WIRELESS STATION A510

DATA SUMMARY

PURPOSE

1. Lightweight, man-pack transmitter-receiver with voice and C.W. facilities. Designed primarily for use by long range infantry patrols, it can be used as a man-pack station on the move, or as a ground station. For the latter role improved aerial systems are provided to achieve greater range.

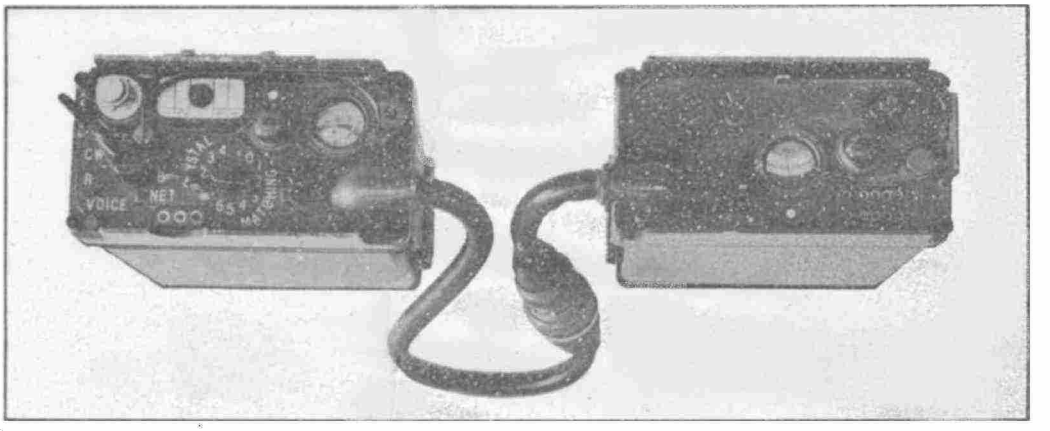

FIG. 1

DESCRIPTION

2. The receiver and transmitter are separated physically but are inter-dependent in operation. The receiver is a conventional 5-valve, reflexed super-heterodyne with one stage of tuned R.F. amplification. The transmitter is a crystal controlled oscillator feeding 2 pentode valves in parallel. The units are hermetically sealed and incorporate separate sealed compartments for the carriage of batteries, dial lamps and crystals.

PHYSICAL DATA

3. The following table shows the approximate weights and dimensions:-

TABLE 1 - WEIGHTS AND DIMENSIONS

Item	Dimensions in inches			Weight	
	Depth	Width	Height	lb.	oz.
Receiver	3-1/2	6-1/2	8-1/2	9	0
Transmitter	3-1/2	6-1/2	8-1/2	10	0
Man-pack station	-	-	-	20	9
Complete station with transit case (16 lb.)	-	-	-	41	4

FREQUENCY

4. Coverage: 2Mc/s - 10Mc/s.

POWER SUPPLY

5. Two dry batteries. "A", 1.5 volts for both units, carried within the receiver unit, and "B", 90 volts carried within the transmitter unit. The "B" battery incorpor-

ates a separate 7½ volts "C" battery.

AERIAL SYSTEMS

6. An 8 ft. vertical rod with rod tuner is used on the man-pack station. End-fed wire and dipole aerials are provided for ground station use.

PERFORMANCE

7. Table 2 shows the approximate range in miles to be obtained with the various aerial systems provided.

TABLE 2

Ground Wave Operation			*Sky Wave Operation*		
System	*Voice*	*C.W.*	*System*	*Voice*	*C.W.*
Rod aerial to rod aerial -			End-fed aerial	25	75
Set on move on man, or in vehicle	2	4	Dipole (inclined) aerial	30	90
Set on ground	3	6	Dipole (horizontal) aerial to ditto	40	120
Wire aerial to wire aerial	6-8	12-16			

VALVES

8. Table 3 shows the types of valves used in the various stages:-

TABLE 3 - TYPES AND FUNCTIONS OF VALVES

Circuit Ref.	*Valve Catalogue No.*	*Function*	
		Receiver	*Transmitter*
V1	Z/CV 785 (1T4)	R.F. Amplifier	-
V2	Z/CV 782 (1R5)	Converter	-
V3	Z/CV 785 (1T4)	I.F. Amplifier	-
V4	Z/CV 785 (1T4)	I.F. Amplifier and Reflex Audio	-
V5	Z/CV 784 (1S5)	Detector and Het. Oscillator	-
V6	Z/CV 785 (1T4)	-	Modulator
V7	Z/CV 807 (3A4)	-	Crystal Oscillator
V8	Z/CV 807 (3A4)	-	R.F. Power Amplifier
V9	Z/CV 807 (3A4)	-	R.F. Power Amplifier

END