

ELECT. PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2N408	AF Amplifier	2N408	2N633	PNP
X2	2N408	AF Amplifier	2N408	2N633	PNP
X3	2N408	Output	2N408	2N633	PNP
X4	2N408	Output-Bias Osc.	2N408	2N633	PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	CAP.	VOLT.	REPLACEMENT DATA			
				TELECTRO PART No.	AEROVOX PART No.	CORNING-DURIL PART No.	SPRAGUE PART No.
C1	5	100	12	TC-2434	PTT51	NLW5-15	TE-1127
C2	10	100	12	TC-2435	PTT53	NLW100-3	TE-1059, 5
C3	10	100	12	TC-2436	PTT53	NLW100-15	TE-1128
C4	10	100	12	TC-2437	PTT53	NLW100-15	TE-1128
C5	50	100	12	TC-2438	PTT53	NLW100-15	TE-1059, 5
C6	50	100	12	TC-2439	PTT59	NLW50-15	TE-1133
C7	50	100	12	TC-2440	PTT59	NLW50-15	TE-1133
C8	100	100	12	TC-2441	PTT80	NLW100-12	TE-1135

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			AEROVOX PART No.	CENTRALAB PART No.	CORNING-DURIL PART No.	SPRAGUE PART No.
C9	.003		DI-3000	DD-302	BYA10D3	107S-D30
C10	.003		DI-3000	DD-302	BYA10D3	107S-D30
C11	.002		BPD-002	DD-202	H-05F1	TG-P10
C12	.005		BPD-005	DD-202	H-05F1	5HK-850
C13	.001		BPD-001	DD-102	BYA10D1	5HK-D10
C14	.001		BPD-001	DD-102	BYA10D1	5HK-D10
C15	.01		BPD-01	DD-103	BYA10D1	5HK-S10

CONTROLS

ITEM No.	USE	REPLACEMENT DATA			
		RESISTANCE	TELECTRO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.
R1	Volume	10K	TP-1483	JP2-103	4410K-W

RESISTORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			WORKMAN PART No.	IRC PART No.	RATING	REMARKS
R2	39K				R12 15002	
R3	10K				R13 2500	
R4	15002				R14 2500	
R5	47002				R15 1800	
R6	75K				R16 Thermistor	
R7	75K				R17 4.7K	
R8	47002				R18 4.7K	
R9	1002				R19 100K	
R10	33K				R20 33K	
R11	33K				R21 102	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		TELECTRO PART No.	Merit PART No.	Stancor PART No.	Workman TV PART No.
L1	Osc.	TT-917		BC-562	
L2	RF Choke(1.4uh)			4604	T656



The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of CQ497

HOWARD W. SAMs & CO., INC. Indianapolis 6, Indiana

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TRANSFORMER (DRIVER)

ITEM No.	TURNS	RATIO	REPLACEMENT DATA				NOTES
			TELECTRO PART No.	Merit PART No.	Stancor PART No.	Thordoron PART No.	
TI	1.8	1	TT-927				

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA				NOTES
		TELECTRO PART No.	Merit PART No.	Stancor PART No.	Thordoron PART No.	
T2	1000Ω CT	TT-925				

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA				NOTES
		TELECTRO PART No.	Merit PART No.	Stancor PART No.	Thordoron PART No.	
SP1	2 1/4" PM	TS-343				

BATTERIES

ITEM No.	VOLTAGE	REPLACEMENT DATA				NOTES
		TELECTRO PART No.	BURGESS PART No.	EVEREADY PART No.	MALLORY PART No.	
M1	1.5V		"A"	"B"	"A"	"B"

MISCELLANEOUS

ITEM No.	PART NAME	TELECTRO PART No.		NOTES
		TS-3223	Function Selector (Rotary Wafer)	
M2	Switch			

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION	
		480008-26	Speed Volume Function Part of Function Knob Leather Cabinet
Knob			
Knob			
Button			
Handle			
Cabinet			

WIRING DATA

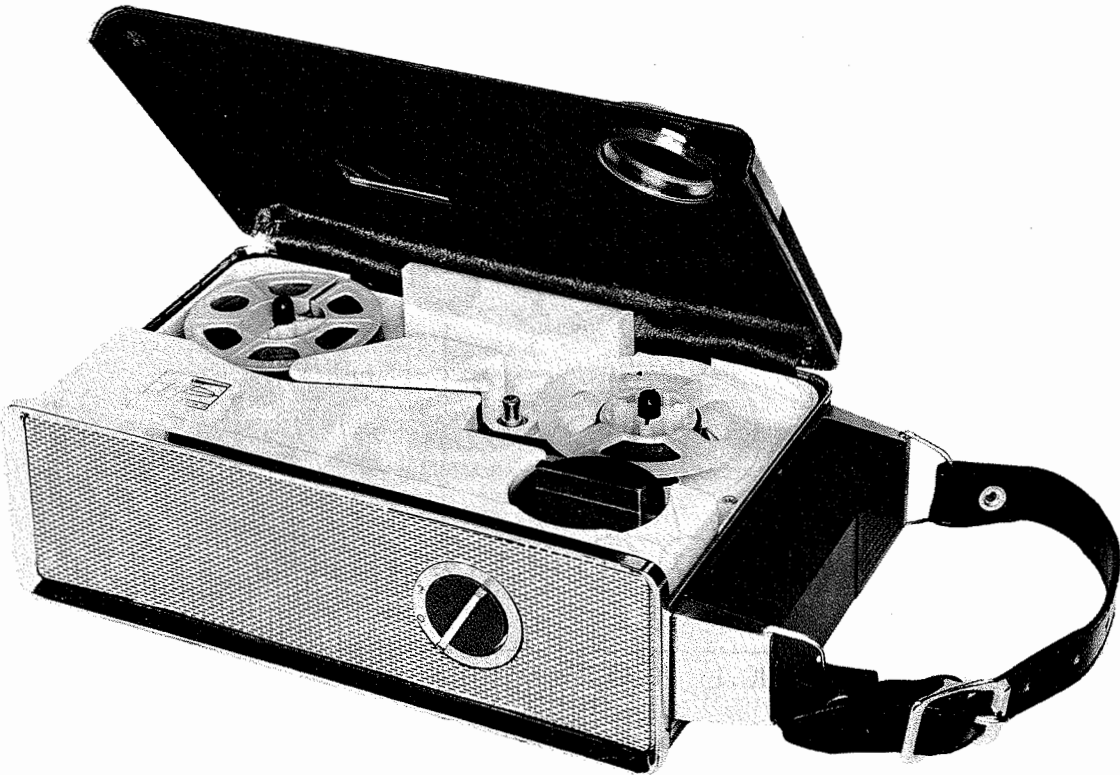
General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in Ten Colors
Power Cord Use BELDEN No. 8524 (Stranded) Available in Ten Colors
Low-Loss Shielded Lead (Interconnecting) Use BELDEN No. 1705-B (6 Ft. Length)
Phono Pick-up Arm Cable Use BELDEN No. 8401 (Twisted)
..... Use BELDEN No. 8430 (Two Conductor - Twisted)

FOLDER 15
SET 570

PHOTOFACT® Folder

with CIRCUITRACE®

TELECTRO
MODEL MR511



TELECTRO
MODEL MR511

GENERAL INFORMATION

The Telectro Model MR511 is a battery-operated, two-speed, tape recorder. This unit is designed to record and play back two tracks of material on standard width tape. The tape speeds are 1 7/8 and 3 3/4 ips.

Recordings can be made from radio, phono, AM-FM tuner, or TV receiver, as well as a microphone. Using both tracks of a 3-inch reel of tape, the recording times are as follows:

Reel Size 3" 1 7/8 ips 3 3/4 ips
1 hour 1/2 hour

The power supply is self-contained, consisting of seven 1 1/2 volt penlite batteries.

Manufactured By:

Telectrosonic Corporation
35-18 37th Street,
Long Island City 1, New York

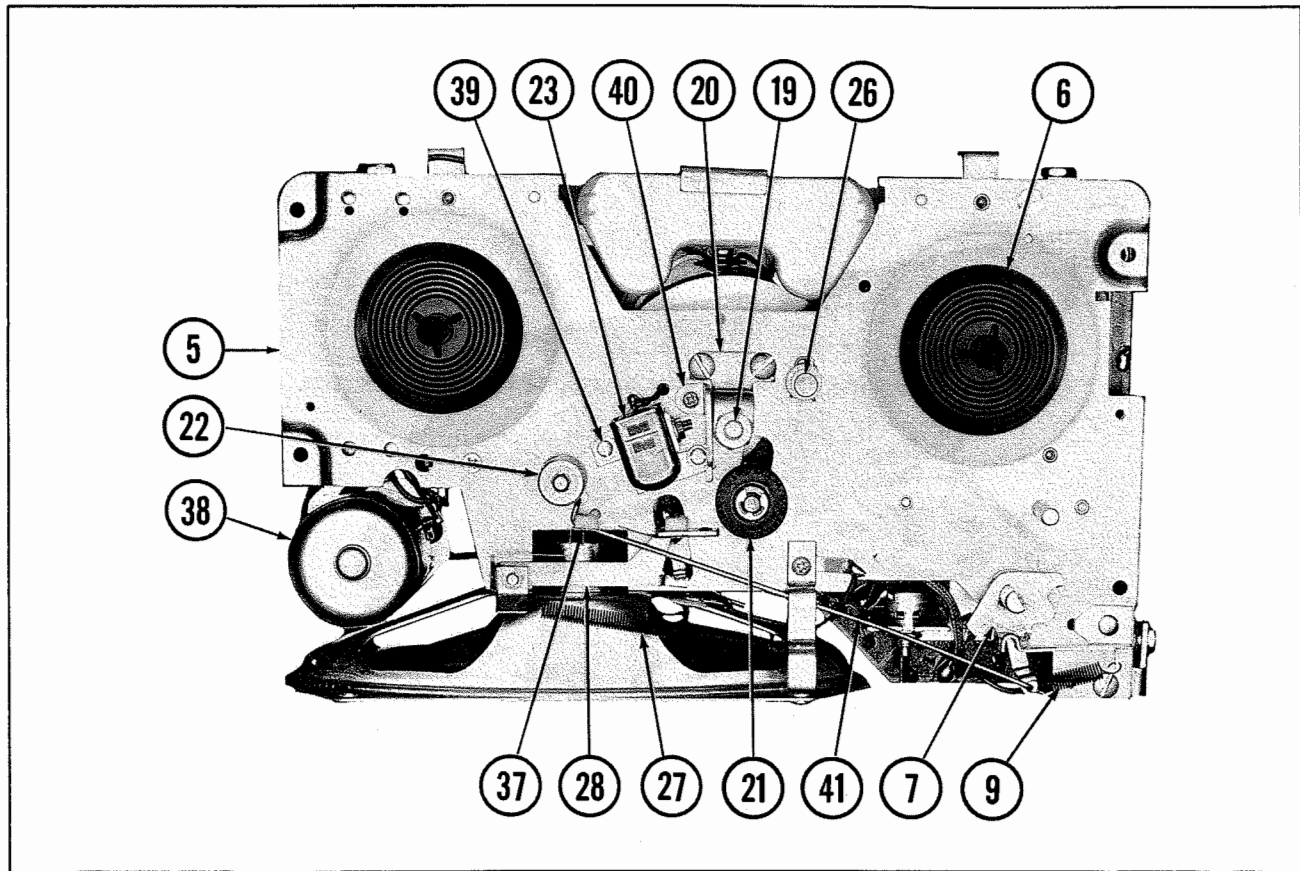


FIG.1 TOP VIEW OF MECHANISM

PREPARING FOR OPERATION

Open the lid and thread the tape (See "Threading the Tape"). When the Function control is turned to Rewind, Play, or Record position, power is automatically applied to the recorder.

FUNCTION OF CONTROLS

Function Control

The Function control is a four-position control. The Rewind position winds the tape from the take-up reel to the supply reel at a fast rate. The Off position releases the pressure roller and pressure pads and removes the power from the amplifier and motor. The Play position applies the pressure pads to the head, applies power to the amplifier and motor, and sets the tape in motion. Record position sets the recorder up for recording. The Record lock button must be depressed at the same time the Function control is rotated to the Record position.

Volume Control

The Volume control determines the volume of the recorder during playback and also the recording level when making a recording.

Speed Change Control

When recording or playing back a tape at 3 3/4 ips, pull the Speed Selector control to the "up" position. With the Speed Selector control in the "down" position, the tape travels at 1 7/8 ips.

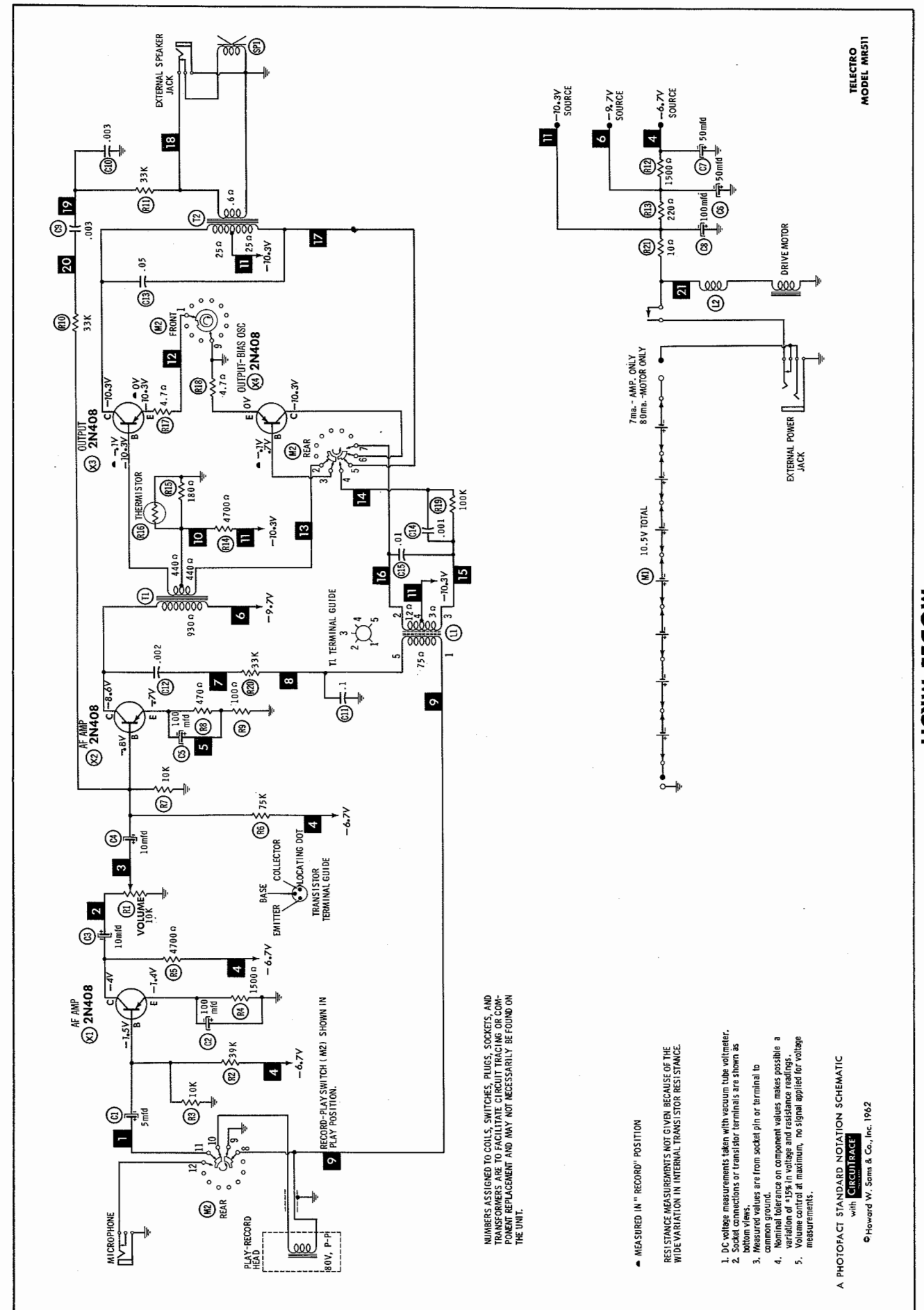
NOTE: Change the Speed Selector control with the Function control in the Stop position only.

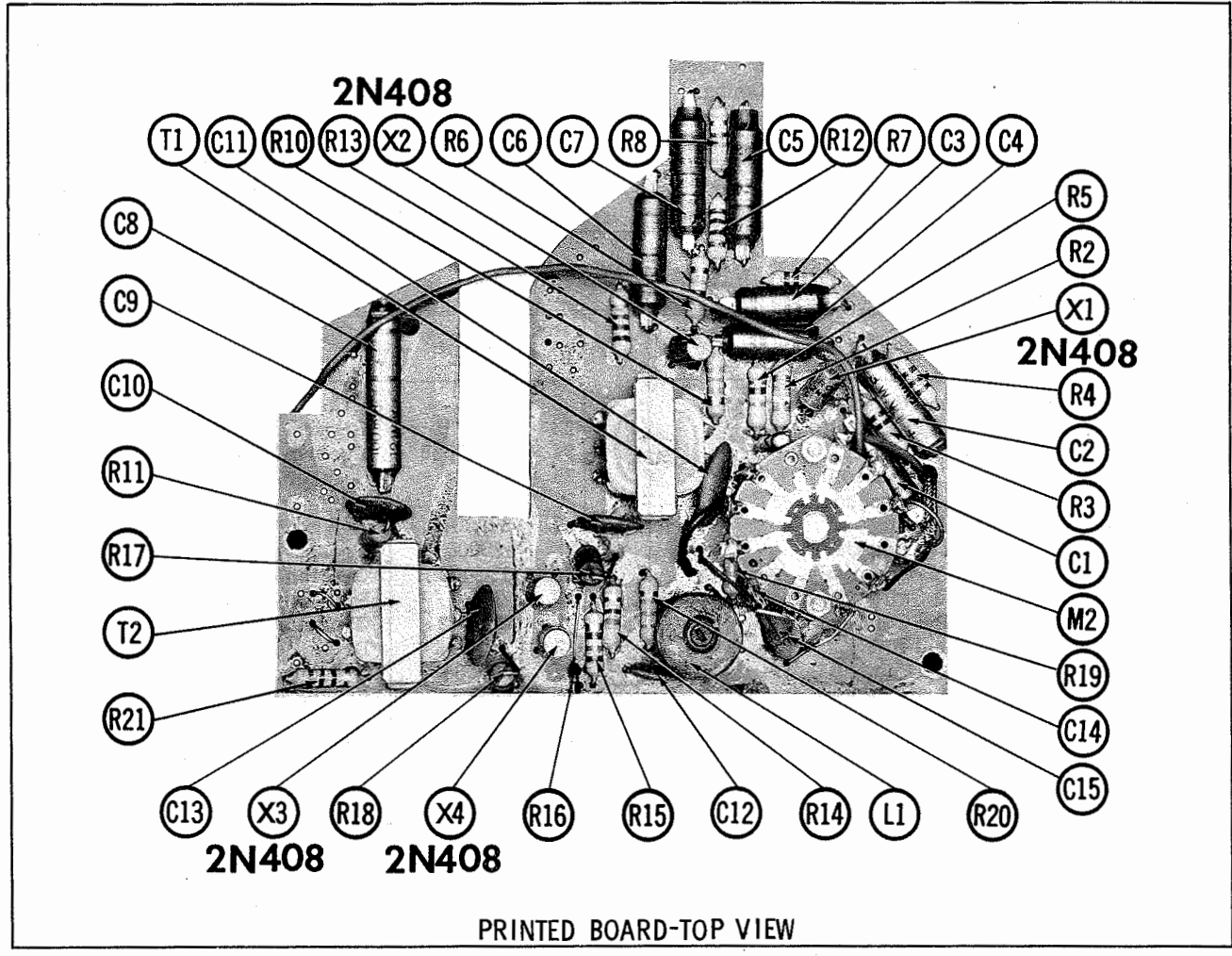
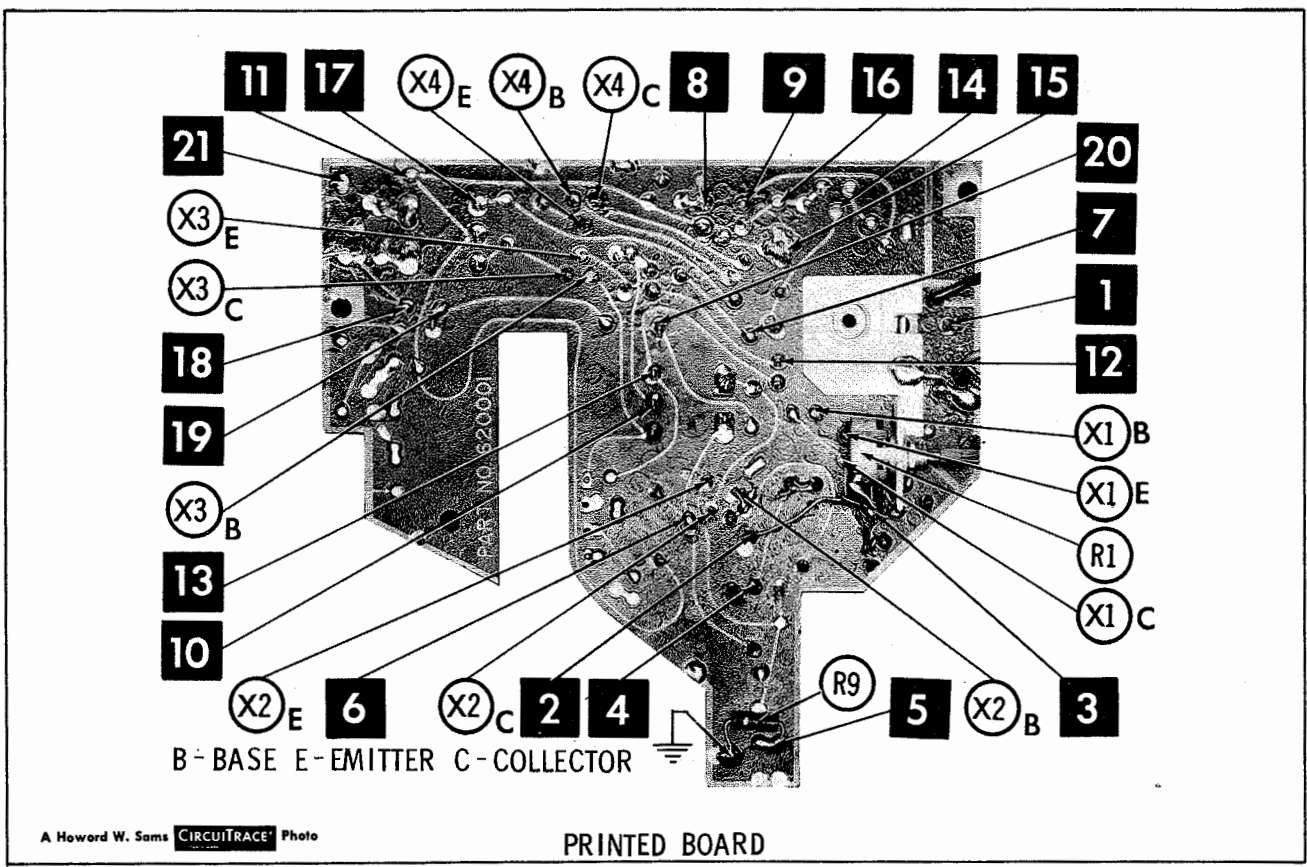
Threading the Tape

1. Place a reel of tape on the left (supply) spindle and an empty reel on the right (take-up) spindle.
2. Unwind about 8 inches of tape and thread it through the tape slot, making sure the shiny side of the tape faces the front of the recorder.
3. Insert the free end of the tape into one of the slots in the hub of the take-up reel. Turn the take-up reel counterclockwise to take up the slack in the tape.

To Record from a Microphone

Insert the microphone jack into the microphone input. Thread the tape as described under "Threading the Tape". Push the Record lock button and turn the Function Selector to the Record Position. Set the Volume control between 2 and 3. Hold the microphone





6 to 8 inches away from your mouth. If the recording is distorted, decrease the volume setting during recording. If the recording is weak, increase the volume setting.

To Rewind the Tape

To rewind the tape, move the Function selector to the Rewind position. To stop the tape, return the Function selector to the Off position.

To Play a Recording

1. Follow instructions under "Threading the Tape".
2. Move the Function selector to the Play position.
3. Adjust the Volume control to the desired listening level.
4. To stop the tape transport, move the Function selector to the Off position.

Erasing Recorded Material

Any recording on a tape is automatically erased before a new recording is put on the tape when the unit is in Record position. To erase a tape without putting a new recording on it, follow the normal recording procedure but leave the Volume control setting at minimum.

Dual Track Recording

These recorders are designed to record and play back on one-half the tape width at a time. After the recording is completed, and all the tape is wound on the take-up reel, remove the reels from the recorder. Turn the reels over and place full reel on the supply spindle. Properly thread the tape and proceed with recording. After the second track has been recorded, the first track can be played back in the same manner.

To Edit and Splice Tape

NOTE: Since one track cannot be edited and spliced without affecting the other track, recordings to be edited should be limited to one track only.

1. Tape may be edited by cutting out unwanted portions of the tape or by joining selections into another sequence. Announcements may be inserted between selections, etc. Unused sections can be spliced for re-use.
2. For best results, cut tape at a slight diagonal, join ends with splicing tape on the glossy side. Trim off any excess width.

DISASSEMBLY

To Remove the Recorder from the Case

1. Remove the Function control knob (1) and the Volume control knob.
2. Remove the rear escutcheon by pressing in on the front and lifting upward.
3. Remove 3 screws and lift the front escutcheon up off the recorder.
4. Lift the recorder from the case.
5. To reassemble, reverse the above procedure.

CLEANING

Pressure roller (21), Capstan shaft (11), Tape guide (41), and Record-Playback head (23) may accumulate tape oxide coating, worn off the tape as it passes

these parts. This accumulation will cause poor performance and should be removed with a soft lint-free cloth dipped in alcohol.

LUBRICATION

Under normal use, this recorder needs no lubrication. When unit is disassembled, clean and lubricate all bearing surfaces with a good grade of oil.

Lubricate the cams and levers with a non-hardening grease. Make sure no oil or grease gets on the rubber surface of the drive wheels.

ADJUSTMENT

Record-Playback Head

The Record-Playback head (23) has been properly aligned at the factory, and should not need adjustment unless it is replaced. The top edge of the Record-Playback head (23) must be set evenly with the top edge of the tape. Loosen nuts and adjust the height. Using an alignment tape, adjust head adjustment screw (40) until highest frequency response is obtained.

ment screw (19) until a slight resistance is felt; back off screw 1/4 turn and tighten nut.

NOTE: Care must be taken when turning flywheel adjusting screw (19) to prevent damage to flywheel bearing.

Brake Adjustment

To adjust brake (35) loosen screws and adjust brake arm until proper brake action is obtained. Braking should be smooth and immediate.

Flywheel Bearing Adjustment

To adjust flywheel, loosen nut and adjust adjust-

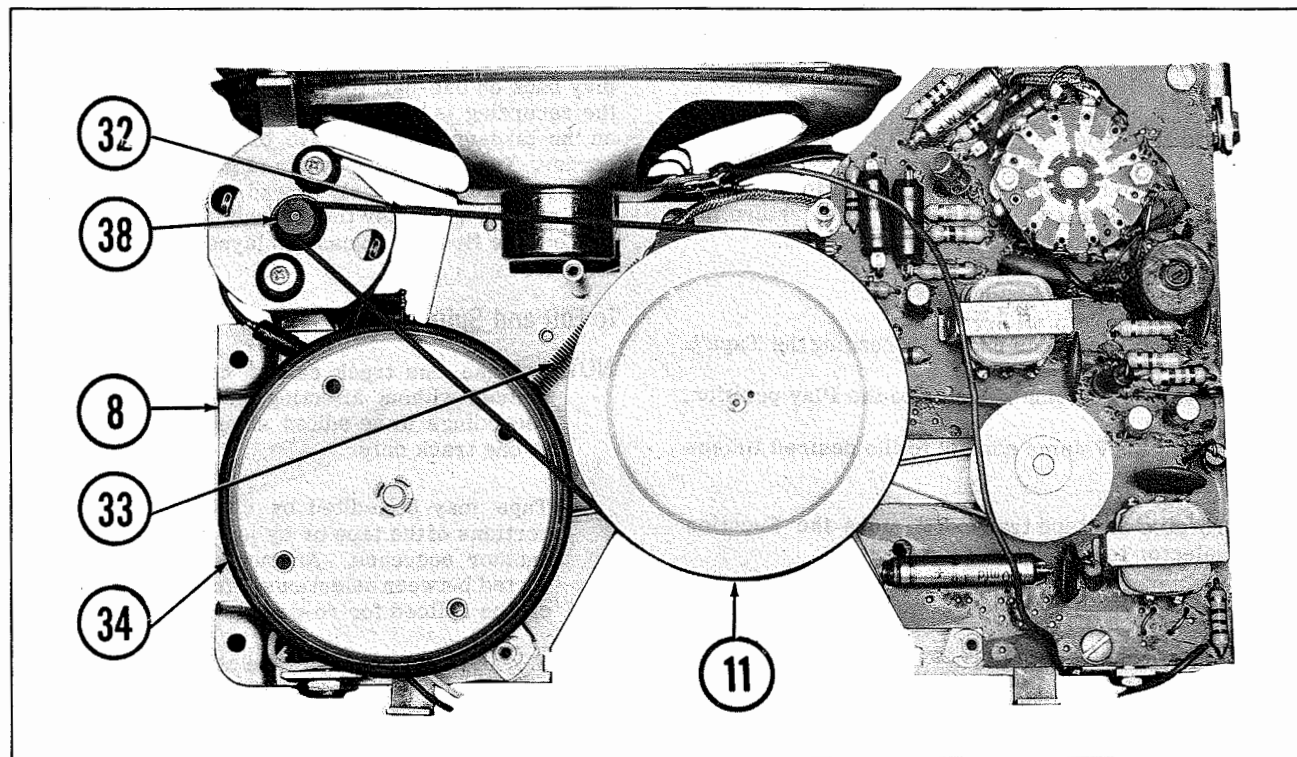


FIG.2 BOTTOM VIEW OF MECHANISM

TRouble CHART

NOTE: Before attempting any troubleshooting on this unit, check the batteries and re-

place them if they are weak. Weak batteries can cause many and varied troubles.

Symptom	Cause	Remedy
Recordings distorted.	1. Record-Playback head pressure pad (37) worn or dirty. 2. Record-Playback switch return spring (9) weak.	1. Replace pressure pad (37), or clean with soft cloth and alcohol. 2. Replace spring (9).
Wow.	1. Oil on pressure roller (21), capstan (11), or motor pulley. 2. Pressure roller (21) out of round. 3. Flywheel bearing (19) loose or damaged. 4. Pressure roller plate (17) out of line. 5. Take-up reel rubbing against speed selector. Play cam lever bent.	1. Clean these parts with a soft cloth and alcohol. 2. Replace pressure roller (21). 3. See "Flywheel Bearing Adjustment". Replace if necessary. 4. Replace pressure roller plate (17). 5. Bend Play cam lever until reel does not rub.
No Rewind.	1. Drive belt (32) loose or broken. 2. Take-up belt (12) loose or broken. 3. Oil or grease on driving surface.	1. Replace drive belt (32). 2. Replace take-up belt (12). 3. Clean all driving surfaces with a soft cloth and alcohol.
Reels do not turn in Record or Playback.	1. Defective motor. 2. Pressure roller plate spring (33) loose or broken. 3. Pressure pad bracket spring* (27) loose or broken.	1. Replace motor (38). 2. Replace pressure roller plate spring (33). 3. Replace pressure pad bracket spring (27).
Does not Record or Erase.	1. Record interlock spring (3) bent.	1. Replace or straighten Record interlock spring (3).
Will not Erase.	1. Erase head link (41) loose or bent. 2. Erase head pressure pad (28) bracket bent.	1. Straighten or replace link. 2. Straighten or replace erase head pressure pad bracket (28).

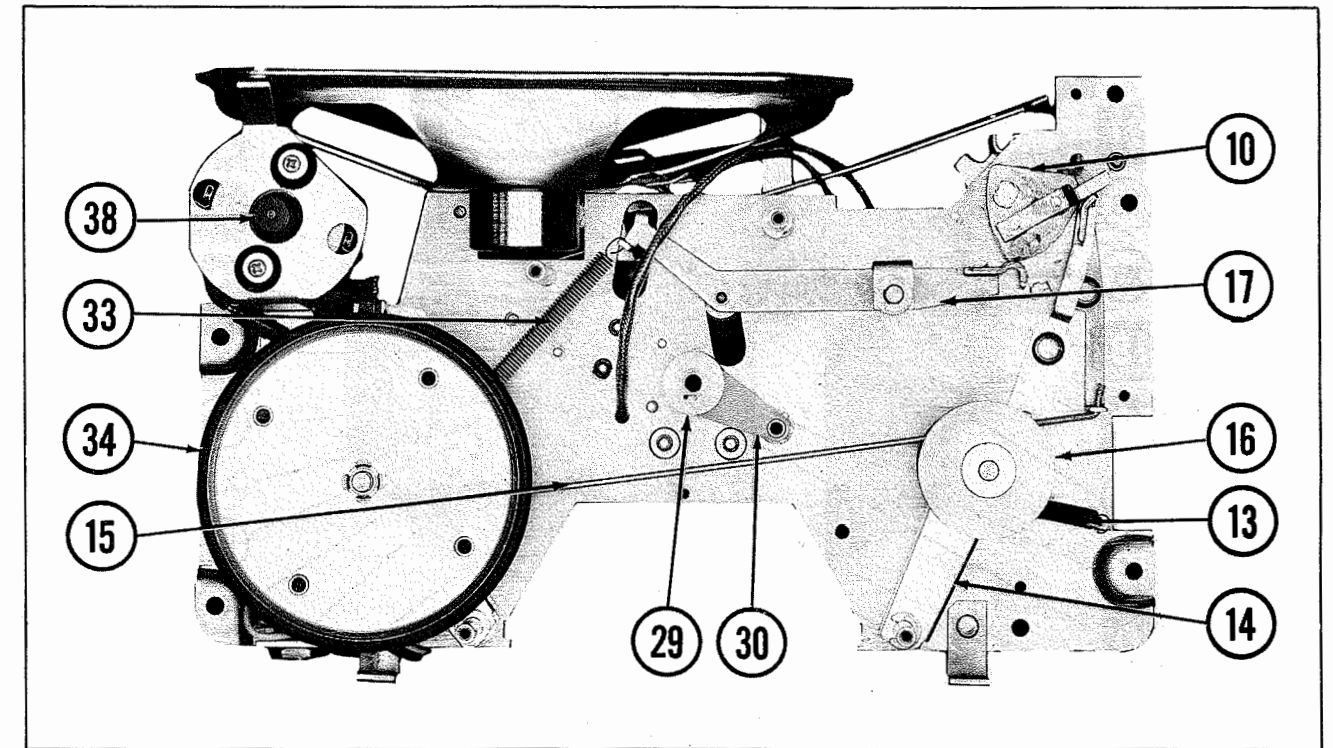


FIG.3 BOTTOM VIEW OF MECHANISM

TRouble CHART (CON'T.)

Symptom	Cause	Remedy
Speed selector knob will not remain in position.	1. Speed selector spring broken or missing.	1. Replace speed selector spring.
Transport noisy when operating at 1 7/8 ips.	1. Speed selector shaft ass'y. (30) hitting flywheel (11).	1. Raise speed selector shaft ass'y. (30) by unscrewing selector knob (26) and placing washers between shaft and knob.

MECHANICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	TK-278	Function Control Knob	22	120011	Erase Head Ass'y.
2	480009	Record Lock Button	23	TH-661	Record-Playback Head
3	960014	Record Lock Spring	24	TB-2028	Record-Playback Head Mtg.Brkt.
4	100002	Rear Escutcheon	25	960001	Speaker Bracket and Rod Guide
5	100003	Front Escutcheon	26	480008	Speed Selector Knob
6	TS-3222	Reel Spindle	27	879004	Lever-Pressure Pad Spring
7	TC-2362	Star Indexing Cam	28	120006	Pressure Pad Bracket Ass'y.
8	120003	Motor Board Ass'y.	29	TA-1700	Capstan and Pin Sleeve Ass'y.
9	879002	Record Switch Return Spring	30	120013	Speed Selector Shaft Ass'y.
10	120002	Function Cam Shaft Ass'y.	31	TG-512	Grommet
11	TA-1593	Flywheel Ass'y.	32*	TO-243 *	*Drive Belt
12 *	290001 *	* Take-up Belt	33	879004	Pressure Roller Plate Spring
13	879003	Wind Arm Spring	34	120012	Rewind Wheel Ass'y.
14	960008	Wind Arm	35	960007	Brake Arm
15	360001	Rewind Link	36	TP-1423	Brake Arm Pad
16	TW-487	Take-up Wheel	37	TP-863	Pressure Pad
17	120005	Pressure Roller Plate Ass'y.	38	120009	Motor Ass'y.
18	120007	Bottom Support Plate Ass'y.	39		Screw
19	TB-2576	Adjustable Jewel Bearing	40	TC-515	Tape Guide
20	TH-645-2	Bearing Housing	41	TL-447	Erase Head Link
21*	TR-2136 *	*Pressure Roller			

* Drive Belt-WALSCO Part No. 41-094

* Pressure Roller -WALSCO Part No. 41-104

* Take-up Belt - WALSCO Part No. 41-100