E.M.I. SALES & SERVICE LTD.

NOTE TO ENGINEERS NO. 95. 12.4.51.

REPLACEMENT OF TUNING INDICATOR TYPE Y61 ETC., WITH TYPE EM.34.

In the following descriptions the R numbers mentioned are those in the service manual for the Model concerned.

MODELS - H.M.V. AC. 5100, AC/DC 5200
MARCONIPHONE AC. 7100, AC/DC 7200

Disconnect target lead from pin 4 and grid lead from pin 5.
Reconnect target lead to pin 5 and grid lead to pin 4.
Disconnect R24 .47 megohm from pins 3 & 6 & also H.T. lead from pin 6.
Connect H.T. lead and two .68 megohm resistors to pin 1. (Part No. 33360EF).
Connect one of the .68 megohm resistors to pin 3 & the other to pin 6.

Adjust support bracket as required to allow for shorter envelope of the type EM34. Amend valve position chart to read EM34. and delete Y61 therefrom.

MODELS - H.M.V. AC.5300, 5101, AC/DC. 5400, 5201.
MARCONIPHONE AC.7300, 7101, AC/DC. 7400, 7201.

AC Model.

Disconnect grid lead from pin 5.
Disconnect target lead and R17 .68 megohm from pin 4.
Connect target lead and two 1 megohm resistors to pin 5.
Disconnect R17 from pin 3 and discard.
Connect one 1 megohm resistor to pin 3, and the other to pin 6. (Part No. 33360EG).
Connect grid lead to pin 4.

AC/DC Models.

As for AC Models with the addition of the following resistor.
Connect 56 ohm 5 watt resistor across pins 2 & 7 (Part No. 33381RP).

Mechanical Assembly.

Adjust support bracket assembly as required to allow for shorter envelope of type EM34.
Amend valve position chart to read EM34, and delete Y61 therefrom.

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MODEL - H.M.V. 2500

Disconnect R31 1 megohm and target lead from pin 4.
Disconnect R30 2.2 megohm, and C35.047 mfd from pin 5 and reconnect to pin 4.
Disconnect R30 2.2 megohm and grid lead from pin 6 and reconnect to pin 1.
Reconnect R31 1 megohm and target lead to pin 5.
Connect a further 1 megohm resistor between pins 5 and 6 (Part No. 33360EG)

Mechanical Assembly.

Wrap 3 complete turns of insulating tape around base of EM34. Fit short screening can Part No. 43575, using original clip to clamp to base of EM34.
Re-affix screening can to cabinet.
Amend valve position chart to read EM34 and delete Y61 therefrom.

MODEL - H.M.V. 1612

Replacement of type Y63

Disconnect grid lead from pin 5.
Disconnect target and link from pin 4.
Reconnect target lead only to pin 5.
Connect grid lead to pin 4.
Disconnect R39 1 megohm resistor and link from pin 6.
Discard link and reconnect R39 to pin 5.
Connect a further 1 megohm resistor between pins 5 and 6 (Part No. 33360EG).

Mechanical Assembly

Wrap 3 complete turns of insulating tape around base of EM34.
Replace original screening can with shorter can, Part No. 43575, and clamp to base with original clip. If an earth tag is fitted this should be connected to the clamp screw.
Re-affix screening can to scale backing plate.
Amend valve position chart to read EM34 and delete Y63 therefrom.

MODELS - H.M.V. 1611, 5106, 5107, 5306, 5307.
MARCONIPHONE 7106, 7107

Remove .68 megohm resistor R28 from pins 3 & 4 of valve base.
Remove leads from pins 4 & 5 and reverse.
Connect one 1 megohm resistor between pins 5 & 3 (Part No. 3336EG)
Connect other 1 megohm resistor between pins 5 & 6.

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Mechanical Assembly.

Wrap 3 complete turns of insulating tape around base of EM34. Replace original screening can with shorter can (Part No. 43575) and clamp to base of EM34 with original clip, ensuring that Earthing tag is connected to clamp screw.
Re-affix screening can to scale backing plate.
Amend valve position chart to read EM34, and delete Y61 therefrom.

Replacement of Tuning Indicators, Pre-War Models H.M.V. & Marconiphone

The type EM34 tuning indicator may be employed as a substitute when any of the following tuning indicators requires replacement in pre-war Models.

6E5, 6G5, T165, Y62, Y63, and Y64.

Modification is necessary in every case, including a change of valvebase from UX to International Octal where types 6E5 and 6G5 are being replaced. The base connections for all types are shown below.

The type EM34 employs two shadow anodes, whereas the original types use only one. It is recommended that each shadow anode is fed individually through a 1 megohm resistor from the target.

In most Models the tuning indicator derives its bias from the bias network common to the receiver valves, and this should prove adequate. Where additional bias would appear necessary a 470 ohm cathode resistor may be used.

The glass envelope of the type EM34 is approx. $\frac{3}{8}$" shorter than that of the original types, and modification to the bracket assembly securing the indicator to the scale may be necessary therefore, in certain instances.

The types Y62 and Y64 used in some AC/DC Models required a heater current of .3 amp: and therefore were connected in series with the valve chain. When replacing these by an EM34 it is essential to shunt the heater (pins 2 and 7) with a 56 ohm resistor of 5 watt rating since the heater current rating of this type is .2 amp only.

This modification is unsuitable for use on Models operating on mains voltages of 100 DC.

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BASE CONNECTIONS

All connections shown looking at underside of valve base.

EM34

Pin 1	Blank
" 2	Heater
" 3	Shadow anode 1.
" 4	Grid
" 5	Target
" 6	Shadow anode 2.
" 7	Heater
" 8	Cathode

Y62, Y63, Y64.

Pin 1	Blank
" 2	Heater
" 3	Shadow anode
" 4	Target
" 5	Grid
" 6	Blank
" 7	Heater
" 8	Cathode

6E5, 6G5

Pin 1	Heater
" 2	Shadow anode
" 3	Grid
" 4	Target
" 5	Cathode
" 6	Heater

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