-25.....	Antenna, 3 ft long, semi-rigid steel tape.
AT-271/PRC-25.....	Antenna, 10 ft long, six-section whip.
AB-591/PRC-25.....	Support Antenna.
ST-138/PRC-25.....	Harness (Backpack).
H-138/U.....	Handset.
W-503/PRC-25.....	Bag (Accessory, Storage).
CY-2562/PRC-25.....	Battery Box.

MANUFACTURER: R.C.A.

COST: \$843.00.

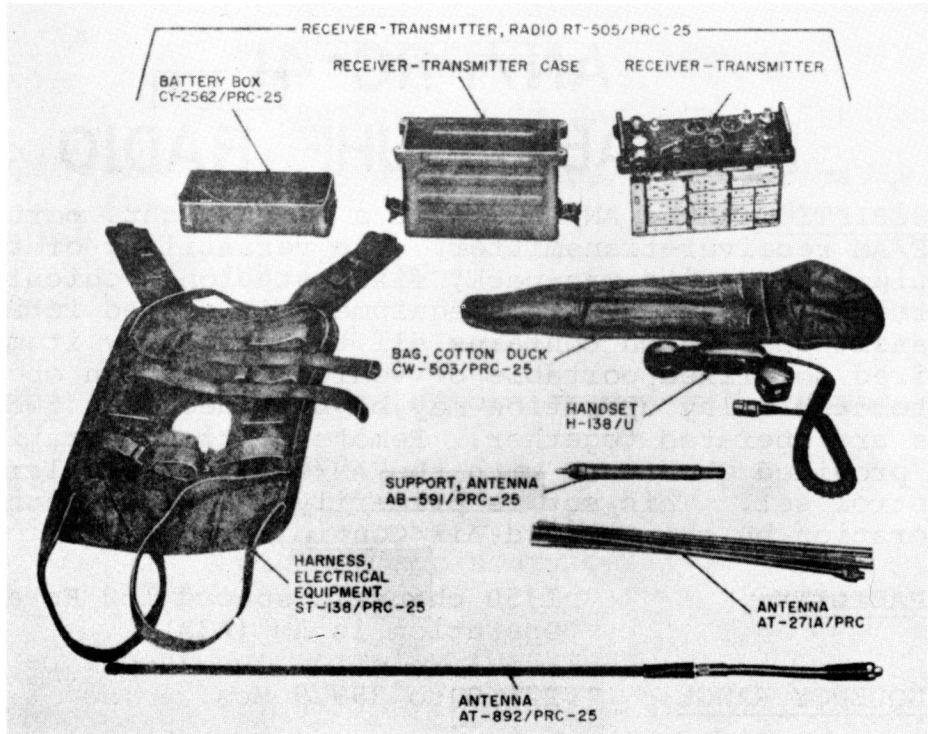
WEIGHT: Without accessory case: 23 lbs.  
With accessory case: 40 lbs.

CUBE:

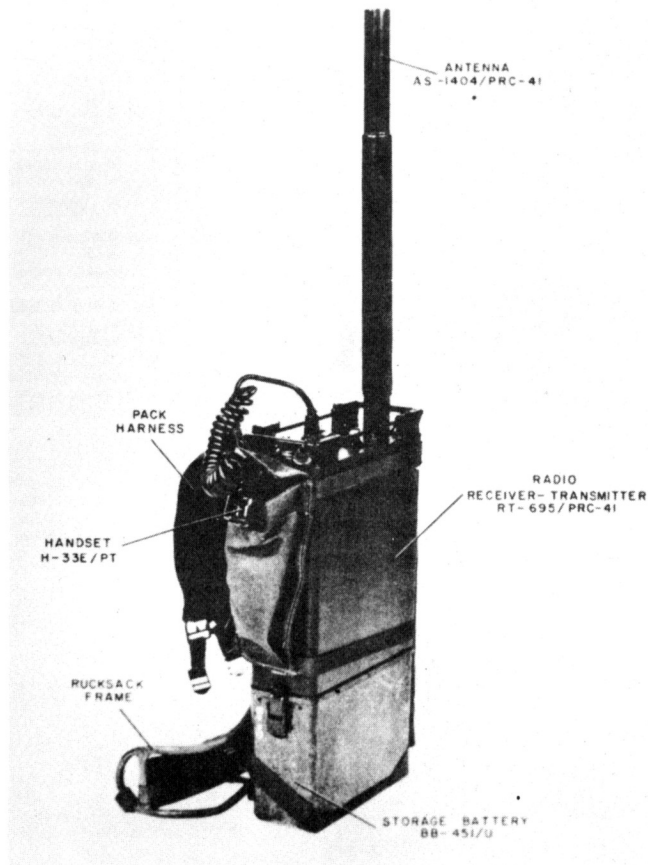
Without accessory case: 2.5 cu. ft.  
With accessory case: 4.0 cu. ft.

APPLICABLE TOs:

- 31R2-2PRC 25-1-----Operators' Instructions.
- 31R2-2PRC 25-2-----Field and Depot Maintenance Instructions.
- 31R2-2PRC 25-4-----Depot Maintenance Parts List.
- 31R2-2PRC 25-12-----Organizational Maintenance Instructions.
- 31R2-2PRC 25-14-----Organizational Maintenance List.
- 31R2-2PRC 25-44-----Organizational Maintenance List, RT-505/PRC-25.
- 31R2-2PRC 25-54-----Field & Depot Maintenance Parts List, RT-505/PRC-25.



AN/PRC-25 Portable VHF FM Radio



## AN/PRC-41 PORTABLE UHF RADIO

**DESCRIPTION:** The AN/PRC-41 is a lightweight, portable UHF/AM receiver-transmitter. The versatility of this equipment permits man-pack, fixed station, vehicular or airborne operation. This equipment is stored in a pack transit case which contains all the accessory items required for fixed, portable or vehicular station operation. Automatic relay operation may be provided when two PRC-41's are operated together. Remote control operation may be provided when used with the AN/GRA-6 or similar remote control set. This set is primarily used for ground-to-air operation by the Forward Air Controller.

**CAPABILITY:** 1750 channels spaced 100 Kc apart.  
Operation is AM (A3A).

**FREQUENCY RANGE:** 225.0 to 399.9 Mcs.

**POWER INPUT:** 24 VDC battery (BB-451)-26.5 VDC  
Vehicle Supply (when proper cables

are available), or 115/230 VAC, 50-400 Cps.

POWER OUTPUT:

1.5 to 3 watts.

Battery Life: 8 hours at duty cycle.

Duty Cycle: 1 minute transmit; 9 minutes receive.

SITING CRITERIA:

High ground clear of obstruction.

ERECTION TIME:

One minute for portable type operations and 15 minutes for fixed operations.

PERSONNEL REQUIRED:

One each 304X4

MAJOR COMPONENTS:

NOMENCLATURE

COMMON NAME

RT-695/PRC-41.....Radio Transmitter-Receiver.

BB-451/U.....Battery

\*AS-1405/PRC-41.....Unidirectional Antenna.

AS-1404/PRC-41.....Omnidirectional Antenna.

PP-3700/PRC-41.....Power Supply.

CY3883/PRC-41.....Radio Set Case.

CY3885/PRC-41.....Electrical Equipment Case

\*MK-706/PRC-41.....Accessory Kit (used for relay operations).

MANUFACTURER:

Collins, Motorola, General Dynamics.

COST:

\$7,000.00.

WEIGHT:

With accessory case, 110 lbs.  
Without accessory case, 35 lbs.

\*Optional equipment not normally furnished.

CUBE:

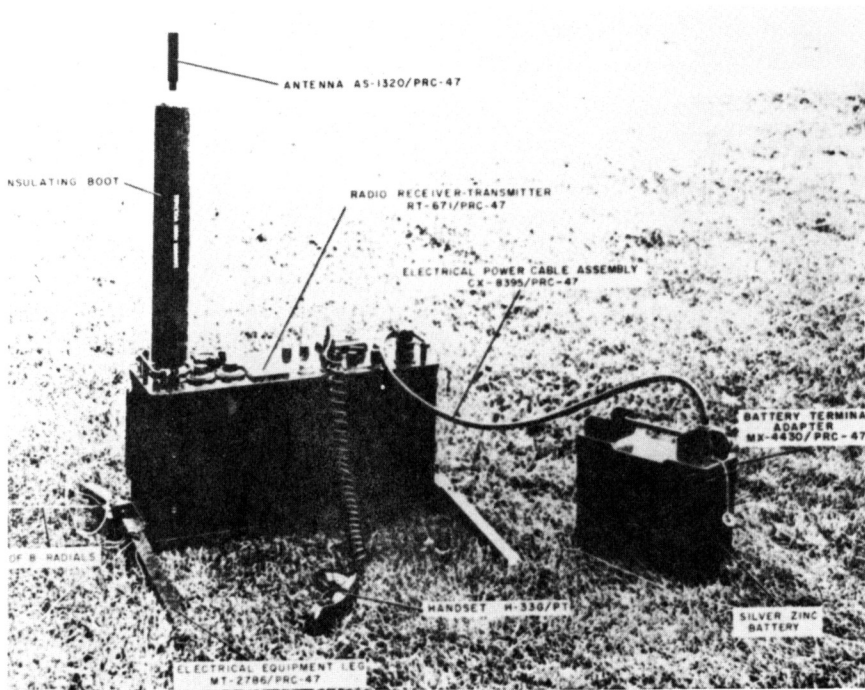
With accessory case, 8 cu. ft.  
Without accessory case, 2.6 cu. ft.

APPLICABLE TOs:

31R2-2PRC41-1-----Installation &  
Operators' Instruc-  
tions.  
31R2-2PRC41-2-----Repair & Main-  
tenance Instructions.  
31R2-2PRC41-4-----Repair Parts List.



AN/PRC-41 Portable UHF Radio



## AN/PRC-47 PORTABLE HF SSB RADIO

DESCRIPTION: The AN/PRC-47 Radio Set is a complete portable high frequency communications system including antenna and accessories. The radio set provides continuous wave (CW) and upper sideband (USB) voice transmission and reception in 1-kc increments over the frequency range of 2 to 11.999 mc. The equipment is also capable of frequency shift keying (FSK) communications when operated in conjunction with a frequency shift keying converter. The radio set may be operated at its own control panel or from a remote control panel such as the AN/GRA-6. The equipment may be operated in portable, vehicle or fixed installations. During portable operation, the complete equipment is packed by two men; however, the set cannot be operated while being carried. While portable, the radio is powered by a 24 volt wet cell battery (BB-451) which is part of the equipment. For the mobile application, the equipment is mounted in a suitable vehicle and is powered by the vehicle's 26.5 volt generator/battery. For fixed station applications, the equipment may be powered by 115 volt, single-phase, 400 cps power supply.



For high power voice or CW operation (extended time), the radio set duty cycle is 1 minute (maximum) of transmission for every 9 minutes (minimum) of reception. For low power extended time operation, the duty cycle for voice or CW operation is 2 minutes transmit for 9 minutes receive time. Limited low power cycle is 10 minutes transmit for 5 minutes receive operation, not to exceed one hour total. For normal voice communication, with 1 minute transmission and 9 minutes reception, one battery (BB-451) charge will last approximately 12 operating hours (less in temperatures below 0°F).

- CAPABILITY: CW, Voice, TTY (FSK) on USB (FSK converter necessary for RTTY operation, such as the TH-5/G), manual tuned.
- FREQUENCY RANGE: 2-11.999 Mcs. continuous in 1 Kc channels.
- POWER INPUT: Portable: 24 VDC Battery (BB-451).  
Mobile: 26.5 VDC Vehicle Supply.  
Fixed: 110 VAC/single phase, 400 cycle.
- POWER OUTPUT: High Power: 100 watts PEP (20-76 w on AS-1320).  
Low Power: 20 watts PEP (4-15 w on AS-1320).
- SITING CRITERIA: High ground away from structures and other radios.
- ERECTION TIME: 10 minutes.
- PERSONNEL REQUIRED: Two each 304X4
- MAJOR COMPONENTS:
- | <u>NOMENCLATURE</u> | <u>COMMON NAME</u>             |
|---------------------|--------------------------------|
| RT-671/PRC-47.....  | Radio Receiver/Transmitter.    |
| CX-8393/PRC-47..... | 50 ft battery cable (115 VAC). |
| AS-1321/PRC-47..... | 45 ft long wire antenna.       |
| MX-4430/PRC-47..... | Battery Terminal Adapter.      |

<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
CX-8395/PRC-47.....	Battery Power Cable (24 VDC), 3 ft length.
AS-1320/PRC-47.....	Whip Antenna (15 ft).
H-33G/PT.....	Handset.
CY-3657/PRC-47.....	Accessory Case.
CX-8394/PRC-47.....	Power Cable (26.5 VDC), 10 ft length.

MANUFACTURER: Collins, Motorola, General Dynamics.

COST: \$4,960.00

WEIGHT: With accessory case: 173 lbs.  
Without accessory case: 65 lbs.

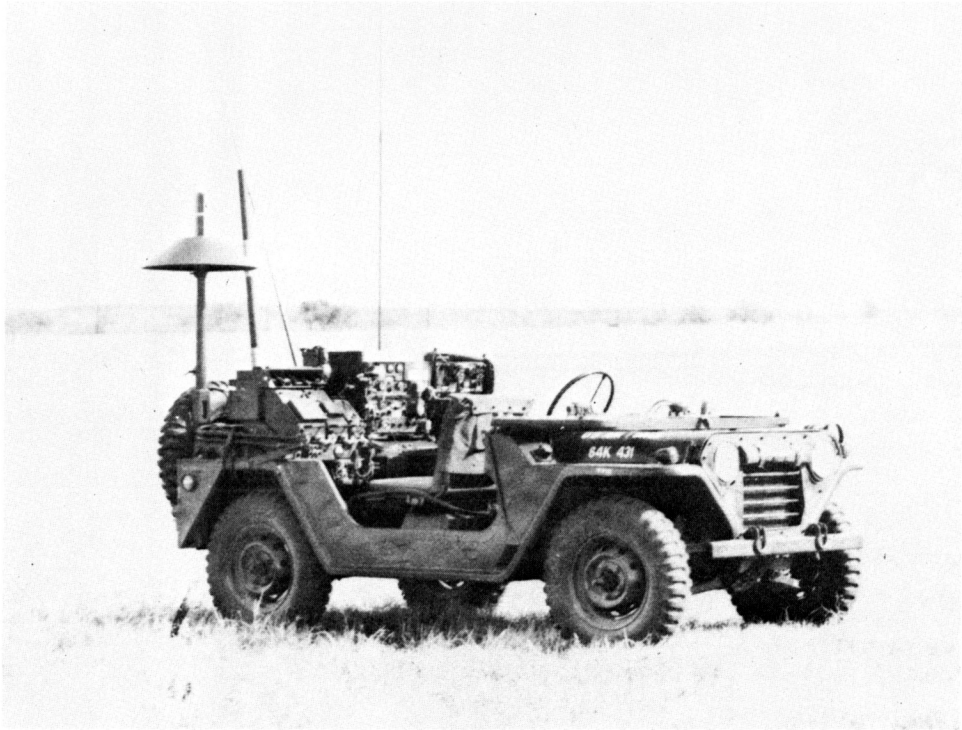
CUBE: With accessory case: 7.0 cu. ft.  
Without accessory case: 4.8 cu. ft.

APPLICABLE TOs:

31R2-2PRC47-1-----	Operators' Instructions.
31R2-2PRC47-2-----	Maintenance & Repair Instructions.
31R2-2PRC47-4-----	Repair Parts List.



AN/PRC-47 Portable HF SSB Radio



## AN/MRC-107A

# COMMUNICATIONS CENTRAL

DESCRIPTION: The AN/MRC-107A is a mobile radio set consisting of HF (SSB), VHF (AM), VHF (FM), and UHF (AM) radios and a M-151A1  $\frac{1}{4}$ -ton truck (Jeep). This set can be operated with internal (vehicular) power, external power, or emergency power (battery), in either a fixed or mobile configuration. It has a remoting capability using the AN/GRA-39 Remote Set. This set enables remoting capability of up to three miles for any of the radio sets installed. The radio and vehicle are "drip proof" and can be operated during inclement weather. Storage facilities are available for the associated back pack radio sets (PRC-47 and PRC-41), with a built-in batter (BB-451) charger for these radios.

CAPABILITY:

HF: USB, AM, CW, FSK and NSK.  
VHF: FM and AM (two radio sets).  
UHF: AM.  
Fixed or mobile operation with re-  
moting capability up to 3 miles for  
keying and audio operation, compatible

with any one of the four radio sets.

FREQUENCY RANGE:

HF: 2.0 to 29.999 Mcs in 28,000 channels, automatically tuned.  
VHF-FM: 30.00 to 75.95 Mcs in 920 pretuned channels.  
VHF-AM: 116.0 to 149.95 Mcs in 680 pretuned channels.  
UHF-AM: 225.0 to 399.95 Mcs in 3500 pretuned channels plus guard; 20 channels may be preset plus one manual.

POWER INPUT:

Vehicle: 28VDC, 100 amp alternator or battery.  
External: 28VDC, 53.5 amp Generator (PU-632).

POWER OUTPUT:

HF: SSB-400 watts PEP; AM-FSK-200 watts.  
VHF-FM: Low band - 2 w; high band - 1.5 w.  
VHF-AM: 13 watts optimum, 25 watts maximum.  
UHF-AM: 13 watts optimum, 20 watts maximum.

SITING CRITERIA:

No special criteria for HF; however, area should be fairly free of obstructions and other radios; for UHF and VHF operation - best results will be obtained from open high ground.

ERECTION TIME:

One man 10 minutes unless remoting facilities are required. It will require an additional 10 to 15 minutes to install the remote facilities.

PERSONNEL REQUIRED:

One each 1444 officer; one each 30454.

MAJOR COMPONENTS:

<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
618T.....	HF Transmitter-Receiver.
Wilcox 807.....	VHF-AM Transmitter-Receiver
GRC-125.....	VHF-FM Transmitter-Receiver w/Amp.

<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
AN/PRC-25.....	VHF-FM Transmitter-Receiver.
AN/ARC-51BX.....	UHF-AM Transmitter-Receiver.
GRC-155.....	Radio Pallet.
AT-1040-43.....	HF Antenna (whip).
GRA-4.....	HF Antenna (Doublet).
C-6903.....	Radio Control with Speaker.
AN/GRA-39.....	Remote Control Set.
AS-1404/PRC.....	UHF-AM Antenna.
AN/2060/VRC.....	GRC-125 Power Supply.
AT-912/VRC.....	VHF-FM Antenna.
MX-2799.....	GRC-125 Antenna Match Unit.
M-151A1.....	Vehicle (Jeep).
M-416.....	Trailer (¼ ton).
PU-632.....	Gasoline Generator.

MANUFACTURER: Main contractor: General Dynamics.

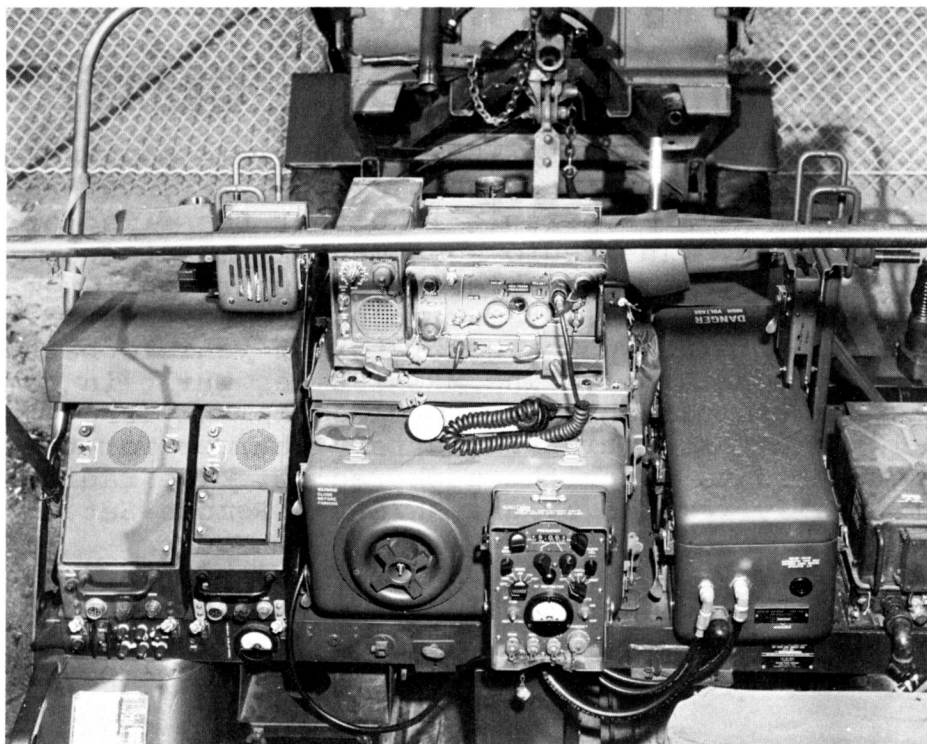
COST: \$18,290.00.

WEIGHT: 2614 lbs.

CUBE: 349.0 cu. ft.

APPLICABLE TOs: 31R2-2MRC107-2-----Operations Maintenance

31R2-2MRC107-4-----Illustrated Parts Breakdown.  
31R2-2MRC107-6WC-1-----PMI Work Cards  
31R2-2MRC107-14-----Illustrated Parts Breakdown  
31R2-2GRC106-2-----Operations Maintenance  
31R2-2GRC106-4-----Illustrated Parts Breakdown  
31R-2GRC125-1-----Operations Manual  
31R2-2GRC125-2-----Operations Maintenance  
31R2-2GRC125-4-----Illustrated Parts Breakdown  
31R2-2GRC125-12-----Operations Maintenance  
12R2-2ARC51-12-----Operations Maintenance  
12R2-2ARC51-14-----Illustrated Parts Breakdown  
12R2-2ARC51-21-----Operations Manual  
12R2-2ARC51-44-----Illustrated Parts Breakdown  
12R2-4-62-12(VHF)-----Operations Maintenance  
12R2-4-62-14(VHF)-----Illustrated Parts Breakdown





## AN/MRC-108 COMMUNICATIONS CENTRAL

DESCRIPTION: The AN/MRC-108 is a vehicle mounted multi-band radio set. It is capable of HF (SSB), VHF-FM, VHF-AM and UHF-AM, all operable in either the fixed or mobile configuration. The radio equipment is mounted on a pallet; each radio set is removable or the entire pallet may be removed. The AN/MRC-108 may be powered either by built-in power, external power generator or vehicle battery under emergency conditions. The MRC-108 has built-in compartments for the portable back-pack equipment (PRC-41 and PRC-47) and has a built-in battery charger for the BB-451 Battery used to power the pack radios. The radios may be individually remoted by the AN/GRA-6 Remote Set.

CAPABILITY:

USB, LSB, AM, CW and FSK (when compatible FSK converter is used - TH-5/G).

VHF-FM: Single channel operation from 5-15 miles.



VHF-AM: Single channel operation from 5-15 miles.  
UHF-AM: Ground/Air.  
Remotable up to 3 miles with the AN/GRA-6 Remote Unit.

FREQUENCY RANGE:

HF: 2.000 to 29.999 Mcs or 28000 channels - auto tuned; VHF-FM: Low band - 2 w.; high band - 1.5 w.; VHF-AM: 116.000 to 149.975 Mcs, 1360 pretuned channels; UHF-AM: 225.000 to 399.950 Mcs in 3500 pretuned channels plus guard; 20 channels may be preset, plus one manual.

POWER INPUT:

Vehicular: 28 VDC, 100 amp alternator or battery.  
External: 28 VDC gasoline generator (PU-630).

POWER OUTPUT:

HF: SB-400 watts PEP: AM-FSK-200 watts.  
VHF-FM: 1.0 to 2.0 watts.  
VHF-AM: Low band -2. watts; high band 1.5 watts.  
UHF-AM: 13 watts optimum; 20 watts maximum.

SITING CRITERIA:

No special criteria for HF; however, area should be fairly free of obstructions and other radios; for UHF and VHF operation, best results will be obtained from open, high ground.

ERECTION TIME:

One man 10 minutes unless remoting facilities are required which will require an additional 10 to 15 minutes.

PERSONNEL REQUIRED:

One each 304X4 or 293X0

MAJOR COMPONENTS:

<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
718F-2.....	HF Radio Set.
490B-1.....	Antenna Coupler.
690D-1.....	Antenna Load Coil.
313V-1.....	HF Radio Set Control.

<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
618T.....	HF Receiver- Transmitter.
76F-3.....	Speaker-Amplifier
AT-1011/U.....	Whip Antenna
718M-2.....	UHF-AM Radio.
RT-742/ARC-51BX.....	Transmitter- Receiver.
313V-4.....	VHF Radio Set Control.
76F-3.....	Speaker-Amplifier
AS-1404/PRC.....	VHF Antenna
PRC-25.....	VHF-FM Trans- mitter-Receiver
GRC-125.....	VHF-FM Radio Set.
AN-2060/VRC.....	Power Supply.
MX-2799/VRC.....	Antenna Match Unit.
76F-3.....	Speaker-Amplifier.
AT-912/VRC.....	VHF-FM Whip Antenna.
AN/GR <sup>A</sup> -6.....	Remote Control Set.
PP-3906/U.....	Battery Charger.
DC3/MD-28/U.....	Gasoline Powered Generator.
MK-486/MRC.....	Power Generating System.
M-416.....	Trailer (¼ ton).

<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
M-151A1.....	Vehicle (¼ton).
AN/GRC-153.....	Radio Equipment Pallet.
PU-630.....	Generator Set.

MANUFACTURER: Collins Radio Co.

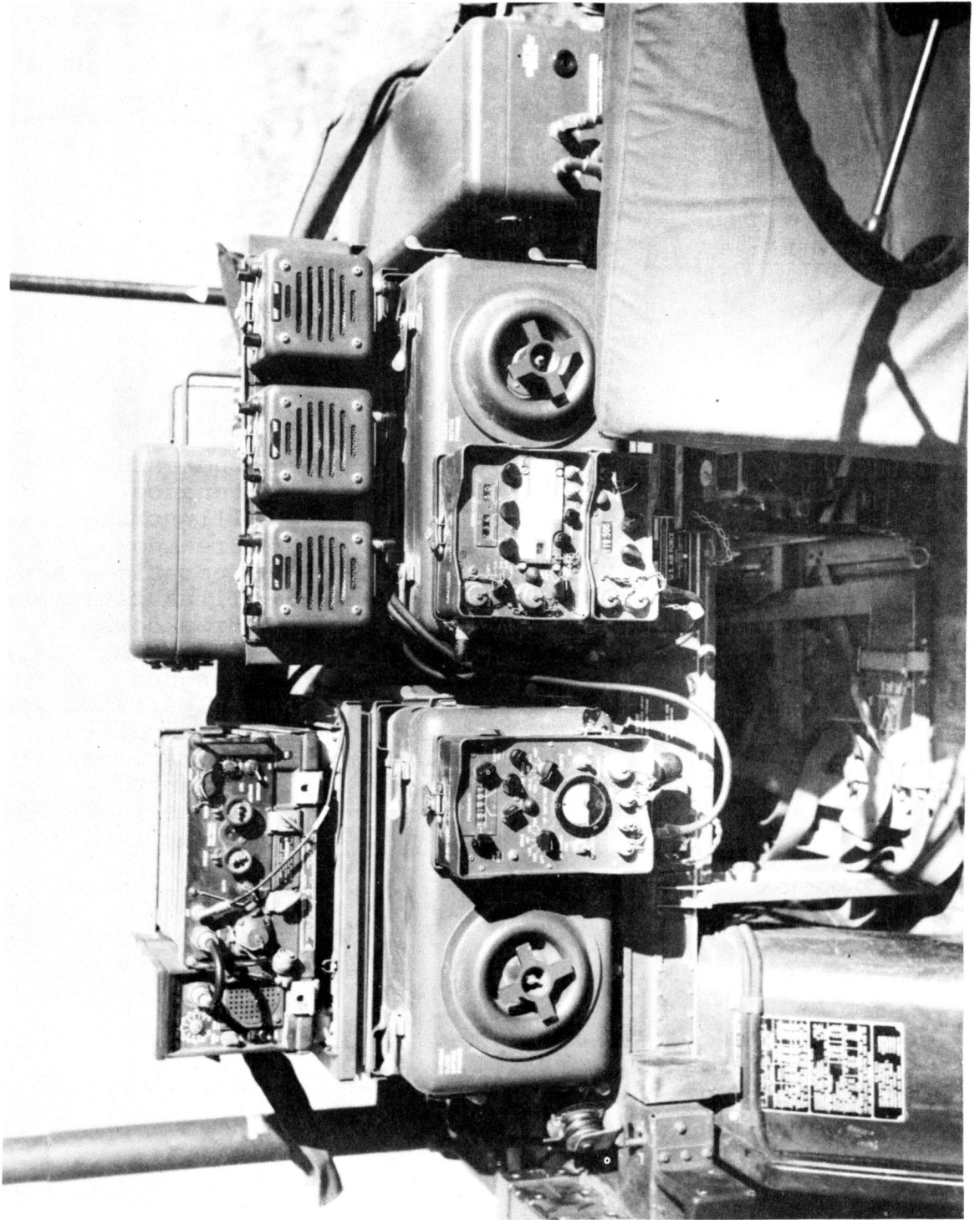
COST: \$18,000.00.

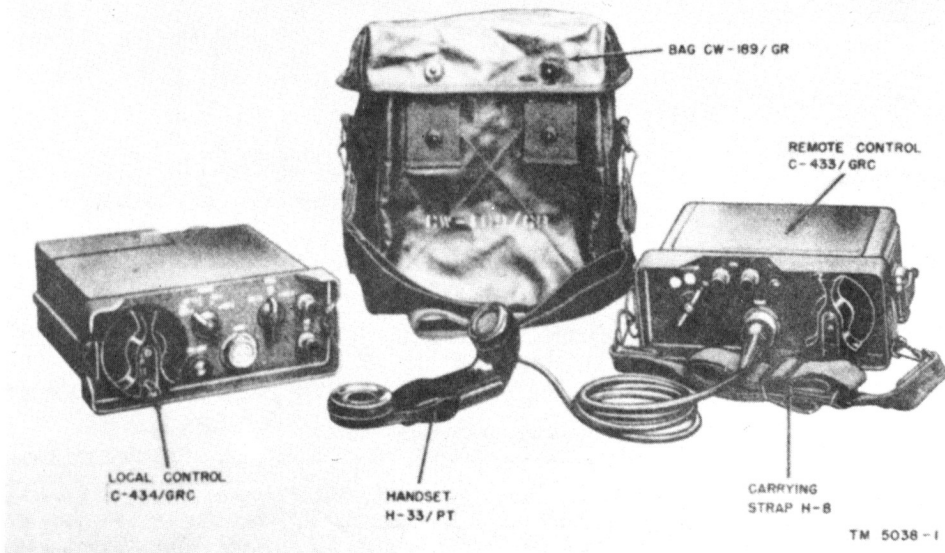
WEIGHT: 2,650 lbs.

CUBE: 349.0 cu. ft.

APPLICABLE TOS:

31R2-2MRC 108-2-----	Operations Main- tenance
31R2-2MRC108-4-----	Illustrated Parts Breakdown.
31R2-2MRC108-6WC-1-----	Operations Manual
31R2-2MRC108-14-----	Illustrated Parts Breakdown
12R2-4-42-2-----	Operations Main- tenance
12R2-4-42-4-----	Illustrated Parts Breakdown
31R2-4-355-2-----	Operations Main- tenance
31R2-4-355-4-----	Illustrated Parts Breakdown





TM 5038-1

## AN/GRA-6 CONTROL GROUP

**DESCRIPTION:** The AN/GRA-6 is a remote control set for the remote operation, voice and keying of radio transceivers. This set consists of two units, a subscribers set and remote set. It is designed for simplex operation, although it has a switching arrangement so that one of any two radios may be remoted at one time. Also included is an intercommunications capability between the subscriber to radio operator. This set is an integral part of the MRC-108. Use of this set is limited because of excessive line loss between the remoted subscriber and the radio set, particularly during the transmit mode of operation.

**CAPABILITY:**

Simplex remote capability for voice and transmitter keying. Two transceivers may be tied into the GRA-6, although only one may be operated at one time. May be remoted up to three miles.

FREQUENCY RANGE: Audio frequencies.

POWER REQUIREMENTS: 4 each BA-30 (1.5 VDC) batteries and one each BB-414 Battery (26.5 VDC).

SITING CRITERIA: None.

ERECTION TIME: Dependent on distance the set is remoted from the transmitter.

PERSONNEL REQUIRED: One each 304X4 or 293X0

MAJOR COMPONENTS:

<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
C-434/TRC.....	Local Control.
C-433/GRC.....	Subscribers (remote) control.
CW-189/GR.....	Bag, Carrying GRA-6.
H-33/PT.....	Handset.
LS-166/U.....	Loudspeaker.
Connector/Adapter ("T").	

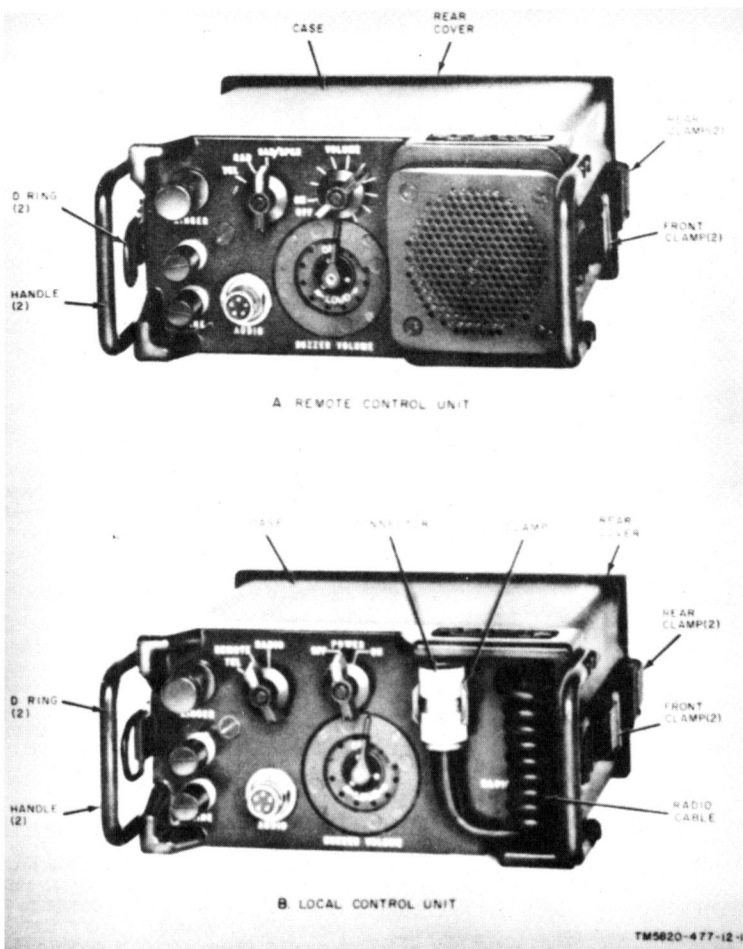
MANUFACTURER: Federal Telephone & Radio Corp.

COST: \$270.00.

WEIGHT: 26 lbs.

APPLICABLE TOs:

31R4-2GRA6-2-----	Control Group.
31R4-2GRA6-24-----	Illustrated Parts Breakdown



## AN/GRA-39 CONTROL GROUP

**DESCRIPTION:** The AN/GRA-39 is a device for the remoting of transceivers up to two miles. It furnishes both keying and audio remote capabilities. It has a built-in speaker with amplifier and utilizes the H-138/U Handset. It is compatible with any radio set which uses the small cannon plug (such as is used on the H-138/U Handset). The set consists of two units, a remote (subscriber's) unit and local (at radio set) unit. It is an integral part of the AN/MRC-107 Radio Set.

**CAPABILITY:** Single radio channel remoted with key and audio up to two miles.

**FREQUENCY RANGE:** Audio.

**POWER REQUIREMENTS:** 6 each BA-30 Batteries per unit; 12 total.

SITING CRITERIA: None.

ERECTION TIME: Varies with type of installation; optimum 15 minutes.

PERSONNEL REQUIRED: One each 304X4 or 293X0

MAJOR COMPONENTS:

<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
C-2328/AN/GRA-39-----	Remote Set.
C-2329/AN/GRA-39-----	Local Set.
H-138/U-----	Handset.

MANUFACTURER: General Dynamics.

COST: \$238.00.

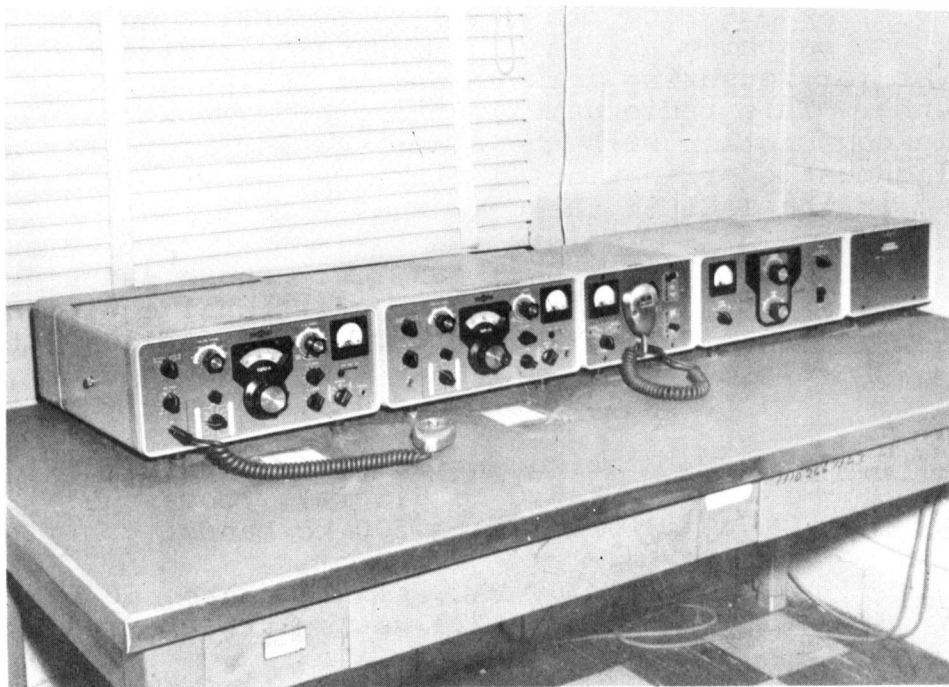
WEIGHT: 15 lbs.

CUBE: 0.8 cu. ft.

APPLICABLE TOs:

31R2-2/MRC-107-2-----	Operators' Instructions.
31R2-2/MRC-107-4-----	Illustrated Parts Breakdown
31R2-2/MRC-107-6WC-----	Work Cards.
31R2-2/MRC-107-14-----	Illustrated Parts Breakdown





## KWM-2A HF SSB TRANSCEIVER

**DESCRIPTION:** The KWM-2A is a manually tuned HF (SSB-CW) transmitter-receiver. It is a crystal controlled transceiver; however, it can be tuned up to 200 kc above each of the 26 crystal positions. The crystal selector has 12 crystals built-in which cover all the HF amateur bands and an additional 14 positions in which crystals may be interchanged to cover the remainder of the transceiver coverage. The only drawback with this highly versatile transceiver is the lack of coverage from 5.0 to 6.5 mcs. With the 50 to 2000 ohm impedance matching output, it is capable of being used with nearly any type of antenna system available with good to excellent results. The set contains no internal power supply; however, several types of power supplies are available which make it possible to operate the set from either fixed or mobile configurations. There are two types of amplifiers available to boost the RF signal,

the 30L-3 (1 KW PEP) and the 30S-1 (2 KW PEP). This allows phone patching as well as containing a directional watt meter for measuring forward and/or reflected power to the antenna. This radio set is used in the Maintenance Net or in conjunction with the tropo-scatter radio for antenna alignment coordination with the distant end. It is also used in the TACS in the Commander's Radio Net.

CAPABILITY: HF: USB, LSB, CW. Phone patching available with additional equipment. Transportable complete station with CC-2 carrying case (less antenna). Manually tuned.

FREQUENCY RANGE: Continuous from 3.4 to 30.0 Mcs (except 5.0 to 6.5 mc). Coverage divided into 200 kc bands.

POWER INPUT: 115/200 VAC, single phase, 50 to 400 cycles, 1720 watts with PM-2 Power Supply.

POWER OUTPUT: 200 watts PEP on SSB and 135 (approximately) on CW. With 30L1 linear SSB is 500 watts PEP, CW is 350 watts.

SITING CRITERIA: No particular criteria; however, if possible, free of obstacles and other radios.

ERECTION TIME: From 30 min to 1½ hrs dependent on type of antenna employed.

PERSONNEL REQUIRED: Two each 304X4

<u>MAJOR COMPONENTS:</u>	<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
	KWM-2A.....	Radio Transceiver.
	PM-2.....	AC Power Supply
	CP-1.....	Crystal Packet.
	MM-1.....	Microphone.
	312B-4.....	Station Control.
	TD-1.....	Tape Antenna.

NOMENCLATURE

COMMON NAME

30L-1.....Linear Amplifier

CC-2.....Carrying Case  
(Suitcase).

MANUFACTURER:

Collins Radio Co.

COST:

\$924.00 (KWM-2A alone with no accessories).  
\$1,753.50 (KWM-2A with 30L-1 Linear Amp,  
PM-2 Power Supply and 312B-4 Control  
Unit).

WEIGHT:

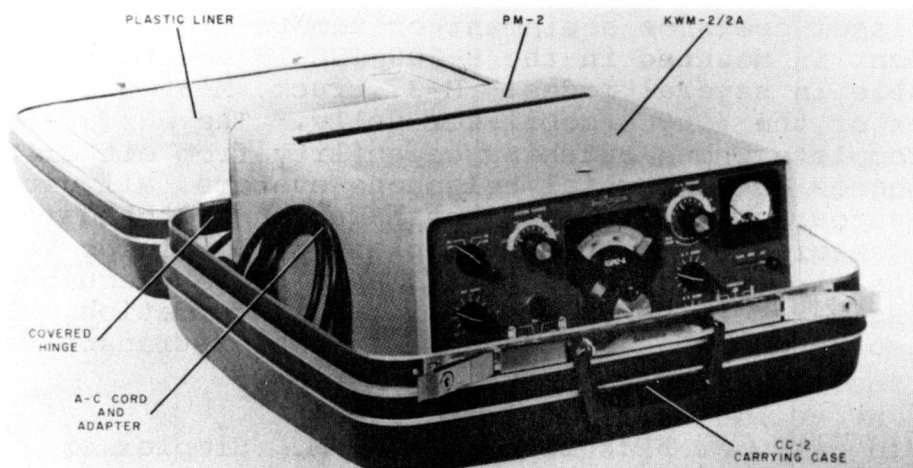
50 lbs (less station control and ampli-  
fier).

CUBE:

2.2 cu ft (CC-2 carrying case).

APPLICABLE TOs:

31R2-4-183-2-----Service Instruc-  
tions.  
31R2-4-183-3-----Circuit Diagram.  
31R2-4-183-4-----Illustrated  
Parts Breakdown.  
31R2-4-183-6WC-1-----PMI Workcards.  
31R2-4-183-9-----Alignment Instruc-  
tions.



KWM-2A



## AN/TSC-15 COMMUNICATION CENTRAL

**DESCRIPTION:** The AN/TSC-15 Communications Central is a transportable HF (SSB) radio set. Two and four wire (simple/duplex) voice and teletype channels may be operated from this using the local operator equipment or remote field equipment. The equipment is mounted in the S-208/TSC-15 shelter and is transportable in several modes: M-37 truck, M-35 truck, M-105 trailer or the 4000C3 mobilizer dolly. The AN/TSC-15 features complete phone patching capability from either field type telephones or commercial telephone systems, all patched through the four-cord, five-line push-button switchboard. The radio features electronic multiplexing, combining several voice and teletype channels into a single radio frequency, simultaneously receiving and transmitting information. The set may also be operated in the normal simplex transceiver mode.

**CAPABILITY:**

HF: USB, CW and AM. Simplex or Duplex operation. Either sideband may be divided into two independent

radio channels (4 total). Four teletype signals may be placed simultaneously on either channel 1 or 4. FSK teletype may be operated also on either side band. Maximum simultaneous capability is 4 teletype and 3 voice channels transmit/receive. An automatic ring-down capability is available to each telephone line allowing subscriber to subscriber (wire or radio) ring-down. Built-in teletype (TGC-14) may be used to either monitor incoming/outgoing teletype signals or to communicate via wire or radio. The switchboard is capable of patching up to four parties to either wire or radio or a conference including the operator, and up to four other parties either radio or wire.

FREQUENCY RANGE:

2.0 to 29.999 Mcs in 1 Kc channels, 28,000 total. All auto-tuned.

POWER INPUT:

110/208 VAC, three phase, 400 cycle, 4 wire WYE, 4 Kw minimum.

POWER OUTPUT:

HIGH POWER: SSB 1000 watts PEP, DSB 500 watts per side band, multi-channel 250 watts per channel (all PEP). Each of the multi-channel is 1.5 Kc wide. CW AM-FSK 750 watts PEP.

LOW POWER: SSB 200 watts PEP, DSB 100 watts per side band, multi-channel 50 watts per channel. CW-AM-FSK 40-80 watts.

SITING CRITERIA:

Away from other radios, preferably in an area free from obstacles. The duplex antenna should be extended at least 100 feet away from the van. It should be well grounded and away from any interference-causing apparatus (other radios, power units, etc.). Guy ropes must be marked so the antenna can be seen from at least 25 feet. If at all possible, the receive antenna should be located on clear high ground.

ERECTION TIME: Two men 30 minutes (not including re-moting wires).

PERSONNEL REQUIRED: Two each 304X4

<u>MAJOR COMPONENTS:</u>	<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
	S-208/TSC-15.....	Shelter.
	T-730/TSC-15.....	Transmitter/ Amplifier.
	R-761/ARC-58.....	Transceiver (2 each).
	CU-749/TRC-75.....	Antenna Coupler
	C-2848/TRC-75.....	Antenna Coupler Control.
	AN/TGA-1.....	Telegraph Termi- nal Group.
	F-508/U.....	Band Pass Filter.
	CV-976/U.....	Converter Multi- plexer.
	AT1041/U.....	Antenna Kit, Shelter.
	AT1041/U.....	Antenna Kit, Ground.
	OA-3129/TSC-15.....	Comm Control Con- sole.
	SB-1248/TSC-15.....	Switchboard.
	AN/TGC-14 (V).....	Teletypewriter Set.

MANUFACTURER: Collins Radio Co.

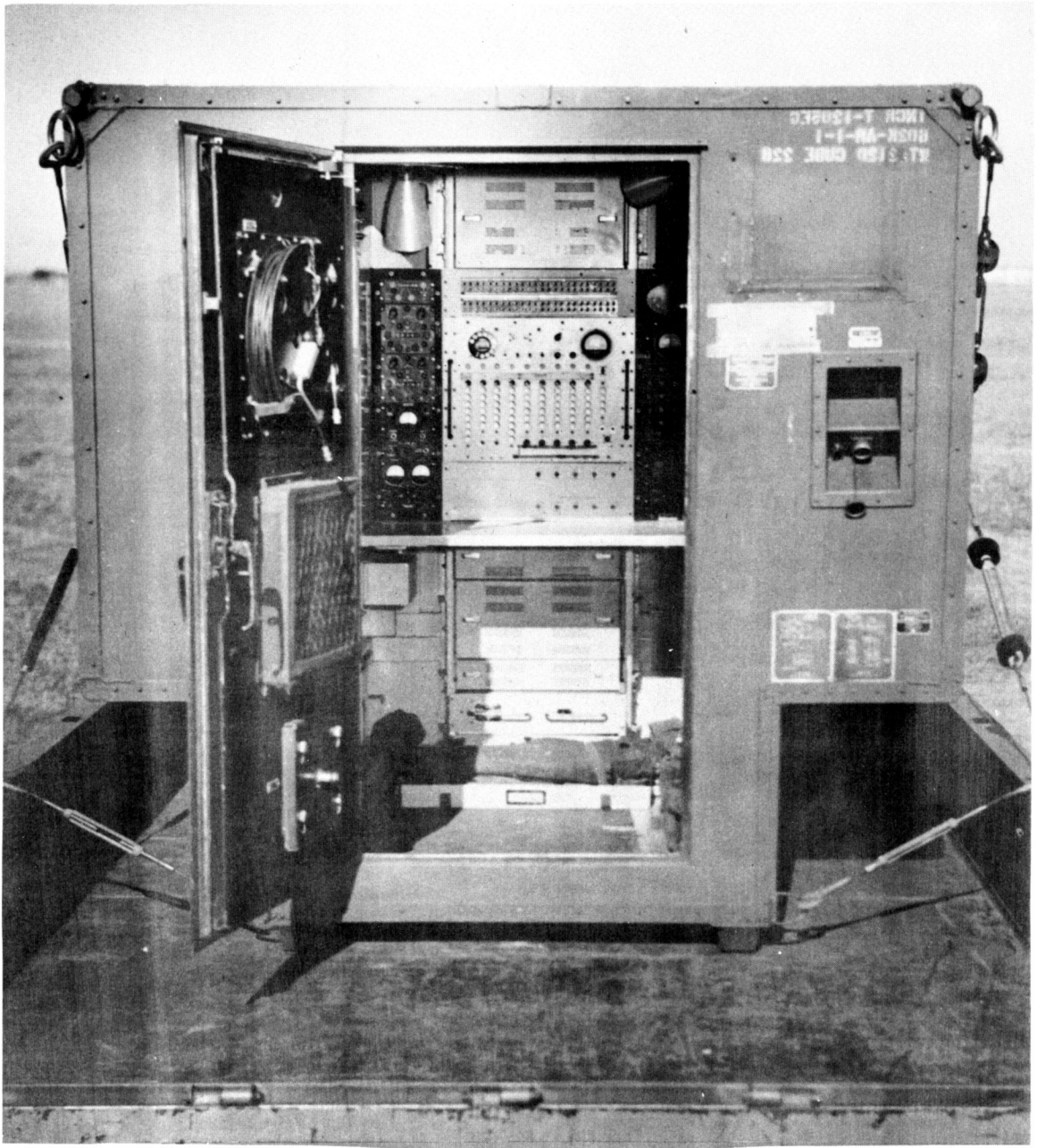
COST: \$52,500.00.

WEIGHT: 2000 lbs.

CUBE: 216 cu. ft.

APPLICABLE TOs:

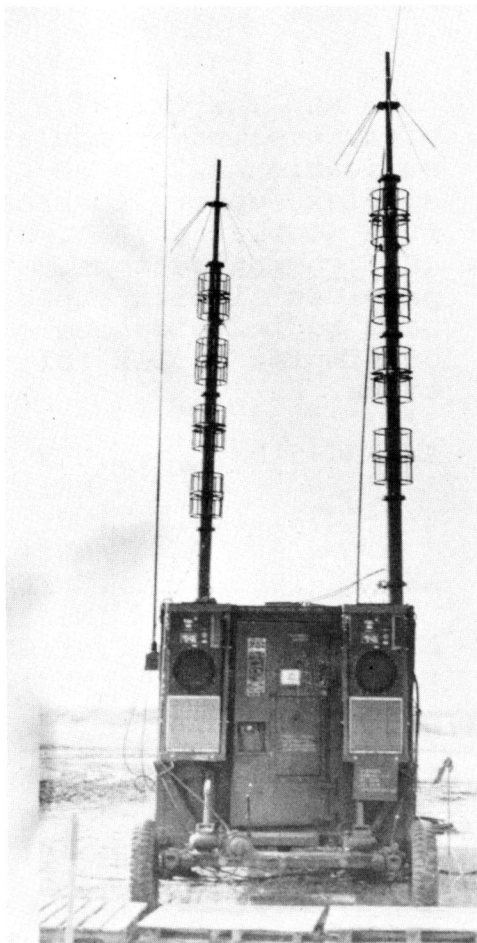
- 31R2-2TSC15-1-----Operations In-  
structions.
- 31R2-2TSC15-2-----Maintenance &  
Overhaul Instruc-  
tions.
- 31R2-2TSC15-3-----Circuit Diagram.
- 31R2-2TSC15-4-----Repair Parts List.



Interior view AN/TSC-15







## AN/TSC-53 COMMUNICATIONS CENTRAL

**DESCRIPTION:** The AN/TSC-53 Communications Central is a transportable communications set which provides both HF voice and teletype and VHF/UHF air-to-ground communications facilities for a Forward Air Control Post (FACP). Also, it serves as an intrasite communications net between the radar set (AN/TPS-44), operations central (AN/TSQ-61), troposcatter set (AN/TRC-97), and other on-base subscribers. In addition, the AN/TSC-53 provides an intersite communications capability. There are a total of 30 radio telephone (rad tel) circuits which connect with corresponding radio telephone circuits in the AN/TSQ-61 operations central, 12 switchboard drops on the SB-22A/PT switchboard, and 24 tropo circuits which connect with corresponding circuits in the AN/TRC-97.

**CAPABILITIES:**

The AN/TSC-53 consists primarily of two (2) AN/ARC-51BX UHF transceivers, two (2) R/T-807A VHF transceivers, one (1) AN/GRC-106 HF transceiver, and one (1) AN/GRC-157 transceiver. Both the AN/ARC-

51BX and the R/T-807A provide simplex, amplitude modulated (AM) communications. The AN/GRC-106 provides simplex, upper sideband (USB), amplitude modulated (AM), or continuous-wave (CW) communications. The AN/GRC-157 provides simplex/duplex single sideband radio telephone communications, or simplex/duplex teletype communications.

FREQUENCY RANGE: AN/ARC-51BX.....UHF (225.0 to 399.95 MHz)  
 R/T-807A.....VHF (116 MHz to 149.95 MHz).  
 AN/GRC-106.....HF/USB (2 MHz to 29.999 MHz).  
 AN/GRC-157.....HF/SSB (2 MHz to 30 MHz).

POWER INPUT: 120/208 VAC, 400 Hz, 3 phase, 4 wire grounded neutral; 13 Kw (with A/C).

POWER OUTPUT: AN/ARC-51BX.....20 watts minimum for all channels  
 R/T-807A.....40 watts maximum.  
 AN/GRC-106.....400 watts PEP (Peak Envelope Power).  
 AN/GRC-157.....1 Kw (PEP).

SITING CRITERIA: The AN/TSC-53 must be placed on solid ground with a slope not in excess of 10%.

ERECTION TIME: 1 hour.

PERSONNEL REQUIRED: Three each 304X4

MAJOR COMPONENTS:

<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
S-387/TSC-53.....	Shelter, Elec equip
Power Distribution Box.....	Same
SB-2940/TSC-53.....	Tech Control Fac
TA-312/AT.....	Maintenance Tele

<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
AS-2020/TSC-53.....	UHF/VHF Antenna Assy
CV-2229/TSC-53.....	Telegraph converter
TH-75/TSC-53.....	Telegraph terminal
F316A/U.....	Telegraph filter
AN/GRC-157.....	HF/SSB Radio set
SB-22A/PT.....	Switchboard
PP-4704/TSC-53.....	Power supply
AN/GRC-106.....	RF amplifier
C-7044/GSC.....	Remote Control
SB-2941/TSC-53.....	Secure patch panel

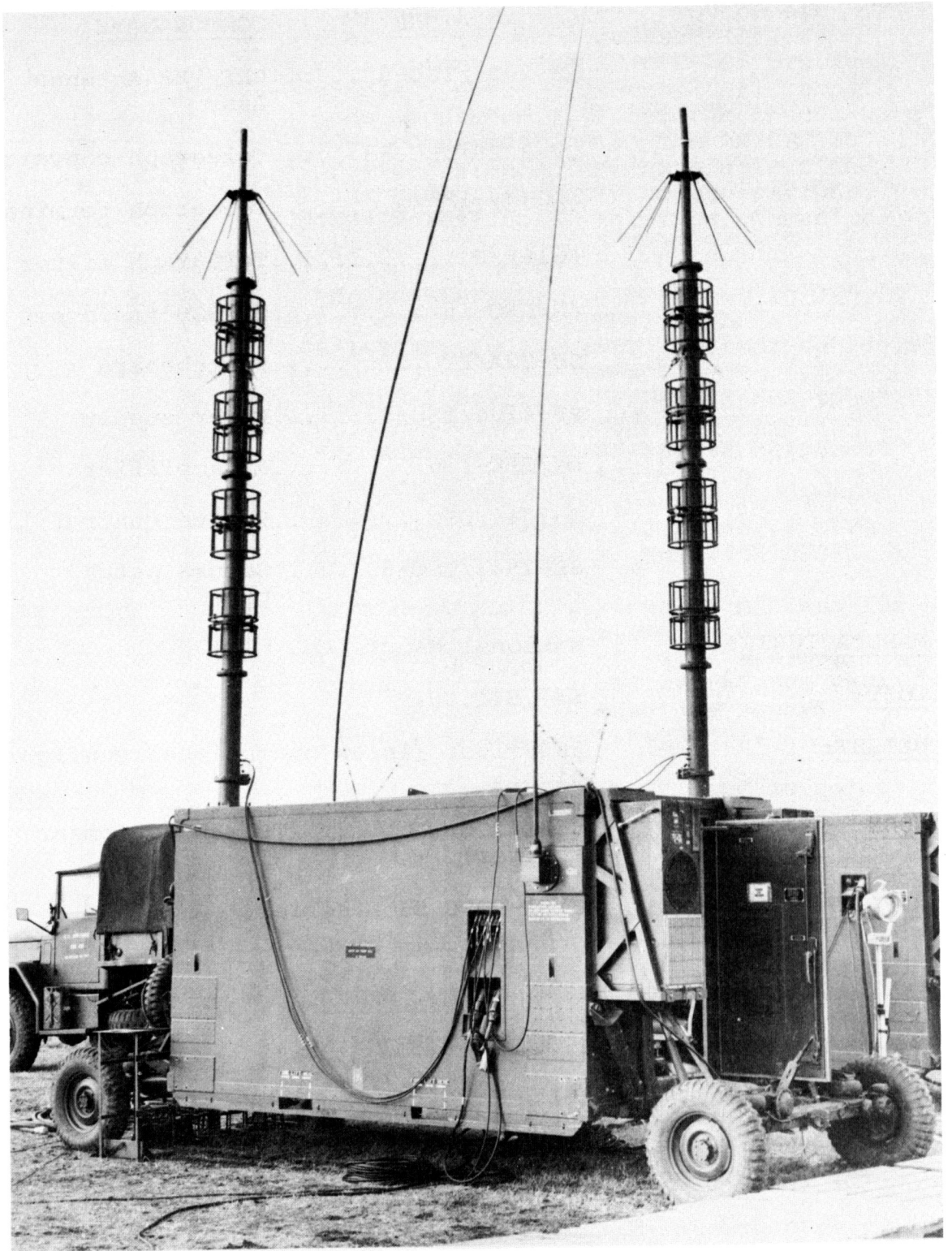
MANUFACTURER: National Manuf. Co.

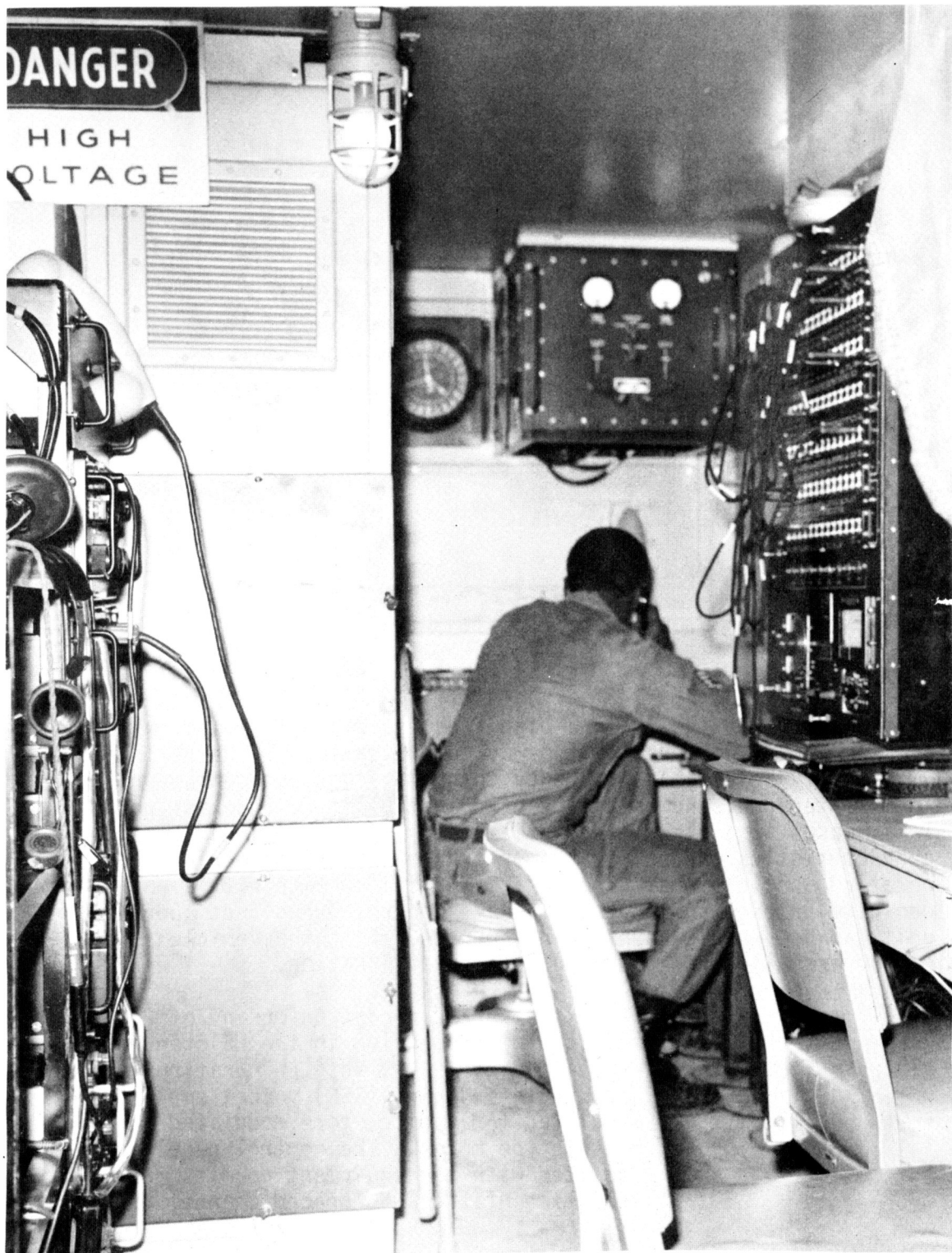
COST: \$57,941.00.

WEIGHT: 5600 lbs. (in an operational configuration).

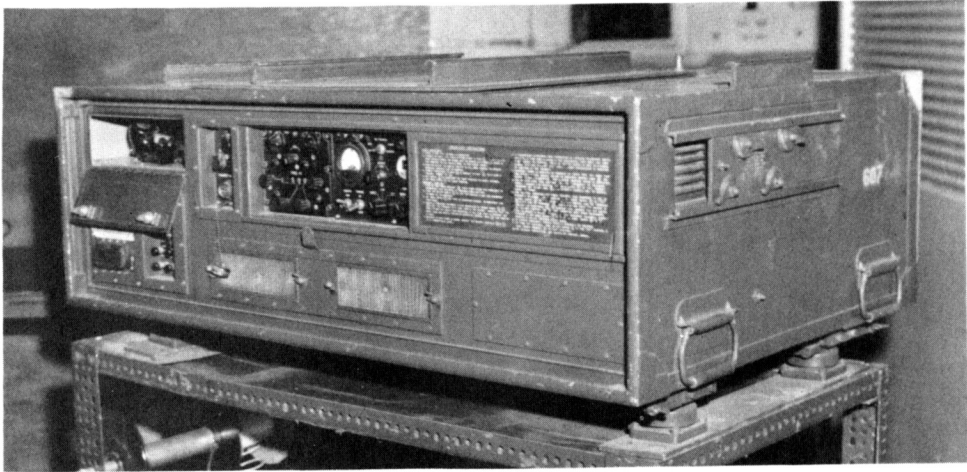
CUBE: 623.42 cu. ft. (AN/TSC-53 equipment shelter).

APPLICABLE TOs: 31S1-2TSC 53 - series.





Interior View AN/TSC-53



## AN/TRC-75 RADIO SET

DESCRIPTION: The AN/TRC-75 is a high frequency (HF) radio set which provides reliable, long range, two-way communications. The AN/TRC-75's 28,000 directly selectable frequency channels, fast automatic tuning, ease of maintenance, and retention of compatibility with existing AM stations, makes it a highly versatile radio set. The linear amplifying characteristics of the high power transmitter allow a wide range of operating applications. The AN/TRC-75 will operate with a whip or long wire antenna, using the AN/GRA-6 Control Group (not supplied). The unit can be vehicle mounted and operated while the vehicle is in motion, or installed and operated in a fixed location.

CAPABILITY:

Transmission and reception on any of 28,000 selectable frequencies in the HF frequency range (2.0 to 29.999 mcs). Operating modes are single sideband (SSB) voice, amplitude modulated (AM) voice, tone modulated CW, or teletype modes. The control panel associated with the equipment permits manual selection of the 1 KC spaced channel frequencies.

POWER INPUT: 115 VAC @ 380-420 Cns, 3 phase, 2.5 KW.

POWER OUTPUT: 100 watts low power or 1 KW high power.

SITING CRITERIA: The ideal location is flat ground clear of nearby obstacles.

ERECTION TIME: 30 minutes.

PERSONNEL REQUIRED: One each 304X4

MAJOR COMPONENTS:

<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
CY-2600/TRC-75.....	Radio set case
C-3141/TRC-75.....	Radio set control
R-761/ARC-58.....	Receiver
T-730/TRC-75.....	Transmitter
CU-749/TRC-75.....	Antenna Coupler
C-2848/TRC-75.....	Ant. Coup. Control
CV-786/TRC-75.....	Converter Osc.

MANUFACTURER: Collins Radio Co.

COST: \$28,667.00

WEIGHT: 435 lbs.

CUBE: 17 cu. ft.

APPLICABLE TOs:

31R2-2TRC75-1-----	Oper. manual
31R2-2TRC75-2-----	Maint. and O/H manual
31R2-2TRC75-4-----	Repair parts list.
31R2-2TRC75-12-----	Maint. and O/H manual (nn-2352/UP nwr. sup).
31R2-2TRC75-14-----	Repair parts list (nn-2352/UP nwr. sup)



## AN/TRC-87 RADIO SET

**DESCRIPTION:** The AN/TRC-87 is a two-way 3500 channel Ultra High Frequency (UHF) communications set. The radio provides five Amplitude Modulated (AM) voice channels; four channels using manually tuned transmitter-receiver groups, and one channel using an automatically tuned transmitter-receiver group. The radio set is operated through a remote control system (supplied) or through an alternate electronic telephone system (not supplied). The four manually tuned transmitter-receiver groups provide fixed frequency voice channels at the remote site, while the auto channel provides selection of any one of 21 preset (automatically tuned) voice channels. The electrical equipment shelter, S-285/TRC-87, houses the transmitting-receiving groups during operation and provides storage space for all accessories during transit. The shelter is designed to operate with a four wheel mobilizer which can be used for ground transportation. Four brackets on the front and rear walls of the shelter (two on each wall) are used to secure the mobilizer to the shelter. The AN/TRC-87 is mounted on three parallel skids to facilitate moving and loading. Lift and tie down eyes are provided at the upper four corners of the shelter.

**CAPABILITY:**

3500 available voice frequencies in UHF range. Twenty-five are available at the remote site, 4 manual and 21 auto voice channel. Maximum remoting distance is 5 miles.



FREQUENCY RANGE: 225.0 - 399.95 MHz

POWER INPUT: 120/208 VAC, 4 wire, 3 phase, 400 Cns.  
120/220 VAC, 1.4 Amp.; single phase, 50/60 Cns.  
(60 Cns only if telephone remoting equipment is available).

POWER OUTPUT: 100 watts.

SITING CRITERIA: Locate on highest available ground, with antenna clear of any radiating facility or obstacles.

ERECTION TIME: 1 hour.

SPECIAL TOOLS: Special tools/test equipment are supplied with the AN/TRC-87.

PERSONNEL REQUIRED: Two each 304X4

MAJOR COMPONENTS:

NOMENCLATURE	COMMON NAME
R-1120/TRC-87.....	Receiver, Auto
R-1121/TRC-87.....	Receiver, Manual
CA-3709/TRC-87.....	Transmitter Group (4 each)
AT-197/GR.....	Antenna (2 each)
CX-10139/U...-.....	Power Cable Assy.
CA-6456/TRC-87.....	Radio set Group
C-6028/TRC-87.....	Radio Set Group Cont.
S-285/TRC-87.....	Elec. Equip. Shelter

MANUFACTURER: Motorola Inc.

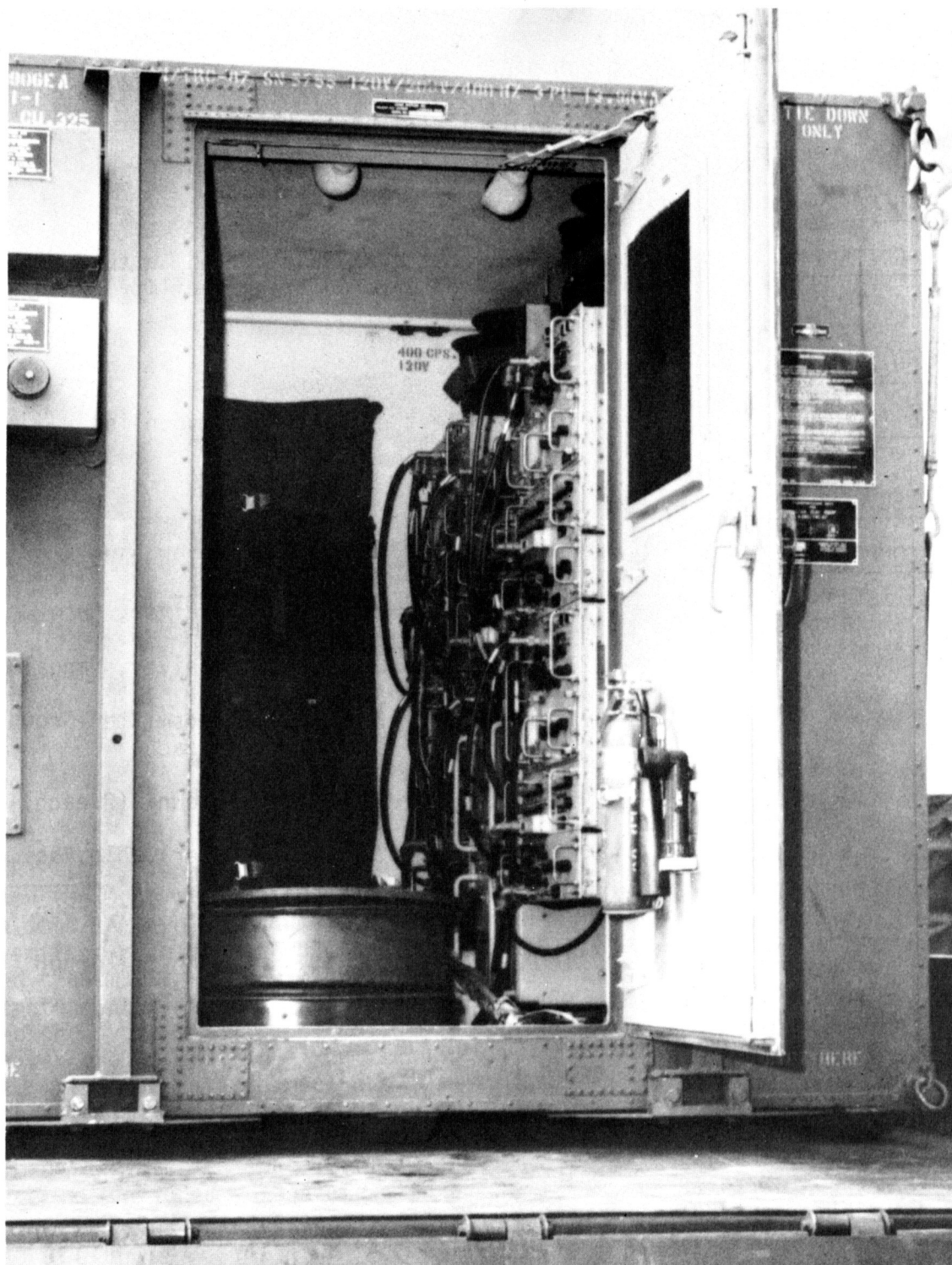
COST: \$155,000.00

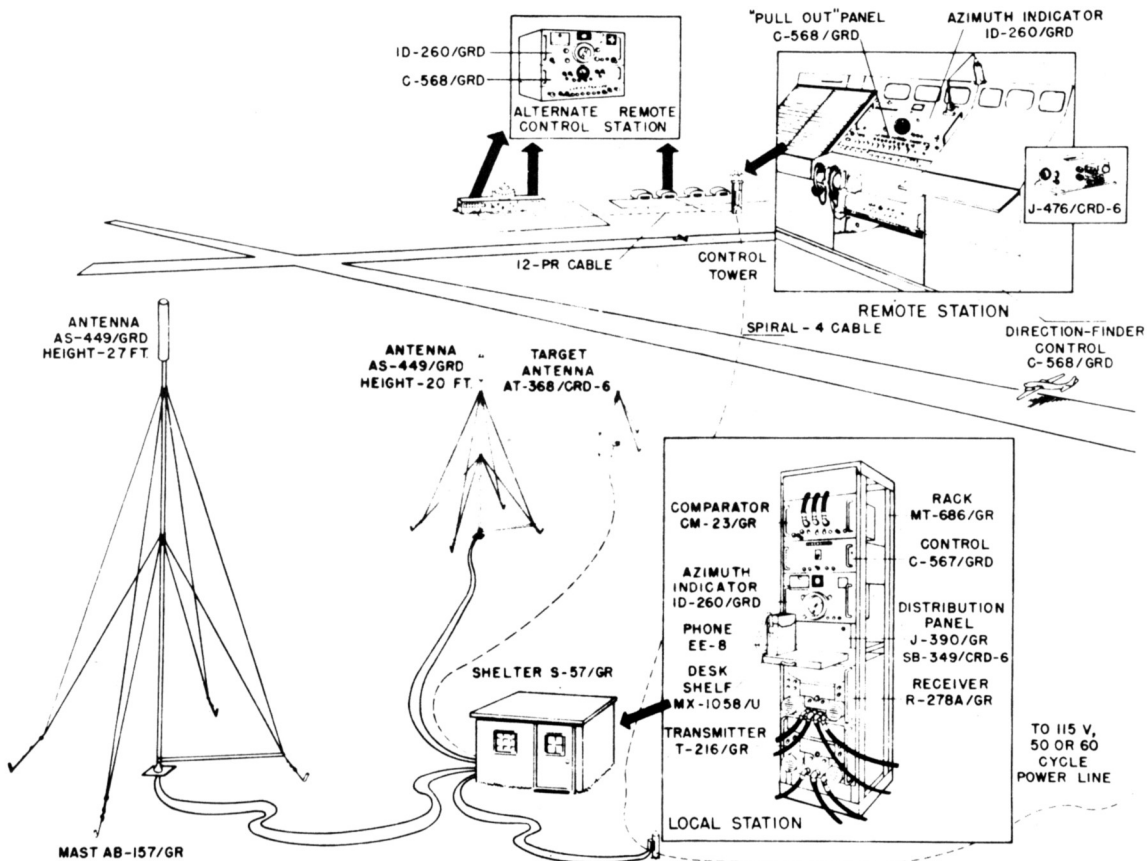
WEIGHT: 2840 lbs.

CUBE: 325 cu. ft.

APPLICABLE TOs:

31R2-2TRC87-2-----	Service Instr.
31R2-2TRC87-3-----	Circuit Diag.
31R2-2TRC87-4-----	Illus. Parts Brkdn.
31R2-2TRC87-6WC-1-----	PMT Work Card.
31R2-2TRC87-9-----	Alignment Instr.





# AN/GRD-6 DIRECTION FINDER SET

**DESCRIPTION:** The AN/CRD-6 is a UHF Radio Direction Finder used for determining the bearing of aircraft from the DF station. Directional information is determined from the phase variations of an aircraft's UHF transmissions as received by two AN/CRD-6 antennas. These antennas are mounted on adjustable-height masts for diversity operation, which minimizes aircraft bearing errors resulting from direct or ground-reflected waves. A phase meter or synchro system displays bearing information at the local station or up to four remote stations by the azimuth orientation of an indicator needle. Channel selection, target transmitter operation for self-check, and system "on-off" can be controlled from any of the remote stations.

**CAPABILITY:**

The AN/CRD-6 has 1750 channels, 10 of which may be manually preset. Bearing information is displayed **instantaneously on selected frequencies**. The equipment functions equally well using amplitude modulated (AM) or continuous wave (CW) UHF signals. In addition, remote sites may be located at distances up to 10,000 feet from the local station.

FREQUENCY RANGE: 225 MHz to 399.9 MHz.

POWER INPUT: 115 VAC, 50 to 60 Hz, 4 KW.

SITE SELECTION: Site selection should be clear of obstructing trees, overhead power lines, and surrounding metal buildings.

<u>MAJOR COMPONENTS:</u>	<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
	CM-23/GR.....	Comparator
	C-567/GRD.....	Direction Finder Control
	ID-260/GRD.....	Azimuth Indicator
	R-278A/GR.....	Radio Receiver
	SB-349/CRD-6.....	Distribution Panel
	AS-449/GRD.....	Antenna

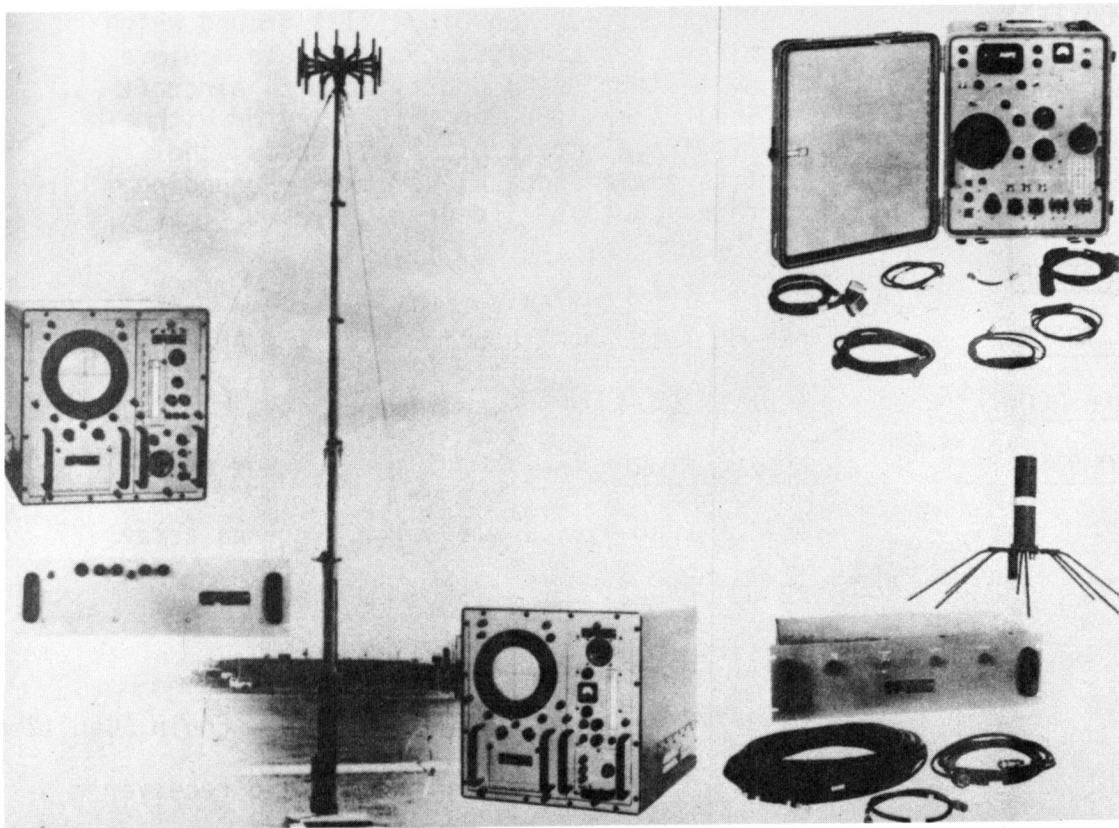
MANUFACTURER: Federal Telephone and Radio Corp.  
Raytheon Manufacturing Co.

ERECTION TIME: 4 hours.

WEIGHT: 2247 lbs.

CUBE: 126 cu. ft.

<u>APPLICABLE TOs:</u>	31R4-2CRD6-1-----	Operating and Service Instructions.
	31R4-2CRD6-2-----	Maintenance Instr.
	31R4-2CRD6-4-----	Illus. Prts. Brkdn.
	31R4-2CRD6-12-----	Erection and Maint. (Mast AP-157/GR)
	31R4-2CRD6-22-----	Erection and Maint. (Shelter S-57/GR)
	31R4-2CRD6-44-----	Spare Prts. List, AM/CRD-6.
	31R4-2CRD6-51-----	Protector, Electrical, Primary Circuit MX-1672/CRD



## AN/GRD-11 DIRECTION FINDER SET

**DESCRIPTION:** The AN/GRD-11 is a UHF radio direction finder used to determine the bearing of aircraft from the operating site. The AN/GRD-11 determines bearing information from the UHF transmitter on board the aircraft and displays the information (as a directional strobe) on a cathode ray tube (CRT). The system is composed of equipment for a local and remote site. The local site consists of radio receiving equipment, antenna, and display and control equipment. The remote site equipment consists solely of display and control equipment. Connections between the two sites are accomplished by two pair field telephone wires. The AN/GRD-11s controlling site is determined by positioning the local-remote switch on the local equipment.

**CAPABILITY:**

The AN/GRD-11 has 1750 channels of which 20 are preset. The equipment is designed to receive continuous wave (CW) or amplitude modulated (AM) carrier signals.

**FREQUENCY RANGE:**

225 MHz - 399.9 MHz

**POWER INPUT:**

110/130 VAC @ 50/63 Cps, single phase, 300-400 watts.

SITING CRITERIA:

The ideal site is on high, flat ground which is clear of obstacles. In order to achieve line-of-sight (LOS) operation with aircraft at long ranges (50-200 miles) and/or with low flying aircraft at short ranges, the horizon screening angle of the surrounding terrain should be 1 degree or less.

ERECTION TIME:

2 hours.

SPECIAL TOOLS:

GRM-56 Test Set (supplied with the AN/GRD-11)

PERSONNEL REQUIRED:

4 each 304X4

MAJOR COMPONENTS:

<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
AS-1309/GRD-11.....	Antenna array
AB-631/GRD-11.....	Mast
TG-116/GRD-11.....	Elevator
CY-3677/GRD-11.....	Elec. Equip. Cab.(2 ea)
R-1147/GRD-11.....	Radio receiver
IP-658/GRD-11.....	Azimuth indicator
C-4261/GRD-11.....	Local control
C-4262/GRD-11.....	Remote control
IP-659/GRD-11.....	Remote Azimuth indicator

MANUFACTURER:

Servo Corp of America

COST:

\$21,210.00

WEIGHT:

1790 lbs.

CUBE:

90.3 cu. ft.

APPLICABLE TOs:

31R4-2GRD11-2-----	Service instr.
31R4-2GRD11-3-----	Circuit Diag.
31R4-2GRD11-4-----	Illus. Pts. Brkdn
31R4-2GRD11-6MC-1-----	PMI Work Cards
31R4-2GRD11-9-----	Alignment Instr.



## WILCOX 807A VHF RADIO

DESCRIPTION: The Wilcox 807A is a VHF transceiver built with solid state circuitry, except for the power amplifier. Channeling is accomplished by diode switching matrices. Maximum channeling time is four seconds. In the TACS, the 807A is used in the TSC-53 Communications Central, MRC-107 Communications Central, and as a portable VHF transceiver.

CAPABILITY: 40 watts nominal, amplitude modulated (AM), 680 channels spaced 50 KHZ apart. Channeling time is 4 seconds.

FREQUENCY RANGE: 116.0MHZ to 149.975 MHZ.

POWER INPUT: +27.5 VDC (-20% to +10%), 11 amps maximum.

POWER OUTPUT: 40 watts maximum.

SITING CRITERIA: Antenna should be located in an area free of overhead power lines, trees, metal buildings and other obstructions.

ERECTION TIME: 1 hour.

PERSONNEL REQUIRED: One each 30454

MANUFACTURER: Wilcox Electric Co.

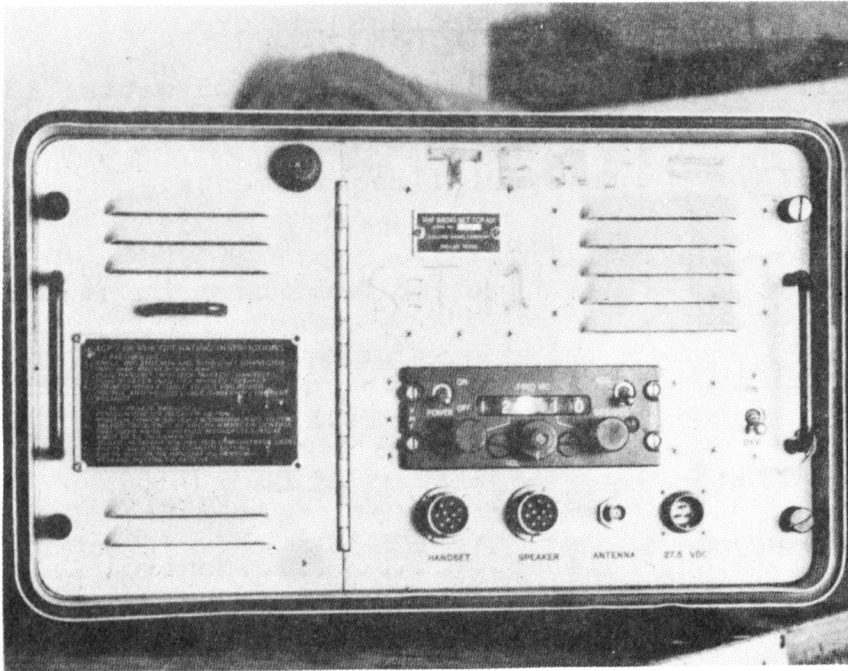
COST: \$2,900.00.

WEIGHT: 15.9 lbs.

CUBE: .5 cu ft.

APPLICABLE TOs: 12R2-4-62-12-----Operation and Maintenance Instructions.





## TCP 101 VHF RADIO

**DESCRIPTION:** The TCP-101 is a lightweight, portable, air-to-ground VHF transceiver. There are 680 crystal-controlled transmit channels available for selection by a Collins auto-positioner system controlled by the 614U-6 Control Unit. Frequency selection may be on single channel simplex (SCS), double channel simplex (DCS), or double channel duplex (DCD) circuits which provide a shift in frequency of 6 MHz between the transmitter and receiver. The 51X-2B receiver is a double conversion superheterodyne type operating in the 108.00-151.95 MHz range, and has 880 crystal-controlled channels available. Housed in a fiberglass transit case, it comes equipped with antenna, speaker and coaxial cable.

**CAPABILITY:**

SCS, DCS, DCD operation on 680 channels spaced 50 KHZ apart. Receive on 880 channels.

**FREQUENCY RANGE:**

Transmit: 116.0-149.95 MHz  
Receive: 116.0-151.95 MHz

POWER INPUT: 28 VDC storage battery.

POWER OUTPUT: 116.0-133.95 MHZ is 25 watts; 134.0-149.95 MHZ is 20 watts.

SITING CRITERIA: No special requirements.

ERECTION TIME: 15 minutes.

PERSONNEL REQUIRED: One each 304X4

MAJOR COMPONENTS:

<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
17L-78.....	Transmitter
51X-2B.....	Receiver
614U-6.....	Control Unit
365D-1.....	Audio Amplifier
LS-166/U.....	Speaker
H-33/PT.....	Handset

MANUFACTURER: Collins Radio.

COST: \$6,350.00.

WEIGHT: 85 lbs.

CUBE: 8.8 cu. ft.

APPLICABLE TOs:

12R2-4-28-2-----	Maintenance and Repair Instructions
12R2-4-29-2-----	Maintenance and Repair Instructions

# AN/TSC-60

## COMMUNICATIONS CENTRAL

DESCRIPTION: The AN/TSC-60(V)-1 Communications Central is an HF/SSB radio housed in an air conditioned shelter. Two 1 KW transmitters, receivers and associated equipment provide voice, CW, teletype or high speed data, multiplexed teletype and speech-plus-teletype signals.

CAPABILITY:

1. Up to eight speech channels (4 per radio set)
2. Up to eight speech plus TTY channels (4 per radio set)
3. Eight TTY channels nondiversity or four TTY diversity channels to replace a speech or speech plus TTY channel.

FREQUENCY RANGE: 2.0000 to 29.0000 MHz

POWER INPUT: 120/208 VAC, 3-phase, 4-wire, 50/60/400 Hz, 26 KVA

POWER OUTPUT: 1 Kilowatt

SITING CRITERIA: The site area may have a slope of no greater than ten percent. Several additional factors must be considered in the selection of a site for the AN/TSC-60(V)-1. A location favorable for antenna installation is the first consideration. A reasonably open area with an elevation equal to or higher than the surrounding terrain is desirable. The immediate shelter site area should be level, well drained, and of a soil type suitable to support the shelter and pallet. The AN/TSC-60(V)-1 requires an installation area that is roughly circular and approximately 1,000 feet in diameter. Preferably the entire area should be free of trees, buildings, or other obstructions. If this is not possible, trees or obstructions may stand between antennas but not within the square formed by each orthogonal antenna, nor within 50 feet of any antenna. The area directly in front of the direction of transmission of each antenna should be free of

obstruction. At 500 feet in front of the antenna, obstruction height should not exceed 50 feet and should be proportionately shorter closer to the antenna. Bushes, weeds, etc, under 5 feet tall are permissible anywhere in the installation area; those that could touch the antenna must be removed.

ERECTION TIME:

Two hours (4 men, AFSC 304X4).

PERSONNEL REQUIREMENTS:

None, remotely operated from CRC/CRP/DASC/TACC remotely controlled from the DASC/TSC-62.

MAJOR COMPONENTS:

NOMENCLATURE

COMMON NAME

AN/TSC-60(V)-1	Communications Central Shelter
S-448/TSC-60(V)-1	Transmit & Receive Whip Antenna (2 each)
AS-2459/TSC-60(V)-1	Transmit orthogonal antenna
AS-2481/TSC-60(V)-1	Receive orthogonal antenna
AS-2482/TSC-60(V)-1	Pallet (ECU)
MT-4207/TSC-60(V)-1	Radio control group
OK-145/TSC-60(V)-1	

MANUFACTURER:

Collins Radio

COST:

\$186,283.00

WEIGHT:

5000 pounds - S-448/TSC-60(V)-1  
3500 pounds - MT-4207/TSC-60(V)-1

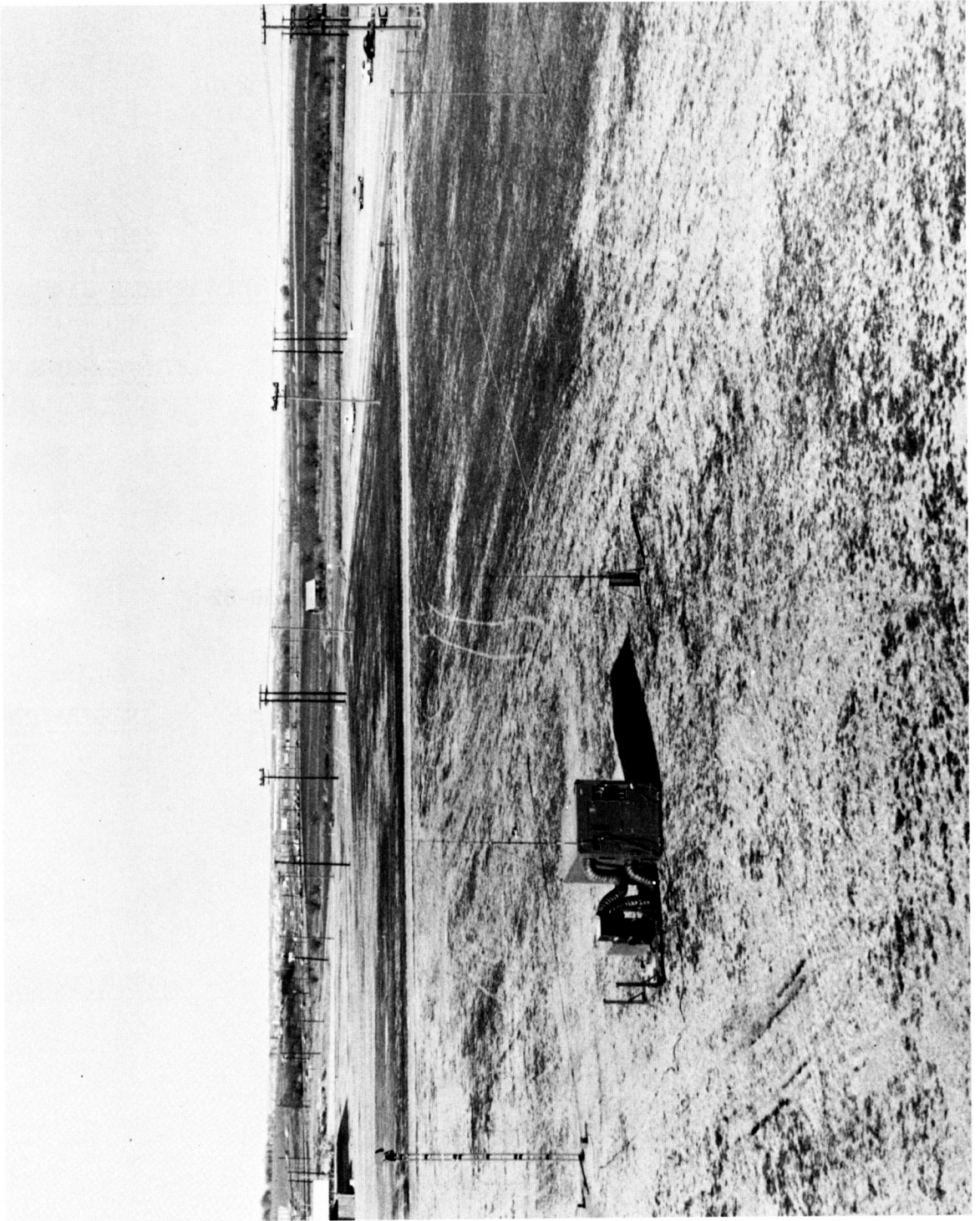
CUBE:

615 cu ft - S-448/TSC-60(V)-1  
542.5 cu ft - MT-4207/TSC-60(V)-1

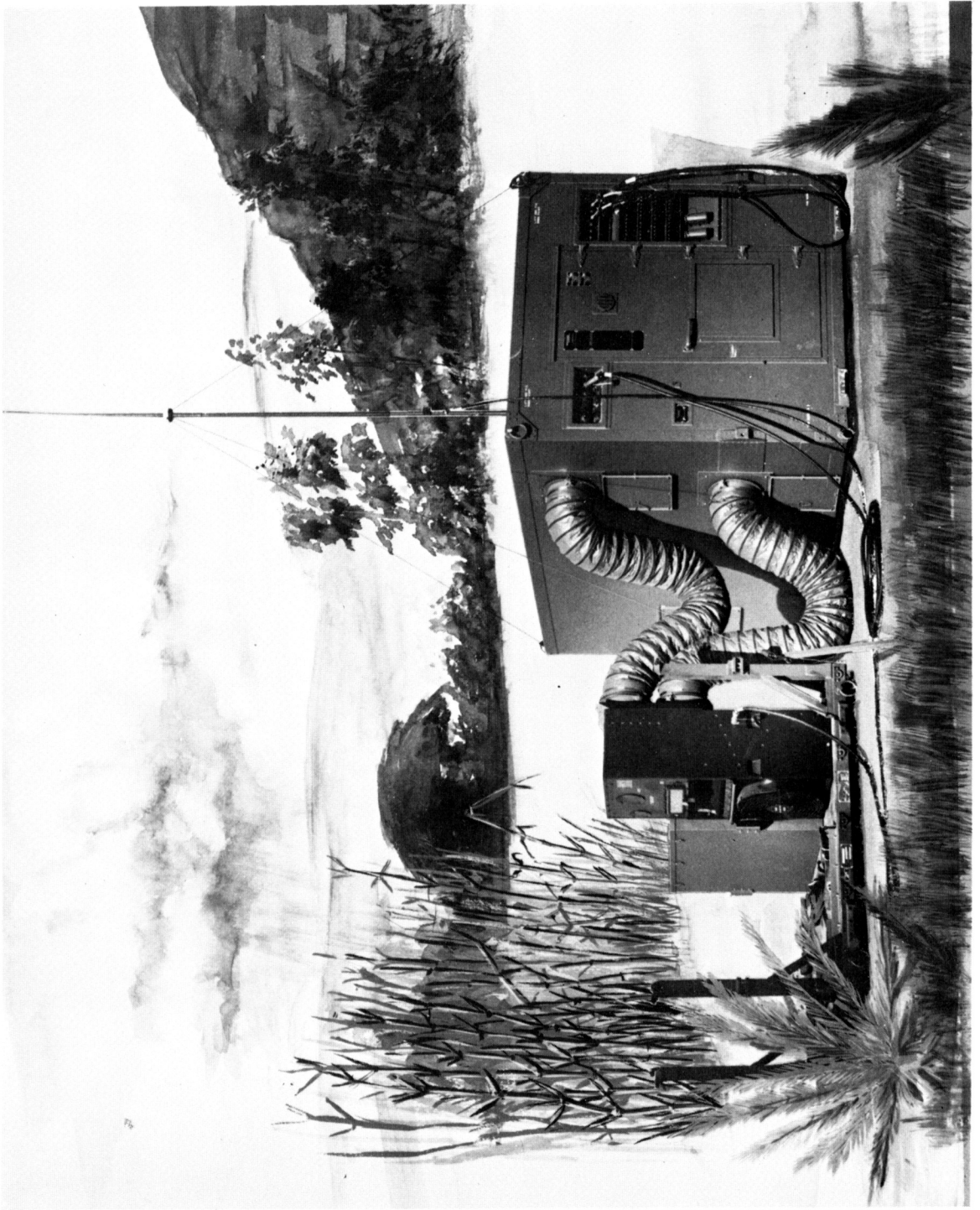
APPLICABLE TOs:

31S1-2TSC60-3  
31S1-2TSC60-4  
31S1-2TSC60-6WC-1  
31S-2TSC60-32  
31S1-2TSC60-36WC-1  
31S1-2TSC60-112  
35F5-5-12-2  
33AA7-69-2

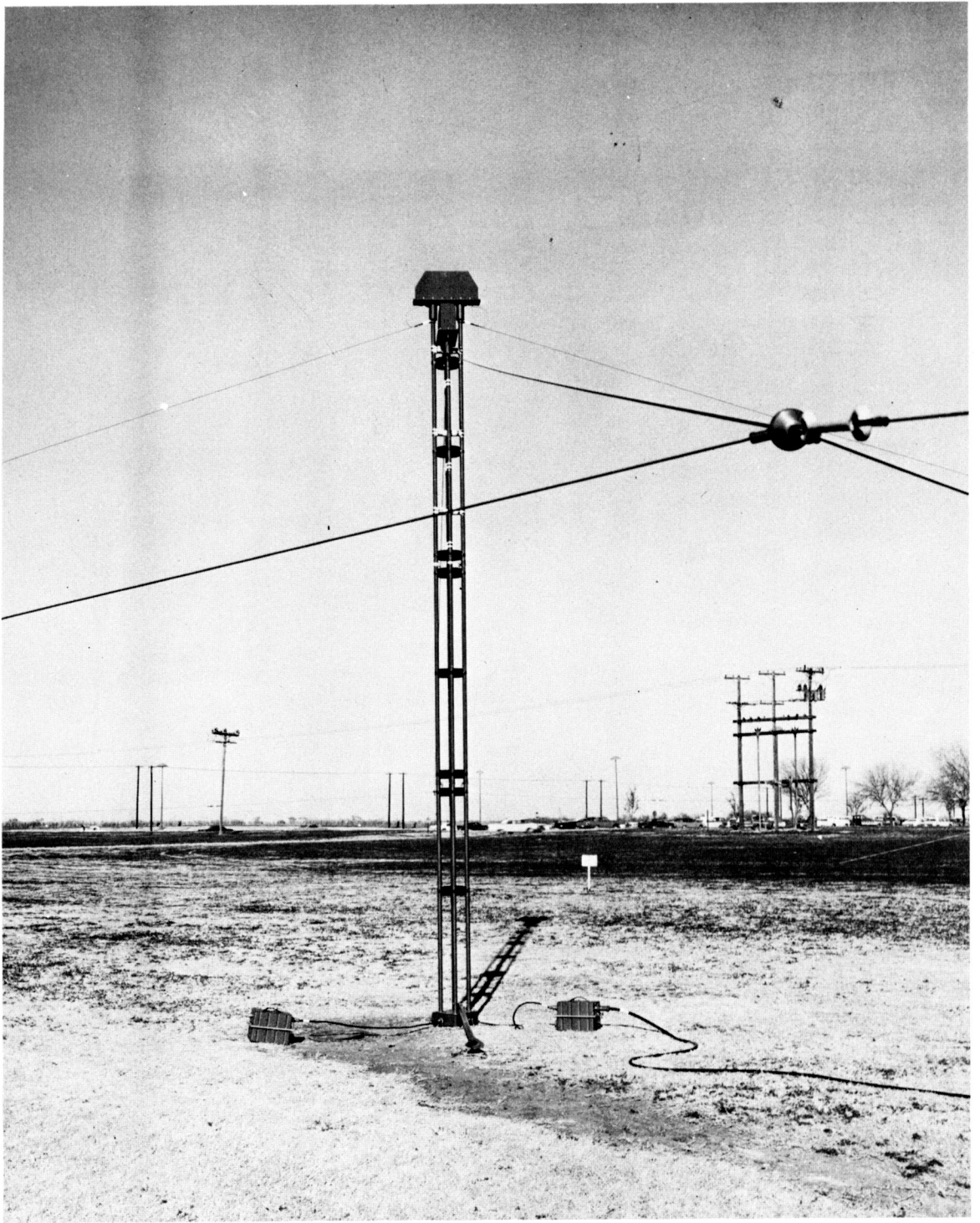
31W2-2TSC60-12  
3121-2TSC60-52  
31W1-2TSC60-2  
31S1-2TSC60-92  
31R2-2GRR18-22  
31R2-2GRR18-12  
31R2-2GRT17-2  
31R2-2GRR18-2  
31R2-2AR8132-12  
33A1-8-592-2  
33D7-71-13-2  
31R2-2GR-106231S1-2TSC60-82  
31S1-2TSC60-42  
31R2-2GRT17-12  
31R2-2ARC132-2  
31R2-2TSC60-42  
31R2-2TSC60-52  
31S1-2TSC60-132  
33D7-26-6-2  
31W1-2UCC3-2  
31W2-4-194-2  
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AN/TSC -60 Communications Central

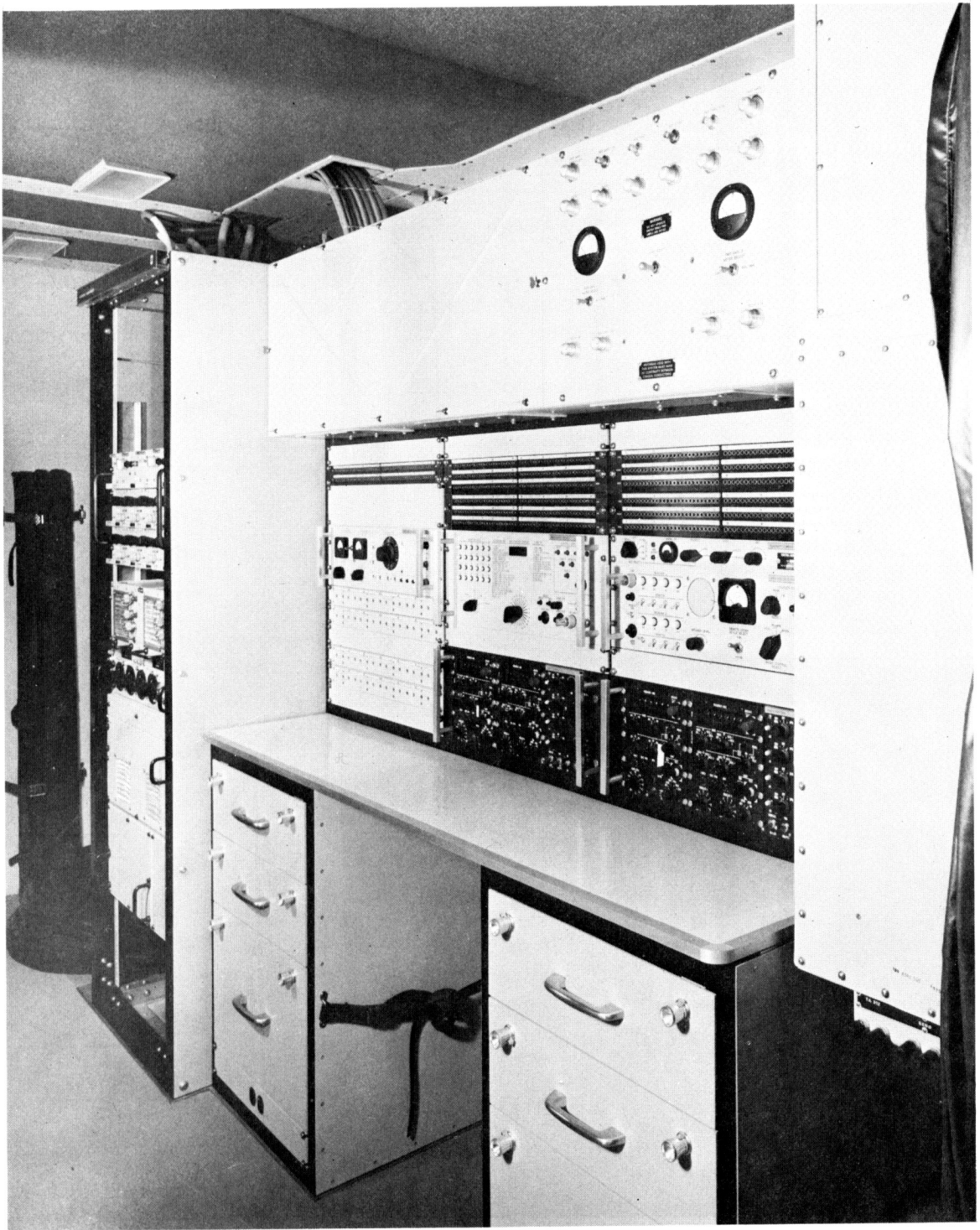


AN/TSC-60 Communications Central



AN/TSC -60 Antenna (ORTHOGONAL)





Interior View of AN/TSC-60 -1



Interior View of AN/TSC -60 -1

# AN/TSC-62

## COMMUNICATIONS CENTRAL

DESCRIPTION: The AN/TSC-62 consists of a deployable, air conditioned shelter equipped with circuit patching facilities, test equipment and a 12-line manual switchboard to provide efficient and rapid implementation of intra- and inter-site communication within the TACS. Major functions of the AN/TSC-62 include: performance of circuit and radio channel quality tests; restoration and re-routing of telephone, teletype and digital communications under adverse conditions; and continuous supervision of each communications facilities operating condition. The central is also equipped with a telephone and teletype order wire facility to quickly respond to changing tactical communications requirements.

CAPABILITIES: 276 duplex audio channels. 144 duplex teletype DC channels. 24 duplex audio circuits connecting remote control units or telephone subsets equipped for transceiver operation and control. 16 duplex units are provided for interfacing teletype equipment with circuits having standard voice frequency tone signals. HF/SSB Receiver. Used to monitor the RF output of local HF/SSB transmitter or receiver signals from other locations.

POWER INPUT: 120/208 VAC, 3-Phase, 4-wire, 50/60/400 Hz, 30 kilowatts.

SITING CRITERIA: The site area may have a slope of no greater than ten percent. Special considerations for siting are not required.

ERECTION TIME: 1 hour/3 men

PERSONNEL REQUIRED: Two each 307X0

<u>MAJOR COMPONENTS:</u>	<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
	S-424/TSC-62	Electrical Equipment Shelter.
	OA-8466/TSC-62	Air Conditioner Group

MANUFACTURER: Stelma Inc.  
Div of Data Products  
Stamford, Conn.

COST: \$97,562.00 (Estimated)

WEIGHT: 4252 pounds - S-424/TSC-62  
1655 pounds - OA-8466/TSC-62

CUBE: 666 cu ft - S-424/TSC-62  
282.5 cu ft - OA-8466/TSC-62

APPLICABLE TOs: 31W2-2T-102  
31W4-2T-102  
33A1-12-747-1  
TM 32-5895-200-15  
33A1-13-337-1  
33A1-5-219-1  
31W2-2TSC62-2  
31W4-4-277-2  
31W4-2TSC62-12  
31W2-2VU-2  
33A1-3-425-2  
31W2-2TSA37-2  
31W4-2TSC62-22  
31W2-2T-112  
31W2-4-136-2  
31W4-4-5-82  
31W4-4-5-83  
31W4-4-5-84  
31W4-4-5-291-2  
35E9-102-1  
35E9-102-3  
35E9-102-4  
35E9-101-1

33A1-3-424-2

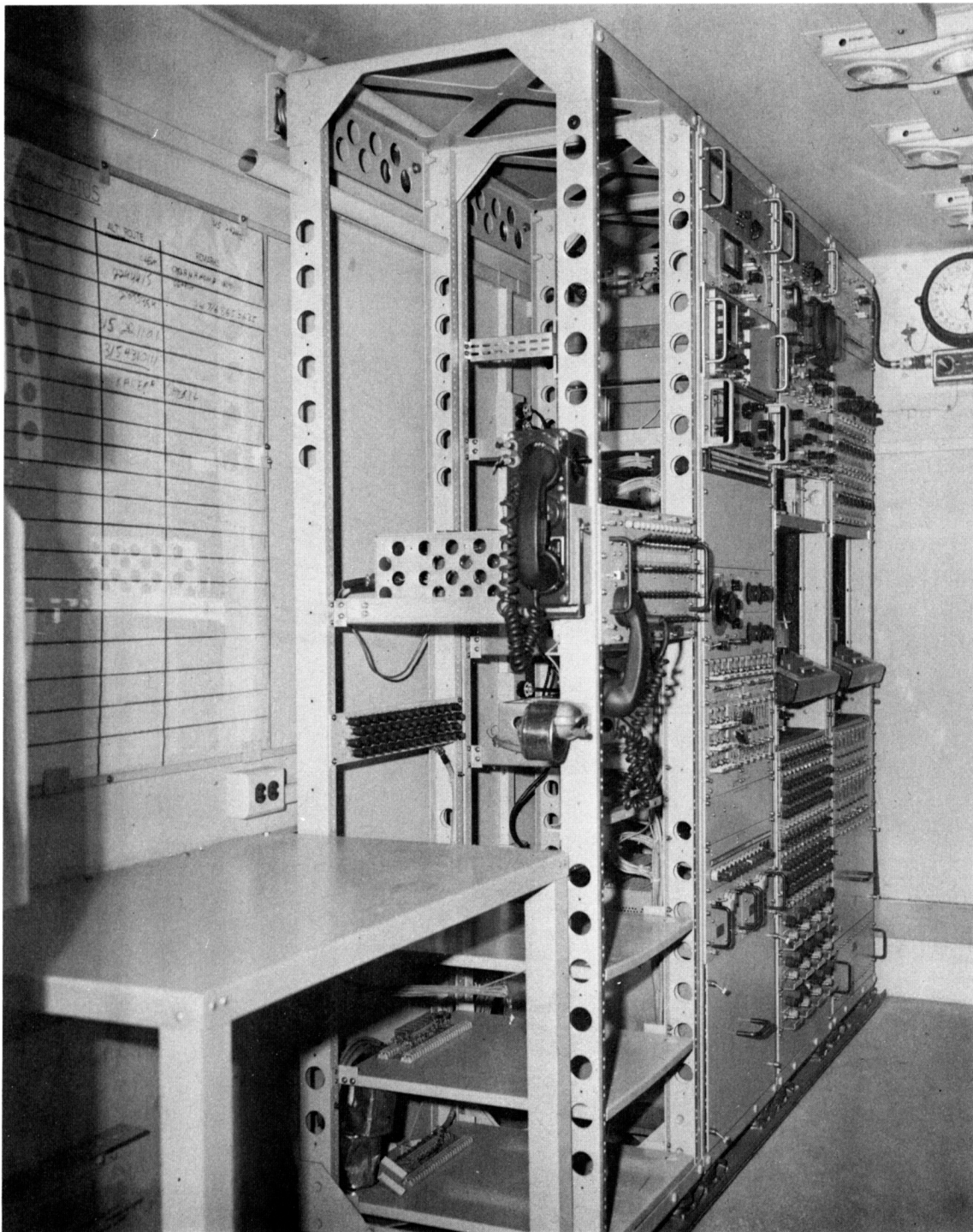
31W4-2TSC62-2

31W4-2TSC62-3

31W4-2TSC62-4



AN/TSC-62 Communications Central



Interior View of AN/TSC-62



Interior View of AN/TSC-62



# AN/PRC-66B

## UHF TRANSCEIVER

DESCRIPTION: The AN/PRC-66B is a compact, lightweight, manpack, amplitude modulated (AM) UHF radio transceiver. Channel selection is by frequency synthesis. A guard channel receiver, fixed-tuned to receive 243.00 MHz, permits simultaneous monitoring of the guard channel and any other selected frequency. The AN/PRC-66B is capable of transmitting and receiving wideband, normal bandwidth (3 KHz) audio. It can transmit a continuous 1000 Hz tone for direction finding (DF) purposes, has speech compression, automatic gain control (AGC), adjustable carrier-operated squelch, and it features both silent and blackout operation. It can be powered by a clip-on battery pack, or by the vehicle supply when installed in a jeep.

CAPABILITY: 3500 channels spaced every 50 KHz. Will interface with KY-38 ground ciphony set.

FREQUENCY RANGE: 225.00 to 399.95 MHz.

POWER INPUT: 2 watts average

SITING CRITERIA: High ground clear of obstruction

ERECTION TIME: N/A

PERSONNEL REQUIREMENTS: One each 304X4

<u>MAJOR COMPONENTS:</u>	<u>NOMENCLATURE</u>	<u>COMMON NAME</u>
		Transceiver unit
		Handset
		Whip antenna
		Carrying harness
		Battery/case

MANUFACTURER: Collins Radio

COST: \$7,200.00 (estimated)

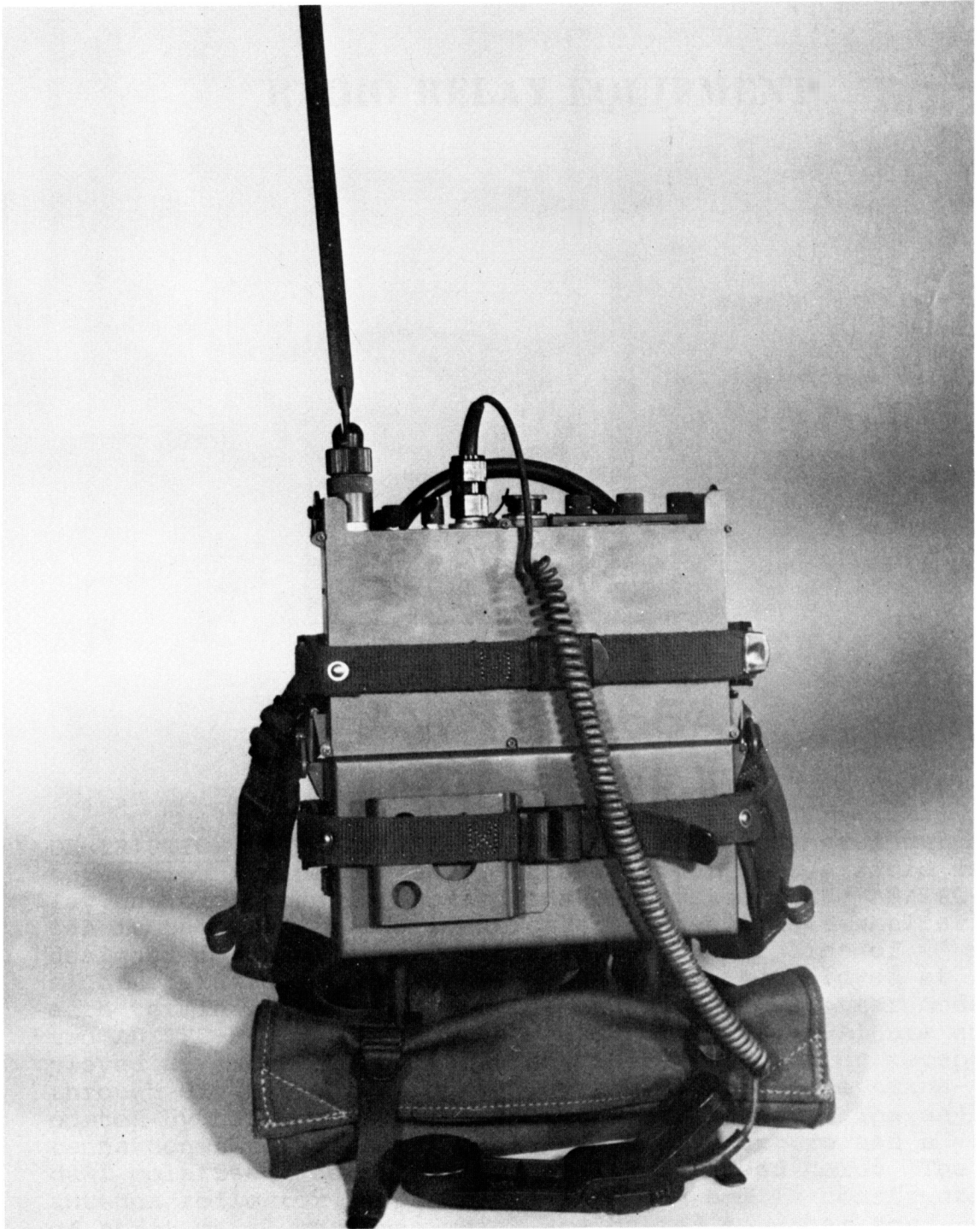
WEIGHT : R/T Unit - 5.5 pounds  
Rechargeable battery - 5.2 pounds  
Non-rechargeable battery - 5.8 pounds

APPLICABLE TOs: 31R-2PRC66-2  
31R2-2PRC66-6WC-1



AN/PRC-66B

2-66



AN/PRC-66B