SERVICE DATA

PD — C14J and MD — C14J

INSTABILITY AT HIGH AND LOW TEMPERATURES

The following modifications are to be applied to receivers which are unstable when operating at very low or extremely high temperatures.

CIRCUIT NO.23 .047uF capacitor is to be changed to .1uF 25 Volt ceramic disc.
Part No.4008-004-04.

CIRCUIT NO.25 .047uF capacitor is to be changed to .1uF 25 Volt ceramic disc.
Part No.4008-004-04.

CIRCUIT NO.54 220 Kohm resistor is to be removed from the top of the board and soldered with short pigtails to pins 1 and 3 of the IF.Transformer No.85.

A 22 K.ohm carbon 1/2 Watt resistor Part No.4022-026-02 is to be wired directly across pins 1 and 3 of circuit No.86 the 3rd I.F. transformer.

Receivers between Serial No.G6901 and G22722 are to have

CIRCUIT NO.57 100 ohm resistor changed to 180 ohm carbon 1/2 Watt.
Part No.4022-025-02

REPLACEMENT OF OUTPUT TRANSISTOR

When refitting or replacing an output transistor check that the mount position and faces are clean and free from dust, grit or metal particles.

Smear a thin film of silicon compound, P/No. 1036-001-09, on both sides of the mica and lead washers, also mount face of transistor and chassis.

Fit the insulating ferrules to the screw holes in chassis then fit mica washer, lead washer and transistor. Fasten the transistor securely with two ½"x No.6 screws.

MEASUREMENT AND ADJUSTMENT OF OUTPUT TRANSISTOR COLLECTOR CURRENT

EQUIPMENT: Current Meter: 0-1 Amp. D.C. terminated with the lead and socket assy. P/No. 4078-018-01, positive terminal to red sleeve.
Supply Source: 13.0V DC.

CONDITIONS Connect positive supply lead to receiver battery lead. Connect negative to chassis. Connect speaker to receiver socket adjacent to battery lead entry.
No signal applied to aerial socket.
Volume control: minimum position.
Remove link from test pins "D" and "E" and connect meter leads to these pins. Socket connector with red sleeving is to be connected to test pin "D".

1 Switch receiver "ON" and allow to stabilize for at least two minutes.

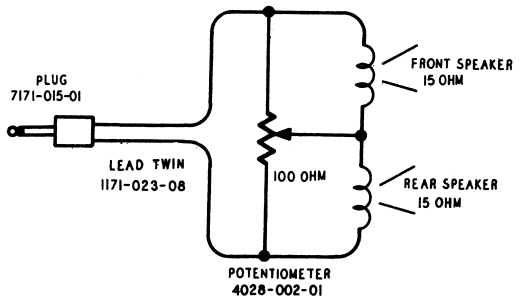
2 Meter readings will vary with temperature. The following table shows permissable current ranges.

TEMPERATURE		COLLECTOR CURRENT MIN. mA.		MAX.mA.
Less than 60°F	-	450	-	500
60° - 80°F	-	440	-	490
Greater than 80°F	-	430	-	480

NOTE 1 It is essential that the supply voltage be maintained at 13.0V when measuring output stage current.

NOTE 2 A 1Kohm resistor may be connected in parallel with circuit No. 68 when the collector current exceeds the max. limits by up to 30mA.

CONNECTION OF A FADER CONTROL FOR USE WITH FRONT AND REAR SPEAKERS



ALIGNMENT PROCEDURE

EQUIPMENT

Signal Generator - modulated 400 cps.
Output Meter - 15 Ohms Impedance
Generator Series Capacitor - .1uF Part No. 4006-005-03 for I.F. alignment
I.F. Attenuator - Part No. 4121-014-01
Dummy Aerial - 65pF Part No. 4121-009-01
Alignment Tools:-

a Flat Metal Blade Type: Part No. 4121-001-01 for I.F.T. and Osc.shunt coil adjustment.

b Chisel Point Type: Part No. 4121-005-01, for RF Trimmer capacitor adjustment.

c Hexagonal Socket Type: Part No. 4121-028-02, for Osc. trimmer capacitor adjustment.

d Tuning Unit Iron Core Adjustment: Part No. 4121-008-01

e Alignment Gauge: Part No. 4121-030-02 for tuner 1200Kc/s. position.

f Clutch Release Bracket: Part No. 4121-029-01, manual model only

Collector Current Meter Connection Socket - Part No.4078 -018-01.

CONDITIONS

Remove screws and hinge top lid upward.
Volume control - maximum, clockwise
Output Meter Connection - Socket, adjacent to battery lead entry.
Output Level - 50 Milliwatts, speaker disconnected.
Supply voltage - 13.0V DC.
Supply Connection - Set receiver polarity changeover switch to "-", negative to chassis, position. Connect appropriate supply lead to chassis and the other lead to fuse holder connector.

INTERMEDIATE FREQUENCY TRANSFORMER ALIGNMENT

Turn tuning control until cores of tuner unit are out of coil windings.
Insert .1uF capacitor in series with generator "hot" lead.

Oper. No.	Generator Connection	Generator Frequency	Instructions.
1	To test pin "A" (base of mixer stage) and return lead to test pin "C"(negative line.)	455Kc/s.	Adjust iron core of 3rd IF trans. for max. output.
2	As oper.1	455Kc/s.	Adjust iron core of 2nd IF trans. for max. output.
3	As oper.1	455Kc/s.	Adjust iron core of 1st IF trans. for max. output.
4	Repeat operations No. 2 and 3 until max. output is obtained.		

BROADCAST ALIGNMENT

If the receiver logging is satisfactory the signal circuits may be aligned as detailed.

1	Connect IF. Attenuator to test pins "B" and "C" (resistor to pin "C")		
2	Aerial Lead-in Socket-65pF. dummy aerial in series.	1000Kc/s.	Tune receiver to generator frequency. Adjust RF and aerial trimmer capacitors for max. output.

AERIAL TRIMMER ADJUSTMENT

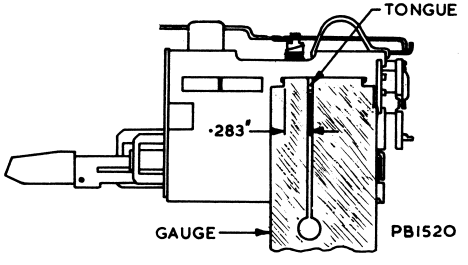
IMPORTANT

When the receiver has been installed in the vehicle and the aerial connected, the aerial trimmer must be readjusted. Raise the aerial to half extended height. Adjust knob on passenger side of receiver for maximum output on a weak station near 1000Kc/s (approx. centre of dial.) NOTE: If a fully retractable aerial is fitted pull the large outer rod upward against stop in aerial base.

BROADCAST ALIGNMENT

When iron cores or tuning unit coil assy. have been replaced or if station logging is outside limits.

Oper. No.	Generator Connection	Generator Frequency	Instructions.
1	Connect IF attenuator to test pins "B" and "C" (resistor to pin "C".)		
2	Turn perm. tuner against high frequency end of travel stop. Set all iron cores so that not less than ¼" of shaft protrudes out through front panel of receiver.		
3	To aerial lead-in socket 65pF. dummy aerial in series.	1625Kc/s.	Adjust Osc. RF and aerial trimmer capacitors.for max. output.
4	PUSH BUTTON RECEIVER: Partly push in one of the push button knobs to release clutch before inserting gauge. MANUAL RECEIVER: Disengage clutch at crown wheel by utilizing clutch Release Bracket, before inserting gauge. In the side of tuning unit, opposite end to tuning spindle there are two slots; place the notched blade of gauge into the slot nearest rear of tuner. The 0.283" section of gauge is to be against the projection at front edge of slot. Spring fingers of gauge are to be at rear of tongue. Refer diagram.		
NOTE:	Do not strain or tilt core carriage.		
	As oper. 3	1200Kc/s.	With tuner set in position detailed, adjust Osc.,RF and aerial iron cores for maximum output.
5	As oper. 3	600Kc/s.	Rock tuning control through signal, adjust Osc. shunt coil for max. output.
6	Turn tuning control to low freq. end of travel (iron cores full in.) Tune signal generator to receiver. The low freq. tuning limit should be between 510 and 528 Kc/s.		
7	Repeat operation 4.		
8	Align dial pointer.		



SETTING OF DIAL POINTER

Disconnect the IF attenuator.
Disconnect the generator cable from dummy aerial then connect 20 ft. of aerial wire to the dummy aerial terminal.
Accurately tune the receiver to a station marked on the dial near 1000Kc/s.
Using a screwdriver, adjust by bending the pointer carriage arm so that the pointer coincides with the centre of the tuned station call sign.

Check dial logging and if necessary readjust carriage arm.

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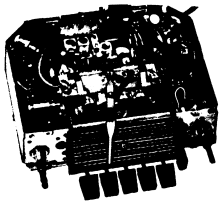
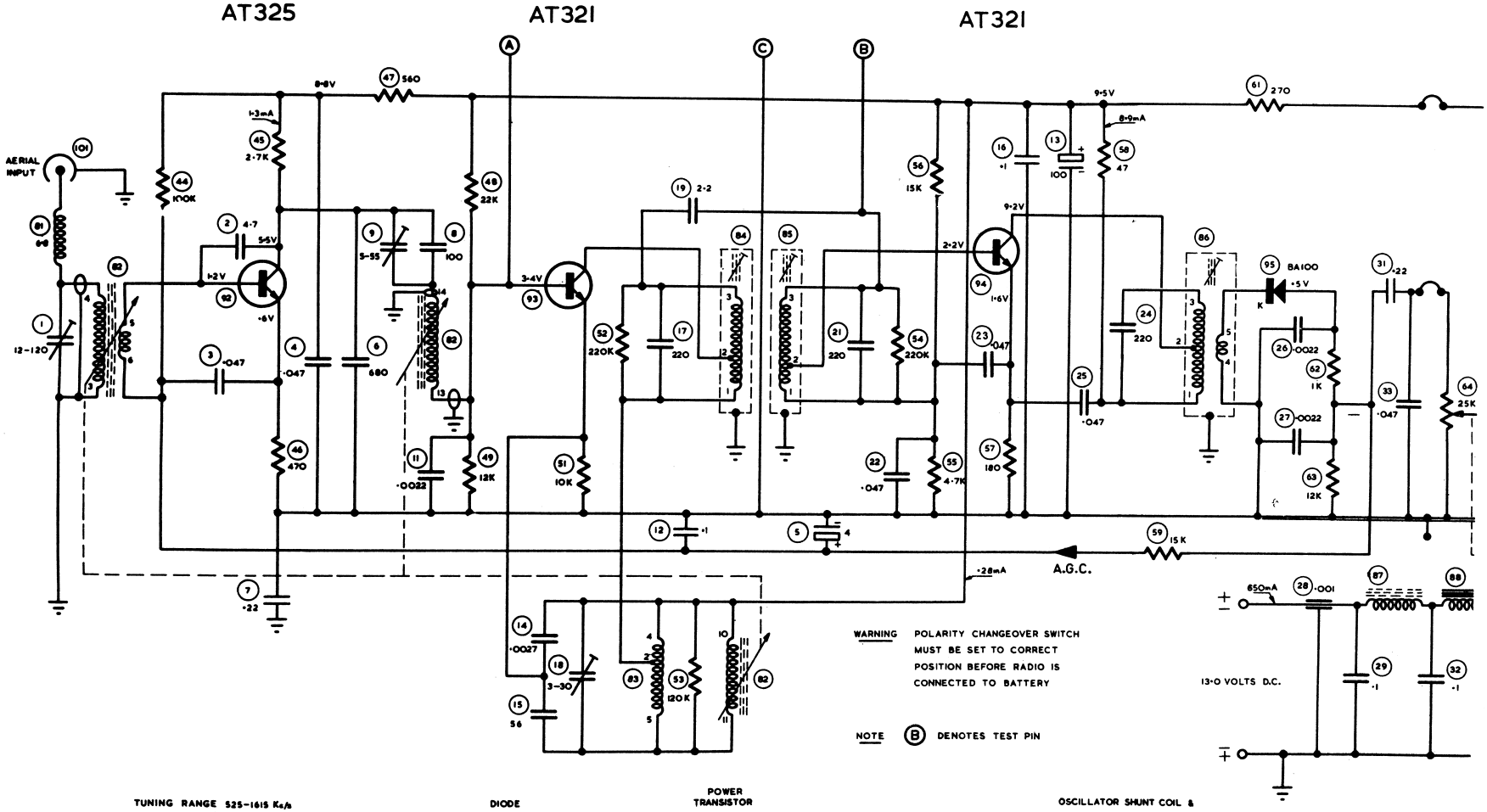


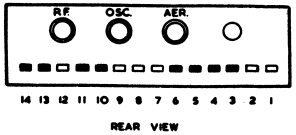
SETTING THE PUSH BUTTONS

1. Unlock the push buttons by pulling outward.
2. Tune a desired station with the manual tuning knob.
3. Press one of the push buttons fully in.
4. Repeat the above procedure to set remaining four buttons.



TUNING RANGE 525–1615 Kc/s

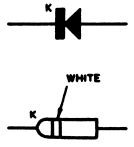
PERMEABILITY TUNER UNIT



REAR VIEW

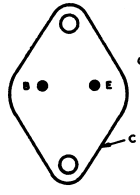
DIODE

BA 100



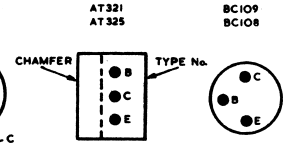
POWER TRANSISTOR

AT113



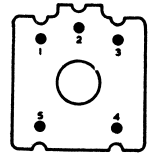
UNDERSIDE VIEW

TRANSISTORS



UNDERSIDE VIEW

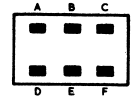
OSCILLATOR SHUNT COIL & I.F. TRANSFORMERS



UNDERSIDE VIEW

I.F. 455 Kc/s

POLARITY CHANGEOVER SWITCH



REAR VIEW

PRODUCTION CHANGES.

Astor PD-C14J & MD-C14J

To provide more uniform gain in the I.F. Amplifier stage the following changes have been made.

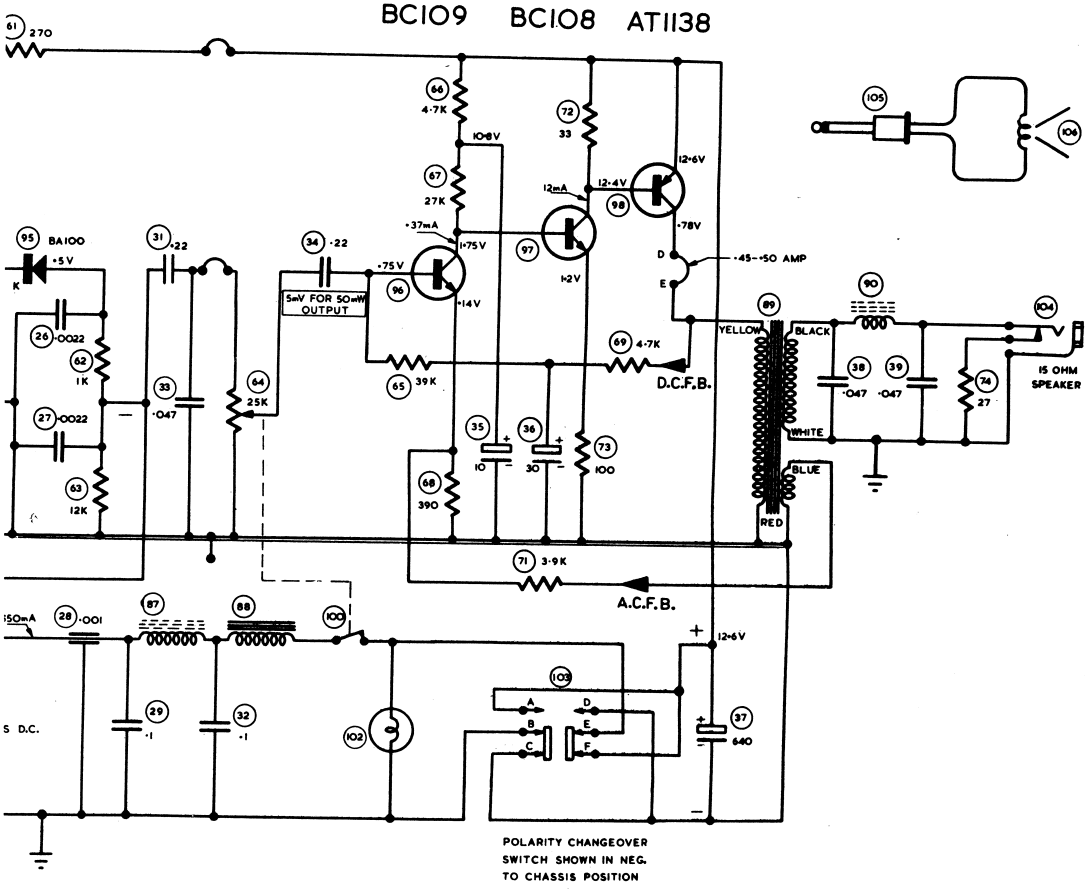
These occurred after the first production run and the printing of the circuit diagram PB1517.

Circuit No. 33 .047uF Capacitor - deleted.

Circuit No. 27 changed to a .022uF Disc Ceramic capacitor, Part No. 4008-010-05

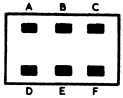
Circuit No.52 & 54 may be 330K ohm ½W Carbon resistor,Part No. 4022-047-01 in some receivers.

Circuit No. 57 changed to 100 ohm ½W Carbon resistor, Part No. 4022-062-01



POLARITY CHANGEOVER SWITCH SHOWN IN NEG. TO CHASSIS POSITION

POLARITY CHANGEOVER SWITCH



REAR VIEW

ALL VOLTAGES MEASURED BETWEEN POINTS INDICATED AND NEGATIVE LINE WITH A D.C. VACUUM TUBE VOLTMETER. NO INPUT SIGNAL.

NUMBERS ASSIGNED TO TERMINALS OF COILS AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMONENT REPLACEMENT AND MAY NOT BE FOUND ON THE UNIT.

MODEL PD-C14J & MODEL MD-C14J

PUSH BUTTON MANUAL

6 TRANSISTOR
DUAL POLARITY

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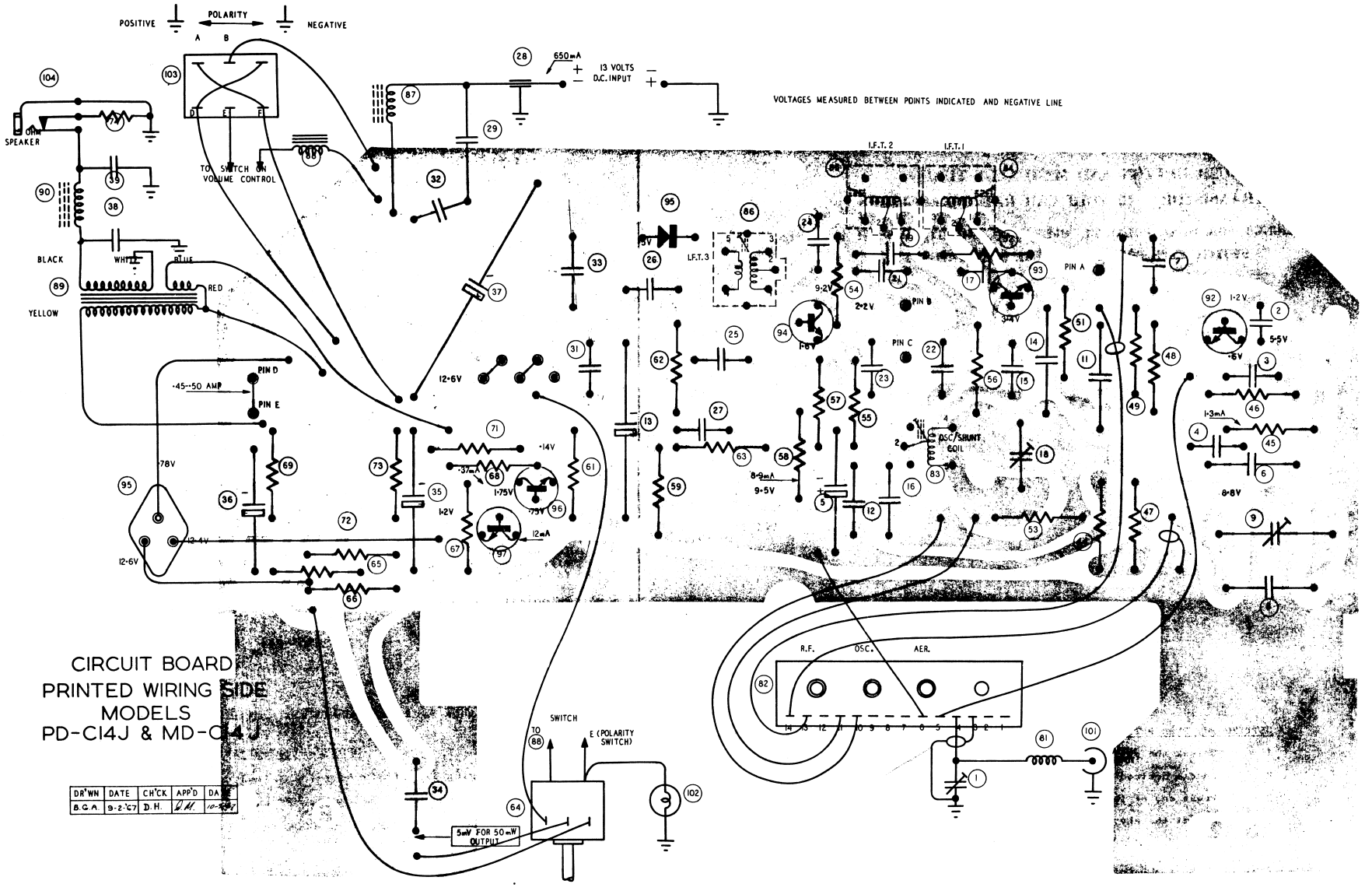

CIRCUIT BOARD
PRINTED WIRING SIDE
MODELS
PD-C14J & MD-C14J

DR'WN	DATE	CH'CK	APP'D	DA
B.G.A	9-2-'67	D.H.		