

C1 and C2 are in same unit C4 and C5 in same unit
C6 and C7 are in same unit C13 and C14 in same unit
C20 and C21 are in same unit

PARTS

T1	111208	Loop antenna assembly
T2	111184	S. W. Antenna Coil
T3	110154	B. C. and S. W. Oscillator Coil
T4	108169E	Input I. F. Coil—455 kc.
T5	108106U	Output I. F. Coil—455 kc.
T6	105118	Output Transformer
T7	114216	8" Electro Dynamic Speaker
T8	114222	10" Electro Dynamic Speaker
T9	104225B and 104238B	60 cycle power transformer
T9	104263	25 cycle power transformer
S1	125132	60 cycle G. I. Record Changer and Phono Assembly
S2		Phono-band switch
S3		Switch on volume control
L1	12312	Switch on record changer
P1	10794	R. F. Choke coil
		Pilot light bulb No. T-44

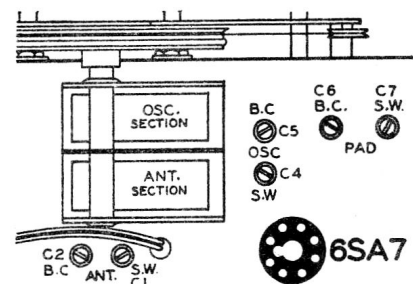
Code Part No. Description

RESISTORS

R1	13071	4000 ohm— $\frac{1}{2}$ w.
R2	130128	20 ohm— $\frac{1}{2}$ w.
R3	13019	1 megohm— $\frac{1}{2}$ w.
R4	130236	30M ohm— $\frac{1}{2}$ w.
R5	130283	750 ohm— $\frac{1}{2}$ w.
R6	130324	18M ohm—1 watt
R7	130218	5M ohm— $\frac{1}{2}$ w.
R8	13020	100M ohm— $\frac{1}{2}$ w.
R9	130170	3 megohm— $\frac{1}{2}$ w.
R10	130222	350 ohm— $\frac{1}{2}$ w.
R11	13012	50M ohm— $\frac{1}{2}$ w.
R12	101232	1 megohm volume control
R13	130223	10 megohm— $\frac{1}{2}$ w.
R14	1303	500M ohm— $\frac{1}{2}$ w.
R15	101231	1 megohm tone control
R16	130172	250M ohm— $\frac{1}{2}$ w.
R17	130323	270 ohm—1 watt

CONDENSERS

C	102137	Two gang variable condenser
C1	124149	S. W. Antenna trimmer
C2	124149	B. C. Antenna trimmer
C3	1292	.0005 mica
C4	124142	S. W. Oscillator trimmer
C5	124142	B. C. Oscillator trimmer
C6	124146	B. C. Padding Condenser
C7	124146	S. W. Padding Condenser
C8	12960	150 mmfd. mica
C9	10013	.05 x 400 v.
C10	10022	.05 x 200 v.
C11	1009	.05 x 200 v.
C12	1292	.0005 mica
C13	129161	.0001 mica
C14	129161	.0001 mica
C15	10061	.02 x 600 v.
C16	10025	.002 x 600 v.
C17	12912	.00025 mica
C18	10026	.02 x 400 v.
C19	10071	.004 x 600 v.
C20	119115	16 mfd. x 400 w. v. lytic
C21	119115	16 mfd. x 400 w. v. lytic
C22	10019	.006 x 600 v.
C23	1001	.1 x 400 v.



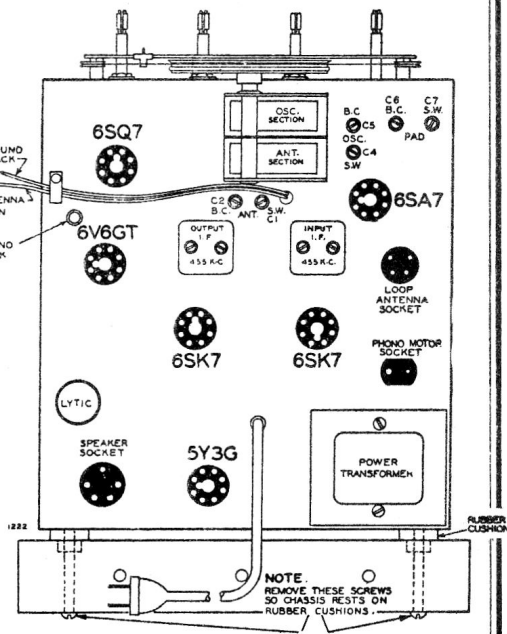
TRIMMER VIEW

BOTTOM VIEW OF CHASSIS

VOLTAGES MEASURED WITH 1000 OHM PER VOLT VOLTMETER BETWEEN SOCKET TERMINALS & CHASSIS. BAND SWITCH IN BROADCAST POSITION AND VOLUME CONTROL AT MINIMUM.
[A] CANNOT BE MEASURED WITH VOLTMETER
[B] OSCILLATOR VOLTAGE MEASURED WITH A.P.F. CHOKES IN SERIES WITH VOLTMETER LEAD.



REAR OF CHASSIS



FOR GENERAL INSTRUMENT 102 RECORD CHANGER, SEE RIDER'S "AUTOMATIC RECORD CHANGERS AND RECORDERS".

Radio Only - - - - - 70 Watts
Power Consumption **Motor Only** - - - - - 20 Watts
Power Output - - - - - 2.1 Watts Undistorted
Sensitivity for 500 Milliwatt Output: 15 Microvolts Average
Selectivity - 51 KC Broad at 1000 Times Signal at 1000 KC
Tuning Frequency Range Broadcast Band - 530 to 1600 KC
Shortwave Band - 5.46 to 18.3 MC
Intermediate Frequency - - - - - 455 KC
Speaker - - - - - 8 in. Electro Dynamic or 10 in. Electro Dynamic

ALIGNMENT PROCEDURE

- Volume control—Maximum all adjustments.
- Connect radio ground to ground post of signal generator with a short heavy lead.
- Connect dummy antenna value in series with generator output lead.
- Connect output meter across primary of output transformer.
- Allow chassis and signal generator to "heat up" for several minutes.

The following equipment is required for aligning:

- An all wave signal generator which will provide an accurately calibrated signal at the test frequencies as listed.
- Output indicating meter.
- Non-metallic screwdriver.
- Dummy antennas—1-mf., 200 mmf., 400 ohms.

BAND	SIGNAL GENERATOR Frequency Setting	Dummy Antenna	Connection to Radio	Position of Band Switch	Variable Condenser Setting	Trimmers Adjusted (In Order Shown)	Trimmer Function	Adjustment
I. F.	455 Kc.	.1 MFD	Grid of 6SA7 Mixer	Broadcast	Rotor full open (Plates out of mesh)	Trimners on top (See Top View)	Input and Output I. F.	Adjust to maximum output
SHORT WAVE BAND (See Note A)	17 Mc.	400 Ohms	External Antenna and Ground	Short Wave	Set Dial at 17 Mc.	Trimmer C4	Short Wave oscillator	Adjust to maximum output
	17 Mc.	400 Ohms	External Antenna and Ground	Short Wave	Set Dial at 17 Mc.	Trimmer C1	Short Wave antenna	Adjust to maximum output
	6 Mc.	400 Ohms	External Antenna and Ground	Short Wave	Set Dial at 6 Mc.	Trimmer C7	Short Wave oscillator series pad	Adjust to maximum rock dial. (See note "C")
BROAD- CAST BAND (See Note A)	1600 Kc.	200 mmf.	Grid of 6SA7	Broadcast	Rotor full open (Plates out of mesh)	Trimmer C3	Broadcast oscillator	Adjust to maximum output
	530 Kc.	200 mmf.	Grid of 6SA7	Broadcast	Rotor full closed	Trimmer C6	Broadcast oscillator series pad	Adjust to maximum output
LOOP ALIGN- MENT (See Note B)	1400 Kc.	200 mmf.	External Antenna and Ground	Broadcast	Set Dial at 1400 Kc.	Trimmer C2 (See Top View)	Broadcast antenna	Adjust to maximum output
	600 Kc.	200 mmf.	External Antenna and Ground	Broadcast	Set Dial at 600 Kc.	Trimmer C6 (See Top View)	Broadcast oscillator series pad	Adjust to maximum output

NOTE "A"—The signal generator is connected to the "ANT." and "GND." leads when aligning the Short Wave Band and to the grid of the 6SA7 tube and ground terminal when setting the Broadcast Band oscillator end frequencies, (1600 and 530 K. C.).

The loop antenna should be connected to the radio when making these adjustments.

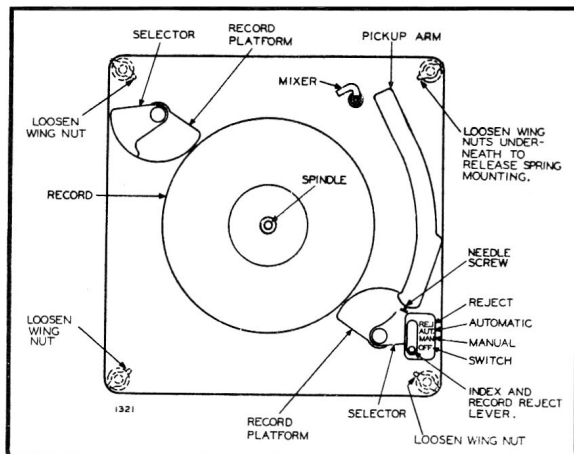
NOTE "B"—Loop alignment is made with the chassis mounted in the cabinet and the loop antenna connected. The signal generator is connected to the "ANT." and "GND." leads.

NOTE "C"—Turn the dial back and forth slightly (rock) and adjust trimmer until the peak of greatest intensity is obtained.

Attenuate the signal from the signal generator to prevent the leveling-off action of the AVC.

After each band is completed, repeat the procedure as a final check.

Automatic Record Changer--Operating Instructions



General

This Record Changer will play automatically a series of standard 10- or 12 inch records of the type generally available today, or records of any size up to 12 inches changed manually. This Changer does not require any adjustment by operator for playing different size records. Stacks of mixed sizes may be played but this is not recommended or guaranteed. Records of the last few years with the standard eccentric or spiral finishing groove will operate the automatic mechanism.

Controls and Moving Mechanism

Index and Record Reject Lever: This lever is located near the right front corner of the phonograph with its index plate marked for four positions—

OFF-MAN-AUT-REJ.

When you desire to change record selections manually, this lever should be set in the "MAN." (MANUAL) position.

To play a series of records, the lever should be set at the "AUT." (AUTOMATIC) position.

To reject a record being played, or to start the record-changing cycle, in case the record just played does not have the standard eccentric or spiral stopping groove; simply push the lever to the "REJ." (REJECT) position and let go. The pickup arm will raise up and swing outwards and the next record will drop.

Keep the lever in its "MAN." position when not actually playing records automatically.

To start the turntable set the switch to the "MAN." or "AUT." position. To stop the turntable, set the switch to the "OFF" position.

Manual Operation

1. Insert Needle in pickup and clamp securely with needle screw protruding from front of pickup arm.
2. Lift record platforms and rotate away from turntable.
3. Place record to be played on turntable.
4. Advance index and reject lever to "MAN."
5. Place needle on blank edge of record and push pickup arm gently toward center to start needle in groove.
6. When playing is completed lift pickup arm slightly to clear record and replace same on rest.
7. Return index and reject lever to "OFF".

Automatic Operation

1. Insert long playing needle in pickup and clamp securely with needle screw protruding from front of pickup arm. Return arm to rest.
2. Rotate record platforms to index position (locked in place by pin).
3. Place records to be played over the turntable spindle and on the record platforms.
4. Push index and reject lever to "REJ." position and release. The first record will then feed and play thru, followed by the balance of the records.
5. After last record has been played, allow pickup arm to reset on record. Return arm to rest and push lever to "OFF".
6. Raise and turn record platforms away from turntable.
7. Remove records carefully from turntable. Be careful not to strain spindle.

CAUTION—This Changer is designed and built to play standard 10- and 12-inch records in good condition automatically. To obtain the benefit of satisfactory operation it is necessary that instructions be followed explicitly and in no case use force, as this may cause damage.

Mechanism

Do not rotate turntable in reverse direction or bend or strain turntable spindle when loading or unloading records.

Do not overload with records. The maximum load is either:

- 10 - 12 inch records
- 12 - 10 inch records
- 10 - 10 and 12 inch records mixed

Do not touch pickup arm when it is in motion during automatic function or stop the mechanism until pickup arm reaches playing position and is returned to rest provided.

Do not move platforms by selector. Always raise and turn by hub of record platform.

Records

Do not use warped records; records with rough, square, or uneven edges; records that are extra thin or extra thick.

Do not use other than standard 10 inch or 12 inch records.

Do not leave records on record platforms. This will cause warpage.

Needles

Single-playing needles may be used for manual operation, but they are somewhat inconvenient.

Multiple-playing needles are essential for automatic operation to conserve record life, as well as being a convenience for manual operation.

NEVER put a needle into pickup, once it has been removed, since this will result in unnecessary wear on the records—many times that resulting from normal use.