



The appearance of the H.M.V. 1119 A.C. superhet. The 1114 is of somewhat similar appearance, but the cabinet is a plastic moulding.

PRESS-BUTTON tuning is provided for five stations in the H.M.V.1119, a 4-valve (plus rectifier) 3-band superhet, designed to operate from A.C. mains of 195-255V, 40-60 c/s. Switching is provided for a gramophone pick-up and external speakers, and they may be left permanently connected.

The 1114 chassis is like that in the 1119, but the cabinet is made of plastic instead of wood. The 1605 autoradiogram employs a modified 1119 chassis, the differences being explained overleaf.

Release dates and original prices: 1119, April, 1947, £26 5s, increased October, 1947, to £28 7s; 1114, October, 1946, £18 18s, increased February, 1947, to £24 3s; 1605, February, 1947, £73 10s, increased October, 1947, to £78 15s. Purchase tax is not included in these prices.

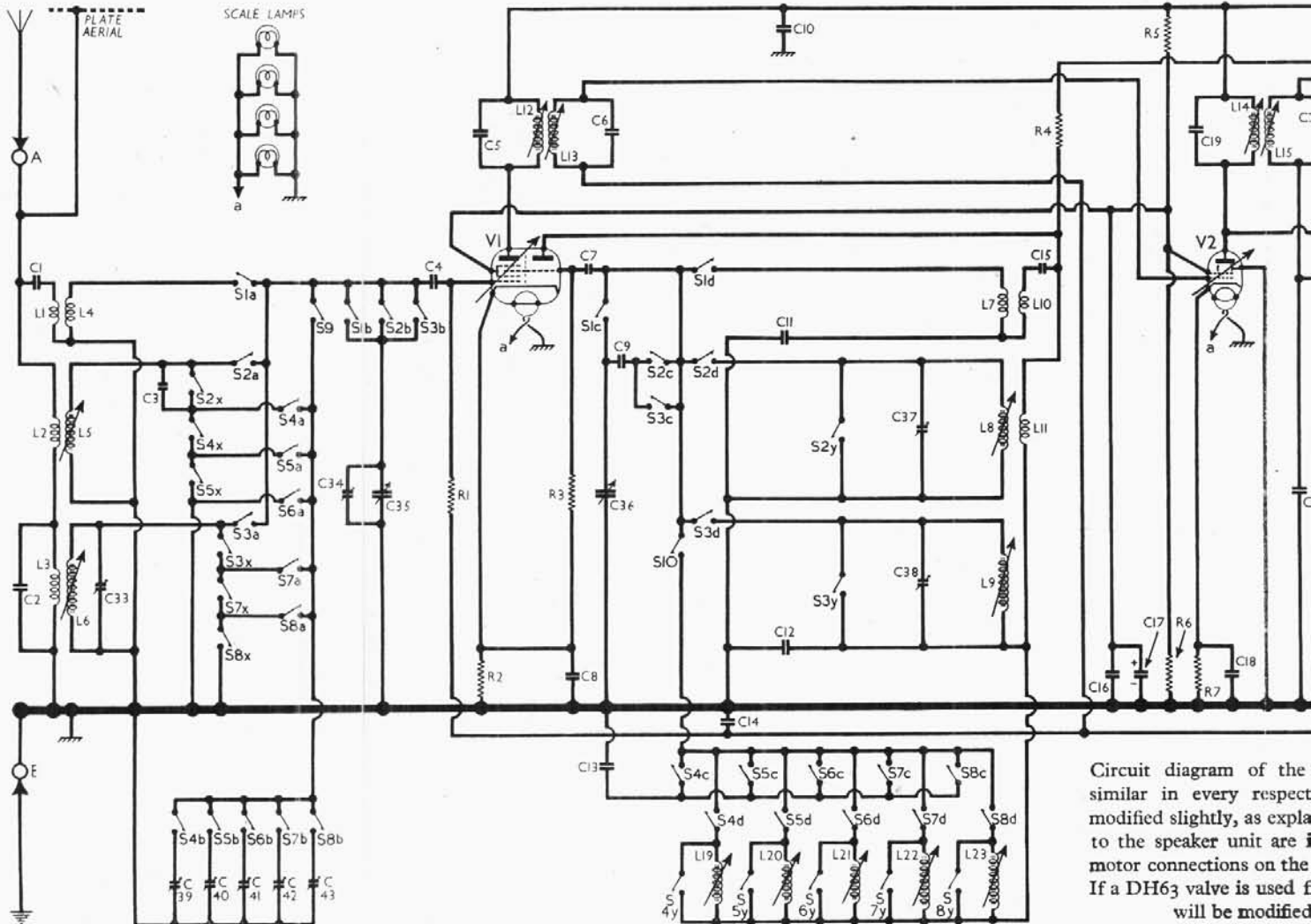
CIRCUIT DESCRIPTION

Aerial input is via coupling coils L1 (S.W.), L2 (M.W.) and L3 (L.W.) to L4 (S.W.), L5 (M.W.) and L6 (L.W.), tuned manually by C35, via S1a, b (S.W.), S2a, b (M.W.) and S3a, b (L.W.). For automatic tuning, C35 is replaced by pre-set trimmer type capacitors C39, C40, C41 (M.W.) and C42, C43 (L.W.). Selection is achieved by press-button switches

S4a, b to S8a, b, x. These switches are coded with suffix letters to indicate their functions, and are arranged in groups. Two groups are controlled by each press-button, one belonging to the aerial circuit and one to the oscillator.

All the switches in the two groups belonging to a given press-button bear the same number, the individual switches in each group being identified by the suffix letter. If the suffix is a, b, c or d, the switch closes when its button is pressed; if the suffix is x or y, the switch opens. When a button is released (by pressing another button), its a, b, c, d switches open, and its x and y switches close. When the manual tuning system is in operation the automatic tuning switches are disconnected, via master switches S9, S10.

First valve (V1, Marconi metallised X61M) is a triode-hexode operating as frequency changer with internal coupling. For manual operation, triode oscillator grid coils L7 (S.W.), L8 (M.W.), and L9 (L.W.) are tuned by C36 via S1c, d to S3c, d. Parallel trimming by C37 (M.W.) and C38 (L.W.); series tracking by C11 (S.W.), C9 (M.W.), and C9, C12 (L.W.). Mixed reaction coupling from anode, via C15, L10 and common impedance of tracker C11 on



Circuit diagram of the similar in every respect modified slightly, as explained to the speaker unit are in motor connections on the If a DH63 valve is used for will be modified

S.W., inductive coupling by L11 on M.W., and capacitive coupling across tracker C12 on L.W.

For automatic tuning, all the foregoing circuits are disconnected and replaced, via S10, by one of the iron-dust cored pre-set coils L19 to L23, which are tuned by fixed capacitors C12, C13 in series, selection being determined by switches S4c, d, y to S8c, d, y, as explained previously.

Second valve (V2, Marconi metallized KTW-61M) is a variable-mu R.F. tetrode operating as I.F. amplifier with tuned transformer couplings.

Intermediate frequency 465 kc/s

Diode second detector is part of double diode triode valve (V3, Marconi metallized DL63). Audio-frequency component in rectified output is developed across load resistors R10, R11 in series, and passed via C25, S12, S14 and the manual volume control R12 to C.G. of triode section, which operates as A.F. amplifier. On S.W. only, S12 opens and S11 closes to connect the bass cut A.F. coupling capacitor C24 and increase the gain. Provision for the connection of a gramophone pick-up across R12, via S15, I.F. filtering by C21, R8 in diode circuit, and C28 in V4 C.G. circuit.

Second diode of V3, fed from V2 anode via C23, provides D.C. potentials which are developed across load resistor R16 and fed back via a decoupling circuit as G.B. to F.C. and I.F. valves, giving A.V.C. Delay voltage, together with G.B. for V3 triode section, is obtained from the drop across R13 in V3 cathode lead to chassis.

Resistance-capacitance coupling by R15, C27 R17, via grid stopper R18, between V3 triode and beam tetrode output valve (V4, Marconi

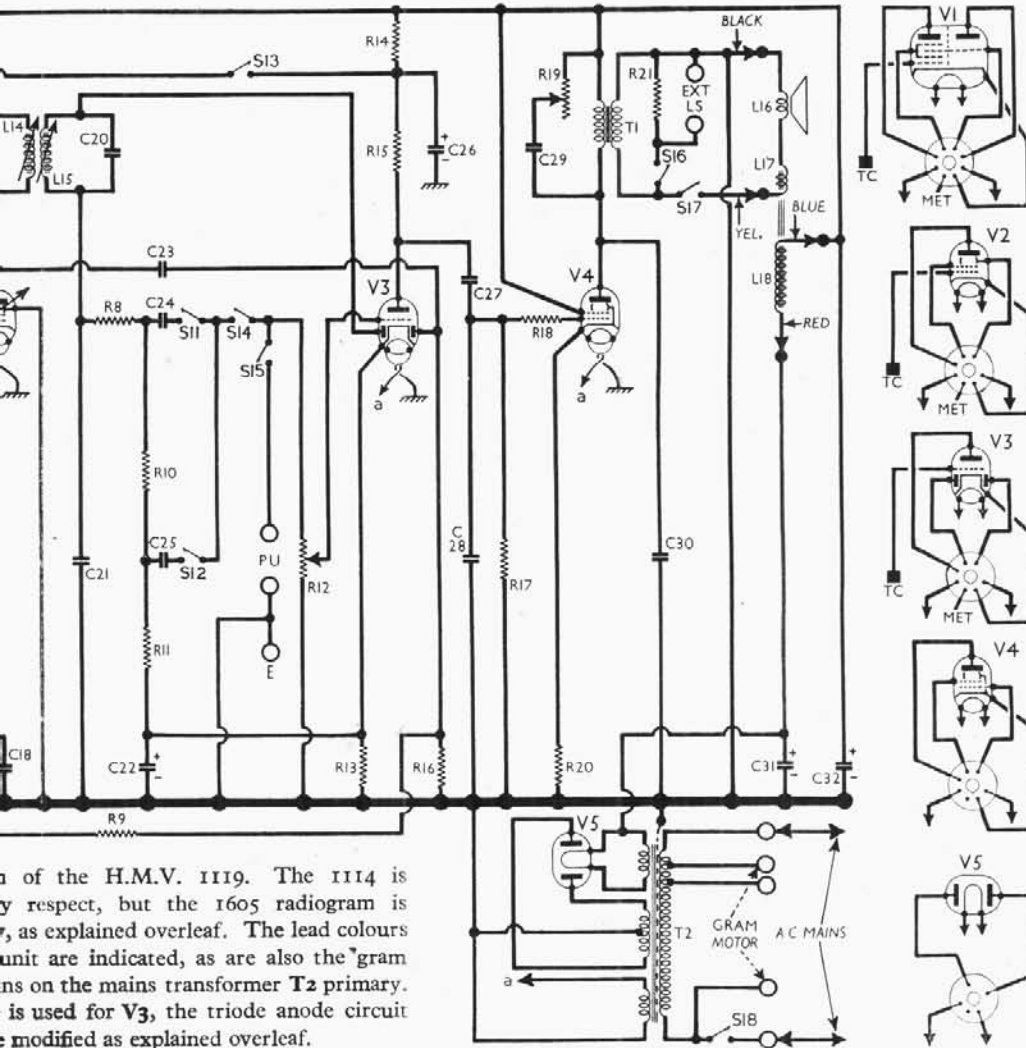
KT61). Fixed tone correction by C30, and variable tone control by R19, C29, in anode circuit. The I.F. is the result of a low impedance potential divider across S1 secondary winding. H.T. current is supplied by full-wave rectifying valve (V5, Marconi U50). Smoothing by speaker field L13 and electrolytic capacitors C31, C32. H.T. circuit R.F. filtering by C10.

COMPONENTS AND VALUES

RESISTORS		Values (ohms)	Locations
R1	V1 hex. C.G. ...	470,000	H4
R2	V1 fixed G.B. ...	220	J4
R3	V1 osc. C.G. ...	47,000	I5
R4	Osc. H.T. feed ...	22,000	I5
R5	V1, V2 S.G.'s H.T. potential divider {	15,000	I5
R6	... {	15,000	J5
R7	V2 fixed G.B. ...	330	J5
R8	I.F. stopper ...	150,000	H5
R9	A.V.C. decoupling ...	680,000	H5
R10	Signal diode load {	150,000	H5
R11	resistors ... {	330,000	H6
R12	Volume control ...	2,000,000	E3
R13	V3 G.B., A.V.C. delay ...	2,200	H6
R14	H.T. decoupling ...	10,000	H5
R15	V3 triode load ...	150,000	H5
R16	A.V.C. diode load ...	680,000	H5
R17	V4 C.G. resistor ...	330,000	H5
R18	V4 grid stopper ...	22,000	G5
R19	Tone control ...	50,000	E4
R20	V4 G.B. resistor ...	100	G6
R21	Dummy L.S. load ...	15	F6

CAPACITORS		Values (μF)	Location
C1	Aerial S.W. series...	0.00005	I4
C2	Aerial L.W. shunt...	0.0005	G4
C3	M.W. fixed trim...	0.0000023	H4
C4	V1 hex. C.G. ...	0.0001	I4
C5	1st I.F. transformer {	0.0002	A2
C6	tuning ... {	0.0002	A2
C7	V1 osc. C.G. ...	0.000075	N7
C8	V1 cath. by-pass ...	0.05	J4
C9	Osc. M.W. tracker	0.0005	M7
C10	H.T. R.F. by-pass	0.05	J5
C11	Osc. S.W. track ...	0.0005	I3
C12	Osc. L.W. track ...	0.00035	K7
C13	Osc. auto-tuning ...	0.00023	K7
C14	A.V.C. decoupling	0.05	H5
C15	Osc. S.W. anode coup. ...	0.00005	N7
C16	V1, V2 S.G.'s H.T. decoupling ... {	0.05	J5
C17*	... {	4.0	B2
C18	V2 cath. by-pass ... {	0.05	J5
C19	2nd I.F. trans. {	0.0002	B2
C20	former tuning ... {	0.0002	B2
C21	I.F. by-pass ...	0.0001	H5
C22*	V3 cath. by-pass ...	50.0	G6
C23	A.V.C. coupling ...	0.0001	H6
C24	A.F. coupling ca- pacitors ...	0.00023	H5
C25	... {	0.05	H5
C26*	H.T. decoupling ... {	4.0	B2
C27	A.F. coupling ...	0.05	G5
C28	I.F. by-pass ...	0.00023	H5
C29	Part tone control ...	0.05	E4
C30	Tone corrector ...	0.002	F5
C31*	H.T. smoothing ca- pacitors ...	16.0	B2
C32*	... {	8.0	B2
C33†	Aerial L.W. trim...	0.000135	G3
C34†	Aerial M.W. trim...	—	J4
C35†	Aerial tuning ...	—	J4
C36†	Oscillator tuning ...	—	J3
C37†	Osc. M.W. trim...	0.000045	N8
C38†	Osc. L.W. trim...	0.000135	N8
C39†	... {	0.000135	G3
C40†	Aerial circuit pres- set button tuning trimmers ...	0.00045	F3
C41†	... {	0.00045	F3
C42†	... {	0.00045	F3
C43†	... {	0.00045	F3

* Electrolytic. † Variable. ‡ Pre-set.

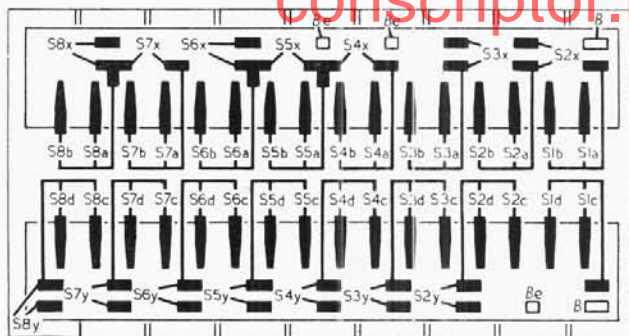


of the H.M.V. 1119. The 1114 is in respect, but the 1605 radiogram is as explained overleaf. The lead colours unit are indicated, as are also the gram on the mains transformer T2 primary. is used for V3, the triode anode circuit modified as explained overleaf.

OTHER COMPONENTS		Approx. Values (ohms)	Location
L1	Aerial coupling coils ...	0.6	I3
L2	...	26.0	H3
L3	...	60.0	H3
L4	Aerial tuning coils ...	Very low	I3
L5	...	3.5	H3
L6	...	20.0	H3
L7	Osc. tuning coils ...	Very low	N7
L8	...	3.0	M7
L9	...	8.5	M7
L10	Osc. reaction coils {	0.6	N7
L11	...	1.5	M7
L12	1st I.F. trans. { Pri.	5.0	A2
L13	Sec.	5.0	A2
L14	2nd I.F. trans. { Pri.	5.0	B2
L15	Sec.	5.0	B2
L16	Speech coil ...	4.0	—
L17	Hum neut. coil ...	0.2	—
L18	Field coil ...	950.0	—
L19	Osc. circuit pres- set button tuning tuning coils ...	2.0	L7
L20	...	4.5	L7
L21	...	4.5	K7
L22	...	10.4	K7
L23	...	10.4	K7
T1	Output trans. { Pri.	390.0	C1
	Sec.	0.1	C1
T2	Mains trans. { Pri., total	Very low	D2
	Heat. sec., Rect. heat. sec., H.T. sec., total	0.15	D2
		315.0	D2
S1a, b to S3a, b, x	Aerial circuit wave-band switches ...	—	—
S4a, b to S8a, b, x	Aerial press-button tuning switches	—	—
S1c, d to S8c, d, y	Osc. circuit wave-band switches ...	—	—
S4c, d to S8c, d, y	Osc. press-button tuning switches	—	—

Continued overleaf

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Diagrams of the two sides of the press-button switch unit. Upper, the side seen in our under-chassis view; lower, the side seen in our view of the tuning assembly at the foot of cols. 5 and 6.

OTHER COMPONENTS (continued)	Approx. Values (ohms)	Location
S9	} Press-button tuning {	G4
S10		
S11, S12	} "Top boost" switches ...	H4
S13-S15		
S16, S17	} Speaker switches	G6
S18		

VALVE ANALYSIS

Valve voltages and currents given in the table below are those quoted by the manufacturers. With the receiver operating on mains of 220V they give the total H.T. current as 72mA. Voltages were measured with a meter having a resistance of 500 ohms-per-volt.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 X61M	244	5.8	92	1.3
	65	6.0		
V2 KTW61M	244	8.2	92	2.7
V3 DL63M	68	0.5		
V4 KT61	230	35.2	244	5.9
V5 U50	319§			

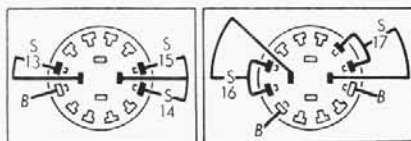
§ Each anode, A.C.

DISMANTLING THE SET

Almost unimpeded access to the underside of the chassis may be obtained upon removal of

the bottom cover (three round-head wood screws).

Removing Chassis.—Remove the two front control knobs (take care not to loose their fixing screws) and the side control knob (pull off); detach the plate aerial lead (one round-head wood screw and washer), and unclip the four scale lamp holders; loosen the clamping screw of each scale cursor, and lift out the associated drive wire; loosen the speaker lead cleat on the sub-baffle, lift out the leads, and remove the four hexa-



Diagrams of the two small switch units, drawn as seen from the front of an inverted chassis. Left, the radio/gram switch unit; right, the speaker switch unit.

gon-head chassis retaining bolts (with spring and claw washers) from the underside of the cabinet;

the chassis may now be removed from the cabinet to the extent of the speaker leads, which is sufficient for most purposes.

To free the chassis entirely, unsolder from the panel on the speaker the four leads joining it to chassis.

When replacing, reconnect the speaker leads as follows, numbering the tags on the panel in a clockwise direction when viewed from the

rear: 1, no external connection; 2, blue; 3, yellow; 4, red; 5, black.

Removing Speaker.—Remove the four round-head bolts (with washers) securing the speaker to the sub-baffle.

When replacing, the connecting panel should be at the top, and if the leads have been unsoldered they should be reconnected as previously described.

Removing Tuning Assembly.—Unsolder the ten leads connecting the assembly (at points indicated in our under-chassis picture by the numbers 1-10 in squares), remove the top cap connector from V1 grid lead, and draw the lead back into the chassis through grommet provided;

remove the four self-threading screws securing the tuning assembly and substitute scale to the front chassis member, and lift out the assembly, taking care not to foul the pointer drive wire.

When replacing, the ten leads should be reconnected to the numbered points indicated in our under-chassis picture as follows: 1, metal braided lead from tuning assembly; 2, stiff tinned copper lead; 3, short green lead from press-button switch unit; 4, screened aerial lead; 5, yellow plastic covered lead; 6, white; 7, yellow rubber covered lead; 8, lead from C25; 9, screened lead from C14; 10, lead from C24.

The long green lead from C4, R1 on the press-button switch should be threaded back, through the grommet provided, to the chassis deck where V1 top cap connector may be resoldered to it.

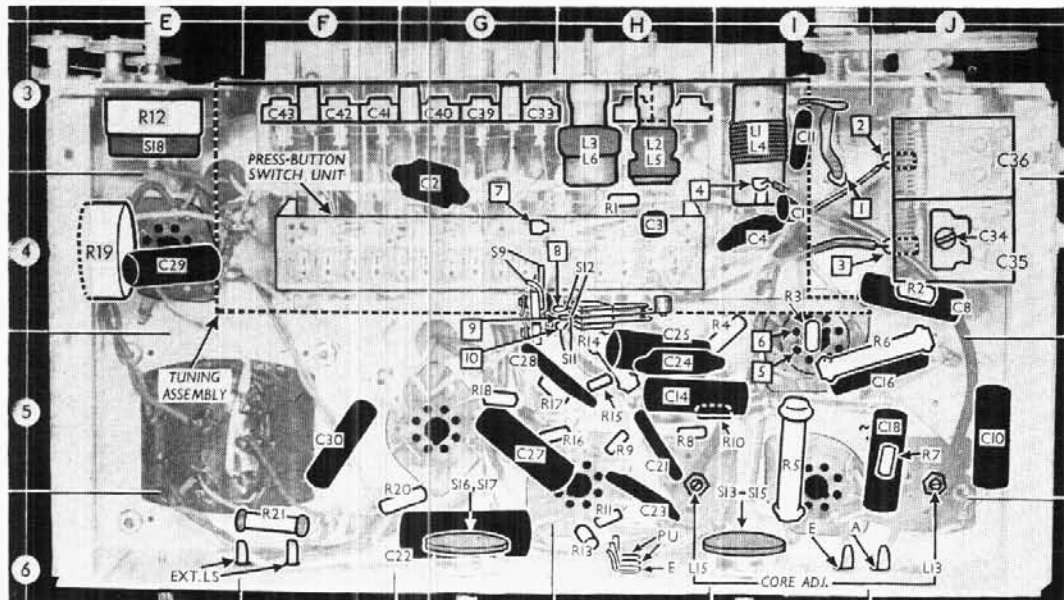
GENERAL NOTES

Switches.—The press-button switches are numbered S1 to S8, with suffix letters a, b, c, d, as explained under "Circuit Description" overleaf. The S1 switches are controlled by the S.W. manual button, the S2 switches by the M.W. manual button, and the S3 group by the L.W. manual button. S4, S5 and S6 groups are controlled by the three M.W. pre-set station buttons, and S7 and S8 by the two L.W. pre-set buttons. Both sides of the press-button switch unit are shown in detail in the diagrams at the head of cols. 1 and 2.

S9, S10 and S11, S12 are in two external units mounted on the press-button unit and operated by the plungers, S9, S10 open when any manual button is pressed, and close when any auto button is pressed. When the S.W. button is pressed, S12 opens and S11 closes, but otherwise S12 is closed, and S11 open.

S13-S15 is the radio/gram switch unit, and S16, S17 is a 3-position speaker muting switch unit. Both are indicated in our under-chassis view, mounted on the rear chassis member. They are shown in detail in the diagrams in col. 2, where they are viewed from the front of an inverted chassis.

S13 and S14 close when their control is turned to radio (anti-clockwise), or S15 closes when



Under-chassis view. The press-button unit is indicated here, but diagrams at the head of cols. 1 and 2 above show both sides in detail. The upper side of the tuning unit is shown in the photograph at the foot of cols. 5 and 6. The numbers 1 to 8 in squares show the interconnecting points between the tuning assembly and the main chassis.

