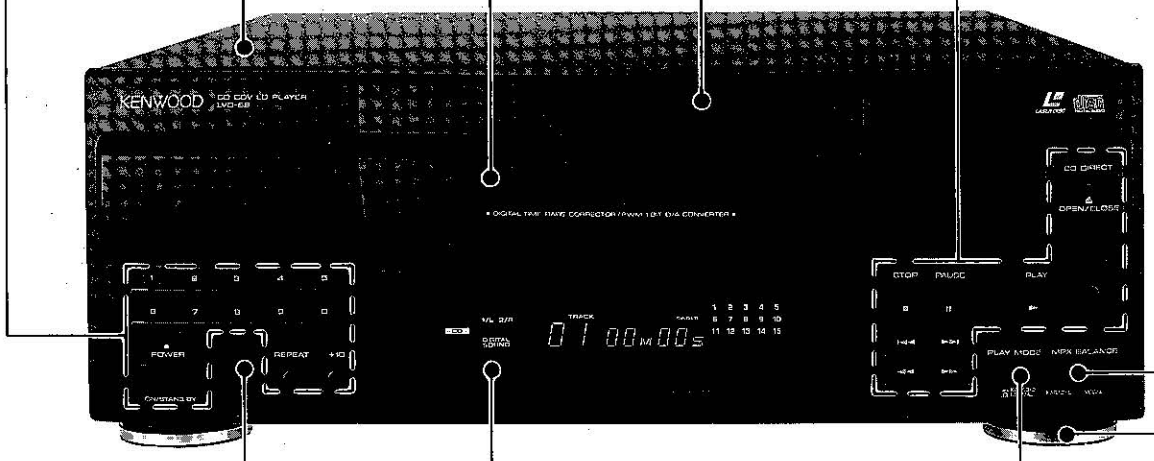
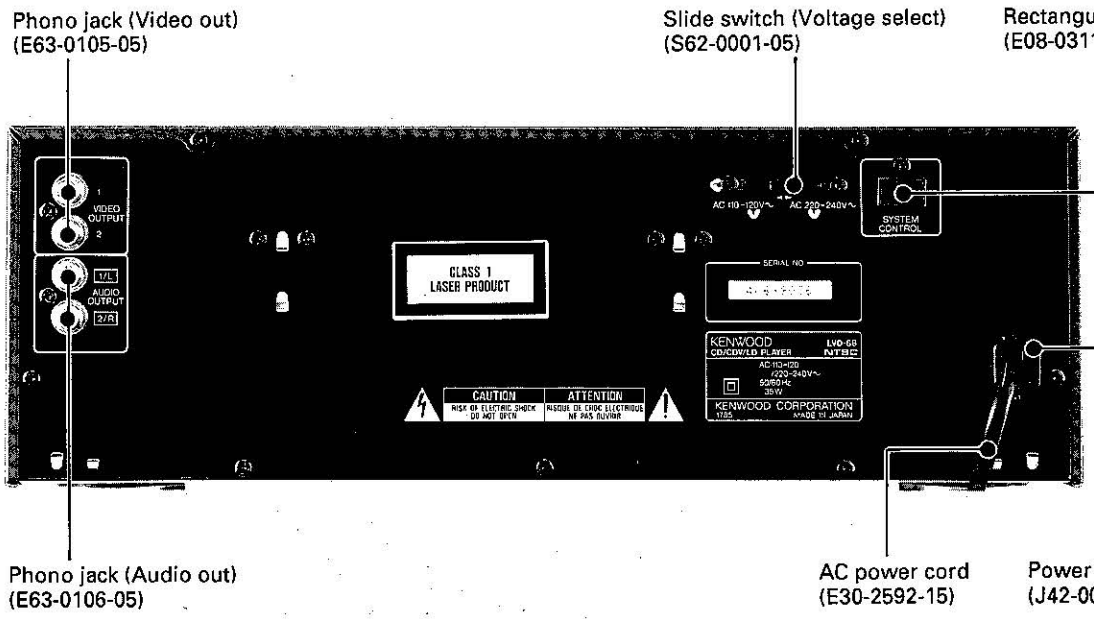
CD CDV LD PLAYER

LVD-68

SERVICE MANUAL

KENWOOD





In compliance with Federal Regulations, following are reproductions of labels on, or inside the product relating to laser product safety.

KENWOOD-Corp. certifies this equipment conforms to DHHS Regulations No. 21 CFR 1040. 10, Chapter 1, Subchapter J.

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

Refer to LVD-320/LVD-97 service manual (B51-4629-00/B51-4785-00), if need description in detail.

CONTENTS/CAUTIONS

CONTENTS

Refer to LVD-320/LVD-97 service manual (B51-4629-00/B51-4785-00), if need description in detail.

CAUTIONS

Beware of condensation

When water vapor comes into contact with the surface of cold material, water drops are produced.
If condensation occurs, correct operation may not be possible, or the unit may not function correctly.
This is not a malfunction, however, and the unit should be dried.
(To do this, turn the POWER switch ON and leave the unit as it is for several hours.)

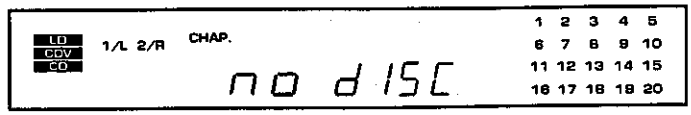
Be especially careful in the following conditions :

- When the unit is brought from a cold place to a warm place, and there is a large temperature difference.
- When a heater starts operating.
- When the unit is brought from an air-conditioned place to a place of high temperature with high humidity.
- When there is a large difference between the internal temperature of the unit and the ambient temperature, or in conditions where condensation occurs easily.

Note related to transportation and movement :

Before transporting or moving this unit, carry out the following operation.

1. Turn the POWER switch ON but do not load a disc.
2. Wait a few seconds and verify that the display shown appears.
3. Turn the POWER switch OFF.



ACCESSORIES

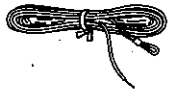
ACCESSORIES

System configuration

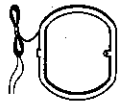
**Speaker cords are packed with the Speakers. Remote control unit and batteries are packed with the CD/LD player unit. All other accessories are packed with the Amp/GE unit.*

System name	AMP / GE	TUNER	**CD/LD PLAYER**	CASSETTE DECK	Speakers
MIDI M-969LD	A-68	T-58	**LVD-68**	X-58	S-68

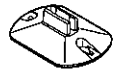
- FM indoor antenna 1
  (T90-0182-15)



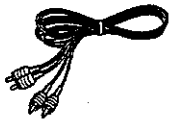
- AM loop antenna ass'y
  (T90-0195-05)



Loop antenna stand
(J19-3645-05)



- Audio cord 1
  (E30-0505-05)



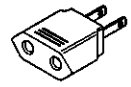
- Speaker cords 2
  (E30-1271-08)

- Video cord 1
  (E30-1427-05)

- Parallel cord 1
  (E30-2628-05)

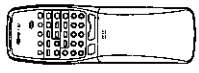
- Power cord 1
  (E30-2779-05)

- AC plug adaptor 1
  (E03-0115-05)



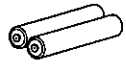
Except for U.K., Europe and Australia. For the unit with a European AC plug in areas other than Europe.

- Remote control unit 1
  (X94-1050-71 : RC-68LD)

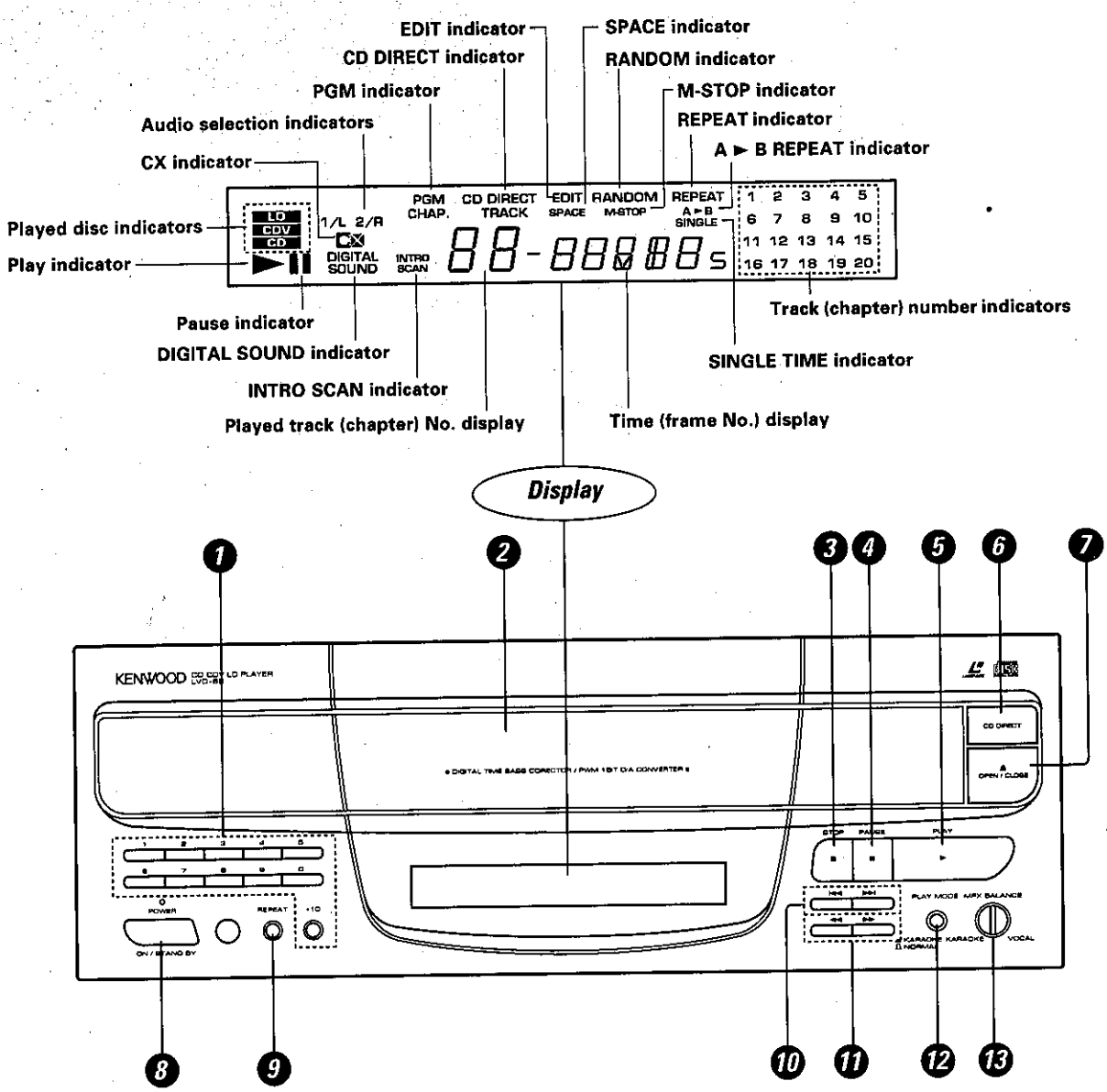


Battery cover
(F07-0721-33)

- Batteries (R03/AAA) 2
  (–)



CONTROL



❶ **Numeric keys (0 to 9, +10)**
❷ **Disc tray**
❸ **STOP key (■)**
❹ **PAUSE key (II)**
❺ **PLAY key (►)**
❻ **CD DIRECT key**
❼ **OPEN/CLOSE key (≜)**
❽ **POWER key**

❾ **REPEAT key**
Press for repeated playback.

❿ **Skip keys (|◄◄,►►|)**
Press to skip to the beginning of another track.

⓫ **Search keys (◄◄,►►)**
Press to move the played position of disc at high speed.

⓬ **PLAY MODE key**
Press to switch between the karaoke singing mode and normal playback mode.

⓭ **MPX BALANCE key**
For use in karaoke singing with an audio multiplex disc.

REMOTE CONTROL OPERATION

A/B switch
When operating keys in section hashed ▒▒, wet this switch according to the deck (A or B) you want to remote control.
- The keys which have two names, one written in white letters and the other written in brown letters, function as indicated by the brown letters when the A/B switch is set to A and as indicated by the white letters when the switch is set to B.

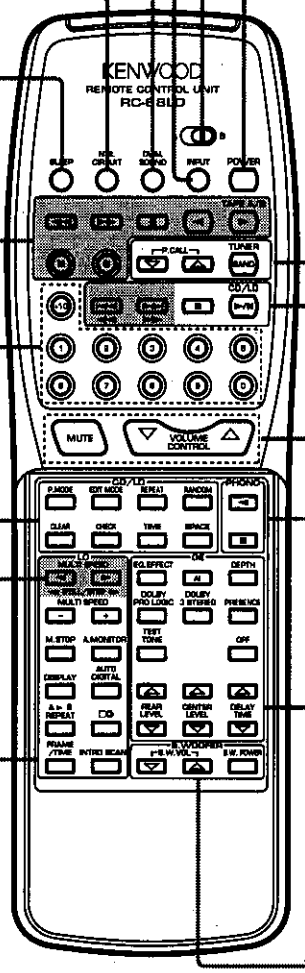
Input selector key
INPUT key: Press to select the component to be played.

DUAL SOUND key

POWER key

N.B.CIRCUIT key

SLEEP timer key



Tuner operation keys
BAND key, P.CALL keys (▽,△)

CD/LD player basic operation keys
⏮ and ⏭ key, ■ key, ▶/⏸ key.
When the A/B switch is set to A: ◀◀ and ▶▶ keys

Cassette deck operation keys
To operate deck A, set the A/B switch to A. (The ● and ⏸ keys are invalidated.)
To operate deck B, set the A/B switch to B.

Numeric keys
Function as the numeric keys of the CD/LD player when the CD/LD input is selected.
Function as the numeric keys of the tuner when the TUNER input is selected.

VOLUME CONTROL keys
Press to adjust the volume. The volume level is displayed on the equalizer unit while these keys are operated.

MUTE key
Press to mute the sound temporarily.

CD/LD player operation keys
P.MODE key, EDIT MODE key, REPEAT key, RANDOM key, CLEAR key, CHECK key, TIME key, SAPCE key

Turntable operation keys
Use these keys to operate an analog turntable of KENWOOD (P-78 or P-66, optional).

LD player operation keys
When the A/B switch is set to A:
STILL/STEP keys (◀⏸, ⏸▶)
When the A/B switch is set to B:
MULTI SPEED keys (◀, ▶)

Equalizer operation keys
Equalizer-related keys
EQ.EFFECT key, AI key
Surround and presence-related keys
DEPTH key, DOLBY PRO LOGIC key, DOLBY 3 STEREO key, PRESENCE key, TEST TONE key, OFF key, REAR LEVEL key, CENTER LEVEL key, DELAY TIME key

LD player operation keys
MULTI SPEED (+, –) keys, M.STOP key, DISPLAY key, A▶B REPEAT key, FRAME/TIME key, A.MONITOR key, AUTO DIGITAL key, CX key, INTRO SCAN key

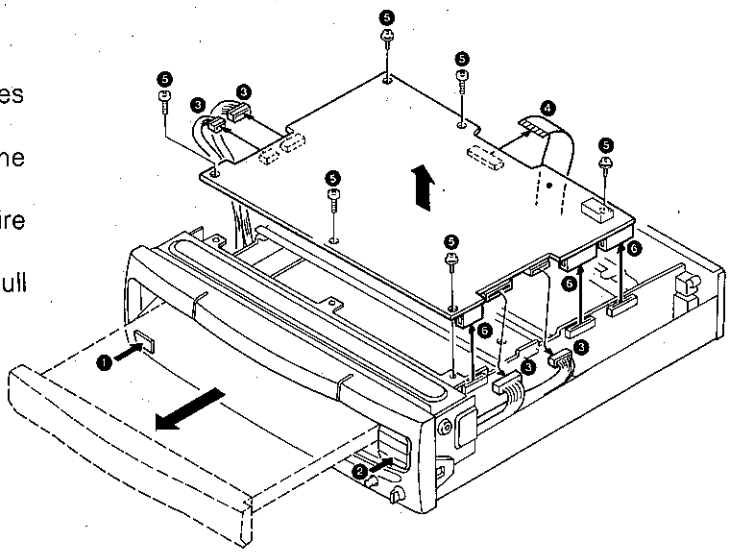
Super woofer operation keys
For use when operating the super woofer (optional).
S.W.POWER key, S.W.VOL. key

Model: RC-68LD
Infrared ray system

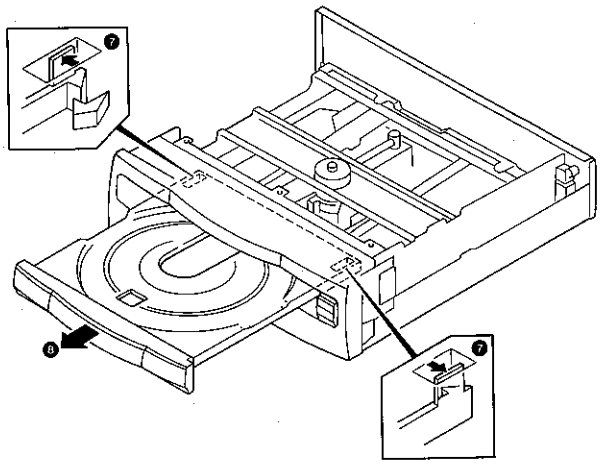
DISASSEMBLY FOR REPAIR

How to Disassemble PC Board and Tray

1. Turn the power switch ON (❶).
2. Push the OPEN/CLOSE key (❷).
   Please refer to "How to Pull Out Tray" if the tray does not come out.
3. Turn the power switch OFF (❶), and pull out the AC power cord.
4. Remove the connector (❸) and the flexible wire (❹).
5. Remove screws (❺) and connectors (❻) and pull up the PC board.

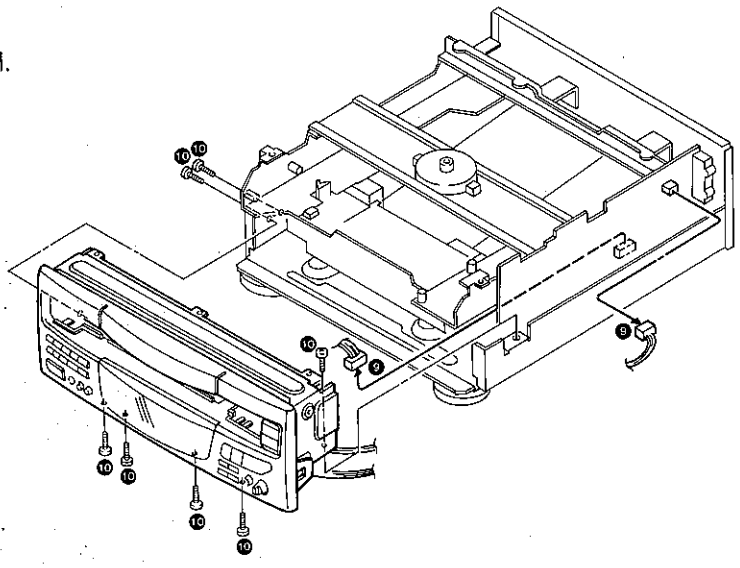


6. Slide the tray frontwards (❽) with moving the projection of tray to outwards (❼).



How to Disassemble Front Panel

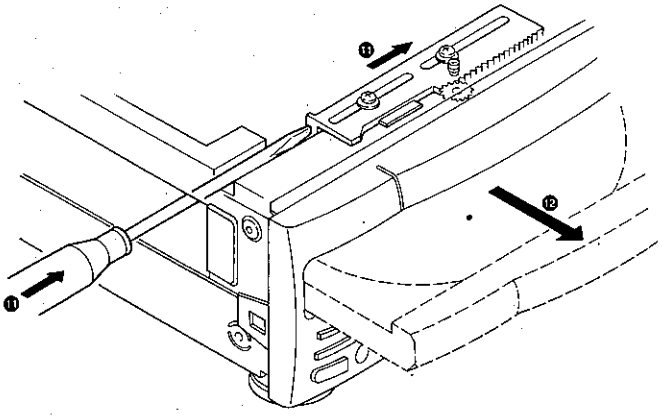
1. Remove the connectors (❾).
2. Remove the screws (❿) and the front panel.



DISASSEMBLY FOR REPAIR

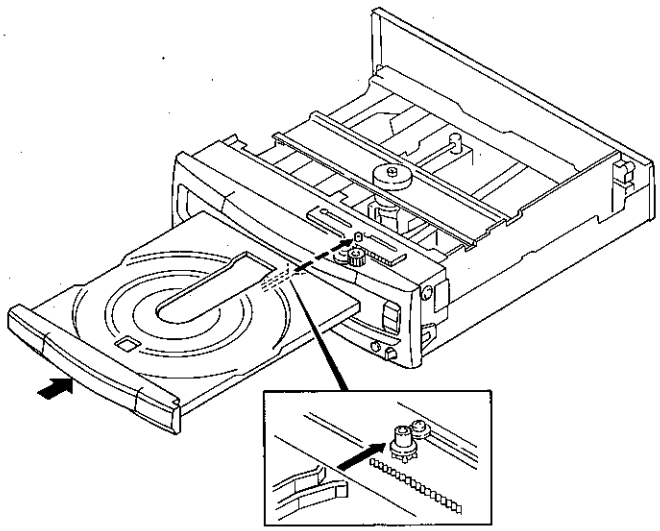
How to Pull Out Tray

1. Insert the screw driver into the left slit off the mechanism ass'y (⓫).
2. Pull out the tray frontwards by hand (⓬).



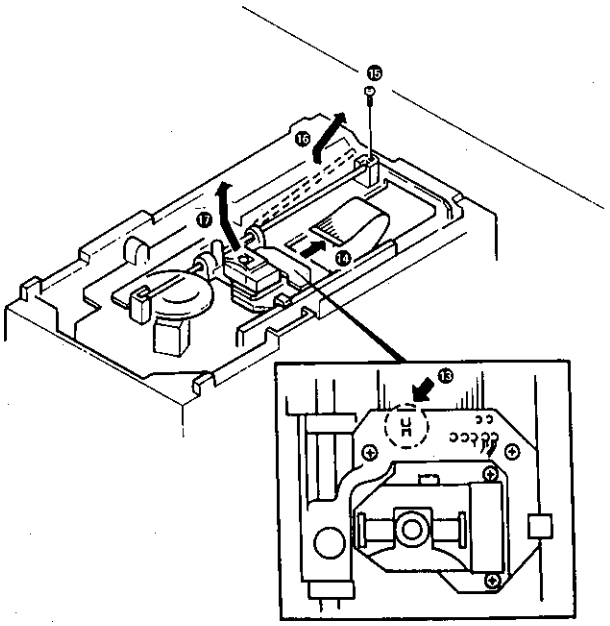
How to Remount Tray

1. Meet the slider boss with the groove of the tray.



How to Disassemble Pickup

1. Short the short-lands (⓭).
2. Remove the flexible wire (⓮).
3. Remove the screws (⓯).
4. Remove the rod of the pickup (⓰).
5. Remove the pickup (⓱).



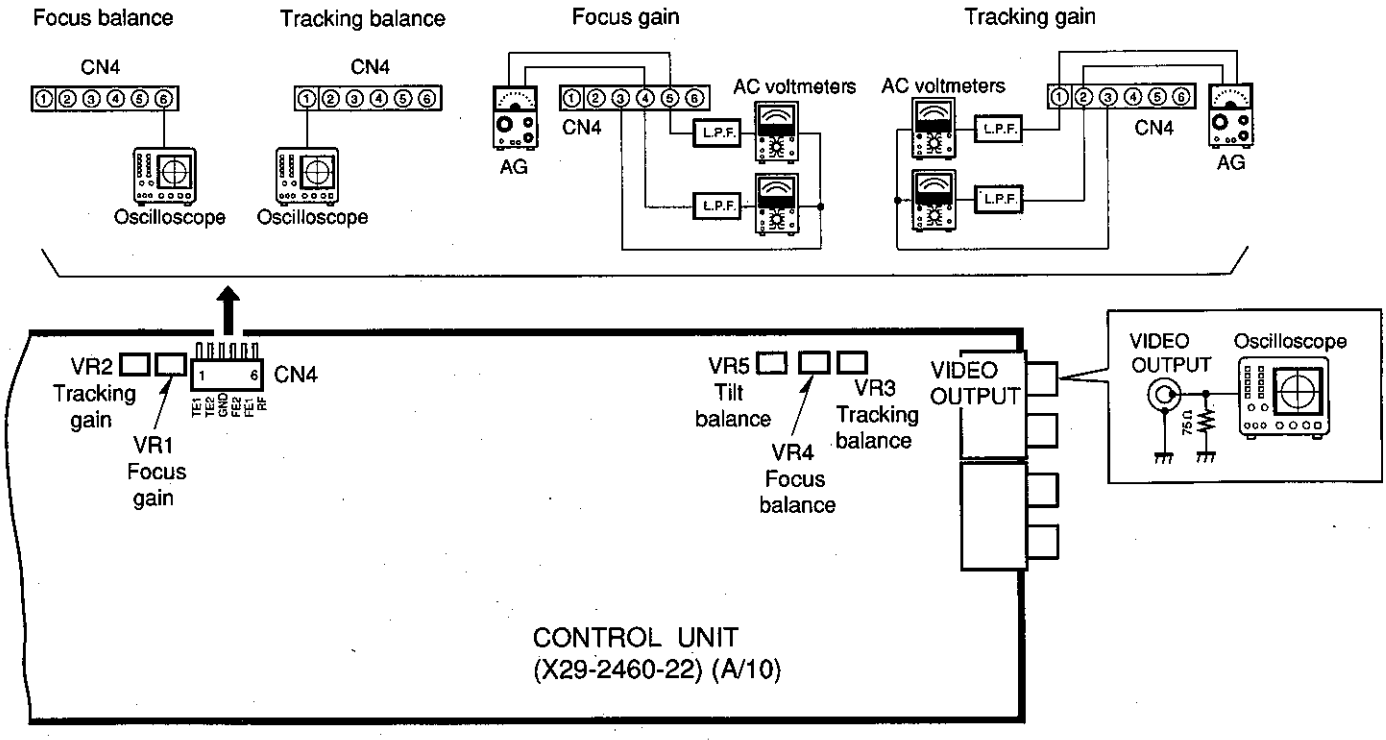
ADJUSTMENT

CONTROL UNIT(X29-2460)

NO.	ITEM	INPUT SETTING	OUTPUT SETTING	PLAYER SETTING	ALIGNMENT POINT	ALIGN FOR	FIG.
1	TILT BALANCE	LD test disc	Connect the TV monitor to the video output.	F.No.19100 STILL(still image) ※F.No.23402 STILL(still image)	VR5	Minimize the crosstalk on the screen.	
		LD disc	Connect the oscilloscope to LD EFM on X32-2300.	F.No.20000 STILL(still image)		Maximize the RF signal (eye pattern) amplitude.	③
2	LD FOCUS BALANCE	LD test disc or LD disc	Connect the oscilloscope to CN4 pin 6(RF OUT).	PLAY	VR4	Maximize the RF signal amplitude.	
3	TRACKING BALANCE	LD test disc or LD disc	Connect the oscilloscope to CN4 pin 1(TE).	F.No.5000 STILL(still image)	VR3	Make the positive and negative jump pulses equal.	④
4	FOCUS GAIN	LD test disc. Apply signal (1.7kHz/200mVp-p) to CN4 pins 4 and 5.	Connect a L.P.F. to CN4 pins 4 and 5,to which connect an oscilloscope or two AC voltmeters.	PLAY	VR1	.Two VTMs should read the same value.	
5	TRACKING GAIN	LD test disc. Apply signal (2.9kHz/200mVp-p) to CN4 pins 1 and 2.	Connect a L.P.F. to CN4 pins 1 and 2,to which connect an oscilloscope or two AC voltmeters.	PLAY	VR2	Two VTMs should read the same value.	

LD test disc: KENWOOD KLD-02, ※:SONY REF5A-12. LD disc: Commercial LD disc(CAV with Digital sound)

FIG. : Waveform (page 10)



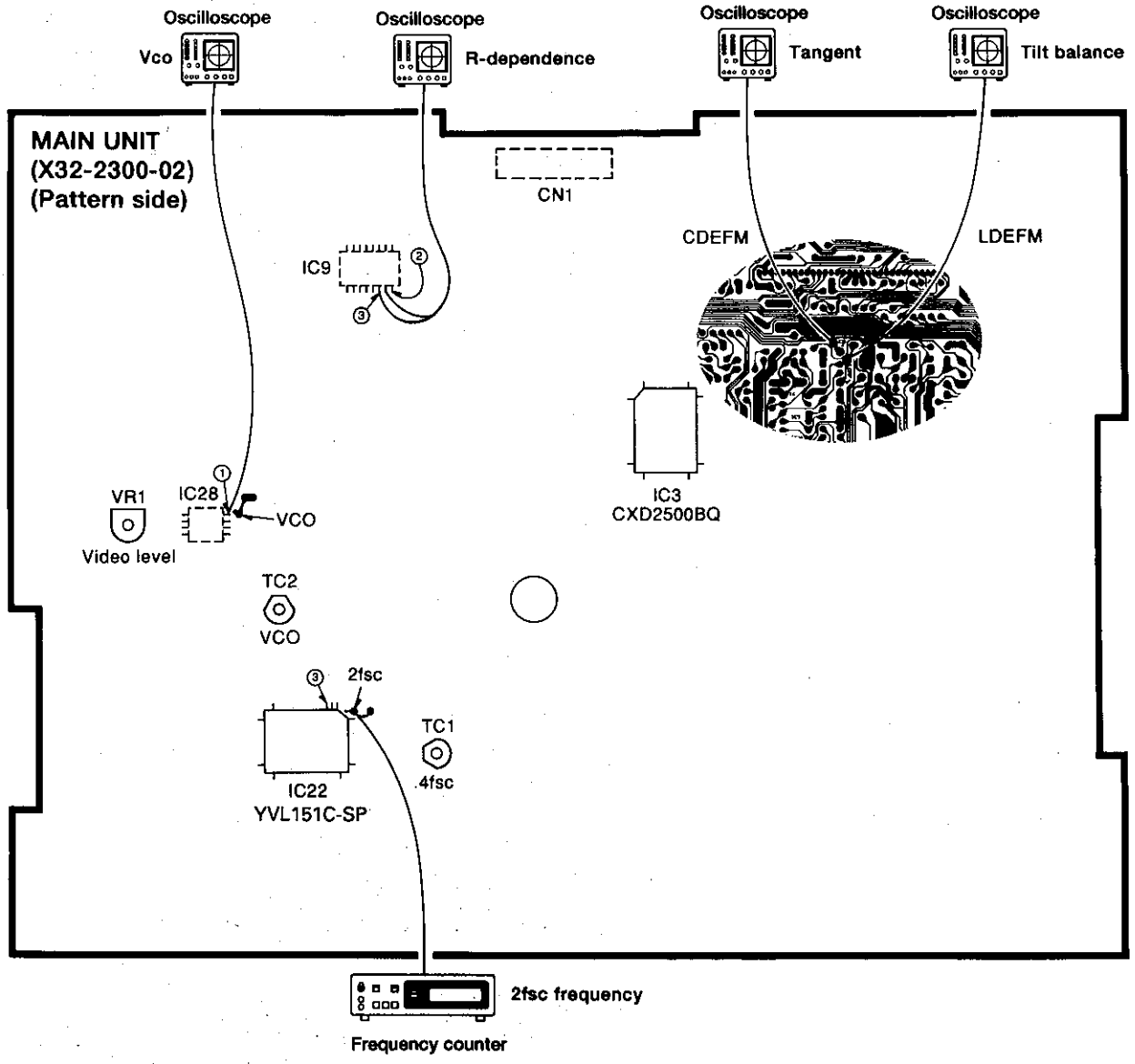
ADJUSTMENT

MAIN UNIT(X32-2300)

NO.	ITEM	INPUT SETTING	OUTPUT SETTING	PLAYER SETTING	ALIGNMENT POINT	ALIGN FOR	FIG.
1	2fsc FREQUENCY	Power on	Connect the frequency counter to check land(2fsc) of IC22 pin 3.	STOP	TC1	7.15909MHz±5Hz	
2	VCO	LD test disc	Connect the oscilloscope to IC28 pin 1.	PLAY	TC2	DC=0±0.5V	①
3	VIDEO LEVEL	LD test disc	Connect a 75Ω resistor to VIDEO OUT. Next, connect the oscilloscope across the resistor.	F.NO.100 STILL(still image) ※F.No.13000 STILL(still image)	VR1	Video signal amplitude : 1.0Vp-p	②

LD test disc: KENWOOD KLD-02, ※:SONY REF5A-12. LD disc: Commercial LD disc(CAV with Digital sound)

FIG. : Waveform (page 10)



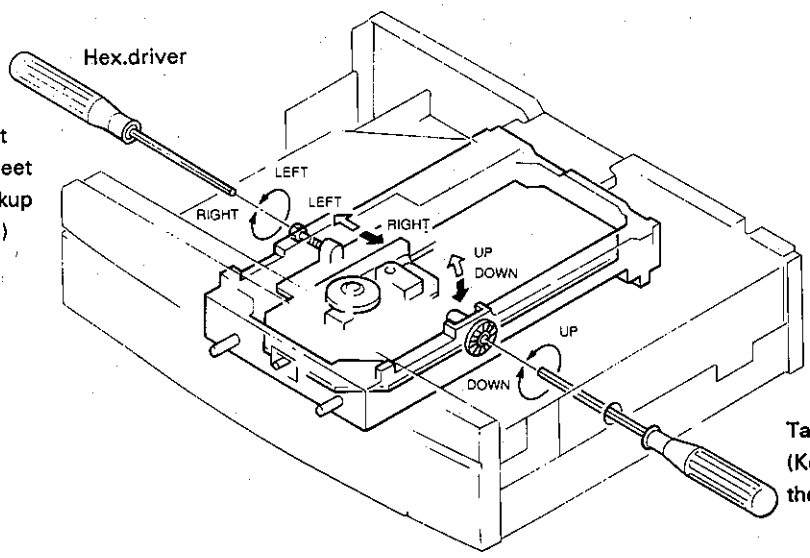
ADJUSTMENT

MECHANISM

NO.	ITEM	INPUT SETTING	OUTPUT SETTING	PLAYER SETTING	ALIGNMENT POINT	ALIGN FOR	FIG.
1	TANGENT	CD test disc	Connect the oscilloscope to CD EFM on X32-2300.	PLAY	Tangential nut (Turn within ±4 clicks)	Maximize the RF signal (eye pattern)	
2	R-DEPENDENCE	CD test disc	Connect the oscilloscope to IC9 pins 2 and 3 on X32-2300.	PLAY	R-dep.nut	Lissajons' figure = 180°	

CD test disc: SONY YEDS-18(Type 4)

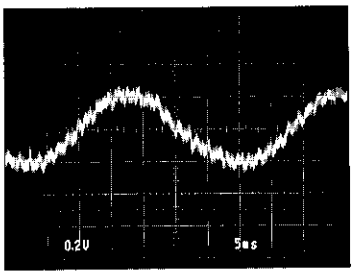
Radial-Dependence adjust (slide the pickup to meet with the center of the pickup and that of the turntable.)



Tangential adjust (Keep the disc horizontally for the pickup)

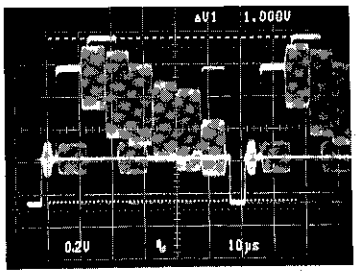
•Waveform

① VCO

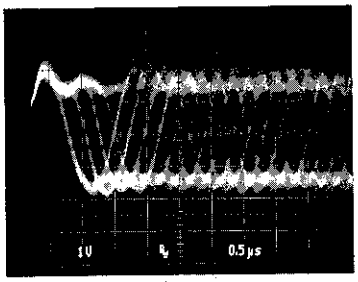


←DC=0V

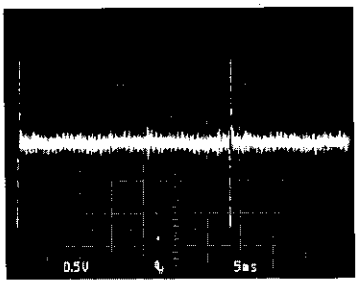
② Video level



③ TILT balance

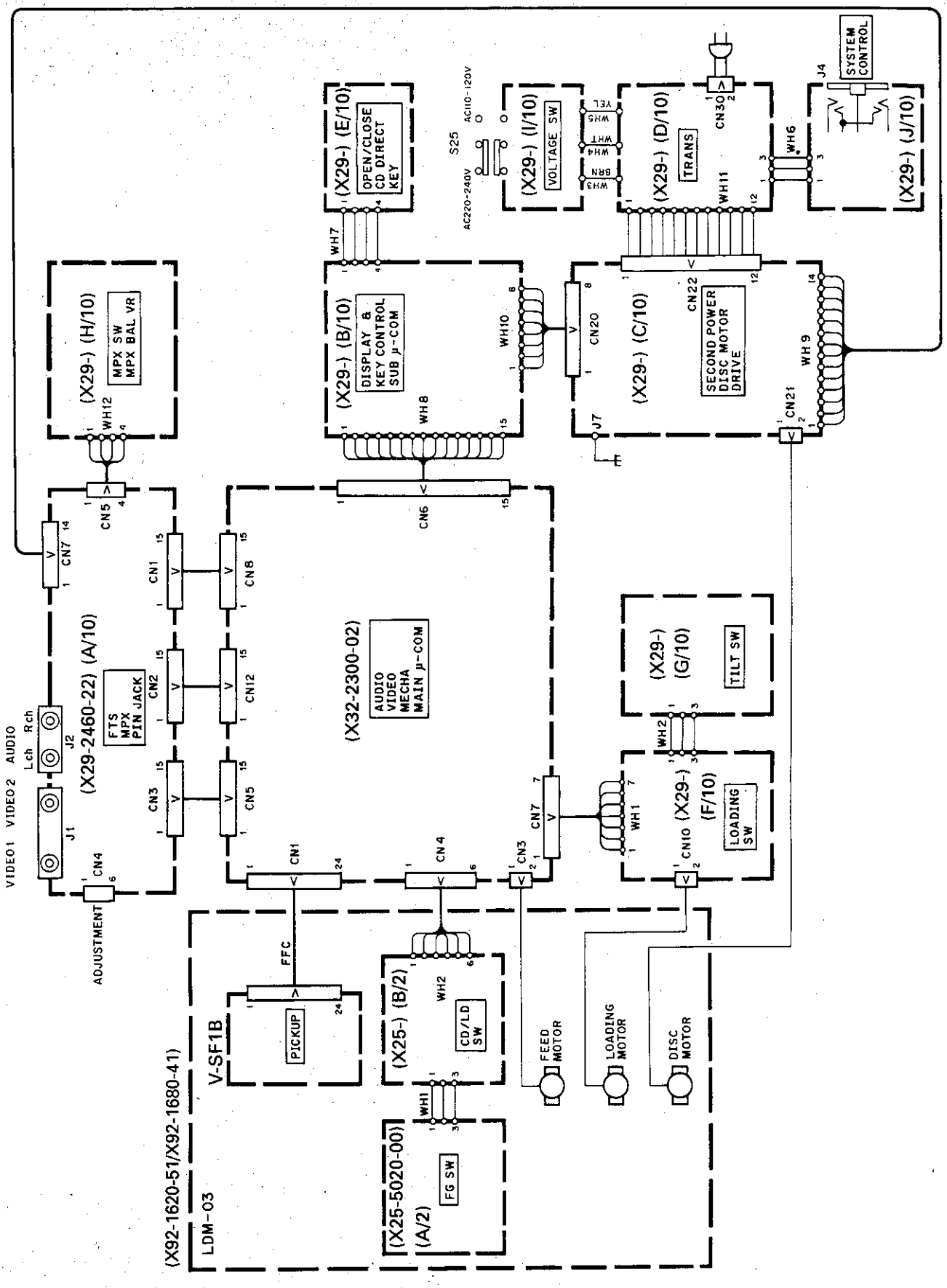


④ Tracking balance

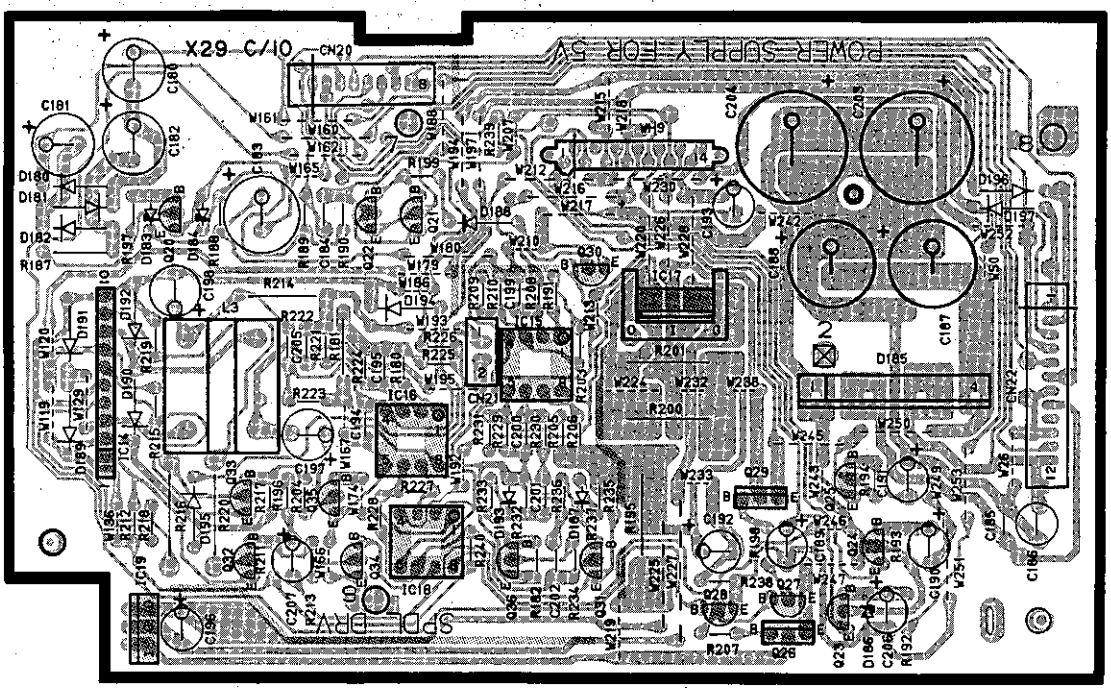


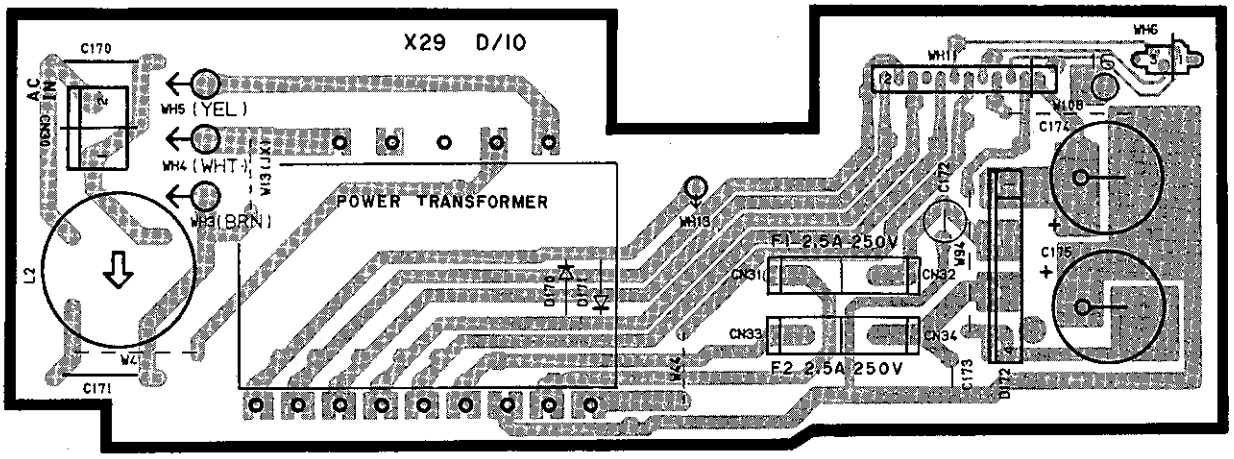
←DC=0V

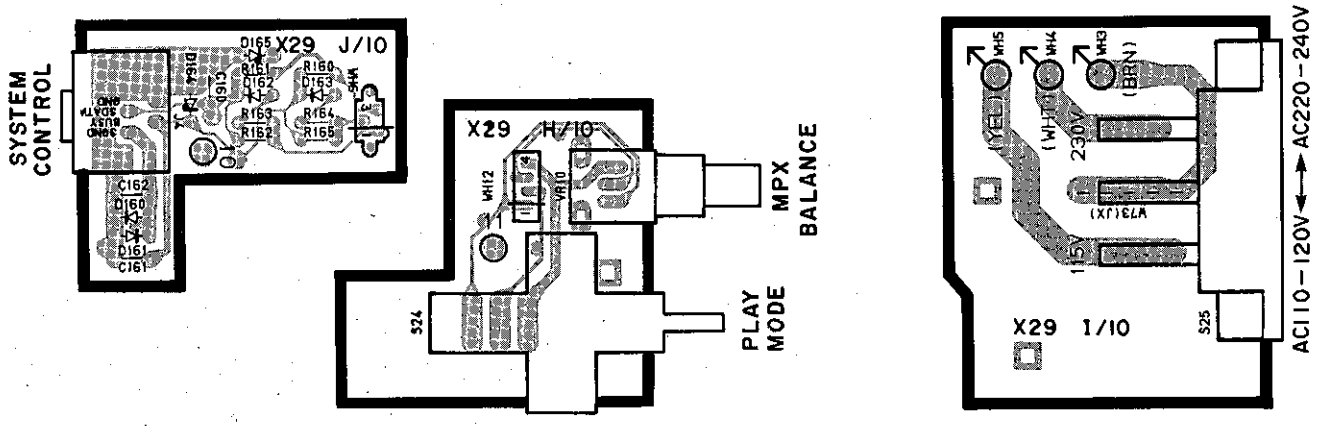
WIRING DIAGRAM



PC BOARD (COMPONENT SIDE VIEW)



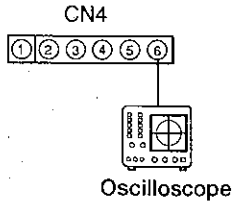




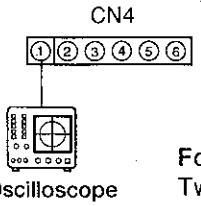
Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD (COMPONENT SIDE VIEW)

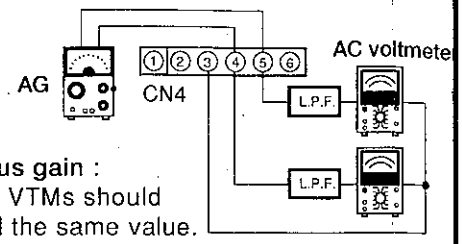
LD Focus balance :
Maximize the RF signal amplitude.

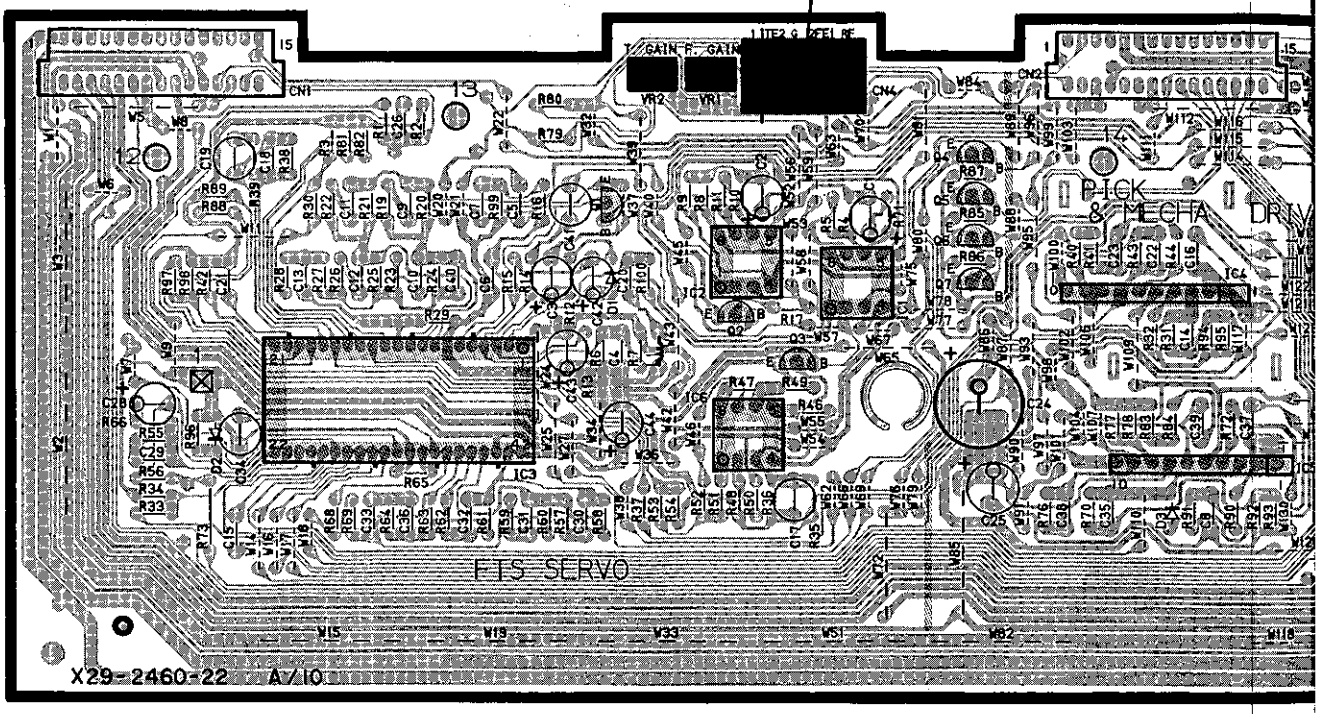


Tracking balance :
Make the positive and negative jump pulses equal.

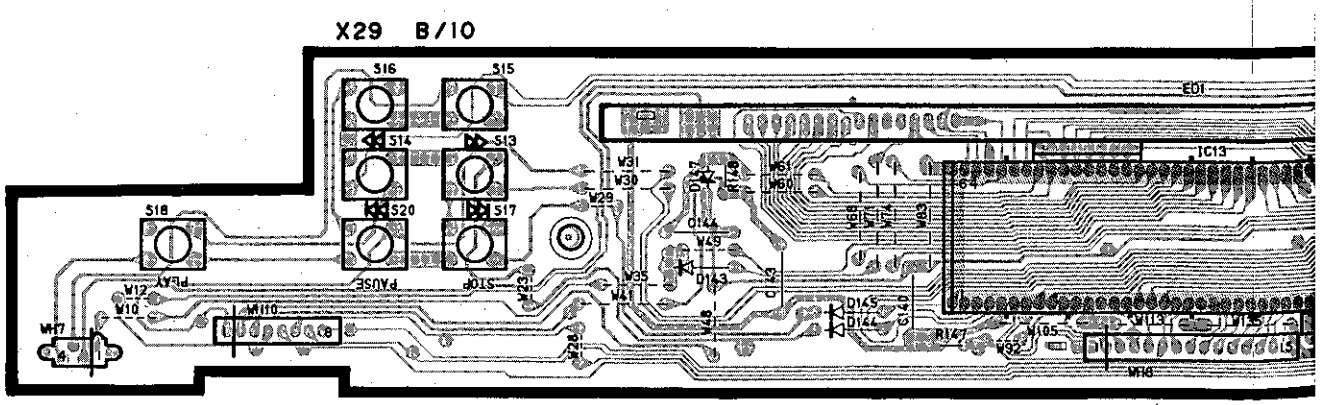


Focus gain :
Two VTMs should read the same value.



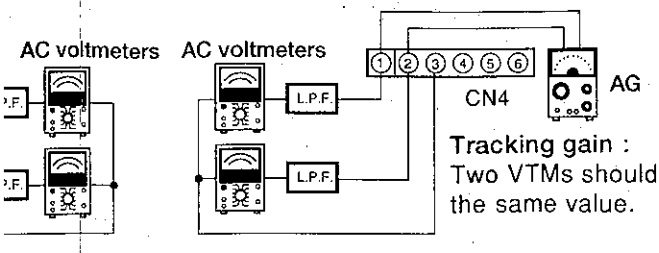


X29 B/10



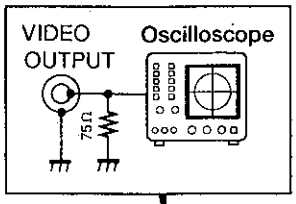
Refer to the schematic diagram for the values of resistors and capacitors.

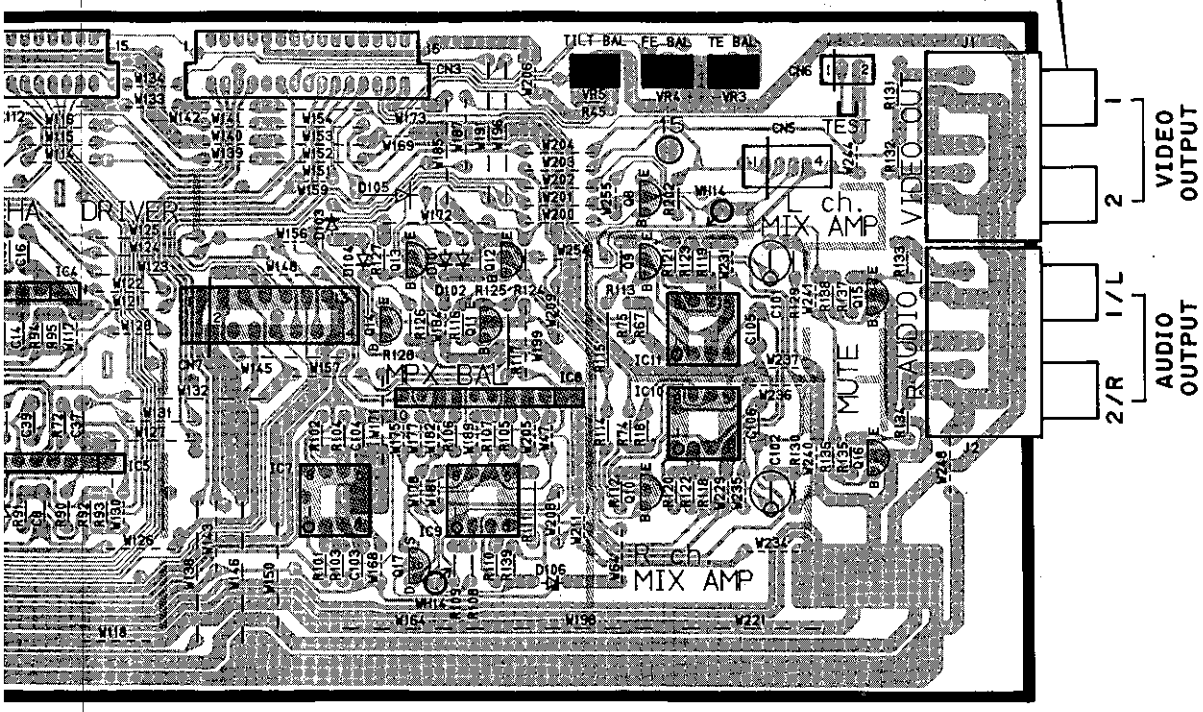
AC voltmeters AC voltmeters

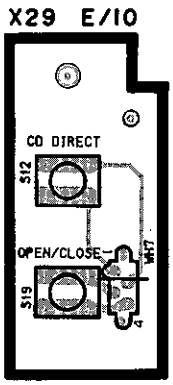


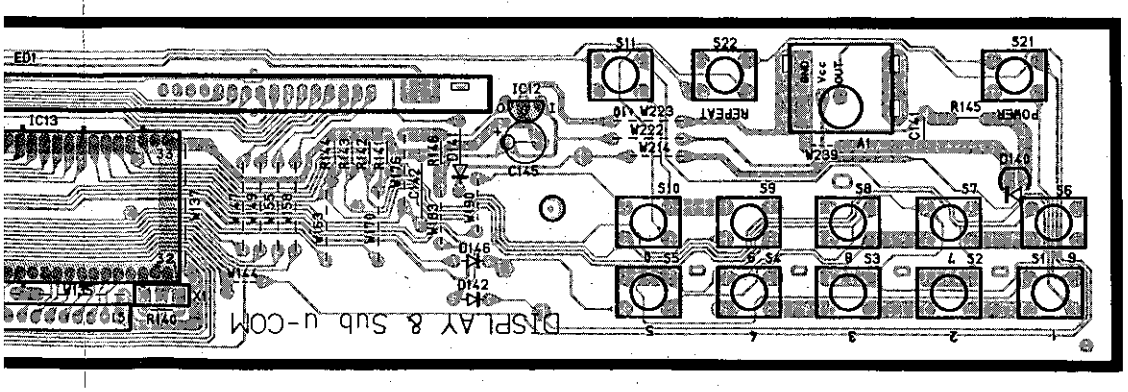
Tracking gain :
Two VTMs should read the same value.

Video level :
Video signal amplitude :1.0Vp-p.

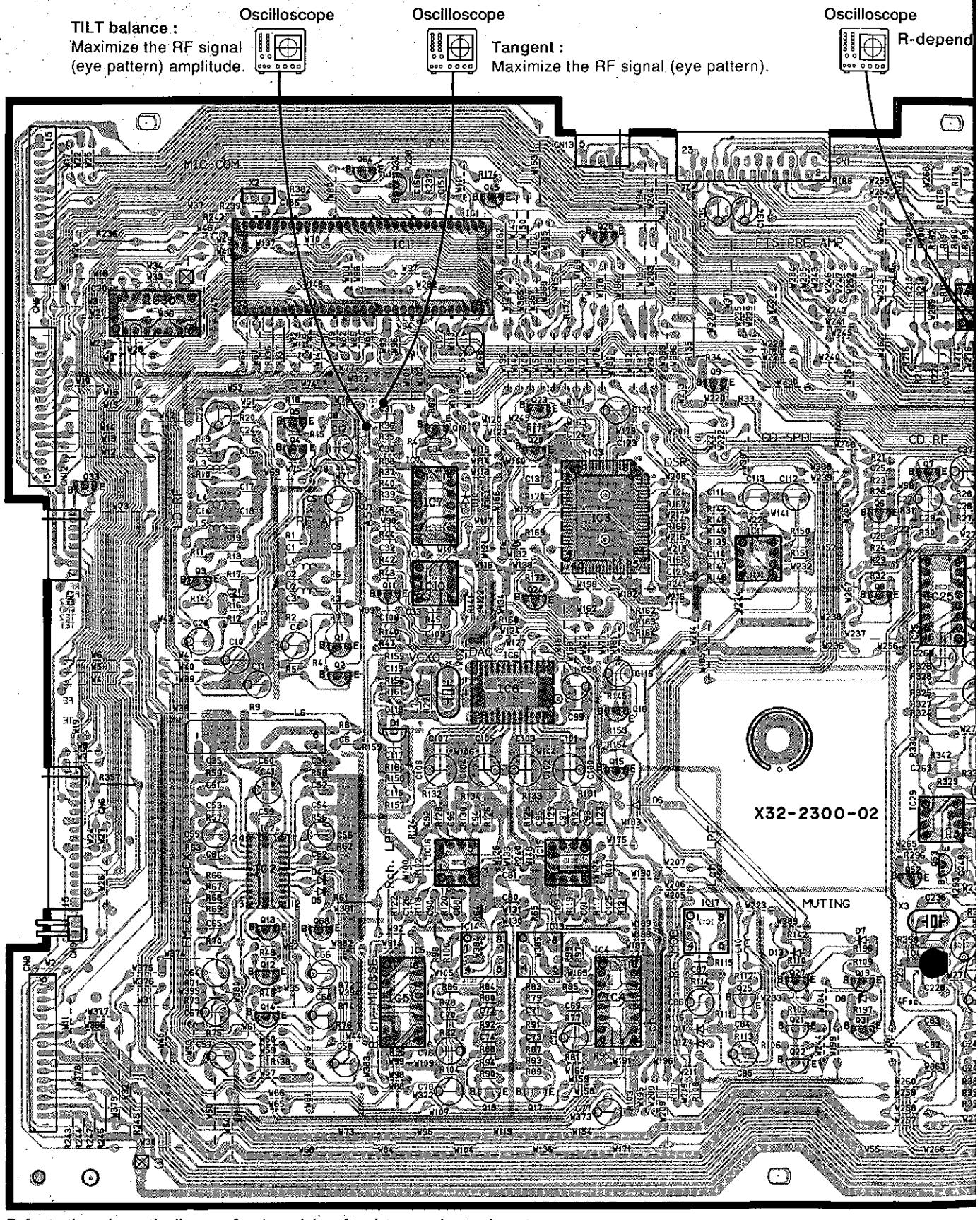








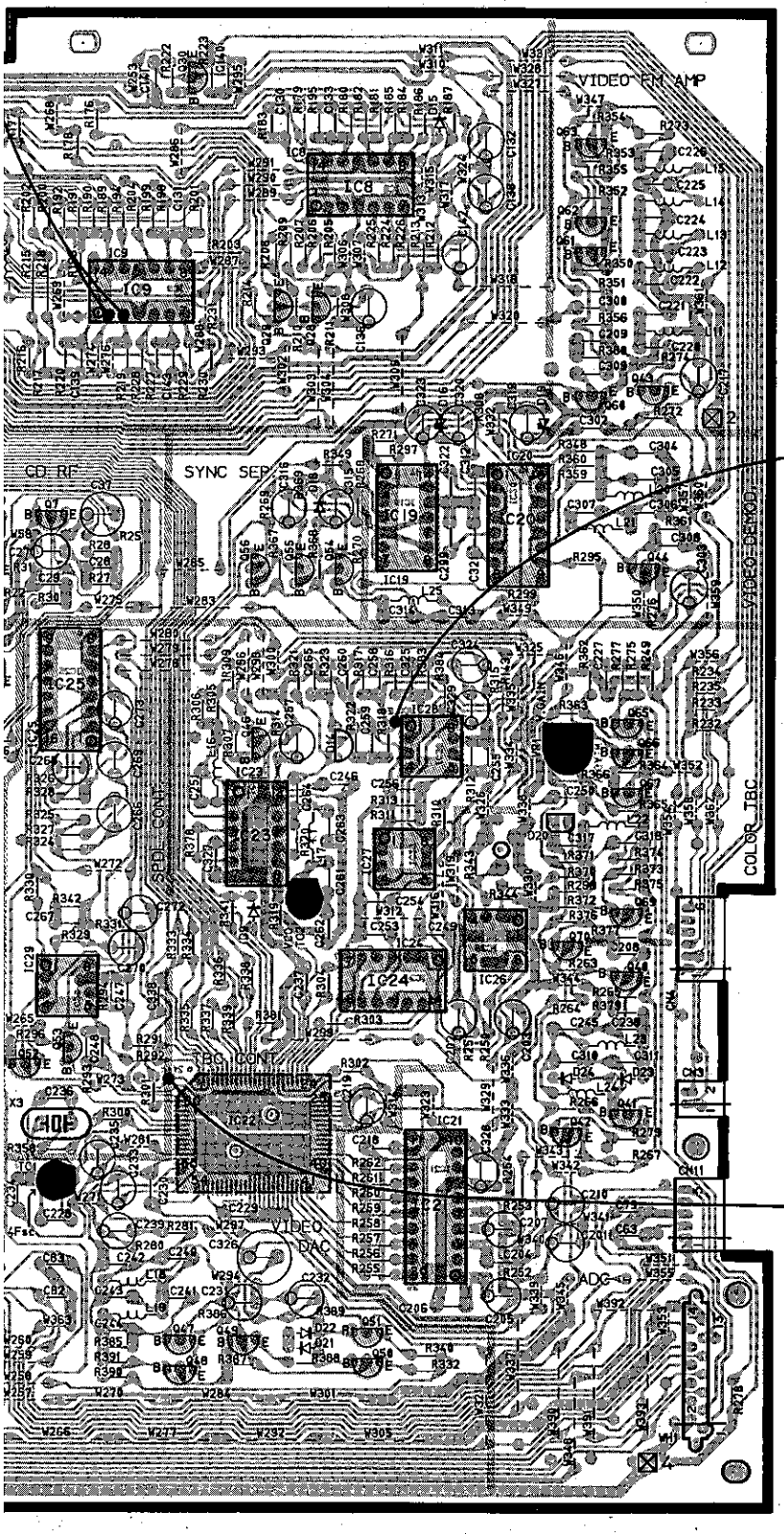
PC BOARD (COMPONENT SIDE VIEW)



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

ope

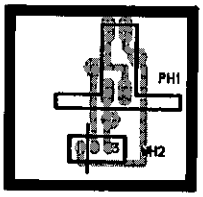
R-dependence : Lissajons'figure=180°



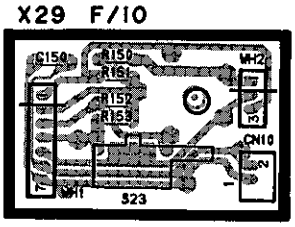
Oscilloscope

VCO : DC=0±0.5V

X29 G/10

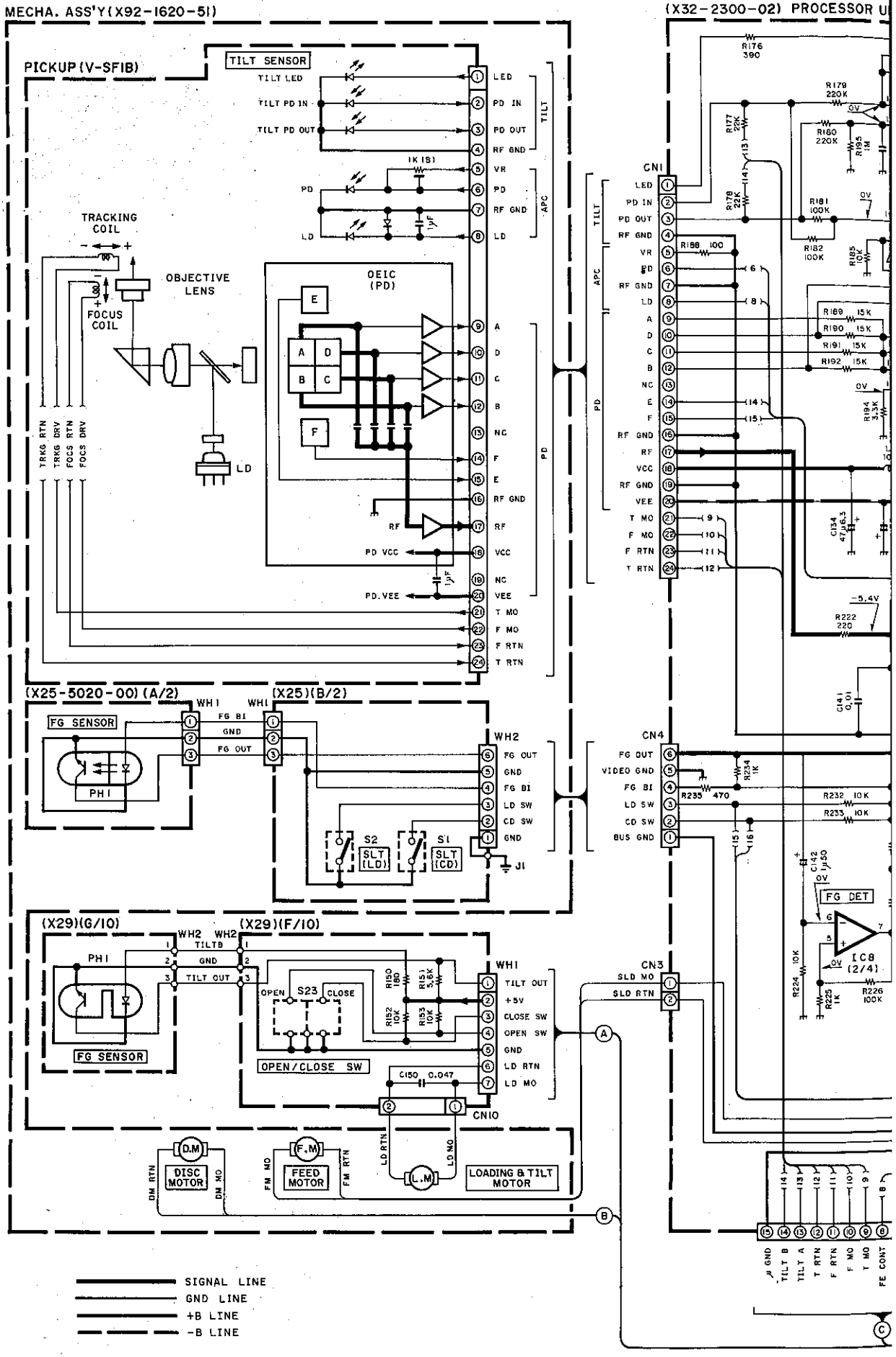


X29 F/10

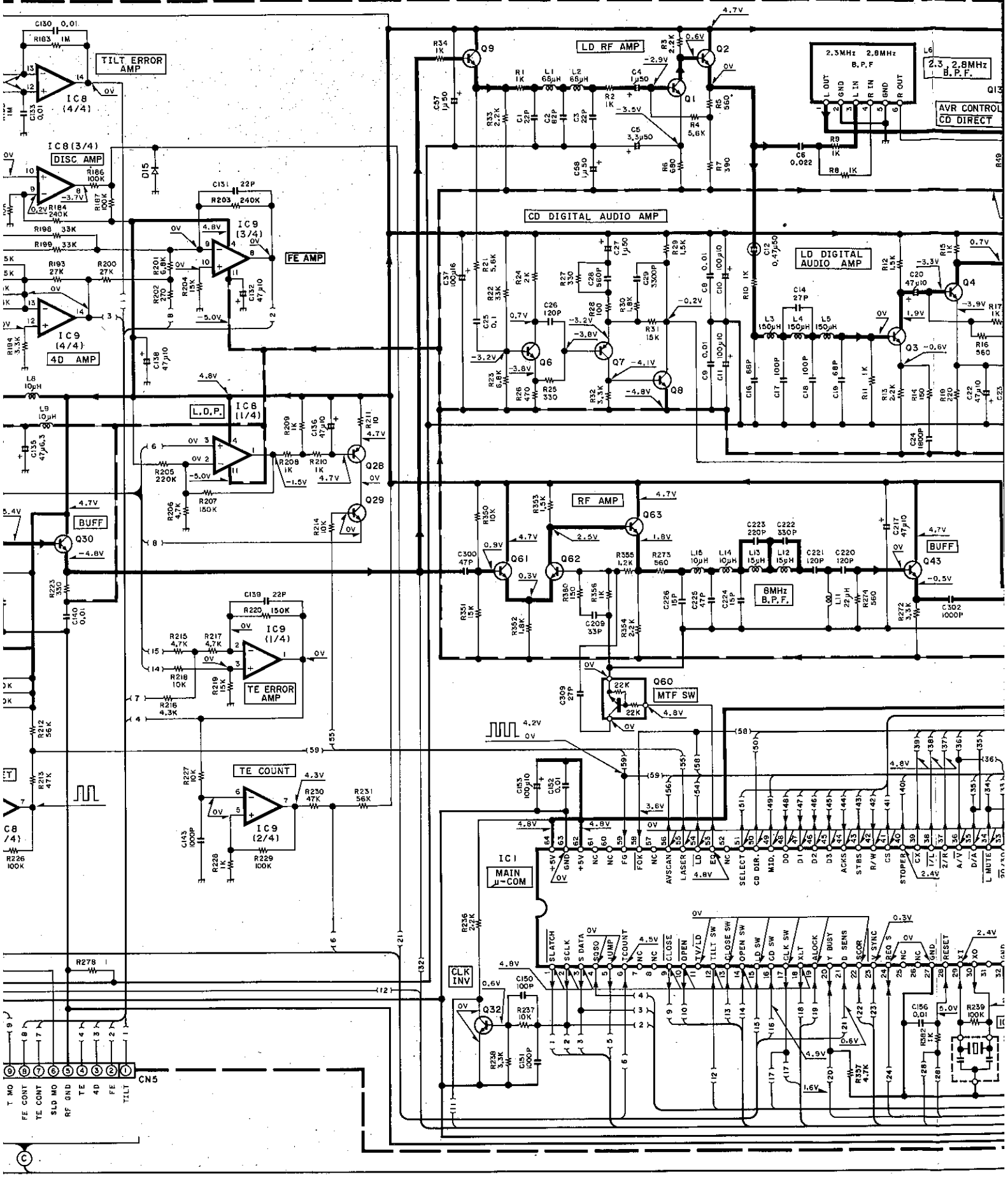


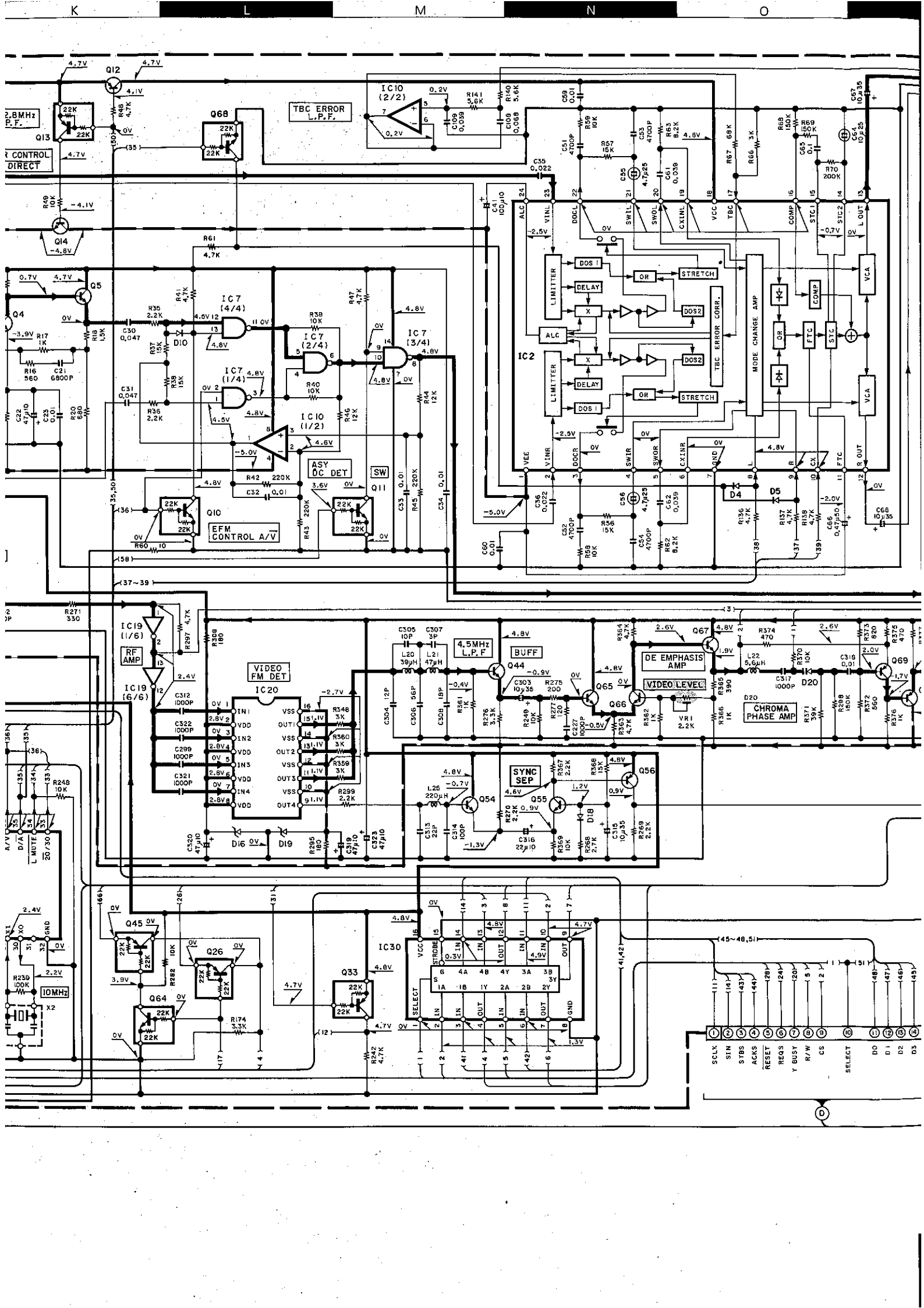
Frequency counter

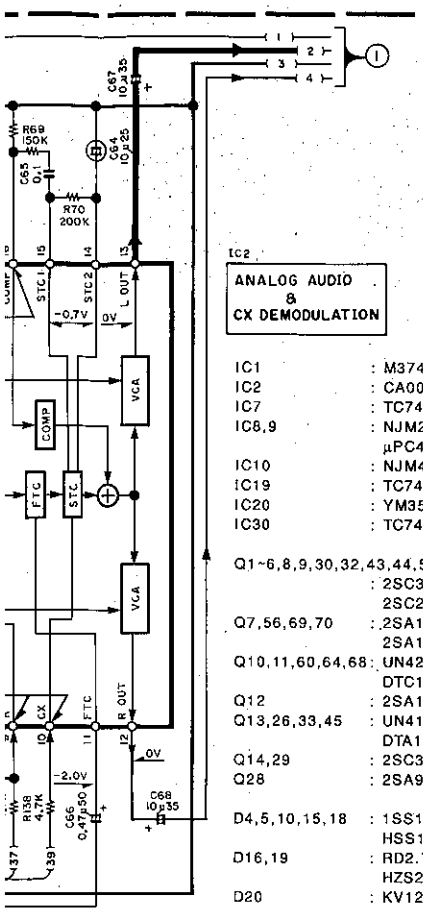
2fsc frequency :
7.15909MHz±5Hz


MECHA. ASS'Y (X92-1620-51)
(X32-2300-02) PROCESSOR U
PICKUP (V-SFIB)
TILT SENSOR
TILT LED
TILT PD IN
TILT PD OUT
RF GND
LED
PD IN
PD OUT
TILT
1K (B)
VR
PD
RF GND
LD
APC
TRACKING COIL
FOCUS COIL
OBJECTIVE LENS
OEIC (PD)
A
B
C
D
E
F
RF
PD VCC
PD VEE
NC
VCC
T MO
F MO
F RTN
T RTN
TRKG RTN
TRKG DRV
FOCS RTN
FOCS DRV
(X25-5020-00) (A/2)
(X25) (B/2)
FG SENSOR
PH1
FG BI
GND
FG OUT
WH1
WH2
S2
SLT (LD)
S1
SLT (CD)
J1
(X29) (G/10)
(X29) (F/10)
TILTB
TILT OUT
OPEN
S23
CLOSE
OPEN/CLOSE SW
+5V
CLOSE SW
OPEN SW
LD RTN
LD MO
C150 0.047
CN10
D.M
DISC MOTOR
DM RTN
DM MO
F.M
FEED MOTOR
FM MO
FM RTN
L.M
LOADING & TILT MOTOR
LD RTN
LD MO
CN1
CN4
CN3
SLD MO
SLD RTN
VIDEO GND
BUS GND
FG DET
IC8 (2/4)
SIGNAL LINE
GND LINE
+B LINE
-B LINE

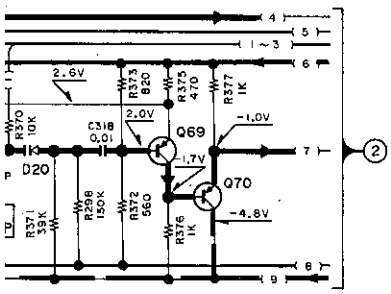
OR UNIT

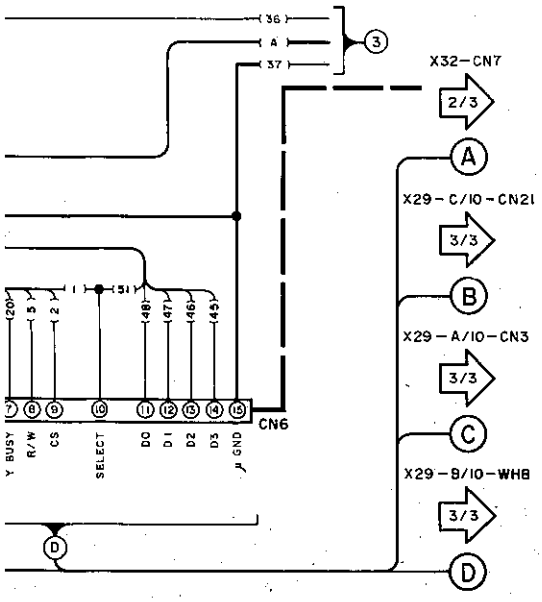

TILT ERROR AMP
IC8 (4/4)
IC8(3/4)
DISC AMP
FE AMP
IC9 (3/4)
IC9 (4/4)
4D AMP
L.D.P.
IC6 (1/4)
BUFF
IC9 (1/4)
TE ERROR AMP
TE COUNT
IC9 (2/4)
LD RF AMP
CD DIGITAL AUDIO AMP
LD DIGITAL AUDIO AMP
RF AMP
8MHz B.P.F.
MTF SW
IC1 MAIN μ-COM
CLK INV
2.3MHz 2.8MHz B.P.F
AVR CONTROL
CD DIRECT
CN5
T MO
FE CONT
TE CONT
SLD MO
RF GND
TE
4D
FE
TILT


K
L
M
N
O
TBC ERROR L.P.F.
IC10 (2/2)
Q12
Q13
Q68
Q14
CONTROL DIRECT
IC7 (4/4)
IC7 (2/4)
IC7 (3/4)
IC7 (1/4)
IC10 (1/2)
Q5
Q4
D10
ASY DC DET
SW
Q11
Q10
EFM CONTROL A/V
IC2
LIMITTER
DELAY
STRETCH
DOS1
DOS2
ALC
TBC ERROR CORR.
MODE CHANGE AMP
VCA
COMP
FTC
STC
L OUT
R OUT
D4
D5
IC19 (1/6)
RF AMP
IC19 (6/6)
VIDEO FM DET
IC20
4.5MHz L.P.F
BUFF
Q44
Q65
Q66
Q67
DE EMPHASIS AMP
VIDEO LEVEL
VR1 2.2K
Q69
D20
CHROMA PHASE AMP
SYNC SEP
Q54
Q55
Q56
D18
Q45
Q26
Q64
Q33
IC30
10MHz
X2
SCLK
SIN
STBS
ACKS
RESET
REQS
Y BUSY
R/W
CS
SELECT
DO
D1
D2
D3



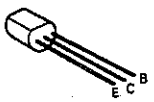
IC1	: M37451M8-133SP
IC2	: CA0002AM
IC7	: TC74HC00AP
IC8,9	: NJM2058D or μPC4574C
IC10	: NJM4565D
IC19	: TC74HCU04AP
IC20	: YM3558-SP
IC30	: TC74HC157AP
Q1~6,8,9,30,32,43,44,54,55,61~63,65~67	: 2SC3311A(Q,R) or 2SC2458(Y,GR)
Q7,56,69,70	: 2SA1309A(Q,R) or 2SA1048(Y,GR)
Q10,11,60,64,68	: UN4212 or DTC124ES
Q12	: 2SA1286
Q13,26,33,45	: UN4112 or DTA124ES
Q14,29	: 2SC3246
Q28	: 2SA954(L,K)
D4,5,10,15,18	: 1SS133 or HSS104
D16,19	: RD2.7ES(B2) or HZS2.7N(B2)
D20	: KV1230Z





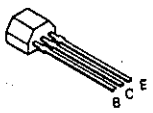
LVD-68(M)(1/3)

2SA1286 2SC3246
2SA1534A 2SC3940A
2SA954 2SD1302
2SC2878

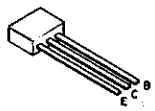


2SB772
2SD882

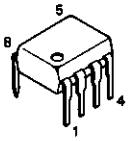
DTA124ES 2SA1048
DTC124ES 2SC2458
UN4112



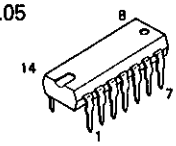
UN4212
2SA1309A
2SC3311A



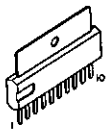
NJM2903D
NJM4560D



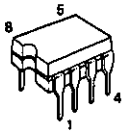
M5207L05



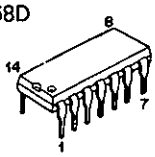
TA8410AK



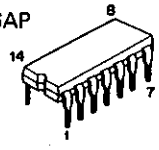
NJM4565D



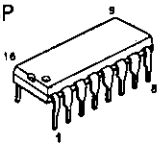
NJM2058D



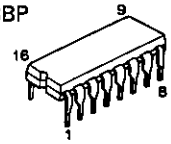
TC74HCU04AP
TC74HC00AP
TC74HC4066AP
UPC4574C



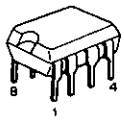
XRU4053B
YM3558-SP



TC4052BP
TC4053BP



UPC4570C-A



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⚠ Indicates safety critical components.
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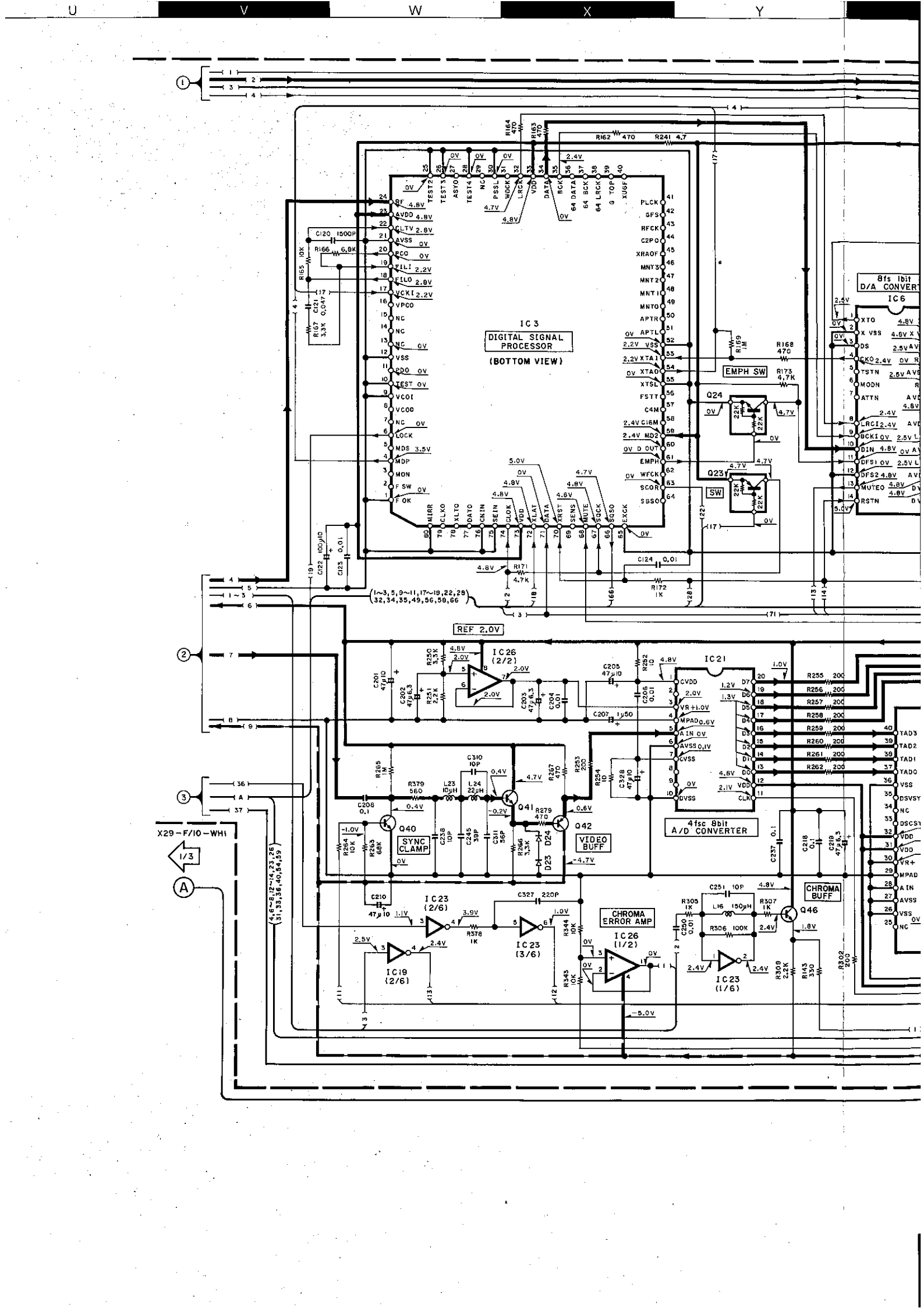
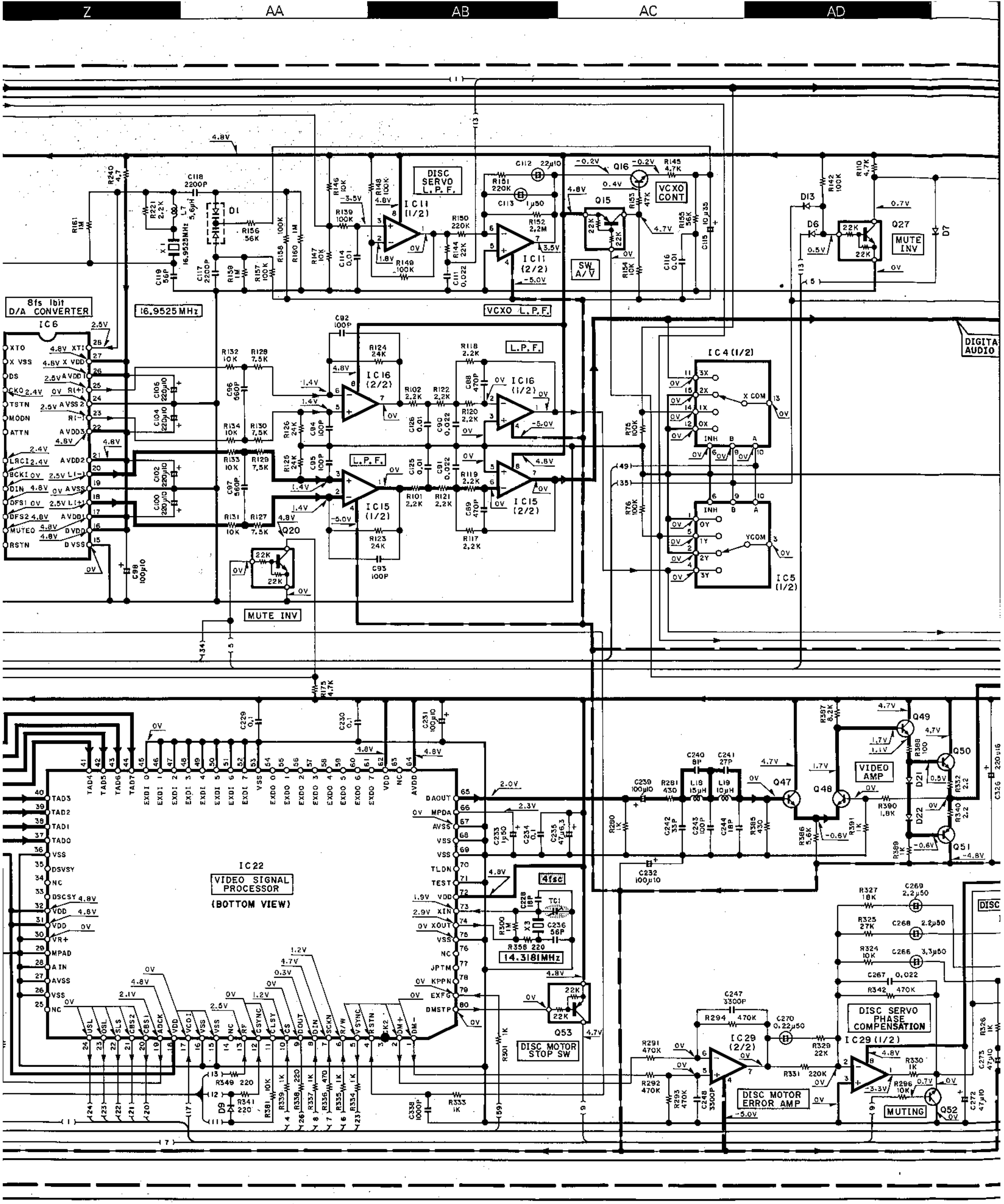
  Values may vary slightly due to variations between individual instruments or/and units.

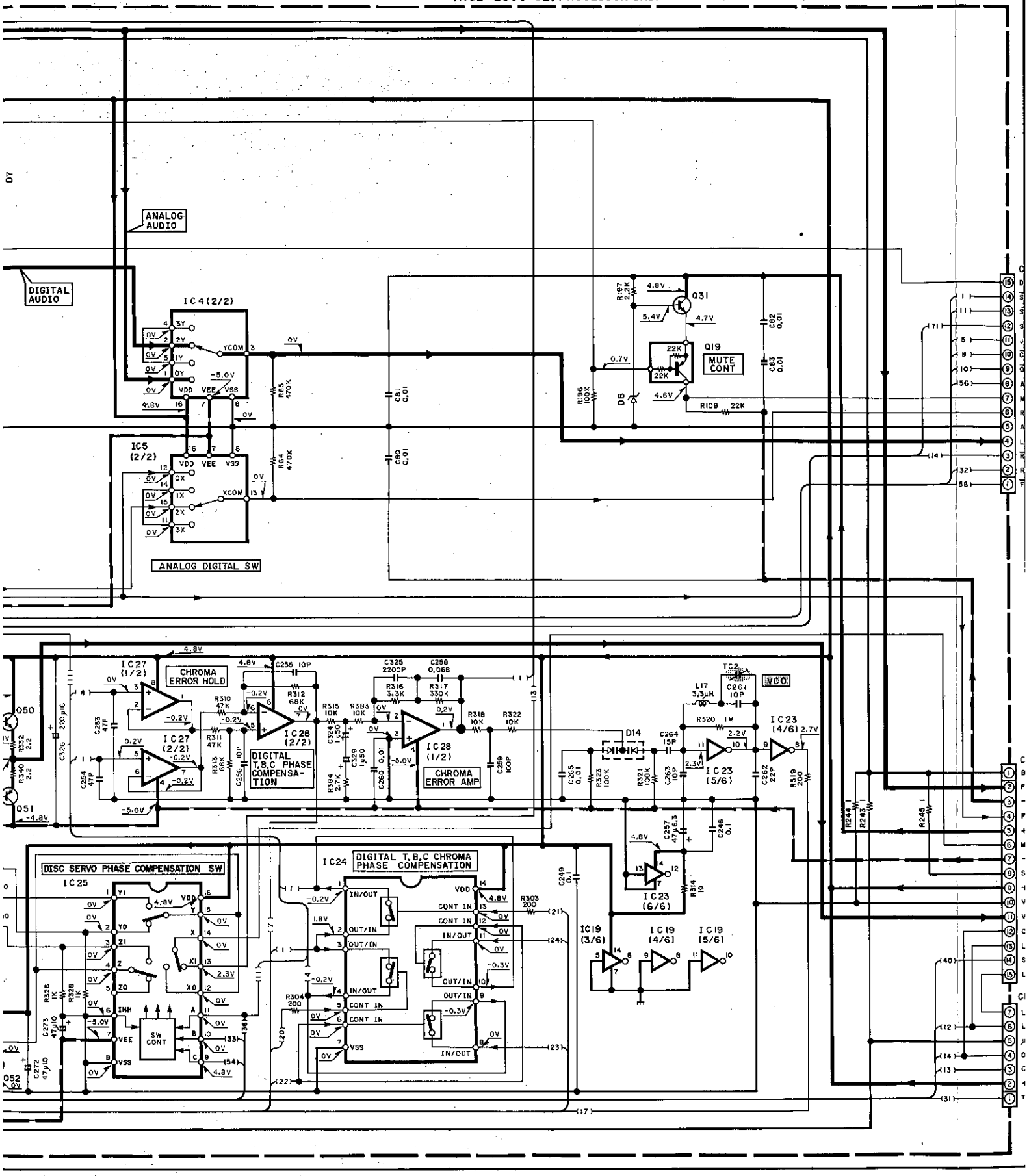
LVD-68
KENWOOD

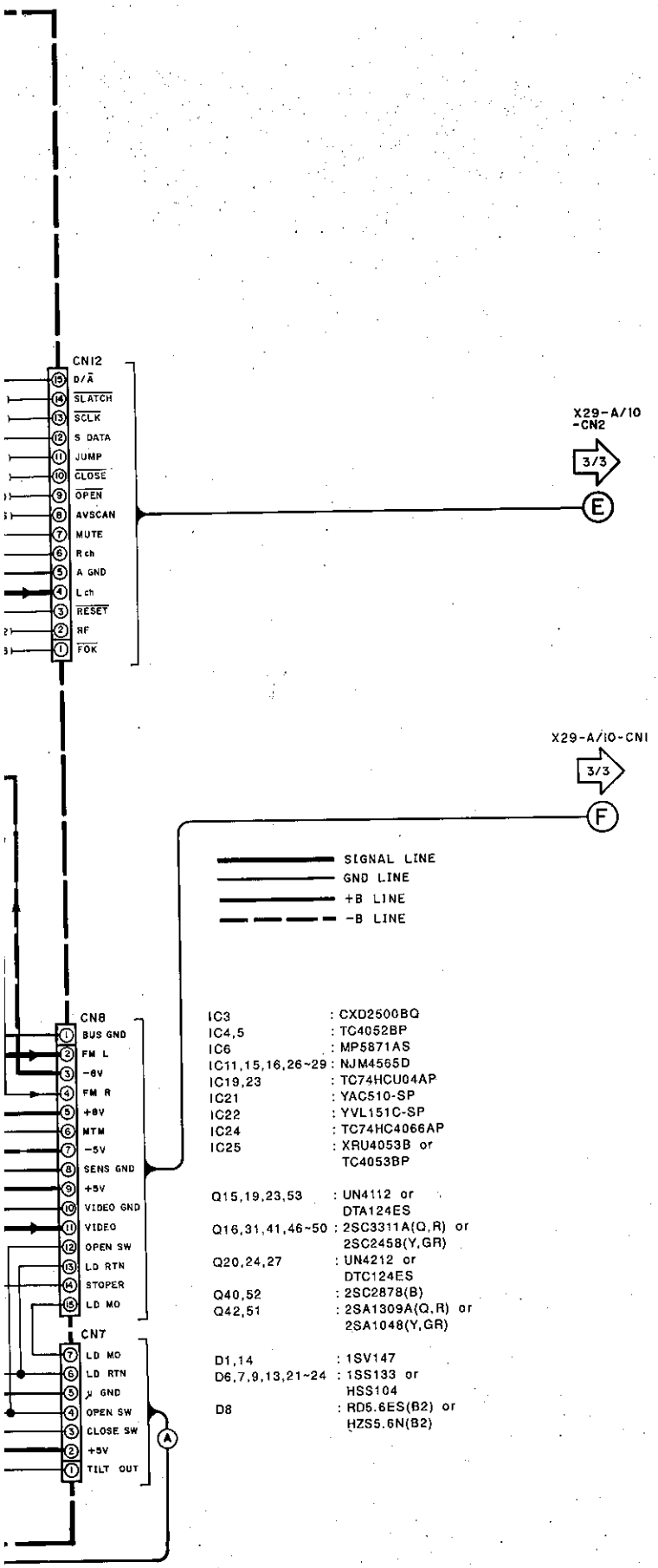

IC3
DIGITAL SIGNAL PROCESSOR
(BOTTOM VIEW)
EMPH SW
SW
Q24
Q23
8fs 1bit D/A CONVERTER
IC6
REF 2.0V
IC26 (2/2)
IC21
4fsc 8bit A/D CONVERTER
Q40
SYNC CLAMP
Q41
Q42
VIDEO BUFF
IC23 (2/6)
IC19 (2/6)
IC23 (3/6)
CHROMA ERROR AMP
IC26 (1/2)
IC23 (1/6)
Q46
CHROMA BUFF
X29-F/10-WH1
1/3
A



Z
AA
AB
AC
AD
8fs 1bit D/A CONVERTER
IC6
16.9525MHz
DISC SERVO L.P.F.
IC11 (1/2)
IC11 (2/2)
VCXO L.P.F.
Q16
VCXO CONT
Q15
SW A/V
Q27
MUTE INV
IC16 (2/2)
IC16 (1/2)
L.P.F.
IC15 (1/2)
IC15 (2/2)
Q20
MUTE INV
IC4 (1/2)
IC5 (1/2)
DIGITAL AUDIO
IC22
VIDEO SIGNAL PROCESSOR
(BOTTOM VIEW)
4fsc
14.3181MHz
Q53
DISC MOTOR STOP SW
Q47
Q48
VIDEO AMP
Q49
Q50
Q51
IC29 (2/2)
DISC MOTOR ERROR AMP
DISC SERVO PHASE COMPENSATION
IC29 (1/2)
MUTING
Q52

(X32-2300-02) PROCESSOR UNIT





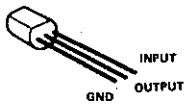
IC3 : CXD2500BQ
IC4,5 : TC4052BP
IC6 : MP5871AS
IC11,15,16,26~29 : NJM4565D
IC19,23 : TC74HCU04AP
IC21 : YAC510-SP
IC22 : YVL151C-SP
IC24 : TC74HC4066AP
IC25 : XRU4053B or TC4053BP

Q15,19,23,53 : UN4112 or DTA124ES
Q16,31,41,46~50 : 2SC3311A(Q,R) or 2SC2458(Y,GR)
Q20,24,27 : UN4212 or DTC124ES
Q40,52 : 2SC2878(B)
Q42,51 : 2SA1309A(Q,R) or 2SA1048(Y,GR)

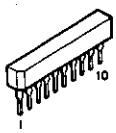
D1,14 : 1SV147
D6,7,9,13,21~24 : 1SS133 or HSS104
D8 : RD5.6ES(B2) or HZS5.6N(B2)

LVD-68(M)(2/3)

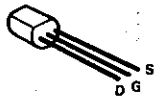
PST529C



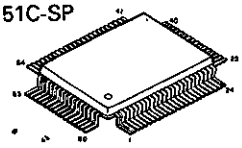
STA455C



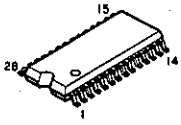
2SK163



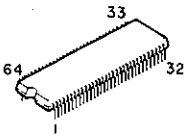
CXD2500BQ
YVL151C-SP



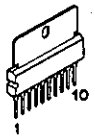
MP5871AS



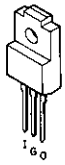
UPD75217CW-244



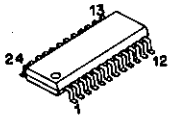
TA7272P



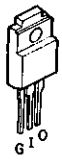
UPC2405HF



CA0002AM



UPC7905HF



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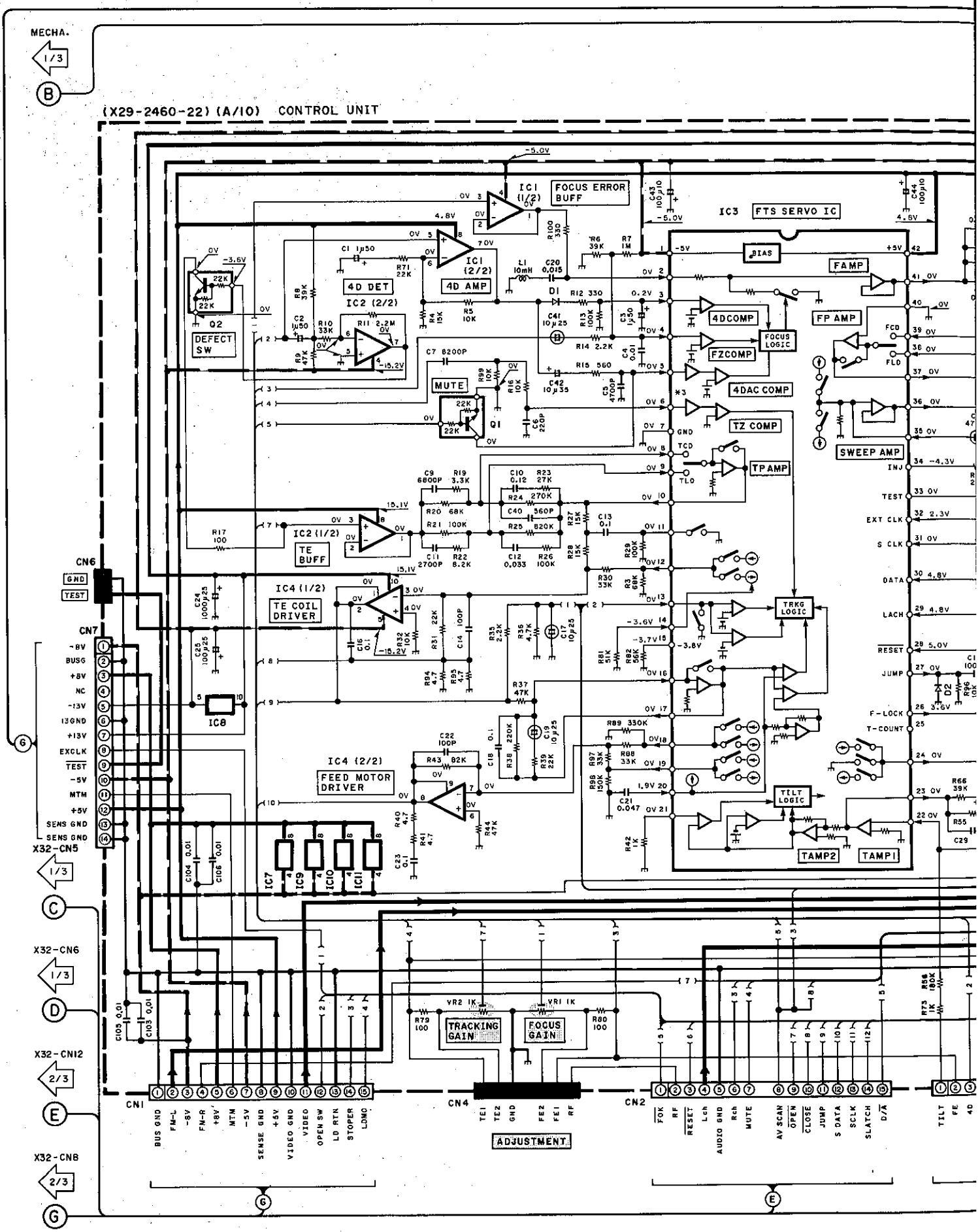
Y22-3860-21

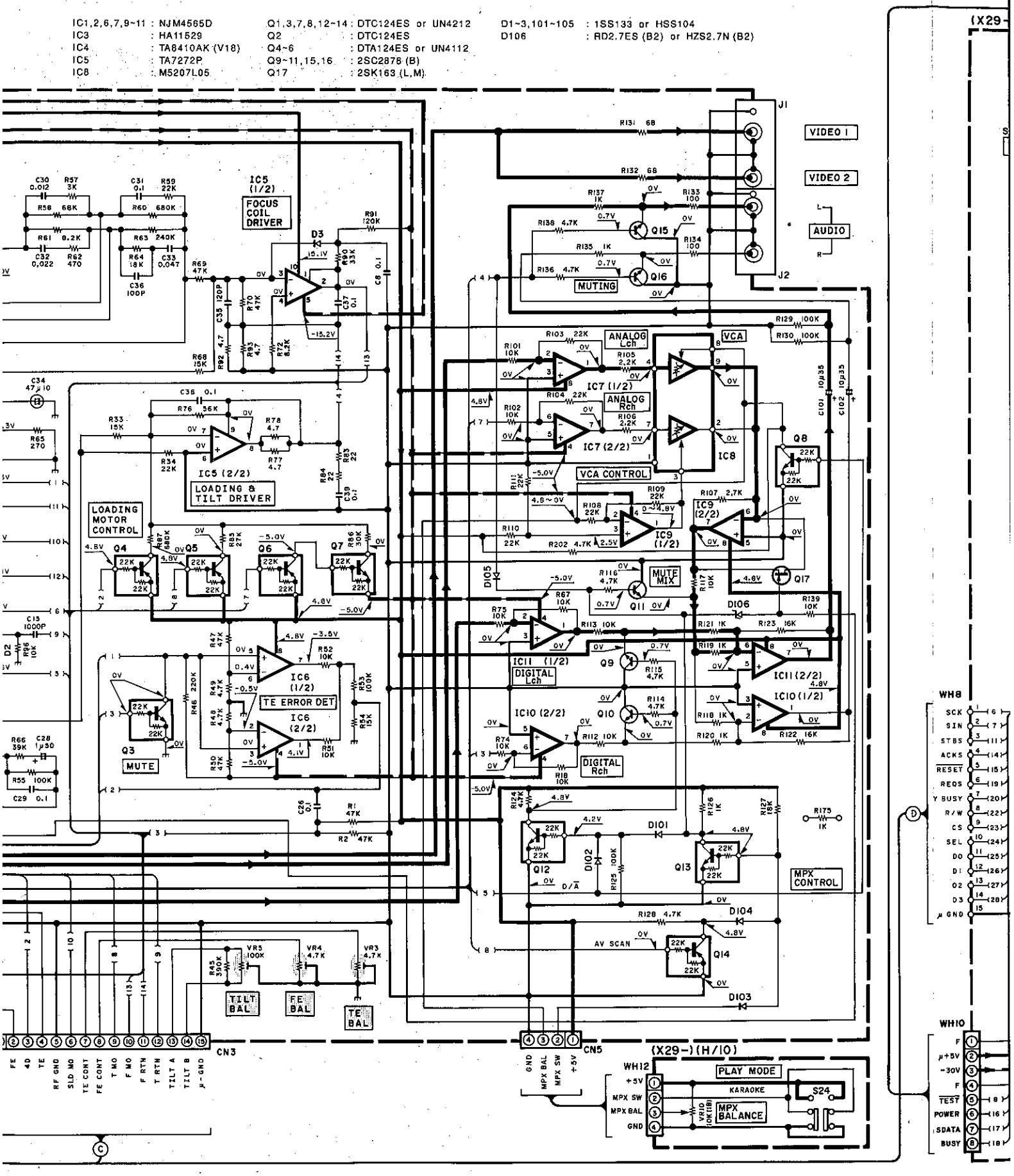
LVD-68
KENWOOD

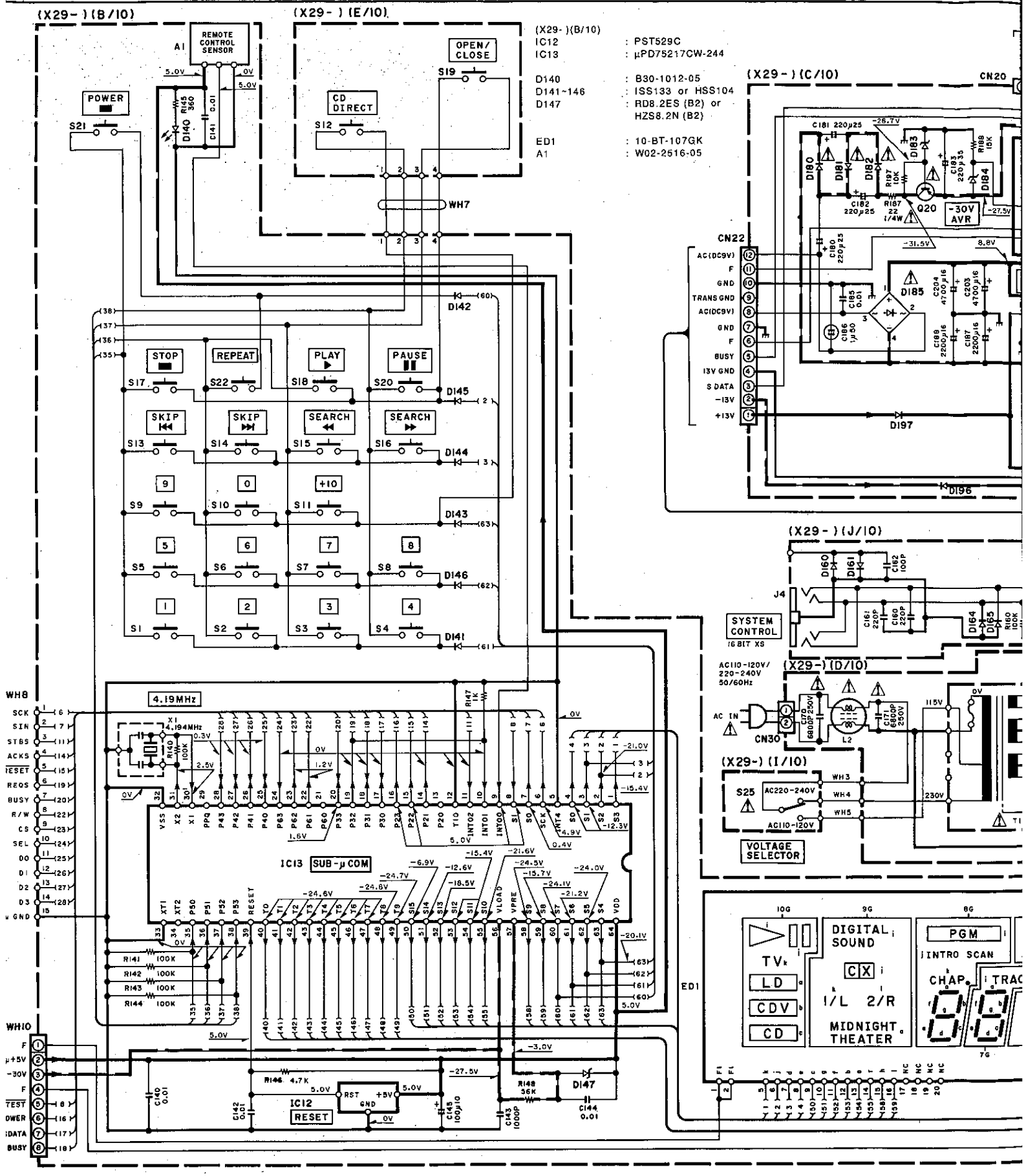

MECHA.
1/3
B
(X29-2460-22) (A/10) CONTROL UNIT
IC1 (1/2) FOCUS ERROR BUFF
IC1 (2/2) 4D AMP
4D DET
IC2 (2/2)
IC2 (1/2) TE BUFF
IC4 (1/2) TE COIL DRIVER
IC4 (2/2) FEED MOTOR DRIVER
IC3 FTS SERVO IC
BIAS
FAMP
FP AMP
4DCOMP
FZCOMP
4DAC COMP
FOCUS LOGIC
TZ COMP
TP AMP
SWEEP AMP
TRKG LOGIC
TILT LOGIC
TAMP2
TAMP1
MUTE
DEFECT SW
Q1
Q2
IC8
IC7
IC9
IC10
IC11
CN6
GND
TEST
CN7
-8V
BUSG
+8V
NC
-13V
13GND
+13V
EXCLK
TEST
-5V
MTM
+5V
SENS GND
SENS GND
X32-CN5
1/3
C
X32-CN6
1/3
D
X32-CN12
2/3
E
X32-CN8
2/3
G
CN1
BUS GND
FM-L
-8V
FM-R
+8V
MTM
-5V
SENSE GND
+5V
VIDEO GND
VIDEO
OPEN SW
LD RTN
STOPER
LOMO
CN4
TE1
TE2
GND
FE2
FE1
RF
CN2
FOK
RF
RESET
Lch
AUDIO GND
Rch
MUTE
AV SCAN
OPEN
CLOSE
JUMP
S DATA
SCLK
SLATCH
D/A
TILT
FE
ADJUSTMENT
TRACKING GAIN
FOCUS GAIN
VR2 1K
VR1 1K
INJ
TEST
EXT CLK
S CLK
DATA
LACH
RESET
JUMP
F-LOCK
T-COUNT
TCD
TLD
FCD
FLD

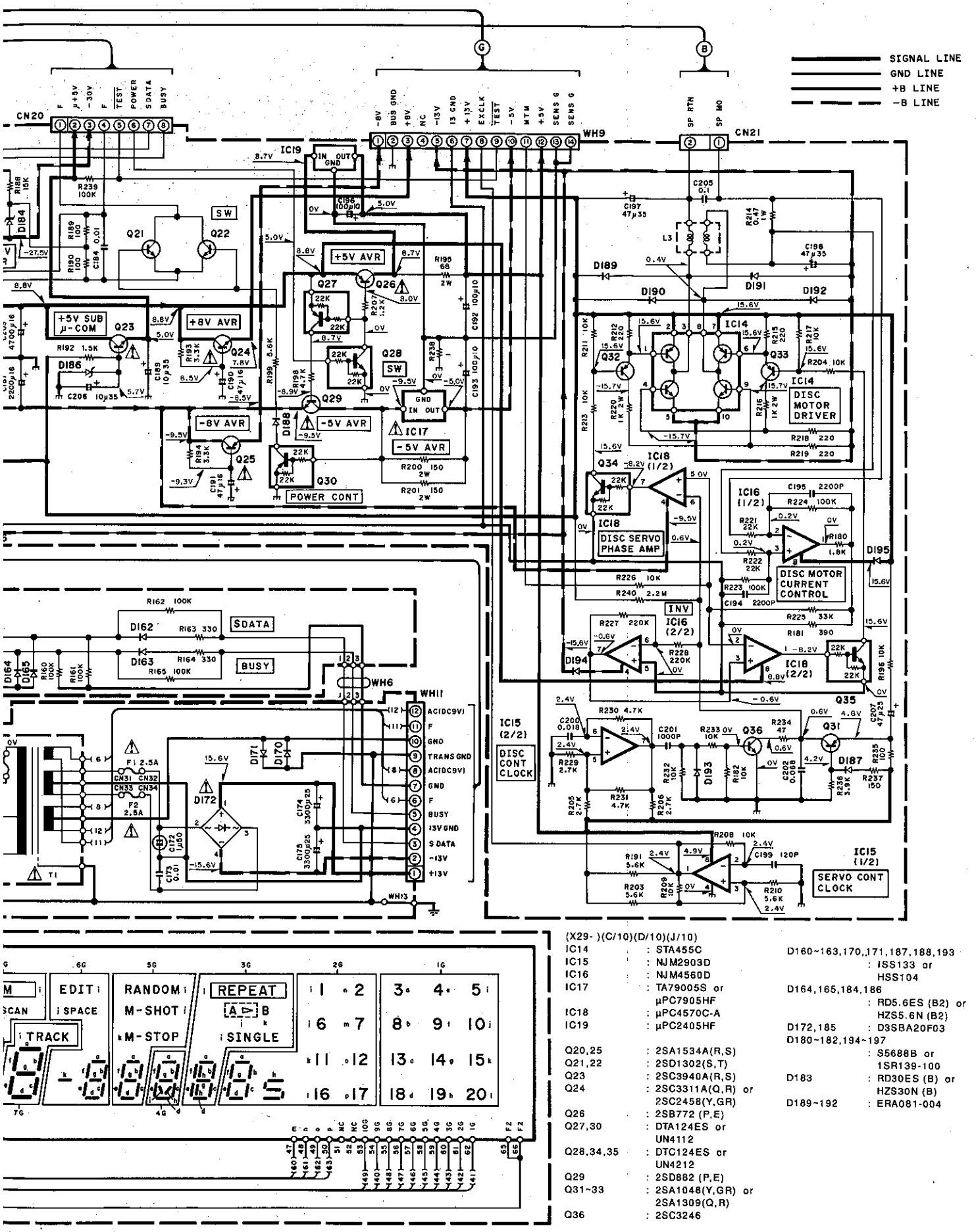
IC1,2,6,7,9~11 : NJM4565D
IC3 : HA11529
IC4 : TA8410AK (V18)
IC5 : TA7272P
IC8 : M5207L05

Q1,3,7,8,12~14 : DTC124ES or UN4212
Q2 : DTC124ES
Q4~6 : DTA124ES or UN4112
Q9~11,15,16 : 2SC2878 (B)
Q17 : 2SK163 (L,M)

D1~3,101~105 : 1SS133 or HSS104
D106 : RD2.7ES (B2) or HZS2.7N (B2)




(X29-)(B/10)
(X29-)(E/10)
(X29-)(C/10)
(X29-)(J/10)
(X29-)(D/10)
(X29-)(I/10)
(X29-)(B/10)
IC12 : PST529C
IC13 : µPD75217CW-244
D140 : B30-1012-05
D141~146 : ISS133 or HSS104
D147 : RD8.2ES (B2) or HZS8.2N (B2)
ED1 : 10-BT-107GK
A1 : W02-2516-05
REMOTE CONTROL SENSOR
POWER
OPEN/CLOSE
CD DIRECT
WH7
CN20
CN22
-30V AVR
D197
D196
STOP
REPEAT
PLAY
PAUSE
SKIP
SKIP
SEARCH
SEARCH
SYSTEM CONTROL
16 BIT XS
AC110-120V/220-240V 50/60Hz
AC IN
CN30
VOLTAGE SELECTOR
AC220-240V
AC110-120V
4.19MHz
IC13 SUB-µCOM
IC12 RESET
WH8
WH10
ED1
DIGITAL SOUND
MIDNIGHT THEATER
PGM
INTRO SCAN
CHAP
TRAC

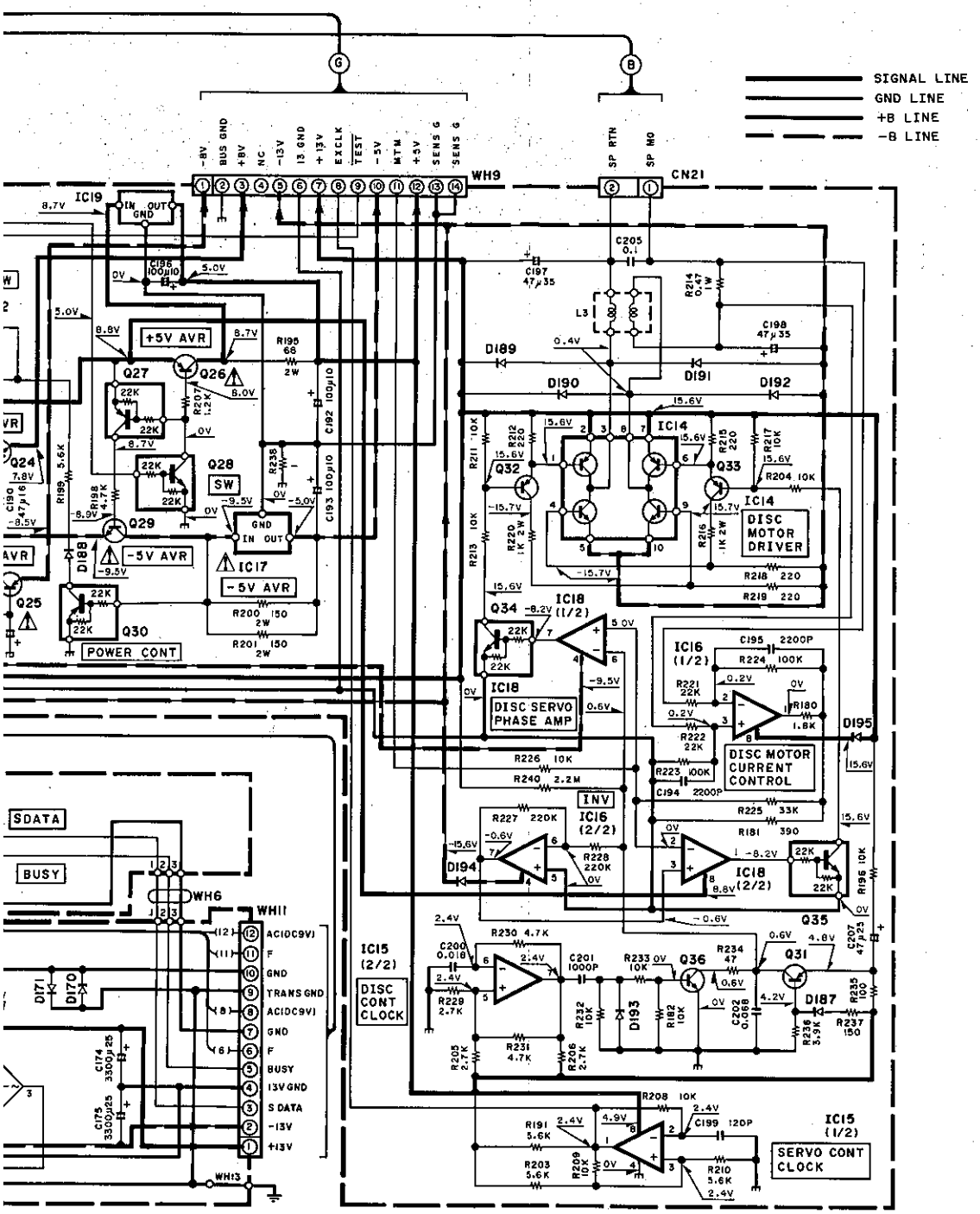


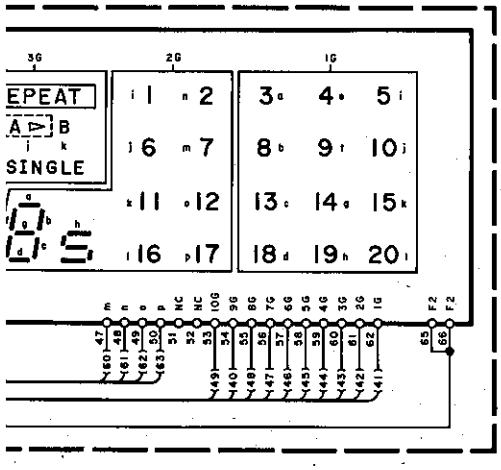
(X29-)(C/10)(D/10)(J/10)

IC14	: STA455C	
IC15	: NJM2903D	
IC16	: NJM4560D	
IC17	: TA79005S or μPC7905HF	
IC18	: μPC4570C-A	
IC19	: μPC2405HF	
Q20,25	: 2SA1534A(R,S)	
Q21,22	: 2SD1302(S,T)	
Q23	: 2SC3940A(R,S)	
Q24	: 2SC3311A(Q,R) or 2SC2458(Y,GR)	
Q26	: 2SB772 (P,E)	
Q27,30	: DTA124ES or UN4112	
Q28,34,35	: DTC124ES or UN4212	
Q29	: 2SD882 (P,E)	
Q31~33	: 2SA1048(Y,GR) or 2SA1309(Q,R)	
Q36	: 2SC3246	
D160~163,170,171,187,188,193	: ISS133 or HSS104	
D164,165,184,186	: RD5.6ES (B2) or HZS5.6N (B2)	
D172,185	: D3SBA20F03	
D180~182,194~197	: S5688B or 1SR139-100	
D183	: RD30ES (B) or HZS30N (B)	
D189~192	: ERA081-004	

LVD-68 (M) (3/3)

Y22-3860-21

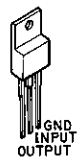




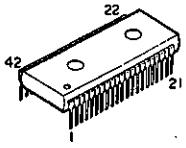
(X29-)(C/10)(D/10)(J/10)

IC14	: STA455C	
IC15	: NJM2903D	
IC16	: NJM4560D	
IC17	: TA79005S or μPC7905HF	
IC18	: μPC4570C-A	
IC19	: μPC2405HF	
Q20,25	: 2SA1534A(R,S)	
Q21,22	: 2SD1302(S,T)	
Q23	: 2SC3940A(R,S)	
Q24	: 2SC3311A(Q,R) or 2SC2458(Y,GR)	
Q26	: 2SB772 (P,E)	
Q27,30	: DTA124ES or UN4112	
Q28,34,35	: DTC124ES or UN4212	
Q29	: 2SD882 (P,E)	
Q31~33	: 2SA1048(Y,GR) or 2SA1309(Q,R)	
Q36	: 2SC3246	
D160~163,170,171,187,188,193	: ISS133 or HSS104	
D164,165,184,186	: RD5.6ES (B2) or HZS5.6N (B2)	
D172,185	: D3SBA20F03	
D180~182,194~197	: S5688B or 1SR139-100	
D183	: RD30ES (B) or HZS30N (B)	
D189~192	: ERA081-004	

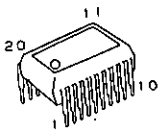
TA79005S



HA11529



YAC510-SP



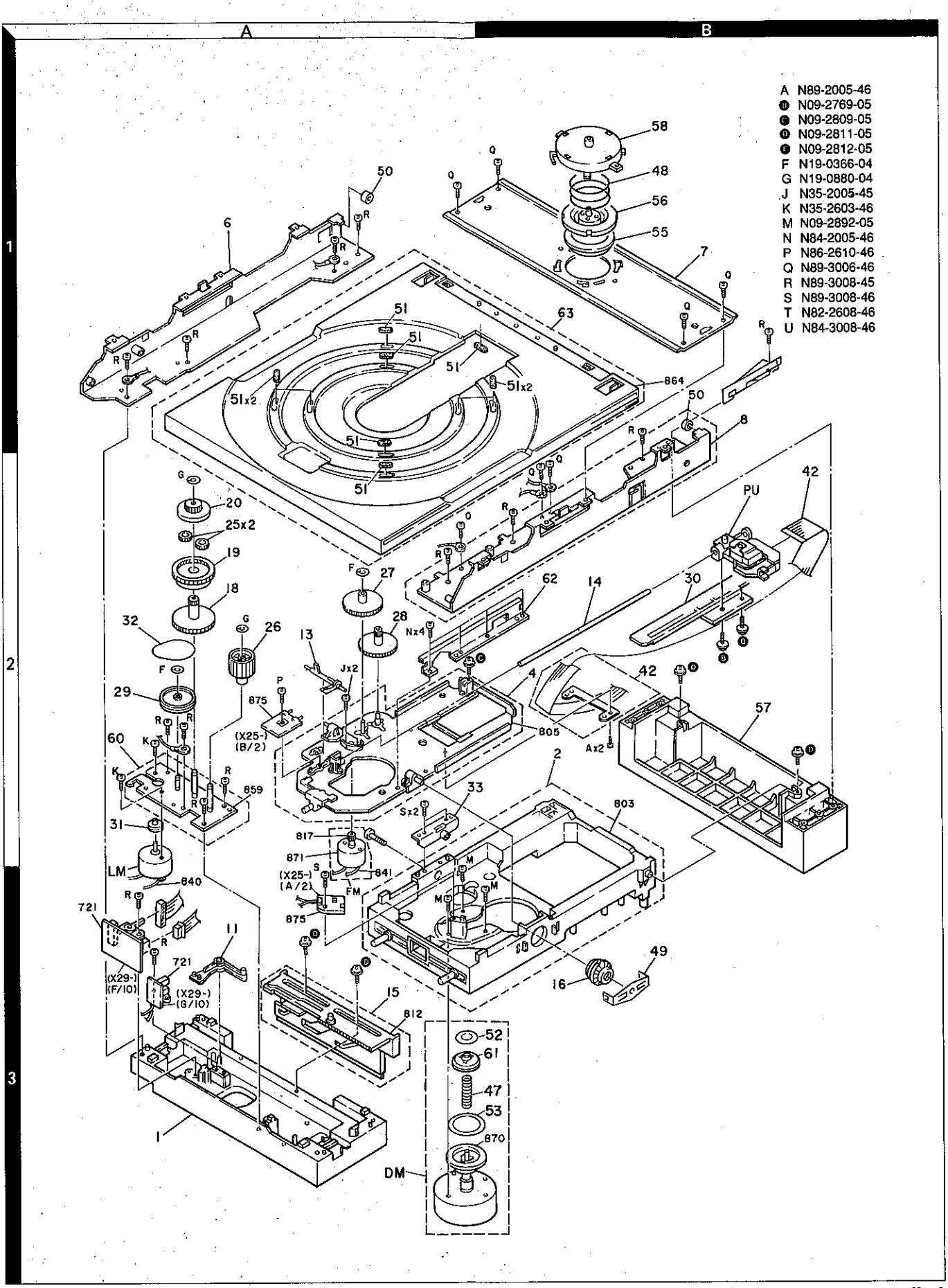
CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).
⚠ Indicates safety critical components.
To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably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

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

LVD-68 (M) (3/3)

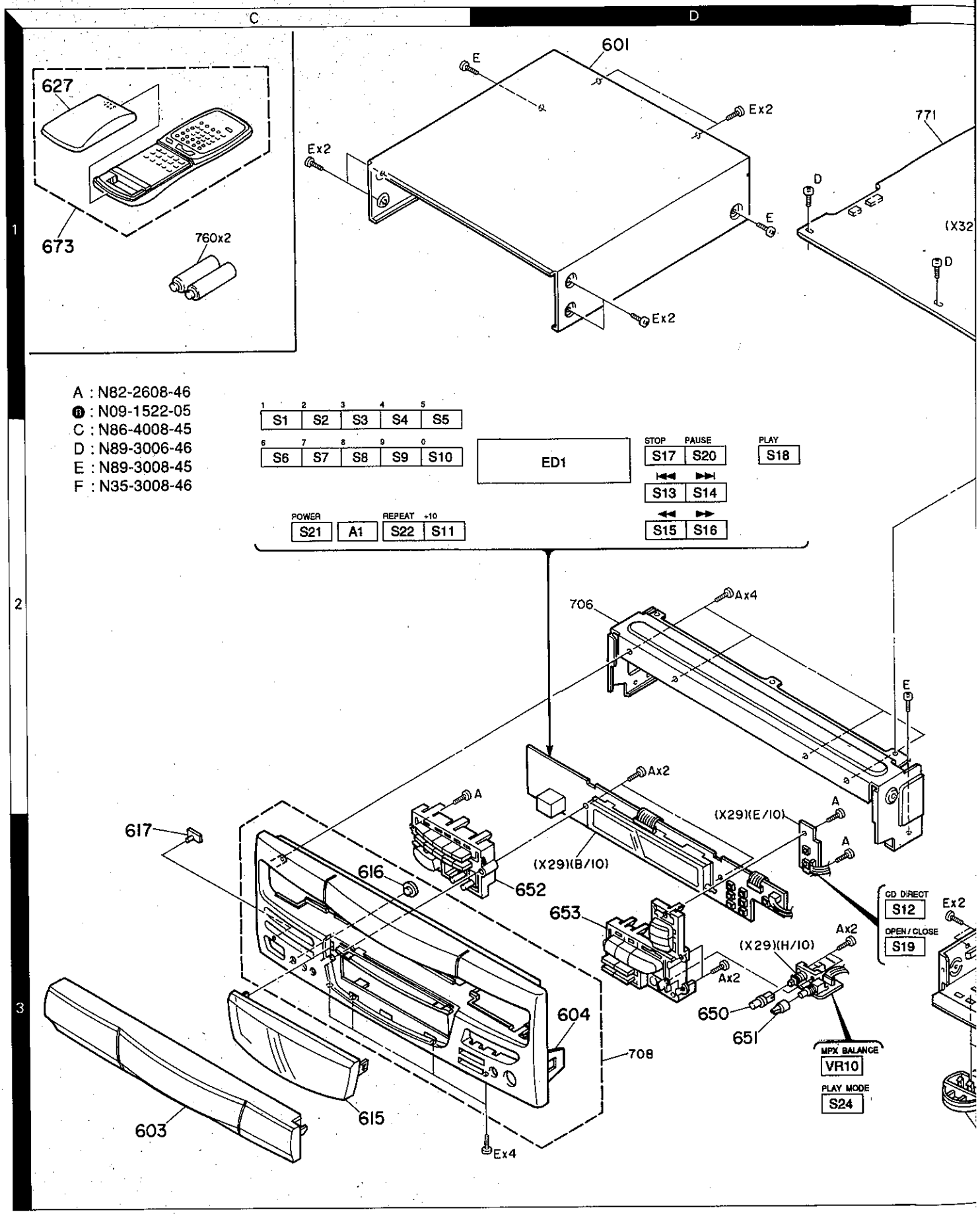
LVD-68
KENWOOD

EXPLODED VIEW (MECHANISM)

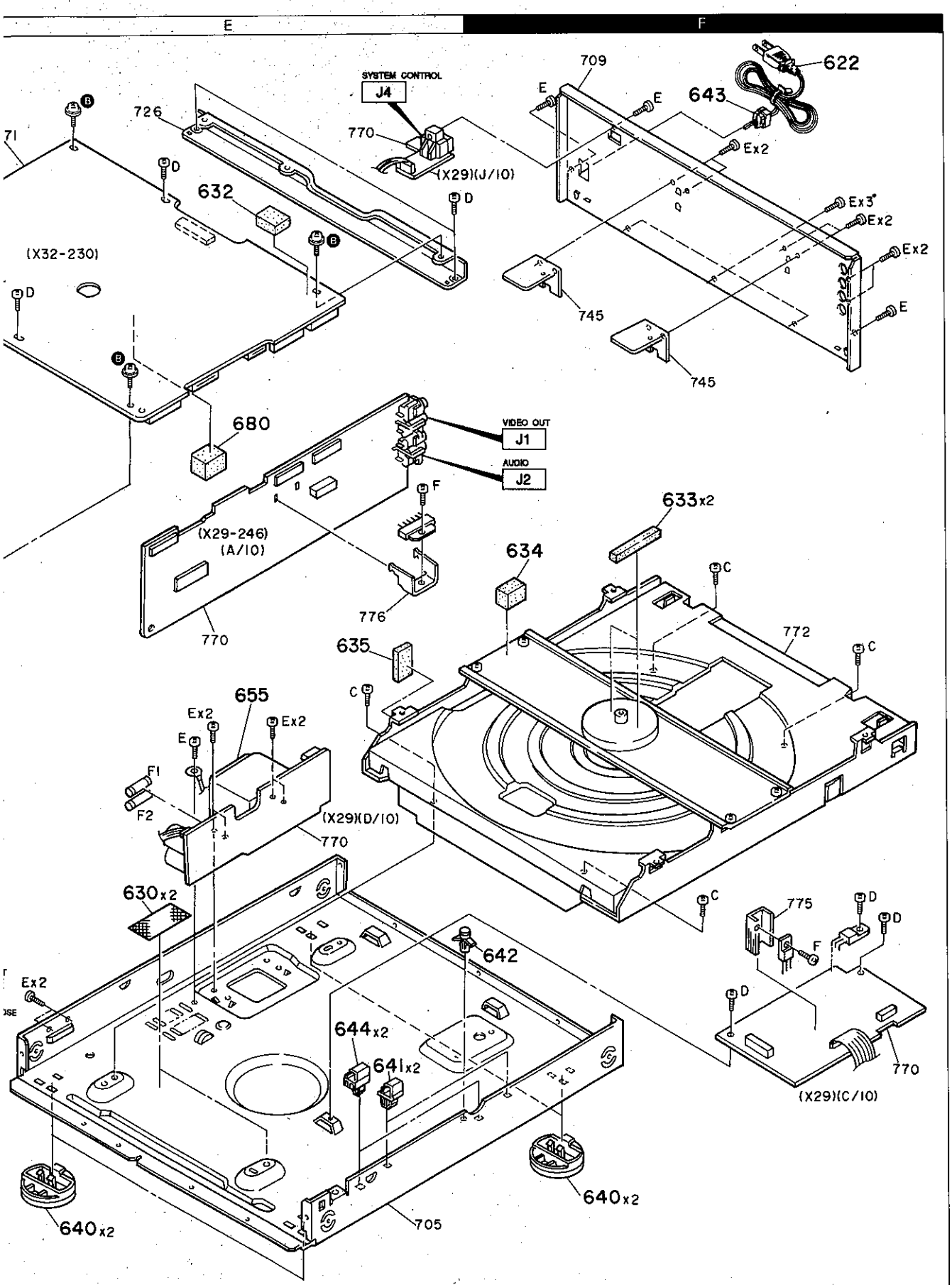


Parts with the exploded numbers larger than 700 are not supplied

EXPLODED VIEW



EW (UNIT)



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

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Teile ohne Parts No. werden nicht geliefert.

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❶

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
LVD-68						
601	1D		A01-1796-01	METALLIC CABINET		
603	3C		A29-0379-02	PANEL (TRAY)		
604	3D	*	A60-0627-11	PANEL (FRONT)		
615	3C	*	B10-2052-03	FRONT GLASS		
616	3C	*	B11-0237-14	COLOR FILTER		
617	3C		B12-0200-04	INDICATOR		
⚠ 622	1F		E30-2592-15	AC POWER CORD		
627	1C		F07-0721-33	BATTERY COVER		
630	3E		G10-0127-04	NON-WOVEN FABRIC		
632	1E		G11-2086-04	CUSHION		
633	2F		G11-2143-04	CUSHION		
634	2F		G11-2144-04	CUSHION		
635	2E		G11-2087-04	CUSHION		
-		*	H10-5842-02	POLYSTYRENE FOAMED FIXTURE		
-		*	H10-5843-02	POLYSTYRENE FOAMED FIXTURE		
-			H20-0568-04	PROTECTION COVER		
-		*	H21-0311-04	PROTECTION SHEET		
-		*	H50-1176-04	ITEM CARTON CASE		
640	3E,3F		J02-1040-05	FOOT		
641	3E		J19-3223-05	UNIT HOLDER		
642	3F		J19-3300-05	UNIT HOLDER		
⚠ 643	1F		J42-0083-05	POWER CORD BUSHING		
644	3E		J50-0133-05	HINGE		
-			J61-0307-05	WIRE BAND		
650	3D		K27-2013-04	KNOB (BUTTON) PLAY MODE		
651	3D		K29-4377-04	KNOB MPX BALANCE		
652	3D	*	K29-5985-02	KNOB 10 KEY		
653	3D	*	K29-5986-12	KNOB STOP/PLAY		
⚠ 655	2E		L07-0351-05	POWER TRANSFORMER		
673	1C		X94-1050-71	REMOTE CONTROL ASSY UNIT		
MECHANISM PCB (X25-5020-00)						
S1 ,2			S40-1139-05	PUSH SWITCH		
PH1			T95-0048-05	OPTO ISOLATOR		
CONTROL UNIT (X29-2460-22)						
D140			B30-1012-05	LED(SLP-981C-51)		
C1 -3			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C4			CF92FV1H103J	MF 0.010UF J		
C5			CF92FV1H472J	MF 4700PF J		
C6			CC45FSL1H221J	CERAMIC 220PF J		
C7			CF92FV1H822J	MF 8200PF J		
C8			CF92FV1H104J	MF 0.10UF J		
C9			CF92FV1H682J	MF 6800PF J		
C10			CF92FV1H124J	MF 0.12UF J		
C11			CF92FV1H272J	MF 2700PF J		
C12			CF92FV1H333J	MF 0.033UF J		
C13			CF92FV1H104J	MF 0.10UF J		
C14			CC45FSL1H101J	CERAMIC 100PF J		

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❷

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
C15			CK45FB1H102K	CERAMIC 1000PF K		
C16			CF92FV1H104J	MF 0.10UF J		
C17			CE04HW1E100M	NP-ELEC 10UF 25WV		
C18			CF92FV1H104J	MF 0.10UF J		
C19			CE04HW1E100M	NP-ELEC 10UF 25WV		
C20			CF92FV1H153J	MF 0.015UF J		
C21			CF92FV1H473J	MF 0.047UF J		
C22			CC45FSL1H101J	CERAMIC 100PF J		
C23			CF92FV1H104J	MF 0.10UF J		
C24		*	CE04DW1E102M	ELECTRO 1000UF 25WV		
C25			CE04KW1E101M	ELECTRO 100UF 25WV		
C26			CF92FV1H104J	MF 0.10UF J		
C28			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C29			CF92FV1H104J	MF 0.10UF J		
C30			CF92FV1H123J	MF 0.012UF J		
C31			CF92FV1H104J	MF 0.10UF J		
C32			CF92FV1H223J	MF 0.022UF J		
C33			CF92FV1H473J	MF 0.047UF J		
C34			CE04HW1A470M	NP-ELEC 47UF 10WV		
C35			CC45FSL1H121J	CERAMIC 120PF J		
C36			CC45FSL1H101J	CERAMIC 100PF J		
C37 -39			CF92FV1H104J	MF 0.10UF J		
C40			CF92FV1H561J	MF 560PF J		
C41			CE04HW1E100M	NP-ELEC 10UF 25WV		
C42			CE04KW1V100M	ELECTRO 10UF 35WV		
C43 ,44			CE04KW1A101M	ELECTRO 100UF 10WV		
C101,102			CE04KW1V100M	ELECTRO 10UF 35WV		
C103-106			CK45FF1H103Z	CERAMIC 0.010UF Z		
C140			C91-0769-05	CERAMIC 0.01UF K		
C141			CK45FF1H103Z	CERAMIC 0.010UF Z		
C142			C91-0769-05	CERAMIC 0.01UF K		
C143			C91-0757-05	CERAMIC 1000PF K		
C144			C91-0769-05	CERAMIC 0.01UF K		
C145			C90-3222-05	ELECTRO 100UF 10WV		
C150			CF92FV1H473J	MF 0.047UF J		
C160,161			CC45FSL1H221J	CERAMIC 220PF J		
C162			CF92FV1H101K	MF 100PF K		
⚠ C170,171			C91-1488-05	MF 6800PF 250VAC		
C172			CE04HW1H010M	NP-ELEC 1.0UF 50WV		
C173			CK45FF1H103Z	CERAMIC 0.010UF Z		
C174,175			CE04KW1E332M	ELECTRO 3300UF 25WV		
C180-182			CE04KW1E221M	ELECTRO 220UF 25WV		
C183			CE04DW1V221M	ELECTRO 220UF 35WV		
C184,185			CK45FF1H103Z	CERAMIC 0.010UF Z		
C186			CE04HW1H010M	NP-ELEC 1.0UF 50WV		
C187,188			CE04DW1C222M	ELECTRO 2200UF 16WV		
C189			CE04KW1V100M	ELECTRO 10UF 35WV		
C190,191			CE04KW1C470M	ELECTRO 47UF 16WV		
C192,193			CE04KW1A101M	ELECTRO 100UF 10WV		
C194,195			CK45FB1H222K	CERAMIC 2200PF K		
C196			CE04KW1A101M	ELECTRO 100UF 10WV		
C197,198			CE04KW1V470M	ELECTRO 47UF 35WV		
C199			CC45FSL1H121J	CERAMIC 120PF J		
C200			CF92FV1H183J	MF 0.018UF J		
C201			CK45FB1H102K	CERAMIC 1000PF K		

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❸

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C202			CF92FV1H683J	MF 0.068UF J		
C203,204			CE04KW1C472M	ELECTRO 4700UF 16WV		
C205			CF92FV1H104J	MF 0.10UF J		
C206			CE04KW1V100M	ELECTRO 10UF 35WV		
C207			CE04KW1E470M	ELECTRO 47UF 25WV		
J1	1F		E63-0105-05	PHONO JACK (VIDEO OUT)		
J2	2F		E63-0106-05	PHONO JACK (AUDIO OUT)		
J4	1E		E08-0311-05	RECTANGULAR RECEPTACLE		
⚠ F1 ,2			F05-2525-05	FUSE (SEMKO) (250V T2.5AL)		
CN31-34			J13-0075-05	FUSE CLIP		
L1			L40-1031-46	SMALL FIXED INDUCTOR(10MH, K)		
⚠ L2			L79-0733-05	LINE FILTER		
L3			L33-0374-05	CHOKE COIL		
X1			L78-0267-05	RESONATOR (4.194MHZ)		
R187			RD14GB2E220J	FL-PROOF RD 22 J 1/4W		
R195			RS14KB3D680J	FL-PROOF RS 68 J 2W		
R200,201			RS14KB3D151J	FL-PROOF RS 150 J 2W		
R214			RS14KB3AR47J	FL-PROOF RS 0.47 J 1W		
R216			RS14KB3D102J	FL-PROOF RS 1.0K J 2W		
R220			RS14KB3D102J	FL-PROOF RS 1.0K J 2W		
VR1 ,2			R12-1084-05	TRIMMING POT.(1K) GAIN		
VR3 ,4			R12-1090-05	TRIMMING POT.(4.7K) BAL		
VR5			R12-5059-05	TRIMMING POT.(100K) TILT		
VR10	3D	*	R10-3052-05	POTENTIOMETER(10K/1B) MPX		
S1 -22	2C,2D		S40-1064-05	PUSH SWITCH		
S23			S64-0001-05	LEVER SWITCH (PLAY MODE)		
S24	3D		S40-2146-05	PUSH SWITCH		
⚠ S25			S62-0001-05	SLIDE SWITCH (VOLTAGE SELE)		
PH1		*	T95-0108-15	OPTO ISOLATOR		
D1 -3			HSS104	DIODE		
D1 -3			1SS133	DIODE		
D101-105			HSS104	DIODE		
D101-105			1SS133	DIODE		
D106			HZS2.7N(B2)	ZENER DIODE		
D106			RD2.7ES(B2)	ZENER DIODE		
D141-146			HSS104	DIODE		
D141-146			1SS133	DIODE		
D147			HZS8.2N(B2)	ZENER DIODE		
D147			RD8.2ES(B2)	ZENER DIODE		
D160-163			HSS104	DIODE		
D160-163			1SS133	DIODE		
D164,165			HZS5.6N(B2)	ZENER DIODE		
D164,165			RD5.6ES(B2)	ZENER DIODE		
D170,171			HSS104	DIODE		
D170,171			1SS133	DIODE		
D172			D3SBA20F03	DIODE		
D180-182			S5688B	DIODE		
D180-182			1SR139-100	DIODE		
D183			HZS30N(B)	ZENER DIODE		
D183			RD30ES(B)	ZENER DIODE		
D184			HZS5.6N(B2)	ZENER DIODE		
D184			RD5.6ES(B2)	ZENER DIODE		

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❹

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⚠ D185			D3SBA20F03	DIODE		
D186			HZS5.6N(B2)	ZENER DIODE		
D186			RD5.6ES(B2)	ZENER DIODE		
D187,188			HSS104	DIODE		
D187,188			1SS133	DIODE		
D189-192			ERA081-004	DIODE		
D193			HSS104	DIODE		
D193			1SS133	DIODE		
⚠ D194-197			S5688B	DIODE		
⚠ D194-197			1SR139-100	DIODE		
ED1			10-BT-107GK	INDICATOR TUBE		
IC1 ,2			NJM4565D	IC(OP AMP X2)		
IC3			HA11529	IC(CD/LD SERVO IC)		
IC4			TA8410AK(V18)	IC(OP AMP X2)		
IC5			TA7272P	IC(OP AMP X2)		
IC6 ,7			NJM4565D	IC(OP AMP X2)		
IC8			M5207L05	IC(DUAL VCA)		
IC9 -11			NJM4565D	IC(OP AMP X2)		
IC12			PST529C	IC(SYSTEM RESET)		
IC13		*	UPD75217CW-244	MI-COM IC		
IC14			STA455C	IC(TRANSISTOR ARRAY)		
IC15			NJM2903D	IC(DUAL COMPARATOR)		
IC16			NJM4560D	IC(OP AMP X2)		
⚠ IC17			TA79005S	IC(VOLTAGE REGULATOR/ -5V)		
⚠ IC17			UPC7905HF	IC(VOLTAGE REGULATOR/ -5V)		
IC18			UPC4570C-A	IC(OP AMP X2)		
IC19			UPC2405HF	IC(VOLTAGE REGULATOR/ +5V)		
Q1			DTC124ES	DIGITAL TRANSISTOR		
Q1			UN4212	TRANSISTOR		
Q2			DTC124ES	DIGITAL TRANSISTOR		
Q3			DTC124ES	DIGITAL TRANSISTOR		
Q3			UN4212	TRANSISTOR		
Q4 -6			DTA124ES	DIGITAL TRANSISTOR		
Q4 -6			UN4112	TRANSISTOR		
Q7 ,8			DTC124ES	DIGITAL TRANSISTOR		
Q7 ,8			UN4212	TRANSISTOR		
Q9 -11			2SC2878(B)	TRANSISTOR		
Q12 -14			DTC124ES	DIGITAL TRANSISTOR		
Q12 -14			UN4212	TRANSISTOR		
Q15 ,16			2SC2878(B)	TRANSISTOR		
Q17			2SK163(L,M)	FET		
⚠ Q20			2SA1534A(R,S)	TRANSISTOR		
Q21 ,22			2SD1302(S,T)	TRANSISTOR		
⚠ Q23			2SC3940A(R,S)	TRANSISTOR		
⚠ Q24			2SC2458(Y,GR)	TRANSISTOR		
⚠ Q24			2SC3311A(Q,R)	TRANSISTOR		
⚠ Q25			2SA1534A(R,S)	TRANSISTOR		
⚠ Q26			2SB772(P,E)	TRANSISTOR		
Q27			DTA124ES	DIGITAL TRANSISTOR		
Q27			UN4112	TRANSISTOR		
Q28			DTC124ES	DIGITAL TRANSISTOR		
Q28			UN4212	TRANSISTOR		
⚠ Q29			2SD882(P,E)	TRANSISTOR		
Q30			DTA124ES	DIGITAL TRANSISTOR		
Q30			UN4112	TRANSISTOR		

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Q31 -33			2SA1048(Y,GR)	TRANSISTOR				
Q31 -33			2SA1309A(Q,R)	TRANSISTOR				
Q34 ,35			DTC124ES	DIGITAL TRANSISTOR				
Q34 ,35			UN4212	TRANSISTOR				
Q36			2SC3246	TRANSISTOR				
A1	2C	*	W02-2516-05	ELECTRIC CIRCUIT MODULE				
PROCESSOR UNIT (X32-2300-02)								
C1			CC45FSL1H220J	CERAMIC	22PF	J		
C2			CC45FSL1H820J	CERAMIC	82PF	J		
C3			CC45FSL1H220J	CERAMIC	22PF	J		
C4			CE04KW1H010M	ELECTRO	1.0UF	50WV		
C5			CE04KW1H3R3M	ELECTRO	3.3UF	50WV		
C6			CF92FV1H223J	MF	0.022UF	J		
C8 ,9			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C10 ,11			CE04KW1A101M	ELECTRO	100UF	10WV		
C12			CE04HW1HR47M	NP-ELEC	0.47UF	50WV		
C14			CC45FSL1H270J	CERAMIC	27PF	J		
C16			CC45FSL1H680J	CERAMIC	68PF	J		
C17 ,18			CC45FSL1H101J	CERAMIC	100PF	J		
C19			CC45FSL1H680J	CERAMIC	68PF	J		
C20			CE04KW1A470M	ELECTRO	47UF	10WV		
C21			CF92FV1H682J	MF	6800PF	J		
C22			CE04KW1A470M	ELECTRO	47UF	10WV		
C23			CF92FV1H103J	MF	0.010UF	J		
C24			CF92FV1H182J	MF	1800PF	J		
C25			CF92FV1H104J	MF	0.10UF	J		
C26			CC45FSL1H121J	CERAMIC	120PF	J		
C27			CE04KW1H010M	ELECTRO	1.0UF	50WV		
C28			CK45FB1H561K	CERAMIC	560PF	K		
C29			CF92FV1H332J	MF	3300PF	J		
C30 ,31			CF92FV1H473J	MF	0.047UF	J		
C32 ,33			CF92FV1H103J	MF	0.010UF	J		
C34			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C35 ,36			CF92FV1H223J	MF	0.022UF	J		
C37			CE04KW1C101M	ELECTRO	100UF	16WV		
C41			CE04KW1A101M	ELECTRO	100UF	10WV		
C51 -54			CF92FV1H472J	MF	4700PF	J		
C55 ,56			CE04HW1E4R7M	NP-ELEC	4.7UF	25WV		
C57 ,58			CE04KW1H010M	ELECTRO	1.0UF	50WV		
C59 ,60			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C61 ,62			CF92FV1H393J	MF	0.039UF	J		
C64			CE04HW1E100M	NP-ELEC	10UF	25WV		
C65			CF92FV1H104J	MF	0.10UF	J		
C66			CE04KW1HR47M	ELECTRO	0.47UF	50WV		
C67 ,68			CE04KW1V100M	ELECTRO	10UF	35WV		
C80 -83			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C88 ,89			CF92FV1H471J	MF	470PF	J		
C90 ,91			CF92FV1H223J	MF	0.022UF	J		
C92 -95			CF92FV1H101K	MF	100PF	K		
C96 ,97			CF92FV1H561J	MF	560PF	J		
C98			CE04KW1A101M	ELECTRO	100UF	10WV		
C100			CE04KW1A221M	ELECTRO	220UF	10WV		
C102			CE04KW1A221M	ELECTRO	220UF	10WV		
C104			CE04KW1A221M	ELECTRO	220UF	10WV		

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C106			CE04KW1A221M	ELECTRO	220UF	10WV		
C108			CF92FV1H683J	MF	0.068UF	J		
C109			CF92FV1H393J	MF	0.039UF	J		
C111			CF92FV1H223J	MF	0.022UF	J		
C112			CE04HW1A220M	NP-ELEC	22UF	10WV		
C113			CE04HW1H010M	NP-ELEC	1.0UF	50WV		
C114			CF92FV1H103J	MF	0.010UF	J		
C115			CE04KW1V100M	ELECTRO	10UF	35WV		
C116			CF92FV1H103J	MF	0.010UF	J		
C117,118			CF92FV1H222J	MF	2200PF	J		
C119			CC45FSL1H560J	CERAMIC	56PF	J		
C120			CF92FV1H152J	MF	1500PF	J		
C121			CF92FV1H473J	MF	0.047UF	J		
C122			CE04KW1A101M	ELECTRO	100UF	10WV		
C123-126			CF92FV1H103J	MF	0.010UF	J		
C130			CF92FV1H103J	MF	0.010UF	J		
C131			CC45FSL1H220J	CERAMIC	22PF	J		
C132			CE04KW1A470M	ELECTRO	47UF	10WV		
C133			CF92FV1H103J	MF	0.010UF	J		
C134,135			C90-3212-05	ELECTRO	47UF	6.3WV		
C136			CE04KW1A470M	ELECTRO	47UF	10WV		
C138			CE04KW1A470M	ELECTRO	47UF	10WV		
C139			CC45FSL1H220J	CERAMIC	22PF	J		
C140,141			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C142			CE04KW1H010M	ELECTRO	1.0UF	50WV		
C143			CF92FV1H102J	MF	1000PF	J		
C150			CC45FSL1H101J	CERAMIC	100PF	J		
C151			CF92FV1H102J	MF	1000PF	J		
C152			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C153			CE04KW1A101M	ELECTRO	100UF	10WV		
C156			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C201			CE04KW1A470M	ELECTRO	47UF	10WV		
C202,203			C90-3212-05	ELECTRO	47UF	6.3WV		
C204			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C205			CE04KW1A470M	ELECTRO	47UF	10WV		
C206			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C207			CE04KW1H010M	ELECTRO	1.0UF	50WV		
C208			CF92FV1H104J	MF	0.10UF	J		
C209			CC45FSL1H330J	CERAMIC	33PF	J		
C210			CE04KW1A470M	ELECTRO	47UF	10WV		
C217			CE04KW1A470M	ELECTRO	47UF	10WV		
C218			CF92FV1H104J	MF	0.10UF	J		
C219			C90-3212-05	ELECTRO	47UF	6.3WV		
C220,221			CC45FSL1H121J	CERAMIC	120PF	J		
C222			CC45FSL1H331J	CERAMIC	330PF	J		
C223			CC45FSL1H221J	CERAMIC	220PF	J		
C224			CC45FSL1H150J	CERAMIC	15PF	J		
C225			CC45FSL1H470J	CERAMIC	47PF	J		
C226			CC45FSL1H150J	CERAMIC	15PF	J		
C227			CF92FV1H102J	MF	1000PF	J		
C228			CC45FSL1H180J	CERAMIC	18PF	J		
C229,230			CF92FV1H104J	MF	0.10UF	J		
C231,232			CE04KW1A101M	ELECTRO	100UF	10WV		
C233			CE04KW1H010M	ELECTRO	1.0UF	50WV		
C234			CF92FV1H104J	MF	0.10UF	J		

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C235			C90-3212-05	ELECTRO	47UF 6.3WV		
C236			CC45FSL1H560J	CERAMIC	56PF J		
C237			CF92FV1H104J	MF	0.10UF J		
C238			CC45FSL1H100D	CERAMIC	10PF D		
C239			CE04KW1A101M	ELECTRO	100UF 10WV		
C240			CC45FSL1H080D	CERAMIC	8.0PF D		
C241			CC45FSL1H270J	CERAMIC	27PF J		
C242			CC45FSL1H330J	CERAMIC	33PF J		
C243			CC45FSL1H101J	CERAMIC	100PF J		
C244			CC45FSL1H180J	CERAMIC	18PF J		
C245			CC45FSL1H390J	CERAMIC	39PF J		
C246			CF92FV1H104J	MF	0.10UF J		
C247,248			CF92FV1H332J	MF	3300PF J		
C249			CF92FV1H104J	MF	0.10UF J		
C250			CK45FF1H103Z	CERAMIC	0.010UF Z		
C251			CC45FSL1H100D	CERAMIC	10PF D		
C253,254			CC45FSL1H470J	CERAMIC	47PF J		
C255,256			CC45FSL1H100D	CERAMIC	10PF D		
C257			C90-3212-05	ELECTRO	47UF 6.3WV		
C258			CF92FV1H683J	MF	0.068UF J		
C259			CC45FSL1H101J	CERAMIC	100PF J		
C260			CK45FF1H103Z	CERAMIC	0.010UF Z		
C261			CC45FSL1H100D	CERAMIC	10PF D		
C262			CC45FSL1H220J	CERAMIC	22PF J		
C263			CC45FSL1H100D	CERAMIC	10PF D		
C264			CC45FSL1H150J	CERAMIC	15PF J		
C265			CK45FF1H103Z	CERAMIC	0.010UF Z		
C266			CE04HW1H3R3M	NP-ELEC	3.3UF 50WV		
C267			CF92FV1H223J	MF	0.022UF J		
C268,269			CE04HW1H2R2M	NP-ELEC	2.2UF 50WV		
C270			CE04HW1HR22M	NP-ELEC	0.22UF 50WV		
C272,273			CE04KW1A470M	ELECTRO	47UF 10WV		
C299			CK45FB1H102K	CERAMIC	1000PF K		
C300			CC45FSL1H470J	CERAMIC	47PF J		
C302			CK45FB1H102K	CERAMIC	1000PF K		
C303			CE04KW1V100M	ELECTRO	10UF 35WV		
C304			CC45FSL1H120J	CERAMIC	12PF J		
C305			CC45FSL1H100D	CERAMIC	10PF D		
C306			CC45FSL1H560J	CERAMIC	56PF J		
C307			CC45FSL1H030C	CERAMIC	3.0PF C		
C308			CC45FSL1H180J	CERAMIC	18PF J		
C309			CC45FSL1H270J	CERAMIC	27PF J		
C310			CC45FSL1H100D	CERAMIC	10PF D		
C311			CC45FSL1H560J	CERAMIC	56PF J		
C312			CK45FB1H102K	CERAMIC	1000PF K		
C313			CC45FSL1H220J	CERAMIC	22PF J		
C314			CC45FSL1H101J	CERAMIC	100PF J		
C315			CE04KW1V100M	ELECTRO	10UF 35WV		
C316			CE04KW1A220M	ELECTRO	22UF 10WV		
C317			CK45FB1H102K	CERAMIC	1000PF K		
C318			CK45FF1H103Z	CERAMIC	0.010UF Z		
C319,320			CE04KW1A470M	ELECTRO	47UF 10WV		
C321,322			CK45FB1H102K	CERAMIC	1000PF K		
C323			CE04KW1A470M	ELECTRO	47UF 10WV		
C324			C90-3253-05	ELECTRO	1UF 50WV		

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C325			CF92FV1H222J	MF	2200PF J		
C326			CE04KW1C221M	ELECTRO	220UF 16WV		
C327			CC45FSL1H221J	CERAMIC	220PF J		
C328			CE04KW1A470M	ELECTRO	47UF 10WV		
C329			C90-3253-05	ELECTRO	1UF 50WV		
C338			CK45FB1H102K	CERAMIC	1000PF K		
TC1			C05-0093-05	CERAMIC TRIMMER CAPACITOR(60PF			
TC2			C05-0302-05	CERAMIC TRIMMER CAPACITOR(11PF			
680	2E		G11-2144-04	CUSHION			
-			J11-0098-05	WIRE CLAMPER			
L1 ,2			L40-6801-17	SMALL FIXED INDUCTOR(68UH,K)			
L3 -5			L40-1511-17	SMALL FIXED INDUCTOR(150UH,K)			
L6			L79-0797-05	LC FILTER			
L7			L40-5691-17	SMALL FIXED INDUCTOR(5.6UH,K)			
L8 ,9			L40-1001-17	SMALL FIXED INDUCTOR(10UH,K)			
L11			L40-2201-17	SMALL FIXED INDUCTOR(22UH,K)			
L12 ,13			L40-1501-17	SMALL FIXED INDUCTOR(15UH,K)			
L14 ,15			L40-1001-17	SMALL FIXED INDUCTOR(10UH,K)			
L16			L40-1511-17	SMALL FIXED INDUCTOR(150UH,K)			
L17			L40-3391-17	SMALL FIXED INDUCTOR(3.3UH,K)			
L18			L40-1501-17	SMALL FIXED INDUCTOR(15UH,K)			
L19			L40-1001-17	SMALL FIXED INDUCTOR(10UH,K)			
L20			L40-3901-17	SMALL FIXED INDUCTOR(39UH,K)			
L21			L40-4701-17	SMALL FIXED INDUCTOR(47UH,K)			
L22			L40-5691-17	SMALL FIXED INDUCTOR(5.6UH,K)			
L23			L40-1001-17	SMALL FIXED INDUCTOR(10UH,K)			
L24			L40-2201-17	SMALL FIXED INDUCTOR(22UH,K)			
L25			L40-2211-17	SMALL FIXED INDUCTOR(220UH,K)			
X1			L77-1129-05	CRYSTAL RESONATOR(16.9525MHZ)			
X2			L78-0280-05	RESONATOR (10.000MHZ)			
X3			L77-2116-05	CRYSTAL RESONATOR(14,3181MHZ)			
VR1			R12-1100-05	TRIMMING POT.(2.2K) VIDEO LVL			
VR1			R12-1125-05	TRIMMING POT.(2.2K) VIDEO LVL			
D1			1SV147	VARIABLE CAPACITANCE DIODE			
D4 -7			HSS104	DIODE			
D4 -7			1SS133	DIODE			
D8			HZS5.6N(B2)	ZENER DIODE			
D8			RD5.6ES(B2)	ZENER DIODE			
D9 ,10			HSS104	DIODE			
D9 ,10			1SS133	DIODE			
D13			HSS104	DIODE			
D13			1SS133	DIODE			
D14			1SV147	VARIABLE CAPACITANCE DIODE			
D15			HSS104	DIODE			
D15			1SS133	DIODE			
D16			HZS2.7N(B2)	ZENER DIODE			
D16			RD2.7ES(B2)	ZENER DIODE			
D18			HSS104	DIODE			
D18			1SS133	DIODE			
D19			HZS2.7N(B2)	ZENER DIODE			
D19			RD2.7ES(B2)	ZENER DIODE			
D20			KV1230Z	VARIABLE CAPACITANCE DIODE			

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D21 -24			HSS104	DIODE		
D21 -24			1SS133	DIODE		
IC1			M37451M8-133SP	CUSTOM IC		
IC2			CA0002AM	IC(LD AUDIO SYSTEM)		
IC3			CXD2500BQ	IC(DIGITAL SIGNAL PROCESSOR)		
IC4 ,5			TC4052BP	IC(4CH MPX/DE-MPX)		
IC6			MP5871AS	DI BI-POLAR IC		
IC7			TC74HC00AP	IC(2INPUT NAND GATE)		
IC8 ,9			NJM2058D	IC(OP AMP X4)		
IC8 ,9			UPC4574C	IC(OP AMP X4)		
IC10,11			NJM4565D	IC(OP AMP X2)		
IC15,16			NJM4565D	IC(OP AMP X2)		
IC19			TC74HCU04AP	IC(CMOS INVERTER)		
IC20		*	YM3558-SP	MOS-IC		
IC21		*	YAC510-SP	MOS-IC		
IC22		*	YVL151C-SP	MOS-IC		
IC23			TC74HCU04AP	IC(CMOS INVERTER)		
IC24			TC74HC4066AP	IC(SWITCHING IC))		
IC25			TC4053BP	IC(3-INPUT 2CH MPX/DE-MPX)		
IC25			XRU4053B	IC(ANALOG MULTIPLEXER)		
IC26-29			NJM4565D	IC(OP AMP X2)		
IC30			TC74HC157AP	IC(QUAD 2-CHANNEL MULTIPLEXER)		
Q1 -6			2SC2458(Y,GR)	TRANSISTOR		
Q1 -6			2SC3311A(Q,R)	TRANSISTOR		
Q7			2SA1048(Y,GR)	TRANSISTOR		
Q7			2SA1309A(Q,R)	TRANSISTOR		
Q8 ,9			2SC2458(Y,GR)	TRANSISTOR		
Q8 ,9			2SC3311A(Q,R)	TRANSISTOR		
Q10 ,11			DTC124ES	DIGITAL TRANSISTOR		
Q10 ,11			UN4212	TRANSISTOR		
Q12			2SA1286	TRANSISTOR		
Q13			DTA124ES	DIGITAL TRANSISTOR		
Q13			UN4112	TRANSISTOR		
Q14			2SC3246	TRANSISTOR		
Q15			DTA124ES	DIGITAL TRANSISTOR		
Q15			UN4112	TRANSISTOR		
Q16			2SC2458(Y,GR)	TRANSISTOR		
Q16			2SC3311A(Q,R)	TRANSISTOR		
Q19			DTA124ES	DIGITAL TRANSISTOR		
Q19			UN4112	TRANSISTOR		
Q20			DTC124ES	DIGITAL TRANSISTOR		
Q20			UN4212	TRANSISTOR		
Q23			DTA124ES	DIGITAL TRANSISTOR		
Q23			UN4112	TRANSISTOR		
Q24			DTC124ES	DIGITAL TRANSISTOR		
Q24			UN4212	TRANSISTOR		
Q26			DTA124ES	DIGITAL TRANSISTOR		
Q26			UN4112	TRANSISTOR		
Q27			DTC124ES	DIGITAL TRANSISTOR		
Q27			UN4212	TRANSISTOR		
Q28			2SA954(L,K)	TRANSISTOR		
Q29			2SC3246	TRANSISTOR		
Q30 -32			2SC2458(Y,GR)	TRANSISTOR		
Q30 -32			2SC3311A(Q,R)	TRANSISTOR		
Q33			DTA124ES	DIGITAL TRANSISTOR		

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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	Destination 仕向	Remarks 備考
Q33			UN4112	TRANSISTOR		
Q40			2SC2878(B)	TRANSISTOR		
Q41			2SC2458(Y,GR)	TRANSISTOR		
Q41			2SC3311A(Q,R)	TRANSISTOR		
Q42			2SA1048(Y,GR)	TRANSISTOR		
Q42			2SA1309A(Q,R)	TRANSISTOR		
Q43 ,44			2SC2458(Y,GR)	TRANSISTOR		
Q43 ,44			2SC3311A(Q,R)	TRANSISTOR		
Q45			DTA124ES	DIGITAL TRANSISTOR		
Q45			UN4112	TRANSISTOR		
Q46 -50			2SC2458(Y,GR)	TRANSISTOR		
Q46 -50			2SC3311A(Q,R)	TRANSISTOR		
Q51			2SA1048(Y,GR)	TRANSISTOR		
Q51			2SA1309A(Q,R)	TRANSISTOR		
Q52			2SC2878(B)	TRANSISTOR		
Q53			DTA124ES	DIGITAL TRANSISTOR		
Q53			UN4112	TRANSISTOR		
Q54 ,55			2SC2458(Y,GR)	TRANSISTOR		
Q54 ,55			2SC3311A(Q,R)	TRANSISTOR		
Q56			2SA1048(Y,GR)	TRANSISTOR		
Q56			2SA1309A(Q,R)	TRANSISTOR		
Q60			DTC124ES	DIGITAL TRANSISTOR		
Q60			UN4212	TRANSISTOR		
Q61 -63			2SC2458(Y,GR)	TRANSISTOR		
Q61 -63			2SC3311A(Q,R)	TRANSISTOR		
Q64			DTC124ES	DIGITAL TRANSISTOR		
Q64			UN4212	TRANSISTOR		
Q65 -67			2SC2458(Y,GR)	TRANSISTOR		
Q65 -67			2SC3311A(Q,R)	TRANSISTOR		
Q68			DTC124ES	DIGITAL TRANSISTOR		
Q68			UN4212	TRANSISTOR		
Q69 ,70			2SA1048(Y,GR)	TRANSISTOR		
Q69 ,70			2SA1309A(Q,R)	TRANSISTOR		
MECHANISM ASS'Y (X92-1620-51, X92-1680-41)						
1	3A		A10-2846-01	CHASSIS		
2	2B		A11-0707-23	SUB CHASSIS CALKING ASSY		
4	2B		A11-0709-13	SUB CHASSIS ASSY		
6	1A		A11-0712-23	SUB CHASSIS CALKING ASSY		
7	1B		A11-0714-03	SUB CHASSIS		
8	1B		A11-0768-03	SUB CHASSIS CALKING ASSY		
11	3A		D10-3128-04	ARM		
13	2A		D10-3130-04	ARM		
14	2B		D10-3131-04	ROD		
15	3A		D10-3133-14	SLIDER ASSY		
16	3B		D12-0129-03	CAM		
18	2A		D13-0919-04	GEAR		
19	2A		D13-0920-04	GEAR		
20	2A		D13-0921-04	GEAR		
25	2A		D13-0922-04	GEAR		
26	2A		D13-0923-04	GEAR		
27	2A		D13-0942-04	GEAR		
28	2A		D13-0926-04	GEAR		
29	2A		D13-0930-04	GEAR		
30	2B		D13-0931-03	LACK (GEAR)		

L: Scandinavia K: USA P: Canada R: Mexico
Y: PX (Far East, Hawaii) T: England E: Europe G: Germany
Y: AAFES (Europe) X: Australia M: Other Areas

⚠ indicates safety critical components.

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

⑪

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
31	2A		D15-0316-04	PULLEY		
32	2A		D16-0316-04	BELT		
33	2A		D23-0268-04	RETAINER		
42	2B		E35-0523-05	FLAT CABLE ASSY		
47	3B		G01-3354-04	COMPRESSION SPRING		
48	1B		G01-3355-04	COMPRESSION SPRING		
49	3B		G02-0984-04	FLAT SPRING		
50	1A,1B		G11-2091-04	CUSHION		
51	1A,1B		G16-0770-04	SHEET		
52	3B		G16-0768-04	SHEET		
53	3B		G16-0769-04	SHEET		
-			G10-0146-04	NON-WOVEN FABRIC		
55	1B		J11-0171-13	CLAMPER		
56	1B		J11-0172-13	CLAMPER		
57	2B		J19-3388-11	HOLDER		
58	1B		J19-3389-03	HOLDER		
60	2A		J21-5726-04	MOUNTING HARDWARE ASSY		
61	3B		J90-0669-13	GUIDE		
62	2B		J90-0670-04	RAIL		
63	1B		J99-0551-03	TRAY ASSY		
DM	3B		T42-0601-34	MOTOR ASSY		
FM	3A		T42-0648-04	MOTOR ASSY		
LM	3A		T42-0530-05	DC MOTOR		
PU	2B		X93-1000-02	OPTICAL PICKUP ASSY		

L: Scandinavia K: USA P: Canada R: Mexico
Y: PX (Far East, Hawaii) T: England E: Europe G: Germany
Y: AAFES (Europe) X: Australia M: Other Areas

⚠ indicates safety critical components.

LVD-68

SPECIFICATIONS

[Type]
Video disc format ..... Laser Vision format
Signal read system ..... Semiconductor laser
Video output format ..... NTSC

[Characteristics]
Video output level ..... 1 Vp-p (75 Ω load, sync. negative)
Horizontal resolution ..... 425 lines
Video signal to noise ratio ..... More than 50 dB

Digital audio section
Frequency response .... 4 Hz, ~ 20 kHz, + 1.0 dB – 1.0 dB
Signal to noise ratio ..... More than 100 dB
Channel separation ..... More than 82 dB (at 1 kHz)
Total harmonic distortion
..... Less than 0.008 % (at 1 kHz)
Wow & Flutter ..... Below measurable limit
(± 0.001 % W.PEAK)
Output level / Impedance ..... 1.2 V / 10 kΩ

[General]
Power consumption ..... 35 W
Dimensions ..... W: 360 mm (14-3 /16")
H: 130 mm (5-1/ 8")
D: 419 mm (13-9/ 16")
Weight (net) ..... 8.0kg (17.6 lb)

KENWOOD follows a policyof continuous advancements in developments. 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 General Market (M) 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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