

**MODELS 120,1200  
2200**

**INTERNATIONAL RADIO CORP.**

**Alignment, Parts**

This chassis is designed to operate from 115 volt, 60 cycle, alternating current power lines. It is a three band receiver covering the American broadcast, police and airport, and Foreign short wave bands.

The following tubes are employed:

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|---|--|
| 6K7 (metal) or 6K7G (glass) R.F. amplifier          | 6C5 (metal) or 6C5G (glass) A.F. amplifier |
| 6A8 (metal) or 6A8G (glass) 1st Detector-Oscillator | 6F6 (metal) or 6F6G (glass) Pentode output |
| 6K7 (metal) or 6K7G (glass) I.F. amplifier          | 5Z4 (metal) or 5Y3 (glass) Rectifier       |
| 6H6 (metal) or 6H6G (glass) Diode detector          |  |

The metal and glass tubes are interchangeable but when changing from one type to the other it is advisable to realign for perfect resonance. Glass counterpart types should be shielded, the metal tubes need not be. Shielding provisions are provided.

**ALIGNMENT**

The standard type of output meter should be used to indicate signal strength. It should be connected from the plate (pin No. 3) of the 6F6 to ground. Tone control should be turned "high". The signal from the signal generator *must be kept at a very low level.*

**ESSENTIAL DATA:** The intermediate frequency employed is 448 Kc. On the broadcast and middle bands the oscillator frequency is 448 kilocycles higher than the signal frequency. On the short wave band it is 448 kilocycles lower than the signal frequency.

Aligning should be done on the following frequencies: Broadcast band, 1400 and 600 Kc.; Middle band, 6000 and 2400 Kc.; Short wave band 15 megacycles.

In aligning on broadcast band it is permissible to bend plates on the *R. F. section only* of the three gang condenser. Do not bend plates when aligning the middle and short wave bands.

The front section of the three gang condenser is the oscillator section; the middle section, first detector; the rear section, R.F. amplifier. The R.F. amplifier is in circuit only on the broadcast band.

**INTERMEDIATES:** To align the I.F. circuits, set the signal generator to 448 Kc. and feed its modulated signal direct to the antenna. Short out the oscillator section of the three gang condenser. Adjust the first I.F. transformer trimmers for maximum meter reading. Go over both adjustments at least three or four times for accuracy. Repeat this process on the second I.F. transformer. If adjustments are not made accurately, selectivity will be poor and I.F. oscillation may result.

**BROADCAST BAND:** Place the band change switch on Broadcast position. Turn the dial to 1400 Kc. and feed a *very weak* 1400 Kc. modulated signal from your signal generator to the antenna. Adjust the Broadcast oscillator trimmer (see sketch) and R.F. stage trimmer (on condenser gang) for maximum reading. Although a trimmer is provided for the Broadcast detector coil it will be found not connected on many sets as it is not necessary in obtaining correct balance.

Turn dial and signal generator to 600 Kc. and rock the padder into correct adjustment. This is accomplished by very slowly adjusting the padder condenser and at the same time turning the dial slightly back and forth across 600 Kc. until an adjustment is obtained producing maximum output. Go back to 1400 Kc. and readjust the oscillator trimmer slightly if necessary. Then recheck padder at 600 Kc. It is permissible to bend plates on the R.F. section only in resonating circuits.

**MIDDLE BAND:** Turn the band change switch to the middle position and tune radio and signal generator to 6000 Kc. Adjust the oscillator trimmer and then the detector trimmer for maximum output.

Rock in the padder condenser at 2400 Kc. Then recheck at 6000 Kc. and 2400 Kc.

**SHORT WAVE BAND:** Turn band change switch to short wave band. Tune radio and signal generator to 15 megacycles and adjust trimmers. No padder condenser is used on the short wave band so no other adjustments are necessary. On this band the oscillator frequency is 448 Kc. lower than the signal frequency.

**MICROPHONIC HOWL**

The tuning condenser is cushion mounted to eliminate vibration. Do not allow the dial to touch the escutcheon plate on the cabinet or a microphonic condition will be created.

**LONG WAVE-EXPORT MODELS**

These models are also built with a four position switch (part number E-482) and an extra set of coils tuning the foreign long wave band. The order of band change switch positions is broadcast, midband, short wave, long wave band. Alignment—adjust long wave trimmers at 350 Kc. and rock in long wave padder at 160 Kc. See sketch for location of coils and condensers.

Some export sets also contain a 25 cycle power transformer (part number T-502) which has a tapped primary winding allowing operation from 125, 150 or 250 volt A.C. power lines. The tap switch is made available by removing part of the cover of the power transformer. 25 cycle sets may be used on 60 cycle although the converse is not true.

**PARTS LIST**

PART NO.	DESCRIPTION		
A-135...	3 gang tuning condenser	\$2.80	
A-247...	.00025 mf. mica condenser	.20	
A-248...	.001 mf. mica condenser	.20	
A-249...	.00125 mf. mica condenser	.20	
A-258...	.0005 mf. mica condenser	.20	
A-303...	.25 mf., 200 v. paper cond	.20	
A-329...	.005 mf., 600 v. paper cond	.15	
A-351...	.05 mf., 200 v. paper cond	.15	
A-352...	.05 mf., 300 v. paper cond	.15	
A-354...	.25 mf., 25 v. paper cond	.20	
A-367...	.05 mf., 400 v. paper cond	.15	
A-370...	.25 mf., 300 v. paper cond	.20	
A-417...	.5 mf., 25 v. electrolytic cond	.55	
A-439...	Electrolytic filter condenser	1.30	
A-509...	.6 gang trimmer condenser	.55	
A-510...	Dual padder condenser	.45	
A-515...	Single padder (long wave Mod.)	.25	
A-527...	Dual trimmer condenser	.20	
D-31...	8 inch Dynamic speaker	*1.20	
D-32...	10 inch Dynamic speaker	7.50	
E-154...	Duo dial knob	.20	
E-155...	1 inch knob	.15	
E-156...	.13/16 inch knob	.15	
E-159...	1 inch knob with colored dots	.20	
E-266...	Dial assembly	2.50	
E-272...	Dial assembly (long wave models)	2.50	
E-460...	Antenna-ground binding post strip	.10	
E-472...	Pilot lamps, 6-8 volt	.15	
E-480...	3 position band change switch	1.00	
E-482...	4 position band change switch	1.50	
H-49...	.6A8 tube socket	.10	
H-50...	.6C5 tube socket	.10	
H-52...	.6H6 tube socket	.10	
H-54...	.6K7 tube socket	.10	
H-56...	.6F6 tube socket	.10	
H-57...	5Z4 tube socket	.10	
R-115...	Volume control	.70	
R-122...	Tone control with power switch	.70	
R-210...	5M ohm, 1/3 w. carbon resistor	20	
R-229...	850 ohm, 1/2 w. carbon res	.20	
R-257...	50M ohm, 1/3 w. carbon res	.20	
R-258...	1 megohm, 1/3 w. carbon res	.20	
R-259...	500M ohm, 1/3 w. carbon res	.20	
R-264...	100M ohm, 1/3 w. carbon res	.20	
R-274...	25M ohm, 1/3 w. carbon resistor	.20	
R-281...	100 ohm, 1/3 w. carbon resistor	.20	
R-315...	Candohm resistor 150-200 ohms	.25	
R-317...	Candohm resistor, 12,500-15M	30.55	
S-102...	Goat tube shield	.10	
T-126...	Power transformer (60 cycle)	2.50	
T-330A...	1st I.F. transformer	1.25	
T-331A...	2nd I.F. transformer	1.25	
T-467A...	Oscillator coil	1.75	
T-468A...	L. W. Detector coil (long w.)	.85	
T-469A...	L. W. Oscillator coil (long w.)	.85	
T-487A...	Antenna coil	1.00	
T-494A...	Detector coil	1.75	
T-502...	Power transformer, 25 <sup>00</sup>	6.50	
U-118...	A.C. cord and plug	.30	
U-206...	4 wire speaker cable	.20	