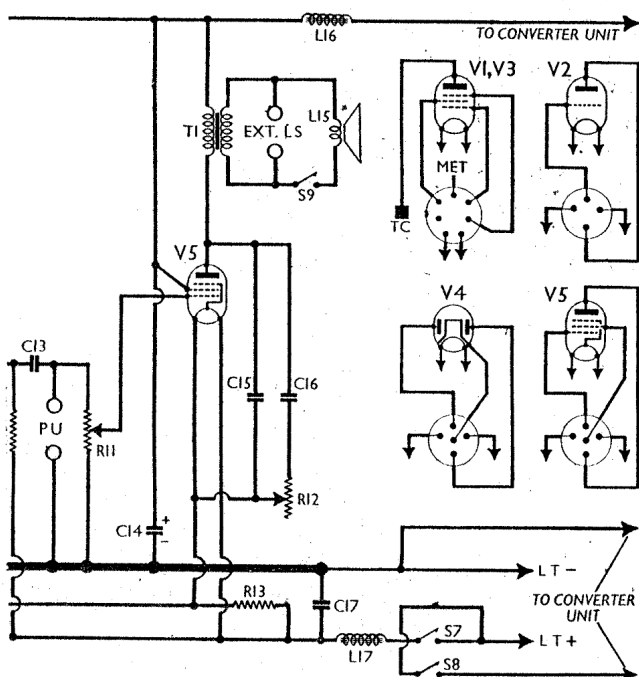
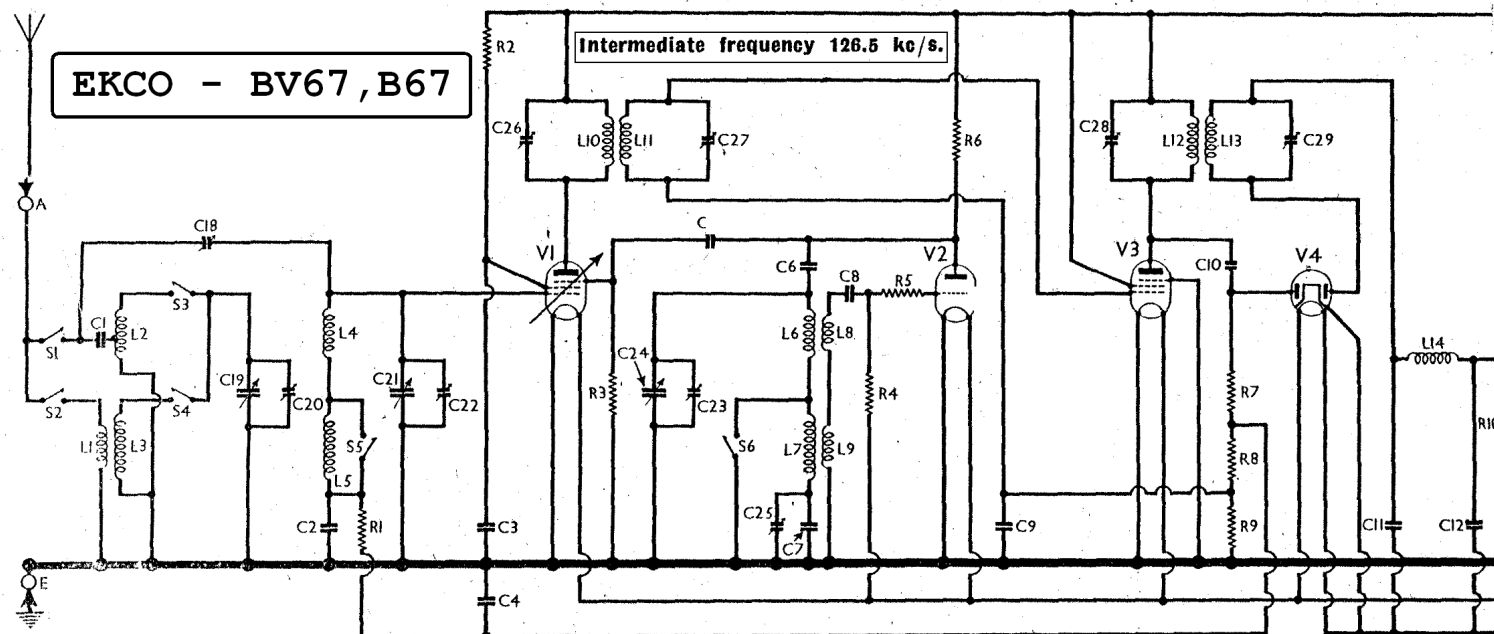
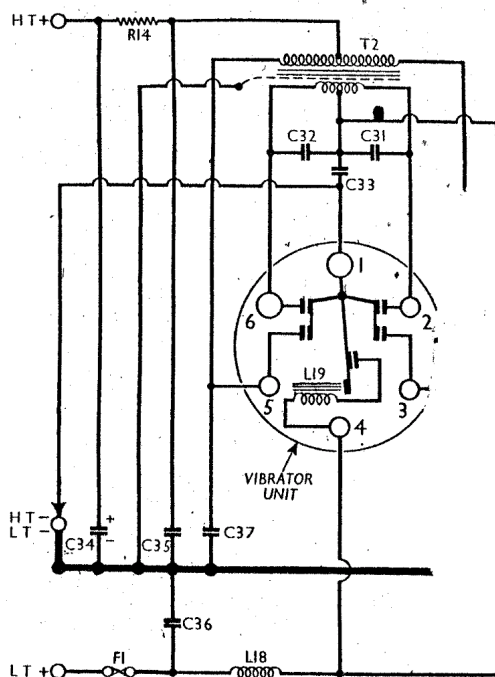


EKCO - BV67, B67



Left : Circuit diagram of the EKCO BV67 Superhet. **V2** is a separate oscillator valve operating in conjunction with **V1** as frequency changer. Note that the LT supply is 4V, and that the 2V valve filaments are arranged in two groups, the groups being connected in series. **R13** is a ballast resistor in the **V4, V5** group. The set will operate as it is with normal batteries, provided that a 4V accumulator is used.

Right : Circuit diagram of the vibratory converter unit, which obtains its driving energy from the 4V accumulator and supplies H.T. current to the receiver. Three leads provide the connections between the receiver and the unit.



VALVE ANALYSIS

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 VP2	135	1.0	105	0.3
V2 PM1HL	35	1.0	—	—
V3 VP2	135	1.0	135	0.4
V4 2D2	—	—	—	—
V5 PM22D	130	7.8	135	1.3

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial LW coupling ...	30.0
L2	Band-pass primary coils {	3.5
L3		30.0
L4	Band-pass secondary coils {	3.5
L5		30.0
L6	Oscillator anode tuning {	5.0
L7	coils ...	10.0
L8	Oscillator grid coils, total {	5.0
L9		—
L10	1st IF trans. {Pri. ...	75.0
L11	Sec. ...	75.0
L12	2nd IF trans. {Pri. ...	75.0
L13	Sec. ...	75.0
L14	IF filter choke ...	200.0
L15	Speaker peech coil ...	2.7
L16	HT smoothing choke ...	310.0
L17	LT filter choke ...	0.35
L18	Converter unit RF choke ...	0.1
L19	Vibrator energising coil ...	7.0
T1	Output trans. {Pri. ...	700.0
T2	Converter {Pri. (total) ...	0.15
	trans. {Sec. (total) ...	950.0
S1-S6	Waveband switches ...	—
S7	LT filament switch ...	—
S8	LT converter switch ...	—
S9	Internal speaker switch ...	—
F1	Converter LT fuse (10A) ...	—

RESISTORS		Values (ohms)
R1	V1 CG decoupling ...	250,000
R2	V1 SG HT feed ...	40,000
R3	V1 injector resistor ...	500,000
R4	V2 CG resistor ...	30,000
R5	V2 CG stabiliser ...	2,000
R6	V2 anode HT feed ...	100,000
R7	V4 AVC diode load re- {	250,000
R8		500,000
R9		500,000
R10	V4 signal diode load ...	500,000
R11	Manual volume control ...	1,000,000
R12	Variable tone control ...	250,000
R13	V4, V5 filament shunt ...	19.5
R14	HT smoothing resistor ...	500

CONDENSERS		Values (μF)
C1	Aerial MW coupling ...	0.0008
C2	V1 CG decoupling ...	0.1
C3	V1 SG decoupling ...	0.1
C4	V1 AVC line decoupling ...	0.02
C5	Osc. coupling condensers {	0.0005
C6		0.0005
C7		0.0007
C8	Osc. LW tracker ...	0.0005
C9	V2 CG decoupling ...	0.1
C10	V4 AVC diode feed ...	0.00001
C11	IF by-pass condensers ...	0.0003
C12		0.0001
C13	AF coupling to V5 ...	0.01
C14*	HT smoothing condenser ...	20.0
C15	Fixed tone corrector ...	0.001
C16	Part variable tone control ...	0.01
C17	LT circuit by-pass ...	0.25
C18	Image rejector ...	—
C19	Band-pass pri. tuning ...	—
C20	Band-pass pri. trimmer ...	—
C21	Band-pass sec. tuning ...	—
C22	Band-pass sec. trimmer ...	—
C23	Osc. circuit trimmer ...	—
C24	Osc. circuit tuning ...	—
C25	Osc. LW tracker ...	—
C26	1st IF trans. pri. tuning ...	—
C27	1st IF trans. sec. tuning ...	—
C28	2nd IF trans. pri. tuning ...	—
C29	2nd IF trans. sec. tuning ...	—
C30	Converter unit ...	0.01
C31		0.1
C32	Interference suppressors {	0.1
C33		0.1
C34*	HT smoothing con- {	8.0
C35	densers ...	0.25
C36	Converter unit inter- {	0.5
C37	ference suppressors {	0.01

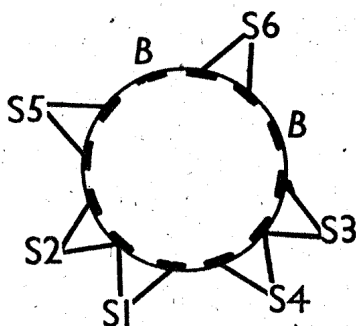


Diagram of the waveband switch unit, as seen when viewed from the rear of the upper side of the chassis. Normally it is covered by a coil screen.

* Electrolytic. † Variable. ‡ Pre-set.

CIRCUIT ALIGNMENT

IF Stages.—Connect output meter (0.5 V AC) to external speaker sockets. Connect signal generator to top cap of **V1**, via a 0.02 μ F condenser, leaving existing anode lead connected. The other output lead of generator goes to the **E** socket. Feed in a 126.5 kc/s (2,372 m) signal, and adjust **C26**, **C28**, **C27**, **C29** in that order for maximum output. Re-check.

RF and Oscillator Stages.—With the gang at maximum, the pointer should cover the 560 m calibration mark on the scale. Connect the signal generator, via a suitable dummy aerial, to **A** and **E** sockets.

MW.—Switch set to MW, tune to 200 m on scale, feed in a 200 m (1,500 kc/s) signal, and adjust **C23** for maximum output, selecting the peak involving the lesser trimmer capacity.

Feed in a 250 m (1,200 kc/s) signal, tune it in, and adjust **C22** and **C20** for maximum output.

LW.—Switch set to LW, tune to 1,700 m on scale, feed in a 1,700 m (176.5 kc/s) signal, and adjust **C25** (through a hole in chassis deck) for maximum output, while rocking gang slightly for optimum results.

Image Rejector.—This should be adjusted on the most powerful MW station, usually the local Regional. Look up the frequency of this station and subtract 253 kc/s (twice the intermediate frequency). The result is the frequency on which second channel interference may be caused. Tune to the station operating on or near this frequency, and, upon detecting the image, adjust **C18** (rear of chassis) by means of a non-metallic screwdriver until the interference whistle is at zero or minimum intensity.