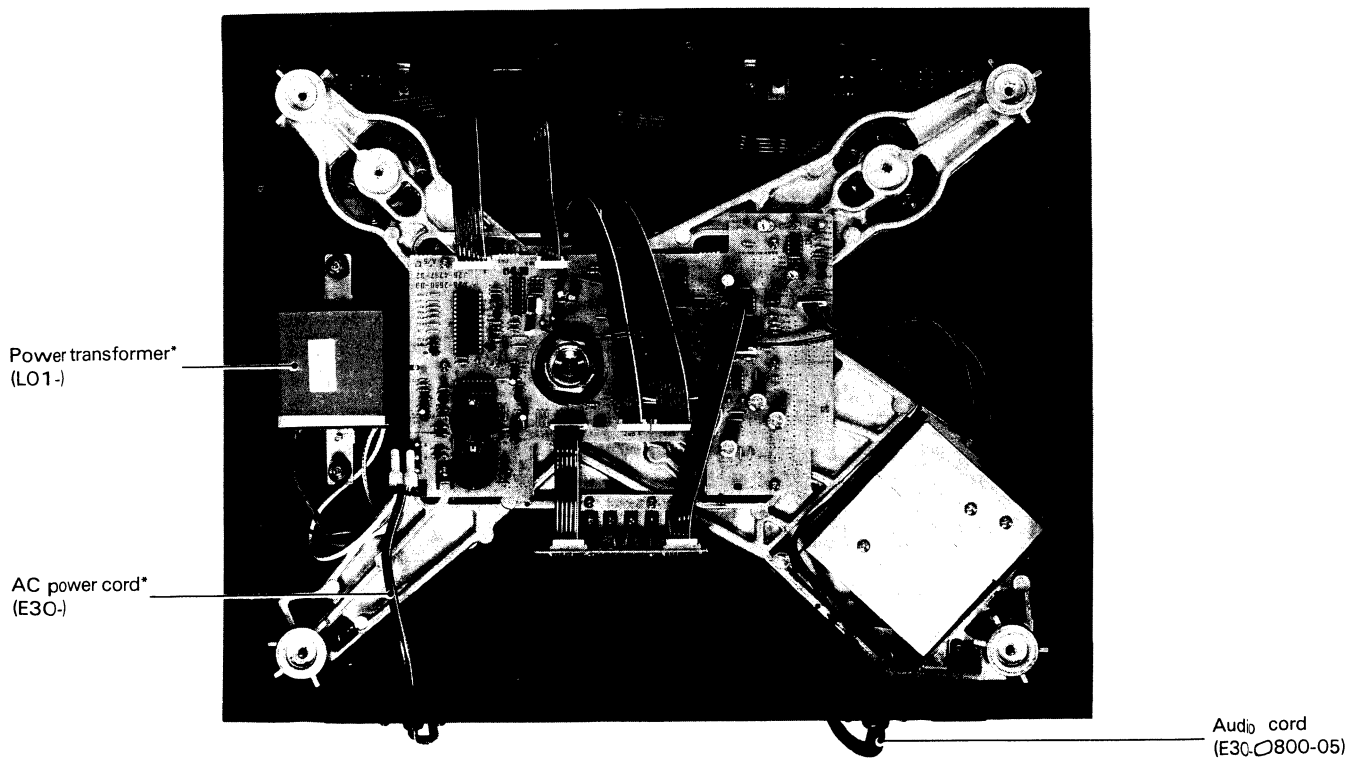


AUTO LIFT UP TURNTABLE

KD-7010

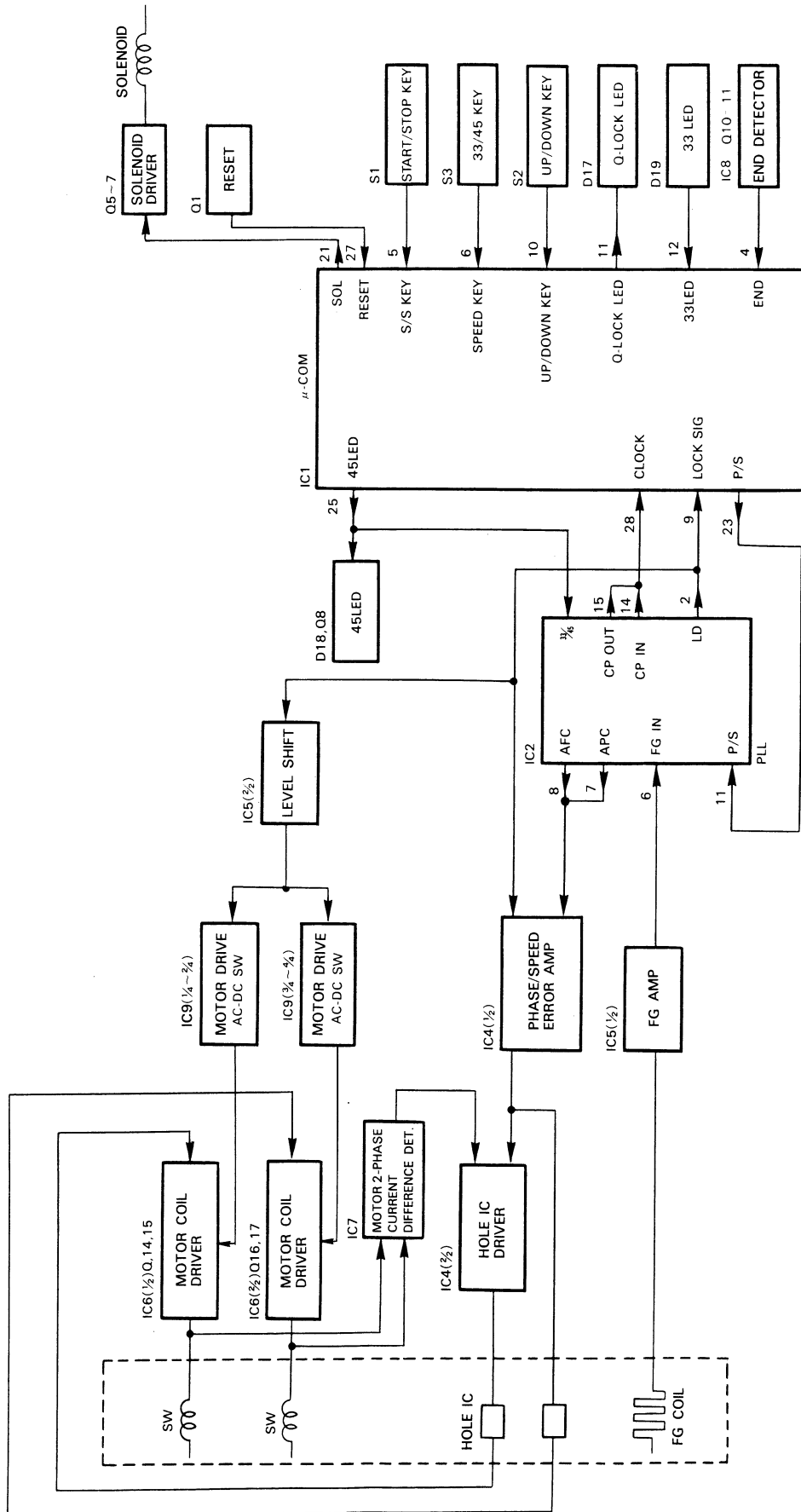
SERVICE MANUAL

KENWOOD



KD-7010

BLOCK DIAGRAM



CIRCUIT DESCRIPTION

1. Functions of Semiconductors

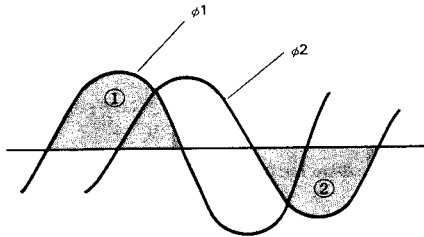
ELECTRIC UNIT (X25-2580-00)

Element	Function	Operation, Condition & Interchangeability
IC1	Microprocessor	Refer to the description of μ PD7520.
IC2	PLL controller	For motor speed and phase control. Refer to the description of TC9142P.
IC3	Power ON/OFF	Each time Power SW S4 is pressed, the output from pin 2 switches between H and L, which controls Q5 to turn power ON and OFF.
IC4	Error amplifier, Hole IC driver	Drives the Hole ICs of the motor, based on the speed and phase error signals from IC2.
IC5	FG amplifier Level shifter	Amplifies the motor's FG output. Shifts the level of the IC2's Lock signal from (0 – 8 V) to (+10 – –10 V), and turns IC9 (analog SW) and Q9 ON and OFF.
IC6	Motor driver	Amplifies the motor's Hall IC output to drive the motor coil. Q14 to Q17 are output current boosters.
IC7	Difference detector for 2-phase motor coil current	Detects the difference values of the 2-phase current from the motor coil, and sends the signal to IC4 in order to eliminate the difference.
IC8	End detector	Amplifies the photo-reflector output, detects the tonearm position, differentiate the position detection output for conversion into speed, and compares it in order to detect the guide groove.
IC9	Analog SW, motor driver AC/DC coupling switch	The SW is OFF and the coupling is AC when the motor is quartz-locked, and the coupling is DC in other cases.
Q1	+8 V power supply	Increases the current of Zener diode D8.
Q2	Microprocessor reset	
Q3	Power ON/OFF	Q3 turns ON/OFF depending on the IC3's flip-flop output, controls the voltage at the base of Q1, and turns power ON and OFF.
Q4	IC3 reset	Detects the Zener current from Zener diode D9, and resets IC3. It is initialized so that the Power SW is OFF when the power cord is connected.
Q5	Q6 driver	Turned ON by microprocessor IC1 in solenoid drive operation (with microprocessor output "L").
Q6	Solenoid driver	ON when SOL is ON.
Q7	Solenoid driver	Turns ON for approx. 8 seconds from the solenoid kick operation.
Q8	LED driver	When the speed is set for 45 rpm, Q8 turns ON by "H" output from the microprocessor.
Q9	IC7 output OFF switch	Inhibits the operation of the 2-phase current difference detector circuit while the motor is not quartz-locked.
Q10, 11	End detector	Controls the photo-reflector output used for end detection.
Q12, 13	± 10 V power supply	Increases the current of Zener diodes D6 and D7.
Q14~17	Motor driver	Drives the motor coil for IC6 output current boost.

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2. Two-phase current difference detector circuit

The wow & flutter of a two-phase motor deteriorates when there is a difference between the current values of the two phases, $\phi 1$ and $\phi 2$. With the KP-990, this difference is eliminated by using a circuit which detects the difference between the two phase currents and adjusts the drive current of the Hole ICs.

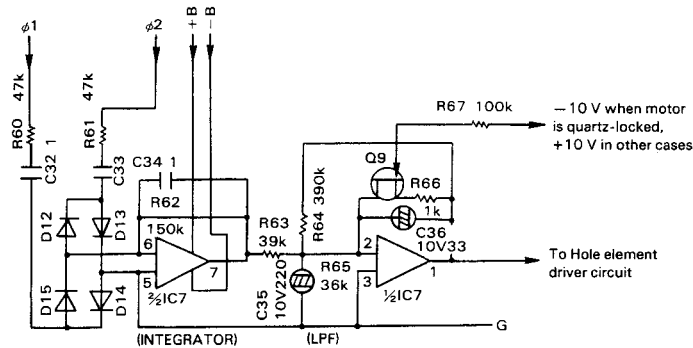


The positive side of $\phi 1$ and negative side of $\phi 2$ are input to the integrator, and the difference between $\phi 1$ and $\phi 2$ is output from it. (The difference between the ① and ② portions in the diagram on the left)

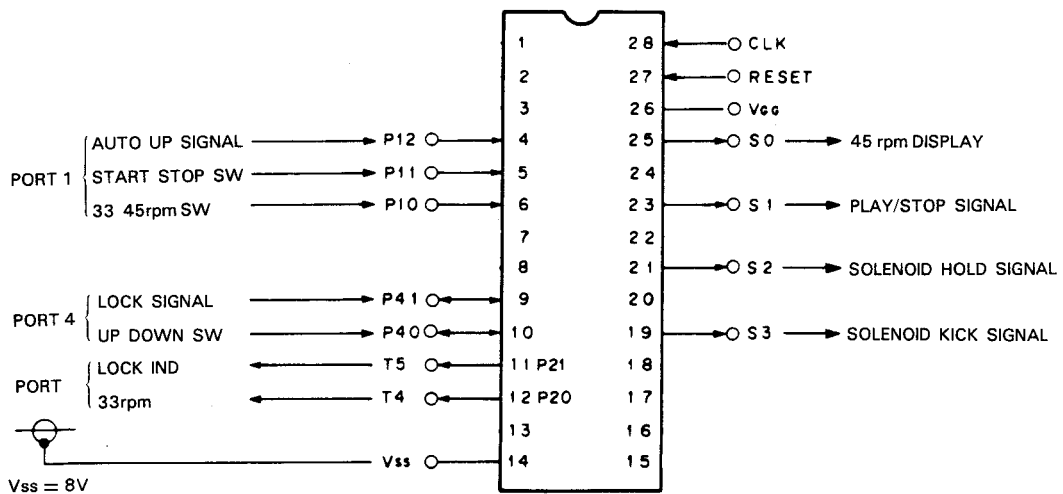
Then, the ripple incorporated in the output is eliminated by the low-pass filter, and its output is recognized as the difference between the two phase currents.

The Hole element drive circuit uses this signal to control the currents of the two Hole ICs so that $\phi 1$ and $\phi 2$ current values are equal.

When the motor is not quartz-locked, Q9 is ON, the output is fixed at about 0 V, and this circuit does not operate.

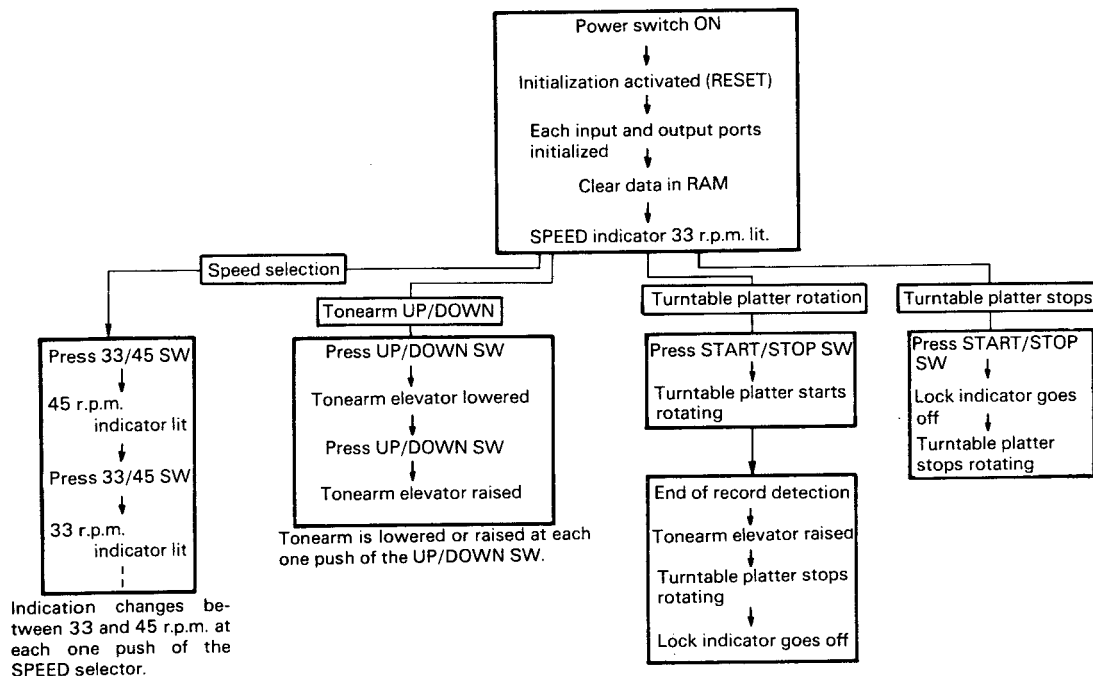


3. Microprocessor Operation Description



• Operation specifications of μ PD7520

The following diagram shows the operations of each section which occur at each operating point after power has been turned on.



Condition of each μ PD7520C-028 ports

- (1) Initialization (Power ON)
- (2) Speed selection (33/45 rpm)
- (3) Turntable platter starts rotating (START)
- (4) Tonearm auto up
- (5) Turntable platter stops rotating (STOP)

The above mentioned (1) ~ (5) are placed in the order of the functions described in " μ PD7520C-028 Function description". The conditions shown in the table below are also in that order so that functions can be confirmed while checking the IC's ports.

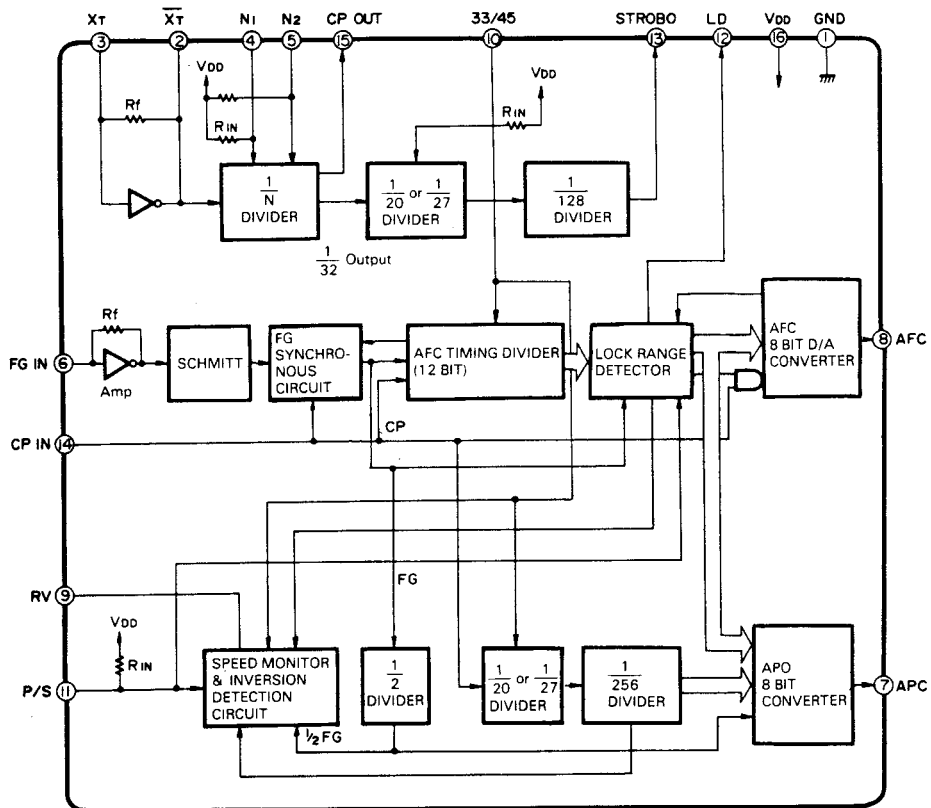
		INPUT PORT						OUTPUT PORT					
PORT NO.		P10	P11	P12	P13	P40	P41	T4	T5	S0	S1	S2	S3
PIN NO.		6	5	4	3	10	9	12	11	25	23	21	19
PORT NAME		33/45 SW	START STOP SW	AUTO UP Signal	Not used	UP DOWN SW	LOCK Signal	33rpm LED	LOCK LED	45rpm LED	START STOP Signal	UP DOWN Signal	Kick Signal
(1)	Power ON RESET												
(2)	33/45 SW ON (45) ↓ 33/45 SW ON (33)												
(3)	START/STOP SW ON												
(4)	Auto up signal IN START/STOP SW ON												
(5)	START/STOP SW ON												

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4. Quartz PLL Motor Controller (C2-MOS LSI)

TC9142P is a motor controller for quartz lock type direct drive turntable motors. This IC employs 8-bit D/A converter for rotational speed control and phase control instead of the conventional capacitor type sampling hold circuit. This method will reduce the numbers of components and also gets free from adjustments.

• BLOCK DIAGRAM



ADJUSTMENT/REGLAGES/ABGLEICH

• Functions of terminals

CODE	NAME	FUNCTION DESCRIPTION	REMARKS
1 GND	Ground	Ground terminal for IC	
2 XT, 3 XT	X'tal connection	Connect a crystal between these two pins.	Built-in feed back resistor
4 N1 5 N2	Reference dividing factor sw.	Dividing factor of 4,32 or 128 can be selected for reference crystal frequency by these ports.	Built-in pull-up resistor
6 FG-IN	FG pulse input	Pulses generated as motor rotates is input to this port for rotational speed detection.	
7 APC	APC output	Automatic phase controller output. (8-bit D/A converter output)	Built-in amp
8 AFC	AFC output	F-V converter output for rotational speed control. (8-bit D/A converter output)	
9 RV	Inversion signal output	Inversion signal output for turntable motor.	
10 33/45	Speed selector	Rotational speed selector port. (L: 33 1/3 r.p.m.) (H or NC: 45 r.p.m.)	Built-in pull-up resistor
11 P/S	PLAY/STOP input	Input port to select PLAY or STOP state of the turntable motor.	Built-in pull-up resistor
12 LD	Lock detection output	Outputs "H" when the rotational speed is in the lock range, otherwise "L".	
13 STROBO	STROBO output	Reference frequency output for stroboscope with the duty ratio of 1/8.	
14 CP-IN	CP-IN input	This port is normally connected oscillator input to this port will fine speed adjustment.	
15 CP-OUT	CP-OUT output	Divided frequency output of crystal oscillator for reference, normally connected to CP-IN.	
16 VDD	VDD	Feed power supply voltage of 5-9.5V.	

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TURNTABLE SETTING	ALIGNMENT POINTS	ALIGN FOR	FIG.
1	END DETECT STARTING POSITION	-	Connect a DC voltmeter to TP1 (Pin 7 of IC8)	Set the stylus tip so that 57.5mm is obtained from the center of the turntable spindle.	VR1	0.9V	(a)
2	THRESHOLD VOLTAGE	-	Connect a DC voltmeter to TP2 (Pin 2 of IC8)	-	VR2	220mV	(b)

REGLAGES

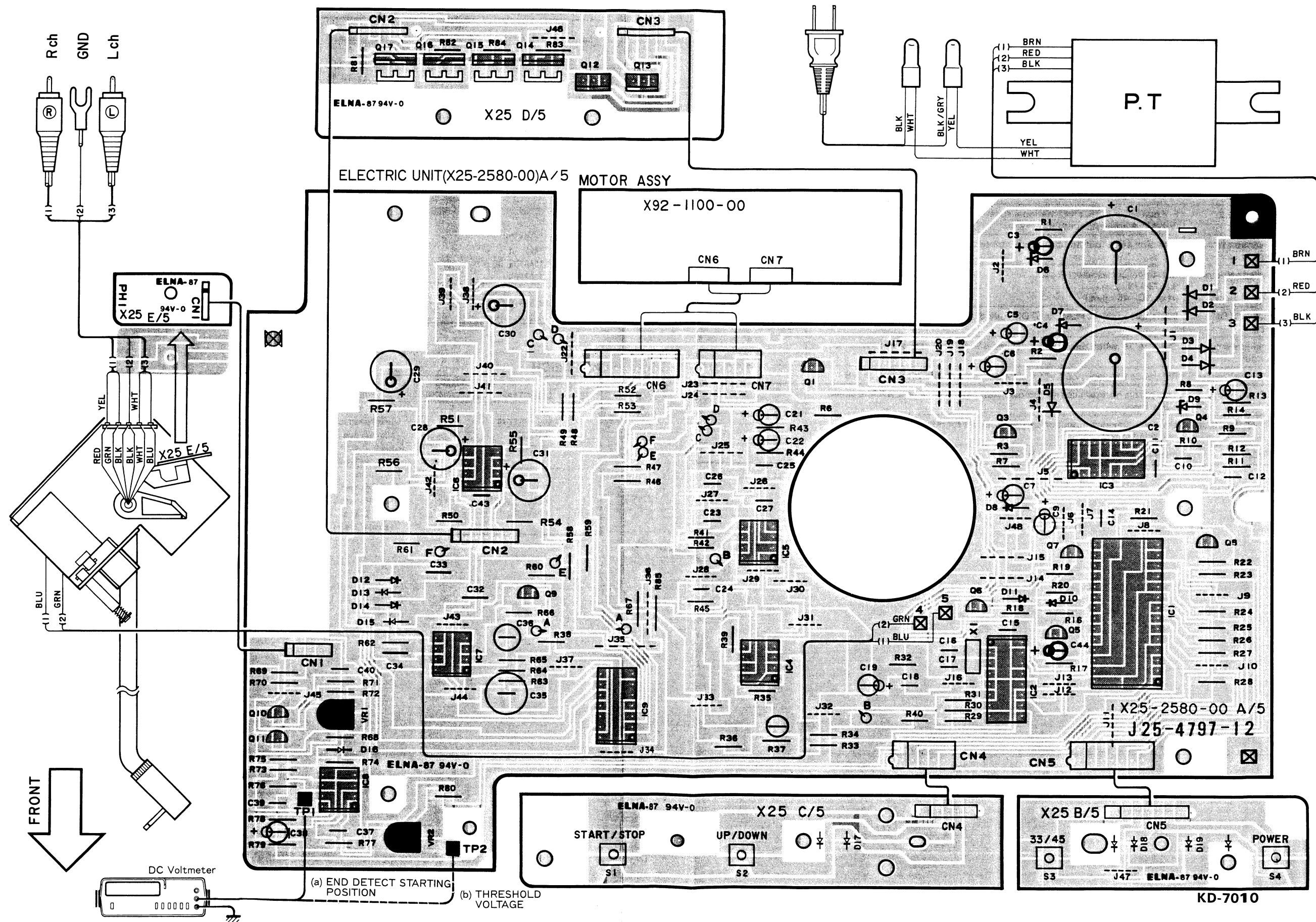
N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE TOURNE-DISQUE	POINTS L'ALIGNMENT	ALIGNER POUR	FIG.
1	POSITION DE DEPART LA TERMINASION DE DETECTEUR	-	Connecteur un voltmètre CC à TP1 (Fiche 7 de IC8)	Régler la crête de aiguille de façon de 57,5mm soit obtener de centre de plateau à disques.	VR1	0,9V	(a)
2	TENTION DE SEUIL	-	Connecteur un voltmètre CC à TP2 (Fiche 2 de IC8)	-	VR2	220mV	(b)

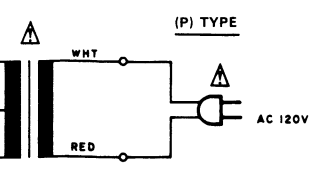
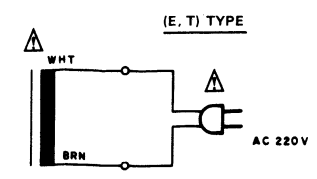
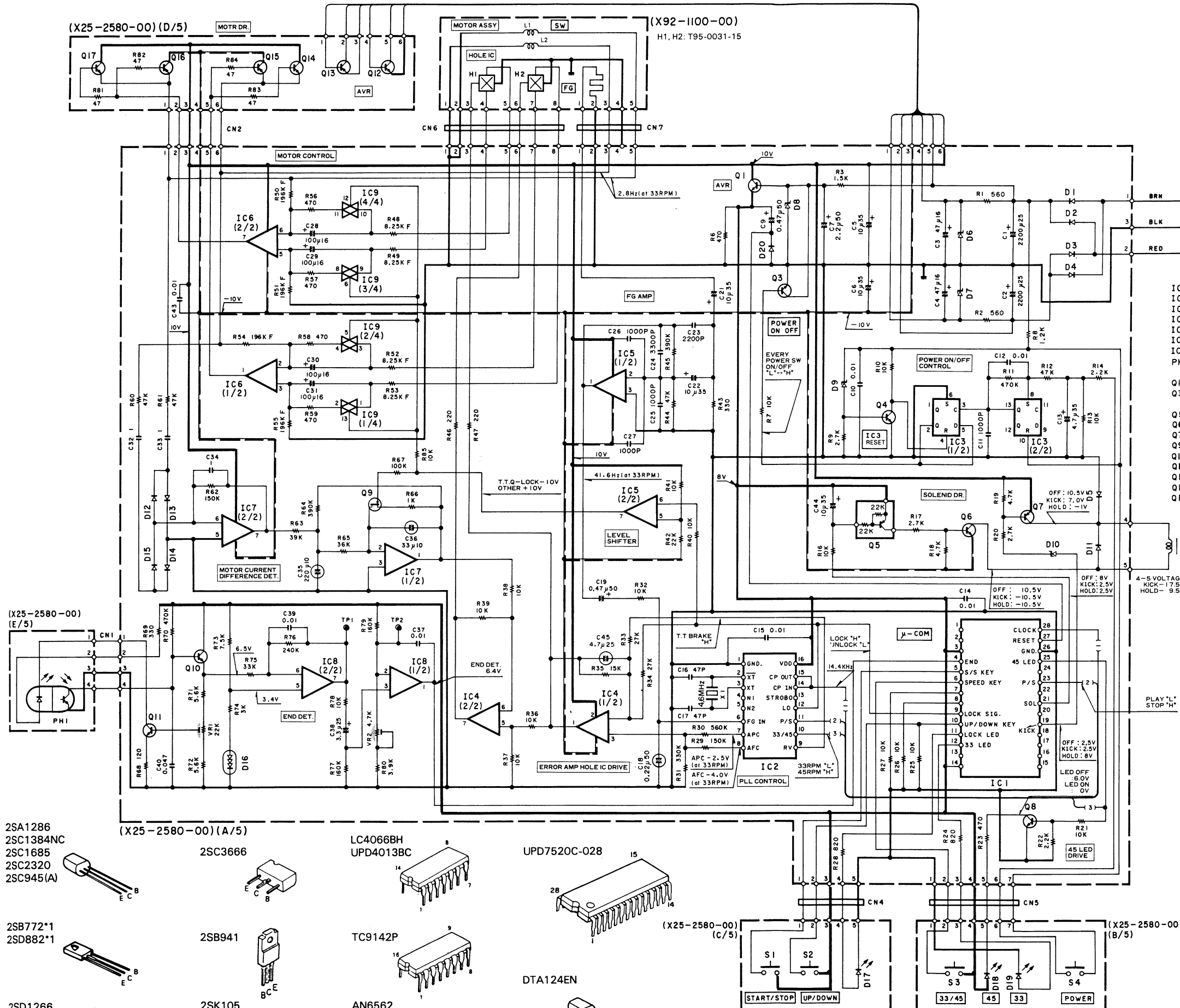
ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	PLATTEN SPIELER-EINSTELLUNG	ABGLEICH PUNKTE	ABGLEICHEN FÜR	ABB.
1	ENDE DETEKTS ANFANGS- STELLUNG	-	Einen Gleichspannungs messer zum TP1 (Stift 7 von IC8) anschließen.	Der spitze von Tonabnehmer so einstellen, daß ein 57,5mm aus der mitte des Plattentellers erhalt wird.	VR1	0,9V	(a)
2	SCHWELLEN- SPANNUNG	-	Einen Gleichspannungs messer zum TP2 (Stift 2 von IC8) anschließen.	-	VR2	220mV	(b)

PC BOARD (COMPONENT SIDE VIEW)

Refer to the schematic diagram for the values of resistor and capacitors.





- IC1 : μ PD7520C-028
- IC2 : TC9142P
- IC3 : μ PD4013BC
- IC4, 5 : M5218P
- IC6, 7 : M5218P-K
- IC8 : AN6562
- IC9 : LC4066BH
- PHI : NJL5141E-A

- Q1 : 2SC3666
- Q3, 4, 8 : 2SC945 (A) (Q, P), 2SC2320 (E, F) or 2SC1685 (R, S)
- Q5 : DTA124EN
- Q6 : 2SC1384NC (R, S)
- Q7 : 2SA1286
- Q9 : 2SK105 (F, H)
- Q10, 11 : 2SC2320 (F, G)
- Q12 : 2SD1266
- Q13 : 2SB941
- Q14, 17 : 2SD882*1 (Q, P)
- Q15, 16 : 2SB772*1 (Q, P)

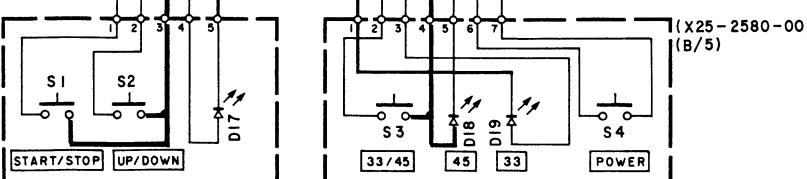
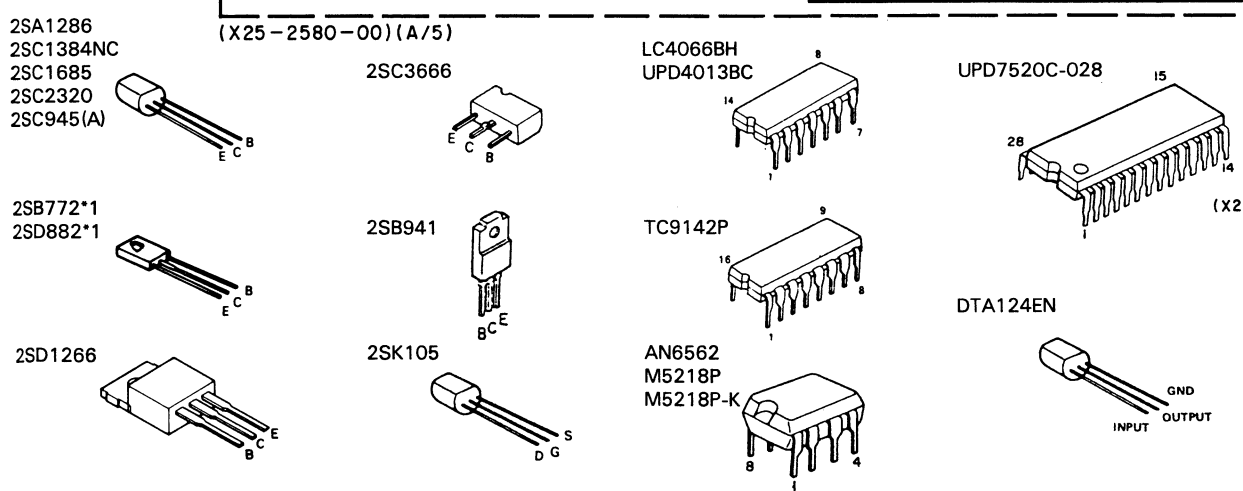
- D1-5 : S5566B
- D6, 7 : RD1ES(B)
- D8 : RD8.2JS(B)
- D9, 10 : RD5.1JS(B)
- D11 : ISS178
- D12-15 : ISS133 or ISS176
- D16 : MA27T(A)
- D17, 19 : B30-1012-05
- D18 : B30-1010-05
- D20 : ISS133 or ISS176

DC voltages are measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

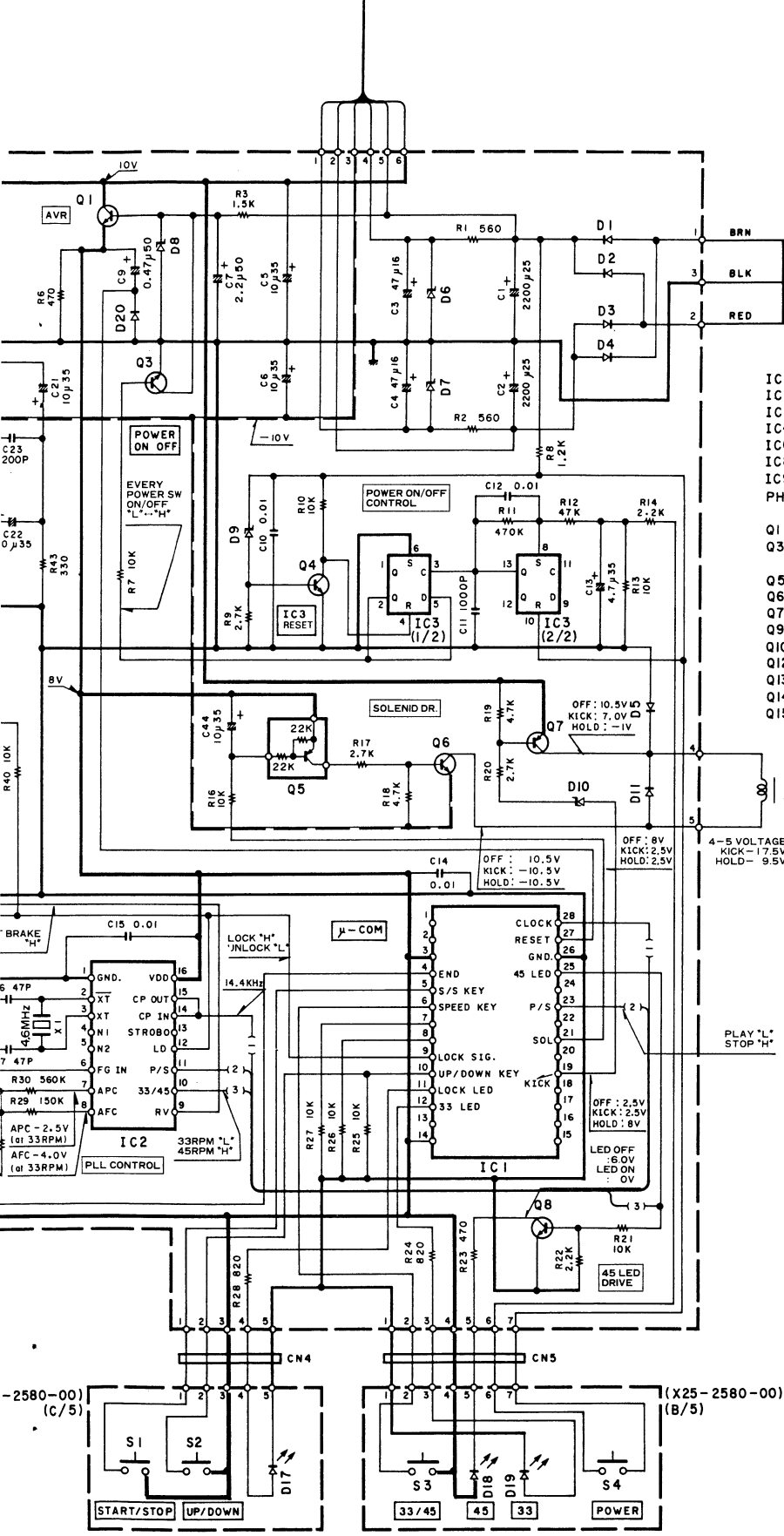


KD-7010



Y21-3001-01

EXPLODED VIEW (MAIN UNIT)



- (E, T) TYPE
AC 220V
- (P) TYPE
AC 120V
- IC1 : μ PD7520C-028
 - IC2 : TC9142P
 - IC3 : μ PD4013BC
 - IC4, 5 : M5218P
 - IC6, 7 : M5218P-K
 - IC8 : AN6562
 - IC9 : LC4066BH
 - PHI : NJL5141E-A
- Q1 : 2SC3666
 - Q3, 4, 8 : 2SC945 (A) (Q, P), 2SC2320 (E, F) or 2SC1685 (R, S)
 - Q5 : DTA124EN
 - Q6 : 2SC1384NC (R, S)
 - Q7 : 2SA1286
 - Q9 : 2SK105 (F, H)
 - Q10, 11 : 2SC2320 (F, G)
 - Q12 : 2SD1266
 - Q13 : 2SB941
 - Q14, 17 : 2SD882 *1 (Q, P)
 - Q15, 16 : 2SB772 *1 (Q, P)
- D1~5 : S5566B
 - D6, 7 : RD11ES (B)
 - D8 : RD8.2JS (B)
 - D9, 10 : RD5.1JS (B)
 - D11 : ISS178
 - D12~15 : ISS133 or ISS176
 - D16 : MA27T (A)
 - D17, 19 : B30-1012-05
 - D18 : B30-1010-05
 - D20 : ISS133 or ISS176

DC voltages are measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

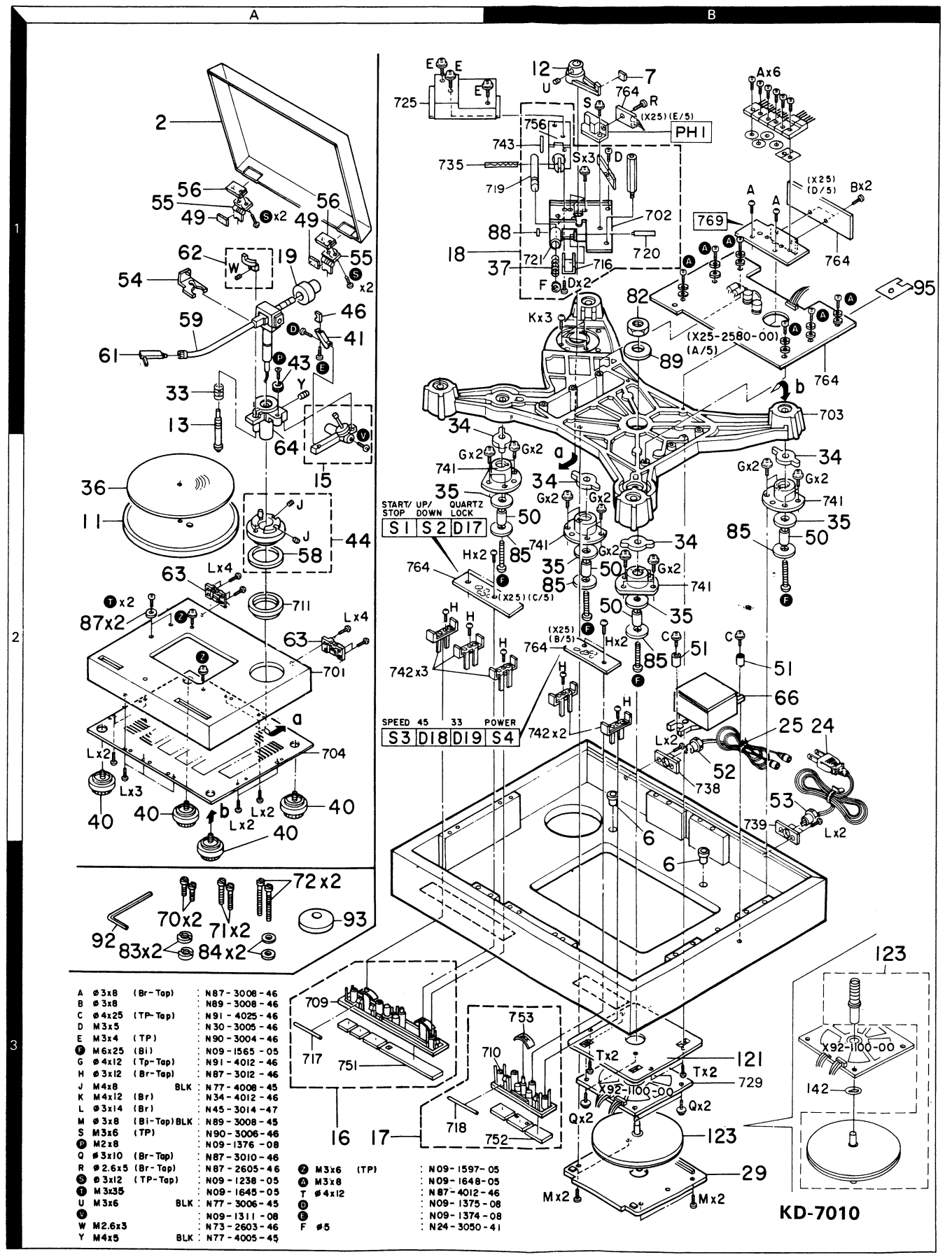
Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KD-7010



Y21-3001-01



- A \emptyset 3x8 (Br-Top) N87-3008-46
- B \emptyset 3x8 N89-3008-46
- C \emptyset 4x25 (TP-Top) N91-4025-46
- D M3x5 N30-3005-46
- E M3x4 (TP) N90-3004-46
- F M6x25 (B1) N09-1565-05
- G \emptyset 4x12 (TP-Top) N91-4012-46
- H \emptyset 3x12 (Br-Top) N87-3012-46
- J M4x8 BLK N77-4008-45
- K M4x12 (Br) N34-4012-46
- L \emptyset 3x14 (Br) N45-3014-47
- M \emptyset 3x8 (B1-Top) BLK N89-3008-45
- N M3x6 (TP) N90-3006-46
- O M2x8 N09-1376-08
- Q \emptyset 3x10 (Br-Top) N87-3010-46
- R \emptyset 2.6x5 (Br-Top) N87-2605-46
- S \emptyset 3x12 (TP-Top) N09-1238-05
- T M3x35 N09-1645-05
- U M3x6 BLK N77-3006-45
- V M2.6x3 N09-1311-08
- Y M4x5 BLK N77-4005-45

- M3x6 (TP) : N09-1597-05
- M3x8 : N09-1648-05
- T \emptyset 4x12 : N87-4012-46
- N : N09-1375-08
- U : N09-1374-08
- F \emptyset 5 : N24-3050-41

Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

× New Parts
 Parts without Parts No. are not supplied.
 Les articles non mentionnés dans le Parts No. ne sont pas fournis.
 Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕 向	Re- marks 備考
KD-7010						
2	1A	*	A53-1075-02	DUST COVER		
6	2B, 3B		B09-0051-04	CAP		
7	1B		B19-0510-14	MIRROR		
-			B46-0121-03	WARRANTY CARD	P	
-			B46-0122-13	WARRANTY CARD	E	
-			B46-0143-03	WARRANTY CARD	T	
-		*	B50-9351-00	INSTRUCTION MANUAL		
-		*	B50-9352-00	INSTRUCTION MANUAL	PE	
-		*	B50-9353-00	INSTRUCTION MANUAL	E	
-			B58-0290-04	CAUTION CARD		
-			B58-0386-04	CAUTION CARD		
-			B58-0518-04	CAUTION CARD	ET	
-			B58-0519-04	CAUTION CARD	P	
11	2A		D02-0039-15	TURNABLE PLATTER		
12	1B		D10-0944-24	ARM		
13	1A		D21-1007-08	SHAFT ASSY		
15	2A		D39-0169-08	ANTI-SKATING DEVICE ASSY		
16	3A	*	D40-0846-03	OPERATIONAL PART ASSY		
17	3A	*	D40-0844-03	OPERATIONAL PART ASSY		
18	1A		D40-0511-23	AUTO-UP MECHANISM ASSY		
19	1A		D91-0069-08	MAIN WEIGHT		
-			E29-0309-05	WIRE CONNECTION CAP		
-			E30-0459-05	AC POWER CORD	E	
-			E30-0780-05	AC POWER CORD	P	
-			E30-1416-05	AC POWER CORD	T	
-			E30-0800-05	AUDIO CORD		
24	2B		F07-0483-03	COVER		
24	2B		F07-0483-03	COVER		
24	2B		F07-0483-03	COVER		
25	2B		F07-0483-03	COVER		
29	3B		F07-0483-03	COVER		
33	1A		G01-1057-08	TORSION COIL SPRING		
34	1A, 2B		G11-1127-04	CUSHION		
35	2A, 2B		G11-1128-04	CUSHION		
36	2A		G16-0355-13	TURNABLE SHEET		
37	1B		G01-1078-04	COMPRESSION SPRING		
-		*	H01-8395-04	ITEM CARTON CASE		
-			H10-1864-02	POLYSTYRENE FOAMED FIXTURE(T, T)		
-			H10-1865-02	POLYSTYRENE FOAMED FIXTURE(L)		
-			H10-1866-02	POLYSTYRENE FOAMED FIXTURE(R)		
-			H12-0393-02	CARTON BOARD		
-			H20-0469-04	PROTECTION COVER		
-			H25-0029-04	PROTECTION BAG (60X110)		
-			H25-0232-04	PROTECTION BAG (235X350X0.03)		
40	2A		J02-0346-13	INSULATOR ASSY		
41	1A		J19-0812-08	HOLDER		
43	1A		J19-0814-08	HOLDER		
44	2A		J19-2580-08	TONEARM BASE ASSY		
46	1A		J19-2614-08	TONEARM REST		
49	1A		J30-0183-05	SPACER (38X15X1.6)		
50	2B		J31-0263-05	COLLAR		
51	2B		J31-0273-05	COLLAR		
52	2B		J41-0033-05	POWER CORD BUSHING		
53	2B		J42-0078-05	POWER CORD BUSHING		

E: Scandinavia & Europe K: USA P: Canada
 U: PX(Far East, Hawaii) T: England M: Other Areas
 UE: AAFES(Europe) X: Australia

▲ indicates safety critical components.

PARTS LIST

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕 向	Re- marks 備考
54	1A		J42-0317-08	BUSHING		
55	1A		J50-0314-25	HINGE		
56	1A		J50-0322-04	HINGE PLATE		
58	2A		J69-0035-05	RING		
59	1A		J91-0294-08	PICKUP ARM		
61	1A		J92-0053-15	SHELL		
62	1A		J99-0020-08	TONEARM LIFTER		
63	2A		J21-2302-05	HOLDER		
64	2A		J19-2656-08	LIFTER BASE		
-			J61-0054-05	WIRE BAND		
-			J61-0307-05	WIRE BAND		
▲	66	2B	L01-7121-05	POWER TRANSFORMER	P	
▲	66	2B	L01-7122-05	POWER TRANSFORMER	E	
▲	66	2B	* L01-7127-05	POWER TRANSFORMER	T	
70	3A		N09-0850-04	CARTRIDGE MOUNTING SCREW(M2.6X		
71	3A		N09-0851-04	CARTRIDGE MOUNTING SCREW(M2.6X		
72	3A		N09-0852-04	CARTRIDGE MOUNTING SCREW(M2.6X		
82	1B		N14-0164-05	HEXAGON NUT		
83	3A		N14-0412-04	CIRCULAR NUT		
84	3A		N19-0175-09	FLAT WASHER		
85	2B		N19-0965-05	FLAT WASHER		
87	2A		N19-0985-05	FLAT WASHER		
88	1B		N29-0219-05	RETAINING RING		
89	1B		N19-0966-05	M TYPE WASHER		
A	1B		N09-1648-05	MACHINE SCREW (M3X8)		
D	1A		N09-1375-08	SET SCREW		
E	1A		N09-1374-08	SET SCREW		
F	2B		N09-1565-05	MACHINE SCREW (M6X25)		
F	1B		N24-3050-41	E TYPE RETAINING RING		
P	1A		N09-1376-08	SET SCREW		
S	1A		N09-1238-05	TAPTITE SCREW (3X12)		
T	2A		N09-1645-05	MACHINE SCREW (M3X35)		
V	1A, 1B		N09-1311-08	STEPPED SCREW		
Z	2A		N09-1597-05	MACHINE SCREW (M6X22.2)		
92	3A		W01-0302-08	HEXAGON WRENCH KEY		
93	3A		W01-0329-04	EP ADAPTER		
ELECTRIC UNIT (X25-2580-00: P, X25-2582-71: E, T)						
D17	2A		B30-1012-05	LED (QUARTZ LOCK)		
D18	2A		B30-1010-05	LED (45)		
D19	2A		B30-1012-05	LED (33)		
C1	.2		C90-1358-05	ELECTRO 220UF 25WV		
C3	.4		CE04KW1C470M	ELECTRO 47UF 16WV		
C5	.6		CE04KW1V100M	ELECTRO 10UF 35WV		
C7			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C9			CE04KW1HR47M	ELECTRO 0.47UF 50WV		
C10			CK45FF1H103Z	CERAMIC 0.010UF Z		
C11			CK45FB1H102K	CERAMIC 1000PF K		
C12			CK45FF1H103Z	CERAMIC 0.010UF Z		
C13			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C14	.15		CK45FF1H103Z	CERAMIC 0.010UF Z		
C16	.17		CC45FSL1H470J	CERAMIC 47PF J		
C18			C90-1456-05	NP-ELEC 0.22UF 50WV		
C19			CE04KW1HR47M	ELECTRO 0.47UF 50WV		

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PARTS LIST

× New Parts

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
54	1A		J42-0317-08	BUSHING		
55	1A		J50-0314-25	HINGE		
56	1A		J50-0322-04	HINGE PLATE		
58	2A		J69-0035-05	RING		
59	1A		J91-0294-08	PICKUP ARM		
61	1A		J92-0053-15	SHELL		
62	1A		J99-0020-08	TONEARM LIFTER		
63	2A		J21-2302-05	HOLDER		
64	2A		J19-2656-08	LIFTER BASE		
			J61-0054-05	WIRE BAND		
			J61-0307-05	WIRE BAND		
△ 66	2B		L01-7121-05	POWER TRANSFORMER	P	
△ 66	2B		L01-7122-05	POWER TRANSFORMER	E	
△ 66	2B	*	L01-7127-05	POWER TRANSFORMER	T	
70	3A		N09-0850-04	CARTRIDGE MOUNTING SCREW(M2. 6X		
71	3A		N09-0851-04	CARTRIDGE MOUNTING SCREW(M2. 6X		
72	3A		N09-0852-04	CARTRIDGE MOUNTING SCREW(M2. 6X		
82	1B		N14-0164-05	HEXAGON NUT		
83	3A		N14-0412-04	CIRCULAR NUT		
84	3A		N19-0175-09	FLAT WASHER		
85	2B		N19-0965-05	FLAT WASHER		
87	2A		N19-0985-05	FLAT WASHER		
88	1B		N29-0219-05	RETAINING RING		
89	1B		N19-0966-05	M TYPE WASHER		
A	1B		N09-1648-05	MACHINE SCREW (M3X8)		
D	1A		N09-1375-08	SET SCREW		
E	1A		N09-1374-08	SET SCREW		
F	2B		N09-1565-05	MACHINE SCREW (M6X25)		
F	1B		N24-3050-41	E TYPE RETAINING RING		
P	1A		N09-1376-08	SET SCREW		
S	1A		N09-1238-05	TAPTITE SCREW (3X12)		
T	2A		N09-1645-05	MACHINE SCREW (M3X35)		
V	1A, 1B		N09-1311-08	STEPPED SCREW		
Z	2A		N09-1597-05	MACHINE SCREW (M6X22. 2)		
92	3A		W01-0302-08	HEXAGON WRENCH KEY		
93	3A		W01-0329-04	EP ADAPTER		
ELECTRIC UNIT (X25-2580-00: P, X25-2582-71: E, T)						
D17	2A		B30-1012-05	LED (QUARTZ LOCK)		
D18	2A		B30-1010-05	LED (45)		
D19	2A		B30-1012-05	LED (33)		
C1	.2		C90-1358-05	ELECTRO 2200UF 25WV		
C3	.4		CE04KW1C470M	ELECTRO 47UF 16WV		
C5	.6		CE04KW1V100M	ELECTRO 10UF 35WV		
C7			CE04KW1H2R2M	ELECTRO 2. 2UF 50WV		
C9			CE04KW1HR47M	ELECTRO 0. 47UF 50WV		
C10			CK45FF1H103Z	CERAMIC 0. 010UF Z		
C11			CK45FB1H102K	CERAMIC 1000PF K		
C12			CK45FF1H103Z	CERAMIC 0. 010UF Z		
C13			CE04KW1V4R7M	ELECTRO 4. 7UF 35WV		
C14	.15		CK45FF1H103Z	CERAMIC 0. 010UF Z		
C16	.17		CC45FSL1H470J	CERAMIC 47PF J		
C18			C90-1456-05	NP-ELEC 0. 22UF 50WV		
C19			CE04KW1HR47M	ELECTRO 0. 47UF 50WV		

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C21	.22		CE04KW1V100M	ELECTRO 10UF 35WV		
C23			CF92FV1H222J	MF 2200PF J		
C24			CF92FV1H332J	MF 3300PF J		
C25	-27		CK45FB1H102K	CERAMIC 1000PF K		
C28	-31		CE04GW1C101M	LL-ELEC 100UF 16WV		
C32	-34		CF92V1H105J	MF 1. 0UF J		
C35			C90-1395-05	NP-ELEC 220UF 10WV		
C36			C90-1396-05	NP-ELEC 33UF 10WV		
C37			CK45FF1H103Z	CERAMIC 0. 010UF Z		
C38			C90-1285-05	ELECTRO 3. 3UF 25WV		
C39			CK45FF1H103Z	CERAMIC 0. 010UF Z		
C40			CK45FF1H473Z	CERAMIC 0. 047UF Z		
C43			CK45FF1H103Z	CERAMIC 0. 010UF Z		
C44			CE04KW1V100M	ELECTRO 10UF 35WV		
C45			C90-1352-05	NP-ELEC 4. 7UF 25WV		
95	1B		E23-0125-05	TERMINAL		
X1			L77-0580-05	CRYSTAL RESONATOR(4. 6MHZ)		
R48	.49		RN14BK2C8251F	RN 8. 25K F 1/6W		
R50	.51		RN14BK2C1963F	RN 196K F 1/6W		
R52	.53		RN14BK2C8251F	RN 8. 25K F 1/6W		
R54	.55		RN14BK2C1963F	RN 196K F 1/6W		
VR1			R12-3097-05	TRIMMING POT. (22K)		
VR2			R12-1069-05	TRIMMING POT. (4. 7K)		
S1	-4	2A, 2B	S40-1064-05	PUSH SWITCH		
D1	-5		S5566B	DIODE		
D6	.7		RD11ES(B)	ZENER DIODE		
D8			RDB. 2JS(B)	ZENER DIODE		
D9	.10		RD5. 1JS(B)	ZENER DIODE		
D11			1SS178	DIODE		
D12	-15		1SS133	DIODE		
D12	-15		1SS176	DIODE		
D16			MA27T(A)	VARIATOR		
D20			1SS133	DIODE		
D20			1SS176	DIODE		
IC1			UPD7520C-028	IC(MICROPROCESSOR)		
IC2			TC9142P	IC(QUARTZ PLL MOTOR CONTROL)		
IC3			UPD4013BC	IC(D FLIP-FLIP X2)		
IC4	.5		M5218P	IC(OP AMP X2)		
IC6	.7		M5218P-K	IC(OP AMP X2)		
IC8			AN6562	IC(OP AMP X2)		
IC9			LC4066BH	IC(BILATERAL SWITCH X4)		
PH1		1B	NJL5141E-A	PHOTO TRANSISTOR		
Q1			2SC3666	TRANSISTOR		
Q3	.4		2SC1685(R,S)	TRANSISTOR		
Q3	.4		2SC2320(E,F)	TRANSISTOR		
Q3	.4		2SC945(A)(Q,P)	TRANSISTOR		
Q5			DTA124EN	DIGITAL TRANSISTOR		
Q6			2SC1384NC(R,S)	TRANSISTOR		
Q7			2SA1286	TRANSISTOR		
Q8			2SC1685(R,S)	TRANSISTOR		
Q8			2SC2320(E,F)	TRANSISTOR		
Q8			2SC945(A)(Q,P)	TRANSISTOR		

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PARTS LIST

× New Parts

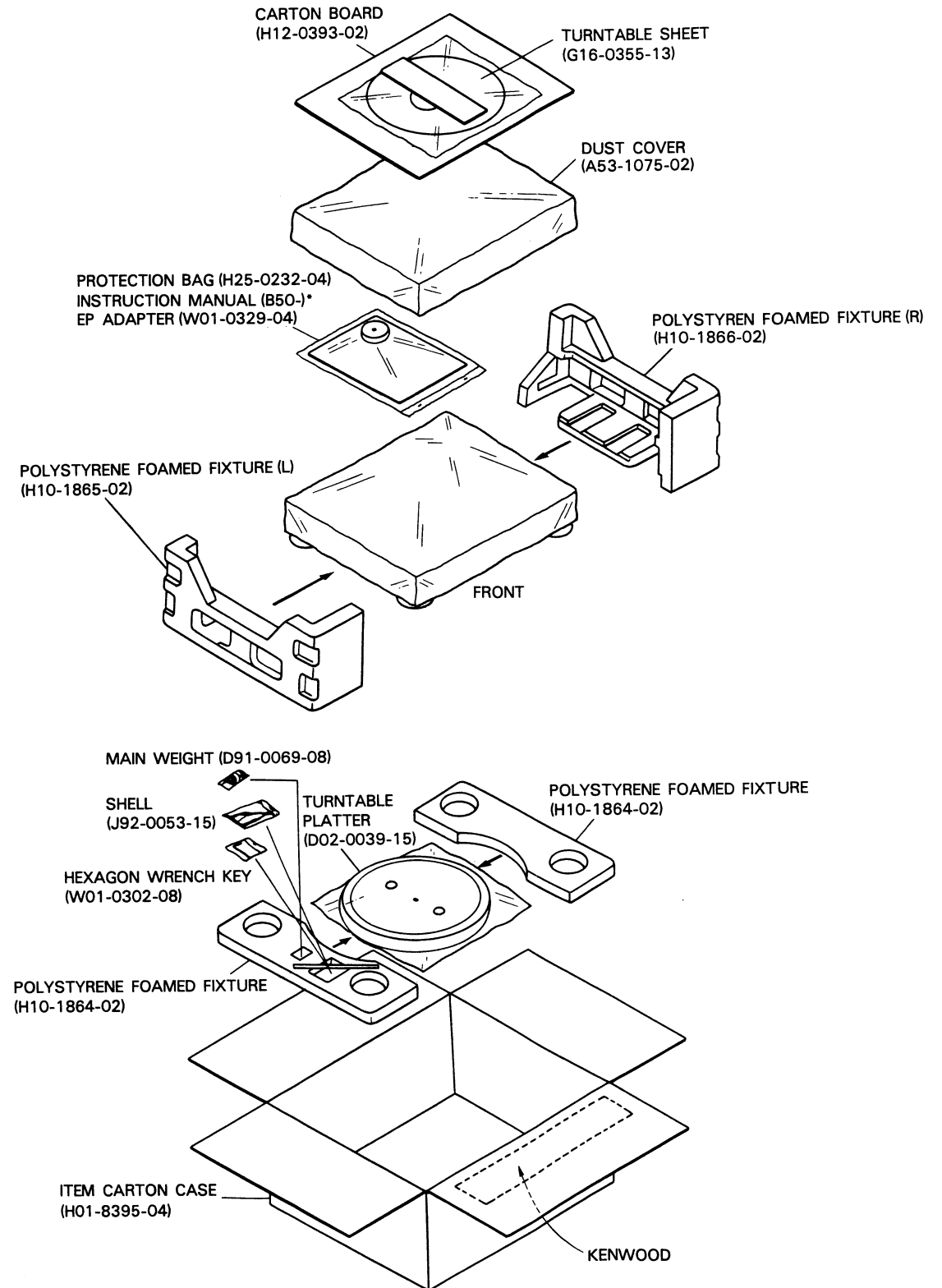
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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
Q9 Q10 ,11 Q12 Q13 Q14			2SK105(F,H) 2SC2320(F,G) 2SD1266 2SB941 2SD882*1(Q,P)	FET TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
Q15 ,16 Q17			2SB772*1(Q,P) 2SD882*1(Q,P)	TRANSISTOR TRANSISTOR		
MOTOR ASSY (X92-1100-00)						
-			H25-0232-04	PROTECTION BAG (235X350XD.03)		
142	3B		N29-0085-05	RETAINING RING		
121 123	3B 3B		T50-1011-03 T50-1031-04	YÖKE ROTÖR ASSY		
ELECTRIC CIRCUIT MODULE (W02-0660-03)						
L1 ,2 H1 ,2			L39-0127-05 T95-0031-15	DRIVE COIL HALL ELEMENT		

PACKING



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*Refer to Parts List on page 14.

KD-7010 KD-7010

SPECIFICATIONS

Motor and turntable

Drive System	Direct-drive system
Motor	Quartz PLL coreless & slotless DC servo motor
Turntable Platter	33 cm (13") diameter Aluminum alloy, Die-cast
Speeds	2 speeds, 33-1/3 and 45 rpm
Wow & Flutter	Less than 0.02% (WRMS) Less than 0.03% (DIN)
Rumble	DIN weighted better than -80 dB DIN unweighted better than -55 dB

Tonearm

Type	Static-balance type, J-shape tonearm
Effective Tonearm Length	245 mm (9-5/8")
Overhang	15 mm (9/16")
Tracking Error	+1.8° to -1.0°
Tracking Force Range	0 to 3 grams (0.1 g Step)
Usable Cartridge Weight	2.0 to 12 grams (with supplied head-shell)

Miscellaneous

Power Consumption	25 watts
Dimensions	W: 490 mm (19-5/16") H: 182 mm (7-3/16") D: 410 mm (16-5/32")
Weight (Net)	13.7 kg (30.14 lb)

Note:

We follow a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Note

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the CANADA (P) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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