Fairbanks Morse & Co.

	Model: 91C4	**Chassis:**	**Year:** Pre October 1937
	Power:	**Circuit:**	**IF:**
	Tubes:		
	Bands:		

Resources
Riders 8 (VIII) FAIR MORSE 8-33
Riders 8 (VIII) FAIR MORSE 8-34

Schematic, Voltage Resistance

FAIRBANKS, MORSE & CO.

MODELS 91C4, 91C5, 91T4
Chassis 91

RESISTORS

40.-- 300 M ohms
41.-- 50 M ohms
42.-- 500 M ohms
43.-- 500 ohms
44.-- 50 M ohms
45.-- 50 M ohms
46.-- 2 M ohms
47.-- 10 M ohms
48.-- 1 megohm
49.-- 2 M ohms
50.-- 300 ohms
51.-- 50 M ohms
52.-- 500 M ohms
53.-- 500 ohms
55.-- 1 megohm
56.-- 1 megohm
57.-- 3 M ohms
58.-- 500 M ohms
59.-- 50 M ohms
60.-- 500 M ohms
61.-- 250 M ohms
62.-- 500 M ohms
63.-- 250 M ohms
64.-- 10 M ohms
65.-- 2 megohms
66.-- 400 M ohms
67.-- 40 M ohms
68.-- 5 M ohms
54.-- 50 M ohms

CONDENSERS

1.-- .05 mfd.
2.-- .05 mfd.
3.-- .1 mfd.
4.-- 100 mfd.
5.-- .05 mfd.
6.-- .05 mfd.
7.-- 750 mmfd.
8.-- 1800 mmfd.
9.-- .004 mfd.
10.-- 200 mmfd.
11.-- 500 mmfd.
12.-- .1 mfd.
13.-- 500 mmfd.
14.-- 100 mmfd.
15.-- 50 mmfd.
16.-- .05 mfd.
17.-- .05 mfd.
18.-- .1 mfd.
19.-- 100 mmfd.
20.-- 100 mmfd.
21.-- .01 mfd.
22.-- .1 mfd.
23.-- .25 mfd.
24.-- .03 mfd.
25.-- .01 mfd.
26.-- .25 mfd.
27.-- 4 mfd.
28.-- .02 mfd.
29.-- .01 mfd.
30.-- 16 mfd
31.-- 30 mfd.
32.-- .01 mfd.

MODELS 91C4,91C5,91T4
Chassis 91
Socket, Trimmers
Alignment, Data

FAIRBANKS, MORSE & CO.

NOTE - All adjustments should be made with the volume control "full on". Any desired variation in signal strength should be obtained by adjusting the output of the signal generator.

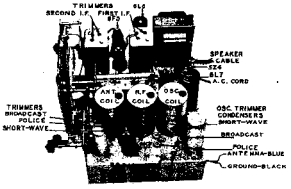

FIGURE 4
TOP VIEW OF THE MODEL 91 CHASSIS

INTERMEDIATE FREQUENCY ALIGNMENT

1.- Turn the gang condenser to maximum capacity (fully meshed). Band switch on broadcast position.

2.- Supply a 456 kilocycle signal from the signal generator to the grid of the first detector tube through a .1 Mfd. condenser connected in series with the signal generator lead.

3.- Adjust the four trimmers of the two intermediate frequency transformers (see Figure 4) for maximum output with minimum input from the service oscillator.

RADIO FREQUENCY ALIGNMENT

The parallel or high frequency trimmer condensers for each coil are housed in the same shield can with the coil, with the exception of the oscillator trimmers, these are air dielectric condensers and are mounted on the chassis. These trimmers are used for aligning the high frequency end of each band. The location of the various trimmers is shown in Figure 4.

The oscillator, adjustable, series padding condensers are used for tracking the oscillator at the low frequency end of each band. The padding condensers may be adjusted from the top of the chassis through the holes indicated in Figure 4. Since a fixed mica padding condenser is employed on the short wave band, no adjustment is necessary. While making padding condenser adjustments, the gang condenser should be rotated back and forth across the signal to insure adjustment to the peak of greatest intensity.

BROADCAST BAND

1.- Turn the band selector switch to the broadcast (clockwise) position.

2.- Tune the receiver to 1500 kilocycles.

3.- Supply a 1500 kilocycle signal from the signal generator to the antenna lead of the receiver through a standard dummy antenna or a 200 Mmfd. (.0002 Mfd.) condenser, connected in series with the signal generator lead.

4.- Adjust the broadcast band oscillator trimmer condenser (Figure 4) for maximum output with minimum input from the signal generator. Then adjust the broadcast band radio frequency and antenna stage trimmers for maximum output.

5.- Tune the receiver to 600 kilocycles.

6.- Supply a 600 kilocycle signal to the antenna of the receiver through the same connections as previously used.

7.- Adjust the broadcast band oscillator padding condenser (top of chassis, see Figure 4) for maximum output with minimum input from the signal generator, at the same time rocking the tuning condenser back and forth across the signal to insure the peak of greatest intensity.

8.- Check at 1500 kilocycles and then at 600 kilocycles. Make any adjustments that are necessary to obtain satisfactory calibration.

POLICE BAND

1.- Turn the band selector switch to the police band (center) position.

2.- Tune the receiver to 5.4 megacycles.

3.- Supply a 5.4 megacycle signal from the signal generator to the antenna lead of the receiver through a 400 ohm carbon resistor (dummy antenna), connected in series with the signal generator lead.

4.- Adjust the police band oscillator trimmer condenser (Figure 4) for maximum output with minimum input from the signal generator, then adjust the police band radio frequency and antenna stage trimmers for maximum output.

5.- Tune the receiver to 1.8 megacycles.

6.- Supply a 1.8 megacycle signal to the receiver through the same connections used on the previous adjustment.

7.- Adjust the police band oscillator padding condenser (top of chassis, see Figure 4) for maximum output with minimum input from the signal generator, at the same time rocking the tuning condenser back and forth across the signal to insure the peak of greatest intensity.

8.- Check at 5.4 megacycles and then at 1.8 megacycles and make any adjustments that are necessary to obtain satisfactory calibration.

SHORT WAVE BAND

1.- Turn the band selector switch to the shortwave (clockwise) position.

2.- Tune the receiver to 18 megacycles.

3.- Supply an 18 megacycle signal from the signal generator to the antenna lead of the receiver through a 400 ohm carbon resistor (dummy antenna), connected in series with the signal generator lead.

4.- Adjust the short wave band oscillator trimmer condenser (in Figure 4) for maximum output with minimum input from the signal generator. Then adjust the short wave band antenna and radio frequency stage trimmers for maximum output, at the same time rocking the tuning condenser back and forth across the signal to insure the peak of greatest intensity.

5.- The 6 megacycle signal should be received near 6 megacycles on the dial. If the signal is not received check the oscillator tube, switch connections, the fixed padding condenser and the coils. No adjustment is required at this point.

6.- Check and, if necessary, readjust all three stages for maximum output with minimum input from the signal generator.

WARNING

The image signal should be received at approximately 17 megacycles on the dial. If not, the oscillator has been aligned to the image frequency and the oscillator trimmer condenser must be backed out until the correct signal is received at 18 megacycles and the image at approximately 17 megacycles. If readjustment is found necessary, the antenna and radio frequency stage trimmers should also be checked again.

ULTRA SHORT WAVE BAND

No adjustment is required on this band. If signals are not properly received check the oscillator tube, switch contacts, the fixed padding condenser, and the coils.

COLOR CODES

FIRST I. F. TRANSFORMER		SECOND I. F. TRANSFORMER	
Plate	Blue	Plate	Blue
"B" Plus	Red	"B" Plus	Red
Grid Return	Black	Diode Return	Black
Grid (Top)	Green	Diodes	Green

STANDARD RMA RESISTOR AND CONDENSER COLOR CODE

0	Black	2	Red	4	Yellow	6	Blue	8	Grey
1	Brown	3	Orange	5	Green	7	Purple	9	White

RESISTORS

The BODY COLOR represents the FIRST FIGURE of the resistance value
The END COLOR represents the SECOND FIGURE of the resistance value
The DOT COLOR represents the NUMBER OF CIPHERS following the first two figures

MICA CONDENSERS

(Capacity in Micro-Microfarads)

The FIRST DOT on the condenser represents the FIRST FIGURE of the capacity
The SECOND DOT on the condenser represents the SECOND FIGURE of the capacity
The THIRD DOT on the condenser represents the NUMBER OF CIPHERS following the first two figures.
The colors on the condensers should be read from left to right with the condenser in an upright position.

POWER TRANSFORMER

Lead Color	Voltage
Black	115 Volt Primary
Green	6.3 Volt Filament
Yellow	5.0 Volt Filament
Red	High Voltage Sec.
Red & White	High Voltage C.T.