

DUMONT

First with the Finest in Television

ALIGNMENT PROCEDURE

for

TELESET MODEL

RA-111A

Putnam

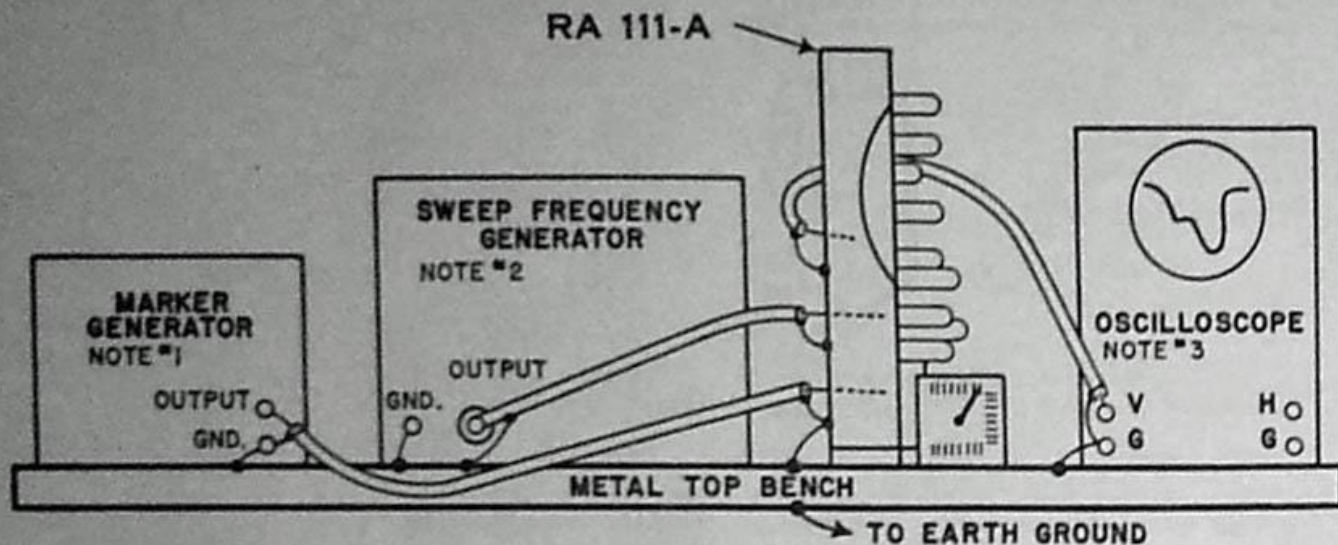
Guilford

**ALLEN B. DU MONT LABORATORIES, INC.
TELESET SERVICE CONTROL DEPT.
MARKET STREET, EAST PATERSON, NEW JERSEY**

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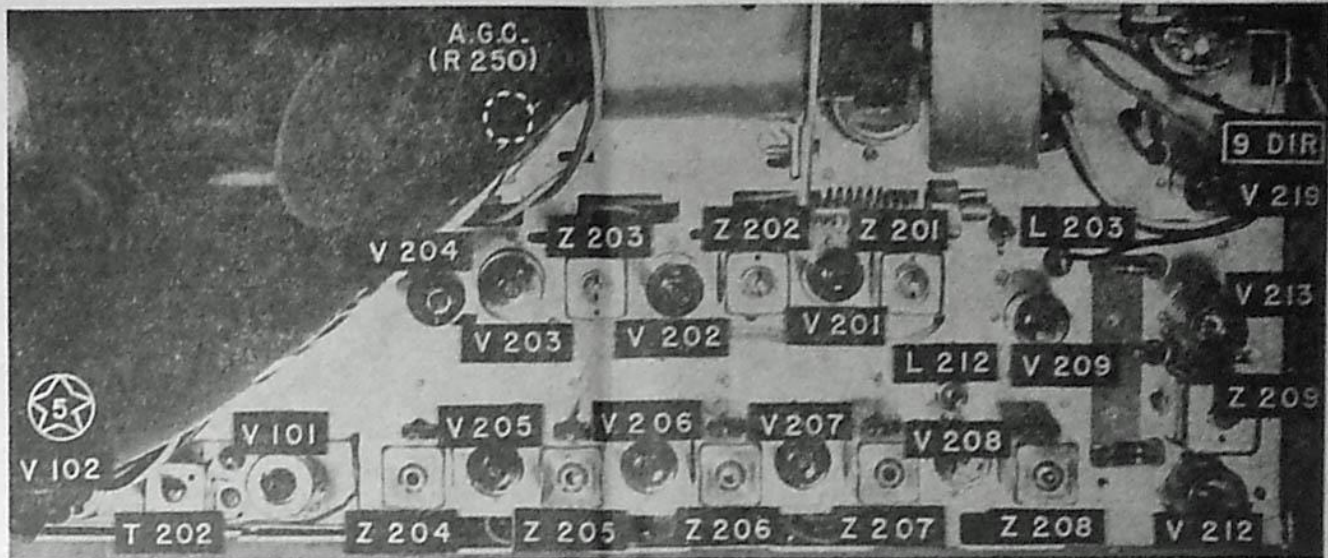
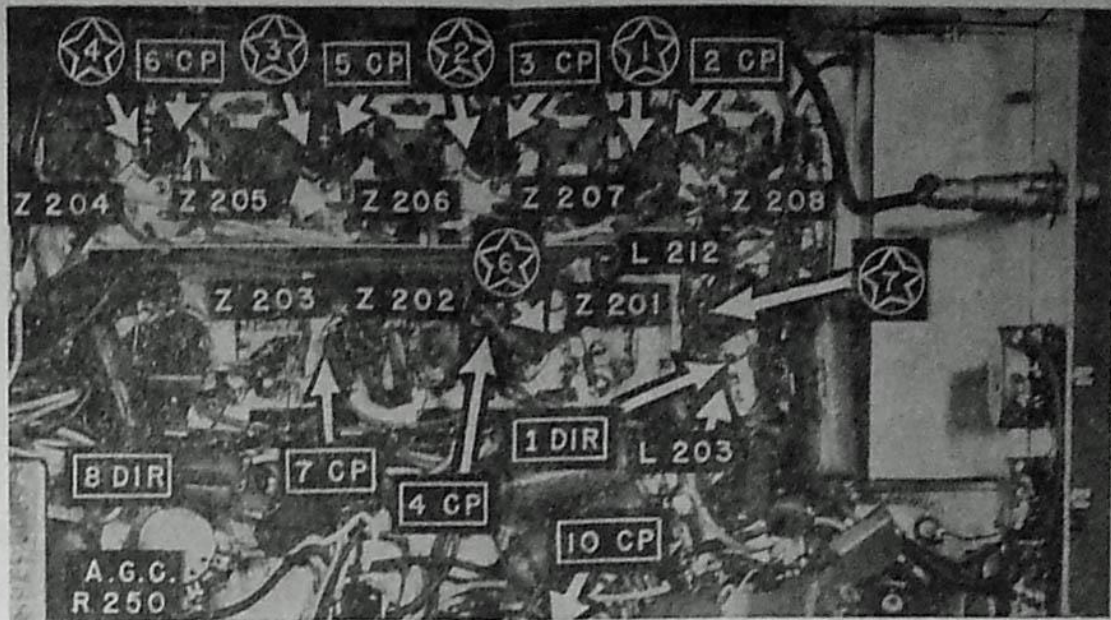
ALIGNMENT SET-UP

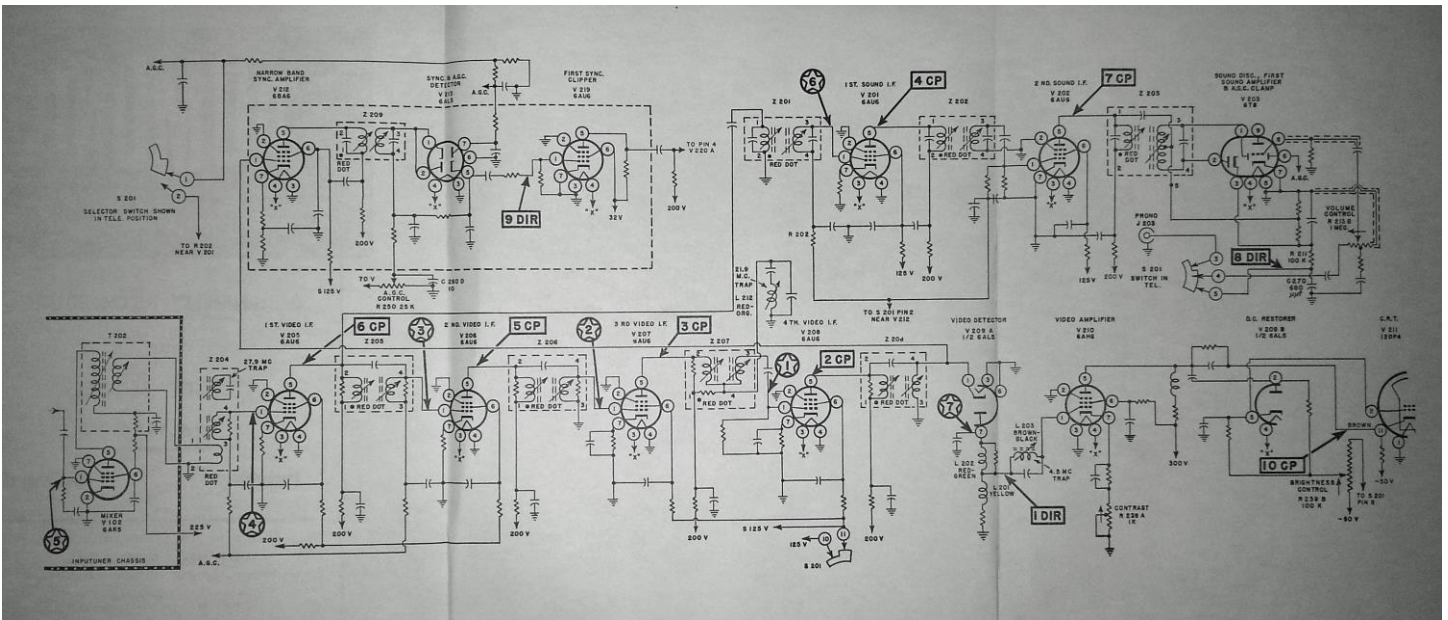
1. Keep all coax cables as short and as well shielded as possible.
2. Ground metal bench to a good earth ground.
3. To test set-up feed signal into grid of mixer thru a 100 mmf condenser. If placing hand on any chassis or adding additional grounds at any point affects waveform or if Teleset has a tendency to oscillate, grounding must be added until these effects disappear.



NOTES:

1. Unmodulated and amplitude modulated RF should cover 20 to 30 mc range. Also 4.5 mc. Not necessary if marker is built into sweep frequency generator.
2. Should have center frequency range from 20 to 30 mc. Sweep should be adjustable up to 6 mc at least.
3. We recommend use of internal saw-tooth sweep. Waveforms shown were taken using this sweep. External sweep from sweep frequency generator may be used if preferred.





ALIGNMENT TABLE

Step. No.	Connect Sweep Generator (Notes 3 & 8)	Marker Gen. Freq. (mc.)	Sweep Gen. Center Freq. (mc.)	Connect Oscilloscope To:	Adjust	Remarks
1	Pin 1 V208	21.9, 22.4 22.9, 25.65 26.4	24 mc. 8 mc. dev. min.	Junction L201, L202, L203 Direct	Z208	Adjust for curve shown
2	Pin 1 V207	21.9 AM mod.	Not used	Pin 5 V208 thru crystal probe	L212	Adjust for minimum scope indication.
3	As above	22.4, 22.9 25.65, 26.4	24 mc. 8 mc. dev. min.	As above	Z207	Adjust for curve shown
4	Pin 1 V206	21.9, 22.4 22.9, 25.65 26.4	As above	Pin 5 V207 thru crystal probe	Z206	Adjust for curve shown
5	Pin 1 V205	21.8, 21.9 22.0	21.9 mc. 1 mc. dev. min.	Pin 5 V201 thru crystal probe	Z201	Adjust for curve shown
6	As above	21.9, 22.4 22.9, 25.65 26.4	24 mc. 8 mc. dev. min.	Pin 5 V206 thru crystal probe	Z205	Adjust for curve shown
7	Pin 1 V102 Note 6	27.9 AM mod.	Not used	Pin 5 V205 thru crystal probe	Top Z204	Adjust for minimum scope indication.
8	As above	21.9, 22.4 22.9, 25.65 26.4	24 mc. 8 mc. dev. min.	As above	Bottom Z204, Top T202	Adjust for curve shown Note 7
9	Pin 1 V201	21.8, 21.9 22.0	21.9 mc. 1 mc. dev. min.	Pin 5 V202 thru crystal probe	Z202	Adjust for curve shown
10	As above	As above	As above	Junction R211 and C270 direct	Z203	Adjust for curve shown
11	Pin 1 V208	25.65, 26.4	24 mc. 2 mc. dev. min.	Pin 1 V219, direct. Note 2	Z209	Adjust for curve shown
12	Pin 7 V209	4.5 AM mod.	Not used	CRT cathode thru crystal probe	L203	Adjust for minimum scope indication.
13	Remove V213 and adjust AGC potentiometer, R250, so that VTVM on pin 2 of V213 reads 18 volts with no signal.					
14	Replace original tubes.					

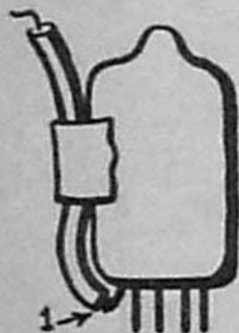
PRELIMINARY STEPS

CAUTION: IT IS IMPORTANT THAT ALL NOTES BE READ IN CONJUNCTION WITH ALIGNMENT.

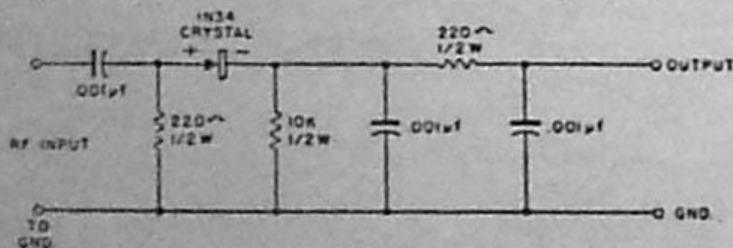
1. The following preliminary steps should be followed:
2. Remove 6W4 (V217) damper, 6AK5 (V102) mixer, 6AB4 (V103) oscillator and 6AQ5 (V204) AF output (note 1).
3. Remove 6AU6 (V219) synch amp. and replace with 6AU6 adapter (note 2).
4. Remove 6AK5 (V102) mixer and replace with 6AK5 adapter (note 6).
5. Adjust AGC control (R250) fully counter-clockwise.
6. Turn selector switch to tele. position.

ALIGNMENT NOTES

1. 6AQ5 (V204) may be left in position only if speaker is connected.
2. Insert 6AU6 adapter at V219. This is a 6AU6 with pins 3 & 4 clipped off and an extension attached to pin 1.
3. If the sweep generator has no internal marker, a signal generator may be connected to the output cable of the sweep generator through a 100 mmf condenser to act as a marker generator.
4. Du Mont Telesets are designed to receive television and high fidelity FM and must, therefore, be aligned with full FM bandwidth requirements.
5. The use of two alignment tools simultaneously will facilitate the alignment procedure.
6. Insert 6AK5 adapter at the mixer, V102. This adapter is a 6AK5 with pin 1 clipped off and an extension attached to the remainder of pin 1, as shown.



7. The bandwidth of the 1st stage of video IF is controlled by a coupling loop in the mixer transformer, T202. This is adjusted and sealed in position at the factory and should not be touched. However, in case of replacement of the tuner, it should be adjusted for the curve shown in step No. 8 of the Alignment Table. Steps No. 7 and 8 MAY have to be performed in order to obtain the proper curve. After adjustment, fasten the coupling loop in T202 with Miracle Adhesive C2M55 (obtainable from Du Mont Spare Parts Sales Department).
8. Maximum possible output of the sweep generator should be used, checking for overload.
9. Reference is made in the Alignment Table to the use of a crystal probe. This device is merely a crystal rectifier with the necessary filter.



PROBE DETECTOR