Fairbanks Morse & Co.

	Model: 8A	**Chassis:**	**Year:** Pre October 1937
	Power:	**Circuit:**	**IF:**
	Tubes:		
	Bands:		

Resources
Riders Volume 10 - CHANGES 10-1
Riders Volume 8 - FAIR MORSE 8-7
Riders Volume 8 - FAIR MORSE 8-8

Arvin 618, 618A, etc.

In order to eliminate the hum in the chassis used in these and other six-tube models, follow this procedure:

Remove the chassis from the cabinet. Locate the ground lug on the 6Q7G tube socket (see chassis layout on *page 8-16 of Rider's Volume VIII*). This lug is fastened to the chassis by a rivet which attaches the 6Q7G socket to the chassis. Bend this lug over and *solder it to the chassis* and then recheck for hum. If this is soldered correctly, the hum level should be brought to a minimum.

●

Pilot X114, X115

Changes have been made in the chassis used in these models, which have a similar schematic to the one shown on *page 6-15 in Rider's Volume VI*. The condensers C32 and C33 in the plate circuit of the second detector have been removed from the circuit, so that now the switch S3 is used to short out only the one condenser, C34, which now has a value of 250 mmf.

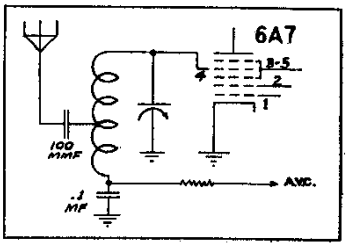
The value of the 10,000-ohm resistor No. 26 has been changed to 6,000 ohms. This is in the primary circuit of the pushpull input transformer.

A line condenser (1000-volt, paper) has been added across the primary of the power transformer. This is a dual condenser, grounded between the 0.01-0.01 mf sections.

●

Automatic 960A

The accompanying partial schematic shows a change which was incorporated in the 960 series, the schematic of which is shown on *page 9-2 in Rider's Volume IX*. Note also that the receivers in which this change has been made have an i-f peak of 480 kc, instead of 456 kc and that they are identified by the letter "A" after the model number.



New antenna circuit of the Automatic 960 A Series.

Arvin 818, 828, etc.

In order to reduce the hum level of the models in which the 8-tube chassis is used, follow this procedure:

Remove the chassis from the cabinet. Unsolder the 250,000-ohm plate resistor of the 6F5G tube from the B+ terminal, which is the lug on the 16-mf—300 volt electrolytic condenser. See chassis layout on *page 8-20 of Rider's Volume VIII*. Connect this resistor to the first tap down from B+ on the voltage divider resistor R87. This voltage tap supplies the potential for the 6A8G anode grid. Recheck for hum, which now should be reduced to a satisfactory level.

●

Oldsmobile 982043

In some of the early receivers (under serial A-20,000) of this model, several differences exist which should be noted on *page 9-1 in Rider's Volume IX*.

Resistor No. 46 is 100,000-ohms instead of 20,000.

Resistor No. 54 is 125,000 instead of 100,000-ohms and No. 55 is 75,000 instead of 100,000-ohms.

Resistor No. 44 and condenser No. 26 have been transposed, i.e. the resistor is connected to the grounded end of resistor No. 53 instead of the condenser.

The value of condenser No. 82 is indicated as 0.000063-mf and its connections are as follows: one terminal is connected to the junction of condenser No. 26 and the tap from resistor No. 58 and the other termnial is connected to the junction of condenser No. 18 and the left end of resistor No. 58.

●

Emerson Chassis AF

Receivers using this chassis and bearing serial numbers above 1,244,716 differ from the schematic shown on *page 8-45 in Rider's Volume VIII*. The condenser C-17 is omitted and the negative side of the filament circuit is grounded to the chassis.

●

Fairbanks-Morse 9A

Refer to the schematic shown on *page 8-9 of Rider's Volume VIII*. During production, the 47,000-ohm resistor (8) and the filter condenser (7) were removed and the r-f secondary was grounded directly, thus removing AVC from the 6L7G mixer tube. The bottom of the antenna coil secondary was then connected directly to the 1-megohm resistor (9). A 1000-ohm variable resistor was added in the cathode circuit of the 6J7G AFC control tube (at 37) to make possible compensation for variation in calibration due to variation in tube characteristics. This control was found unnecessary and was removed in later runs.

Fairbanks-Morse 8A

Refer to schematic shown on *page 8-7 of Rider's Volume VIII*. During production, the 47,000-ohm resistor (16) and the 0.05-mf condenser (7) were removed and the r-f secondary was grounded directly, thus removing AVC from the 6L7G mixer tube. The bottom of the antenna coil secondary was then connected directly to the 470,-000-ohm resistor (17).

●

G.E. G-57

This model is identical to model G-55, except for the cabinet and the loud speaker, which has a part number RS-095. The 12-inch cone of this unit has a part number RC-943.

The servicing data for model G-55, found on *pages 9-3, 9-4, and 9-5 of Rider's Volume IX*, apply to the G-57. This additional model number should be added to the listing in your Index.

●

Stromberg-Carlson Push-Button Tuners

The push buttons on all the new receivers, such as those whose servicing data are found in *Rider's Volume IX*, which employ padding condensers for tuning purposes are set up from the front of the chassis. It is unnecessary to get into the back of the receiver to set up the desired stations, except to adjust the electric tuning switch on the rear of the chassis.

To set up the stations, it is only necessary to remove the escutcheon over the push buttons and the adjusting screws become readily accessible. These escutcheons are held in place by several Phillips type screws, which can be removed with any small pointed instrument, such as a small nailfile or an old knife blade. However, the use of a special tool is recommended, as this will not mar the surface of the screw head.

DeWald 1106

●

This model is identical with the Models 1104 and 1105, shown on *pages 9-1 and 9-10 of Rider's Volume IX*, except that the new model has an additional short-wave band for the 14-40 mc range, giving it a total of five bands.

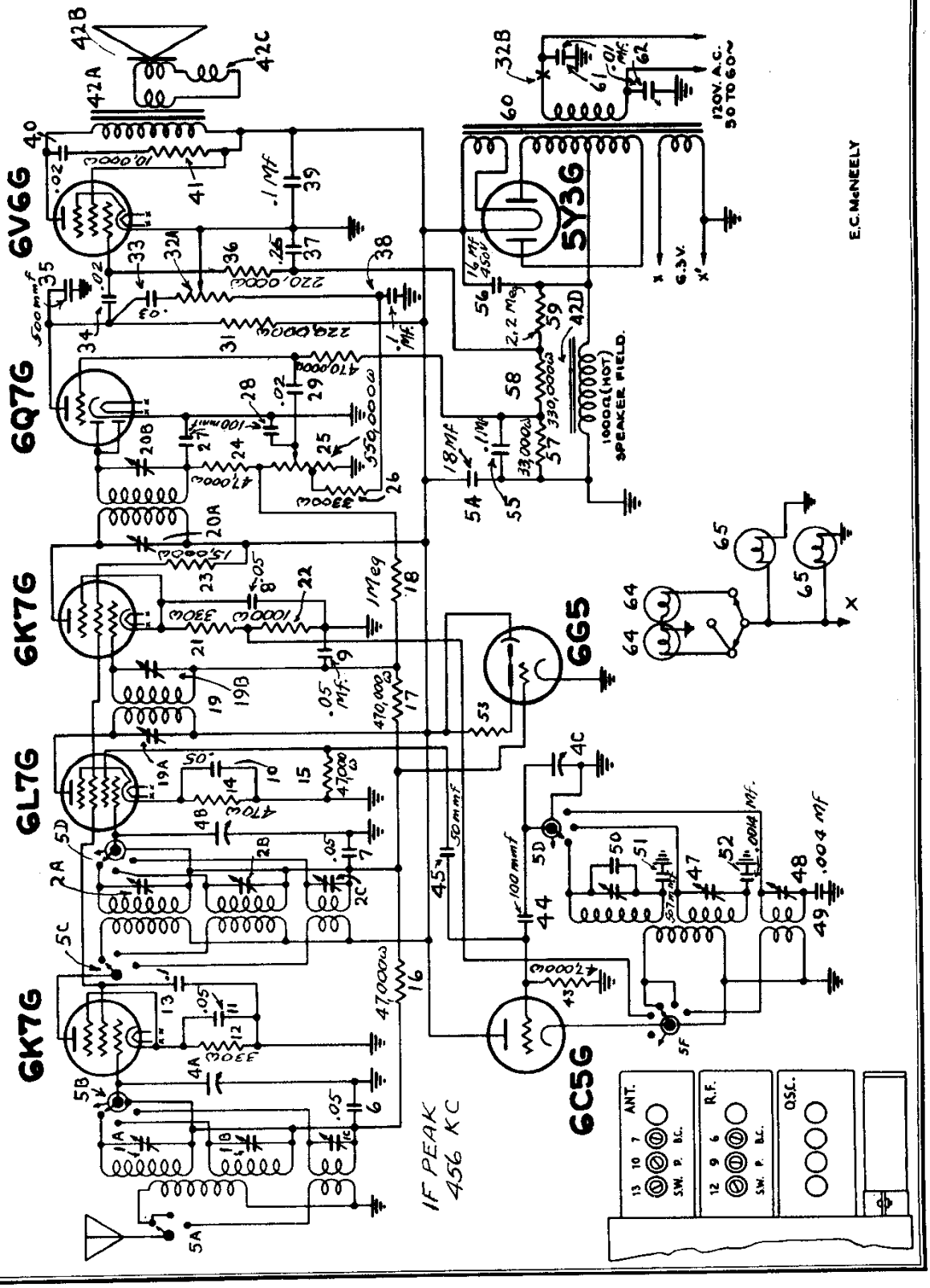
RCA 8M3, 8M4

●

On 8M3 and 8M4 receivers, it is often advantageous to connect the 22-mmf condenser (C1, on *page 9-37 of Rider's Volume IX*) from the output end of coil L1 to ground, instead of from the antenna end. Later runs of sets include this change. Note also that good electrical contact is required between vibrator-transformer and chassis to minimize internal noise.

FAIRBANKS, MORSE & CO.

MODEL 8A
Schematic
Trimmers



MODEL 8A
Alignment, Voltage
Resistance, Socket
Trimmers

FAIRBANKS, MORSE & CO.

No.	Connect Generator To	Signal Generator Frequency	Dummy	Range Switch	Dial Setting	Stage	Trimmer No.	AFC Switch	Peak For	Special Instructions
1	6L7G Grid	456 KC	.1 mfd. Condenser	Broadcast	550 KC	2nd IF	1		Max.	
2	6L7G Grid	456 KC	.1 mfd. Condenser	Broadcast	550 KC	2nd IF	2		Max.	
3	6L7G Grid	456 KC	.1 mfd. Condenser	Broadcast	550 KC	1st IF	3		Max.	
4	6L7G Grid	456 KC	.1 mfd. Condenser	Broadcast	550 KC	1st IF	4		Max.	
5	Antenna Lead	1500 KC	200 mmf. Condenser	Broadcast	1500 KC	BC Osc.	5		Max.	
6	Antenna Lead	1500 KC	200 mmf. Condenser	Broadcast	1500 KC	BC Det.	6		Max.	
7	Antenna Lead	1500 KC	200 mmf. Condenser	Broadcast	1500 KC	BC Ant.	7		Max.	Check calibration at 600 KC
8	Antenna Lead	5.4 MC	400 ohm Resistor	Police	5.4 MC	Police Osc.	8		Max.	
9	Antenna Lead	5.4 MC	400 ohm Resistor	Police	5.4 MC	Police Det.	9		Max.	
10	Antenna Lead	5.4 MC	400 ohm Resistor	Police	5.4 MC	Police Ant.	10		Max.	Check calibration at 1.8 MC
11	Antenna Lead	18 MC	400 ohm Resistor	Short Wave	18 MC	S.W. Osc.	11		Max.	Check for image at 17.1 MC. It should not be as strong as the signal at 18 MC
12	Antenna Lead	18 MC	400 ohm Resistor	Short Wave	18 MC	S.W. Det.	12		Max.	Check calibration at 6 MC
13	Antenna Lead	18 MC	400 ohm Resistor	Short Wave	18 MC	S.W. Ant.	13		Max.	

When aligning the police and short wave bands, care must be taken to see that the trimmers are set on the proper frequency and not on the image. The signal from the oscillator beating with the incoming signal in the mixer tube produces two 456 kilocycle heterodynes, one equal to the oscillator frequency minus the frequency of the incoming signal, and the other equal to the incoming signal minus the oscillator. The former is the one to which the RF and antenna trimmers must be tuned if the receiver is to work correctly over the entire band. The image falls 912 kilocycles below the fundamental signal, so at 18 megacycles the image should be heard at 18 megacycles minus .912 megacycle or 17.1 megacycles approximately.

After setting the oscillator trimmer, increase the input from the signal generator and make sure that the image comes in at the proper point. When you can hear one signal at the frequency to which your generator is set, and one at about 1 megacycle below it, you are ready to finish the alignment. Go back to the fundamental frequency and start peaking the RF trimmer, rocking the tuning condenser slightly as you do so. When you reach a peak, compare the strength of the fundamental signal and the image. If the image is the stronger, you have the wrong peak on the RF trimmer. Find the other peak and again compare the two signals. You will probably find it necessary to increase the generator input greatly in order even to hear the image when you have found the right peak. The antenna trimmer may be peaked in the same manner.

Extreme howling or motorboating on the short wave bands or dead spots near the high frequency end of the dial are good indications that the RF trimmer is improperly aligned and may easily be corrected by resetting it as described above.