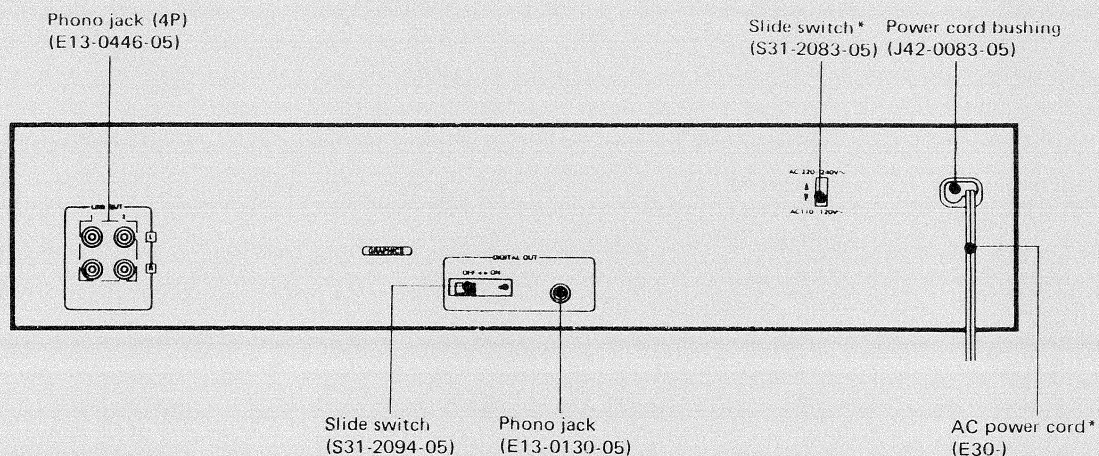
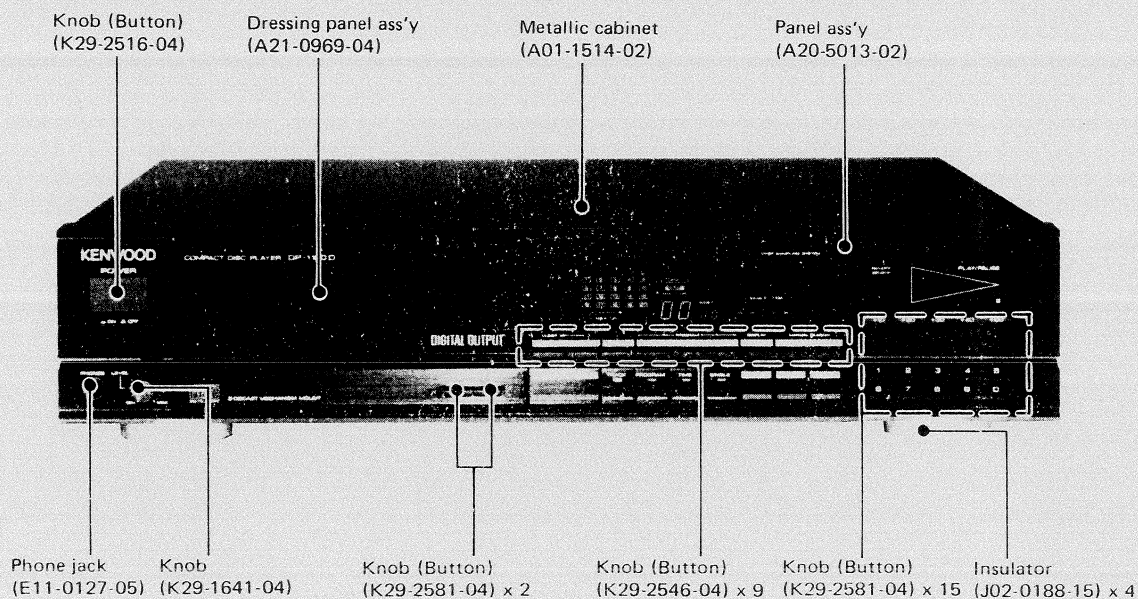


COMPACT DISC PLAYER  
**DP-1100D**  
 SERVICE MANUAL

**KENWOOD**

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 B51-3140-00 (O) 2347



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**DANGER: Laser radiation when open and interlock defeated.**  
**AVOID DIRECT EXPOSURE TO BEAM.**

\* Refer to the parts list on page 39.

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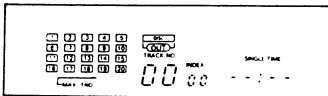
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### TRANSPORTATION SCREW

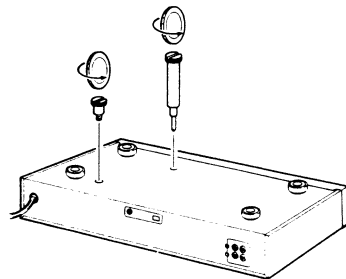
Before operation, remove the two red screws attached to the bottom of the unit used during transport from the factory. Remove both screws using a coin, etc. and, when the unit is to be transported again, be sure replace the two screws to their original position.

### ATTACHING THE TRANSPORTATION SCREWS

1. Turn the power ON without loading disc.
2. Turn OFF the power after the display shows the following indication.



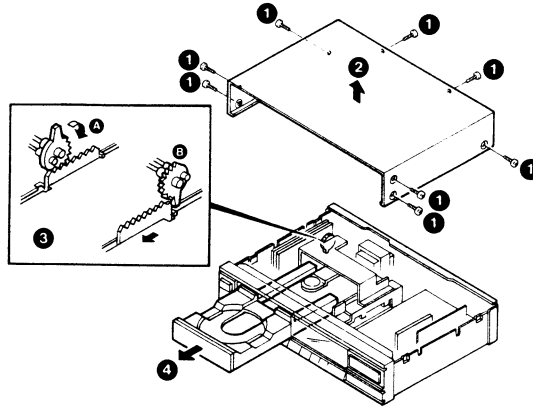
3. Install the transportation screws.



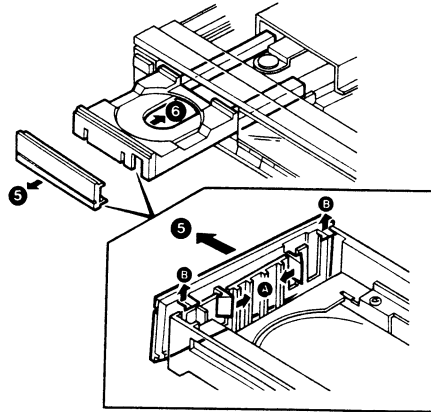
# DP-1100D DP-1100D

## DISASSEMBLY FOR REPAIR

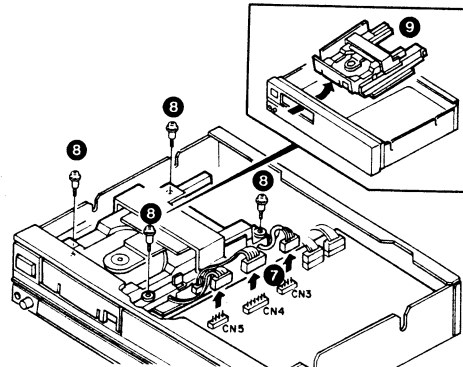
1. Remove eight screws **1** retaining the case and remove the case (**2**).
2. Move the gear on the left side of the Mechanism ass'y with your finger (**3**) and pull the tray toward the front (**4**).



3. Pull up the four claws on the tray panel in the direction of the arrows and remove the tray panel by pulling it out in the direction **5**.
4. Push the tray back (**6**).

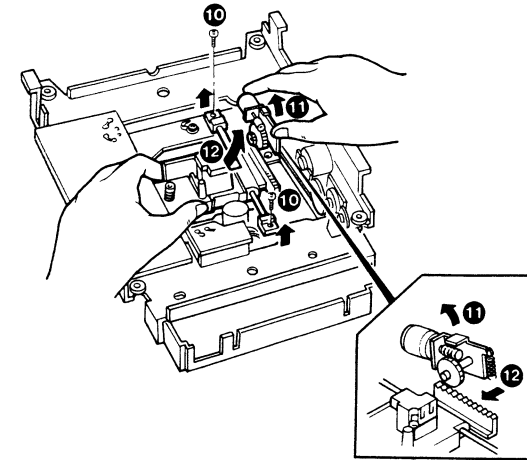


5. Disconnect three connectors (CN3, CN4, CN5) from the CD Player unit (X32-1100-11) (**7**).
6. Remove four screws **8** retaining the Mechanism ass'y and remove the Mechanism ass'y by pulling it slightly backward then upward (**9**).

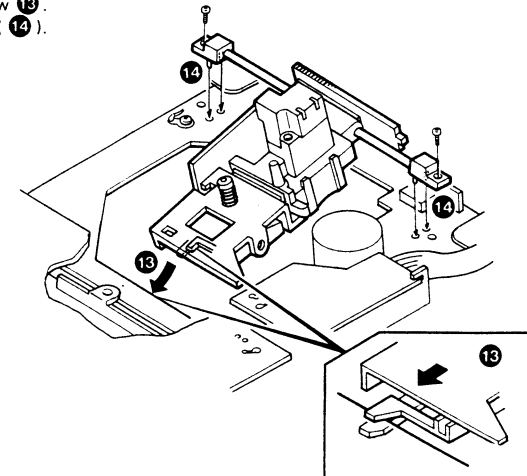


## DISASSEMBLY FOR REPAIR

7. Turn the Mechanism ass'y upside down, remove two screws **10** fixing the rod and, while lifting the motor block diagonally upward (**11**), pull the pickup in the direction of the arrow (**12**).

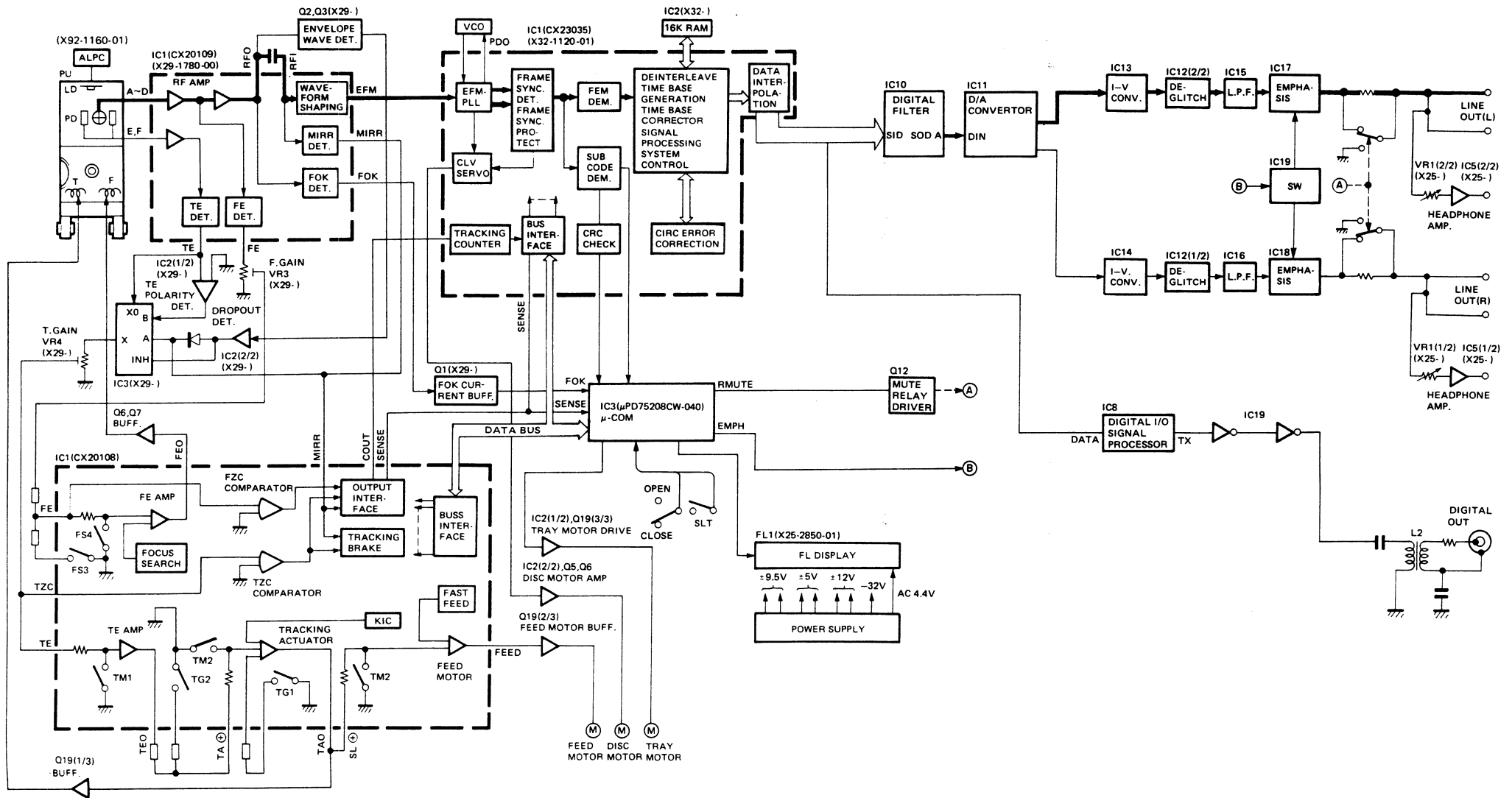


8. When assembling the pickup block, insert the chassis of the Mechanism ass'y in the direction of arrow **13**. Align the position of the screws and secure them (**14**).



# DP-1100D DP-1100D

## BLOCK DIAGRAM





## CIRCUIT DESCRIPTION

### 1. Description of components

#### 1-1. CONTROL CIRCUIT UNIT (X29-1780-00)

\*1~\*4 : For details, refer to the DP-990D Service Manual.

Component	Use/Function	Operation/Condition/Compatibility
IC1 *1	CX20109	Optical pickup preamp.
IC2(1/2)	M5218P	Tracking error polarity detector
IC2(2/2)	M5218P	Flaw detector level comparator
IC3	μPD4053BC	Tracking error signal select switch
Q1	2SC945(A)(Q,P)	FOK current buffer
Q2	2SC945(A)(Q,P)	RF signal enveloped detector
Q3	2SC945(A)(Q,P)	RF signal enveloped detector
D1,D2	1SS176 or 1SS131	Switch
D3,D4	1SS176 or 1SS131	Switch
D5	1SS176 or 1SS131	Switch

#### 1-2. CD PLAYER UNIT (X32-1100-11)

Component	Use/Function	Operation/Condition/Compatibility
IC1 *2	CX20108	Servo IC (for pickup supply motor)
IC2	M5218P	OP amp.
IC3	μPD75208CW-040C	Microprocessor
IC4~IC7	LB1294	FL drivers
IC8	CXD1075P	Digital output signal demodulator IC
IC9	TC74HCU04P	Output amp. (C-MOS hex-inverter)
IC10	SM5802B	Digital filter
IC11 *3	CX20152	DAC
IC12	μPD4053BC	Analog switch
IC13,IC14	TL072CP-T	Bi-FET input OP amp.
IC15~IC18	NE5532P	OP amps.
IC19	μPD4053BC	Analog switch
IC20	AN7805F	3-terminal regulator
IC21	AN7905F	3-terminal regulator
IC22	AN7812F	3-terminal regulator
IC23	AN7912F	3-terminal regulator
IC24	AN7805F	3-terminal regulator
IC25	AN7905F	3-terminal regulator
IC26	M51951ASL	Reset IC

CIRCUIT DESCRIPTION

Component	Use/Function	Operation/Condition/Compatibility
Q1	2SA733(A)(Q,P)	Switch ON/OFF switch for -5V for pickup laser power.
Q2	2SA1286	Transistor Ripple filter for -5V for pickup laser power.
Q3	2SK246(Y,GR)	FET Regulated current supply for constant voltage regulated circuit for pickup laser power.
Q4	2SA1286	Transistor CLV circuit current buffer.
Q5	2SC3246	Transistor CLV circuit current buffer.
Q6	2SA1286	Transistor Focusing servo circuit actuator driver.
Q7	2SD1266	Transistor Focusing servo circuit actuator driver.
Q8	2SK246(Y,GR)	Switch Destroys the offset of disc motor drive circuit so that the voltage is not applied to the disc motor.
Q9	2SC945(A),(Q,P)	Switch When the disc motor is not rotating, stops the ASY operation by reducing the ASY sampling potential down to -B(V).
Q10	2SA733(A)(Q,P)	Switch A transistor that inverts the MON output logic to shift the level.
Q11	2SC945(A),(Q,P)	Transistor Constant-voltage transistor that supplied regulated VDD for the FL driver ICs (IC4 to IC7).
Q12	2SD1302(S,T)	Switch Relay driver for muting.
Q13	2SK245(Y)	FET Regulated current supply FET for determining Iset of DAC.
Q14	2SK170,	FET Regulated current supply for generation of the reference voltage of Iset of DAC.
Q15	2SK363(V)	FET Regulated current supply which provides bias current to the DAC.
Q16	2SK170(BL)	FET Switch for discharging I-V converter for DAC.
Q17,Q18	2SK152(3,4)	FETs Rectifier for DAC.
D1~D4	DSM1A1	Diodes Rectifier for DAC.
D5~D8	DSM1A1	Diodes Rectifier for servo and digital systems.
D9,D10	DSM1A1	Diodes Voltage-multiplying rectifier for FL display.
D11~D14	1SS176	Diodes Limiter for protection against static electricity in digital output.
D15	RD5.6JS(B2)	Zener diode Generation of reference voltage for laser power.
D16	RD8.2JS(B)	Zener diode Voltage generator for maintaining the FL clear potential.
D17	1SS176	Diode For key scanning in test modes.
D18~D20	1SS176	Diodes Diodes connecting the mechanism's limit switch. (For protection against static electricity)
D21	RD6.8JS(B2)	Zener diode For reference voltage which determines VDD of FL driver ICs (IC4 to IC7).
D22,D23	1SS176	Limiter For protection against static electricity.
D24,D25	RD7.5JS(B)	Zener diodes Generation of reference voltage for DAC.
D26,D27	1SS176	Limiters For protection against static electricity.
D28	1SS176	Switch For erasing the counter-electromotive voltage of relay.
D29	1SS176	Switch For protection of variation of subcodes - digital output during searching.
D30	1SS176	Switch Digital output ON/OFF switch.

1-3. PROCESSOR UNIT (X32-1120-01)

Component	Use/Function	Operation/Condition/Compatibility
IC1 *4	CX23035	Digital signal processor EFM decoding, CLV control, PLL circuit interpolation correction.
IC2	CXK5816M	RAM Signal processor RAM. (16K)
IC3	M5218P	(1/2) : CLV circuit compensator, (2/2) : PLL circuit compensator.
D1	1SV147	Varicap For VCO for PLL.

CIRCUIT DESCRIPTION

2. Digital output signal demodulator IC : CXD1075P (X32-1100-11 : IC8)

2-1. Block diagram

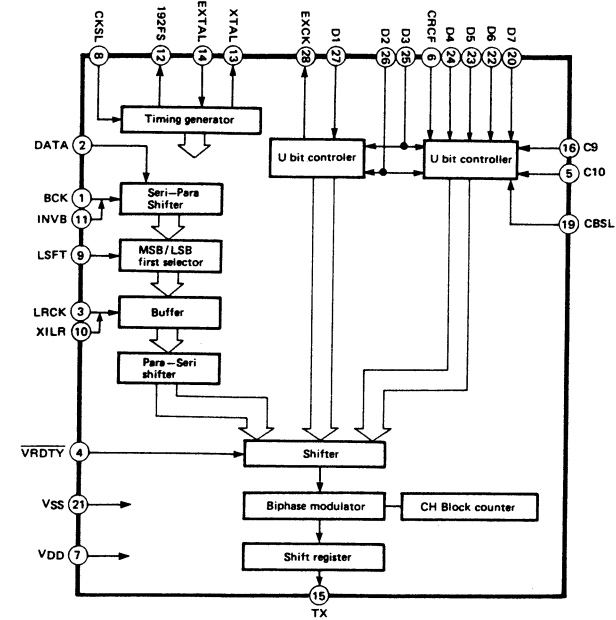


Fig. 2-1

2-2. Terminal connection diagram

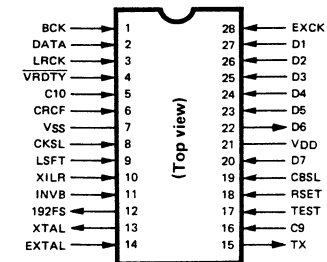


Fig. 2-2

CIRCUIT DESCRIPTION

2-3. Explanation of terminals

Terminal No.	Symbol	I/O	Function
1	BCK	I	Bit clock input. Connect the clock which shifts out data in the external digital audio data output circuit.
2	DATA	I	Digital audio data input (NRZ).
3	LRCK	I	Clock input for L/R channel identification of digital audio data input. The frequency is equal to $F_s$ (sampling frequency).
4	VRDFY	I	Validity flag input. "H" flag is used when the data is being processed by interpolation, etc.
5	C10	I	C-bit category code C10 presetting input.
6	CRCF	I	C-bit block start sync input. When CX23035 is used, connected this terminal to the CRCF output (pin 12). In other cases, the signal is fixed at "H".
7	Vss	-	GND.
8	CKSL	I	Input for selecting if the reference clock is EXTAL or its 1/3.
9	LSFT	I	Input for selecting between LSB first and MSB first operation.
10	XILR	I	Input for selecting between LRCK "H" and "L".
11	INVB	I	Input for selecting if BCK timing used is the rise or fall.
12	192Fs	O	Clock output for use as CD master clock when CD is connected. The frequency is 192 times the sampling frequency.
13	XTAL	O	When a X'tal oscillator is used, it is connected across this pin and EXTAL (pin 14).
14	EXTAL	I	When a X'tal oscillator is used, it is connected across this pin and XTAL (pin 13). In other cases, this pin is used for external clock input.
15	TX	O	Output of transmission data converted into the digital interface format.
16	C9	I	C-bit category code C9 presetting input.
17	TEST	I	Test mode select input. Fixed at "L" in normal operation.
18	RSET	I	LSI operation start/stop input. "H" during operation.
19	CBSL	I	Input for selecting if the C-bit input is serial or parallel.
20	D7	I	C4 (Emphasis information) presetting input when C-bit input is parallel.
21	VDD	-	+5V.
22	D6	I	C3 (Copy Inhibit information) presetting input when C-bit input is parallel.
23	D5	I	C2 (ID1) presetting input when C-bit input is parallel.
24	D4	I	C1 (ID0) presetting input when C-bit input is parallel. When it is serial, used as SUBQ input which provides C1 to C4.
25	D3	I	SCOR input which indicates the start of subcode block to be included in U-bit data.
26	D2	I	WFCK input which indicates the frame of subcode to be included in U-bit data.
27	D1	I	Serial input for subcode to be included in U-bit data. (Connected to SBSO).
28	EXCK	O	Clock output to be supplied to the external subcode output circuit in order to shift subcode out. (Connect EXCK).

Table 2-1

CIRCUIT DESCRIPTION

2-4. Explanation of functions

• Selector pins

For increased freedom in the selection of the signal processor LSI IC, the digital output signal demodulator IC is equipped with various selectors that can select the internal functions according to the signal processor LSI IC used.

TEST (pin 17) : Test mode setting input. Fixed at "L".  
RSET (pin 18) : When TEST is "L", the signal demodulator LSI IC operates when RSET is

"H" and stops when it is "L". When the LSI is not operating, only 192Fs is output normally while other outputs are fixed.

The following five pins are the selector pins which sets the signal processor LSI IC.

Terminal No.	Symbol	Description
8	CKSL	Fixed at "H" when EXTAL input is 384Fs, "L" when it is 128 Fs.
9	LSFT	Fixed at "H" when DATA input is MSB first, and "L" when it is LSB first.
10	XILR	Fixed at "L" when LRCK input is L-ch and "H", "H" when it is "L".
11	INVB	Fixed at "L" when DATA is shifted at the falling edge of BCK, "H" when it is shifted at the rising edge.
19	CBSL	Fixed at "L" when C-bit input is serial, "H" when it is parallel.

Table 2-2

The modes of the signal processor LSI IC are set by the above methods.

• Input signal description (ex. CX23035)

1) Digital audio data

This LSI uses 16-bit serial digital audio data, and the data bits are arranged from backward with respect to LRCK. As the period of clock BCK is equal to the data bit rate, more than 16 clocks are required for each word.

For example, when the signal processor LSI connected is CX23035, which is a CD signal processor, LRCK is "H" during the L-ch audio data and "L" during the R-ch audio data, and the audio data is shifted in MSB-first mode at the fall of BCK. These factors can be set by the above-mentioned selector pins.

2) Master clock

When a 1-sample/48-clock one-chip CD IC (CX23035) is used, a X'tal oscillator of  $3 \times 128Fs = 16.9344MHz$  shall be connected across XTAL (pin 13) and EXTAL (pin 14). The internal circuitry of this LSI IC uses the 1/3 clock, which is 5.6MHz, as the master clock, while the CD uses the output from 192Fs (pin 12) as the master clock ( $3 \times 128Fs/2 = 8.4672MHz$ ).

It is also possible to connect a 128Fs (5.6448MHz) X'tal oscillator across XTAL and EXTAL and to use it as the common master clock with the signal processor LSI.

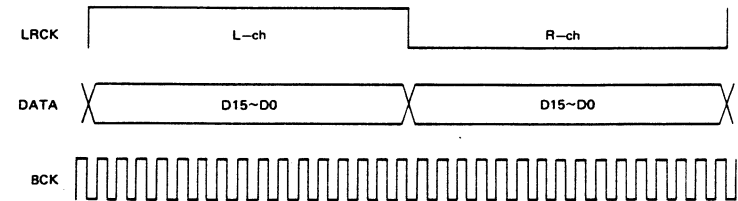


Fig. 2-3

CIRCUIT DESCRIPTION

3) Channel status data

By connecting D2 (pin 26) with the write frame clock output terminal (WFCK) of the CD LSI, D3 (pin 25) with the subcode sync S0 + S1 output terminal (SCOR), D4 (pin 24) with the subcode Q output terminal (SUBQ) and CRCK (pin 6) with the subcode Q error flag terminal (CRCF), it becomes possible to read respectively the ID0, ID1, COPY INHIBIT and EMPHASIS information from SUBQ and to set them on the specified positions of the C-bit data. However, when there is no terminal corresponding to CRCF, it shall be fixed at "H".

The category code (subcode bits 9 and 10) is input in DC via C9 (pin 16) and C10 (pin 5). With the CD, the category code is (C9, C10) = (1, 0) so the bits are fixed at C9 = "H" and C10 = "L".

**Note : D4 (SUBQ) is read at the rise of D2 (WFCK), latched and, when CRCF = "H", loaded as the C-bit data at the fall of D3 (SCOR). If CRCF = "L", the previous value is held.**

With this LSI, it is also possible to input the channel status data in parallel. In this case, ID0, ID1, COPY, EMPHASIS and category code are input respectively to D4, D5, D6, D7 and C9 and C10 by direct DC inputs.

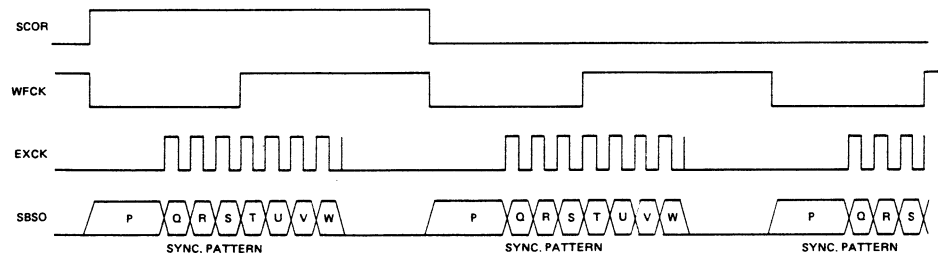


Fig. 2-4

4) User-definable data

The U-bit data is reserved for including the CD subcode. Similarly to C-bit data, the CD subcode can be superimposed by supplying the CD LSI output directly to the signal demodulator LSI.

When WFCK is input to D2 (pin 26) and SCOR to D3 (pin 25), EXCK (pin 28) is output. When EXCK is input to CD LSI, it outputs SBSO (subcode data), which is input to D1 (pin 27).

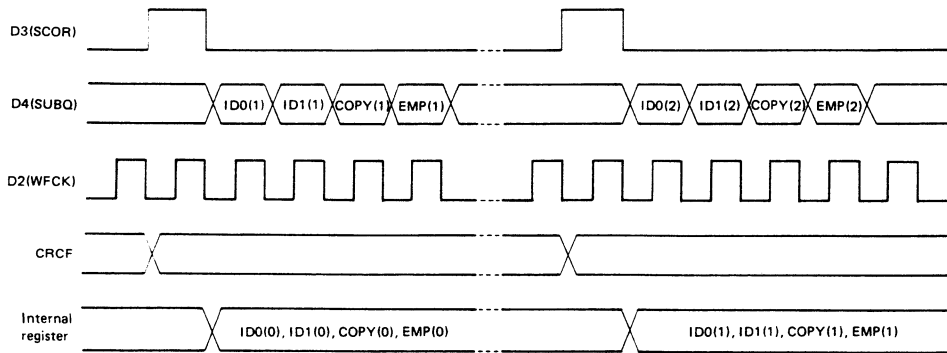


Fig. 2-5

CIRCUIT DESCRIPTION

5) Validity flag

For validity flag, apply the flag synchronized with LRCK to VRDITY (pin 4) as shown in Fig. 2-6.

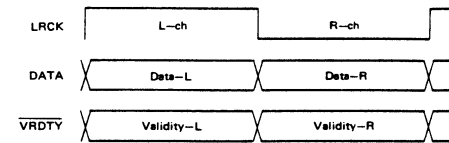


Fig. 2-6

3. Dual D Flip-Flop IC : TC74HC74F (X25-2850-01 : IC1)

3-1. Block diagram

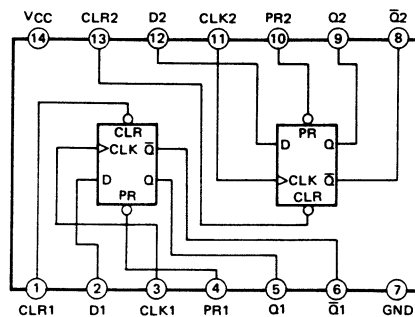


Fig. 3-1

3-2. Truth table

Inputs		Outputs	
PR	CLR	Q	Q-bar
L	H	X	X
H	L	X	X
L	L	X	X
H	H	↑	H
H	H	↑	L
H	H	L	X

Q0 : Condition before input  
\* : Unstable

Table 3-1

4. Hex D Flip-Flop IC : TC74HC174F (X25-2850-01 : IC3)

4-1. Terminal connection diagram

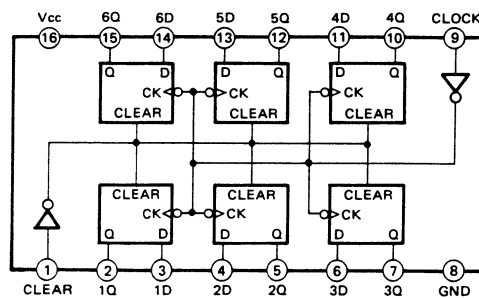


Fig. 4-1

4-2. Truth table

Inputs			Outputs
Clear	Clock	D	Q
L	X	X	L
H	↑	H	H
H	↑	L	L
H	L	X	Q <sub>0</sub>

Table 4-1

## ADJUSTMENT

### 1. Adjustment

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	PLAYER SETTINGS	ADJUSTMENT POINTS	ALIGN FOR	FIG.
1	VCO ADJUSTMENT	-	Connect a frequency counter across TP1 (GND) and TP2 (PLCK) of X32-1120-01.	Tray open, or stop mode	Rotate the core of X32-1120-01.	4.32MHz	(a)
2	LASER POWER CHECK (when PU seems to be defective)	-	Place an optical power meter on the pickup.	With tray open, connect TP7 of X32-1100-11(A/4) to GND.	-	Acceptable if between 100 $\mu$ W and 200 $\mu$ W.	(b)
3	RF OFFSET CHECK	-	Connect an oscilloscope to pin 2 (RF) of CN4 of X29-1780-00. Connect the oscilloscope's GND to TP1 (GND).	Tray open, or stop mode.	-	Acceptable if around -0.70 (V)	(c)
4	TEST MODE SETTING	Place test disc Type 3 on the tray, and complete loading.	Short-circuit between TP8 and TP9 of X32-1100-11(A/4).	Turn POWER SW OFF then ON again.	-	Check that the display is 01 00.	(d)
5	TANGENTIAL SETTING	Place test disc Type 3 on the tray, and complete loading.	Connect an oscilloscope to pin 2 (RF) of CN4 of X29-1780-00.	Press CHECK key. The laser will be focused. (Test mode)	Hex recessed screw below mechanism	The display shall be 03 00 and the amplitude maximum.	(e)
6	FOCUSING OFFSET COARSE ADJUSTMENT	Place test disc Type 3 on the tray, and complete loading.	Connect an oscilloscope to pin 2 (RF) of CN4 of X29-1780-00.	Press CHECK key. The laser will be focused. (Test mode)	Rotate VR2 of X29-1780-00.	Maximum amplitude.	(e)
7	T. ERROR BALANCE COARSE ADJUSTMENT	Place test disc Type 3 on the tray, and complete loading.	Connect oscilloscope CH1 to pin 2 (RF) of CN4 of X29-1780-00, and connect CH2 to pin 3 (TE).	Press CHECK key. The laser will be focused. (Test mode)	Rotate VR1 of X29-1780-00.	Adjust so that T.ERROR amplitude is symmetrical above and below 0 (V). (Photo 5)	(f)
8	TANGENTIAL AND FOCUSING OFFSET FINE ADJUSTMENTS	Place test disc Type 3 on the tray, and complete loading.	Connect an oscilloscope to pin 2 (RF) of CN4 of X29-1780-00.	Press PLAY key. (Tracing will start.) (Test mode)	VR2 of X29-1780-00, hex recessed screw below mechanism.	Rotate VR2 and hex recessed screw alternately to obtain optimum waveform.	(e)
9	T. ERROR BALANCE FINE ADJUSTMENT	Place test disc Type 3 on the tray, and complete loading.	Connect oscilloscope CH1 to pin 2 (RF) of CN4 of X29-1780-00, and connect CH2 to pin 3 (TE).	Press CHECK key. (Focusing servo only mode) (Test mode)	Rotate VR1 of X29-1780-00.	Adjust so that T.ERROR amplitude is symmetrical above and below 0 (V). (Photo 5)	(f)
10	FOCUS GAIN ADJUSTMENT	Place a test disc that is as flawless as possible, and complete loading.	Connect the servo adjusting jig to CN2 of X29-1780-00. (f = 700Hz, V OUT = 40mVrms)	Turn POWER SW OFF then ON again. Then press PLAY key to start normal play.	Rotate VR3 of X29-1780-00.	Adjust so that the millivoltmeter connected to the jig (SGA-1) reads 40mVrms.	(g)
11	TRACKING GAIN ADJUSTMENT	Place a test disc that is as flawless as possible, and complete loading.	Connect the servo adjusting jig to CN2 of X29-1780-00. (f = 900Hz, V OUT = 40mVrms)	Normal play	Rotate VR4 of X29-1780-00.	Adjust so that the millivoltmeter connected to the jig (SGA-1) reads 40mVrms.	(g)
12	DAC ADJUSTMENT	Test disc YDS-7 Type 3	Connect a millivoltmeter to the output terminal.	Play 1 kHz, 0 dB signal.	Rotate VR1 of X32-1100-11 (A.4).	Adjust so that the output is between 1.9 and 2.0 Vrms.	(h)



## ADJUSTMENT

## ADJUSTMENT

### 2. Effective keys in the Test mode and their functions






No.	Input key	Function	T. No. display
1	PLAY	(1) Focus servo . . . . . ON. (2) Tracking servo . . . . . ON. (3) Feed servo . . . . . ON. When the key is pressed in the Stop mode, the servoes are switched ON automatically in the order from (1) to (3).	 Displayed for a few seconds after (1) to (3). Disc's Track No. is displayed.
2	CHECK	(1) Focus servo . . . . . ON. (2) Tracking servo . . . . . OFF. (3) Feed servo . . . . . OFF.	
3	CLEAR	(1) Focus servo . . . . . ON. (2) Tracking servo . . . . . ON. (3) Feed servo . . . . . OFF.	
4	STOP	(1) Focus servo . . . . . OFF. (2) Tracking servo . . . . . OFF. (3) Feed servo . . . . . OFF.	
5	REPEAT	(1) Tray : Open. (2) Laser . . . . . ON.	
6	FF (▶▶)	In Stop mode : Moves the PU slightly to the outer tracks. With feed servo ON : Switches the tracking gain to "H".	
7	FR (◀◀)	In Stop mode : Moves the PU slightly to the inner tracks. With feed servo ON : Switches the tracking gain to "L".	
8	OPEN/CLOSE	Release the Test mode and opens the tray.	

Table 1

#### Note : How to enter the test mode

Short-circuit between TP8 and TP9 of the CD Player UNIT (X32-1100-11) (A/4), turn Power switch OFF, then turn Power switch ON again.

#### Focus gain adjustment

If a servo-adjusting jig (SGA-01) is not prepared, apply a 700Hz, 0.4V signal to pin 2 of CN2 and connect L.P.F. to pin 1 of CN2 of X29-1780-00.

#### Tracking gain adjustment

If a servo-adjusting jig (SGA-01) is not prepared, apply a 900Hz, 0.4V signal to pin 4 of CN2 and connect L.P.F. to pin 1 of CN2 of X29-1780-00.

### 3. Diffraction grating

While adjusting the refraction grid, be sure that the grids are completely misaligned.

- While in the test mode\*1, press CHECK key\*2 to set only the focusing servo ON.

\*1 Test mode :

To enter this mode, short-circuit between TP8 and TP9 of the CD Player unit (X32-1100-11) (A/4), and turn Power switch OFF then ON again.

\*2 CHECK key :

For details, refer to Table 1.

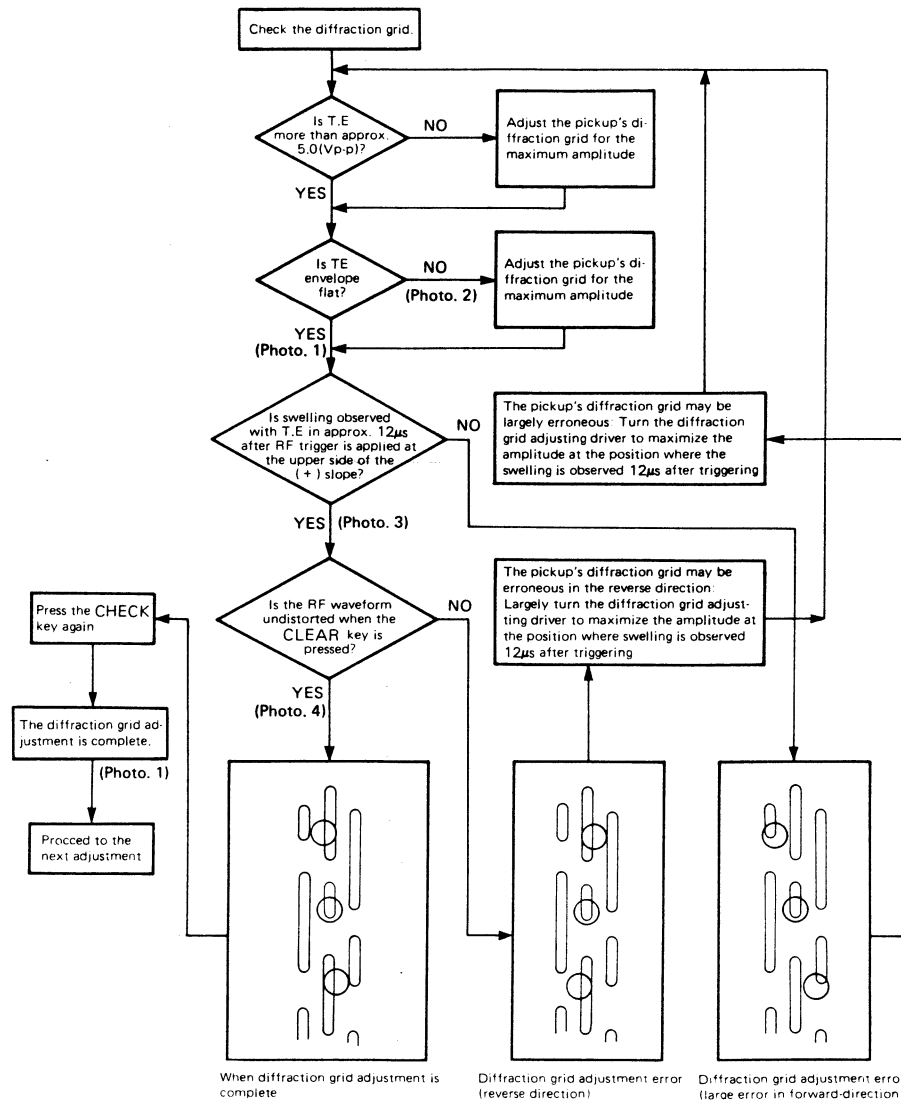


Fig. 1

## REGLAGE

## REGLAGE

### 1. Réglage

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE SORTIE	REGLAGE DE LA LECTURE	POINT D'ALIGNEMENT	ALIGNER POUR	FIG.
1	AJUSTEMENT VCO	-	Raccorder un compteur de fréquence entre TPI (GND) et TP2 (PLCK) de X32-1120-01.	Tiroir ouvert ou mode d'arrêt	Faire tourner le noyau de L1 de X32-1120-01.	4.32MHz	(a)
2	VERIFICATION DE PUISSANCE DU LASER (quand PU semble défectueux)	-	Placer un compteur de puissance optique sur le capteur.	Le tiroir ouvert, connecter TP7 de X32-1100-11(A/4) à GND.	-	Acceptable si entre 100 µW et 200 µW.	(b)
3	VERIFICATION D'OFFSET RF	-	Raccorder un oscilloscope à la broche 2 (RF) de CN4 de X29-1780-00. Raccorder GND de l'oscilloscope à TPI (GND).	Tiroir ouvert ou mode d'arrêt	-	Acceptable si aux environs de -0.70 (V).	(c)
4	REGLAGE DE MODE DE TEST	Placer un disque test de type 3 sur le tiroir et effectuer le chargement.	Court-circuiter entre TP8 et TP9 de X32-1100-11(A/4).	Mettre POWER SW sur OFF puis à nouveau sur ON.	-	Vérifier que l'affichage est 01 00.	(d)
5	REGLAGE TANGENTIEL	Placer un disque test de type 3 sur le tiroir et effectuer le chargement.	Raccorder un oscilloscope à la broche 2 (RF) de CN4 de X29-1780-00.	Presser la touche CHECK. Le laser sera mis au point. (Mode de test)	Vis hexagonale sous le mécanisme	L'affichage doit être 03 00 et l'amplitude maximum.	(e)
6	AJUSTEMENT APPROXIMATIF DE L'OFFSET DE MISE AU POINT	Placer un disque test de type 3 sur le tiroir et effectuer le chargement.	Raccorder un oscilloscope à la broche 2 (RF) de CN4 de X29-1780-00.	Presser la touche CHECK. Le laser sera mis au point. (Mode de test)	Faire tourner VR2 de X29-1780-00.	Amplitude maximum	(e)
7	AJUSTEMENT APPROXIMATIF DE BALANCE T. ERROR	Placer un disque test de type 3 sur le tiroir et effectuer le chargement.	Connecter le canal 1 de l'oscilloscope à la broche 2 (RF) de CN4 de X29-1780-00 et raccorder le canal 2 à sa broche 3 (TE).	Presser la touche CHECK. Le laser sera mis au point. (Mode de test)	Faire tourner VR1 de X29-1780-00.	Ajuster pour que l'amplitude T. ERROR soit symétrique en-dessus et au-dessous de 0 (V). (Photo 5)	(f)
8	AJUSTEMENTS PRECIS DE L'OFFSET TANGENTIEL ET DE MISE AU POINT.	Placer un disque test de type 3 sur le tiroir et effectuer le chargement.	Raccorder un oscilloscope à la broche 2 (RF) de CN4 de X29-1780-00.	Presser la touche PLAY. (Le tracé commencera.) (Mode de test)	VR2 de X29-1780-00. Vis hexagonale sous le mécanisme.	Faire tourner alternativement VR2 et la vis hexagonale pour obtenir une forme d'onde optimale.	(e)
9	AJUSTEMENT PRECIS DE BALANCE T. ERROR	Placer un disque test de type 3 sur le tiroir et effectuer le chargement.	Connecter le canal 1 de l'oscilloscope à la broche 2 (RF) de CN4 de X29-1780-00 et raccorder le canal 2 à sa broche 3 (TE).	Presser la touche CHECK. (Mode d'asservissement de mise au point seulement) (Mode de test)	Faire tourner VR1 de X29-1780-00.	Ajuster pour que l'amplitude T. ERROR soit symétrique en-dessus et au-dessous de 0 (V). (Photo 5)	(f)
10	AJUSTEMENT DE GAIN DE MISE AU POINT (FOCUS GAIN)	Placer un disque test ayant le moins de défauts possible et effectuer le chargement.	Raccorder le gabarit de réglage d'asservissement à CN2 de X29-1780-00 (f = 700 Hz, V OUT = 40mVrms)	Mettre POWER SW sur OFF puis à nouveau sur ON. Presser ensuite la touche PLAY pour commencer la lecture normale.	Faire tourner VR3 de X29-1780-00.	Ajuster pour que le millivoltmètre raccordé au gabarit (SGA 1) indique 40mVrms.	(g)

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE SORTIE	REGLAGE DE LA LECTURE	POINT D'ALIGNEMENT	ALIGNER POUR	FIG.
11	AJUSTEMENT DU GAIN D'ALIGNEMENT (TRACKING GAIN)	Placer un disque test ayant le moins de défauts possible et effectuer le chargement. Disque test YDS-7 Type 3	Raccorder le gabarit d'ajustement d'asservissement à CN2 de X29-1780-00 (f = 900 Hz, V OUT = 40mVrms)	Lecture normale	Faire tourner VR4 de X29-1780-00	Ajuster pour que le millivoltmètre raccordé au gabarit (SGA 1) indique 40mVrms.	(g)
12	AJUSTEMENT DAC	-	-	Lire un signal 1 kHz, 0 dB.	Faire tourner VR1 de X32-1100-11(A/4)	Ajuster pour que la sortie soit entre 1.9 et 2.0 Vrms.	(h)

### 2. Touches fonctionnant en mode de test et leurs fonctions






N°	Touche d'entrée	Fonction	Affichage T. No.
1	PLAY	(1) Asservissement de mist au point . . . . . ON. (2) Asservissement d'alignement . . . . . ON. (3) Asservissement d'alimentation . . . . . ON. Quand la touche est pressé en mode d'arrêt, les asservissements sont automatiquement commutés sur ON dans l'ordre de (1) à (3).	 ↓ Affiché pendant quelques secondes après (1) à (3). ↓ Le numéro de piste du disque est affiché.
2	CHECK	(1) Asservissement de mise au point . . . . . ON. (2) Asservissement d'alignement . . . . . OFF. (3) Asservissement d'alimentation . . . . . OFF.	
3	CLEAR	(1) Asservissement de mise au point . . . . . ON. (2) Asservissement d'alignement . . . . . ON. (3) Asservissement d'alimentation . . . . . OFF.	
4	STOP	(1) Asservissement de mise au point . . . . . OFF. (2) Asservissement d'alignement . . . . . OFF. (3) Asservissement d'alimentation . . . . . OFF.	
5	REPEAT	(1) Tiroir : Ouvert. (2) Laser . . . . . ON.	
6	FF (▶▶)	En mode d'arrêt : Déplace légèrement le capteur vers les pistes externes. Avec l'asservissement d'alimentation sur ON : Commute le gain d'alignement sur "H".	
7	FR (◀◀)	En mode d'arrêt : Déplace légèrement le capteur vers les pistes internes. Avec l'asservissement d'alimentation sur ON : Commute le gain d'alignement sur "L".	
8	OPEN/CLOSE	Relâche le mode de test et ouvre le tiroir.	

Tableau 1

#### Remarque : Pour entrer en mode de test

Court-circuiter entre TP8 et TP9 du lecteur CD (X32-1100-11)(A/4), mettre l'interrupteur d'alimentation sur OFF puis mettre l'interrupteur d'alimentation à nouveau sur ON.

#### Ajustement de gain de mise au point (Focus gain)

Si un gabarit d'ajustement d'asservissement (SGA-01) n'est pas préparé, appliquer un signal 700Hz, 0.4V à la broche 2 de CN2 et connecter L.P.F. à la broche 1 de CN2 de X29-1780-00.

#### Ajustement de gain d'alignement (Tracking gain)

Si un gabarit d'ajustement d'asservissement (SGA-01) n'est pas préparé, appliquer un signal 900Hz, 0.4V à la broche 4 de CN2 et connecter L.P.F. à la broche 5 de CN2 de X29-1780-00.

## REGLAGE

## ABGLEICH

### 3. Réseau de diffraction

Tout en ajustant le réseau de réfraction, s'assurer que les grilles, sont complètement désalignées.

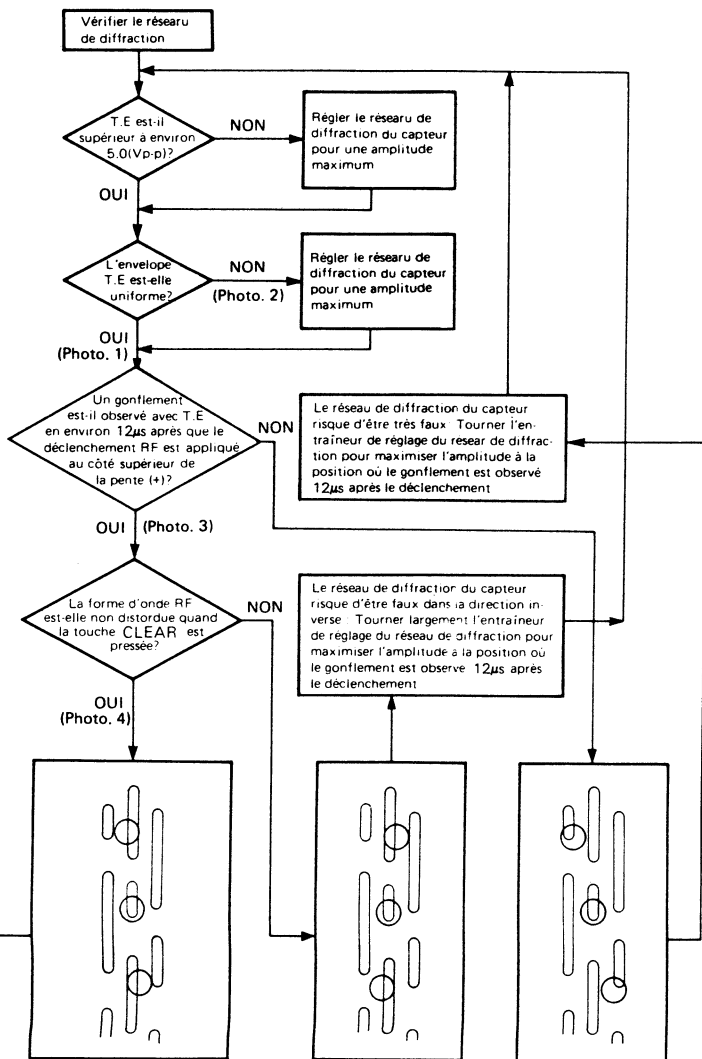
- En mode de test\*1, presser la touche CHECK\*2 pour mettre uniquement l'asservissement de mist au point sur ON.

\*1 Mode de test :

Pour entrer ce mode, court-circuiter entre TP8 et TP9 du lecteur CD (X32-1100-11)(A/4) et mettre l'interrupteur d'alimentation sur OFF puis à nouveau sur ON.

\*2 Touche CHECK :

Pour plus de détails, se référer au Tableau 1.



Quand le réglage du réseau de diffraction est terminé

Erreur de réglage du réseau de diffraction (Direction inverse)

Erreur de réglage du réseau de diffraction (grande erreur en direction avant)

Fig. 1

### 1. Abgleich

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	SPIELER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
1	VCO-EINSTELLUNG	-	Einen Frequenzzähler zwischen TP1 (GND) und TP2 (PLCK) von X32-1120-01 anschließen.	Träger geöffnet oder Stop-Betriebsart	Den Kern von L1 von X32-1120-01 drehen.	4.32MHz	(a)
2	ÜBERPRÜFUNG DER LASERLEISTUNG (Wenn PL defekt zu sein scheint)	-	Einen Optikleistungsmesser auf den abnehmer setzen.	Bei geöffnetem Träger TP7 von X32-1100-11(A/4) an GND anschließen.	-	Akzeptabel, wenn zwischen 100 µW und 200 µW.	(b)
3	RF-VERSATZ-PRÜFUNG	-	Ein Oszilloskop an Stift 2 (RF) von CN4 von X29-1780-00 anschließen. GND des Oszilloskop an TP1 (GND) anschließen.	Träger geöffnet oder Stop-Betriebsart	-	Akzeptable, wenn etwa -0.70 (V).	(c)
4	TESTMODUS-EINSTELLUNG	Testdisc Type 3 auf Träger legen und Laden durchführen.	Zwischen TP8 und TP9 von X32-1100-11(A/4) Kurzschließen.	POWER-Schalter aus- und wieder einschalten.	-	Auf dem Display muß 01 ∞ angezeigt werden.	(d)
5	TANGENTIAL-EINSTELLUNG	Testdisc Type 3 auf Träger legen und Laden durchführen.	Ein Oszilloskop an Stift 2 (RF) von CN4 von X29-1780-00 anschließen.	Die CHECK-Taste drücken. Der Laser fokussiert. (Testmodus)	Innensechskantschraube unter Mechanismus	Das Display muß 03 ∞ anzeigen und die Amplitude maximal sein.	(e)
6	FOKUSVERSATZ-GROBEINSTELLUNG	Testdisc Type 3 auf Träger legen und Laden durchführen.	Ein Oszilloskop an Stift 2 (RF) von CN4 von X29-1780-00 anschließen.	Die CHECK-Taste drücken. Der Laser fokussiert. (Testmodus)	VR2 von X29-1780-00 drehen.	Maximale Amplitude	(e)
7	T.ERROR-BALANCE-GROBEINSTELLUNG	Testdisc Type 3 auf Träger legen und Laden durchführen.	Kanal 1 des Oszilloskops an Stift 2 (RF) und Kanal 2 an Stift 3 (TE) von CN4 von X29-1780-00 anschließen.	Die CHECK-Taste drücken. Der Laser fokussiert. (Testmodus)	VR1 von X29-1780-00 drehen.	So einstellen, daß die T.ERROR-Amplitude unter und über 0 (V) symmetrisch ist. (Foto 5)	(f)
8	TANGENTIAL- UND FOKUSVERSATZ-FEINEINSTELLUNG	Testdisc Type 3 auf Träger legen und Laden durchführen.	Ein Oszilloskop an Stift 2 (RF) von CN4 von X29-1780-00 anschließen.	Die PLAY-Taste drücken. (Die Spurhaltung startet.) (Testmodus)	VR2 von X29-1780-00, Innensechskantschraube unter Mechanismus	VR2 und die Innensechskantschraube abwechselnd drehen, um die optimale wellenform zu erhalten.	(e)
9	T.ERROR-BALANCE-FEINEINSTELLUNG	Testdisc Type 3 auf Träger legen und Laden durchführen.	Kanal 1 des Oszilloskops an Stift 2 (RF) und Kanal 2 an Stift 3 (TE) von CN4 von X29-1780-00 anschließen.	Die CHECK-Taste drücken. (nur Fokusservo-Modus) (Testmodus)	VR1 von X29-1780-00 drehen.	So einstellen, daß die T.ERROR-Amplitude unter und über 0 (V) symmetrisch ist. (Foto 5)	(f)
10	FOCUS GAIN-EINSTELLUNG	Eine möglichst einwandfreie Testdisc auflegen und Laden durchführen.	Die Servo-Einstellehre an CN2 von X29-1780-00 anschließen. (f = 700 Hz, V OCT = 40mVrms)	Den POWER-Schalter aus- und wieder einschalten. Dann die PLAY-Taste drücken, um die normale Wiedergabe zu starten.	VR3 von X29-1780-00 drehen.	So einstellen, daß das an die Lehre (SGA-1) angeschlossene Millivoltmeter 40mVrms anzeigt.	(g)

## ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	SPIELER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
11	TRACKING GAIN-EINSTELLUNG	Eine möglichst einwandfreie Testdisc auflegen und Laden durchführen.	Die Servo-Einstellehre an CN2 von X29-1780-00 anschließen. ( $f = 900 \text{ Hz}$ , $V_{\text{OUT}} = 40 \text{ mVrms}$ )	Normale Niedergabe	VR4 von X29-1780-00 drehen.	So einstellen, daß das an die Lehre (SGA-1) angeschlossene Millivoltmeter $40 \text{ mVrms}$ anzeigt.	(g)
12	DAC-EINSTELLUNG	Testdisc YDS-7 Typ 3	Ein Millivoltmeter an den Ausgangsanschluß anschließen.	Ein $1 \text{ kHz}$ , $0 \text{ dB}$ Signal wiedergeben.	VR1 von X32-1100-11(A/4) drehen.	So einstellen, daß der Ausgang zwischen $1.9$ und $2.0 \text{ Vrms}$ liegt.	(h)

### 2. Wirksame Tasten im Testmodus und ihre Funktionen

No.	Eingabetaste	Funktion	T. No. Anzeige
1	PLAY	(1) Fokusservo ..... ON. (2) Spurhalteservo ..... ON. (3) Vorschubservo ..... ON. Wenn die Taste in der Stop-Betriebsart gedrückt wird, werden die Servos automatisch in der Reihen-folge von (1) bis (3) eingeschaltet.	TRACK NO 05 Anzeige für einige Sekunden nach (1) bis (3). Anzeige der Titel-Nr. der Disc.
2	CHECK	(1) Fokusservo ..... ON. (2) Spurhalteservo ..... OFF. (3) Vorschubservo ..... OFF.	TRACK NO 03
3	CLEAR	(1) Fokusservo ..... ON. (2) Spurhalteservo ..... ON. (3) Vorschubservo ..... OFF.	TRACK NO 04
4	STOP	(1) Fokusservo ..... OFF. (2) Spurhalteservo ..... OFF. (3) Vorschubservo ..... OFF.	TRACK NO 01
5	REPEAT	(1) Träger : Offen (2) Laser ..... ON.	TRACK NO 02
6	FF (▶▶)	In der Stop-Betriebsart : Bewegt den Tonabnehmer geringfügig zu den äußeren Spuren hin. Bei Vorschubservo ON : Schaltet die Spurhalte-Verstärkung auf "H".	
7	FR (◀◀)	In der Stop-Betriebsart : Bewegt den Tonabnehmer geringfügig zu den inneren Spuren hin. Bei Vorschubservo ON : Schaltet die Spurhalte-Verstärkung auf "L".	
8	OPEN/CLOSE	Den Testmodus ausschalten, der Träger wird geöffnet.	

Tabelle 1

#### Hinweis : Aktivieren des Testmodus

Zwischen TP8 und TP9 der CD-Spieler-Einheit (X32-1100-11)(A/4) kurzschließen, dann den Netzschalter aus- und wieder einschalten.

#### Focus gain einstellung

Wenn ein Servo-Einstell-Lehre (SGA-01) nicht vorhanden ist, ein Signal von  $700 \text{ Hz}$ ,  $0.4 \text{ V}$  an stift 2 von CN2 anlegen, und ein L.P.F. an stift 1 von CN2 von X29-1780-00 anschließen.

#### Tracking gain einstellung

Wenn ein Servo-Einstell-Lehre (SGA-01) nicht vorhanden ist, ein Signal von  $900 \text{ Hz}$ ,  $0.4 \text{ V}$  an stift 4 von CN2 anlegen, und ein L.P.F. an stift 5 von CN2 von X29-1780-00 anschließen.

## ABGLEICH

### 3. Diffraktionsgitter

Beit der Einstellung des Brechungsgitters darauf achten, daß die Gitter vollkommen nichtfluchtend sind.

- Im Testmodus\*<sup>1</sup> die CHECK-Taste\*<sup>2</sup> drücken, um nur den Fokusservo einzuschalten.

\*<sup>1</sup> Testmodus :

Zum Aktivieren dieses Modus zwischen TP8 und TP9 der CD-Spieler-Einheit (X32-1100-11)(A/4) kurzschließen, dann den Netzschalter ausund wieder einschalten.

\*<sup>2</sup> CHECK-Taste :

Für Einzelheiten siehe Tabelle 1.

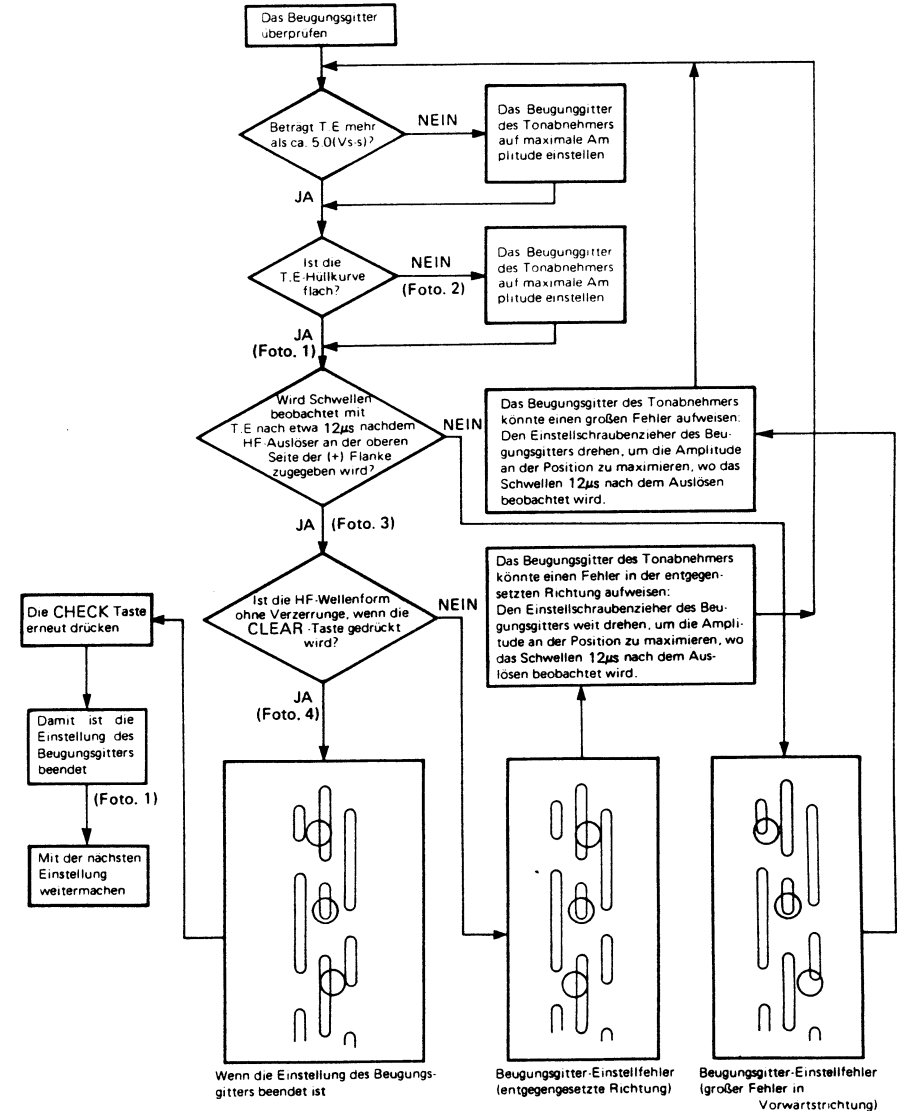
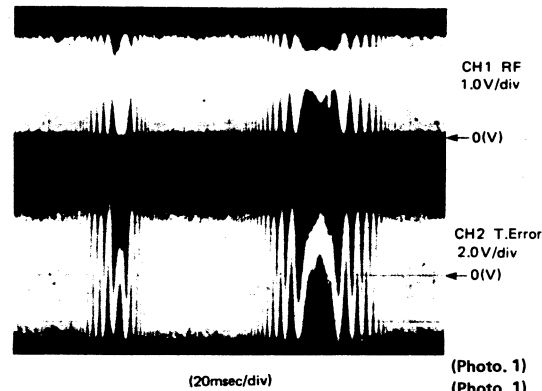


Abb. 1

## ADJUSTMENT/REGLAGE/ABGLEICH

## ADJUSTMENT/REGLAGE/ABGLEICH

### 4. Description of Signal Waveforms, Connection of Measuring Instruments/Description des formes d'onde des signaux, connexion des instruments de mesure/ Beschreibung der Meßinstrumente



- RF signal and T.Error signal after diffraction grating adjustment.
- Signal RF et signal T.Error après ajustement de réseau de diffraction.
- RF-Signal und T.Error-Signal nach Diffraktions-gitter-Einstellung.

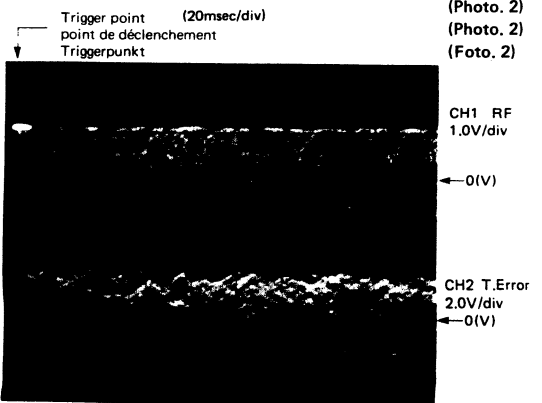
(Photo. 1)  
(Photo. 1)  
(Foto. 1)



- RF signal and T.Error signal when there is small diffraction grating position error.
- The T.Error signal level is small, and the envelope is as shown in the diagram below.
- Signal RF et signal T.Error quand il y a une petite erreur de position du réseau de diffraction.
- Le niveau de signal T.Error est petit et l'enveloppe est telle qu'indiquée dans le diagramme ci-dessous.
- RF-Signal und T.Error-Signal bei kleinem Diffraktions-gitter-Positionierungsfehler.
- Der T.Error-Signalpegel ist klein, und die Hüll-kurve ist wie in der Abbildung unten.

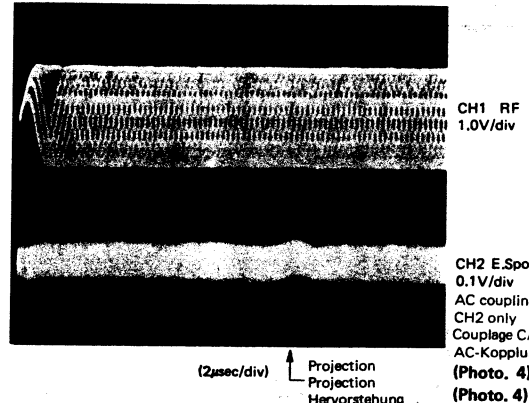


(Photo. 2)  
(Photo. 2)  
(Foto. 2)



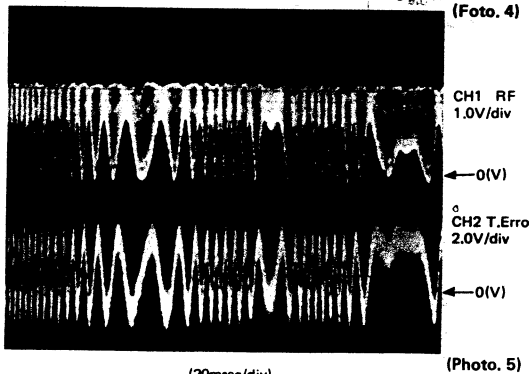
- RF signal and T.Error signal in test mode (with focusing ON).
- When the sub-beam traces the same bit series as the main beam during diffraction grating adjustment, bringing the RF trigger point to the position shown in the Photo causes a "projection" to be observed in the T.Error waveform.
- Le signal RF et le signal T.Error en mode de test (avec la mise au point sur ON).
- Quand un faisceau auxiliaire trace la même série de bits que le faisceau principal pendant l'ajustement de réseau de diffraction, l'apport du point de déclenchement RF à la position indiquée dans la photo provoque une "projection" qui s'observe dans la forme d'onde de T.Error.
- RF-Signal und T.Error-Signal im Testmodus (bei eingeschalteter Fokussierung).
- Wenn der Nebenstrahl die gleiche Bitreihe wie der Hauptstrahl während der Diffraktionsgitter-Einstellung verfolgt und den RF-Triggerpunkt auf die im Foto gezeigte Position bringt, wird eine "Hervorstehung" verursacht, die in der T.Error-Wellenform beobachtet werden kann.

(Photo. 3)  
(Photo. 3)  
(Foto. 3)



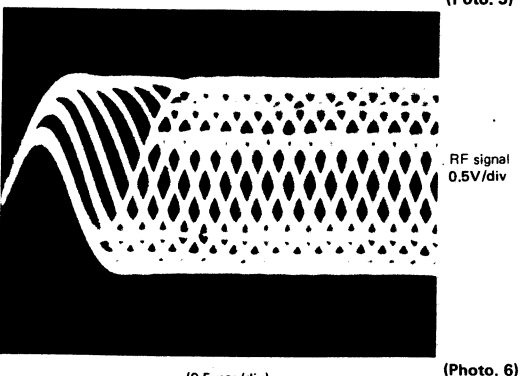
- RF signal and E.Spot signal in test mode (PLAY).
- If the diffraction grating has been adjusted properly, the influence of triggering is observed on the E.Spot waveform of approx. 12µs after RF signal, in the form of a projection.
- Signal RF et signal E.Spot en mode de test (PLAY).
- Si le réseau de diffraction a été ajusté correctement, l'influence du déclenchement s'observe sur la forme d'onde E.Spot d'environ 12µs après le signal RF, sous la forme d'une projection.
- RF-Signal und E.Spot-Signal im Testmodus (PLAY).
- Wenn das Diffraktionsgitter richtig eingestellt wurde, wird der Einfluß des Triggers in der E.Spot-Wellenform etwa 12µs nach dem RF-Signal in der Form einer Hervorstehung beobachtet.

(Photo. 4)  
(Photo. 4)  
(Foto. 4)



- RF signal and T.Error signal; in test mode (Focusing ON). (Disc type 3)
- Adjust T.Error so that the waveform is symmetrical above and below 0V. (VR1 of X29-1780-00)
- Signal RF et signal T.Error; en mode test (mise au point ON). (Disque de type 3)
- Ajuster T.Error pour que la forme d'onde soit symétrique en-dessus et au-dessous de 0V. (VR1 de X29-1780-00)
- RF-Signal und T.Error-Signal; im Testmodus (Fokussierung eingeschaltet). (Disc-Typ 3)
- T.Error so einstellen, daß die Wellenform über und unter 0V symmetrisch ist. (VR1 von X29-1780-00)

(Photo. 5)  
(Photo. 5)  
(Foto. 5)

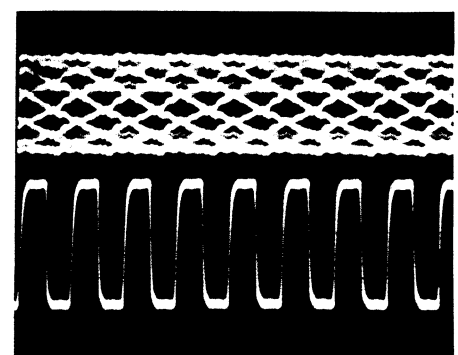


- RF signal in test mode (PLAY).
- Perform the tangential and focusing offset adjustments so that each of the center cross points are focused into one point on the display. The crossing points above and below the center shall also be displayed clearly.
- Signal RF en mode de test (PLAY).
- Effectuer les ajustements d'offset tangentiel et de mise au point pour que chacun des points de croisement central soit mis au point sur un point de l'affichage. Les points de croisement au-dessus et en-dessous du centre doivent aussi être affichés clairement.
- RF-Signal im Testmodus (PLAY).
- Die Tangential- und Fokusversatz-Einstellungen so durchführen, daß jeder der mittleren Kreuzungspunkte in einem Punkt auf dem Display fokussiert wird. Auch die Kreuzungspunkte über und unter der Mitte müssen klar angezeigt werden.

(Photo. 6)  
(Photo. 6)  
(Foto. 6)

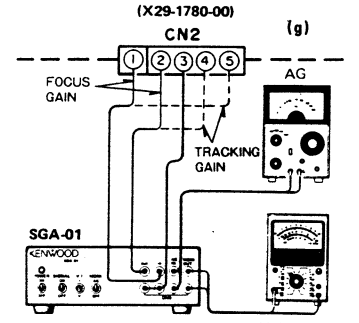
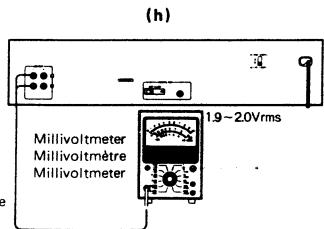
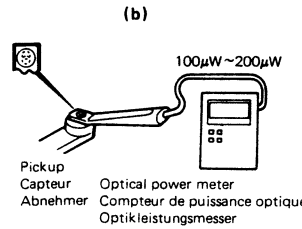


## ADJUSTMENT/REGLAGE/ABGLEICH



- RF signal and PLCK signal in test mode (PLAY).
- When the synch system is normal, the cross points at the center of the eye pattern shall coincide with the PLCK fall points.
- Le signal RF et le signal PLCK en mode de test (PLAY).
- Quand le système sync est normal, les points de croisement au centre de la forme oculaire doivent coïncider avec les points de chute PLCK.
- RF-Signal und PLCK-Signal im Testmodus (PLAY).
- Wenn das Sync-System normal ist, müssen die Kreuzungspunkte in der Mitte des Augenmusters mit den PLCK-Fallpunkten zusammenfallen.

(Photo. 7)  
(Photo. 7)  
(Foto. 7)



**SGA-01 :**  
For details, refer to the material for SGA-01.  
Pour plus de détails, se référer au matériel pour le SGA-01.  
Für Einzelheiten siehe das Material für SGA-01.

Servo adjusting jig  
Gabarit de réglage d'asservissement  
Servo-Einstellehre

### • DIFFRACTION GRATING ADJUSTMENT (PU)

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	PLAYER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
1	DIFFRACTION GRATING ADJUSTMENT (PU)	place test disc Type 3 on the tray, and complete loading.	Connect oscilloscope CH1 to pin 2 (RF) of CN4 of X29-1780-00, and connect CH2 to its pin 3 (TE).	Press CHECK Key. (Focusing servo only mode) (Test mode)	Pickup adjusting hole. Use a grid driver.	Refer to section "3. diffraction grating" on page 16.	(f)

### • ADJUSTMENT DE RESEAU DE DIFFRACTION (PU)

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE SORTIE	REGLAGE DE LA LECTURE	POINTS D'ALIGNEMENT	ALIGNER POUR	FIG.
1	ADJUSTMENT DE RESEAU DE DIFFRACTION (PU)	Placer un disque test de Type 3 sur le tiroir et effectuer le chargement.	Connecter le canal 1 de l'oscilloscope à la broche 2 (RF) de CN4 de X29-1780-00 et raccorder le canal 2 à sa broche 3 (TE).	Presser la touche CHECK. (Mode d'asservissement de mise au point seulement) (Mode de test)	Trou d'ajustement du capteur. Utiliser un tournevis.	Se référer à la section "3. Réseau de diffraction", page 19.	(f)

### • DIFFRAKTIONSGITTER-EINSTELLUNG (PU)

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	SPIELER EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
1	DIFFRAKTIONSGITTER-EINSTELLUNG (PU)	Testdisc Type 3 auf Träger legen und laden durchführen.	des Oszilloskops an Stift 2 (RF) und kanal 2 an Stift 3 (TE) von CN4 von X29-1780-00 anschließen.	Die CHECK-Taste drücken. (nur fokusservo-Modus) (Testmodus)	Einstellöffnung. Gitterschrauben ziehen verwenden.	Siehe Abschnitt "3. Diffraktionsgitter" auf Seite 22.	(f)

## ADJUSTMENT/REGLAGE/ABGLEICH

### VOLTAGE CHECK TABLE

(X25-2850-01)

#### IC1

1	3.5V	9	0V
2	1.6V	10	5.0V
3	0.3V	11	0.3V
4	5.0V	12	1.6V
5	0V	13	3.5V
6	5.0V	14	5.0V
7	0V (GND)		

#### IC2

1~3	0V	6	0.2V
4	5.0V	7~9	2.3V
5	0V (GND)		

#### IC3

1	3.5V	11	1.9V
2~5	5.0V	12	0V
6~8	0V	13,14	1.6V
9	0.3V	15	0V
10	5.0V	16	5.0V

(X29-1780-00)

#### IC1

1~12	0V	21	5.0V
13	-5.0V	22	-5.6V
14~18	0V	23	5.0V
19	-2.0V	24	5.0V

#### IC2

1	-3.5V	6	-1.3V
2,3	0V	7	-3.5V
4	-5.0V	8	5.0V

#### IC3

1	0.5V	13	-0.5V
2	-0.5V	14	0V
3~6	0V	15	-0.5V
7	-5.0V	16	5.0V
8~12	0V		

(X32-1100-11)

#### IC1

1~6	0V	21	0.7V
7~10	5.0V	22	0V
11~13	0V	23	0.6V
14	-4.3V	24,25	0V
15	0V	26	0.2V
16	0V	27	-0.6V
17	-0.0V	28~30	0V
19,20	0V		

#### IC2

1	0.0V	5	-10.6V
2	-0.6V	6	0V
3	0.6V	7	0V
4	0V	8	0V

#### IC3

1~4	1.9V	32	0V
5	0V	33	0V
6	2.5V	35,36	0V
7,8	0V	39	5.0V
9	4.9V	40	3.4V
10~13	0V	41~51	0.4V
14~16	5.0V	54	1.9V
18,19	0.5V	55	2.7V
20	5.0V	56,57	0V
21	0.5V	58,59	1.9V
22~24	0V	60	0V
25~27	5.0V	61,62	1.5V
28	0V	63	1.9V
29	5.0V	64	5.0V
30,31	2.3V		

#### IC4

1~3	1.9V	9	-39.0V
4	1.5V	11	-15.0V
5	1.9V	12	-22.0V
6	2.7V	13	-25.0V
7	0V	14~16	-22.0V
8	6.1V		

#### IC5

1,2	1.9V	9	-39.0V
3	1.5V	11,12	-22.0V
5,6	1.9V	14	-25.0V
7	0V	15,16	-22.0V
8	6.1V		

#### IC6, IC7

1~6	0.4V	9	-39.0V
7	0V	11~16	-38.0V
8	6.1V		

#### IC8

1	2.4V	15	0V
2	0V	16	5.0V
3	2.5V	17	0V
4	5.0V	18	0.5V
5~7	0V	19,20	0V
8,9	0.3V	21	0.3V
10,11	0V	22~25	0V
12	0.0V	26	0.5V
13	1.6V	27	0V
14	0.4V	28	0.0V

#### IC10

1	5.0V	13	2.0V
2,3	3.4V	16,19,20	5.0V
4	2.4V	27	0V
5	0V	30	0.2V
6,11	0V	33,34	0V
7	1.0V	35~45	0V

#### IC11

1,2,14	-5.0V	16	-1.9V
3	2.4V	17,18	0V
4~6	5.0V	20	-5.0V
7,8,12	2.4V	21,22	0V
9	2.1V	23	-3.8V
10	0V	24,25	1.4V
11	0.6V	26,27	-1.3V
13	0V	28	0V
15	-3.8V		

#### IC12

1~5	0V	11	0.6V
6~8	-5.0V	12~15	0V
9	0.6V	16	5.0V
10	-5.0V		

#### IC13

1	-0.7V	5	-0.7V
2	0V	6	-0.7V
3	0V	7	-1.3V
4	-12.0V	8	12.0V

#### IC14

1	-0.8V	5,6	-0.7V
2,3	0V	7	-1.4V
4	-12.0V	8	12.0V

#### IC15, IC16

1~3	-0.7V	4	-12.0V
5~7	-0.7V	8	12.0V

#### IC17

1	-3.4V	5~7	-0.7V
2,3	-0.7V	8	12.0V
4	-2.0V		

#### IC18

1	-3.6V	5~7	-0.7V
2,3	-0.7V	8	12.0V
4	-2.0V		

#### IC19

1~6	0V	9~11	5.0V
7	-5.0V	12,15	0V
8	0V	16	5.0V

(X32-1120-01)

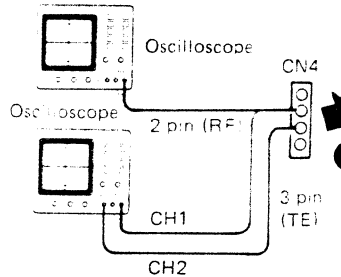
#### IC3

1	0.3V	6	2.5V
2,3	0V	7	0V
4	-4.9V	8	5.0V
5	1.4V		

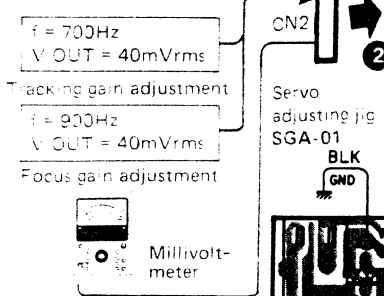
Remarks : These voltages are the values in STOP mode.

# PC BOARD (COMPONENT SIDE VIEW)

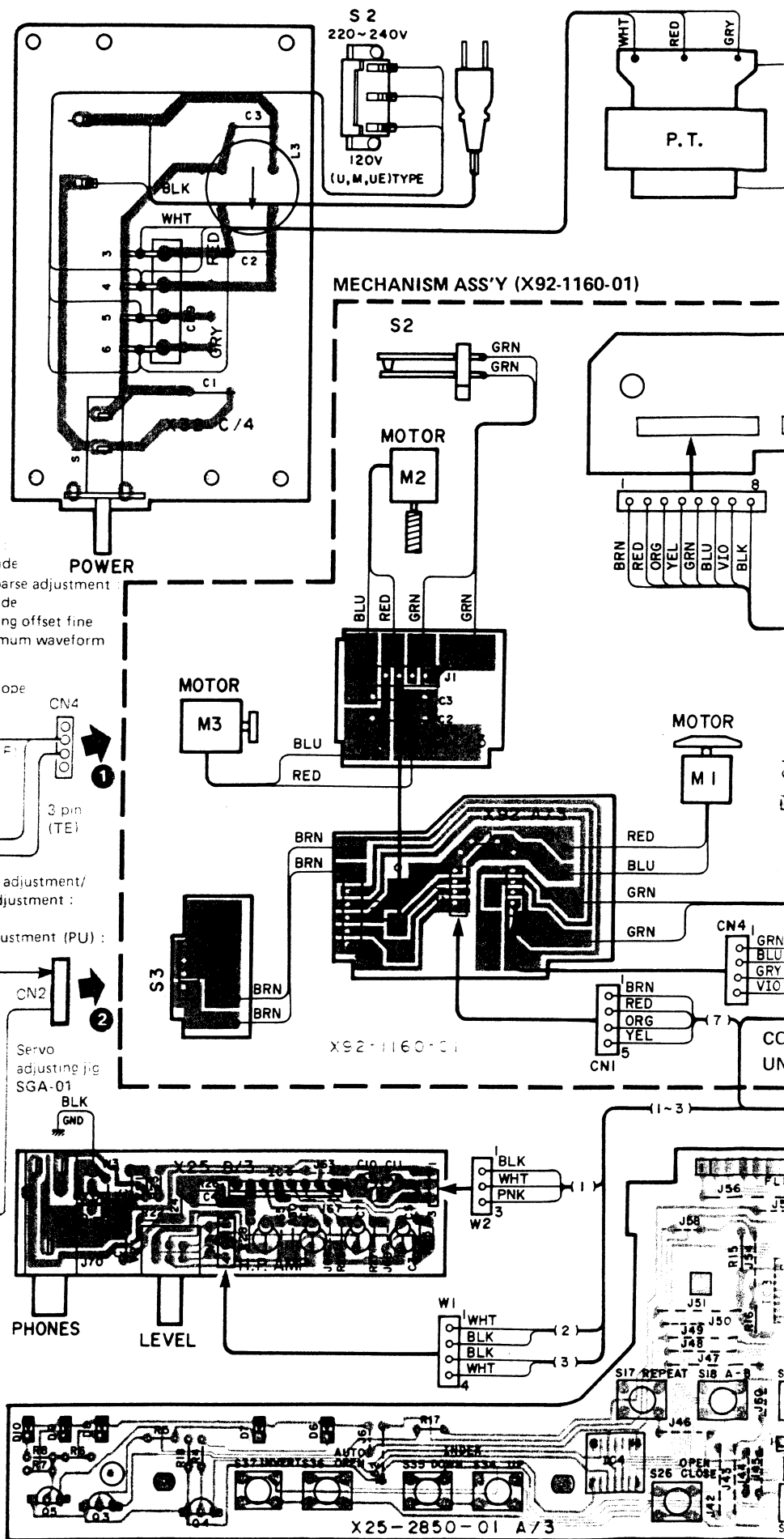
- (e) Tangential setting :  
 Maximum amplitude  
 Focusing offset coarse adjustment :  
 Maximum amplitude  
 Tangential, Focusing offset fine  
 adjustment : Optimum waveform



- (f) T. error balance coarse adjustment /  
 T. error balance fine adjustment :  
 Refer to Photo. 5  
 Diffraction grating adjustment (PU) :  
 Refer to Fig. 1

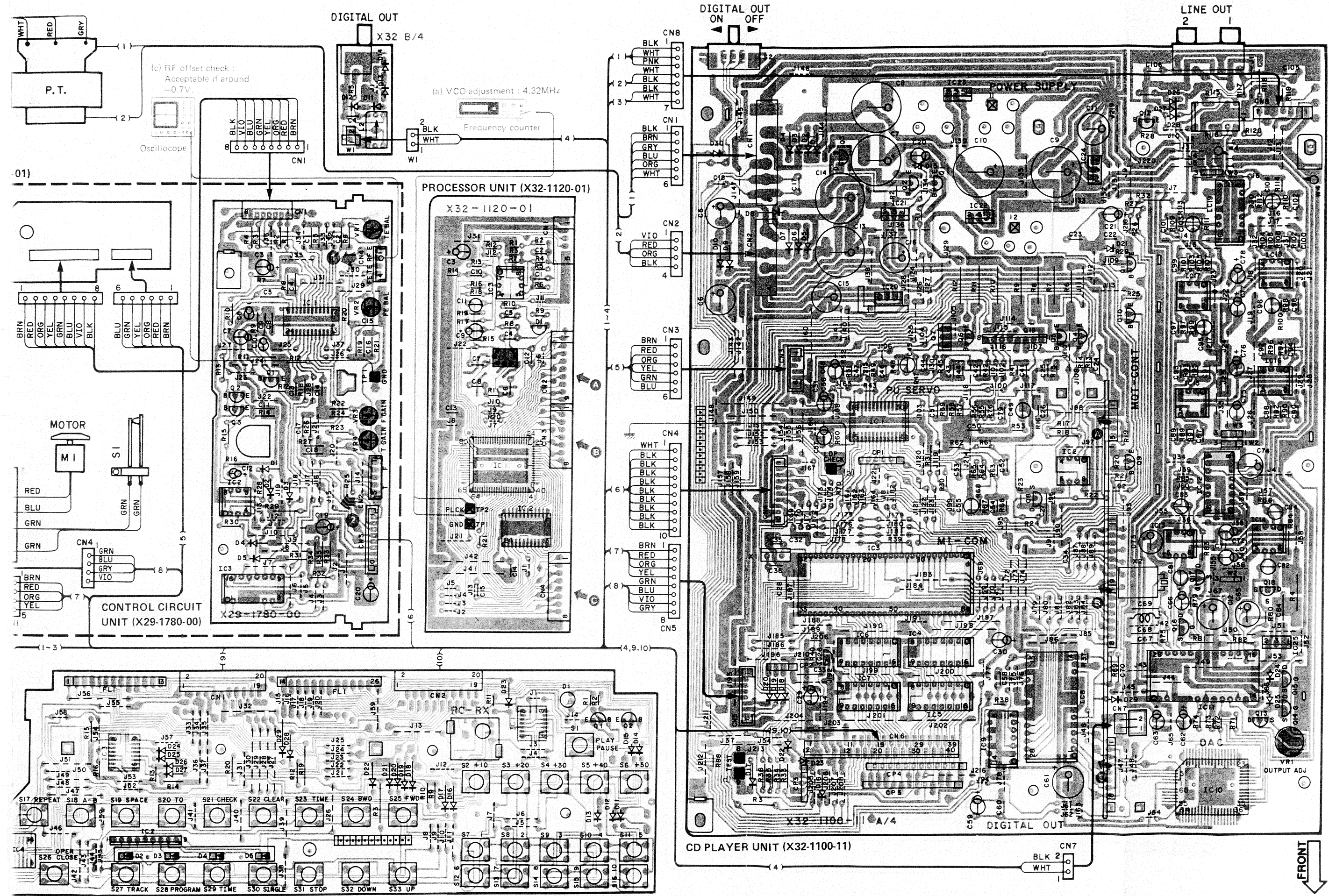


- (g) Focus gain adjustment :  
 40mVrms  
 Tracking gain adjustment :  
 40mVrms



DISPLAY UNIT (X25-2850-01)





(c) RF offset check :  
Acceptable if around  
-0.7V.

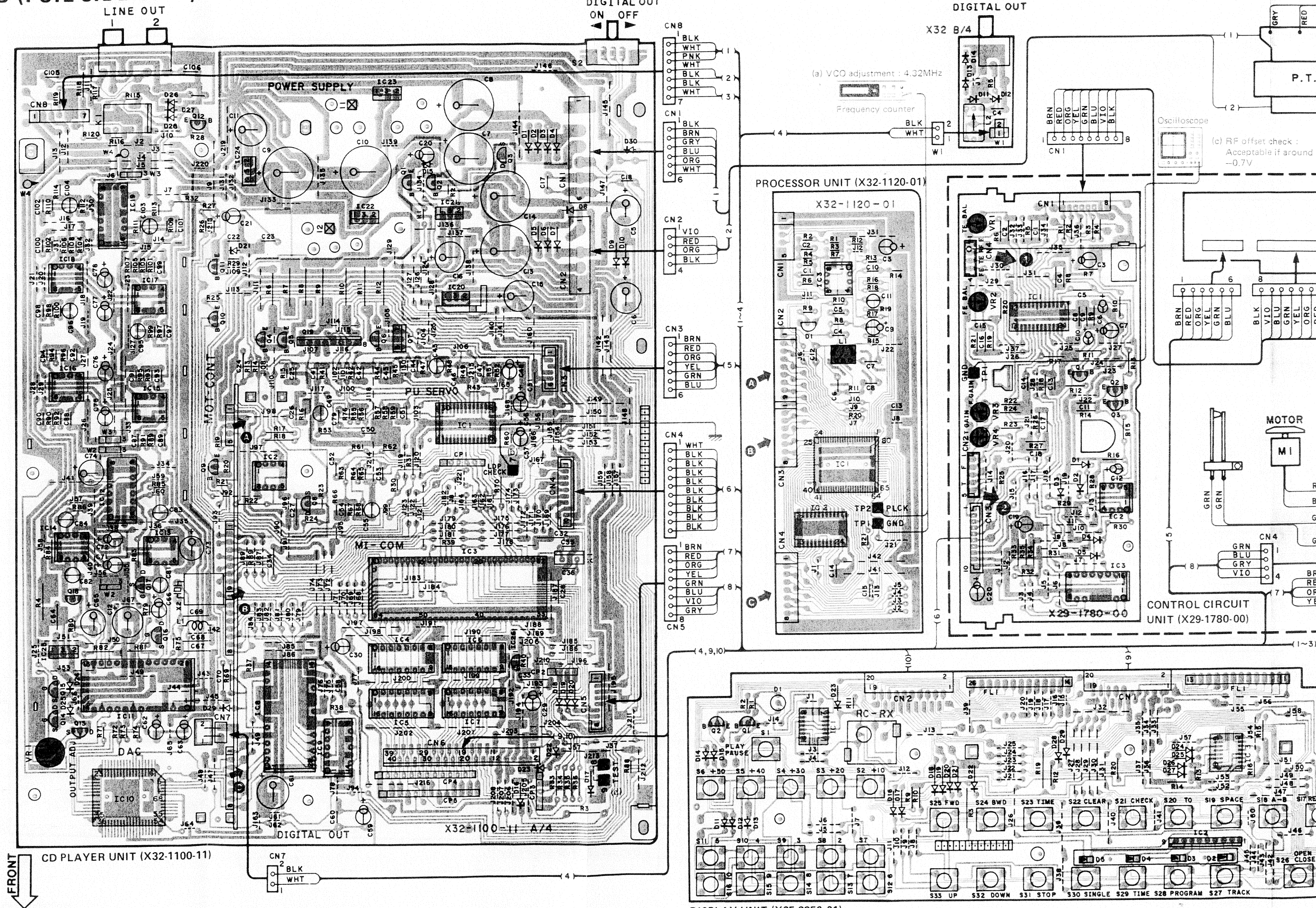
(a) VCO adjustment : 4.32MHz

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

DP-1100D (K)



# PC BOARD (FOIL SIDE VIEW)



FRONT

CD PLAYER UNIT (X32-1100-11)

CN7  
2 BLK  
1 WHT

DIGITAL OUT

X32-1100-11 A74

(4)

DIGITAL OUT

ON OFF

CN8  
1 BLK  
2 WHT  
3 PNK  
4 BLK  
5 WHT  
6 BLK  
7 WHT

CN1  
1 BLK  
2 BRN  
3 GRY  
4 BLU  
5 ORG  
6 WHT

CN2  
1 VIO  
2 RED  
3 ORG  
4 BLK

CN3  
1 BRN  
2 RED  
3 ORG  
4 YEL  
5 GRN  
6 BLU

CN4  
1 WHT  
2 BLK  
3 BLK  
4 BLK  
5 BLK  
6 BLK  
7 BLK

CN5  
1 BRN  
2 RED  
3 ORG  
4 YEL  
5 GRN  
6 BLU  
7 VIO  
8 GRY

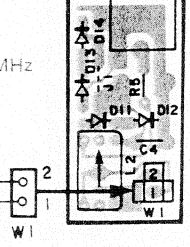
PROCESSOR UNIT (X32-1120-01)

(a) VCO adjustment : 4.32MHz

Frequency counter

DIGITAL OUT

X32 B/4



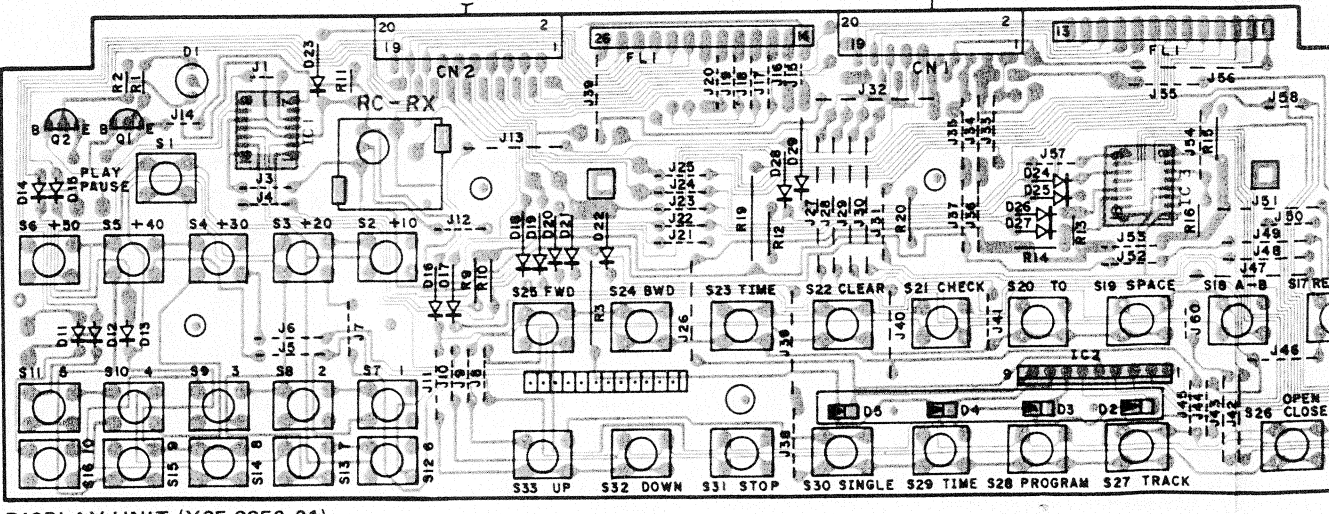
Oscilloscope

(c) RF offset check :  
Acceptable if around  
-0.7V

CONTROL CIRCUIT UNIT (X29-1780-00)

MOTOR

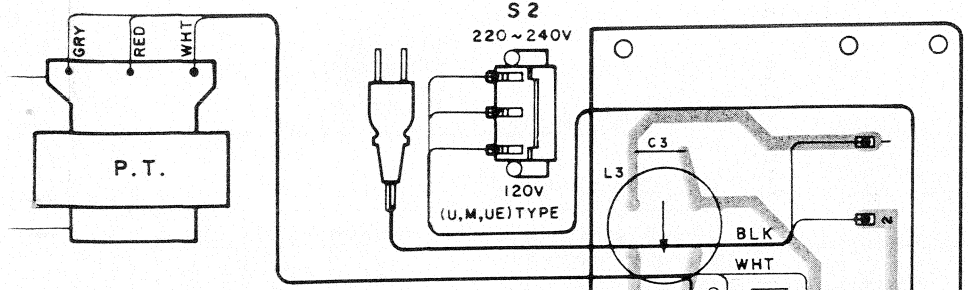
M1



DISPLAY UNIT (X25-2850-01)

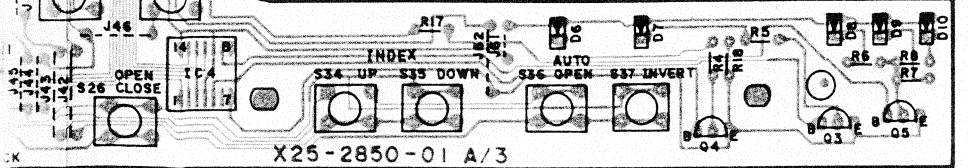
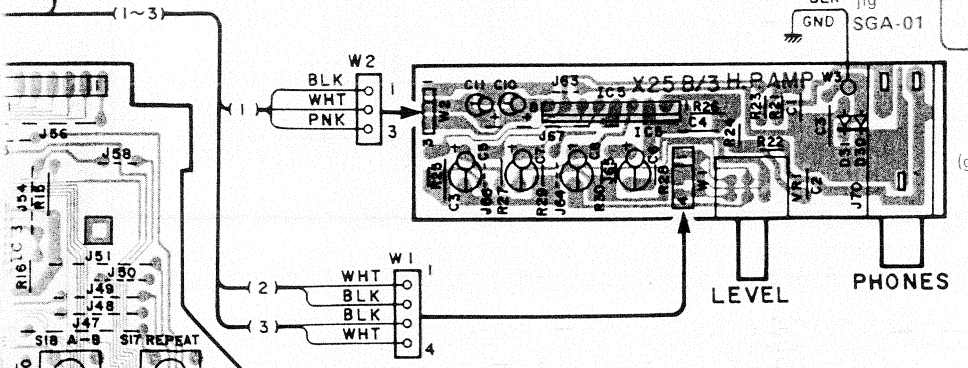
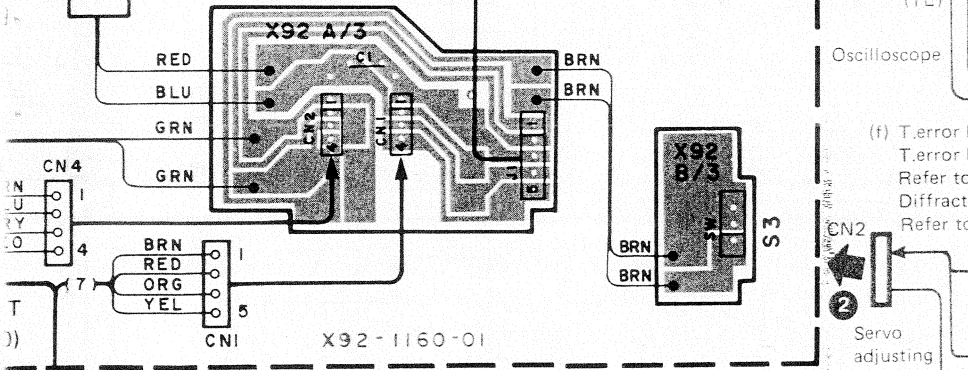
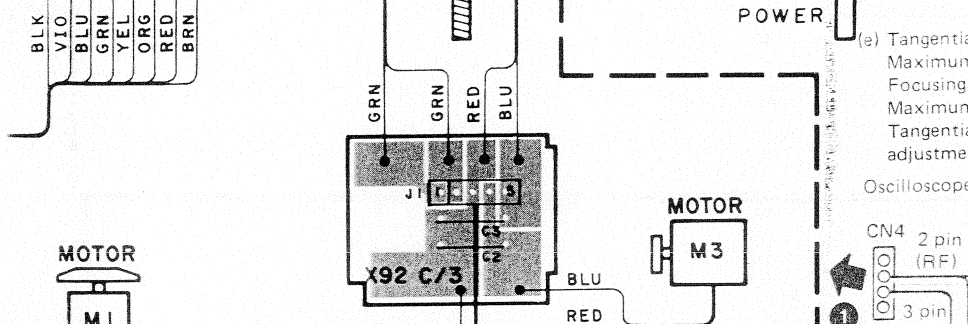
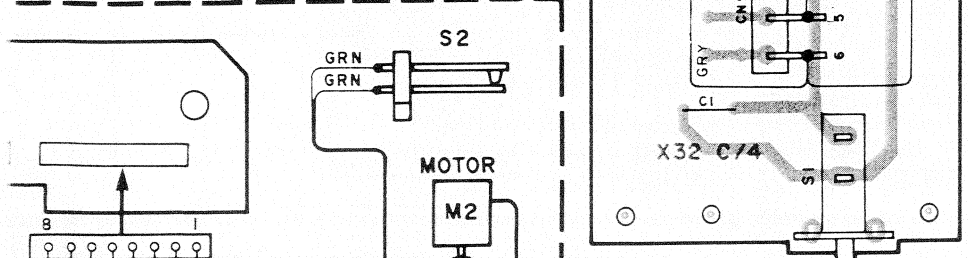
Refer to the schematic diagram for the values of resistors and capacitors.



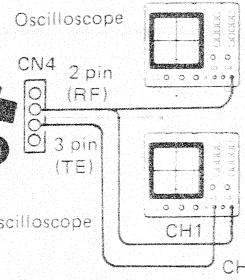


Offset check :  
 probable if around  
 V

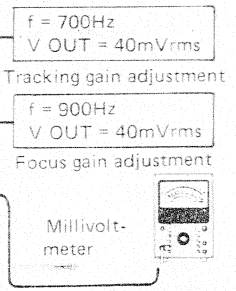
MECHANISM ASS'Y (X92-1160-01)



- (e) Tangential setting :  
 Maximum amplitude  
 Focusing offset coarse adjustment :  
 Maximum amplitude  
 Tangential, Focusing offset fine  
 adjustment : Optimum waveform

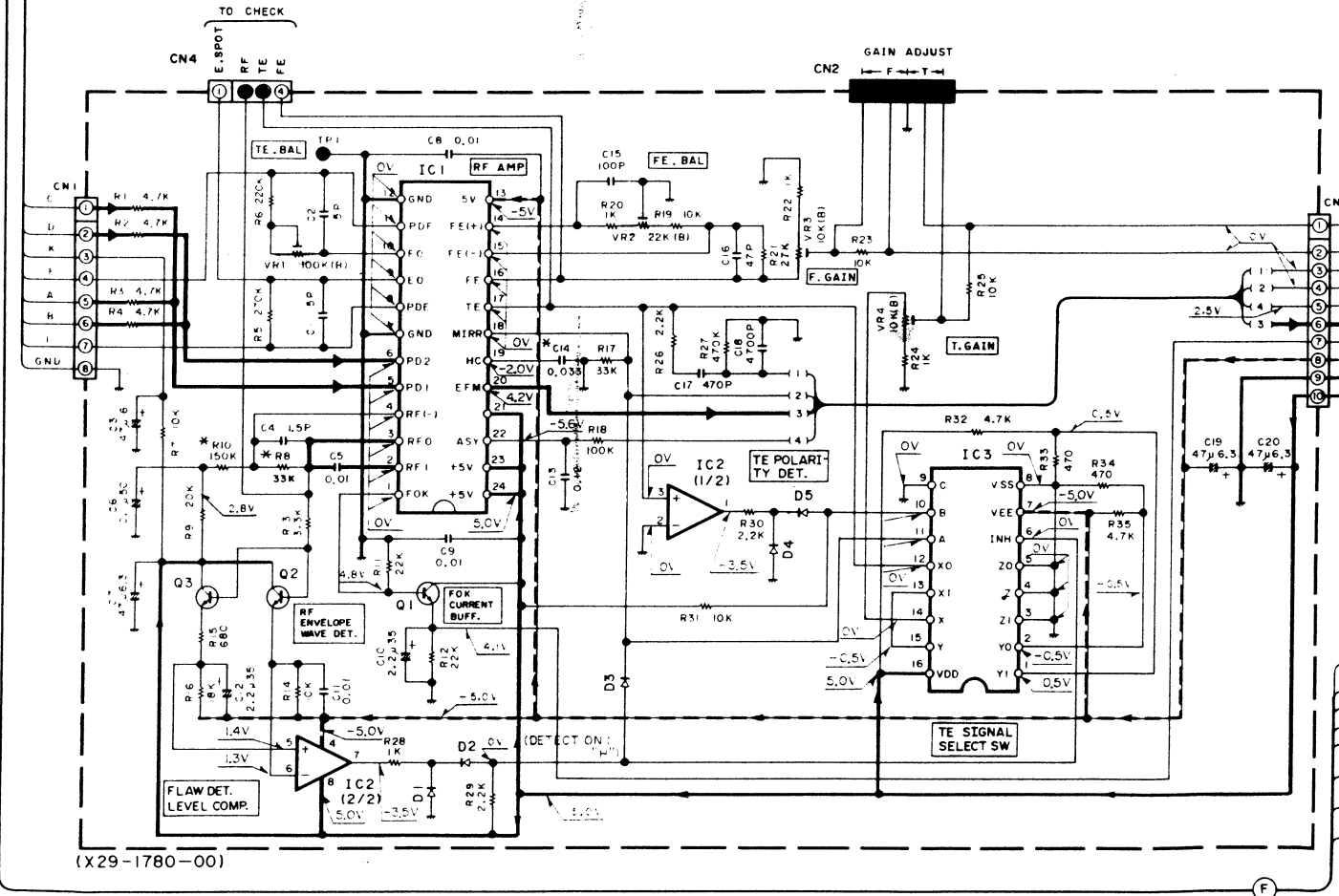
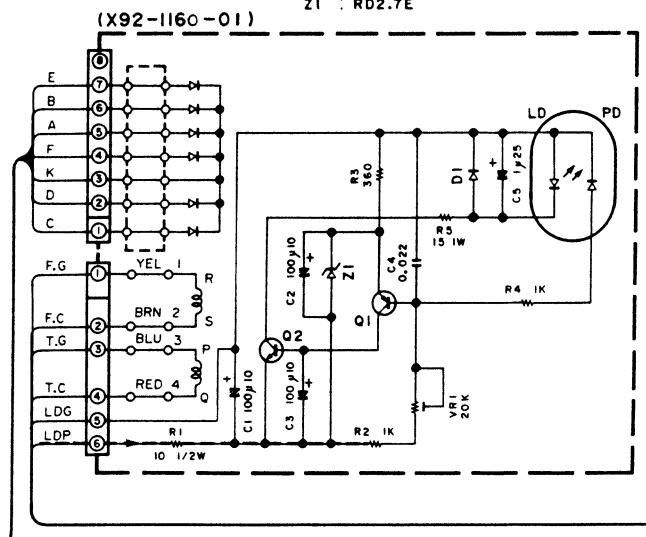
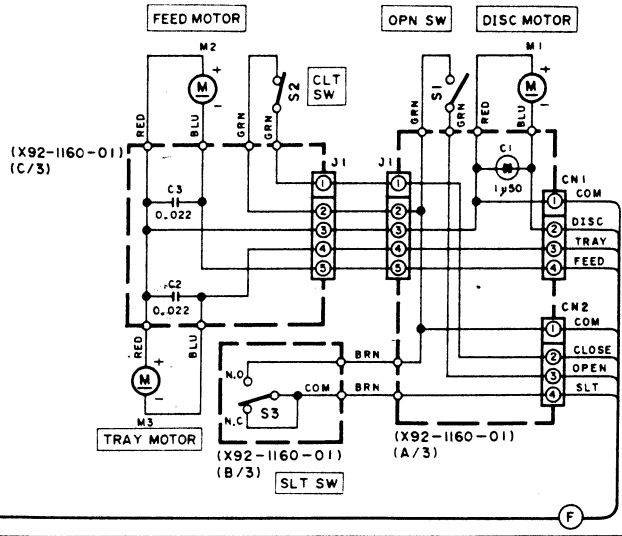


- (f) T.error balance coarse adjustment/  
 T.error balance fine adjustment :  
 Refer to Photo. 5  
 Diffraction grating adjustment (PU) :  
 Refer to Fig. 1



- (g) Focus gain adjustment :  
 40mVrms  
 Tracking gain adjustment :  
 40mVrms

Q1 : 2SA1115  
 Q2 : 2SC2673  
 D1 : 1S2475  
 Z1 : RD2.7E



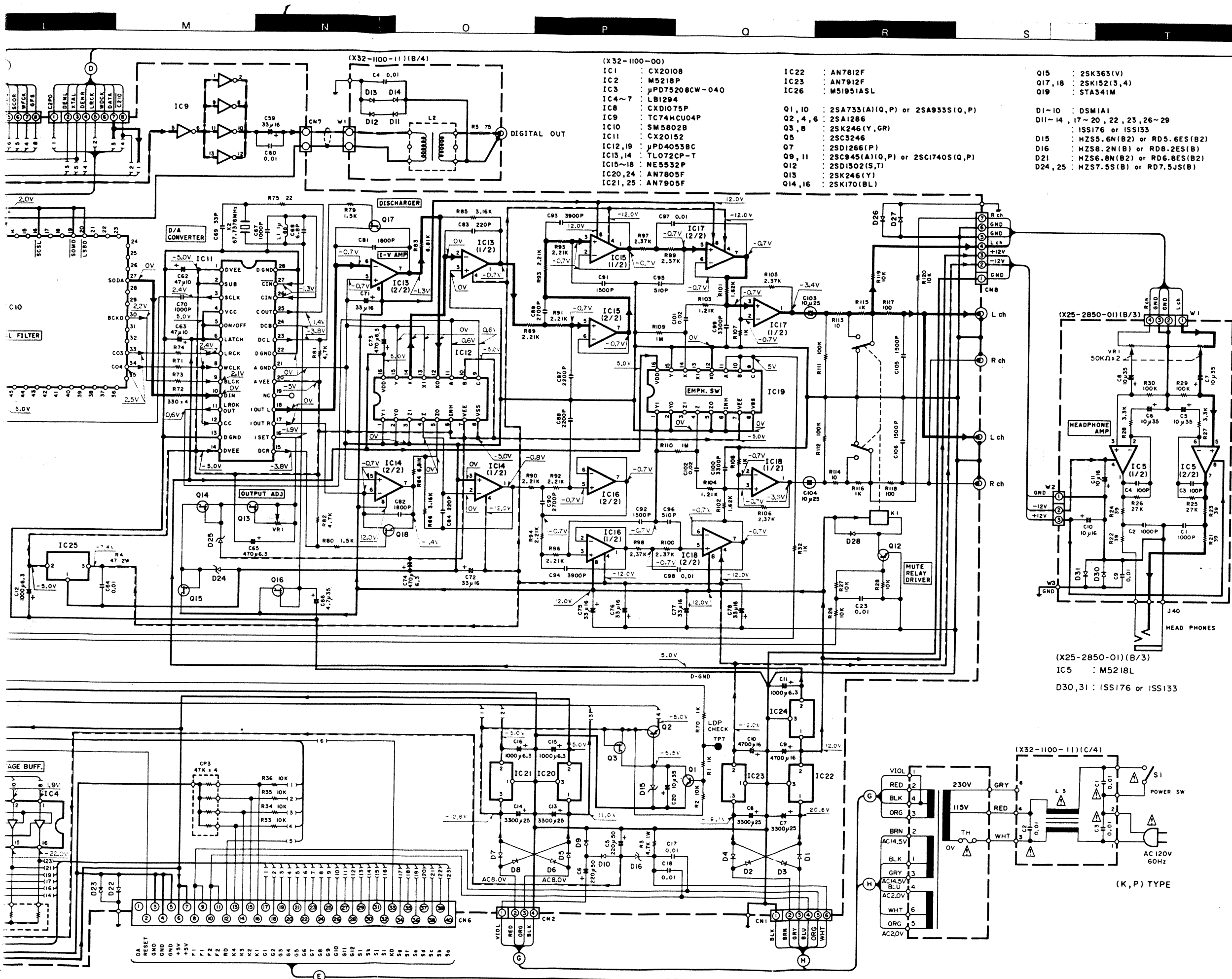
IC1 : CX-20109  
 IC2 : M5218P  
 IC3 :  $\mu$ PD4053BC or BU4053B  
 Q1-3 : 2SC945(A) (Q, P)  
 D1-5 : 1SS176 or 1SS133

**\*Note (X29-1780-00)**  
 After serial No. 6ZL80001 : R10 150k $\Omega$   $\rightarrow$  Delete  
 R8 33k $\Omega$   $\rightarrow$  22k $\Omega$  C14 0.033 $\mu$ F  $\rightarrow$  1000pF

- DC voltages are as 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 Voltmeter gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten geringfügig.

Remarks : These voltages are the values in STOP mode.





- (X32-1100-00)
- IC1 : CX20108
  - IC2 : M5218P
  - IC3 :  $\mu$ PD75208CW-040
  - IC4~7 : LB1294
  - IC8 : CXD1075P
  - IC9 : TC74HCU04P
  - IC10 : SM5802B
  - IC11 : CX20152
  - IC12,19 :  $\mu$ PD4053BC
  - IC13,14 : TLO72CP-T
  - IC15~18 : NE5532P
  - IC20,24 : AN7805F
  - IC21,25 : AN7905F

- IC22 : AN7812F
- IC23 : AN7912F
- IC26 : M51951ASL
- Q1,10 : 2SA733(A)(Q,P) or 2SA933S(Q,P)
- Q2,4,6 : 2SA1286
- Q3,8 : 2SK246(Y,GR)
- Q5 : 2SC3246
- Q7 : 2SD1266(P)
- Q9,11 : 2SC945(A)(Q,P) or 2SC1740S(Q,P)
- Q12 : 2SD1302(S,T)
- Q13 : 2SK246(Y)
- Q14,16 : 2SK170(BL)

- Q15 : 2SK363(V)
- Q17,18 : 2SK152(3,4)
- Q19 : STA341M
- D1~10 : DSM1A1
- D11~14 : 17~20, 22, 23, 26~29
- D15 : ISS176 or ISS133
- D16 : HZ58.6N(B2) or RD5.6ES(B2)
- D21 : HZ58.2N(B) or RD8.2ES(B)
- D24,25 : HZ56.8N(B2) or RD6.8ES(B2)

- 2SA1286 2SC945(A) 2SD1266
- 2SA733 2SD1302
- 2SC3246
- 

- 2SA933S 2SC1740S
- 2SK246
- 

- 2SK170 2SK363
- 2SK152
- 

- NE5532P TLO72CP-T
- TC74HCU04P
- 

- LB1294
- BU4053B  $\mu$ PD4053BC
- 

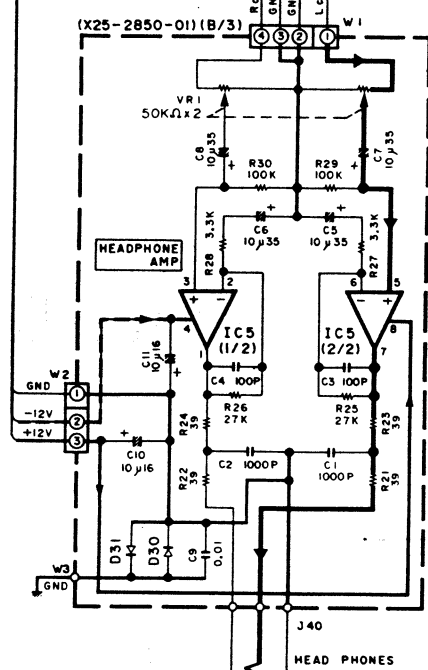
- CXD1075P
- M5218L STA341M
- 

- AN7805F AN7812F
- M51951ASL
- 

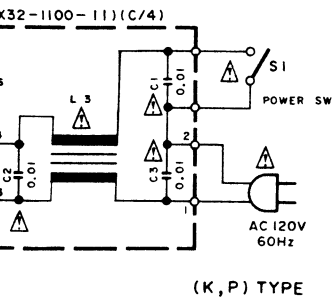
- AN7905F AN7912F
- CX20152
- 

- CX20109 CX20108
- 

- $\mu$ PD75208CW-040 SM5802B
- 



- (X25-2850-01)(B/3)
- IC5 : M5218L
- D30,31 : ISS176 or ISS133

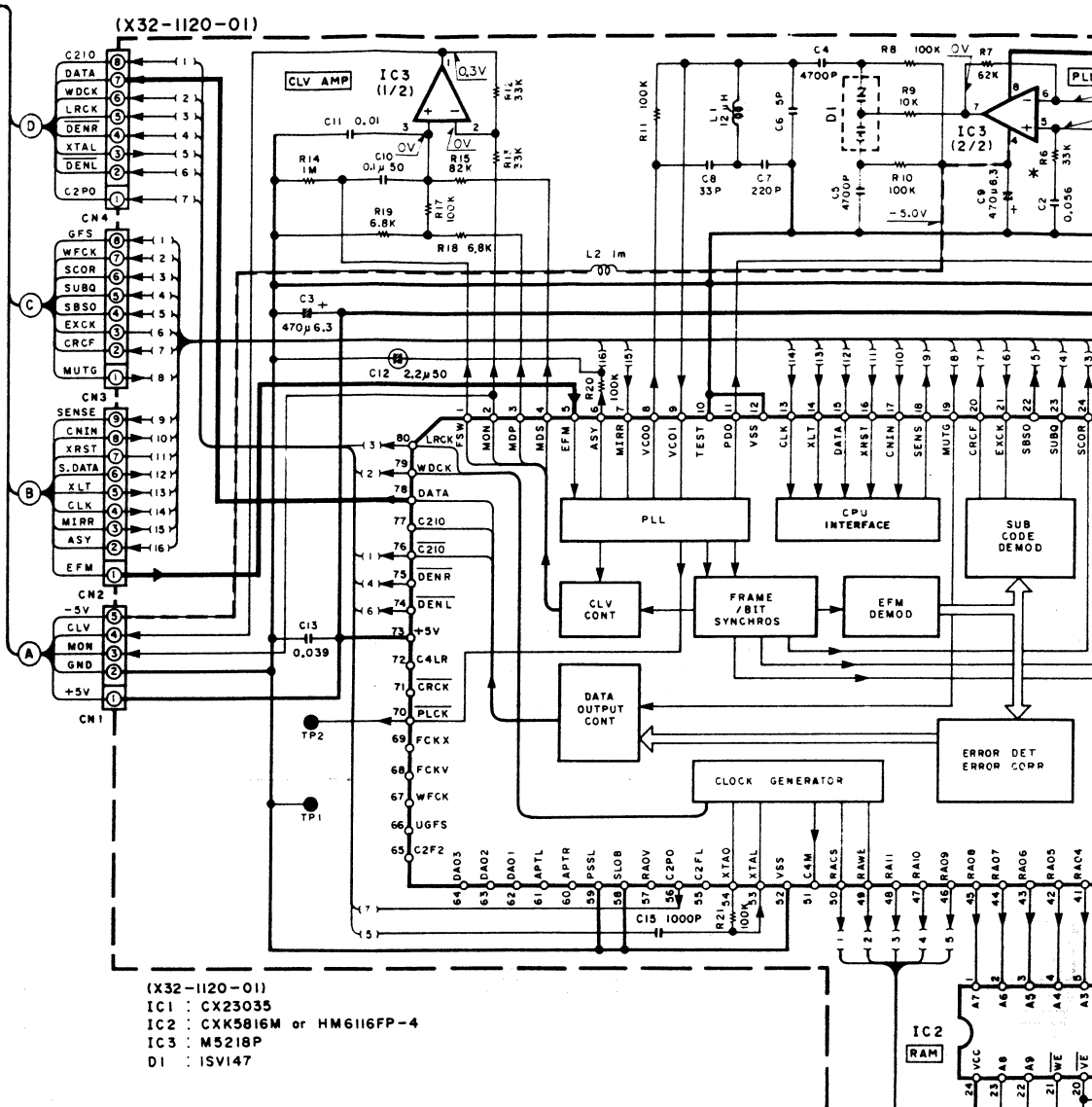
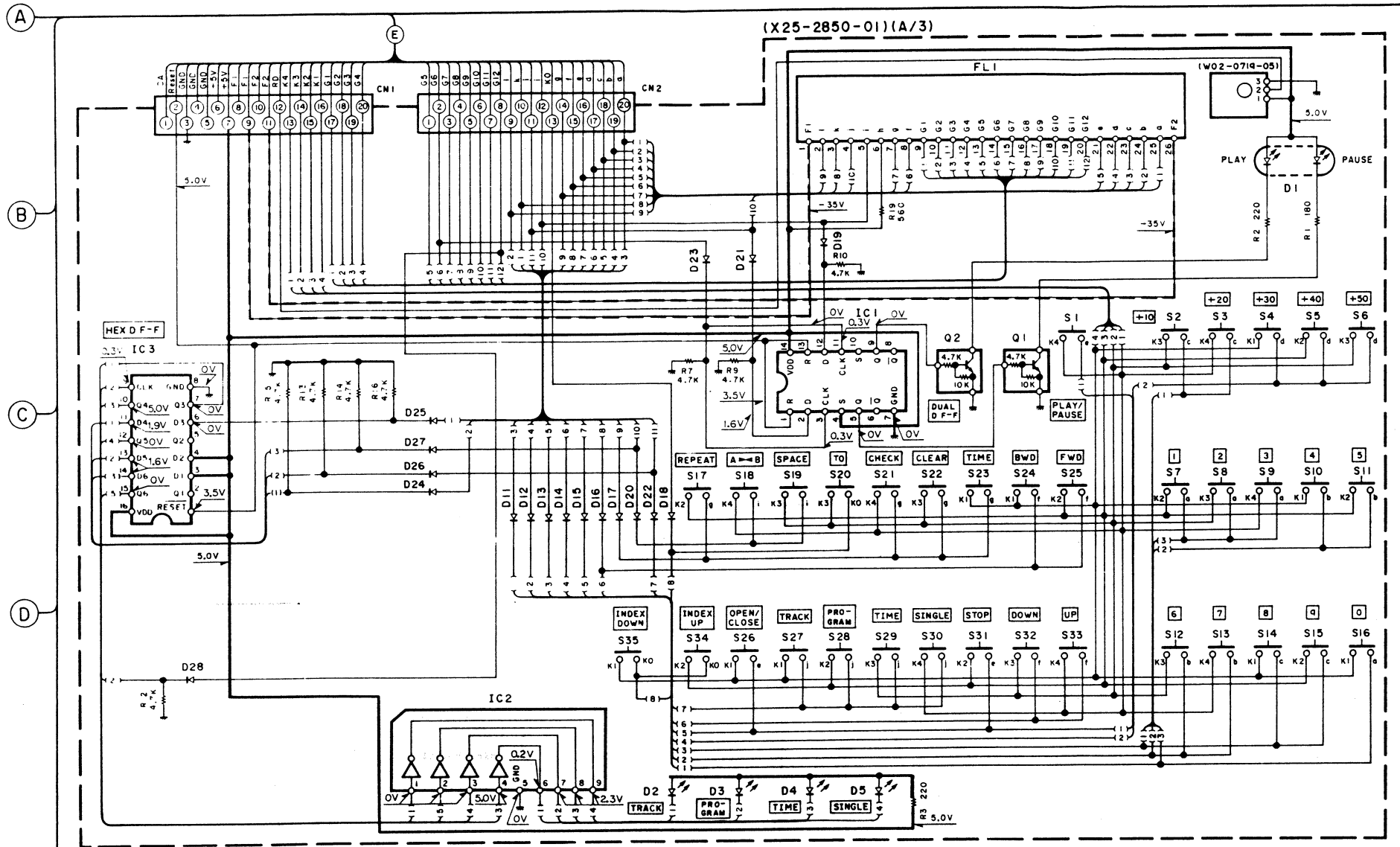


(K,P) TYPE

DP-1100D(K) (1/2)

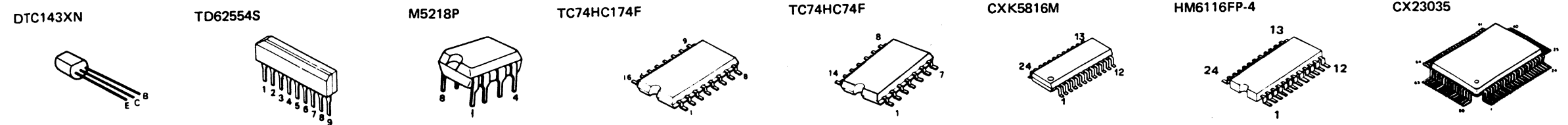
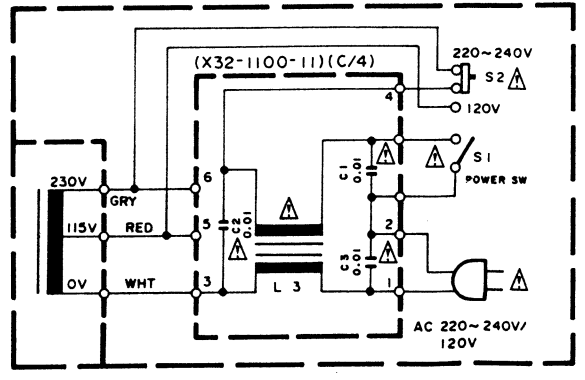
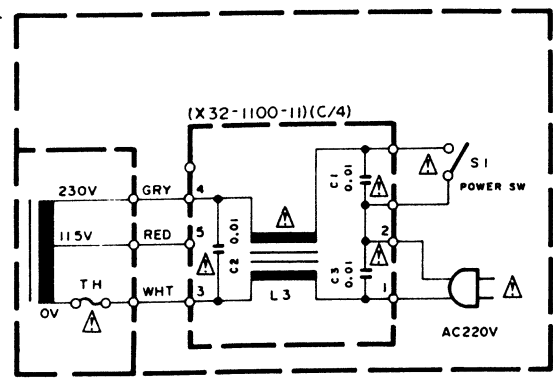
**DP-1100D**  
**KENWOOD**





- (X32-1120-01)  
 IC1 : CX23035  
 IC2 : CXK5816M or HM6116FP-4  
 IC3 : M5218P  
 D1 : ISV147
- (X25-2850-01)(A/3)  
 IC1 : TC74HC74F  
 IC2 : TD62554S  
 IC3 : TC74HC174F  
 Q1,2 : DTC143XN  
 D1 : B30-1172-05  
 D2-5 : B30-1012-05  
 D11-28 : ISS176 or ISS133  
 FL1 : CP5294GR

\*Note (X32-1120-01)  
 After serial No. 6ZL80001 :  
 R6 33kΩ → 12kΩ



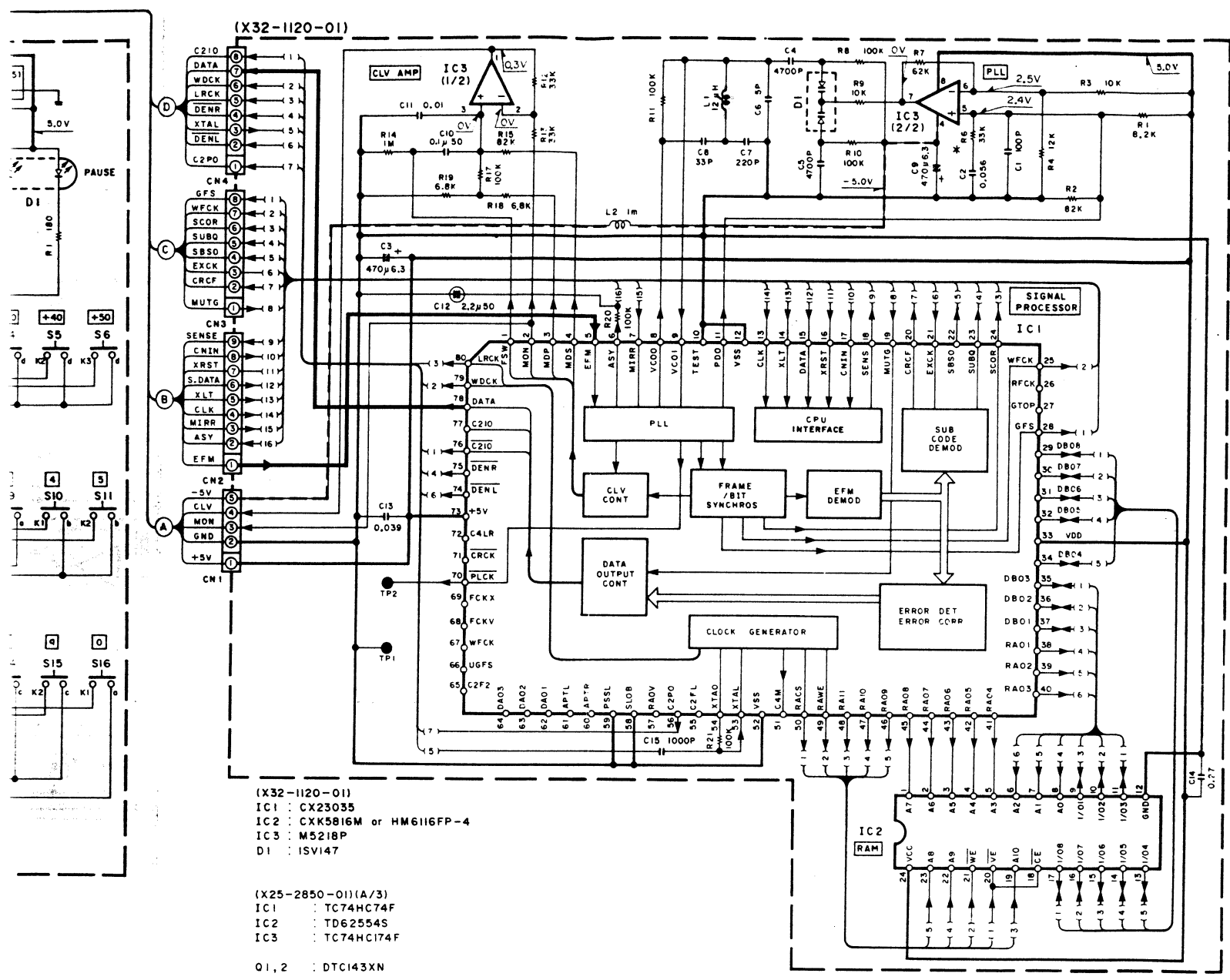
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably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

• DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.  
 • Les tensions d.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 Voltmeter gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen instrumenten oder Geräten u.U. geringfügig.

Remarks : These voltages are the values in STOP mode.



## EXPLODED VIEW (MECHANISM)



DP-1100D (K) (2/2)

**(X32-1120-01)**  
 IC1 : CX23035  
 IC2 : CXK5816M or HM6116FP-4  
 IC3 : M5218P  
 D1 : ISV147

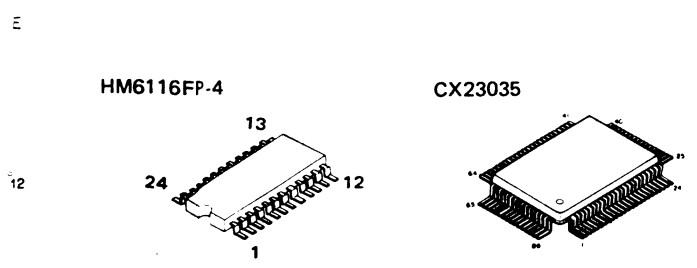
**(X25-2850-01)(A/3)**  
 IC1 : TC74HC74F  
 IC2 : TD62554S  
 IC3 : TC74HC174F

O1, 2 : DTC143XN

D1 : B30-1172-05  
 D2-5 : B30-1012-05  
 D11-28 : ISS176 or ISS133

FL1 : CP52946R

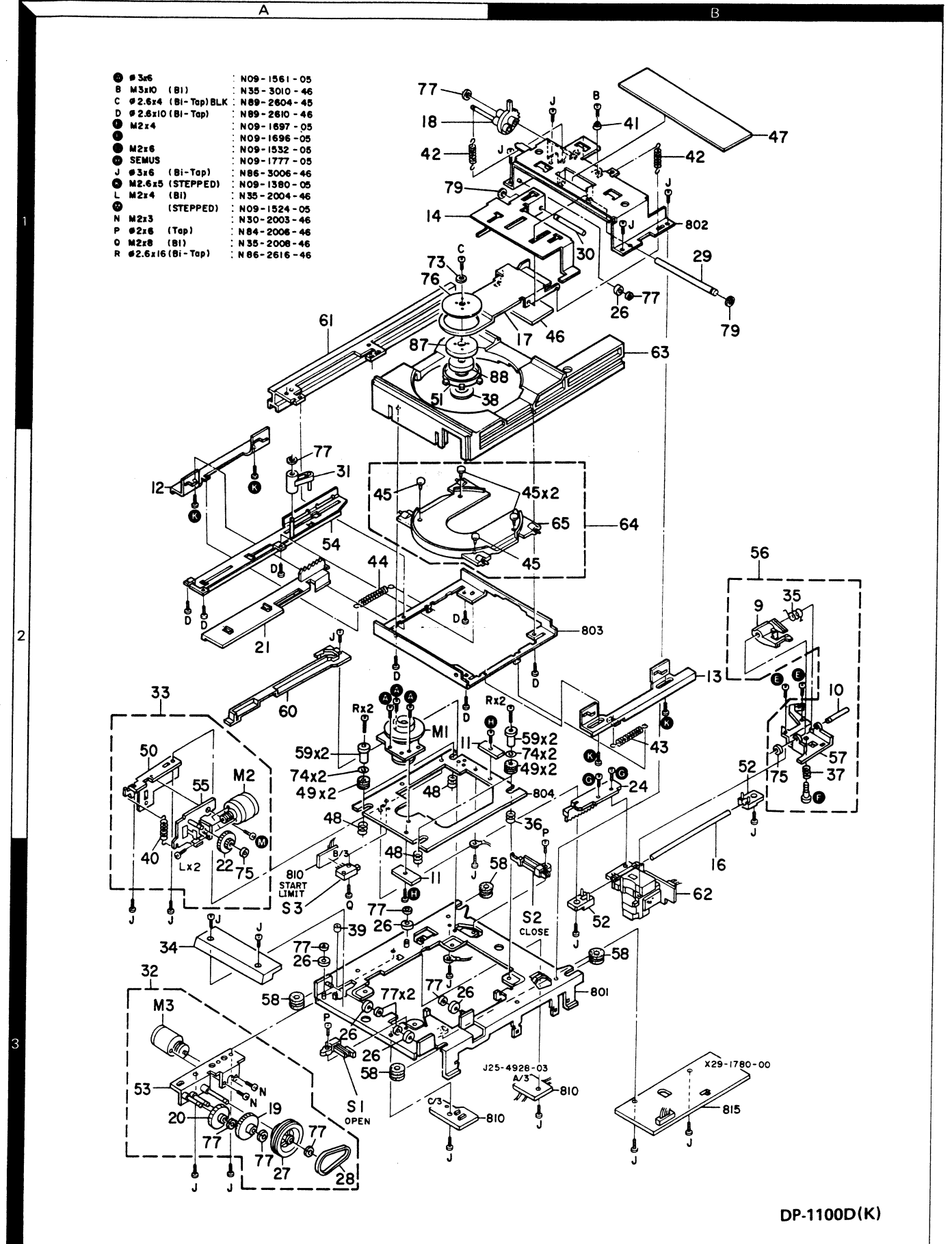
**\*Note (X32-1120-01)**  
 After serial No. 6ZL80001 :  
 R6 33kΩ → 12kΩ



measured with a high impedance  
 may vary slightly due to variations  
 instruments or/and units.

Les tensions c.c. doivent être mesurées avec un volt-  
 metre 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 Voltmeter gemessen. Dabei  
 schwanken die Meßwerte aufgrund von Unterschieden  
 zwischen einzelnen Instrumenten oder Geräten. Die  
 geringfügig



- #3x6 N09-1561-05
- #3x10 (B1) N35-3010-46
- #2.6x4 (B1-Top) BLK N89-2804-46
- #2.6x10 (B1-Top) N89-2610-46
- M2x4 N09-1697-05
- M2x6 N09-1696-05
- SEMUS N09-1532-05
- #3x6 (B1-Top) N86-3006-46
- M2.6x5 (STEPPED) N09-1380-05
- M2x4 (B1) N35-2004-46
- (STEPPED) N09-1524-05
- M2x3 N30-2003-46
- #2x6 (Top) N84-2008-46
- M2x8 (B1) N35-2008-46
- #2.6x16 (B1-Top) N86-2616-46

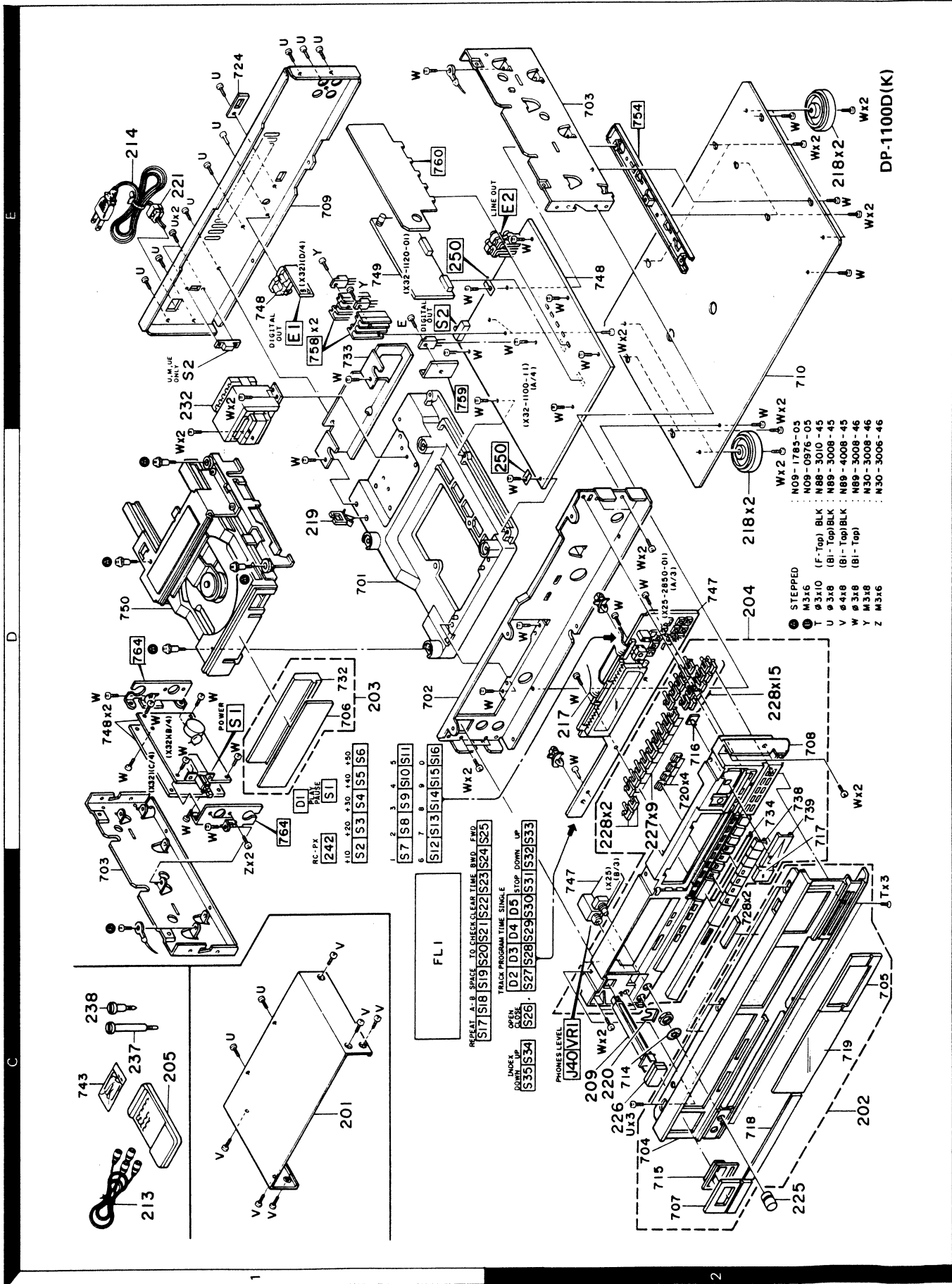
# DP-1100D

## KENWOOD

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

# DP-1100D

## EXPLODED VIEW (UNIT)



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

## PARTS LIST

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Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
237	1C		N09-1691-05	STEPPED SCREW (LONG)		
238	1C		N09-1735-05	STEPPED SCREW (SHORT)		
A	1D		N09-1785-05	STEPPED SCREW (MECHA)		
B	1C		N09-0976-05	TAPTITE SCREW (M3X6)		
△ S2	1E		S31-2083-05	SLIDE SWITCH (POWER TYPE)	UMUE	
<b>DISPLAY UNIT (X25-1850-01)</b>						
D1	1D	*	B30-1172-05	LED (PLAY/PAUSE)		
D2	-5		B30-1012-05	LED(SLP-981C-50) TRACK ETC		
C1	.2		CF92FV1H102J	MF 1000PF J		
C3	.4		C91-0745-05	CERAMIC 100PF K		
C5	-8		CE04KW1V100M	ELECTR0 10UF 35WV		
C9			C91-0769-05	CERAMIC 0.01UF M		
C10	.11		CE04JW1C100M	ELECTR0 10UF 16WV		
C12			CK45FB1H102K	CERAMIC 0.010UF K		
J40	2C		E11-0127-05	PHONE JACK (3P)PHONES		
VR1	2C	*	R10-4027-05	POTENTIOMETER (LEVEL)		
S1	-35		S40-1064-05	PUSH SWITCH		
D11	-15		1SS133	DIODE		
D11	-15		1SS176	DIODE		
D16	-28		1SS133	DIODE		
D16	-28		1SS176	DIODE		
D30	.31		1SS133	DIODE		
D30	.31		1SS176	DIODE		
FL1		*	CP5294GR	FLUORESCENT INDICATOR TUBE		
IC1		*	TC74HC74F	IC(D-FLIP FL0P)		
IC2			TD62554S	IC(4CH TRANSISTOR ARRAY)		
IC3		*	TC74HC174F	IC(D-FLIP FL0P)		
IC5			M5218L	IC(OP AMP X2)		
Q1	.2	*	DTC143XN	DIGITAL TRANSISTOR		
242	1C		W02-0719-05	ELECTRIC CIRCUIT MODULE		
<b>CD PLAYER UNIT (X32-1100-11)</b>						
△ C1	-3		C91-0647-05	CERAMIC 0.01UF P		
C4			CK45FF1H103Z	CERAMIC 0.010UF Z		
C5	.6		CE04KW1H221M	ELECTR0 220UF 50WV		
C7	.8		CE04KW1E332M	ELECTR0 3300UF 25WV		
C9	.10		CE04KW1C472M	ELECTR0 4700UF 16WV		
C11	.12		CE04KW0J102M	ELECTR0 1000UF 6.3WV		
C13	.14		CE04KW1E332M	ELECTR0 3300UF 25WV		
C15	.16		CE04KW0J102M	ELECTR0 1000UF 6.3WV		
C17	.18		CK45FF1H103Z	CERAMIC 0.010UF Z		
C20	.21		CE04KW1V100M	ELECTR0 10UF 35WV		
C22	.23		CK45FF1H103Z	CERAMIC 0.110UF Z		
C24			C91-0757-05	CERAMIC 0.001UF K		
C25	.26		CK45FF1H103Z	CERAMIC 0.010UF Z		
C27			C91-0765-05	CERAMIC 0.0047UF M		
C28			C91-0085-05	CERAMIC 0.022UF N		
C29	.30		CE04KW1A470M	ELECTR0 47UF 10WV		
C31	-34		C91-0769-05	CERAMIC 0.01UF M		
C35	.36		CC45FCH1H150J	CERAMIC 15PF J		
C41			CK45FB1H222K	CERAMIC 0.0022UF K		

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<b>DP-1100D</b>						
201	1C	*	A01-1514-02	METALLIC CABINET		
202	2C	*	A20-5013-02	PANEL ASSY		
203	1D	*	A21-0769-04	DRESSING PANEL ASSY(DISK)		
204	2D	*	A22-0600-01	SUB PANEL ASSY		
205	1C		A70-0146-05	REMOTE CONTROLLER ASSY		
-			B46-0092-03	WARRANTY CARD		K
-			B46-0094-03	WARRANTY CARD		UUE
-			B46-0095-03	WARRANTY CARD		UUE
-			B46-0096-13	WARRANTY CARD		X
-			B46-0121-03	WARRANTY CARD		P
-			B46-0122-13	WARRANTY CARD		E
-			B46-0143-03	WARRANTY CARD		T
-		*	B50-6584-10	INSTRUCTION MANUAL(ENGLISH)		KPUMUE
-		*	B50-6584-10	INSTRUCTION MANUAL(ENGLISH)		XE
-		*	B50-6585-10	INSTRUCTION MANUAL(FRENCH)		PMXE
-		*	B50-6586-10	INSTRUCTION MANUAL(SPANISH)		M
-		*	B50-6587-00	INSTRUCTION MANUAL(ENGLISH)		E
-		*	B50-6588-10	INSTRUCTION MANUAL(G.D.I)		T
-			B58-0223-04	CAUTION CARD (PRE-SET 120V)		U
-			B58-0269-04	CAUTION CARD		K
-			B58-0400-04	CAUTION CARD		
-			B58-0513-04	CAUTION CARD (PRESET220-240)		UE
-			B59-0092-00	SERVICE DIRECTORY		UUE
209	2C		D21-1157-04	EXTENSION SHAFT		
△ 213	1C		E30-0505-05	AUDIO CABD		
△ 214	1E		E30-0459-05	AC POWER CABD		E
△ 214	1E		E30-0780-05	AC POWER CABD		KP
△ 214	1E		E30-0812-05	AC POWER CABD		UMUE
△ 214	1E		E30-1341-05	AC POWER CABD		X
△ 214	1E		E30-1416-05	AC POWER CABD		T
-		*	H01-7411-04	ITEM CARTON CASE		
-		*	H10-3383-02	POLYSTYRENE FOAMED FIXTURE(L)		
-		*	H10-3384-02	POLYSTYRENE FOAMED FIXTURE(R)		
-			H20-0417-04	PROTECTION COVER(460X370X360)		M
-			H25-0232-04	PROTECTION BAG (235X350X0.03)		
-			H25-0289-04	PROTECTION BAG (850X400X0.05)		KPUUEX
-			H25-0289-04	PROTECTION BAG (850X400X0.05)		TE
217	2D	*	J25-4925-03	PRINTED WIRING BOARD(FLEXIBLE)		
218	2D+2E	*	J02-0188-15	INSULATOR		
219	1D	*	J19-2808-05	HOLDER		
220	2C		J21-3326-05	JACK MOUNTING HARDWARE		
△ 221	1E		J42-0083-05	POWER CABD BUSHING		
-			J61-0033-05	WIRE BAND		
-			J61-0070-05	WIRE BAND		
-			J61-0307-05	WIRE BAND		
225	2C		K29-1641-04	KN0B (LEVEL)		
226	2C		K29-2516-04	KN0B(BUTTON) POWER		
227	2C	*	K29-2546-04	KN0B(BUTTON)		
228	2D	*	K29-2581-04	KN0B(BUTTON) CHANNEL, ETC		
△ 232	1E	*	L01-7414-05	POWER TRANSFORMER		

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# DP-1100D DP-1100D

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C42			Ck45FF1H103Z	CERAMIC 0.010UF Z		
C43			Cc45FSL1H470J	CERAMIC 47PF J		
C44			Ck45FB1H222K	CERAMIC 0.0022UF K		
C45			C90-1349-05	NP-ELEC 1UF 50WV		
C46			CF92FV1H102J	MF 1000PF J		
C47			CF92FV1H474J	MF 0.47UF J		
C48			CE04KW1V100M	ELECTR0 10UF 35WV		
C49			C90-1333-05	NP-ELEC 10UF 25WV		
C50			CF92FV1H153J	MF 0.015UF J		
C51			CF92FV1H273J	MF 0.027UF J		
C52			CF92FV1H104J	MF 0.10UF J		
C53			CF92FV1H472J	MF 4700PF J		
C54			CF92FV1H222J	MF 2200PF J		
C55			C90-1349-05	NP-ELEC 1UF 50WV		
C56	.57		CE04KW1A470M	ELECTR0 47UF 10WV		
C58			Ck45FF1H103Z	CERAMIC 0.010UF Z		
C59			CE04KW1C330M	ELECTR0 33UF 16WV		
C60			Ck45FF1H103Z	CERAMIC 0.010UF Z		
C61			CE04KW0J102M	ELECTR0 1000UF 6.3WV		
C62	.63		CE04KW1A470M	ELECTR0 47UF 10WV		
C64			C91-0769-05	CERAMIC 0.01UF M		
C65			CE04KW0J471M	ELECTR0 470UF 6.3WV		
C66			CE04KW1V4R7M	ELECTR0 4.7UF 35WV		
C67			C91-0757-05	CERAMIC 0.001UF K		
C68			C91-0719-05	CERAMIC 6.8PF K		
C69			C91-0733-05	CERAMIC 33PF J		
C70			C91-0757-05	CERAMIC 0.001UF K		
C71	.72		CE04KW1C330M	ELECTR0 33UF 16WV		
C73	.74		CE04KW0J471M	ELECTR0 470UF 6.3WV		
C75	-78		CE04KW1C330M	ELECTR0 33UF 16WV		
C79			CF92FV1H333J	MF 0.033UF J		
C81	.82		C009FS1H182JZS	P0LYSTY 1800PF J		
C83	.84		C009FS1H221JZS	P0LYSTY 2200PF J		
C87	.88		C093HP2A222J	MYLAR 2200PF J		
C89	.90	*	C093HP2A272J	MYLAR 2700PF J		
C91	.92		C093HP2A152J	MYLAR 1500PF J		
C93	.94		C093HP2A392J	MYLAR 3900PF J		
C95	.96		C009FS1H511JZS	P0LYSTY 510PF J		
C97	.98		C093HP2A103J	MYLAR 0.010UF J		
C99	.100		C093HP2A332J	MYLAR 3300PF J		
C101,102		*	C093HP2A203J	MYLAR 0.020UF J		
C103,104			C90-1396-05	NP-ELEC 33UF 10WV		
C105,106			C093HP2A152J	MYLAR 1500PF J		
250	2D,1E		E23-0149-05	TERMINAL		
E1	1E		E13-0130-05	PH0N0 JACK (DIGITAL 0UT)		
E2	2E		E13-0446-05	PH0N0 JACK(4P) LINE 0UT		
L1		*	L40-1092-14	SMALL FIXED INDUCT0R(1.0UH.M)		
L2			L39-0142-05	MATCHING COIL		
L3			L79-0733-05	LINE FILTER		
X1			L78-0209-05	RESONAT0R (4.194MHZ)		
X1			L78-0218-05	RESONAT0R		
X2			L77-1116-05	CRYSTAL RESONAT0R		
CP1			R90-0228-05	MULTI-C0MP 10KX5 J 1/6W		

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CP2			R90-0290-05	MULTI-C0MP 10KX3 J 1/6W		
CP3			R90-0202-05	MULTI-C0MP 47KX4 J 1/6W		
CP4	.5		R90-0295-05	MULTI-C0MP 47KX12 J 1/6W		
R3			RS14KB3A472J	FL-PR00F RS 4.7K J 1W		
R4			RS14KB3D470J	FL-PR00F RS 47 J 2W		
R6			RS14KB3A1R0J	FL-PR00F RS 1.0 J 1W		
R7	.8	*	RS14KB3D6R8J	FL-PR00F RS 6.8 J 2W		
R9	.10	*	RS14KB3D2R7J	FL-PR00F RS 2.7 J 2W		
R11	.12		RS14KB3D120J	FL-PR00F RS 12 J 2W		
R13	.14		RN14BK2C3482F	RN 34.8K F 1/6W		
R17	.18	*	RN14BK2C3832F	RN 38.3K F 1/6W		
R83	.84		RN14BK2C6811F	RN 6.81K F 1/6W		
R85	.86		RN14BK2C3161F	RN 3.16K F 1/6W		
R89	-96	*	RN14BK2C211F	RN 2.21K F 1/6W		
R97	-100	*	RN14BK2C2371F	RN 2.37K F 1/6W		
R101,102			RN14BK2C1621F	RN 1.62K F 1/6W		
R103,104		*	RN14BK2C4870F	RN 487.0 F 1/6W		
R105,106		*	RN14BK2C2371F	RN 2.37K F 1/6W		
R107,108			RN14BK2C1001F	RN 1.00K F 1/6W		
R111,112			RN14BK2C1003F	RN 100K F 1/6W		
R113,114			RN14BK2C10R0F	RN 10.0 F 1/6W		
R115,116			RN14BK2C1001F	RN 1.00K F 1/6W		
R117,118			RN14BK2C1000F	RN 100.0 F 1/6W		
R119,120			RN14BK2C1002F	RN 10.0K F 1/6W		
VR1			R12-3096-05	TRIMMING P0T. (10K)0UTPUT ADJ		
K1		△	S51-2074-05	MAGNETIC RELAY		
S1			S40-1103-05	PUSH SWITCH (POWER TYPE)		
S2			S31-2094-05	SLIDE SWITCH (DIGITAL 0UT)		
D1	-10		DSM1A1	DI0DE		
D11	-14		1SS133	DI0DE		
D11	-14		1SS176	DI0DE		
D15			HZ55.6N(B2)	ZENER DI0DE		
D15			RD5.6ES(B2)	ZENER DI0DE		
D16		*	HZ58.2N(B)	ZENER DI0DE		
D16		*	RDB.2ES(B)	ZENER DI0DE		
D17	-20		1SS133	DI0DE		
D17	-20		1SS176	DI0DE		
D21			HZ56.8N(B2)	ZENER DI0DE		
D21			RD6.8ES(B2)	ZENER DI0DE		
D22	.23		1SS133	DI0DE		
D22	.23		1SS176	DI0DE		
D24	.25		HZ57.5S(B)	ZENER DI0DE		
D24	.25		RD7.5JS(B)	ZENER DI0DE		
D26	-30		1SS133	DI0DE		
D26	-30		1SS176	DI0DE		
IC1			CX2010B	IC(CD SERV0)		
IC2			MS218P	IC(0P AMP X2)		
IC3			UPD7520BCW-040	IC(MICR0PR0CESS0R)		
IC4	-7		LB1294	IC(6CH DARLINGTON DRIVER)		
IC8			CXD1075P	IC(DIGITAL AUDIO DATA)		
IC9		*	TC74HC04P	IC(HEX INVERTER)		
IC10		*	SMS802B	IC(DIGITAL FILTER FOR CD)		
IC11			CX20152	IC(16-BIT D/A C0NVERTER)		
IC12			UPD4053BC	IC(3-INPUT 2CH MPX/DE-MPX)		

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# DP-1100D DP-1100D

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IC13,14			TL072CP-T	IC(OP AMP X2)		
IC15-18			NE5532P	IC(OP AMP X2)		
IC19			UPD4053BC	IC(3-INPUT 2CH MPX/DE-MPX)		
IC20			AN7805F	IC(VOLTAGE REGULATOR/ +15V)		
IC21			AN7905F	IC(VOLTAGE REGULATOR/ -5V)		
IC22			AN7812F	IC(VOLTAGE REGULATOR/ +12V)		
IC23			AN7912F	IC(VOLTAGE REGULATOR/ -12V)		
IC24			AN7805F	IC(VOLTAGE REGULATOR/ +15V)		
IC25			AN7905F	IC(VOLTAGE REGULATOR/ -5V)		
IC26			MS1951ASL	IC(SYSTEM RESET)		
Q19			STA341M	TRANSISTOR		
Q1			2SA733(A)(Q,P)	TRANSISTOR		
Q1			2SA933S(Q,R)	TRANSISTOR		
Q2			2SA1286	TRANSISTOR		
Q3			2SK246(Y,GR)	FET		
Q4			2SA1286	TRANSISTOR		
Q5			2SC3246	TRANSISTOR		
Q6			2SA1286	TRANSISTOR		
Q7			2SD1266(P)	TRANSISTOR		
Q8			2SK246(Y,GR)	FET		
Q9			2SC1740S(Q,R)	TRANSISTOR		
Q9			2SC945(A)(Q,P)	TRANSISTOR		
Q10			2SA733(A)(Q,P)	TRANSISTOR		
Q10			2SA933S(Q,R)	TRANSISTOR		
Q11			2SC1740S(Q,R)	TRANSISTOR		
Q11			2SC945(A)(Q,P)	TRANSISTOR		
Q12			2SD1302(S,T)	TRANSISTOR		
Q13			2SK246(Y)	FET		
Q14			2SK170(BL)	FET		
Q15			2SK363(V)	FET		
Q16			2SK170(BL)	FET		
Q17,18			2SK152(3,4)	FET		
<b>PROCESSOR UNIT (X32-1120-01)</b>						
C1			CC45FSL1H101J	CERAMIC 100PF J		
C2			CF92FV1H563J	MF 0.056UF J		
C3			CE04KW0J471M	ELECTRO 470UF 6.3WV Z		
C4	,5		CK45FF1H472Z	CERAMIC 0.0047UF Z		
C6			CC45FUJ1H050C	CERAMIC 5.0PF C		
C7			CC45FUJ1H221J	CERAMIC 220PF J		
C8			CC45FUJ1H330J	CERAMIC 33PF J		
C9			CE04KW0J471M	ELECTRO 470UF 6.3WV Z		
C10		*	C90-1455-05	NP-ELEC 0.1UF 50WV		
C11			CF92FV1H103J	MF 0.010UF J		
C12			C90-1350-05	NP-ELEC 2.2UF 50WV		
C13			CF92FV1H394J	MF 0.39UF J		
C14			CF92FV1H274J	MF 0.27UF J		
C15			CK45FB1H102K	CERAMIC 0.0010UF K		
L1			L32-0328-15	OSCILLATING COIL		
L2			L40-1021-14	SMALL FIXED INDUCTOR(1.0MH,K)		
D1			1SV147	VARISTOR		
IC1			CX23035	IC(DIGITAL SIGNAL PROCESSOR)		
IC2			CXK5816M	IC(2K BYTE X8 RAM (CMOS))		
IC2			HM6116FP-4	IC(16K RAM)		
IC3			MS218P	IC(OP AMP X2)		

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Teile ohne Parts No. werden nicht geliefert.

Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
<b>MECHANISM ASS'Y (X92-1160-01)</b>						
C1			C90-1349-05	NP-ELEC 1UF 50WV		
C2	,3		C91-0085-05	CERAMIC 0.022UF N		
9	2B	*	D10-1761-08	LEVER		
10	2B	*	D14-0162-04	ROLLER		
11	2A,3A	*	D91-0071-04	SUB WEIGHT		
12	2A		D10-1266-03	SLIDER (L)		
13	2B		D10-1267-03	SLIDER		
14	1A		D10-1268-03	SLIDER		
16	3B		D10-1270-14	ROD		
17	1B		D10-1271-03	ARM (CLAMPER)		
18	1A		D12-0105-15	CAM		
19	3A		D13-0159-08	GEAR		
20	3A		D13-0160-08	GEAR		
21	2A		D13-0161-03	GEAR		
22	3A		D13-0365-08	GEAR		
24	2B	*	D13-0366-05	LACK (GEAR)		
26	3A		D14-0107-04	ROLLER (CHASSIS)		
27	3A		D15-0220-08	PULLEY		
28	3A		D16-0104-08	BELT		
29	1B		D21-1051-04	SHAFT		
30	1B		D21-1052-04	SHAFT		
31	2A		D32-0122-04	STOPPER		
32	3A	*	D40-0378-05	DRIVE MECHANISM ASSY		
33	2A	*	D40-0379-05	DRIVE MECHANISM ASSY		
34	3A	*	F07-0503-04	COVER		
35	2B	*	G01-1916-08	TORSION COIL SPRING		
36	2A,2B	*	G01-1925-04	COMPRESSION SPRING		
37	2A	*	G01-1924-04	COMPRESSION SPRING(FRONT-L,GRN)		
38	1B	*	G01-1926-08	COMPRESSION SPRING		
39	3A	*	G10-0113-04	NON-WOVEN FABRIC		
40	3A		G01-1915-08	EXTENSION SPRING		
41	1B,3B		G01-0675-04	COMPRESSION SPRING		
42	1A,1B		G01-1523-04	EXTENSION SPRING(CLAMPER)		
43	2B		G01-1524-04	EXTENSION SPRING		
44	2A		G01-1525-04	EXTENSION SPRING		
45	2A,2B		G13-0166-04	CUSHION (TRAY)		
46	1B		G16-0117-04	SHEET (38X38X2)		
47	1B		G16-0134-04	SHEET (038X152X1)		
48	2A,3A		G13-0189-04	CUSHION		
49	2A,2B	*	J02-0192-05	INSULATOR		
50	2A		J21-3908-08	MOUNTING HARDWARE(J42-0407-04)		
51	1A		J11-0066-14	CLAMPER		
52	2B,3B		J19-2153-04	HOLDER		
53	3A		J21-3507-08	MOUNTING HARDWARE ASSY		
54	2A		J21-3509-03	MOUNTING HARDWARE ASSY(LACK)		
55	2A		J21-3909-08	MOUNTING HARDWARE		
56	2B	*	J21-3912-05	MOUNTING HARDWARE ASSY		
57	2B	*	J21-3913-08	MOUNTING HARDWARE		
58	3A,3B	*	J42-0142-04	BUSHING (CHASSIS)		
59	2A,2B	*	J31-0282-04	COLLAR		
60	2A		J90-0143-03	GUIDE (STOPPER)		

E: Scandinavia & Europe K: USA P: Canada W: Europe

U: PX(Far East, Hawaii) T: England M: Other Areas

UE: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

