ORDER NO. SD7710-418-2

Service Manual

Supplement

Direct Drive Player System

SL-1300,1310,1350
SL-1500,1510

Supplying Individual Circuit Board Assembly Parts (SFDP130-01A)

Previously, circuit board repair was accomplished by replacing the circuit board assembly as a unit. To reduce repair cost, however, we have now decided to supply individual circuit board parts for repair work.
The listed below are the new repair parts that will be supplied.
A troubleshooting chart is also included to help you diagnose and correct problems.

Notes: When servicing model SL-1300, 1310, 1350, 1500, 1510, this service manual and original service manual should be used together.

■ REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Per Set (Pcs.)		Remarks
		TRANSISTORS			
TR1	**2SD389A-Q**	Transistor	1		
TR2	**2SA720-R**	Transistor	1		
TR3,12,13,15	**2SC1328-T**	Transistors	4		
TR4,5,6,10,11,14	**2SA666AI-R**	Transistors	6		
TR7,8,9	**2SC1384A-R**	Transistors	3		
		DIODES			
D1,2	**RVD10DC2**	Diode	1		
D3,4	**RVD10DC2R**	Diode	1		
D5,6,7,8,9,11	SVD1S1555	Diodes	6		
D10	OA90	Diode	1		
ZD1	SVDRD18EC	18V, Zenner	1		
ZD2	SVDRD6.2E	6.2V, Zenner	1		
		TRANSFORMER			
T1	ELM10S123	Oscillator	1		
		RESISTORS			
R1	ERD12FJ752	Carbon, 7.5kΩ, 1/2W, ±5%	1		
R2	**ERD25TJ681**	Carbon, 680Ω, 1/4W, ±5%	1		
R3,31	**ERD25TJ123**	Carbon, 12kΩ, 1/4W, ±5%	2		
R4	**ERD25TJ622**	Carbon, 5.2kΩ, 1/4W, ±5%	1		
R5,11,18	**ERD25TJ392**	Carbon, 3.9kΩ, 1/4W, ±5%	3		
R6	ERD14FJ330	Carbon, 33Ω, 1/4W, ±5%	1		
R7	ERX12ANJR47	Metal, 0.47Ω, 1/4W, ±5%	1		
R8,26,35	**ERD25TJ102**	Carbon, 1kΩ, 1/4W, ±5%	3		
R9,14,21	**ERD25TJ332**	Carbon, 3.3kΩ, 1/4W, ±5%	3		

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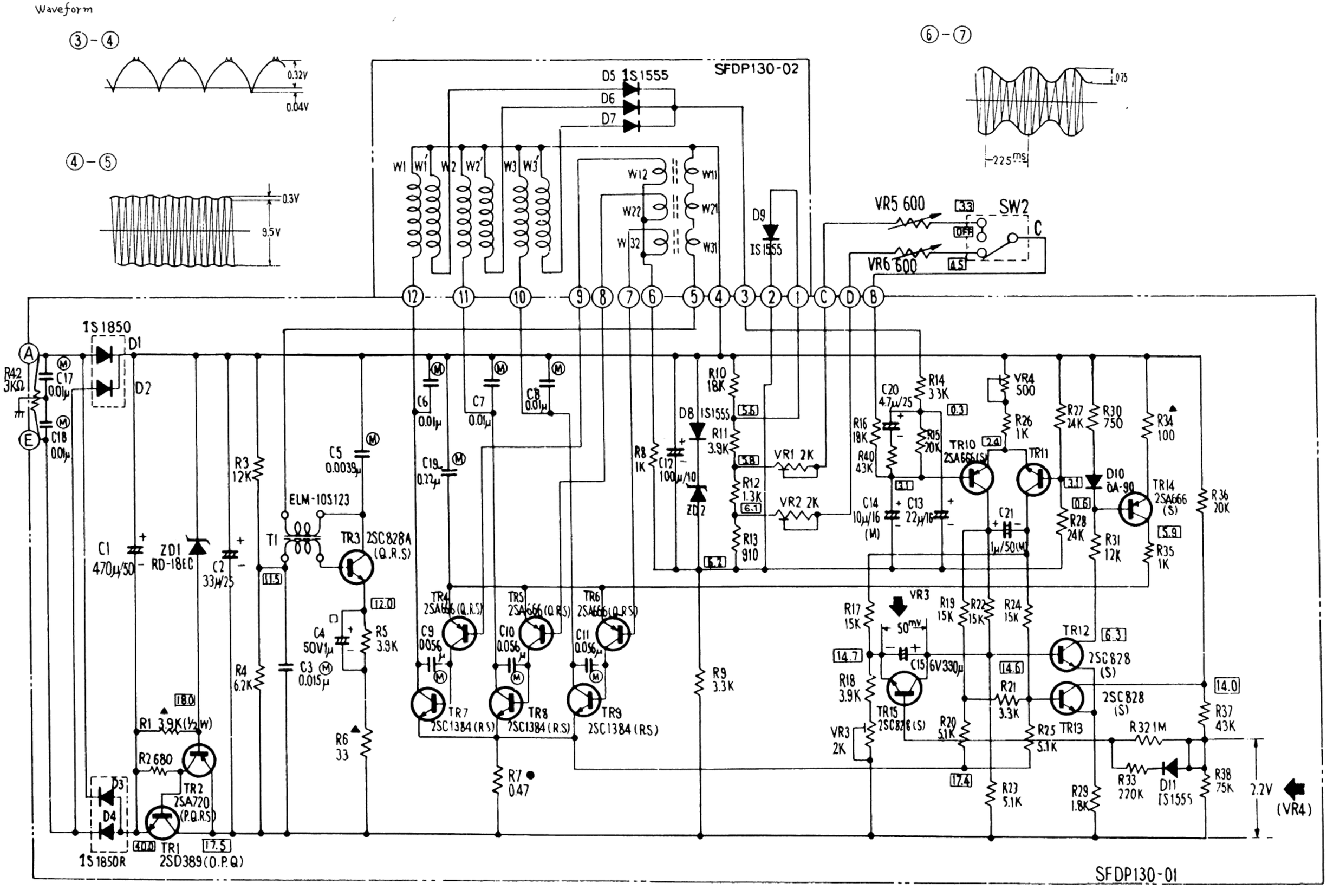
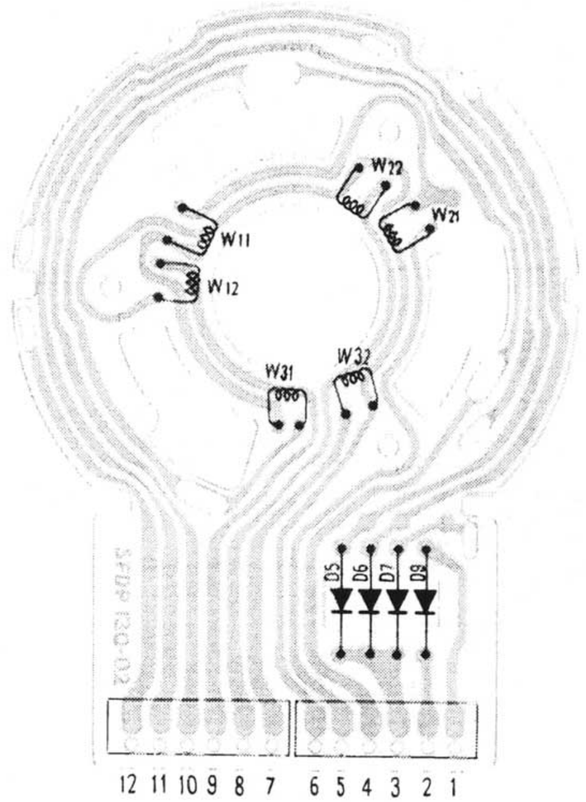
Ref. No.	Part No.	Part Name & Description	Per Set (Pcs.)		Remarks
R10	**ERD25TJ183**	Carbon, 18kΩ, 1/4W, ±5%	1		
R12	**ERD25TJ132**	Carbon, 1.3kΩ, 1/4W, ±5%	1		
R13	**ERD25TJ911**	Carbon, 910Ω, 1/4W, ±5%	1		
R15	ERO25CKF2002	Metal, 20kΩ, 1/4W, ±1%	1		
R16	ERO25CKF1802	Metal, 18kΩ, 1/4W, ±1%	1		
R17,19,22,24	**ERD25TJ153**	Carbon, 15kΩ, 1/4W, ±5%	4		
R20,23,25	**ERD25TJ512**	Carbon, 5.1kΩ, 1/4W, ±5%	3		
R27,28	ERO25CKF2402	Metal, 24kΩ, 1/4W, ±1%	2		
R29	**ERD25TJ182**	Carbon, 1.8kΩ, 1/4W, ±5%	1		
R30	**ERD25TJ751**	Carbon, 750Ω, 1/4W, ±5%	1		
R32	**ERD25TJ105**	Carbon, 1MΩ, 1/4W, ±5%	1		
R33	**ERD25TJ224**	Carbon, 220kΩ, 1/4W, ±5%	1		
R34	ERD14FJ101	Carbon, 100Ω, 1/4W, ±5%	1		
R36	**ERD25TJ203**	Carbon, 20kΩ, 1/4W, ±5%	1		
R37,40	**ERD25TJ433**	Carbon, 43kΩ, 1/4W, ±5%	2		
R38	**ERD25TJ753**	Carbon, 75kΩ, 1/4W, ±5%	1		
R42	ERD12FJ302	Carbon, 3kΩ, 1/4W, ±5%	1		
		VARIABLE RESISTORS			
VR1,2	**EVLS3AA15B23**	2kΩ, (B)	2		
VR3	**EVLS0AA00B23**	2kΩ, (B) ,	1		
VR4	**EVLS0AA00B52**	500Ω, (B)	1		
		CAPACITORS			
C1	**ECEB50V470**	Electrolytic, 470μF, 50V	1		
C2	**ECEA25V33V**	Electrolytic, 33μF, 25V	1		
C3	ECQM1H153KZ	Polyester, 0.015μF, 50V, ±10%	1		
C4,21	**ECEA50Z1**	Electrolytic, 1μF, 50V	2		
C5	ECQM1H392KZ	Polyester, 0.0039μF, 50V, ±10%	1		
C6,7,8,17,18	ECQM1H103KZ	Polyester, 0.01μF, 50V, ±10%	5		
C9,10,11	ECQM1H563KZ	Polyester, 0.056μF, 50V, ±10%	3		
C12	**ECEA10V100V**	Electrolytic, 100μF, 10V	1		
C13	**ECEA16Z22**	Electrolytic, 22μF, 16V	1		
C14	**ECEA16Z10**	Electrolytic, 10μF, 16V	1		
C15	ECEA6V330V	Electrolytic, 330μF, 6V	1		
C19	ECQM1H224KZ	Polyester, 0.22μF, 50V, ±10%	1		
C20	**ECEA50Z4R7**	Electrolytic, 4.7μF, 50V,	1		

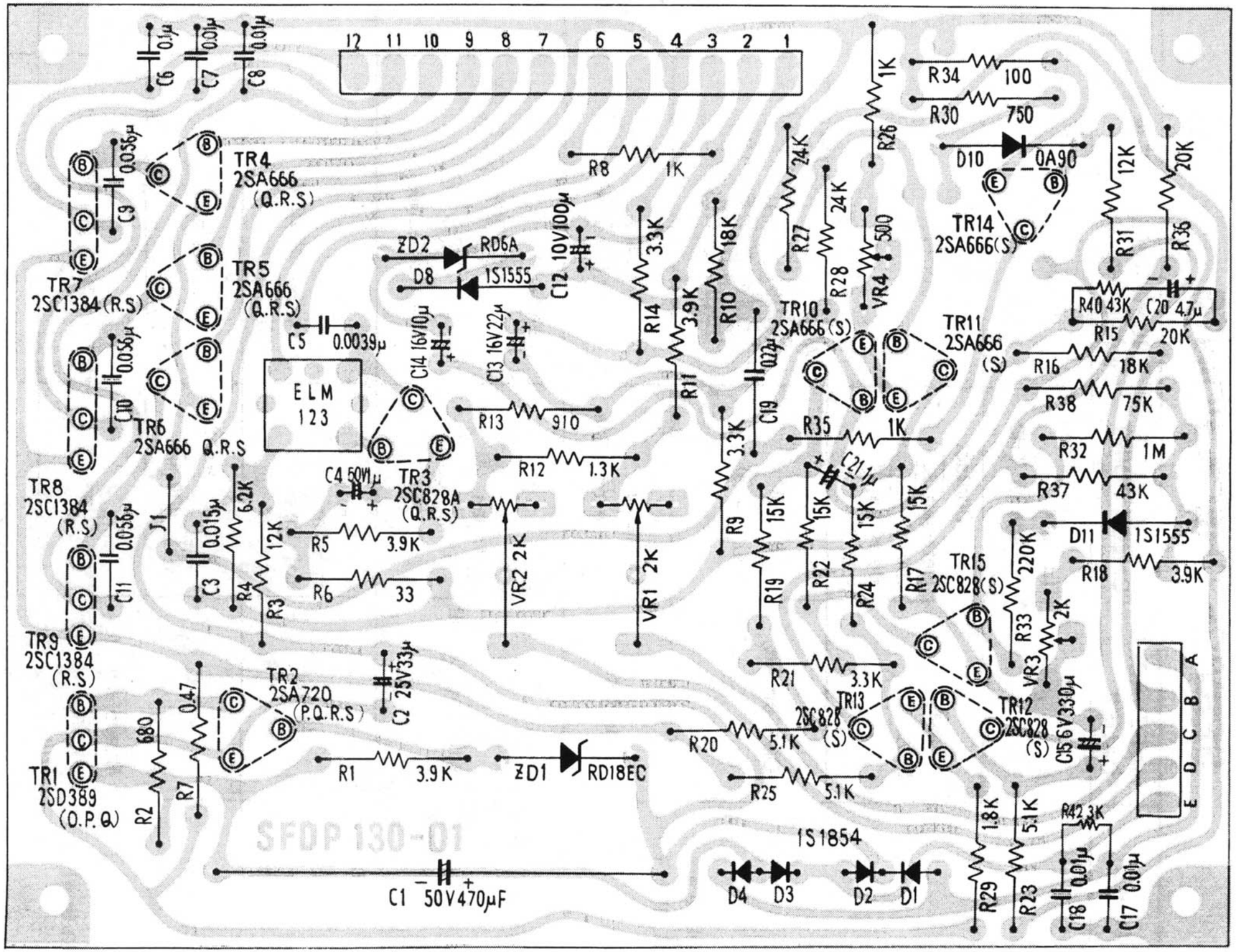
Schematic Diagram



Printed Circuit Board

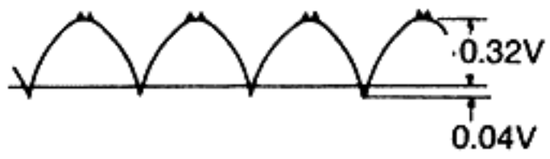
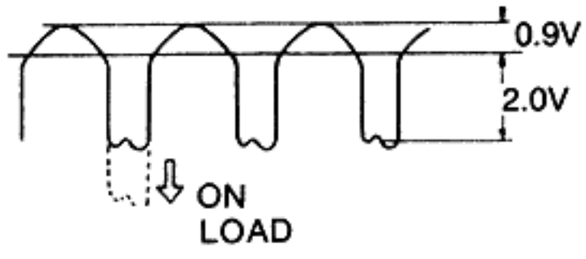
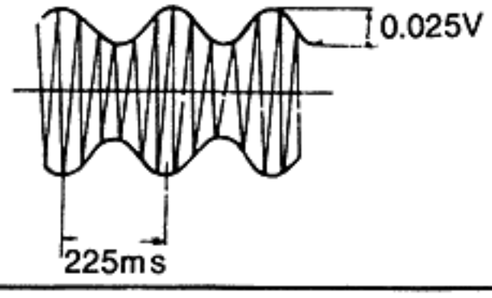


Motor



SERVICE CHECK POINTS

SYMPTOMS		INFERABLE CAUSE	CHECK POINT	PROPER VOLTAGE & WAVE FORM etc.	INFERABLE FAULT
TURN TABLE DOES NOT ROTATE	Not rotate (33, 45 rpm)	Power circuit	Emitter voltage of TR2	Voltage About 18V	TR1, TR2, ZD1 D1.2, D3. 4
		Speed selector SW2	SW2 Contact Between [33] and C Between [45] and C	Contact	SW2
		OSC circuit	Between ④ and ⑤	Wave 0.3V 9.5V	T1, TR3
		Control circuit	Collector voltage of TR14	Voltage About 5.9V	TR14, TR10, 11, 12, 13
		Switching circuit	Between ④ and ⑩, ⑪, ⑫	Wave 0.9V 20V ON LOAD	R7
		Motor	Primary of position detecting coil Between ④ and ⑤	Ohm About 28Ω	Motor
	Not rotate (33 rpm)	Speed selector SW and speed adjustment VR	SW2 Between [33] and C	Contact	SW2
			VR5	Ohm 500Ω	VR5
			VR1	Ohm 2kΩ	VR1
	Not rotate (45 rpm)	Speed selector SW and speed adjustment VR	SW2 Between [45] and C	Contact	SW2
			VR6	Ohm 500Ω	VR6
			VR2	Ohm 2kΩ	VR2

SYMPTOMS		INFERABLE CAUSE	CHECK POINT	PROPER VOLTAGE & WAVE FORM etc.	INFERABLE FAULT
TURN TABLE ROTATES ABNORMALLY	Abnormal speed (Too fast)	Reference voltage circuit	ZD2	Voltage About 6.2V	ZD2
		Speed detection voltage circuit	Between ③ and ④	Wave 	Motor
	Abnormal speed (Little fast and slow)	Constant voltage circuit	Emitter voltage of TR2	Voltage About 17.5V	ZD1
		Control circuit	Base voltage of TR14	Voltage About 0.6V	D10
	Rotate turn-table by hand but there is dead point of rotation	Switching circuit	Between ④and ⑩ ④and ⑪ ④and ⑫	Wave 	TR4, TR5, TR6 TR7, TR8, TR9
		Motor	Between ⑥and ⑦ ⑥and ⑧ ⑥and ⑨	Wave 	Motor