

WIRELESS STATION NO. 31 A.F.V.
TECHNICAL HANDBOOK - DATA SUMMARY

Note: This issue, Pages 1 and 2, supersedes Pages 1 and 2 of Issue 1, dated 27 Oct. 1952. It has been amended.

PURPOSE

Communication between Command or Control
A.F.Vs and infantry.

DESCRIPTION

The Wireless station No. 31 A.F.V. is basically a Wireless set No. 31 (see Tels F 360) with minor modifications. Its power supply is obtained from the power supply and L.F. amplifier unit No. 3, which also provides:-

- (a) Operation from 12 or 24V supply (by interchangeable sub-chassis).
- (b) Control by Wireless set No. 19 harness, using Control units Nos. 16 and 17, or No. 33.
- (c) Additional A.F. amplification, which is required when working under A.F.V. conditions.



Fig 1 - General view of equipment

PHYSICAL DATA

	<i>Weight</i>	<i>Length</i>	<i>Height</i>	<i>Depth</i>
W. S. 31 A. F. V.:	8 lb	12 in	5 $\frac{3}{8}$ in	6 $\frac{1}{2}$ in
Power supply and L. F. amplifier unit No. 3:	17 $\frac{1}{2}$ lb	8 in	5 in	10 $\frac{1}{2}$ in
Control unit No. 16:	3 lb	6 $\frac{1}{2}$ in	6 in	3 $\frac{1}{4}$ in
Control unit No. 17:	2 $\frac{3}{4}$ lb	6 $\frac{1}{2}$ in	6 in	3 $\frac{1}{4}$ in
Control unit No. 33:	2 $\frac{3}{4}$ lb	6 $\frac{1}{2}$ in	6 in	3 $\frac{1}{4}$ in

RANGE

3-4 miles, depending on local terrain

POWER REQUIREMENTS AND CONSUMPTION

Power 12 or 24V battery
Consumption: On send: 12V 2.5A
24V 1.3A

The filament supply is regulated by a carbon-pile so that input voltage variations of 11-15 and 22-30 to the 12V and 24V units, respectively, may be tolerated.

FREQUENCY

Frequency coverage : 40-48Mc/s in 41 channels,
200kc/s separation
Intermediate frequencies : 4.3 and 2.51Mc/s

AERIAL SYSTEM

5 ft 6 in vertical rod

PERFORMANCE

Receiver: Sensitivity: 7 μ V for 20db quieting
Output : 150mW nominally, from
Power supply and L. F. amplifier unit No. 3
Sender : Output : 0.2W into 45 Ω

SPECIAL FACILITIES

Re-broadcast facilities are available on both wireless sets No. 19 and No. 31 A. F. V., using Control unit No. 16.

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VALVES

<i>Circuit ref.</i>	<i>CV No.</i>	<i>Function</i>	<i>Circuit ref.</i>	<i>CV No.</i>	<i>Function</i>
W.S.31 A.F.V			V12-13	CV 1758	Limiters
V1	CV 807	Power amplifier	V14	CV 783	Discriminator
V2	CV 807	Mixer and crystal oscillator	V15	CV 784	Discriminator and A.F. amplifier
V3	CV 785	Doubler	V16	CV 784	Noise amplifier
V4	CV 785	M.O. and 1st local oscillator	V17	CV 1758	D.C. amplifier
V5	CV 1758	Reactor and A.F.C. valve	V18	CV 784	Squelch oscillator
V6	CV 785	R.F. amplifier	Power supply and L.F. amplifier No. 3		
V7	CV 1758	1st mixer	V1	CV 807	Output amplifier
V8-9	CV 785	I.F. amplifiers	V2	CV 1758	Microphone amplifier
V10	CV 782	2nd mixer and crystal oscillator			
V11	CV 785	I.F. amplifier			

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END