: Amp Servel 013850/385





# Service - Instruction Manual





Figure 1. Rear View of Tape Transport.

# GENERAL INFORMATION

The "Magnecord" Model PT6-6A Tape Recorder is designed for use with the "Magnecord" Amplifier Model PT6-6J.

The "Magnecord" Model PT6-6A Tape Recorder features Stop, Forward, Fast Forward, and Rewind modes of operation by merely turning a knob. Playback or Record is selected by switch on PT6-6J Amplifier. Any reel up to 7 inches can be used. New recordings can be made on previously recorded tape, since erase head is automatically connected when switch on amplifier is in "Record" position.

Tape Speed Switch on PT6-6A will change speed from 15 ips (FAST position) to 7 1/2 ips (SLOW position) when 15 ips capstan and pressure roller (large capstan and small pressure roller) are used. Speeds will be 7 1/2 ips (FAST position) and 3 3/4 ips (SLOW position) when 7 1/2 ips capstan and pressure roller (small capstan and large pressure roller) are used.

# SPECIFICATIONS PT6-6A TAPE TRANSPORT

Tape Speeds -3 3/4 ips, 7 1/2 ips, and 15 ips are interchangeable with no tools required. Tape speed selection is made by switch and/or change of capstan and pressure roller.

Rewind Speed -1200 ft. of tape (full 7-inch reel) rewound in 40 seconds.

Flutter -- Less than 0.3%.

Tube - Bias Oscillator tube 12AU7.

Motors - 1500 RPM rewind motor. Hysteresis Synchronous 2 speed, 900 RPM and 1800 RPM, drive motor.

Frequency Response -50 to 7500 cps with tape speed of 7 1/2 ips, 40 to 15,000 cps at tape speed of 15 ips.

# SPECIFICATIONS PT6-J OR PT6-6J AMPLIFIER

Frequency Response -50 to 15 KC,  $\pm 2$  db equalized for tape speeds of 7 1/2 and 15 ips. 3 3/4 and 7 1/2 ips equalizer available.

Input Level — Sensitivity -105 dbm for zero level recording.

Maximum Level - 35 dbm.

Input Impedance — 50 or 250 ohms, balanced or unbalanced. High impedance unbalanced bridge (Phone Jack).

Noise — 65 millivolts maximum at 600-ohm output (switch at "AMP"); 20 millivolts maximum at 600ohm output (switch at "PLAYBACK"). Rec-PB overall signal-to-noise ratio 50 db from 3% third harmonic distortion point.

Total Harmonic Distortion -- Less than 2% with 10 watts output.

Output Impedance - 600 ohms balanced, 16 and 4 ohms.

Output - 10 watts with less than 2% distortion.



Figure 2. View of Right Side of Tape Transport.

- Tubes (1) Type 5879 (1) Type 12SJ7
  - (1) Type 6SL7
  - (2) Type 5881
  - (1) Type 5331

Dimensions — Amplifier; 8" deep, 7" high, 19" wide without carrying case. 13" deep, 8" high, 20" wide with carrying case. Transport Mechanism; 11" deep, 7" high, 19" wide without carrying case. 16" deep, 8" high, 20" wide with carrying case.

Weight — Amplifier; 20 lbs. without carrying case, 34 lbs. with carrying case. Transport mechanism; 26 lbs. without carrying case, 40 lbs. with carrying case.

#### INSTALLATION

PT6-6A and PT6-6J units may be mounted in portable cases or standard 19" racks without adapter panels.

#### OPERATING INSTRUCTIONS

PT6-6A motors and oscillator tube receive their power through male Jones connector on rear of unit. See schematic for terminal designation. This power is supplied by Magnecorder PT6-6Jamplifier. Female Cannon connector on rear of PT6-6A is connected to male Cannon connector on rear of PT6-6J amplifier by an interconnecting cable. This cable couples Record-Reproduce head of transport mechanism to the playback amplifier input in the playback mode, and couples the output of the Record amplifier to the Record-Reproduce head in the record mode. 1. Make sure oscillator tube located in rear and at right side is secure in its socket.

#### 2. Set control knob (30) to STOP.

3. Make sure correct capstan and pressure roller for desired speed and knurled retaining screws are firmly in place. For speed and speed changes see "General Information", page 2. Make sure tapershaped capstan shaft is completely free from dirt or foreign particles before installing capstan.

#### Threading the Tape

1. Before a reel of tape can be placed on spindle, reel retaining knob (1) must be removed. To remove reel knob, push in and turn counterclockwise to release bayonet pin.

2. Place empty reel on take-up spindle (36), and replace reel retaining knob (1).

3. Place a reel of tape on rewind spindle (2), with tape paying off in clockwise direction, and replace reel retaining knob (1).

4. Pull off about 2 ft. of tape, thread over and around top tape guide roller (23), then around lower tape guide roller (9), over erase head (15), and Record-Playback head (29), between capstan (33) and pressure roller (35). Then thread on right hand empty reel. Make sure oxide coating on tape is toward heads. See illustration on front cover.



Figure 3. Bottom View of Tape Transport.

## To Make a Recording

1. Flip power switch, on amplifier being used, to "ON". This provides necessary power for both amplifier and recorder mechanism.

2. Turn selector switch on amplifier to ''Record'' position.

3. Push VU meter switch in to connect meter, if PT6-6J amplifier is used with PT6-6A tape transport mechanism.

4. For headphone monitoring, insert plug of phones in amplifier front panel Monitor Jack. For speaker monitoring, turn speaker volume control up to desired position.

5. Vary volume level with Gain Control. Turning control clockwise increases amplifier gain. VU meter should move with program material and should read a peak value of "0" once every few seconds to a minute, depending upon nature of program being recorded.

6. To place tape transport mechanism in "Record" position, depress safety button (19) and simultaneously turn control knob (30) to "Forward". This sets tape in motion.

7. Red bias indicator will glow when oscillator is operating properly. This indicates a new recording is being made and previous recording on the tape will be erased. 8. When recording is completed, turn control knob (30) to "STOP".

## To Rewind a Tape

1. To rewind tape, turn control knob (3) to "Stop", then place tape over guide roller (23) from reel to reel. Turn control knob to "Rewind". Rewind mechanism, driven by shaded-pole motor (102), will completely rewind 1200 ft. of tape (full 7" reel) in approximately 40 seconds.

2. Control knob (30) may be turned to "Stop" anytime during rewind without danger of tape spilling.

3. To rewind tape without unthreading, tape should be placed on top of Record-Reproducer head shield. Be sure tape is returned to its normal position on the heads before recording or reproducing.

#### Caution:

When switching from "Rewind" to "Forward", always pause in "Stop" position long enough for tape to come to a complete stop. Failure to do so will result in tape breakage due to tight grip which capstan and pressure roller exert on tape when control knob (30) is in "Forward" position.

## To Playback a Tape

1. Make interconnections and correct speed as described under "Operating Instructions" on page 3.

2. Set selector switch on amplifier (PT6-6J amplifier) to "PLAYBACK" position.



Figure 4. Tape Transport with Front Panel Removed.

3. Turn speaker volume control clockwise; pull meter switchout for "Off" if volume level on playback makes it necessary to prevent meter damage.

4. Depress safety button (19) and place control knob (30) in "Forward" position.

#### Hi-Speed Forward

"Hi-Speed Forward" control is the knob on right side of front panel. This control will function only with Main Control Knob in 'Stop" position. To place machine in "Hi-Speed Forward", turn control to right and hold. To stop machine, release control.

If you have rewound tape too far, turn Hi-Speed Forward knob to reel tape rapidly forward until beginning of recording is reached.

# **Recording Indicator**

Recording Indicator lamp will glow when plate supply voltage is supplied to oscillator tube. This indicates any previous recording on tape is being erased and a new recording may be made.

## MECHANICAL OPERATION

# Flywheel and Capstan

Balanced flywheel, drive hub and capstan shaft assembly (83), driven by two rubber-tired wheels (67 and 70), provide constant speed for tape.

## Pressure Roller

Pressure Roller (35), actuated by control knob (30) through switch control shaft (93) and pressure roller arm assembly (79), with the tension spring keeps a positive pressure against tape and capstan, maintaining constant rate of tape travel.

#### Hi-Speed Forward

Hi-Speed Forward is put into operation by rotating Hi-Speed Forward control knob (17A) in a clockwise direction. This, in turn, actuates control shaft and wire (126), pivot arm (53), wire (52), and fast forward wheel mounting bracket (50), pulling fast forward wheel (56) into contact with drive motor shaft and take-up hub (39). Simultaneously, pivot arm (53) moves against fast forward actuating switch, starting main drive motor (121).

#### Rewind System

When control knob (30) is placed in "Rewind", switch (125) is actuated, starting rewind motor (102). A DC operated solenoid is also energized during rewind, pulling forward idler wheel (61) away from takeup hub (41), allowing bearing mounted take-up shaft (36) to turn freely. When rewind operation is completed, and control knob (30) returns to "Stop" position, solenoid is de-energized. This allows forward idler wheel (61) to contact take-up hub (41), applying a braking force sufficient to stop reel.



Figure 5A. Exploded View of Parts Above Front Panel.



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Figure 5B. Exploded View of Parts Below Front Panel.



Figure 5C. Exploded View of Parts Below Back Panel.

The "one way" pawl-actuated clutch on rear shaft extension of rewind motor (102) operates so that, as tape is unwound from payoff spindle (2), a certain amount of drag is imparted to motor shaft, which is then transmitted to tape as tension. When rewinding, pawl is disengaged from ratchet disc (111) by direction sensitive rewind pawl spring (110), allowing motor shaft to turn freely. A rapid rewind results.

#### Drive System

The drive system is driven by main drive motor (121) through two rubber-tired idler wheels (67 and 70), mounted on sliding suspension arm supports (85 and 87). Idler wheels (67 and 70) are held in contact with hub of flywheel assembly (83) and drive motor shaft (121) by springs (71). This, in turn, drives capstan (33), which is secured to flywheel shaft and, with pressure roller (35), conveys tape at a constant speed.

# Take-Up System

Take-up shaft (36) is driven by forward idler wheel (61), making contact with drive motor shaft and take-up hub (41). Take-up hub (41) is concentrically mounted on take-up shaft (36) and is coupled to the shaft through a clutch assembly (39 thru 46) similar to that in the rewind system. With tape properly threaded on recorder and mechanism in "Forward", take-up shaft (36) slips a certain amount due to pressure applied on tape by slower running capstan and pressure roller. Consequently, tension imparted to tape causes tape to move from one reel to the other without throwing or stalling.

# ADJUSTMENTS

# Head Alignment

1. The primary purpose in head alignment is to provide maximum frequency response. (NOTE: Before attempting to align record-reproduce head, make certain difficulty is not due to an accumulation of tape coating residue on pole surfaces.)

2. The right mounting screw of the record reproduce head is drawn up securely. This side of head holder is provided with a rocker action. Left adjustment screw (14) is associated with a compres sion spring. Rotating this screw changes gap alignment with respect to tape. Proper alignment is achieved when maximum signal, at a given setting of the gain control, is reproduced from alignment tape, as alignment screw (14) is turned in or out.

#### Solenoid Adjustments

The Plunger of Solenoid (72), energized during rewind, should pull against springs (64) and lift idler wheel (61) away from drive motor shaft by 1/16'', but maintain contact between idler wheel (61) and the take-up wheel (41). When mechanism is switched from "Rewind" to "Stop" the solenoid relaxes, spring (64)returns idler wheel (61) into contact with drive motor shaft. This shaft is not turning and in turn, idler wheel (61) is prevented from turning. This stops free rotation of Take-up Wheel (41), acting as a brake on the take-up shaft.

Solenoid (72) should be positioned to accomplish the above. The solenoid is mounted by two screws in



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Figure 6. Top View of Bias Oscillator Chassis.



TAPE TRANSPORT SCHEMATIC PT6-6A



Figure 7. Bottom View of Bias Oscillator Chassis.

slotted holes in back panel above drive motor (121). When readjusting solenoid, be careful plunger does not bind within tube. To check this, place recorder in its operating position and operate control knob (with power applied to mechanism) between "Rewind" and "Stop". Return springs (64) should have enough tension to return idler wheel (61) to normal position when there is no binding of solenoid plunger.

## **Clutch Adjustments**

A 1.

Tape tension is maintained by two friction clutches. Their correct adjustment causes tape to move from one reel to the other in either direction without throwing tape or stalling and applies proper tape tension for tape contact on heads.

1. Clutches are located on rear ends of supply reel spindle (2) and take-up reel spindle (36). Supply reel spindle clutch is located at right side (facing rear of unit). It consists of a felt washer (112) lubricated with silicone fluid pressing against a ratchet (111), free to rotate in a clockwise direction but prevented from turning in opposite direction by a spring-loaded pawl (105). Pressing against opposite side of felt washer is a brass washer (113) and a sponge rubber washer (114). On the other side of the ratchet (111) is a silicone lubricated felt washer (109) which also exhibits a clutch effect. To remove complete friction assembly, loosen screws (107) and (116) and slide assembly off shaft. A split knurled adjustment locknut (115) bears against sponge rubber washer (114) and is loaded in place by a set screw (116). Set screw must be backed off before adjusting locknut (115) can be turned. Rotating adjustment locknut clockwise increases clutch friction.

2. The supply reel spindle clutch adjustment should maintain a drag as supply reel rotates when recorder is in "Forward" operation. This drag should be sufficient to stop supply reel without permitting tape to loop, or to be thrown when control knob switch is turned from "Forward" to "Stop". The amount of friction should be minimum necessary to accomplish this, (3 to 4 inch ounces).

3. Too much clutch friction will increase tape drag to a point where tape speed will cause flutter and wow.

4. Take-up reel (36) friction clutch is located on left side (facing the rear). This is similar in appearance to the other clutch but employs no pawl. It is also necessary to back off set screw (46) before adjusting this clutch.

5. Take-up reel spindle friction clutch couples spindle to synchronous drive motor, when control knob is set to "Forward", and acts as a brake on take-up reel when control knob is set to "Stop". Clutch adjustment should provide sufficient friction for take-up reel to take up tape at normal speed forward when take-up reel is almost completely full and supply



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AMPLIFIER SCHEMATIC MODELS PT6-J, PT6-6J

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Figure 8. Top View of PT6-6J Amplifier Chassis.

reel nearly empty. It should also provide sufficient braking to maintain tape tension and prohibit tape throw when control switch is turned to "Stop", after take-up reel has been rotating at high speed during rewind. The split, knurled locknut (45) should be adjusted to provide minimum clutch friction to accomplish this. About 4 to 6 inch oz. for the take-up clutch is correct friction.

# CLEANING

Portions of the erase and the record-reproduce head which contact the tape must be kept free of dust, grease and foreign matter, or frequency response characteristics will suffer. Clean with a soft cloth slightly moistened with carbon tetrachloride or ethyl alcohol after every five hours of operation. (NOTE: Do not attempt to apply carbon tetrachloride to any part of recorder when loaded reels are in place. Tape is soluble in carbon tetrachloride and will be ruined if it comes in contact with the solution. After using carbon tetrachloride, make sure heads are completely dry before threading tape and none of solution is transferred to the tape from the fingers.)

# Oiling the Clutch Felts

Felt washers have been lubricated with silicone fluid at the factory to provide correct amount of slippage.

#### Caution:

Do not oil clutch felts. This may cause oil to be thrown on nearby idlers, causing slippage in the drive system.

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Figure 9. Bottom View of PT6-6J Amplifier Chassis.



Figure 10. Bottom View of PT6-6J Amplifier Chassis.

# MECHANICAL PARTS LIST

Ref. No.	Part No.	Description		Ref.	Part No	Description
1	01 4 5	Baal Batainan (2)		40	CO CITA	
1	91A0 01 A 09	Reel Retailer (2)		49	02-014	HO HEX NUL
4	91A02 61 0009	Rewlind Reel Flange Assembly		50	72A42	Puck Arm Bracket
3	01-0000	Notto Danol		51	91A217	Lever Mounting Bracket & Stud
4 5	710772	Matte Panel		50	70410	Assembly
5	71D771 61 4DD5	HA 40 m E /16 Dhilling D H M G		52	78A13	Wire Link Short
0	01-4PB9	$\#4-40 \times 5/10 \text{ Pmillips B.H.M.S.}$		53	78A91	Pivot Arm
	60 A F	St. N.P.		54	78A12	Wire Link
	03A0 69499	Dural washer		55	63A98	Capstan Shaft Spring Washer (2)
ð	03A28	Fibre wasner		50	91A86	Fast Forward Puck 2 1/2"
9	91A49	Roller & Bearing Ass'y.		57	63A19	Washer
10	63A28	Fibre Washer		58	67A12	Hairpin Retainer
	63X29	Felt Spacer .257 I.D.x 7/16		59	67A12	Hairpin Retainer
10		O.D. $\times 1/16$ Th.		60	63A19	Fibre Washer
12	76A8	Guide Roller Shaft		61	91A740	Take-up Puck Assembly 2"
13	75A11	Spacer		62		Felt Washer
14	61-2112	Screw, Mach. $2-56 \ge 3/4$		63	63A19	Fibre Washer
		Fillister Hd. N.P. (4)	~	64	77A4	Puck Springs (2)
15	91A17	Erase Head Assembly		~ 65	91A739	PuckArm & Plate Assembly-
16	77A25	Head Adjusting Spring (2)				Take-up
17	87A8	Knob With Set Screws (2)		66	75A44	Take-up Puck Plate Spacer (2)
18	62-43H20	7/16-20 Hex Nut Steel N.P.		67	91A26	Drive Puck Assembly 2 1/2"
19	75A96	Safety Knob		68	63A19	Fibre Washer
20	61-4PB5	$#4-40 \ge 5/16$ Phillips B.H.M.S.		69	67A12	Hairpin Retainer
		St. N.P.		70	91A26	Drive Puck Assembly 2 1/2"
21	63A5	Dural Washer		71	77A4	Puck Springs (2)
22	63A28	Fibre Washer		72	31A23	Solenoid
23	91A10	Roller & Bearing Assembly		73	67X7	$3-32 \ge 1/2$ "Drive Loc. Pin
24	63A28	Fibre Washer		74	63A8	Felt Washer
25	63X29	Felt Spacer .257 I.D. x $7/16$		75	78A22	Bearing Retainer
		O.D. x 1/16 Th.		76	74A21	Capstan Bearing
26	76A8	Guide Roller Shaft		77	76A2	Pressure Arm Shaft
27	75A11	Spacer		78		Washer
28	91A56	Top Shield & Lining Assembly		79	91A11	Pressure Arm Assembly
29	91A57	Record & Reproduce Head Final		80	91A214	Pressure Arm Plate Assembly
		Assembly		81		Washer
30	87A14	Control Knob With Set Screws		82		"C" Washer
31	75A37	Control Sleeve		83	91A765	Capstan Shaft Assembly
32	61-4K6	4-32 x 3/8 Knurled H.M.S. Brass		84	78X28	Ball Bearing
33	75A16	7 1/2" Capstan 60 Cycle (Not	~	~85	91A216	Puck Arm & Plate Assembly-
		Shown in Exploded View)				Drive
	75A15	15" Capstan 60 Cycle (Shown In		86	75A45	Puck Plate Spacer-Long
		Exploded View)		87	91A216	Puck Arm & Plate Assembly-
34	61-4K5	4-36 x 5/16 Knurled H.M.S. Brass				Drive
35	91A14	7 1/2" Pressure Roller Assembly		88	75A44	Washer
		60 Cycle (Not Shown in Exploded		89		Control Sleeve Washer (Part of
		View)				Item 31)
	91A15	15" Pressure Roller Assembly		90		Control Sleeve Nut (Part of Item
		60 Cycle (Shown in Exploded				31)
		View)		91	74466	Cam
36	91 A 51	Take-up Shaft & Bayonet Spindle		02	61_6553	$6_{32} \times 3/16$ Allon Sot Serow (2)
		Assembly		02	76 4 20	Switch Shaft
37	91A52	Take-up Bearing & Housing Ass'y		04	67719	1/41 Tmi Ang Potsining Ding
38	75463	Take-up Hub Tube		05	01 1 21	1/4" Tru-Arc Retaining Ring
(10)	75462	Take-up Hub Flange		00	JIAJI	Safety Shaft & Fill Assembly
40	6349	Felt Washer		90	71050	Safety Snaft Spring
	91 4 99	Take up Wheel & Dearing Aget-		97	754909	Lett Hand Side Panel
	91490	Falt Washen		98		Spacer, Long Rewind Motor (2)
44	63 <b>71</b> 0	Feit Washer Brogg Washer		99	atvats	Spacer, Short With Bumper,
	03A10 69A11	Drass wasner		100		Rewind Motor (2)
	03A11 75 A70	Rupper wasner		100	TE 4 900	Rewind Motor Mounting Nut (4)
40	10ATU 61. 0000	LOCKNUL		101	75A283	Motor Spacer (2)
46	01-8038	$8-32 \times 1/2$ " Lg. Allen Hd. Cap.		102	35B16	Rewind Motor
417		Screw		103	72A134	Pawl Mtg. Plate Bracket
4'/	77A35	Spring		104	/1A319	Pawl Mtg. Plate
48	(1041	Right Hall Side Panel		105	11A87	Pawi
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Ref. No.	Part No.	Description
106	75A85	Rewind Hub Tube
107	75A84	Rewind Hub Flange
109	63A9	Felt Washer
110	77A2	Pawl Spring
111	75A86	Ratchet
112	63A9	Felt Washer
113	63A10	Brass Washer
114	63A11	Rubber Washer
115	91A70	Locknut Assembly
116	61-8BCS8	8-32 x 1/2 Lg. Allen Hd. Cap Screw

# MECHANICAL PARTS LIST (Continued)

Ref. No.	Part No.	Description
117 118 119 120 121	91C2 75A30 62-25H720 61A18 35B49	Back Panel Assembly Thrust Housing 1/4-20 Hex Nut x 7/16 St. N.P. 1/4-20 x 1/2 Set Screw-Thrust Drive Motor, Hysteresis
122 123 124 125 126	77A6 91A30 72A3 43X14 91B736	Synchronous, 2-Speed 900-1800 RPM Pressure Arm Spring Switch Arm & Pin Assembly Switch Mounting Bracket Switch D.P.S.T. (2) Control Linkage Assembly

# ELECTRICAL PARTS LIST - PT6-6A

# **BIAS OSCILLATOR**

Ref.	Part		Ref.	Part	
No.	No.	Description	No.	No.	Description
V1	97-12AU7	Bias Oscillator	C15	22X15	Cap., Ceramic Tub., .1 mfd.
C1A	23X10	Cap., Elect., 20 mfd. @ 150V			@ 400V
C1B		Cap.,Elect., 20 mfd. @ 150V	C16	22X15	Cap., Ceramic Tub., .1 mfd.
C2	22X8	Cap., Oil, 6 mfd. @ 220V.			@ 400V
C3	21X21	Cap.,Mica, .0068 mfd. @ 300V	R1A	14X32	Bias Osc. Control,10K, 1/2Watt
C4	26X8	Cap.,Bathtub, .5 mfd. @ 600V	R1B		Bias Osc. Control, 10K, 1/2 Watt
C5	21X6	Cap.,Mica, .002 mfd. @ 500V	R2	11X10	Resistor, 22K, 1/2 Watt
C6	21X6	Cap.,Mica, .002 mfd. @ 500V	R3	11X14	Resistor, $100\Omega$ , $1/2$ Watt
C7	21X1	Cap.,Mica, .0025 mfd. @ 500V	R4	11X2	Resistor, 10K, 1/2 Watt
C8	21X4	Cap.,Mica, 50 mmf. @ 500V	R5	11X10	Resistor, 22K, 1/2 Watt
C9	21X4	Cap.,Mica, 50 mmf. @ 500V	R6	11X129	Resistor, 220 $\Omega$ , 1/2 Watt
C10	28X1	Cap., Ceramic Disc, .01 mfd.	R7	11X21	Resistor, $47\Omega$ , 1 Watt
		@ 400V	L1	31A6	Bias Oscillator Coil
C11	28X2	Cap.,Ceramic Tub., .1 mfd.	M1	42A5	Selenium Rectifier, 150 MA
1		@ 600V	ł		@ 150V
C12	28X2	Cap., Ceramic Tub., .1 mfd.	M2	41X11	Neon Bulb, Recording Indicator
		@ 600 <b>V</b>			Lamp, #NE-51
C13	28X2	Cap., Ceramic Tub., .1 mfd.	M3	54X2	Cannon Receptacle - Female
		@ 600V	M4	56X1	Barrier Terminal Strip
C14	28X2	Cap., Ceramic Tub., .1 mfd.	M5	55X4	Jones Plug, 10 prong, Male
		@ 600V			

# ELECTRICAL PARTS LIST - PT6-J or PT6-6J

# AMPLIFIER

Ref. No.	Part No.	Description		Ref. No.	Part No.	Description
V1	97-5879	Recorder-Mic. Preamp		C3	2 <del>3X1</del>	Cap., Elect., 1000 mfd. @ 15V 25
V2	97-12SJ7	AF Amplifier		C4	23X12	Cap., Elect., 25 mfd. @ 25V
V3	97-6SL7GT	AF Amplifier-Phase Inverter		C5	23X12	Cap.,Elect., 25 mfd. @ 25V
V4	97-5881	Audio Output		C6	23X12	Cap.,Elect., 25 mfd. @ 25V
V5	97-5881	Audio Output		C7	23X12	Cap.,Elect., 25 mfd. @ 25V
V6	97-5Y3GT	Rectifier		C8	23X12	Cap., Elect., 25 mfd. @ 25V
C1A	23X23	Cap.Elect., 20 mfd. @ 450V		C9	22X15	Cap., Ceramic Tub., .1 mfd. @
C1B	]	Cap., Elect., 20 mfd. @ 450V		1		400V. (Some versions use .05
C1C		Cap., Elect., 20 mfd. @ 450V				mfd. @ 400V.)
C1D		Cap., Elect., 20 mfd. @ 450V		C10	21X6	Cap., Mica, .002 mfd. @ 500V
C2A	23X9	Cap., Elect., 40 mfd. @ 450V				(Some versions use .0025 mfd.)
C2B		Cap., Elect., 30 mfd. @ 450V		C11	$21 \times 26$	Cap., Mica, 75 mmf. @ 1500V
C2C		Cap., Elect., 10 mfd. @ 450V				(Some versions use 50 mmf.)
C2D		Cap., Elect., 20 mfd. @ 25V		C12	22X3	Cap., Paper Tub., .05 mfd. @ 400V
1	1	•	í			4

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# ELECTRICAL PARTS LIST - PT6-J or PT6-6J AMPLIFIER (Continued)

Ref. No.	Part No.	Description		Ref. No.	Part No.	Description	· ·
C13	22X3	Cap., Paper Tub., .05 mfd. @400V	1	R29	11X28	Resistor, $1500\Omega$ , $1/2$ Watt	
C14	21X5	Cap., Mica, .0004 mfd. @ 500V		R30	11X11	Resistor. 330 $\Omega$ . 1/2 Watt	
C15	22X3	Cap., Paper Tub., .05 mfd. @400V		R31	11X11	Resistor, $330\Omega$ , $1/2$ Watt	
C16	22X3	Cap., Paper Tub., .05 mfd. @400V		R32	12X4	Resistor, $2000\Omega$ , 10 Watt	
C17	21X6	Cap., Mica, .002 mfd. @500V				Wirewound	
C18	<b>22X</b> 78	Cap., Molded Tub., .0047 mfd.		R33	11X2	Resistor, 10K, 1/2 Watt	
		@ 400V (Not used in Some		<sup>.</sup> R34	13X15	Resistor, $43\Omega$ , 5% 1 Watt	
		Versions)		R35	12X20	Resistor, 25 Ω, 10 Watt Wire-	
R1	14X21	Control, Gain, 100K, 1/2 Watt				wound Adjustable. (Tap is ad-	
R2	14X6	Control, Speaker Volume, 30Ω,	7/2	1 R.74.	4.752/10,070	justed to 12.6V on heater line.)	
;		4 Watt Wirewound	17	LĨ	31X5	Coil, Adjustable	
R3	13X7	Resistor, $47K$ , $5\% 1/2$ Watt		T1	32B29	Power Transformer, 700VCT @	
R4	11X34	Resistor, 15K, 1Watt (Some				100 MA, 5V @ 2A, 6.3V @ 2.4A,	
		Versions use 47K)				17V @ 300 MA	
R5	11X67	Resistor, 100K, 1 Watt		Т2	32X1	Input Transformer	
R6	11X6	Resistor, 270K, 1/2 Watt		Т3	32B30	Output Transformer, Pri.Imp.	
R7	11X28	Resistor, 1500Ω, 1 Watt				5500Ω CT,Sec. Imp., Sec. 1	
R8	11X67	Resistor, 100K, 1 Watt				-600 $\Omega$ , Sec. 2 -16 $\Omega$ tapped at 4 $\Omega$	
R9	13X7	Resistor, 47K, 1/2 Watt		SP1	33X6	Speaker, 5" PM, $3-4\Omega$ VC	1020
R10	11X15	Resistor, 820 $\Omega$ , 1/2 Watt		M1	42X6	Selenium Rectifier, 300 MA (1) /	Lacin hinker
R11	11X4	Resistor, 470K, 1/2 Watt		M2	53X10	Fuse, 3A. Slo-Blo, type 3AG	2/20 2001
R12	11X9	Resistor, 100K, 1/2 Watt		M2	53X5	Fuse Holder	F)/A
R13	11X8	Resistor, 3900 $\Omega$ , 1/2 Watt		M3		Pilot Lamp -VU Meter	
R14	11X14	Resistor, $100\Omega$ , $1/2$ Watt (Some		M4		Pilot Lamp - VU Meter	
		Versions use $220\Omega$ )		M5	43X74	Equalization Switch, Rotary Wafer	
R15	13X3	Resistor, $620\Omega$ , $5\% 1/2$ Watt				Туре	
R16	11X4	Resistor, 470K, 1/2 Watt		M6	43A122	Function Switch, Rotary Wafer	
R17	11X138	Resistor, 56K, 1 Watt				Ganged Type	
R18	11X2	Resistor, 10K, 1/2 Watt		M7	43X20	Meter Switch, Leaf Type	
RI9	11X8	Resistor, $3900\Omega$ , $1/2$ Watt		M8	43X16	Power Switch, SPST Bat Handle	
R20	11X138	Resistor, 56K, 1 Watt				Toggle	
R21	11X6	Resistor, 270K, 1/2 Watt		M9	46B9	VU Meter, Includes M3 and M4	
RZZ	12X4	Resistor, 2000 $\Omega$ , 10 Watt		M10	91B87	Equalizing Network, Plug-in	
-	11	Wirewound		M11	54X2	Cannon Receptacle, Female	
R23	11X112	Resistor, 100K, 2 Watt		M12	55X10	Cannon Receptable, Male	
RZ4	17057	Resistor, $270\Omega$ , 2 Watt (Some		M13	57X4	Phone Jack	
595	11770	versions Use 25012 5 Watt)		M14	57X4	Phone Jack	
R25	11X0	Resistor, $270K$ , $1/2$ Watt		M15	56X3	Terminal Strip, 5 Contact	
R26	11X28	Resistor, $1500\Omega$ , 1 Watt		M16	54X1	Jones Socket, 6 Contact Female	
R27	13X7	Resistor, $47K$ , $5\% 1/2$ Watt			87B17	Control Knobs, 4 Used	
R28	1179	Resistor, 39008, 1/2 watt					

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