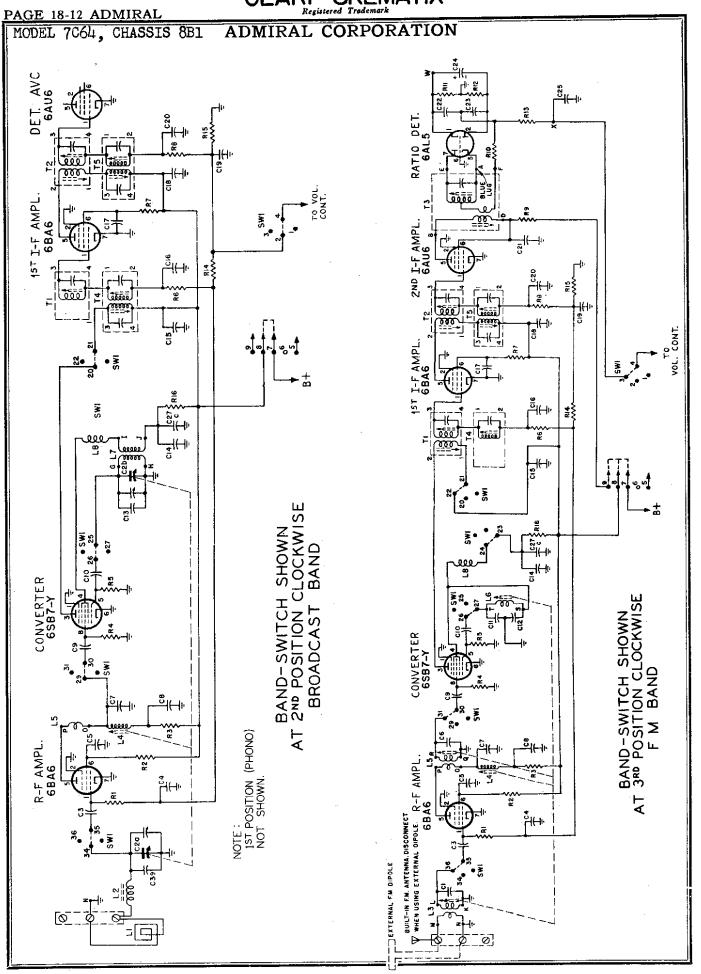
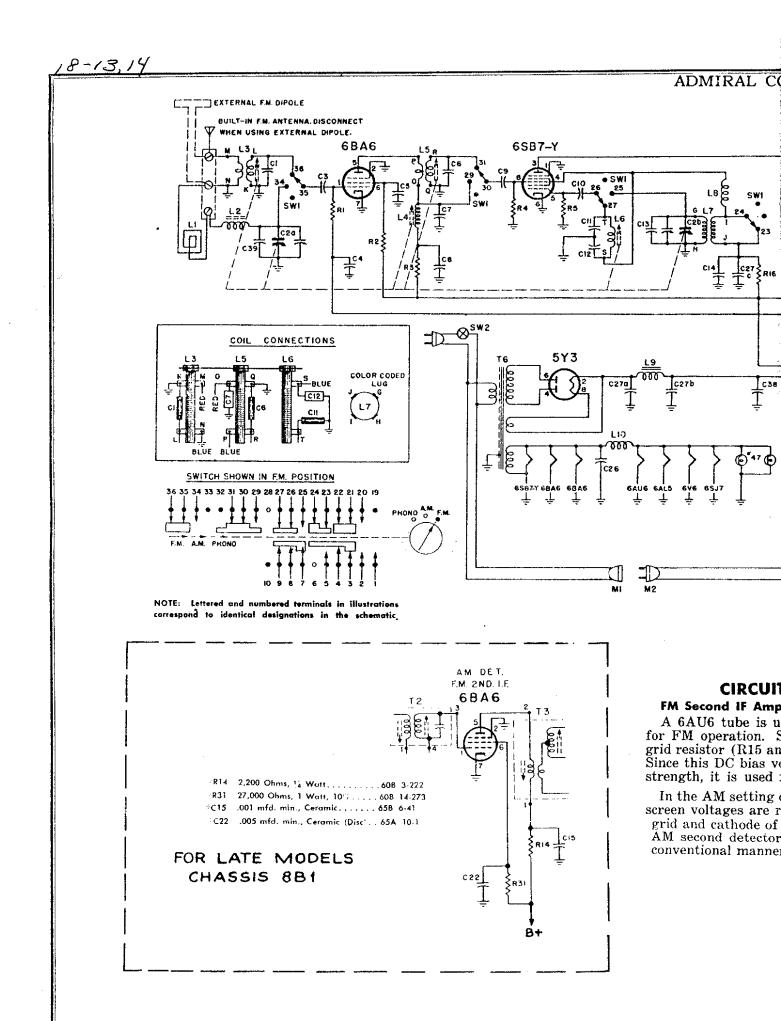
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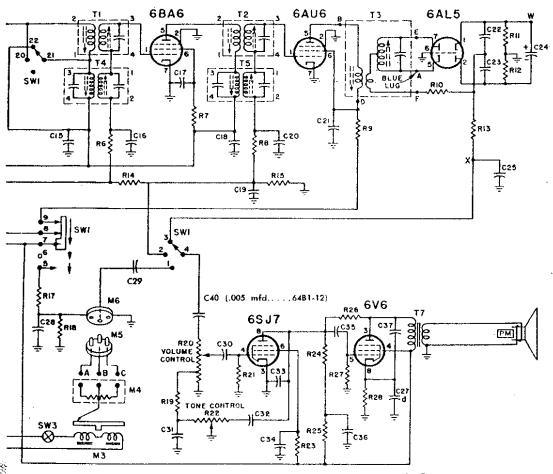
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MODEL 7C64, CHASSIS 8B1



VOLTAGE CHART

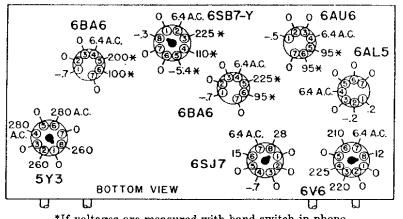
- Measured on 117 Volt A.C. line.
- Volume control turned low.
- No station tuned in. Dial turned to low frequency end.
- Voltages measured between point indicated and chassis.
- Voltages measured with a vacuum-tube voltmeter. Many readings will be lower if measured with a 1000 ohmper-volt meter.
- Readings with bandswitch in F.M. position.

DESCRIPTION

lifier, AM Second Detector

sed as a second IF amplifier elf-bias is developed in the d R8 in series) of this stage. ltage is dependent on signal or AVC purposes.

of the band switch, plate and smoved from this tube. The this tube then function as an (diode) and AVC tube in a



*If voltages are measured with band switch in phono position, reading will be zero or practically zero.

RECORD CHANGER: Admiral Model RC-170A, RCD.CH. 16-1

IMPORTANT PRELIMINARY ALIGNMENT STEPS

- With the gang open, the pointer should be at the position as shown in the stringing diagram, that is, the tip of the pointer should point to the space between the "AM KC" lettering on the dial scale. If the pointer is in a different position, move it by hand while keeping the gang open.
- Check the set screws that hold the tuning drum to the shaft to see that they are tight and that the drum has
- not slipped on the shaft. The correct position of the drum can be seen on the stringing diagram.
- With the gang wide open, all FM tuning slugs should be % inch out of their coil forms. The AM-RF tuning slug (adjustment "O" in the trimmer location diagram) should be 1 inch out of its coil form. If there is any serious deviation, or if there has been any tampering, turn the adjusting screw until this distance is corrected. (See paragraph on tuning slug replacement.)

FM IF AND RATIO DETECTOR ALIGNMENT

- Solder output indicator leads in place and keep them well separated from signal generator leads and chassis wiring.
- Band switch in FM position (red signal at MC on dial).
- While peaking IF's, keep reducing signal generator output so VTVM reading is approximately +1.5 voits DC with exception of Step #5.
- Speaker must be connected during alignment.

I.F. SLUG INFORMATION

To avoid splitting the slotted head of the powdered iron core tuning slug in the I. F. transformers, use a screw-driver with a blade 1/8" wide for I.F. alignment.

Under normal operating conditions, mis-alignment of slug-tuned circuits with age is slight. Therefore, realignment of the I.F. transformers should be accomplished by only a slight adjustment of the slugs.

Due to the probability of breaking off the wire leads on the coils, slug replacement in the AM-IF transformers is not recommended. Replace entire IF transformer. The slug-tuning cores in the FM-IF transformers can be replaced. Remove the transformer from the chassis and the unit from its case. The top slug can then be removed from the coil form. The top slug must first be removed in order to remove the bottom slug. The bottom slug will then pass through the length of the coil form and out the top. (The slug will not pass through the bottom end of the coil form).

For slug replacement in the ratio detector transformer, see the I.F. slug information on page 9 of the 9A1 service manual.

Before proceeding, be sure to follow all steps listed above, under "Important Preliminary Alignment Steps." Steps 1 and 2 may be omitted if set is not badly out of alignment so signal comes through in Step 3

	Connect Signal Generator	Generator Frequency	Receiver Dial Setting	Output Indicator and Special Connections	Adjust as Follows (very carefully)
1	Thru .01 cond. to 2nd IF grid (Pin #1 of 6AU6 2nd IF)	10.7 MC unmodu- lated.	Tuning gang wide open	Connect 3300 ohm carbon resistors across secondaries of both FM-IF transformers. Connect VTVM (DC probe) from point "W" to ground. (See Fig. 7.)	"A" (ratio detector primary) for maximum reading on VTVM.
2	Thru .01 cond. to 1st IF grid (Pin #1 of 6BA6 1st IF)	>>	3 1	,, ,,	Iron cores "B" and "C" (2nd IF trans.) for maximum reading on VTVM.
3	To pin # 1 of 6BA6 R.F. amplifier**)	29	If not enough IF signal comes thru during this step, ground pin #5 on the 6887-Y. Leave generator set at 10.7 MC until step 4c.	Iron cores "D" and "E" for maximum on VTVM. Re- adjust A, B, C, D, E, for maximum. (Keep reducing generator output to keep VTVM at 1.5 volts).
4	,,	a. Remove 3300 ohm resistors from IF transformers. b. Reduce output of signal generator until VTVM reads exactly +1.5 volts DC. c. Tune generator frequency above 10.7 MC until VTVM reads exactly +1.0 volt. Note exact generator frequency. Extreme care in reading this is essential. d. Tune generator frequency below 10.7 MC until VTVM reads exactly +1.0 volt. Note exact generator frequency. Extreme care in reading this is essential. e. Add generator frequency in step c to generator frequency in step d and divide by 2. The result is the center frequency of the IF curve to be used in step 5. See example on next page. f. Tune generator frequency above and below 10.7 MC and note voltage reading on VTVM at different frequency points until you have a good impression of the shape of the selectivity curve. If you have two peaks as in Figures 5 or 6, note readings (voltage) of both peaks. If one peak is over 20% higher than the other one, it will be necessary to realign IF's. A selectivity curve that would require realignment is illustrated by Figure 6.			
5	. "	Center of IF selectivity curve per step 4e above. See "EXAM- PLE" on next page.	Set pointer to upper limit on dial.	Connect VTVM (DC probe) from point "X" to ground. (See Fig. 7).	Iron core "F" (ratio detector secondary) for zero voltage reading on VTVM. (The correct zero point is located between a positive and a negative maximum.)

If any adjustments were very far off, it is desirable to repeat steps 3, 4 and 5.

**Do not feed I.F. signal into converter grid as this will cause mis-alignment.

MODEL 7C64, CHASSIS 8B1

ADMIRAL CORPORATION

F.M. ALIGNMENT

The model 8B1 chassis should be aligned only with an AM signal generator and a vacuum tube voltmeter. Any standard brand vacuum tube voltmeter with a DC scale of not over 5 volts is suitable. A 3-volt zero center scale is desirable. A signal generator with a frequency range up to 110 MC. is desirable. It is possible however, to align the receiver with a signal generator going to 20 or 30 megacycles, by using the harmonics of these lower frequencies. To do this merely set the signal generator dial as follows and align exactly as explained in the alignment instructions.

Where alignment chart specifies 109 MC., set signal generator to highest available frequency of the following:

109.	MC	27.25	MC
54.50	MC	21.80	MC
36.33	MC	18.17	MC

Where alignment chart specifies 104 MC., set signal generator to highest available frequency of the following:

104.	MC	26.00	MC
52.00	MC	20.80	MC
34.67	MC	17.33	MC

Signal generators which do not tune to 110 MC or whose harmonics are not strong enough, cannot be used for FM alignment.

In FM alignment, it is essential that every step be followed. Especially important is picking the center of the I.F. curve (step 4 in the FM-IF alignment instructions). During this portion of the alignment it is necessary to tune the signal generator very carefully; it may necessitate having to estimate the dial readings to a tenth of a division.

TRIMMER IDENTIFICATION CHART

Trimmer Symbol	Function
A T3	Discriminator transformer
B T2	.2nd IF transformer (FM)
CT2	.2nd IF transformer (FM)
DT1	.1st IF transformer (FM)
ET1	1st IF transformer (FM)
F T3	Discriminator transformer
GL6	.FM oscillator coil
H L5	.FM RF coil
I L3:	.FM antenna coil
J T5	.2nd IF transformer (AM)
	2nd IF transformer (AM)
L	.1st IF transformer (AM)
MT4	1st IF transformer (AM)
NC2b	.AM oscillator trimmer
O L4	.AM RF coil
PC2a	.AM antenna trimmer

POINTER SETTING

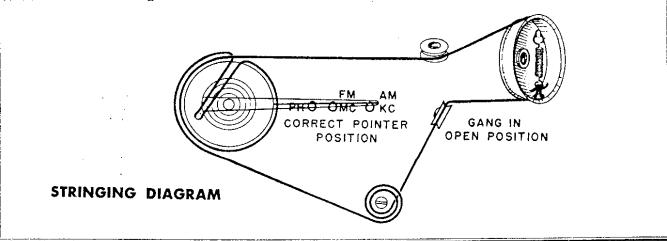
With the gang open, the pointer should be at the position as shown in the stringing diagram, that is, the tip of the pointer should point to the space between the "AM KC" lettering on the dial scale. If the pointer is in a different position, move it by hand while keeping the gang open.

REPLACING TUNING SLUGS

With the gang wide open, all three FM tuning slugs should be $\frac{3}{8}$ inch out of their coil forms. The AM-RF tuning slug (adjustment "0" in the trimmer location diagram) should be 1 inch out of its coil form.

If it becomes necessary to change a tuning slug, proceed as follows: Set the gang to its wide open position. Unsolder and remove the old slug. Set the slug adjusting screw about half way down. Place the new slug in its correct position. Solder in place making sure that it does not slip during the operation and that the slug wire is straight.

Realignment is necessary after slug replacement.



SETTING SIGNAL GENERATOR TO CENTER OF IF SELECTIVITY CURVE

CAUTION: Due to the difficulty of setting a signal generator to the accuracy required by this operation, extreme care must be exercised in making each setting. Otherwise, improper alignment of the ratio detector and consequent audio distortion will result.

EXAMPLE: (See Figures 1 and 2.)

Voltage reading in Step 4b is + 1.5 volts.

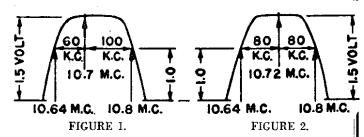
Generator frequency on low side of 10.7 MC for a reading of + 1 volt DC = 10.640 MC.

Generator frequency on high side of 10.7 MC for a reading of + 1 volt DC = 10.800 MC.

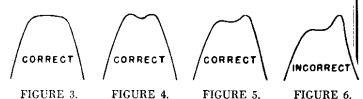
Center frequency is obtained by adding 10.640 and 10.800, then dividing by 2. For these readings it will be 10.72 MC.

Set generator frequency to 10.72 MC as this is center of selectivity curve as shown in Figure 2.

Note: Numerical verner dial readings may be used instead of MC.



TYPICAL SELECTIVITY CURVES



6BA6

PIN 8

6SB7-

BOTTOM VIEW

TRIMMER LOCATION

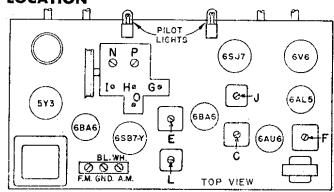


Fig. 8 FM RF ALIGNMENT PROCEDURE

1					
	Connect Signal Generator	Generator Frequency	Receiver Dial Setting	Output Indicator and Connections	Adjust as Follows
6	Thru 250 ohms to FM ant. terminal.	109 MC† (unmodu- lated).	Tuning gang wide open	Connect VTVM (DC probe) from point "W" to ground.	*G for maximum VTVM reading.
7	77	104 MC† (unmodu- lated).	104 MC	"	*Tune in generator signal on receiver. Adjust H and I for max. VTVM reading.

* It is advisable to adjust generator output so VTVM readings do not exceed approximately + 1.5 V. DC after peaking. † If your signal generator does not reach this frequency, use harmonics as described in "FM Alignment"

AM ALIGNMENT PROCEDURE

• Use regular output meter connected across voice coil.

Fig. 7

- Be sure both the set and the signal generator are thoroughly warmed up before starting alignment.
- Turn receiver Volume Control full on.
- Use lowest output setting of signal generator that gives a satisfactory reading on meter.

 \mathbf{P}

	Connect Signal Generator	Dummy Antenna Between Radio and Signal Generator	Signal Generator Frequency	Receiver Dial Setting	Adj. Trimmers in Following Order to Max.
Se Pr	et Band Switch to Br reliminary Alignment	roadcast Position (center) and l Steps." Loop antenna can be	be sure to follow e disconnected fro	instructions under m chassis in Steps 1	heading "Important, 2 and 3.
1	6SB7-Y (Pin #8)	.1 MFD	455 KC	Tuning gang wide open	J, K, L, M
2	To loop ant. terminal	Direct connection	1620 KC	Tuning gang wide open	N .
3	To loop ant. terminal	Direct connection	1400 KC	Tune in signal	0

Set Receiver Chassis on table next to back of cabine MMFD (Or wrap several Tune in To loop ant. 1400 KC turns of generator lead signal terminal around white loop lead.)

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PIN'

2 nd. l.F.

GE 18-18 ADMIRAL
DDEL 7064, ADMIRAL CORPORATION HASSIS 881
MISCELLANEOUS Description Higgs, Butf (Redio Camp.) (pair for 7C648). 7C648). (2C648). (2C64
Spring Washer (for Tuning Shoft) 4A 5-3-0 Tuning Shoft; 28A 1-5 Washer ("C" for Tuning Shoft) 4A 4-1-0 PHONOGRAPH PARTS Note: See RCITOA record changer manual for camplete parts list. Symbol M1
CONDENSERS
Park No. A. Color Ohms, 14 Watt