

## McMICHAEL 366 RADIOGRAM

**CIRCUIT.**—A five-valve radiogram for operation on A.C. mains and working on the usual medium and long wavelengths.

Aerial signals are fed to V1, the frequency changer, through a series condenser and a band-pass coupling coil. An I.F. transformer, tuned to 128.5 kc. is used to couple the signals to V2, an H.F. pentode.

Signals are passed to V3, a double diode triode, through a second I.F. transformer.

One diode of V3 is used for demodulation and the other is coupled to the anode of V2 through C20 and supplies A.V.C. bias to the preceding valves in the orthodox manner.

The volume control operates on this valve by varying the input to the grid. The pick-up is also connected here.

L.F. signals from V3 pass to V4, the output pentode, through a resistance and capacity stage and then to the speaker through a matching transformer. Tone is controlled by RV2 and C26.

With the receiver switched to the gramophone position a large fixed con-

denser is switched into position across the oscillator coils. The purpose of this is to stop V1 from oscillating and thus prevent break-through.

Mains equipment consists of trans-

former, full-wave rectifier, electrolytic condensers and the speaker field.

**Special Notes.**—Connections for an external speaker are provided on the back of the chassis. These are taken from the secondary of the output transformer. An extension speaker should be of low impedance.

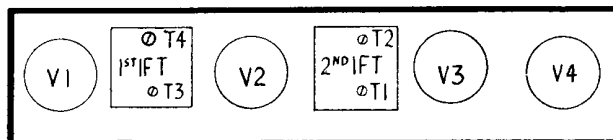
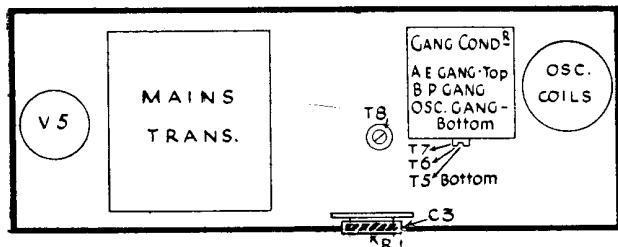
C23 is mounted on the back terminal plate below the speaker connection board.

**Removing Chassis.**—First slacken the screws on the back terminal board and pull free the speaker leads. Reconnection, from left to right, is as follows:—

(1) Red, (2) blue, (3) green, (4) not used, (5) black.

Pull this cable down through the hole in the chassis shelf and the mains lead upwards and clear the cabinet. Remove the four hexagon-headed bolts from the

VALVE READINGS				
No signal, Volume maximum, 200 volt A.C. mains.				
V.	Type.	Electrode.	Volts.	M.a.
1	All Mazda. AC/TP Met. (9)	Anode ..	175	5.0
		Screen ..	175	2.1
		Osc. anode	110	1.4
2	AC/VP1 Met. (7)	Anode ..	240	7
		Screen ..	180	3.3
3	AC/HL/DD Met (9).	Anode ..	110	1.4
4	AC/2 Pen. (7) ..	Anode ..	200	26.5
		Screen ..	220	5.5
5	UU3 (4) ..	Filament..	385	—



There are four "decks" to the McMichael 366 chassis. Two which are visible from the back are shown here. Two others are illustrated opposite.

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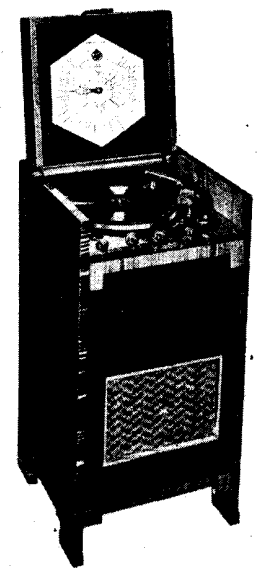
back. The two lower bolts have nuts on them, and care should be taken that they are not lost.

Chassis, motor board, and lid will then be free and the whole unit may be slid backwards out of the main part of the cabinet.

When replacing the chassis care should

be taken to see that the milled disc on the volume control clears the hole cut for it in the front of the cabinet.

(Alignment Notes and Quick Tests, page 50.)



The McMichael 366 five-valve superhet radiogram.

#### RESISTANCES

R.	Purpose.	Ohms.
1	V1 A.V.C. feed	1 meg.
2	Harmonic suppressor	1,000
3	V1 osc. grid	50,000
4	V1 osc. anode load	60,000
5	V1 cathode bias	750
6	V1 anode and screen decoupling.	5,000
7	V2 cathode bias	100
8	V2 screen decoupling	10,000
9	A.V.C. diode load part	1 meg.
10	V2 A.V.C. decoupling	1 meg.
11	A.V.C. diode load part	1 meg.
12	V1 A.V.C. decoupling	1 meg.
13	Filter	10,000
14	Filter	100,000
15	V3 grid and stopper	100,000
16	V3 cathode bias	500
17	V3 cathode bias	2,000
18	V3 anode load	50,000
19	Demodulator diode load	125,000
20	Demodulator diode load	125,000
21	V4 grid leak	1/2 meg.
22	V4 grid stopper	100,000
23	V4 cathode bias	150
24	V4 anode stabiliser	50
25	Condenser protection	40,000
26	Pick-up shunt	1/2 meg.
27	Pick-up shunt	1/2 meg.

#### CONDENSERS

C.	Purpose.	Mfds.
1	Series aerial	.0002
2	Aerial coupling	.00003
3	V1 grid isolating	.001
4	Oscillator padding	.001081
5	V1 anode and screen decoupling.	.1
6	V1 osc. grid	.0002
7	V1 osc. anode coupling	.001
8	V1 cathode bias shunt	.1
9	V1 A.V.C. decoupling	.1
10	V2 A.V.C. decoupling	.1
11	V2 cathode bias shunt	.1
12	V2 screen decoupling	.1
13	H.T. shunt	.1
14	Filter	.000075
15	V3 cathode bias shunt	.5
16	L.F. coupling	.01
17	L.F. coupling	.01
18	V4 cathode bias shunt	.25
19	Pentode compensating	.002
20	A.V.C. diode coupling	.0001
21	H.F. filter	.0001
22	V3 anode shunt	.001
23	H.T. smoothing	8
24	H.T. smoothing	8
25	H.T. smoothing	8
26	Tone control	.03
27	Swamp condenser	.1

Two of the four chassis layouts and, below, the circuit of the 366.

