

For further information see:  
A.P.116D-0102  
formerly A.P.2535F

**ARI.23090****H.F.(S.S.B.) AIRBORNE  
COMMUNICATIONS  
EQUIPMENT****ARI.23090—Main units****Brief description**

ARI.23090 is a general purpose h.f. communication equipment working in the frequency range of 2 to 30 Mc/s\*. The transceiver transmits and receives on any one of 28 000 frequencies, selected on a remote control unit, in the s.s.b. mode with 400 watts p.e.p., or in the a.m. mode with 100 watts carrier power. The antenna tuner automatically resonates the associated antenna to the frequency to which the transceiver is tuned.

**Note . . .**

*The frequency range of the transceiver 618T-3 is restricted to 2 to 25 Mc/s when the antenna tuner 180L-3A is used.*

**TRANSCIVER 618T-3****Frequency data:****Frequency range**

2·000 to 29·999 Mc/s

**Frequency channels**

28 000

**Frequency stability**

One part-per-million per month

<b>Time to change channels</b>	8 seconds max. independent of external antenna tuner (+20 seconds)		
<b>Transmit characteristics:</b>			
<b>R.F. Power output</b>	S.S.B.: 400 watts p.e.p. $\pm 1$ dB A.M.: 100 watts carrier power C.W.: 100 watts		
<b>R.F. output impedance</b>	52 ohms		
<b>Audio input impedance</b>	100 ohms unbalanced, and 600 ohms balanced		
<b>Audio frequency response</b>	5dB peak-to-valley ratio from 300 to 3000 c/s		
<b>Distortion</b>	S.S.B. Third order distortion products down at least 30dB A.M. Less than 15% at 80% modulation		
<b>Receive characteristics:</b>			
<b>Sensitivity</b>	S.S.B. 1 $\mu$ V for 10dB S + N/N ratio A.M.: 3 $\mu$ V modulated 30% 1000 c/s for a 6dB S + N/N ratio		
<b>Selectivity</b>	S.S.B.: 2.85 kc/s, 6dB down 6.0 kc/s, 60dB down A.M.: 5.5 kc/s, 6dB down 14.0 kc/s, 60 dB down		
<b>A.G.C. characteristics</b>	Maximum variation of audio output is 6dB for input signals from 10 to 100 000 $\mu$ V. No overload below 1V signal input		
<b>I.F. and image rejection</b>	80dB minimum		
<b>Audio output power</b>	100 milliwatts into 300 ohms load		
<b>Audio distortion</b>	Less than 10%		
<b>Audio frequency response</b>	5dB peak-to-valley ratio from 300 to 3000 c/s		
<b>Power requirements</b>	Receiver	Transmitter	
		A.M.	S.S.B.
	115V a.c.	550 mA	700 mA
	27.5V d.c.	4 A	35 A
			650mA
			21 A

#### ANTENNA TUNER 180L-3A

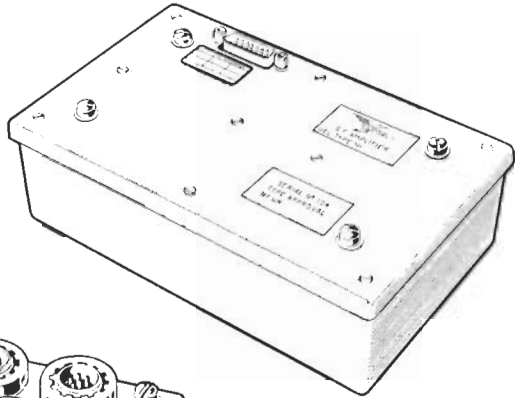
<b>Frequency coverage</b>	2 to 25 Mc/s
<b>Input impedance</b>	52 ohms
<b>Power requirements</b>	27.5V d.c. at 3.5A max. 115V, 400 c/s, single-phase at 20VA 250V d.c. at 35mA max. or 400V d.c. at 25mA max.

## NOMENCLATURE CONVERSION

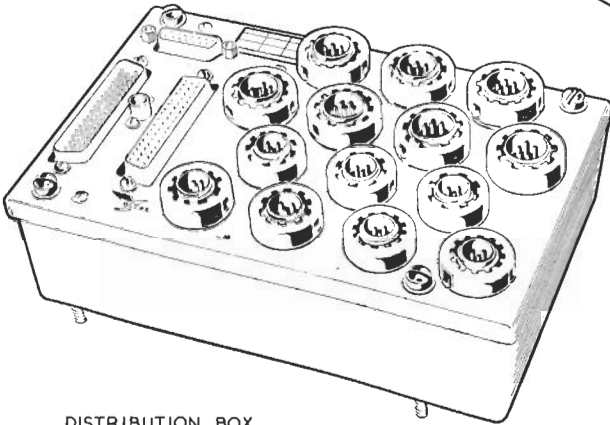
U.S.A.	ITEM	REF. NO.
Transceiver—618T-3	Transmitter-receiver, radio Type M5	10D/23518
Control unit—714E-3	Control, transmitter-receiver Type M53	10L/16857
Antenna tuner—180L-3A	Tuner, radio frequency Type M5	10D/23525
Transceiver mounting tray— 390J-1	Mount, resilient	5340-99-945-1644
Antenna tuner mounting tray—350D-3	Mount, resilient	5340-99-945-1643

## DIMENSIONS AND WEIGHTS

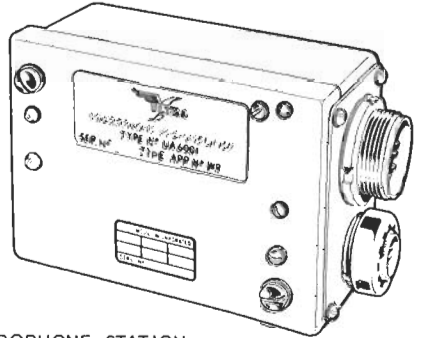
Item	Height (in.)	Width (in.)	Depth (in.)	Weight (lb. oz.)
Transceiver—618T-3	$7\frac{5}{8}$	$10\frac{1}{8}$	$22\frac{3}{16}$	50 0
Control unit—714E-3	$2\frac{5}{8}$	$5\frac{3}{4}$	$3\frac{3}{4}$	2 0
Antenna tuner—180L-3A	$7\frac{11}{16}$	$10\frac{3}{8}$	$13\frac{7}{8}$	18 $4\frac{1}{5}$
Transceiver mounting tray—390J-1	5	$10\frac{1}{2}$	24	5 0
Antenna tuner mounting tray— 350D-3	$1\frac{1}{2}$	$10\frac{3}{8}$	$10\frac{5}{8}$	1 4



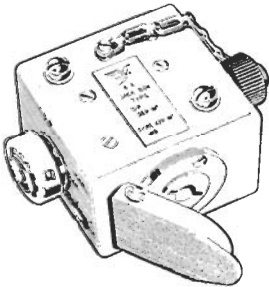
AMPLIFIER AUDIO FREQUENCY



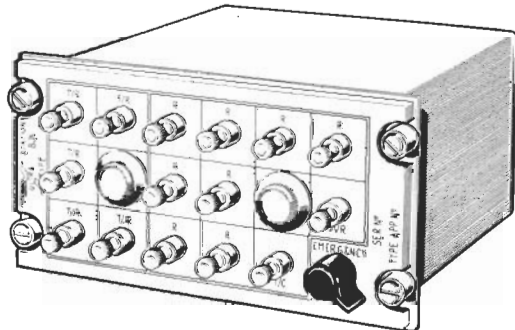
DISTRIBUTION BOX



MICROPHONE STATION



GROUND CREW JACK BOX



INTERCOMMUNICATION STATION

ARI.23099—Main units