

## WIRELESS SET CANADIAN No. 19 Mk. III

### GENERAL DATA

#### PURPOSE

1. Wireless Set (Cdn.) No. 19 Mk. III was designed for use in Armoured Fighting Vehicles, in various Wireless Trucks, and as a ground station.

#### DESCRIPTION

2. The following sets are contained in one case:—  
“A” set—a low power, high frequency transmitter and receiver.  
“B” set—a low power, very high frequency transmitter and receiver.  
I.C. Amplifier—an audio amplifier for inter-crew communication.

#### TYPES OF OPERATION

3. “A” set—R/T, M.C.W. and C.W.  
“B” set—R/T.

#### FREQUENCY COVERAGE

4. “A” set—2—4½ and 4½ - 8 Mc/s.  
“B” set—230—240 Mc/s. (Intended for single frequency operation on 235 Mc/s.)

#### INTERMEDIATE FREQUENCY

5. Intermediate frequency (“A” set)—465 Kc/s.

#### POWER SUPPLY

6. 12 or 24 accumulators driving a dynamotor or vibrator.



Fig. 1—Wireless Set (Cdn.) No. 19 Mk. III and Supply Unit

Current drain—  
13.5 amps. maximum on 12 V. (dynamotor operation).  
7 amps. maximum on 24 V. (dynamotor operation).

**PERFORMANCE**

7. **Sender Power Output**—  
 "A" set R/T. 1 watt.  
 M.C.W. 2 watts.  
 C.W. 4 watts.  
 "B" set 1 watt (unmodulated).  
**Receiver Sensitivity**—  
 "A" set R/T. 5 uV. for 50 mW. output.  
 C.W. 10 uV. for 50 mW. output.  
 "B" set 1000 uV. for 50 mW. output.

**AERIAL SYSTEMS**

8. "A" set—Three-quarter wave horizontal aerial, OR  
 8, 16, 20 or 34 ft. vertical quarter wave rod aerial.  
 "B" set—20", half wave vertical rod and tuned coaxial  
 feeder.

**WEIGHTS AND DIMENSIONS**

9. The following table shows the approximate weight and  
 dimensions of the various units:

Table 1.—Weights and Dimensions.

Item	Dimensions Inches			Weight Lbs.
	Length	Height	Depth	
Sender/Receiver	17½	8¼	12¼	40½
Supply Unit No. 2	6	8¼	12¼	30½
Carrier No. 1	27	10	13¼	14¾
Sender/Receiver, Supply Unit and Carrier combined.	27	10	13¼	88¼

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END

**VALVES**

10. The following table shows the types of valves used in  
 the various stages.

Table 2.—Types and Functions of Valves.

Circuit Ref.	Type	Function	
		Sender	Receiver
"A" Set			
V1A	6K7G	Not used.	R.F. amplifier.
V2A	6K8G	Master Oscillator.	Frequency converter
V1B	6K7G	Not used.	1st. I.F. amplifier.
V1C	6K7G	Not used.	2nd. I. F. amplifier.
V3A	6B8G	R/T Modulator, M.C.W. Audio Oscillator and Modulator.	Detector, A.V.C. rectifier, A.F. amplifier.
V2B	6K8G	Frequency changer.	B.F.O. and Netting oscillator.
V5A	EF50	R.F. Buffer-Driver	Not used.
V6A	6H6	Automatic Drive Control and Meter Drive rectifier.	Not used.
V4A	807	Power amplifier.	Not used.
"B" set			
V7A	E-1148	V.H.F. oscillator.	Superregenerative detector.
V1D	6K7G	Not used.	Quench oscillator.
V1E	6K7G	Modulation pre- amplifier.	1st. A.F. amplifier.
V8A	6V6G	Modulator.	Output A.F. amplifier.
"1C" Amplifier			
V1F	6K7G		1st. A.F. amplifier.
V8B	6V6G		Output A.F. amplifier.