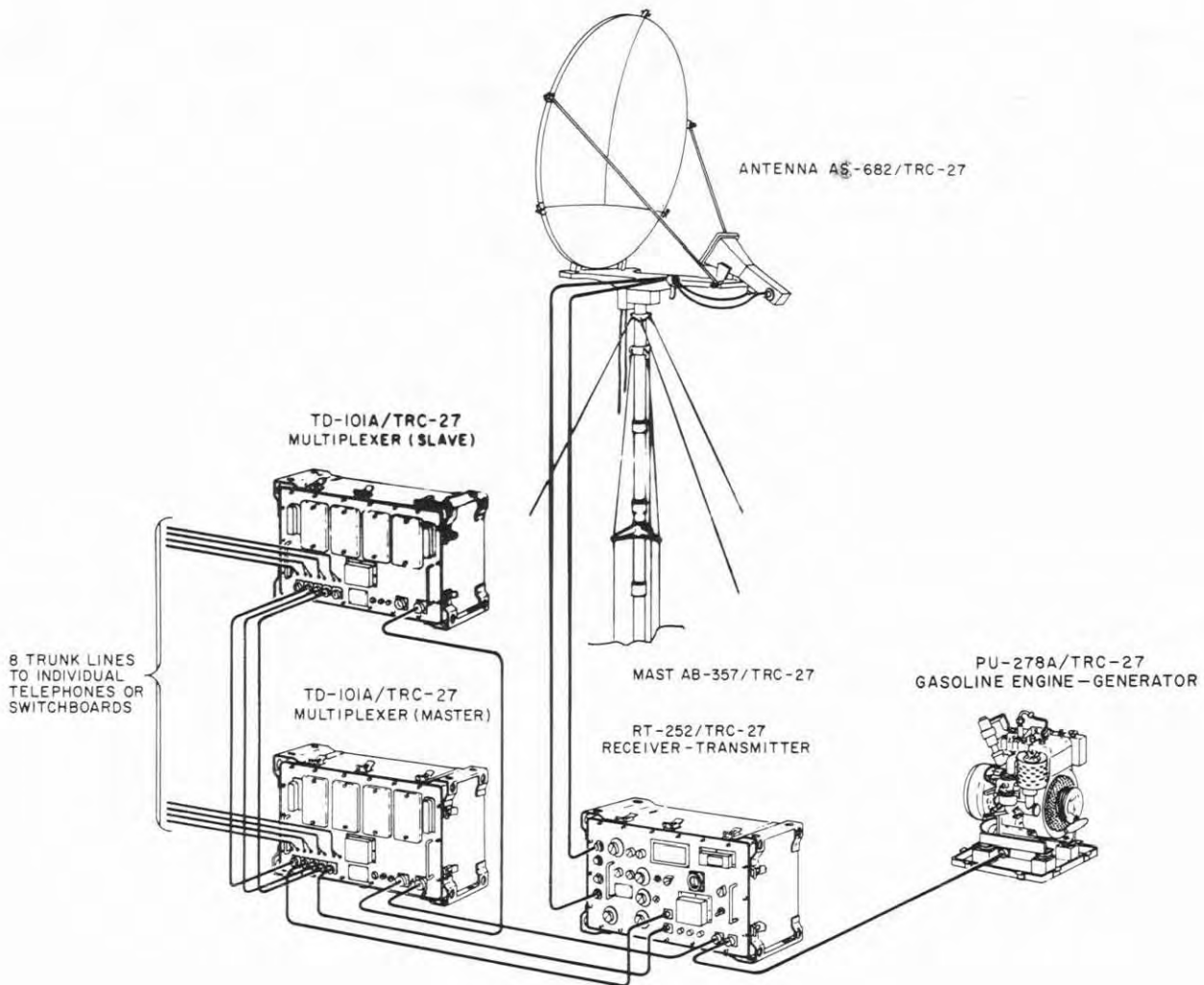


February 1960

Radio-Transceiver

AN/TRC-27A

## RADIO SET



Radio Set AN TRC-27A

## FUNCTIONAL DESCRIPTION

Radio Set AN/TRC-27A provides two-way micro-wave radio transmission for **eight telephone channels**. Designed primarily for operation in a forward area, it will operate with a 28 db fade margin over a 10 mile line-of-sight path, or with a 12 db fade margin over a 60 mile line-of-sight path.

No field changes in effect at time of preparation (13 October 1959).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

**FREQUENCY RANGE:** 4400 to 5000 mc (SHF).

TYPE OF FREQUENCY CONTROL

TRANSMITTER: Variable frequency triode oscillator.

RECEIVER: Variable frequency klystron local oscillator.

**NORMAL CARRIER OUTPUT:** 1.5 W, peak.

**TYPE OF RECEIVER:** Superheterodyne, 60 mc IF.

**TEMPERATURE RANGE:** -54° C to +65° C.

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Radio-Transceiver  
**AN/TRC-27A****RADIO SET****MULTIPLEXER****NUMBER OF CHANNELS:** 4 duplex (8 per terminal).**CHANNEL TERMINATION:** 2-wire, 600 ohm.**TYPE OF MULTIPLEXING:** Time division.**TYPE OF MODULATION:** Pulse-position.**AUDIO BANDWIDTH:** 300 to 3500 cps.**RINGING FREQUENCY:** 25 cps.**FRAME FREQUENCY:** 8 kc.**PULSE WIDTH:** 0.45 ±0.05 usec.**ANTENNA:** 30 in. paraboloid reflector with off-center duplexing horn, vertical and horizontal polarization.**POWER SUPPLIES:** Self-contained in receiver-transmitter and multiflex units.**PRIMARY POWER SOURCE:** 400 cycle Gasoline Engine Generator PU-278A/TRC-27.**MANUFACTURER'S OR CONTRACTOR'S DATA**

Raytheon Mfg., Waltham, Mass.

Contract NObsr-75107, dated 15 January 1958.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(4) OA2WA

(1) SG211 or 1N659

(41) SG215 or 1N460	(1) SV-9
(8) SG216 or 1N458	(3) 1N21C(R)
(1) SG217 or 1N459	(1) 1N295
(8) 1N67 or 1N198	(17) 1N422
(2) 1N252 or 1N251	(1) 2K22
(3) 1N482 or 1N457	(2) 6AU6WA
(13) 5654/6AK5W	(2) 6X4W
(1) 5726/6AL5W	(10) 12AT7WA
(3) 5727/2D21W	(1) 5670
(2) 6005/6AQ5W	(1) 5814A
(20) 6021	(1) 5933WA
(1) 6280	

Total Tubes (148)

No Crystals used.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 93098(A): Technical Manual for RADIO SETS AN/TRC-27, AN/TRC-27A, AN/MRC-59, AN/MRC-60.

TYPE CLASSIFICATION (NAVY)

DESIGN COGNIZANCE USN, BUSHIPS

PROCUREMENT COGNIZANCE SPECS: MIL-R-21445  
AND SHIPS-R-1947A

STOCK NO.

R.D.B. IDENT. NO.

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/TRC-27A including:		
1	Receiver-Transmitter RT-252/TRC-27	11-3/8 X 14-5/16 X 25-5/16	61
2	Multiplexer TD-101A/TRC-27	9-7/8 X 14-5/16 X 25-5/16	54
1	Antenna Group OA-1378/GRC includes:	9 X 17 X 27	58
1	Antenna AS-682/TRC-27		
1	Mast AB-357/TRC-27		
1	Antenna Case CY-2123/GRC		
2	Gasoline Engine Generator PU-278A/TRC-27	12-5/8 X 13-1/4 X 17-5/16	51
2	Coaxial Antenna Cable (included w/R-252/TRC-27)	264 lg	
5	Coaxial Cable (included w/RT-252/TRC-27)	60 lg	
2	Power Cable (included w/TD-101A/TRC)	60 lg	
1	Power Cable (included w/OA-1378/GRC)	600 lg	
2	Winterization Kit (special issue only)		
1	Set Equipment Spare Parts		
2	Technical Manual NAVSHIPS 93098(A)		