

PROFESSIONAL DISC RECORDER YPDR601/RC601

SERVICE MANUAL

IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that all service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

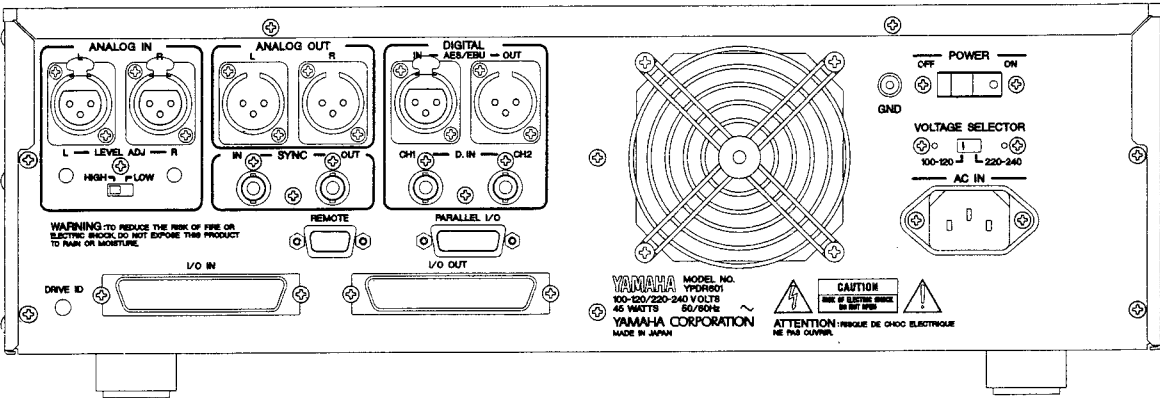
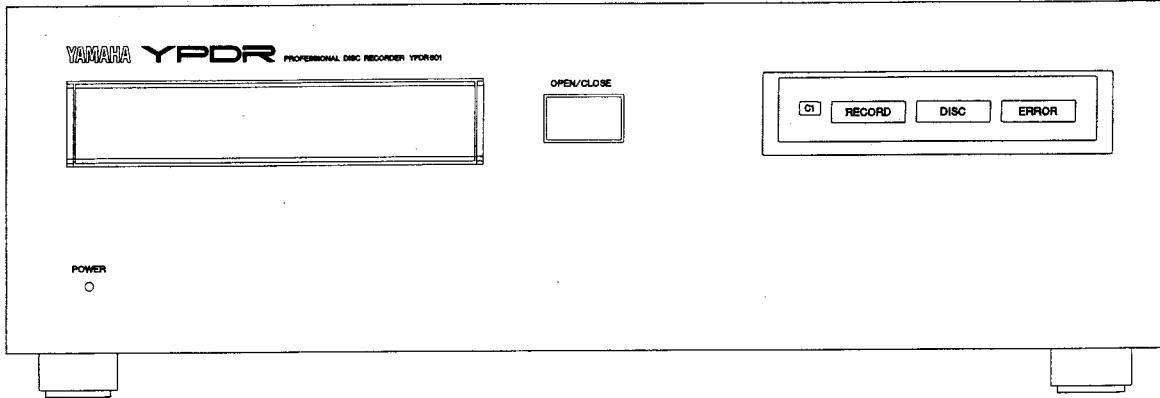
IMPORTANT: Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

■ CONTENTS

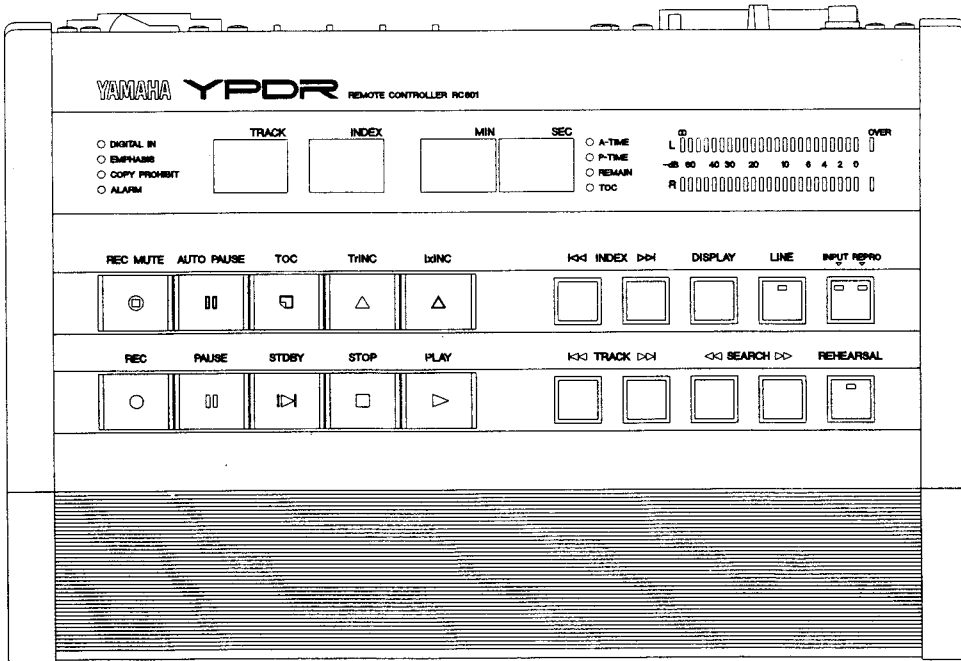
PANEL CONTROL	1~2	IC DATA	46~54
TO SERVICE PERSONNEL	2~3	WAVEFORM OF TEST POINT	55
SPECIFICATIONS/ 参考仕様	4~6	SCHEMATIC DIAGRAM	56~63
PROTECTION LEVER FOR TRANSPORTATION	7	BLOCK DIAGRAM	64
INTERNAL VIEW	7	INTERCONNECT WIRING DIAGRAM	64
DISASSEMBLY PROCEDURES/ 分解手順	8~9	YPDR601 PARTS LIST	65~77
ADJUSTMENT/ 調整	10~29	RC601 PARTS LIST	78~81
PRINTED CIRCUIT BOARD	30~45	PARTS LIST FOR CARBON RESISTORS	82

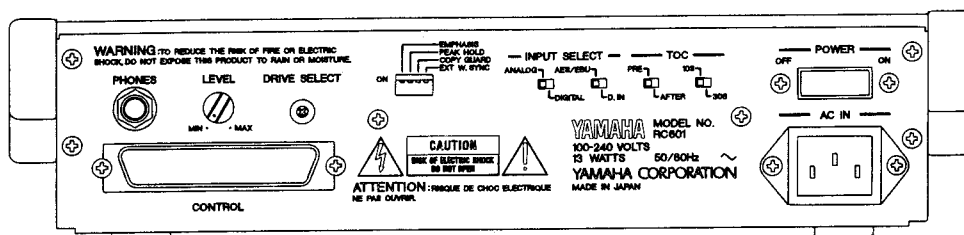
FRONT AND REAR PANELS

YPDR601



RC601





■ TO SERVICE PERSONNEL

1. Critical Components Information.

Components having special characteristics are marked and must be replaced with parts having specifications equal to those originally installed.

CAUTION: USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

THE COMPACT DISC PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED SERVICE PERSONNEL.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to carefully follow the instructions below when servicing.

1. Laser Diode Properties

- Material : GaAlAs
- Wavelength : 780 nm
- Emission Duration : Continuous
- Laser Output : max. 44.6 μ W*

* This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

2. When checking the laser diode emission, keep your eyes more than 30 cm away from the objective lens.

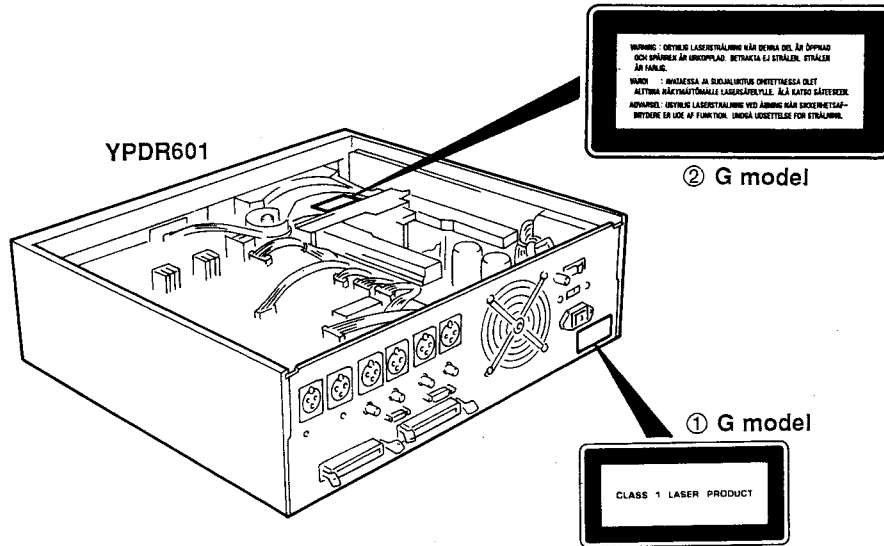
WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.



English

- ① THIS LABEL (SEE POSITION SHOWN IN THE ILLUSTRATION) INFORMS THE USER THAT THE APPARATUS CONTAINS A LASER COMPONENT.
- ② THIS LABEL (SEE POSITION SHOWN IN THE ILLUSTRATION) WARNS THAT ANY FURTHER PROCEDURE WILL BRING THE USER INTO EXPOSURE WITH THE LASER BEAM.

CAUTION : USE OF CONTROLS, ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN, MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

Swedish

- ① DENNA MÄRKNING (SE FIGUR) UPPLYSER OM ATT DET I APPARATEN INGÅR EN LASERKOMPONENT AV TYP KLASS 1.
- ② VARNINGSMÄRKNING (SE FIGUR) FÖR STRÅLNING. INGREPP I APPARATEN BÖR ENDAST FÖRETAGAS AV FACKMAN MED KÄNNEDOM OM LASER. APPARATEN INNEHÅLLER EN LASERKOMPONENT SOM AVGER STRÅLNING ÖVERSTIGANDE GRÄNSEN FÖR LASERKLASS 1.

VARNING : INGREPP I APPARATEN BÖR ENDAST FÖRETAGAS AV FACKMAN MED KUNSKAP OM ATT RISK FÖRE LIGGER FÖR RADIOAKTIV STRÅLNING.

VARNING : OSYNLIG LÅSERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD : BETRAKTA EJ STRÅLEN.

Danish

- ① DETTE MÆRKAT ER ANBRAGT SOM VIST I ILLUSTRATIONEN FOR AT ADVARE BRUGEREN OM AT APPARATET INDEHOLDER EN LASERKOMPONENT.
- ② DETTE MÆRKAT OM LASEREN ER ANBRAGT PÅ APPARATET SOM EN OPLYSNING OM AT APPARATET INDEHOLDER ET LASERKOMPONENT.

ADVARSEL : INDGEB BØR KUN FORETAGES AF EN FAGMAND DA DER ER RISIKO FOR RADIOAKTIV STRÅLING.

ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSAETTELSE FOR STRÅLING.

Finnish

VARO! : AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

■ SPECIFICATIONS/参考仕様

■ CONTROLLER (RC601)

Operating Temperature	0°C to 40°C (32°F to 104°F)
Relative Humidity	30%—80% (non-condensing)
Operating Voltage	100VAC—240VAC (50/60Hz)
Power Consumption	Maximum 13W
Dimensions (WxHxD)	310 x 75 x 221 (mm) (12-3/16" x 2-15/16" x 8-11/16")
Weight	2.4Kg (5 lbs 5 oz)
Accessory	Power cord

■ RECORDER UNIT (YPDR601)

Recording Medium	Yamaha designated disc
Recording Format	CD-DA
Recording Time	74minutes (subject to medium)
ANALOG CONNECTIONS	
ANALOG IN	2 x XLR-3-31 (balanced)
Input Level & Impedance	HIGH: nominal +4dBm, maximum before clipping+24dBm/10KΩ Low: nominal -9dBm, maximum before clipping+11dBm/50KΩ
Input Level Trimmer	±3dB adjustment
ANALOG OUT	2 x XLR-3-32 (balanced)
Output Level	Nominal -2dBm, maximum before clipping +18dBm
Output Impedance	150Ω
DIGITAL CONNECTIONS	
AES/EBU IN	XLR-3-31 (Balanced) Sampling frequency 44.1kHz ±500ppm RS-442A level 110Ω
D.IN	BNC x 2, SDIF-II TTL level, 75Ω
AES/EBU OUT	XLR-3-32 (balanced), RS-422A level
CONTROL CONNECTIONS	
SYNC IN	BNC, TTL level, 75Ω Sampling frequency 44.1kHz ±500ppm
SYNC OUT	BNC, TTL level
REMOTE	D-sub 9pin serial remote
PARALLEL I/O	D-sub 15pin parallel remote (GPI) open collector
I/O IN	50pin 57connector
I/O OUT	50pin 57connector
Operating Temperature	15°C to 35°C (59°F to 95°F)
Relative Humidity	30%—80% (non-condensing)
Power Requirement	100VAC—120VAC/220VAC—240VAC, 50/60Hz
Power Consumption	Maximum 45W
Dimensions(WxHxD)	435 x 146.5 x 400 (mm) (17-1/8" x 5-3/4" x 15-3/4") (with feet but without rack ears) When feet are removed, and rack ears fitted, the YPDR601 can be fitted into a 19" equip- ment rack, taking up 3 rack unit spaces
Weight	14Kg (30 lbs 14 oz)
Accessory	Connection cable (50pins) Power cord Rack mount adapter EIA 482.6 mm(19") Data IN/OUT connector Terminator

■コントローラー (RC601)

動作環境	性能保証温度 0°C～40°C 湿度 30%～80% (結露な きこと)
電源	AC100V—240V、50/60Hz
消費電力 (国内)	7W (AC100V、50/60Hz)
外形寸法	310(W)×75(H)×221(D)mm
重量	2.4kg
付属品	電源コード×1

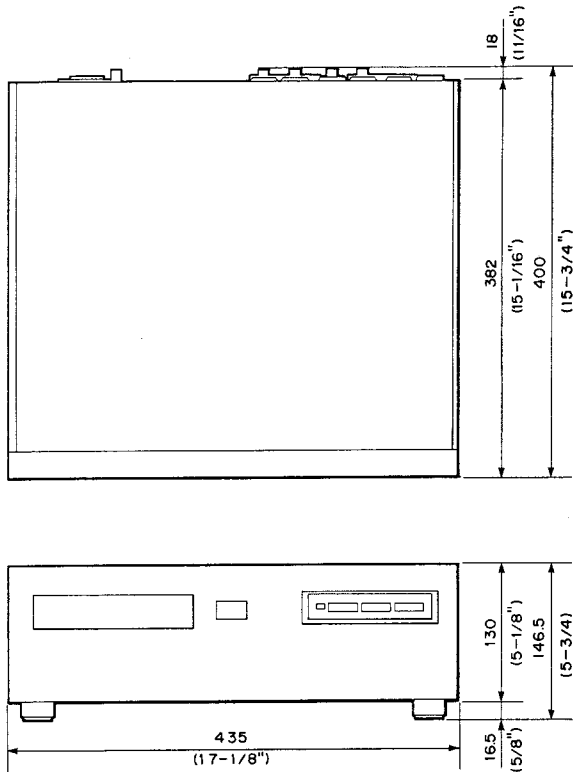
■本体 (YPDR601)

記録フォーマット	CD-DA
使用ディスク	ヤマハ指定ディスク
最大記録時間	74分 (使用ディスクに依存)
アナログ	
ANALOG IN	XLR-3-31 type×2 (バランス)
入力レベル	HIGH : +4dBm/最大ノンクリッ プレベル +24dBm/10KΩ インピーダンス LOW : -9dBm/最大ノンクリッ プレベル +11dBm/50KΩ
入力レベル可変範囲	±3dB
ANALOG OUT	XLR-3-32 type×2 (バランス)
出力レベル	-2dBm/最大ノンクリップレ ベル +18dBm
出力インピーダンス	150Ω
デジタル	
AES/EBU IN	XLR-3-31 type (バランス)、fs = 44.1KHz ±500ppm RS-422A 110Ω
D.IN	BNC×2 SDIF-II TTL 75Ω
AES/EBU OUT	XLR-3-32 type (バランス) RS-422A
コントロール	
W.SYNC IN	BNC TTL 75Ω fs=44.1KHz ± 500ppm
W.SYNC OUT	BNC TTL
REMOTE	D-sub 9PIN Serial Remote
PARALLEL I/O	D-sub 15PIN Parallel Remote (GPI) (オープンコレクター)
I/O IN	50PIN 57コネクター
I/O OUT	50PIN 57コネクター
動作環境	性能保証温度 15°C～35°C 湿度 30%～80% (結露な きこと)
電源	AC100—120V/220—240V、50/60 Hz 電圧切換式
消費電力	45W (AC100V、50/60Hz)
外形寸法	435(W)×146.5(H)×400(D)mm
重量	14kg
ラックマウント	EIA 482.6mm(19inch)ラックに取り 付け可能(付属ラックイヤ使用)
付属品	50PINケーブル (5m) ×1 電源コード ×1 ラックイヤ ×1組 ターミネータ ×1

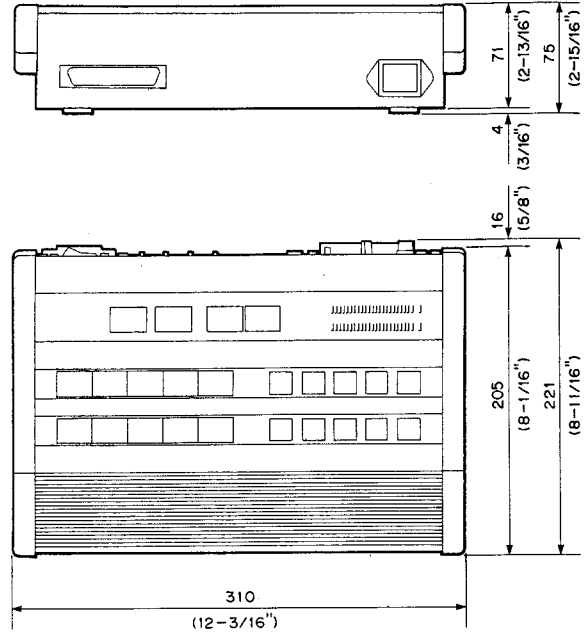
*Specifications are subject to change without notice.

● DIMENSIONS

YPDR601



RC601



Unit : mm (inch)

● 50-pin I/O connector pinout/コントロールI/Oピンアサイン表

Signal Name 信号名	Pin No. ピン番号	Signal Name 信号名
SHIELD GROUND	1	GROUND
+DB(0)	2	-DB(0)
+DB(1)	3	-DB(1)
+DB(2)	4	-DB(2)
+DB(3)	5	-DB(3)
+DB(4)	6	-DB(4)
+DB(5)	7	-DB(5)
+DB(6)	8	-DB(6)
+DB(7)	9	-DB(7)
+DB(p)	10	-DB(p)
DIFFSENS	11	GROUND
+AES	12	-AES
TERMPWR	13	TERMPWR
+DATA	14	-DATA
+ATN	15	-ATN
+SFS	16	-SFS
+BSY	17	-BSY
+ACK	18	-ACK
+RST	19	-RST
+MSG	20	-MSG
+SEL	21	-SEL
+C/D	22	-C/D
+REQ	23	-REQ
+I/O	24	-I/O
GROUND	25	GROUND

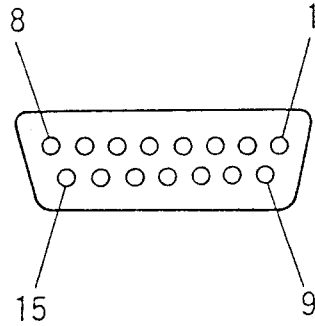
● Serial REMOTE (D-sub 9-pin)/REMOTE端子
The connector can transmit PLAY and STOP commands to the source tape recorder (e.g. the Yamaha DMR8 or DRU8) using industry-standard serial protocol.

- シリアルモード出力形式、ストレートケーブルを使用してください。
- YAMAHA DMR8、SONY DMR4000などをコントロール可能。
- サポートコマンド：PLAY、STOP

● PARALLEL I/O (D-Sub 15pin)/ピンアサイン表

Pin No. ピン番号	Signal Name 信号名	I/O I/O
1	PLAY 1	O
2	GND	—
3	PLAY 2	O
4	GND	—
5	STOP	O
6	GND	—
7	REC STOP	I
8	GND	—
9	REC PLAY	I
10	GND	—
11	REC PAUSE	I
12	GND	—
13	Tr INC	I
14	GND	—
15	GND	—

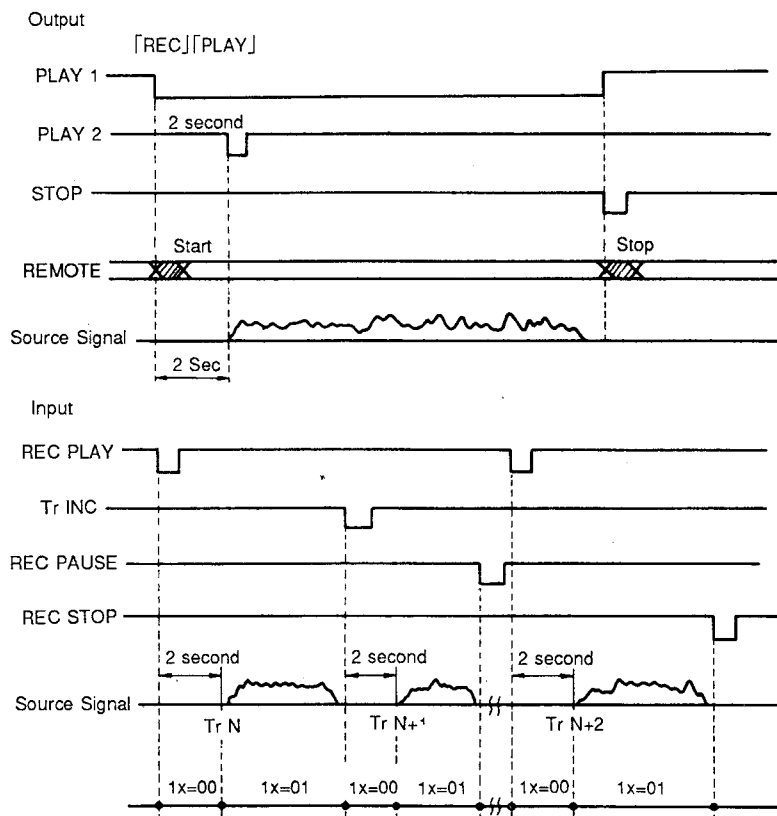
- 平行入出力形式
- 出力はTTLオープンコレクタ Tw=20ms
- 入力はTw ≥ 40ms



An IxINC (I) signal is equivalent to a REC PLAY and a TrINC signal being transmitted simultaneously (both REC PLAY and TrINC go low at the same time).

※Ix INC (Input) は、9ピンと13ピンを同時に“L”レベルにしてください。

● Parallel I/O timing chart/タイミングチャート (これはREMOTEも含んでいます)



↑ Playback starting point on track search.

CDプレーヤでトラックサーチを行った時の再生開始点

■ PROTECTION LEVER FOR TRANSPORTATION

Head lock release

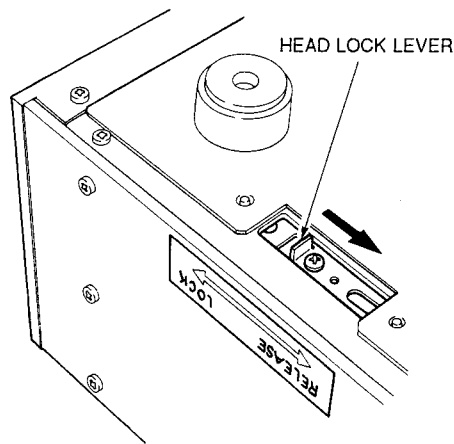
For safety purposes during transportation, head lock is applied to the optical head. Slide the lever on the bottom left side of the Disc Recorder (YPDR601) fully to the towards the rear panel to release the lock.

* Be sure to re-set the head lock when moving the unit around in-house.

ヘッドロックの解除

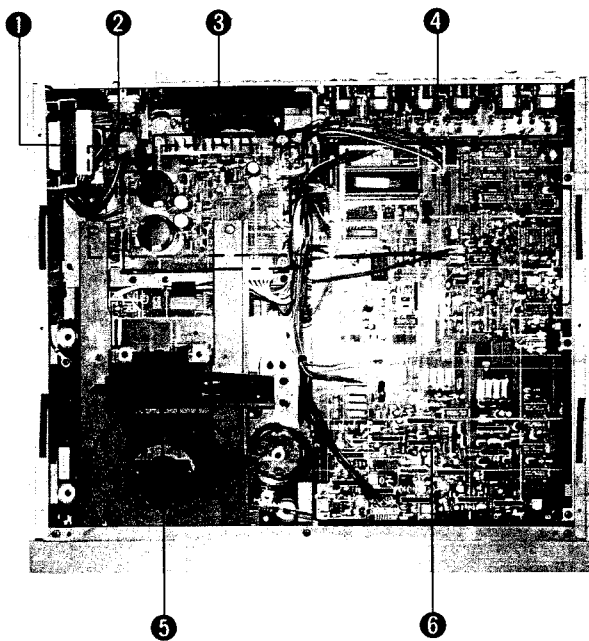
輸送中、光ヘッドは安全のため「ロック」されております。セッティングが終わりましたら、ディスクレコーダー (YPDR601) 左下面のレバーを、リリース側 (リアパネル側) にいっぱいスライドさせてロックを解除してください。

*なお、社内などで移動される場合も、安全のため「ロック」してください。



■ INTERNAL VIEW

YPDR601



- ① POWER TRANSFORMER
- ② POWER SUPPLY UNIT
- ③ PS CIRCUIT BOARD (1)
- ④ PS CIRCUIT BOARD (3)
- ⑤ WM-3 UNIT
- ⑥ SERVO CIRCUIT BOARD (1)

■ DISSASSEMBLY PROCEDURES/分解手順

1. Removal of Top Panel

Remove 8 screws (①) in Fig. 1.
Lift from the rear side slightly then lift up to prevent front side being bent or scratching the Unit.

2. Removal of Bottom Cover

Remove 9 screws (②) in Fig. 1.

3. Removal of Front Panel

Remove 6 screws (③) in Fig. 1.

4. Removal of WM-3 Unit

a. Pull out the Disc Tray by turning the Loading Cam in Fig. 2.

b. Remove screw (④) in Fig. 2, and then remove the Stopper TR.

c. Turn the loading cam and push in the disc tray once.

d. Making sure that the gears of the disc tray and loading cam are not in mesh, lift the flapper and pull out the disc tray.

e. Remove screw (⑤) in Fig. 3, and then remove the Ground Wire.

f. Remove 4 screws (⑥) in Fig. 3.

g. Lift the WM-3 Unit gradually.

5. Removal of Optical Head

a. Remove spring (A) in Fig. 4.

b. Remove 2 screws (⑦) in Fig. 4, and then remove the Flapper and lifter lever assembly.

c. Remove 3 screws (⑧) in Fig. 5, and then remove the optical head.

Note

Make sure that the head lock lever and lock gear assembly lever positions are correct when attaching the YPDR601 bottom cover and WM-3 unit.

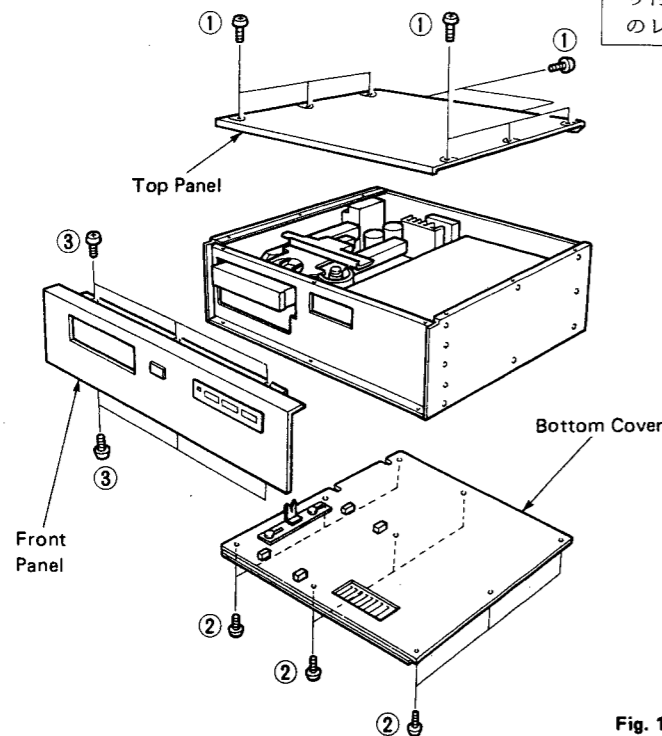


Fig. 1

1. トップパネルのはずし方

①のネジ8本をはずす。(Fig. 1)
トップパネルを曲げたり、本体にキズを付けない為に後を少し持ち上げてから前の方を持ち上げる。

2. ボトムカバーのはずし方

②のネジ9本をはずす。(Fig. 1)

3. フロントパネルのはずし方

③のネジ6本をはずす。(Fig. 1)

4. WM-3ユニットのはずし方

a. ローディングカムを回して、ディスクトレイを引き出す。(Fig. 2)

b. ④のネジをはずし、ストッパーTRをはずす。(Fig. 2)

c. ローディングカムを回して、ディスクトレイを一旦押し込む。

d. ディスクトレイのギヤ部とローディングカムのギヤ部がかみ合っていない状態で、フラッパーを持ち上げてディスクトレイを引き出す。

e. ⑤のネジをはずし、アース線をはずす。(Fig. 3)

f. ⑥のネジを4本はずす。(Fig. 3)

g. WM-3ユニットをゆっくりと持ち上げる。

5. 光ヘッドのはずし方

a. Aのスプリングをはずす。(Fig. 4)

b. ⑦のネジ2本をはずし、フラッパー及びリフターレバーAss'yをはずす。(Fig. 4)

c. ⑧のネジ3本をはずし、光ヘッドをはずす。(Fig. 5)

注意

YPDR601のボトムカバーまたはWM-3ユニットの取り付けの場合、ヘッドロックレバーとロックギヤAss'yのレバーとの位置に注意してください。

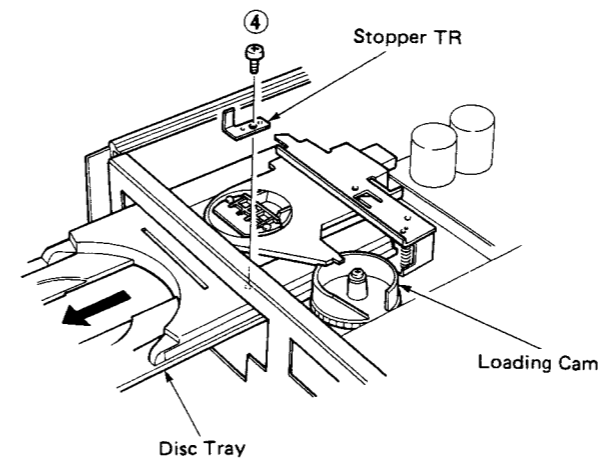


Fig. 2

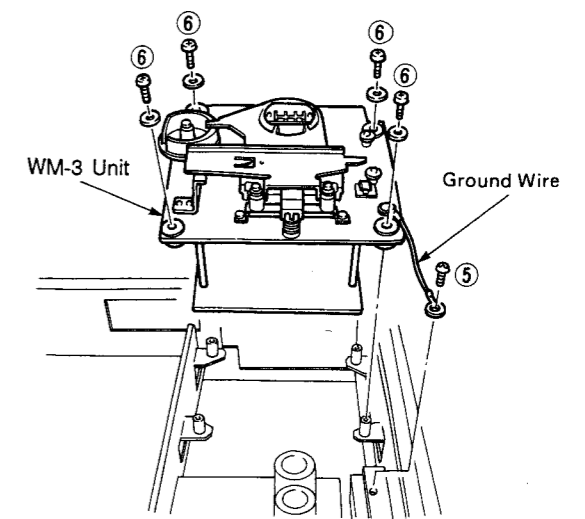


Fig. 3

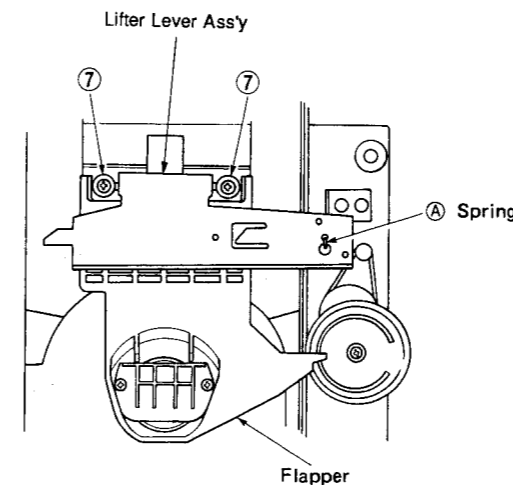


Fig. 4

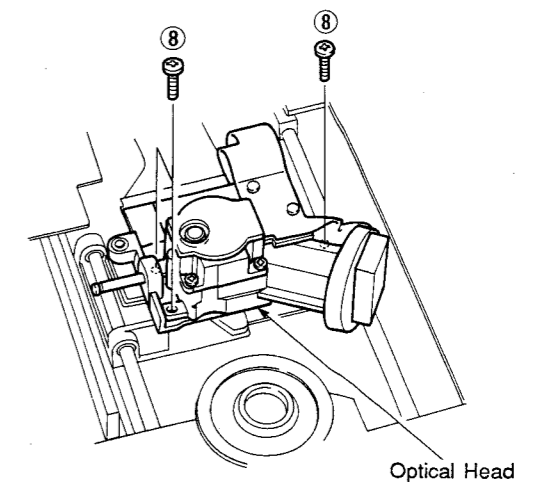


Fig. 5

Note

Wobble or warp tolerance of Disc hub is within 10 μm. Be careful not to scratch or damage this disc hub.

注意

ターンテーブルの傾き精度は、10 μm以内ですので、無理な力を加えたりキズを付けないように気をつけること。

■ ADJUSTMENTS/調整

ADJUSTMENT MEASURING EQUIPMENT/TEST TOOLS

● Measuring instrument

- Oscilloscope: Dual Channel (2 Channel) Oscilloscope
Bandwidth: 100MHz or greater
- Laser power meter: Advantest TQ8215 or equivalent
- Sencer unit: Advantest TQ82021 or equivalent
- Audio frequency oscillator (A.F OSC)
- AC voltmeter (ACVM 2 channel)
- Digital voltmeter (DCVM)
- Frequency counter (100MHz or greater)

- #### ● Test discs: TX911730 SONY YEDS-18
- TX913510 Asymmetric Adjustment (12cm)
 - TX913520 OPC Adjustment (12cm)
 - TX913530 Recorded disc (8cm)
 - TX911920 A-BEX 70μm eccentricity disc
 - YOD-063 Blank disc (12cm)

- #### ● Tool: TX913480 Disc depressor weight

● Filter circuit

● 測定器

- オシロスコープ (2 ch、100MHz以上)
- レーザーパワーメーター
(ADVANTEST TQ8215 or equivalent)
- レーザーパワーメーター用センサー
(ADVANTEST TQ82021 or equivalent)
- オーディオ周波数発振器 (A.F.OSC)
- ACボルトメーター (ACVM、2チャンネル)
- DCボルトメーター (DCVM)
- 周波数カウンター (100MHz以上)

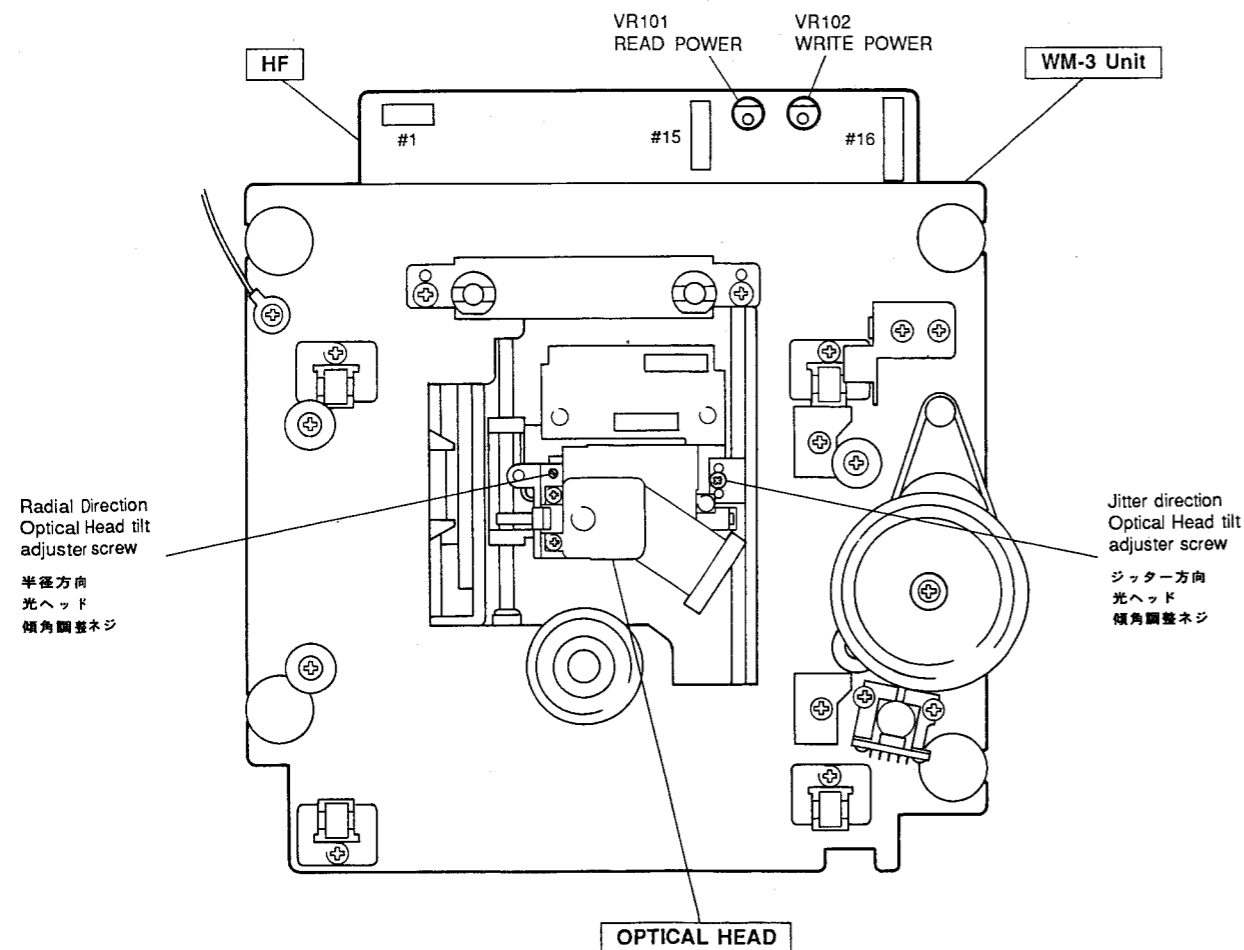
● テストディスク

- TX911730 SONY YEDS-18
- TX913530 記録済みテストディスク (8cm)
- TX913510 アシンメトリ基準ディスク (12cm)
- TX913520 OPCセット用基準ディスク (12cm)
- TX911920 A-BEX 70μm 偏芯ディスク
- YOD-063 記録用ディスク (12cm)

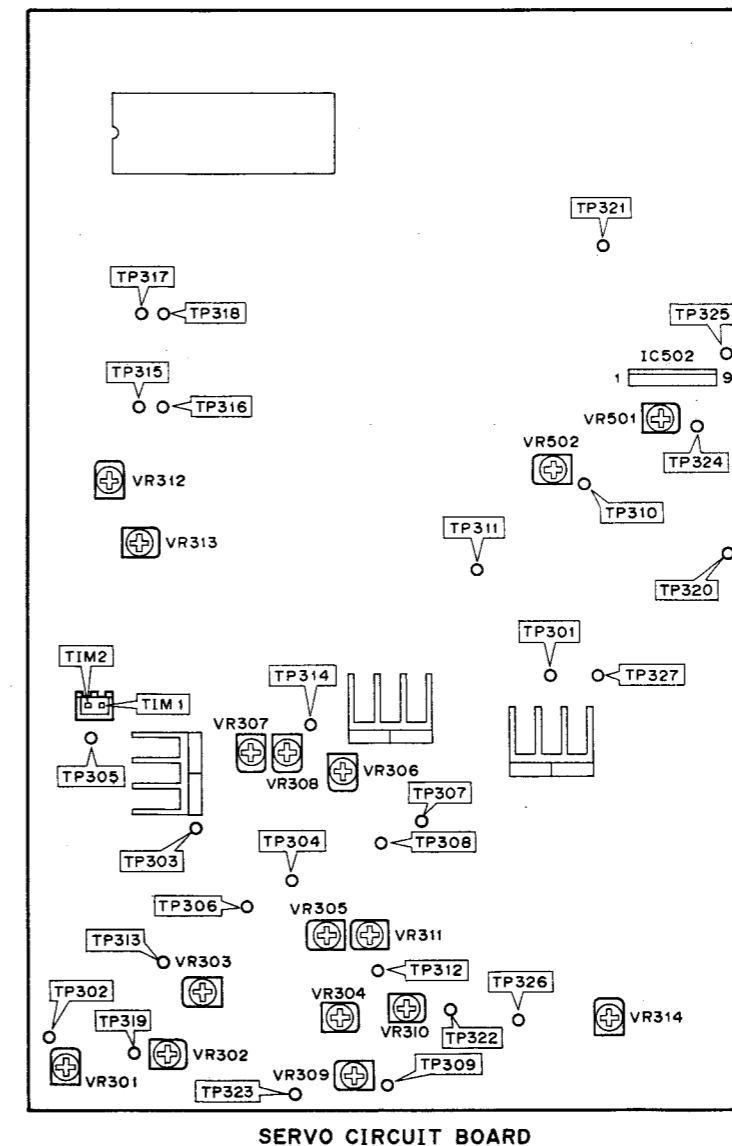
● 工具類

- TX913480 ディスク装着用重り

● 調整用フィルター回路



- * TP301 GND
- * TP302 EFM SIGNAL
- * TP303 STEP 10
- * TP304 STEP 10 AUDIO SIGNAL IN
- * TP305 STEP 4 FOA1
- * TP306 TRACKING ERROR SIGNAL
- * TP307 STEP 11
- * TP308 STEP 11 AUDIO SIGNAL IN
- * TP309 STEP 9 TR LEVEL
- * TP310 STEP 19 V#1
- * TP311 STEP 19 V#2
- * TP312 OFS CPS
- TP313
- * TP314 STEP 13 TRA1
- * TP315 STEP 2 fck
- * TP316 STEP 2 Vc17M
- * TP317 STEP 15 C1
- * TP318 GND
- TP319
- TP320
- * TP321 STEP 3 Wvco
- * TP324 STEP 3
- * TP325 STEP 3
- * TP326 STEP 16
- * TP327 STEP 18 EFM1
- * TIM1 STEP 14
- * TIM2 STEP 14
- * VR301 STEP 15 HF LEVEL adj
- * VR302 STEP 16 W.F.C BAL adj
- * VR303 STEP 10 F.GAIN adj
- * VR304 STEP 8 TR BAL adj
- * VR305 STEP 11 TR GAIN adj
- * VR306 STEP 13 KICK G. adj
- * VR307 STEP 4 F.OFS adj
- * VR308 STEP 7 TR.OFS adj
- * VR309 STEP 9 TE LEVEL adj
- * VR310 STEP 16 W.TR BAL adj
- * VR311 STEP 12 TR OFS CPS adj
- * VR312 STEP 2 VCO adj
- * VR313 STEP 2 Vc17M adj
- * VR314 STEP 18 FEED GAIN adj
- * VR501 STEP 3 Wvco adj
- * VR502 STEP 19 ASYM adj



SERVO CIRCUIT BOARD

Parts replacement and required adjustment
部品交換と調整項目との関係

(1) Electrical parts

Replaced parts 部品交換力所	→ Required adjustment steps 必要な調整項目
1. HF Circuit Board	→ Step 5 Step 7 Step 8 Step 9 Step 16 Step 20
ALPC circuit	→ Step 5 Step 20
SPINDLE servo Servo Sensor AMP. TRACKING sensor (sampling)	→ no adjustments required → Step 7 Step 8 Step 9 Step 16 Step 20
FOCUSING sensor	→ Step 16 Step 20
2. Servo Circuit Board	→ Step 2 Step 3 Step 4 Step 7 Step 8 Step 9 Step 10 Step 11 Step 12 Step 13 Step 15 Step 16 Step 17 Step 18 Step 19 Step 20

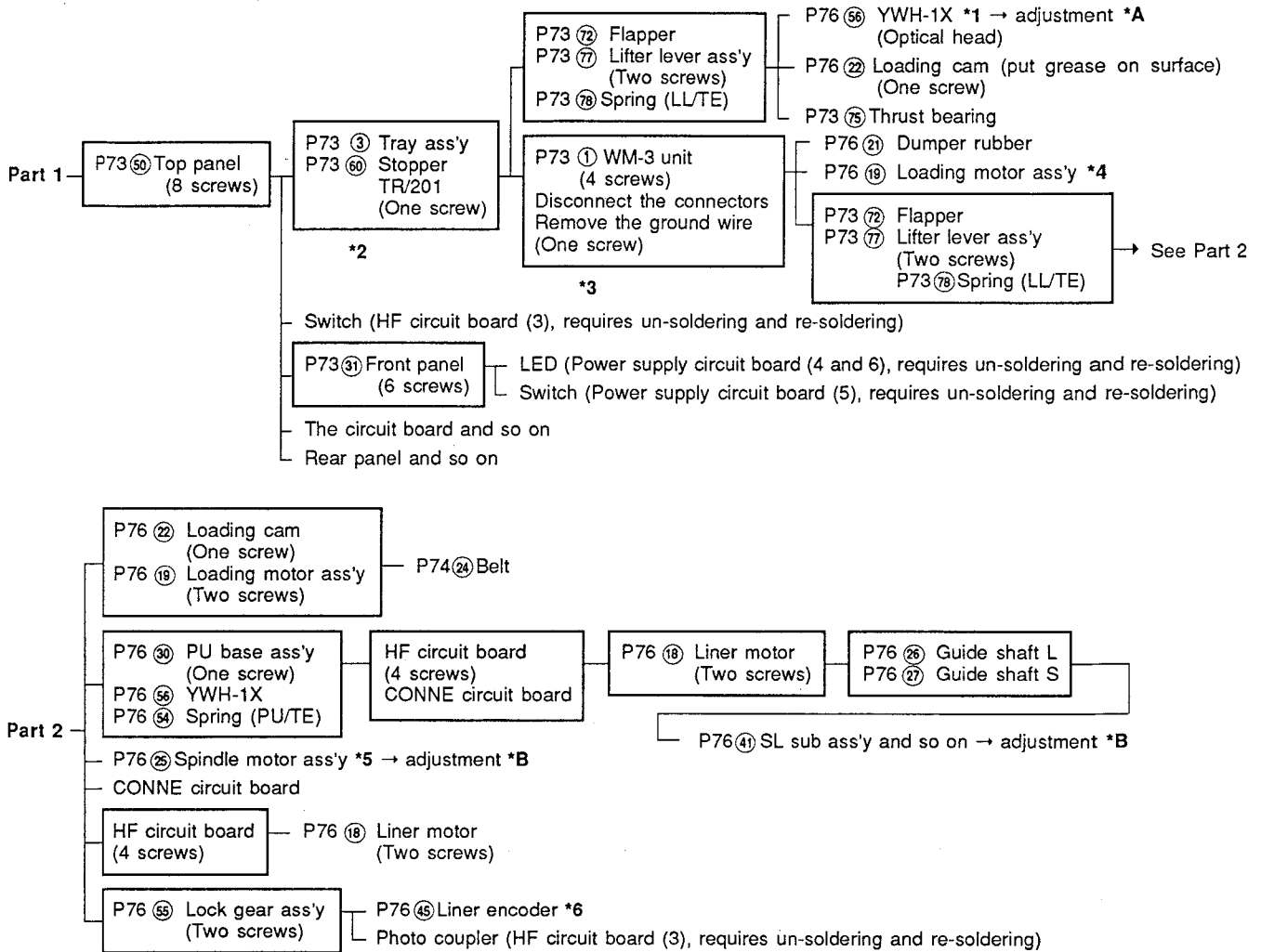
Replaced parts 部品交換力所	→ Required adjustment steps 必要な調整項目
In Servo Circuit Board	
FOCUSING servo around IC301	→ Step 15
around IC303	→ Step 10 Step 16 Step 20
other components	→ Step 4
TRACKING servo around IC308,314	→ Step 8 Step 9 Step 12 Step 16 Step 20
around IC309	→ Step 11 Step 12
around IC313	→ Step 9
other components	→ Step 7
FEED servo around IC315,316	→ Step 18
other components around IC501	→ No adjustment required → Step 3
around Q504-507, IC518,519	→ Step 19
around IC324(CDVP) Q310,311	→ Step 2 → Step 17
IC326(EEPROM)	→ Step 20
other components	→ no adjustment required
3. AUDIO Circuit Board	→ no adjustment required
4. SYS-CON Circuit Board	→ no adjustment required
5. PS Circuit Board (1)	→ Step 1
6. Other PS Circuit Board	→ no adjustment required
7. Others	→ no adjustment required

(2) Mechanical parts

The flowchart shown below provides basic steps required to remove a part or assembly and also indicates if any adjustment (s) or further procedures are necessary (see cautionary note on page 14).

下記のフローチャートは、メカ部品の取り外しと組立の順序及びその時に必要な調整の内容を示す。

*マークは14ページの注意書きを参照のこと。



Required adjustments steps

*A	*B
Step 5	Step 6
Step 6	Step 14
Step 7	Step 16
Step 8	Step 17
Step 9	Step 20
Step 10	
Step 11	
Step 12	
Step 13	
Step 14	
Step 15	
Step 16	
Step 17	
Step 19	
Step 20	

THE CAUTIONARY NOTATIONS GIVEN BELOW ARE CORRESPOND A NUMBER WITH ASTARISK (*) ON PAGE 13.

Cautionary Notes:

- *1 DO NOT touch the adjustable screws (yellow and stopper screw) unless an adjustment is required.
If you adjust the machine thread adjustment screw, apply lock paint to it after the adjustment has been made.
- *2 When removing the tray assembly, be careful to protect the Open/Close switch and its associated lever.
When replacing or re-assembling, make sure the positions of the TRAY ASSEMBLY, FLAPPER and LIFTER LEVER ASSEMBLY are correct.
- *3 When removing the WM-3 unit, be careful to protect the RUBBER DUMPER.
When replacing, make sure the HEAD LOCK LEVER and LOCK GEAR ASSEMBLY on the main unit are positioned correctly so that they align and fit together with the new WM-3 unit properly.
- *4 When replacing, make sure that the direction and the position are correct. The label on the loading motor should be positioned on the outside. Make sure that the loading motor is mounted at an optimum distance from the pulley assembly to provide the proper tension for the timing belt. Proper timing belt tension will allow smooth rotation.
- *5 When replacing the spindle motor, be careful not to scratch the surface of turntable which is mounted to the spindle motor.
- *6 Before replacing, observe the linear encoder mounting position and direction. Mounting the new linear encoder in the same position and direction.

◆ **RC601 OPERATING PROCEDURES FOR THE YPDR601 ADJUSTMENTS**

For most of the YPDR601 test procedures it is required to set the SW1001 TEST switch on the System Control circuit board to the TEST Mode (the ON position).

1. To enter MODES 6, 7 and 8 press the TRACK ►► button until the proper mode number is displayed in the TRACK display and then press the PLAY button.
2. When stepping through the various modes wait for conformation that the mode has been entered correctly (00 00 in the time display - minutes and seconds).
3. SPINDLE MODES
There are three different spindle motor rotation speed control mode settings when in Mode 5 by using the INDEX ►► and ◄◄ buttons. Spindle mode numbers are shown in the INDEX display.
 - ① Index 01: Wobble Mode
This mode controls the speed of the spindle motor by reading the pre-recorded frequency and wobble carrier from a YPDR recording disc.
 - ② Index 02: Radial Mode (default)
This mode controls the speed of the spindle motor by calculating the linear velocity based on the optical pick-up position.
 - ③ Index 03: CD Mode
This mode controls the speed of the spindle motor based on the EFM encoded data stored on a normal CD (Compact Disc).
4. Mode 1 and Mode 5 can also set the laser power for writing.
5. Pushing the STOP button will return to Mode 0 from any Mode. It should be noted that this action does not rest the laser for the reading power mode. Therefore, when an adjustment has been completed, set the laser power for reading before you push the STOP button.
6. The SW1001 TEST switch should be set to the OFF position (NORMAL OPERATING mode) when all adjustments are complete.

注:

- *1. 調整が必要な場合以外は調整ネジに触れないこと。(調整の為に小ネジを動かした場合は調整後に必ずネジロックを塗布のこと。)
- *2. トレーを取り外す時は、Open/Close用のスイッチのレバーを折らないように十分気をつけること。トレーを取り付ける場合は、トレー-Ass'y、フラッパーとシフターレバー-Ass'yの位置に注意してそれらを取り付けること。
- *3. WM-3メカユニットの取り外し時はラバーダンパーが切れないように注意すること。WM-3メカユニットを取り付ける場合は、光ヘッドのロックレバーとロックギア-Ass'yが正しく噛み合っていることを確認する。
- *4. ローディングモーター交換時は、モーターのラベルが外側になるように、又、モーターの軸とプーリー-Ass'yの軸の間隔を離す方向に取り付けること。(但し、テンションはモーターとギアがスムーズに動くようにする。)
- *5. スピンドルモーター-Ass'y交換時は、スピンドルモーターに取り付けられているターンテーブル表面に傷を付けないように注意すること。
- *6. リニアエンコーダー交換時は、蒸着面が外側に向くように注意して取り付ける。

◆ **RC601調整モード操作表**

YPDR601の殆どの調整は、シスコンシート内のSW1001を調整モード (ONの位置) にして行います。調整モードの操作手順は次のようになっています。

1. MODE 6、7、8への切り替えは、Trackの►►ボタンでそれぞれ06、07、08を表示させてからPLAYボタンを押して下さい。
2. 電源スイッチをONするとMODE 0の状態になります。MODE 1からMODE 5の間の切り替えは、PLAYボタンを押し、Trackの►►ボタンを押して行います。それぞれのモードに切り替わるには少し時間が必要ですので、切り替えの都度“Min”と“Sec”の両方に“00”が表示されたことを確認してから次のモードに移して下さい。
3. MODE 5ではINDEX (►►、◄◄) ボタンでスピンドルモーターのモード切り替えが出来ます。
 - ①INDEX 01: WOBBLE MODE
YPDR用ディスクに刻んである溝の中のWobbling carrier信号が規定の周波数になるようにスピンドルモーターを制御する。
 - ②INDEX 02: 半径MODE
ディスクの中心からの距離から演算した線速度でスピンドルモーターを制御する。
 - ③INDEX 03: CD MODE
ディスクに記録されているEFM信号により、スピンドルモーターを制御する。CDプレーヤーと同じモード。未記録部では使用不可。
4. 光ヘッドのWRITE POWERとREAD POWERの切り替えは、MODE 1もしくはMODE 5の時のみ行えます。それ以外のモードでは切り替えられません。MODE 1もしくはMODE 5にセットしてLINEボタンをON又はOFFすることによりWRITE POWERとREAD POWERの切り替えが出来ます。
5. STOPボタンは全ての状態からMODE 0に戻すことが出来ますが、光ヘッドがWRITE POWERの場合READ POWERには切り替わりませんので、調整完了時に必ずREAD POWERにしてからSTOPボタンを押して下さい。
6. 調整終了後は、YPDR601のシスコンシート内のSW1001を必ずノーマルモード (OFFの位置) に戻して下さい。(外側がノーマルモード、内側がテストモードになっています。)

[SETTING THE LASER READ/WRITE POWER MODES]

Note: When the power switch is turned on while in the TEST mode the LINE LED is ON, however, the laser power is set for reading. Initially pressing the LINE button (as instructed below in item 4) will reset the LINE LED to reflect the proper laser power condition (LINE LED OFF = READING).

1. Switch on the power with the SW1001 switch set to the TEST mode (the ON position).
2. Press the PLAY button.
3. Select Mode 1 by pressing the TRACK ►► button.
4. Press the LINE button once to sequence the LINE LED OFF.
5. At this point, you can press the LINE button to select the appropriate laser power.

IMPORTANT NOTES:

- a. When the laser power set for writing, the YPDR601 "RECORD" LED is ON.
- b. DO NOT select other adjustment modes with the laser set to writing (eg. laser power adjustment). This situation will damage recorded data on the test disc. To avoid this, the laser power should always be set for reading mode once an adjustment has been completed. To confirm that the YPDR601 "RECORD" LED is OFF.

【光ヘッドのWRITE POWERのセット方法】

YPDR601をテストモードにして電源を入れた場合はLINE LEDは点灯しますが、光ヘッドはREAD POWERにセットされています。テストモードで電源スイッチを入れた場合は、調整時の光ヘッドのパワーセットを容易にするために次の操作を行って下さい。













1. MODE 0でPLAYボタンを押す。
2. Trackの►►ボタンを押してMODE 1にする。この状態はLINEのLEDは点灯していますが光ヘッドの出力はREAD POWERです。
3. 次にLINEボタンを一回押してLEDを消してから再びLINEボタンを押してLEDを点灯します。この操作をすることにより光ヘッドはWRITE POWERになります。同時にYPDR601に"RECORD"の表示が出ます。
4. 再度LINEボタンを押してREAD POWERに戻す。YPDR601の"RECORD"の表示は消える。

以上の操作によりLINEのLEDの表示が消えていればREAD POWER、点灯していればWRITE POWERとなります。

従いまして、調整を行なう場合は、SW1001を調整モードにして電源を入れたらLINEボタンを一回押してLINE LEDを消しておく、LINEのLED OFFがREADINGで、ONでWRITEのパワーになり、LINE LEDとの関連が明確になります。

注：

- a. WRITE POWERにした場合はYPDR601に"RECORD"のLEDが点灯します。
- b. MODE 1やMODE 5でWRITE POWERにしたまま他のモードに移ると、これらのモード以外ではREAD POWERに切り替えられず、テストディスクの内容を破壊しますので、WRITE POWERでの調整が終わった場合は必ずREAD POWERにしてから他のモードに切り替えて下さい。

Mode	Function status	Track	Index	Min	Sec
0	All Servo off <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Stop  </div> <div style="text-align: center;"> Play  </div> </div>	08	01	Cd	
1	LD on <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Track  </div> <div style="text-align: center;"> Track  </div> </div>	01	01	00	00
2	Spindle Motor on <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Track  </div> <div style="text-align: center;"> Track  </div> </div>	02	01	00	00
3	Focus on <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Track  </div> <div style="text-align: center;"> Track  </div> </div>	03	01	00	00
4	Tracking on <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Track  </div> <div style="text-align: center;"> Track  </div> </div>	04	01	00	00
5	Feed on <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Track  </div> <div style="text-align: center;"> Track  </div> </div>	05	02	00	00

[ERROR CODE GUIDE]

When some problem occurs with the YPDR601 and RC601 the ALARM indicator lights up. In this case, depress the DISPLAY button and the TrINC button on RC601 simultaneously, the TRACK number LED will then display an ERROR CODE. The ERROR CODES, their associated descriptions, and probable causes of the error (if applicable) are as follows:

CODE	DESCRIPTION and PROBABLE CAUSE OF ERROR
01	PLL un-locked (1) Digital audio signal or word clock may have been lost, check the connections. (2) Another sampling frequency other than 44.1 KHz has been received by the unit.
02	Non standard disc is used (1) Disc format (PRE or AFTER) does not match the setting of the TOC switch on the RC601 (rear panel).
03	I/O communication failure (1) 50 pin cable connections are bad - check connections. (2) No terminator is connected. (3) ID select switch is set to improper position.
04	Optical head is locked (1) Head lock lever may be in mechanically the locked position or jammed.
05	Initial focus error
06	Spindle motor un-locked
07	Cannot find optimum power point
08	Optical head positioning error
09	Input is non-standard signal (1) The input signal does not have a sampling frequency of 44.1 KHz. (2) The input signal data is not audio data.
0A	Initial tracking error

[エラーコードの説明]

ALARMインジケータが点灯した場合、なんらかの異常が発生しています。[DISPLAY] と [Tr INC] のボタンを同時に押すとディスプレイのTRACK番号表示器にエラー内容がコードで表示されます。

エラーコード	不良内容
01	PLLロック外れ …デジタルオーディオ信号配線不良。 本体とリモコンのスイッチ設定ミス。 (例1) RC601が INPUT SELECTOR ANALOG OR DIGITAL “DIN” EXT W.SYNC ON のセッティングでYPDR601からfs=44.1KHz 以外のW.SYNCの信号が送られた場合。 (例2) RC601が INPUT SELECTOR DIGITAL AES/EBU のセッティングでYPDR601からfs=44.1KHz 以外のAES/EBUの信号が送られた場合。
02	TOC先書き、後書きの設定違い。または、設定時間の間違い。 (例1) RC601が PRE/AFTER PRE(AFTER) のセッティングでYPDR601に“A.TOC FORMAT (P.TOC FORMAT)”のディスクをセットした場合。 (例2) RC601が PRE/AFTER PRE 10S/30S 10S(30S) のセッティングでYPDR601に“30S FORMAT (10S FORMAT)”のディスクをセットした場合。
03	I/O通信不能 …リモコンとの接続不良もしくはシステムの相互連絡不良、又は、本体とリモコンのスイッチ設定ミス。 (例1) 50ピンケーブルの接続不良。 (例2) RC601のID SWITCHの台数セットとYPDR601の使用台数が合わない場合。
04	フィードメカロック …フィードメカロックが解除されていない場合。
05	初期フォーカス異常。
06	初期スピンドル異常。
07	レーザーパワー最適値検出不能。
08	ポジショニングエラー
09	非オーディオ入力、または、fsが44.1KHzでない信号。
0A	初期トラッキングエラー …初期トラッキング異常。

※エラーを解除するには内容に応じて、障害を取り除く、トレイを開ける、電源を再投入する等の操作を行なって下さい。

[ADJUSTMENT STEPS]

- STEP 0: PREPARATIONS
- STEP 1: ANALOG CIRCUIT POWER SUPPLY VOLTAGE ADJUSTMENT
- STEP 2: CDVP AND VCO ADJUSTMENT
- STEP 3: WVCO ADJUSTMENT
- STEP 4: FOCUS OFFSET ADJUSTMENT
- STEP 5: LASER POWER ADJUSTMENT
- STEP 6: OPTICAL HEAD TILT, ROUGH ADJUSTMENT
- STEP 7: TRACKING OFFSET ADJUSTMENT
- STEP 8: TRACKING BALANCE ADJUSTMENT
- STEP 9: TRACKING LEVEL ADJUSTMENT
- STEP 10: FOCUS GAIN ADJUSTMENT
- STEP 11: TRACKING GAIN ADJUSTMENT
- STEP 12: TRACKING OFFSET SUPPLEMENTARY ADJUSTMENT
- STEP 13: KICK GAIN ADJUSTMENT
- STEP 14: OPTICAL HEAD OPTIMUM TILT ADJUSTMENT
- STEP 15: HF LEVEL ADJUSTMENT
- STEP 16: FOCUS AND TRACKING BALANCE ADJUSTMENT FOR WRITING
- STEP 17: LINEAR ENCODER POSITION SELF ADJUSTMENT
- STEP 18: FEED GAIN ADJUSTMENT
- STEP 19: ASYMMETRIC DETECTION ADJUSTMENT
- STEP 20: OPC SET RANK SELF ADJUSTMENT
- STEP 21: AUDIO CIRCUIT ADJUSTMENT

**STEP 0
PREPARATIONS**

Note: Adjustment preparations should be performed with the power switch is turned off.

- ① Release the head lock.
- ② Remove the flapper and tray. Since the flapper is removed, it is necessary to use the disc depressor weight (part number TX913480).
- ③ If at any stage the optical head is replaced, turn VR101 and VR102 on the HF circuit board counterclockwise 5 full turns and restart the test procedure.
- ④ Connect the terminator to the IN/OUT of the YPDR601.
- ⑤ Set the YPDR601 DRIVE ID to number 0 located on the rear panel.
- ⑥ Set the SW1001 TEST mode switch on the System Control circuit board to the ON position.
Note: Set the SW1001 back to OFF (NORMAL) position when adjustments are completed.
- ⑦ Set the RC601 EXT.W.SYNC switch to the OFF position.
- ⑧ Set the RC601 INPUT SELECT switch to the ANALOG position.
- ⑨ Set the RC601 DRIVE SELECT to number 0.
- ⑩ Set the RC601 TOC (PRE/AFTER) switch to the PRE position.

【調整手順】

- Step 0
◆調整準備
 - Step 1
◆アナログ系の電源調整 (PSシート)
 - Step 2
◆CDVP調整、VCO調整 (Servoシート)
 - Step 3
◆WVCOセンター周波数の調整 (Servoシート)
 - Step 4
◆フォーカスオフセット調整 (Servoシート)
 - Step 5
◆光ヘッドのパワー調整 (HFシート)
 - Step 6
◆傾角粗調整 (光ヘッド)
 - Step 7
◆トラッキングオフセット調整 (Servoシート)
 - Step 8
◆トラッキングバランス調整 (Servoシート)
 - Step 9
◆トラッキングレベル調整 (Servoシート)
 - Step 10
◆フォーカスゲイン調整 (Servoシート)
 - Step 11
◆トラッキングゲイン調整 (Servoシート)
 - Step 12
◆トラッキングオフセット補正調整 (Servoシート)
 - Step 13
◆キックゲイン調整 (Servoシート)
 - Step 14
◆光ヘッドの最良再生傾角調整 (光ヘッド)
 - Step 15
◆HFレベル調整 (Servoシート)
 - Step 16
◆FOCUS&TRACKING (Write)
BALANCE微調整 (Servoシート)
 - Step 17
◆50mm位置調整
 - Step 18
◆フィードゲイン調整 (Servoシート)
 - Step 19
◆アシンメトリ検出調整
 - Step 20
◆OPCセットランク調整
 - Step 21
◆オーディオ回路の調整 (Audioシート)
- 注: () 内のテストポイントの番号はBバージョンの基板に表示されている番号です。

**Step 0
◆調整準備 (電源オフの状態で行うこと。)**

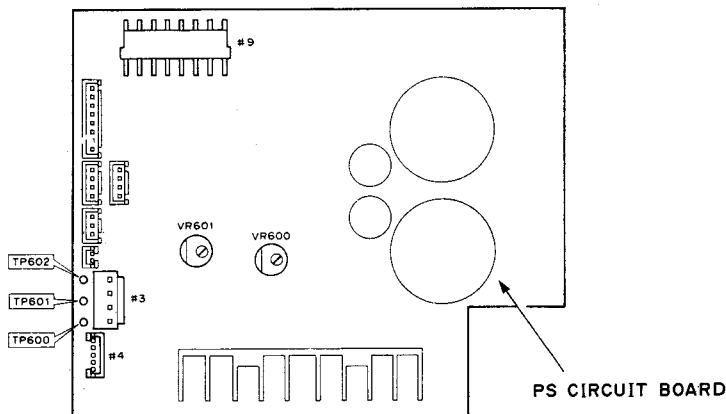
- ① YPDR601のヘッドロックを解除する。
- ② 調整の内容によってはフラッパーとトレイを外す。
その場合、テストディスクはディスク装着用重りで固定すること。
- ③ 光ヘッドを交換した時は電源スイッチを入れる前に必ずHFシートのVR101、VR102を5回転以上左に回す。尚、このVRには特にクリックはありません。
- ④ YPDR601にターミネーターを取り付ける。
- ⑤ YPDR601のリアパネルのDRIVE IDを“0”にする。
- ⑥ YPDR601のSYSCONシートのSW1001をテストモード (ONの位置) にする。(出荷時はノーマル状態 (OFFの位置) になっていること。)
- ⑦ RC601のリアパネルのディップスイッチのEXT.W.SYNCを“OFF”にする。
- ⑧ RC601のリアパネルのINPUT SELECTを“ANALOG”にする。
- ⑨ RC601のリアパネルのDRIVE SELECTを“0”にする。
- ⑩ RC601のリアパネルのTOC SELECTを“PRE”にする。

IMPORTANT NOTE BEFORE PROCEEDING:

Reference pages 10 and 11 for TP testpoints and adjustment VR trimpts.

**STEP 1
ANALOG CIRCUIT POWER SUPPLY VOLT-
AGE ADJUSTMENT**

- ① Remove connectors #3, #4, and #9 from the PS circuit board.
- ② Turn the power on.
- ③ Connect a digital voltmeter to TP600 (+14V) and TP601 (GND).
- ④ Adjust VR600.
Adjustment value: +14 Vdc +0.1- 0 Vdc
- ⑤ Connect a digital voltmeter to TP602 (-14V) and TP601 (GND).
- ⑥ Adjust VR601.
Adjustment value: -14 Vdc +0/- 0.1 Vdc
- ⑦ Turn the power off and wait approximately 2 minutes. After this time the capacitors are sufficiently discharged which will avoid possible damage when re-connecting.
- ⑧ Re-attach connectors #3, #4, and #9 to the PS circuit board.
- ⑨ Turn the power on and confirm that the two LEDs on PS circuit board turn on indicating a good supply condition.



**STEP 2
CDVP AND VCO ADJUSTMENT**

1. **CDVP adjustment**
 - ① Connect a digital voltmeter to TP316 (VC17M) and TP301 (GND).
 - ② Adjust VR313.
Adjustment value: VC17M = +2.5VDC +/- 0.05VDC
2. **VCO frequency adjustment**
 - ① Connect the frequency counter to TP315 (fck) and TP301 (GND).
 - ② Adjust VR312.
Adjustment value: fck = 4.3218MHz +/- 0.02MHz

**STEP 3
WVCO ADJUSTMENT**

- ① Short circuit between TP324 and TP325 with a jumper wire.
- ② Connect the frequency counter (10:1) probe to TP321 (WVCO) and TP301 (GND).
- ③ Adjust VR501 (WVCO adj).
Adjustment value: WVCO = 22.05KHz +/- 0.1KHz
- ④ Remove the short circuit wire.

**STEP 4
FOCUS OFFSET ADJUSTMENT**

- ① Connect a digital voltmeter to TP305 (FOA1) and TP301 (GND).
- ② Adjust VR307.
Adjustment value: 0.0 Vdc +/- 50mVdc

注：調整箇所、テストポイントは、10頁と11頁のイラストを参照のこと。

**Step 1
◆アナログ系の電源調整 (PSシート調整)**

- ① PSシートのコネクタ # 3、# 4、# 9 を抜く。
(他の配線はそのままで良い)
- ② YPDR601のリアパネルの電源スイッチをONする。
- ③ TP600とTP601 (GND) 間にDCボルトメーターを接続しVR600にて電圧を $+14.0 \pm 0.1$ Vに調整する。
- ④ TP602とTP601 (GND) 間にDCボルトメーターを接続しVR601にて電圧を -14.0 ± 0.1 Vに調整する。
- ⑤ 電源スイッチをOFFしPSシート内のLEDが消灯することを確認する。
(回路内のコンデンサーを十分に放電させる。)
- ⑥ コネクタ # 3、# 4、# 9 を接続する。
- ⑦ 電源スイッチをONしPSシート内のLEDが点灯することを確認する。

**Step 2
◆CDVP調整、VCO調整**

1. **C17M調整**
 - ① VR313にて、TP316 (TP16) の電圧値 V_{C17M} を下記の値に調整する。
調整値 $V_{C17M} = 2.50 V_{DC} \pm 0.05 V_{DC}$
2. **VCOフリーラン周波数調整**
 - ① VR312にて、TP315 (TP15) の周波数 f_{CK} を下記の値に調整する。
調整値 $f_{CK} = 4.3218 \text{MHz} \pm 0.02 \text{MHz}$

**Step 3
◆WVCOセンター周波数の調整**

- ① TP324 (TP24) と TP325 (TP25) をジャンパー線でショートする。
- ② 10 : 1 プローブを介して周波数カウンタをTP321 (TP21、WVCO) に接続する。
- ③ VR501 (WVCO adj) を回し、下記の周波数に調整する。
調整値 $F_{WVCO} = 22.05 \text{KHz} \pm 0.1 \text{KHz}$
- ④ ①のショートジャンパーを取り外す。

**Step 4
◆フォーカスオフセット調整**

- ① VR307にて、TP305 (TP 5、FOA 1) の電圧を下記の値に調整する。
調整値 $0 V_{DC} \pm 50 mV_{DC}$

**STEP 5
LASER POWER ADJUSTMENT**

WARNING:

The light produced by the laser has a wavelength of 790nm, putting it in the near-infrared range. Due to the high output power of this laser it should not be viewed with the naked eye. Therefore, in the interests of safety, avoid looking directly into the optical head.

LASER POWER ADJUSTMENT FOR READING

- ① Set the laser power meter to the average (DC or CW) mode and the wave-length to 790nm.
- ② Confirm that VR101 and VR102 on the HF circuit board have been turned counterclockwise 5 full turns to achieve the minimum setting.
- ③ Confirm that the SW1001 TEST switch on the System Control circuit board is set to the ON position (TEST MODE).
- ④ Switch on the YPDR601 and the RC601.
- ⑤ Select Mode 1 (ref. page 14).
- ⑥ Place the laser power meter sensor near the upper portion of the optical head objective lens. The value indicated on the meter may vary depending on the sensor tilt angle. Therefore, make adjustments with it in the position which yields the maximum value.
- ⑦ VR101 is very sensitive, carefully adjust VR101 clockwise. Adjustment value: $P_L = 0.5mW \pm 0.05mW$

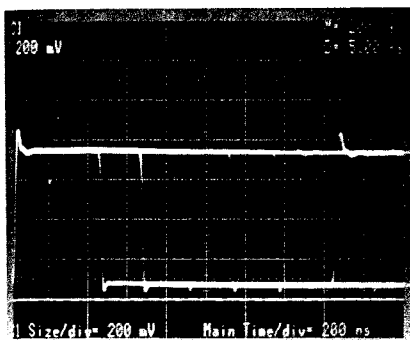
LASER POWER ADJUSTMENT FOR WRITING

- ① Select Mode 1 and then select the laser writing mode by pressing the LINE button (ref. pages 14 and 15). (YPDR601 "RECORD" LED ON)
- ② Place the laser power meter sensor near the upper portion of the optical head objective lens.
- ③ VR102 is very sensitive, carefully adjust VR102 clockwise. Adjustment value: $P_L = 3.40mW \pm 0.1mW$

Note: a. The value indicated on the meter may vary depending on the sensor tilt angle. Therefore, make adjustments with it in the position which yields the maximum value.
b. The writing laser power adjustment value is an average indication. The peak power is approximately 8.0mW and this does not include the over-shoot portion of the waveform.

- ④ Connect the oscilloscope probe to the laser power meter monitor output and set the laser power meter to the peak mode (refer to Waveform photo 1).
 - a. If the waveform looks like the one shown in A of fig. 1 then the optical head is operating correctly. However, if the optical head is defective, the monitor waveform will look like the one shown B in fig. 1. In this case, the optical head should be replaced.
 - b. Set Mode 0 by pressing the stop button and select Mode 8 by pressing TRACK ►► button only (until display shows 08 01 for TRACK and INDEX and nothing is shown in MIN and SEC displays). Press PLAY and observe the laser output power rising in increments of 0.5mW from 6mW to 10mW. To observe this waveform again, press the stop button and repeat same procedures.
- ⑤ Change to the reading mode by pressing the LINE button (ref. page 15). (YPDR601 "RECORD" LED OFF)
- ⑥ Select Mode 0 by pressing the STOP button (ref. page 14).

Waveform Photo. 1



波形写真 1

**Step 5
◆光ヘッドのパワー調整**

注：・調整するときは、YPDR601の電源をONする前にHFシート内のVR101とVR102を左ネジ方向に5回転させて最小の値にする。
・レーザー光は波長790nmの近赤外光であり、見た目より強い光パワーが射出されるので安全のため光ヘッドの対物レンズを直視しないこと。

◇READ POWER調整

- ①レーザーパワーメーターをAverage (DC or CW) モード、波長を790nmに設定する。
- ②HFシートVR101、102が左ねじ方向に5回転したことを再度確認する。
- ③SYSCONシートのSW1001が調整モード (ONの位置) になっていることを確認する。
- ④YPDR601とRC601の両方の電源スイッチをONする。
- ⑤MODE 1にする。
- ⑥レーザーパワーメーターのセンサーを光ヘッド対物レンズ上部近傍に置き、VR101を徐々に右ネジ方向に回して調整する。

調整値 $P_L = 0.5mW \pm 0.05mW$

注：センサーは光ヘッドのレンズに平行よりわずかに傾ける。尚、センサーの角度により指示値が変化するので最大指示になるポイントにて調整すること。

◇WRITE POWER調整

- ①LINEボタンを押して光ヘッドの出力をWrite Powerの状態にする。(ページ14参照のこと) (YPDR601 "RECORD" LED ON)
- ②レーザーパワーメーターのセンサーを光ヘッド対物レンズ上部近傍に置き、VR102を徐々に右ネジ方向に回して調整する。

調整値 $P_L = 3.40mW \pm 0.1mW$

注：

- a. センサーは光ヘッドのレンズに平行よりわずかに傾ける。尚、センサーの角度により指示値が変化するので最大指示になるポイントにて調整すること。
 - b. 上記の調整値はAverageの指示値であり、PEAK TOP パワーは約8.0mWである。
 - ③光パワーメーターをPeakモードにしモニター出力をオシロスコープに接続する。
 - a. WRITE POWERの光出力が写真1のような波形になっていることを確認する。もし、Fig. 1のBのような波形が現れる場合は光ヘッド不良なので交換のこと。
 - b. 調整後、STOPボタンを押しMODE 0の状態にしてから、Trackの►►ボタンを押して表示を"08"(MODE 8)にし、PLAYボタンを押し、光出力が6mW相当から10mW相当まで0.5mWステップで9段階上がることを確認する。
 - ④調整終了後はLINEボタンを押し、光出力を"READ POWER"にする。(YPDR601の"RECORD"のLEDが消えていることも確認する)
 - ⑤STOPボタンを押してMODE 0にする。
- 注：調整後はVR101を動かさないこと。

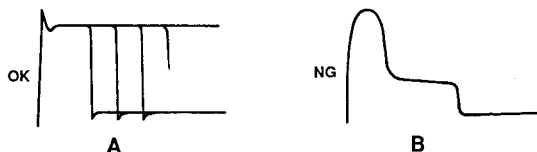


Fig. 1

**STEP 6
OPTICAL HEAD TILT ADJUSTMENT
(ROUGH ADJUSTMENT)**

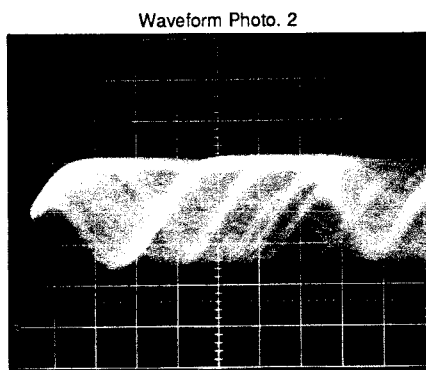
Note: A rough adjustment is sufficient at this step and it is not necessary to adjust the tilt angle too precisely.

- ① Connect the oscilloscope probe to TP302 (EFM) and TP301 (GND).
* Oscilloscope Settings: AC coupling,
H. Range = 0.5 μ S/DIV.
V. Range = 0.1V/DIV.
- ② Place the TX913530 (8cm) test disc on the turntable and hold disc in place with depressor weight.
- ③ Select Mode 3 (ref. page 14).
- ④ It is not required to adjust tilt angle if waveform at TP302 is similar to Waveform Photo 2 or 3. If waveform is similar to Waveform Photo 4 or 5, adjust the optical head jitter and radial direction (ref. fig. 2).

**Step 6
◆傾角粗調整**

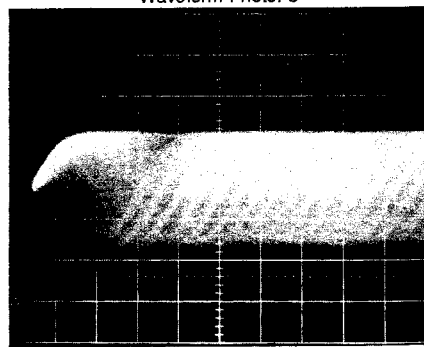
ここは粗調であり、シビアに調整する必要はない。

- ①オシロスコープのプロブをサーボシートのTP302(TP 2、EFM) とTP301 (TP 1、GND) に接続する。
(AC coupling H.range 0.5 μ S/div,
V.range 0.1V/div)
- ②テストディスクTX913530 (8 cm) をセットしてディスク装着用重りで固定する。
- ③MODE 3 にする。
- ④TP302 (TP 2) の波形が写真 4 や 5 のような場合は、光ヘッドのジッタ方向と半径方向の調整ネジを回して調整する。写真 2 や 3 の波形の場合は調整不要。(Fig. 2)



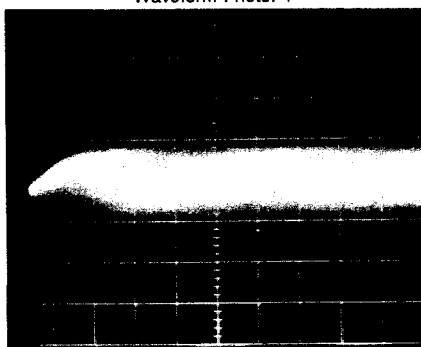
Waveform Photo. 2

波形写真 2



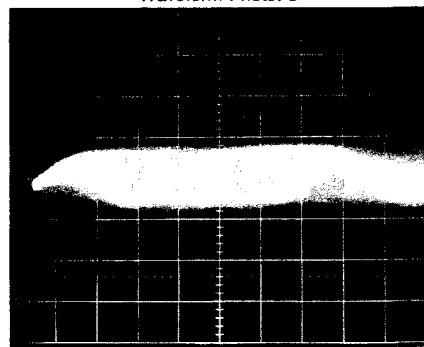
Waveform Photo. 3

波形写真 3



Waveform Photo. 4

波形写真 4



Waveform Photo. 5

波形写真 5

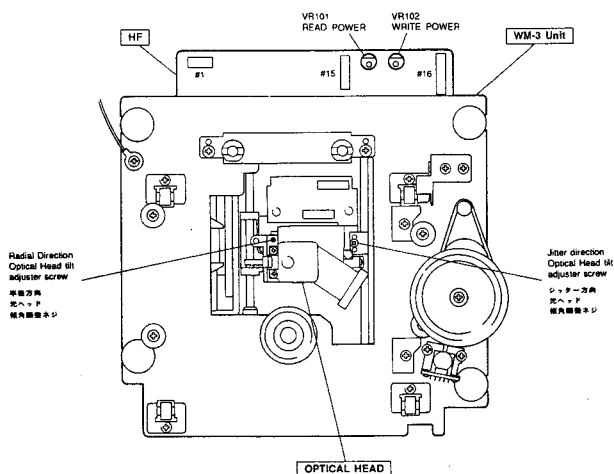
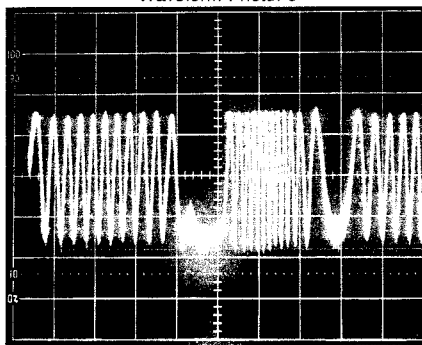


Fig. 2

**STEP 7
TRACKING OFFSET ADJUSTMENT**

- ① Place the TX913530 (8cm) test disc on the turntable and hold disc in place with depressor weight.
- ② Connect the oscilloscope probe of CHANNEL 1 to TP306 (Tracking error signal) and the ground lead to TP301 (GND). Connect the CHANNEL 2 probe to TP312 (OFS CPS) and TP301 (GND).
* Oscilloscope Settings: DC coupling, H.range = 20mS/DIV.,
CH1 V. Range = 0.2V/DIV.,
CH2 V. Range = 10mV/DIV.
- ③ Select Mode 3 (ref. page 14). When the focus servo is locked, the TP306 waveform will look similar to that of Waveform Photo 6.
- ④ Adjust the DC center voltage at TP312 with VR308.
Adjustment value: 0.0 VDC +/- 10mVDC

Waveform Photo. 6



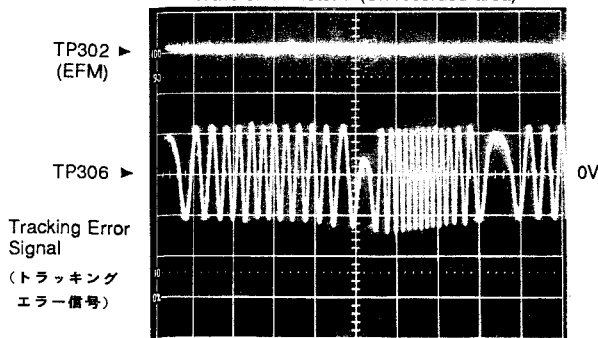
波形写真 6

**STEP 8
TRACKING BALANCE ADJUSTMENT**

- ① Place the TX913530 (8cm) test disc on the turntable and hold disc in place with depressor weight.
- ② Connect the oscilloscope probe of CHANNEL 1 to TP302 (EFM terminal) and the ground lead to TP301 (GND). Connect the CHANNEL 2 probe to TP306 (Tracking error signal) and TP301 (GND).
* Oscilloscope Settings: DC coupling, H. Range = 20mS/DIV.,
CH1 V. Range = 0.2V/DIV.,
CH2 V. Range = 0.5V/DIV.
- ③ Select Mode 3 (ref. page 14).
- ④ Adjust VR304 so that the TP306 tracking error signal center point value of both the recorded and the blank areas become as close to 0 VDC as possible.

Note: To perform this adjustment, carefully move the optical head position by hand from the recorded area to the blank area of the disc as required by the adjustment. This adjustment may require several movements between the recorded and blank areas. Initially, set one area to 0 VDC then check the other area and view the amount of offset, adjust the trimpot to set this to half its current level. Repeat these steps until an optimum setting is achieved. The TP306 tracking error signal waveform should look similar to Waveform Photo 7 and 8.

Waveform Photo. 7 (Un-recorded area)



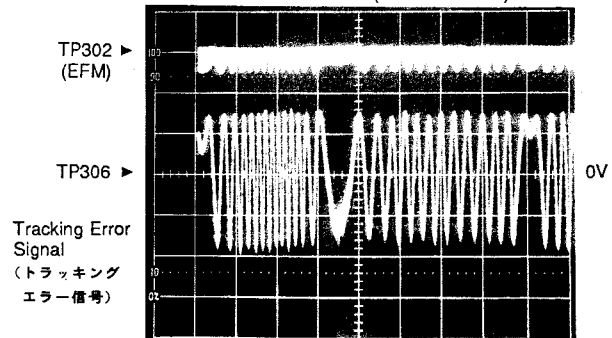
波形写真 7 (未記録部)

**Step 8
◆トラッキングバランス調整**

- ① テストディスクTX913530 (8 cm) をセットしてディスク装着用重りで固定する。
- ② オシロスコープのプロープのCH 1 をTP302 (TP 2、EFM) とTP301 (TP 1、GND) に、CH 2 をTP306 (TP 6、トラッキングエラー) とTP301 (TP 1、GND) に接続する。
(DC coupling H.range 20mS/div,
V.range CH 1 0.2V/div, CH 2 0.5V/div)
- ③ MODE 3 にして、CH 2 (TP306、TP 6) の記録部と未記録部のトラッキングエラー信号の中心値が 0 V_{DC} になるようにVR304にて調整する。(写真7及び8)

注: 光ヘッドの移動は手で行い、記録部と未記録部に位置の確認はTP302のEFM信号で行う。記録部では写真8のようにEFM信号が見えるが未記録部では写真7のようにDC的な波形となる。

Waveform Photo. 8 (Recorded area)



波形写真 8 (記録部)

**STEP 9
TRACKING LEVEL ADJUSTMENT**

- ① Place the test disc TX911730 (SONY YEDS-18) on the turntable and hold disc in place with depressor weight.
- ② Connect the oscilloscope probe to TP309 (Tracking error signal) and TP301 (GND).
* Oscilloscope Settings:
AC coupling, H. Range = 0.5mS/DIV.
V. Range = 0.2V or 0.5V/DIV.
- ③ Select Mode 3 (ref. page 14).
- ④ Adjust the amplitude at TP309 (Tracking error) with VR309.
Adjustment value: 1.0 V_{p-p} ± 0.1 V_{p-p}

**STEP 10
FOCUS GAIN ADJUSTMENT**

- ① Place the test disc TX911730 (SONY YEDS-18) on the turntable and hold disc in place with depressor weight.
- ② Connect the oscilloscope probe to TP306 (Tracking error signal) and TP301 (GND).
* Oscilloscope Settings: DC coupling, V. Range = 0.2V/DIV.
H. Range = 20mS/DIV.
- ③ Connect the test filter and two CHANNEL AC voltmeter to the Servo circuit board as shown in fig. 3 (CH1=TP303, CH2=TP305 and GND=TP301).
- ④ Select Mode 5 (ref. page 14).
You can confirm the YPDR601 operation by observing the TP306 tracking error signal.
- ⑤ Apply a 1.5 KHz, 0.4 Vrms sine wave signal between TP304 and TP301 (GND) using a sine wave generator.
Note: Connect the ground lead of the sine wave generator output prior to connecting the signal lead to prevent the YPDR601 circuit damage.
- ⑥ Adjust the difference between channels on the AC voltmeter with VR303.
Adjustment value: CH2-CH1 = 13dB ± 1dB

**Step 9
◆トラッキングレベル調整**

- ① テストディスク TX911730 (SONY YEDS-18) をセットしてディスク装着用重りで固定する。
- ② オシロスコープのプローブのCH1をTP309 (TP 9、TE. LEVEL) とTP301 (TP 1、GND) に接続する。
(AC coupling H.range 0.5mS/div,
V.range 0.2V or 0.5V/div)
- ③ MODE 3 にする。
- ④ VR309にて、TP309 (TP 9) のトラッキングエラー信号の振幅を下記の値に調整する。
調整値 1.0V_{PP} ± 0.1V_{PP}

**Step 10
◆フォーカスゲイン調整**

- ① テストディスク TX911730 (SONY YEDS-18) をセットしてディスク装着用重りで固定する。
- ② オシロスコープのプローブをTP306 (TP 6、トラッキングエラー) とTP301 (TP 1、GND) に接続する。
(DC coupling H.range 20mS/div,
V.range 0.2V/div)
- ③ Fig. 2 の様にサーボシートにフィルターとACボルトメーター (2ch) を接続する。
- ④ MODE 5 にする。
この時オシロスコープでTP306 (TP 6) を観測しているとYPDR601の動作状態がわかる。
- ⑤ オーディオ発振器の出力を正弦波1.5kHz、0.4Vrmsにセットし、TP304 (TP 4) とTP301 (TP 1、GND) 間に加える。
注: オーディオ信号の接続はYPDR601の内部回路保護のために必ずGNDを先に接続する。
- ⑥ VR303にて、CH1とCH2のレベル差が下記の値になるように調整する。
調整値 CH2 - CH1 = 13dB ± 1dB

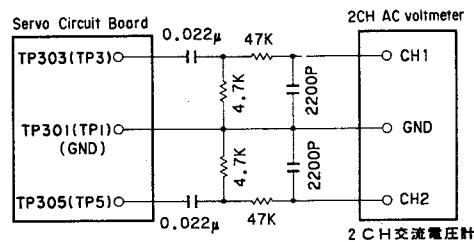


Fig. 3

STEP 11
TRACKING GAIN ADJUSTMENT

- ① Place the test disc TX911730 (SONY YEDS-18) on the turntable and hold disc in place with depressor weight.
- ② Connect the oscilloscope probe to TP306 (Tracking error signal) and TP301 (GND).
* Oscilloscope Settings:
DC coupling, V. Range = 0.2V/DIV.
H. Range = 20mS/DIV.
- ③ Connect the test filter and two CHANNEL AC voltmeter to the Servo circuit board as shown in fig. 4 (CH1 = TP307, CH2 = TP314 and GND = TP301)
- ④ Select Mode 5 (ref. page 14).
You can confirm the YPDR601 operation by observing the TP306 tracking error signal.
- ⑤ Apply a 1.5 KHz, 0.4 Vrms, sine wave between TP308 and TP301 (GND) using a sine wave generator.
Note: Connect the ground lead of the sine wave generator output signal prior to signal lead to prevent the YPDR601 circuit damage.
- ⑥ Adjust the difference between channels on the AC voltmeter with VR305.
Adjustment value: CH1-CH2=0dB +/- 1dB

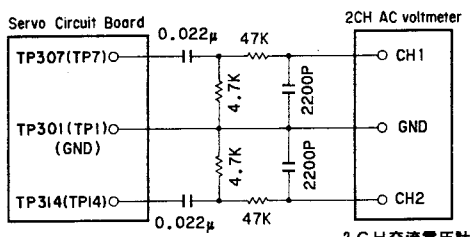


Fig. 4

Step 11
◆トラッキングゲイン調整

- ① テストディスクTX911730 (SONY YEDS-18) をセットしてディスク装着用重りで固定する。
- ② オシロスコープのプロブをTP306 (TP 6、トラッキングエラー) とTP301 (TP 1、GND) に接続する。
(DC coupling H.range 20mS/div, V.range 0.2V/div)
- ③ Fig. 4 の様にサーボシートにフィルターとACボルトメーター (2ch) を接続する。
- ④ MODE 5 にする。
この時オシロスコープでTP306 (TP 6) を観測しているとYPDR601の動作状態がわかる。
- ⑤ オーディオ発振器の出力を正弦波1.5kHz、0.4Vrmsにセットし、TP308 (TP 8) とTP301 (TP 1、GND) 間に加える。
注: オーディオ信号の接続は、YPDR601の内部回路保護のために必ずGNDを先に接続する。
- ⑥ VR305にて、CH1とCH2のレベル差が下記の値になるように調整する。
調整値 CH1 - CH2 = 0 dB ± 1 dB

STEP 12
TRACKING OFFSET COMPENSATION ADJUSTMENT

- ① Place the test disc TX911730 (SONY YEDS-18) on the turntable and hold disc in place with depressor weight.
- ② Connect the oscilloscope probe of CHANNEL 1 to TP306 (Tracking error signal) and the ground lead to TP301 (GND). Connect the CHANNEL 2 probe to TP312 and TP301 (GND).
* Oscilloscope Settings:
DC coupling, H. Range = 20mS/DIV.
CH1 V. Range = 0.2V/DIV.
CH2 V. Range = 50mV to 0.2V/DIV.
- ③ Select Mode 3 (ref. page 14).
- ④ Adjust the voltage at TP312 to an offset value with VR308.
Adjustment value: -0.40VDC +/- 0.04VDC
- ⑤ Set ground reference for CH1.
- ⑥ Short with jumper wire TP312 to TP301 (GND).
- ⑦ Note the DC center level of waveform at TP306 (oscilloscope CH1, refer to figure 5).
- ⑧ Remove the jumper wire between TP312 and TP301.
- ⑨ Using VR311 adjust DC center of waveform to half of that noted in item 7 (refer to figure 5).
- ⑩ Adjust voltage at TP312 using VR308.
Adjustment value: 0.00VDC +/- 0.01VDC

Step 12
◆トラッキングオフセット補正調整

- ① テストディスクTX911730 (SONY YEDS-18) をセットしてディスク装着用重りで固定する。
- ② オシロスコープのプロブのCH1をTP306 (TP 6、トラッキングエラー) とTP301 (TP 1、GND) とCH2をTP301 (TP 1、GND) とTP312 (TP 12、オフセット補正) に接続する。
(DC coupling H.range 20mS/div, V.range CH1 0.2V/div CH2 50mV~0.2V/div)
- ③ MODE 3 にする。
- ④ TP308にて、TP312 (TP 12) の電圧を下記の値に調整する。(Offsetを加える)
調整値 -0.40 ± 0.04 V_{DC}
- ⑤ オシロスコープのCH1のGNDレベルをセットする。
- ⑥ TP312 (TP 12) とTP301 (TP 1、GND) をリード線でショートしその時のTP306の波形のDCセンターレベルをメモする。
- ⑦ TP312 (TP 12) とTP301 (TP 1、GND) のジャンパーを外す。
- ⑧ TP306の波形のDCセンターずれが⑥でメモした値の1/2となるようにVR311で調整する。(Fig. 5)
- ⑨ VR308にてTP312 (TP 12) の電圧を下記の値に調整する。(Offsetを元に戻す)
調整値 0.00 V ± 0.01 V_{DC}

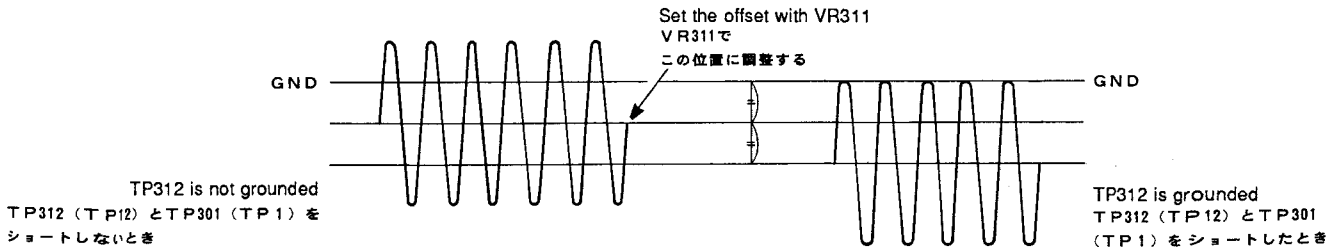


Fig. 5

**STEP 13
KICK GAIN ADJUSTMENT**

- ① Place the test disc TX911730 (SONY YEDS-18) on the turntable and hold disc in place with depressor weight.
 - ② Connect the oscilloscope probe of CHANNEL 1 to TP306 (Tracking error signal) and the ground lead to TP301 (GND). Connect the CHANNEL 2 probe to TP314 (TRA1) and TP301 (GND).
* Oscilloscope Settings: DC coupling, H. Range = 0.2mS/DIV.
CH1 V. Range = 200mV/DIV.
CH2 V. Range = 0.5V-1.0V/DIV.
 - ③ Select Mode 5 (ref. page 14).
 - ④ Select the spindle Mode 03 (CD mode, ref. page 15) then push PAUSE (KICK HOLD mode).
 - ⑤ Adjust VR306 until the waveform at TP314 matches the waveform as shown in figure 6.
 - ⑥ Press PLAY button to cancel KICK HOLD mode.
- Note: To obtain the waveform shown in the picture on the oscilloscope; (1) set the trigger selector to CH2 (Channel 2 triggering), (2) set the trigger mode to the normal trigger mode (3) adjust the trigger level so that the waveform of CH2 coincides with CH1's waveform (see Waveform Photo 9).

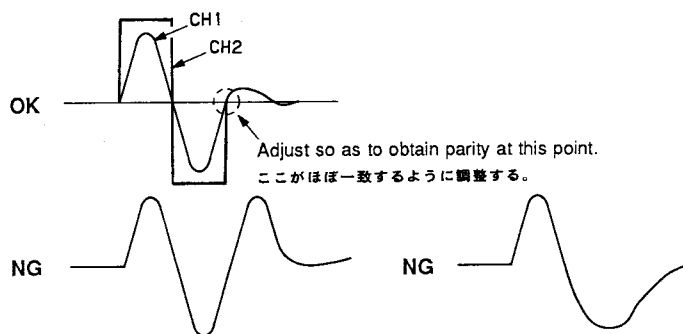


Fig. 6

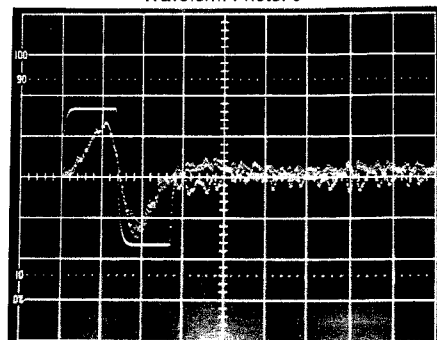
**STEP 14
OPTICAL HEAD OPTIMUM TILT ADJUSTMENT**

- Note: Check and confirm that the marker position of the tilt cam (ref. page 73 No.40f) is between the 11 and 1 o'clock positions (ref. fig 7). If it is not in the designated position, apply a 3V DC voltage across the TIM1 and TIM2 connections (on the SERVO circuit board) until the tilt cam motor rotates the marker to the correct position.
- ① Place the test disc TX913530 (8cm) on the turntable and hold disc in place with depressor weight.
 - ② Connect the oscilloscope probe to TP302 (EFM terminal) and TP301 (GND).
* Oscilloscope Settings:
AC coupling, H. Range = 0.5μS/DIV.
V. Range = 0.1V to 0.2V/DIV.
 - ③ Select Mode 5 (ref. page 14).
 - ④ Adjust the amplitude of the TP302 eye pattern to the sharpest image and maximum possible level by turning the JITTER adjustment screw to the left or the right, as appropriate (ref. page 10).
 - ⑤ Adjust the amplitude of the TP302 eye pattern to the sharpest image and maximum possible level by turning the RADIAL adjustment screw to the left or the right, as appropriate (ref. page 10).
- Note: If you cannot gain access to the RADIAL adjustment screw return to MODE 3 and move the head by hand to the outer area of the disc. Now go back to item 3 of this STEP.
- ⑥ Repeat items 4 and 5 until optimum tilt is achieved.
 - ⑦ Confirm the tracking balance and re-adjust if required (Refer to STEP 8).
- Note: Apply lock paint to both adjustment screws. The location of the jitter direction screw and lock paint application is shown (Fig. 9).
- CAUTION: There are moving parts on both side of the jitter screw, do not get lock paint on them.

**Step 13
◆キックゲイン調整**

- ① テストディスクTX911730 (SONY YEDS-18) をセットしてディスク装着用重りで固定する。
 - ② オシロスコープのプロブのCH1をTP306 (TP1、GND) とTP306 (TP6、トラッキングエラー) に、CH2をTP301 (TP1、GND) とTP314 (TP14、TRA1) に接続する。
(DC coupling H.range 0.2mS/div, V.range CH1 200mV/div CH2 0.5V~1.0V/div)
 - ③ MODE 5にしINDEXボタンでSPINDLE MODEを03 (CD) にした後PAUSEにする。
(KICK HOLDの状態)
 - ④ VR306にてFig. 6 の様な波形になるように調整する。
 - ⑤ PLAY KEYを押してKICK HOLDを解除する。
- 注: トリガーモードをノーマル、トリガーチャンネルをCH1にセットしてトリガーレベルを調整するとトリガーがかかり写真9のような波形が現れる。

Waveform Photo. 9



波形写真 9

**Step 14
◆WRITE HEADの最良再生傾角調整**

- 注: 73ページ分解図中の40fのチルトカムのマーカーの位置が11時から1時の間にあることを確認する。(Fig. 7) もしそうでない場合には、サーボシート内の調整用コネクタTIM1とTIM2に乾電池で作った1.5V~3Vの電圧を加えてチルトモーターを回転させ上記の位置に調整する。
- ① テストディスクTX913530 (8cm) をセットしてディスク装着用重りで固定する。
 - ② オシロスコープのプロブをTP302 (TP2、EFM) とTP301 (TP1、GND) に接続する。
(AC coupling H.range 0.5μS/div V.range 0.1V~0.2V/div)
 - ③ MODE 5にする。
 - ④ ジッタ方向の調整ネジを左右に回してTP302 (TP2) のアイパターンの3Tの振幅が最大になるように調整する。(Fig. 8)
 - ⑤ 半径方向の調整ネジを左右に回してTP302 (TP2) のアイパターンの3Tの振幅が最大になるように調整する。(Fig. 8)
- 注: これらの調整用のネジがディスクに隠れる場合は、MODE 3にして光ヘッドを手で外側に動かして③からやり直す。
- ⑥ VR302 (FC.BAL) を回してTP302 (TP2) のアイパターンの3Tの振幅が最大になりエンベロープの揺れが最小になるように調整する。
 - ⑦ ③~⑥を繰り返して行い最良点に調整する。(写真10、Fig. 9)
 - ⑧ 記録部と未記録部トラッキングバランスの状態を確認し、ズレている場合はステップ8の調整を再び行う。
- 注: この調整終了後はそれぞれの調整ネジをネジロックする。ジッター方向のネジはFig. 9の位置にネジロックを塗布する。

Tilt cam position

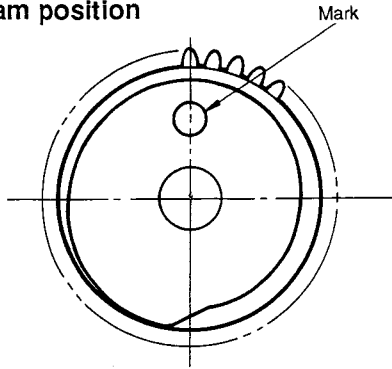


Fig. 7

Waveforms 3T - 11T.

3T, 4T, 5T, 6T 11T

This portion is referred to as the eye pattern.

The abnormal eye pattern has less distinct lines and smaller amplitude than that of a good waveform.

<p>Good waveform</p>	<p>Abnormal waveform</p>
-----------------------------	---------------------------------

Adjust so that a good waveform is obtained.

アイパターンについて

3 Tから11Tまでの線があります。

3 T 4 T 5 T 11Tまで

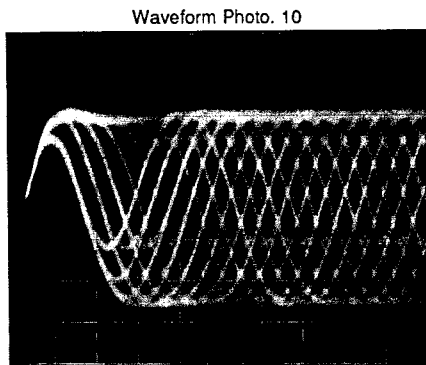
この菱形の部分を目にとえてアイパターンという。

不良な波形は、線がにじんで太くなり良好な波形に較べてアイが小さくなっています。

<p>良好な波形</p>	<p>不良な波形</p>
--------------	--------------

できるだけ良好な波形になるように調整する。

Fig. 8



波形写真10

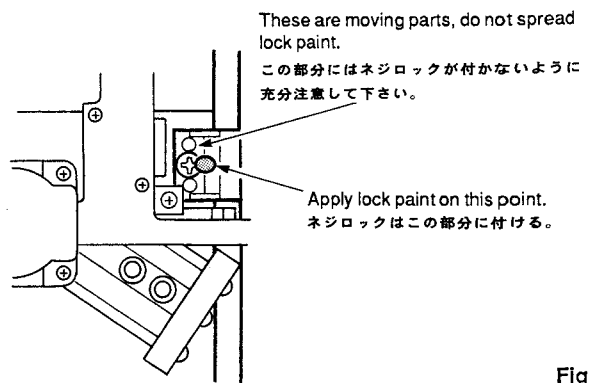


Fig. 9

**STEP 15
HF LEVEL ADJUSTMENT**

- ① Place the test disc TX911730 (SONY YEDS-18) on the turntable and hold the disc in place with depressor weight.
 - ② Select Mode 5 (Spindle mode 03, CD mode, ref. pages 14 and 15).
 - ③ Adjust the voltage at TP302 (EFM terminal) with VR308. Adjustment value: 0.35V_{p-p} ± 0.05V_{p-p}
 - ④ Connect a frequency counter probe (10:1 probe) to TP317 (C1) and the ground lead to TP318 (GND). Confirm the C1 error rate is less 30Hz.
- Note: If the error rate is more than 30Hz possible causes are: tilt angle, VCO frequency or CDVP IC.

**STEP 16
FOCUS AND TRACKING BALANCE ADJUSTMENT FOR WRITING**

- ① Connect the oscilloscope probe of CHANNEL 2 to TP306 (Tracking error signal) and the ground lead to TP301 (GND). Connect the CHANNEL 1 probe to TP302 (EFM terminal) and TP301 (GND).
 - ② Place a YOD063 partially recorded disc on the turntable and hold the disc in place with depressor weight.
 - ③ Select Mode 3 (ref. page 14). Set the optical head position by hand to just passed the boundary of the recorded area and blank area (see photos for STEP 8).
 - ④ Select Mode 5 (Spindle mode 02, wobble mode, ref. page 14).
 - ⑤ Set the laser power for the writing mode (ref. page 15). (YPDR601 "RECORD" LED ON)
 - ⑥ Adjust VR302 (FC. BAL) so that the shaking in portion A of waveform is minimized (see fig. 10).
 - ⑦ Adjust VR310 (W. TR. BAL) so that portion B in the waveform is as small as possible (see fig. 10).
 - ⑧ Change the laser power to reading (ref. page 15). (YPDR601 "RECORD" LED OFF)
 - ⑨ After at least 20 seconds, select Mode 3 (ref. page 14).
- Note: Confirm there is no EFM output at TP302 which should be CH2 of the oscilloscope.
- ⑩ Short TP326 to ground with a jumper wire.
 - ⑪ Adjust VR310 until the following ratio is met.
 $0.5 < D \div C < 2.0$
See figure (Fig. 11) for example.
 - ⑫ Remove the jumper wire from TP326 and ground.
 - ⑬ Select Mode 5 (spindle mode 01) and set the laser power for writing using LINE button (ref. pages 14 and 15). (YPDR601 "RECORD" LED ON)
 - ⑭ Connect the frequency counter probe (10:1 probe) to TP317 (C1) and the ground lead to TP318 (GND). Confirm the C1 error rate is 10Hz.
 - ⑮ Change the laser power for reading (ref. page 15) and then select Mode 0 (ref. page 14). (YPDR601 "RECORD" LED OFF)

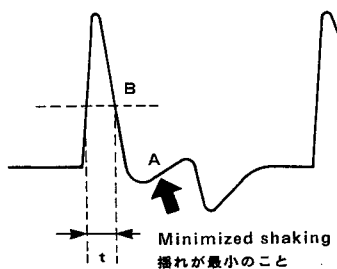


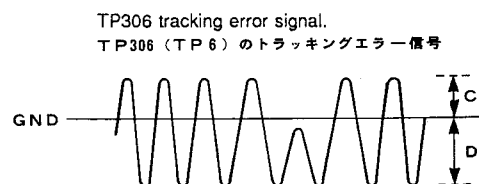
Fig. 10

**Step 15
◆HFレベル調整**

- ① テストディスク TX911730 (SONY YEDS-18) をセットしてディスク装着用重りで固定する。
- ② MODE 5 にして INDEX の ▶▶ ボタンを押して "03" の CD プレーにする。
- ③ VR301 にて、TP302 (TP 2、EFM) の電圧を下記の値に調整する。
調整値 0.35V_{PP} ± 0.05V_{PP}
- ④ 周波数カウンタのプロープ (10:1) を TP317 (TP17、C1) と TP318 (TP18、GND) に接続し、C1 エラーレートの 30 秒間の値の平均値が 30Hz 以下であることを確認する。

**Step 16
◆FOCUS&TRACKING (Write)
BALANCE 微調整**

- ① オシロスコープの CH 1 を TP302 (TP 2、EFM) と TP301 (TP 1、GND) に接続し (モニター用)、CH 2 を TP306 (TP 6、トラッキングエラー) と TP301 (TP 1、GND) に接続する。
- ② 記録用ディスク YOD-063 をセットしてディスク装着用重りで固定する。
- ③ MODE 3 にして TP302 に現れる EFM 信号を見ながら未記録部を探す。未記録部の EFM 信号は DC 的な波形になるので光ヘッドを手で動かして探す。(ステップ 8 の写真 7 と写真 8 参照のこと)
- ④ MODE 5 に切り替え INDEX の ボタンを押して "02" の類 WOBBLE MODE にし、光ヘッドの出力を LINE ボタンを押して WRITE POWER にする。(YPDR601 の RECORDER LED ON、書き込み中)
- ⑤ オシロスコープの CH 2 の波形が Fig. 10 のようになっていることを確認する。
- ⑥ Fig. 10 の t が最小になり、A 部分の揺れが最小になるように VR302 (FC. BAL) を調整する。
- ⑦ Fig. 10 の A 部分と B 部分のジッターが最小になるように VR310 (W. TR. BAL) を調整する。
- ⑧ 光ヘッドの出力を LINE ボタンを押して READ POWER に切り替え、20 秒後に MODE 3 にする。
(YPDR601 の RECORDER LED OFF)
- ⑨ TP326 (サーボ基板が B バージョンの場合は Q314 のベース) と GND をショートし、Fig. 11 の C と D が下記条件を満足するように、VR310 を調整する。
 $0.5 < D \div C < 2.0$
- ⑩ ⑨ のショートを解除する。
- ⑪ MODE 5 の WOBBLE MODE にし LINE ボタンを押して光ヘッドの出力を WRITE POWER にする。
(YPDR601 の RECORDER LED ON、書き込み中)
- ⑫ 周波数カウンタのプロープを TP317 (TP17、C1) と TP318 (TP18、GND) に接続し C1 エラーレートが 10Hz 以下であることを確認する。
- ⑬ LINE ボタンを押して光ヘッドの出力を "READ POWER" にしてから MODE 0 にする。
(YPDR601 の "RECORD" の LED が消えていることも確認する)



This signal should be observed on a blank a blank (un-recorded) track which is adjacent right after recorded track.

記録直後の未記録部に観測すること。

Fig. 11

**STEP 17
LINEAR ENCODER POSITION SELF ADJUSTMENT**

- ① Place a YOD063 blank disc on the turntable and hold the disc in place with depressor weight.
- ② Select Mode 0 and then select Mode 6 using the TRACK ►► button (ref. page 14).
DO NOT PRESS THE PLAY BUTTON FIRST!
- ③ This adjustment is carried out automatically when the PLAY button is pressed.

Note: The RC601 display the following numbers.

	Track	Index	Min	Sec
Before adjustment is started:	06	01		
After adjustment is completed:	06	01	00	00

- ④ Press the STOP button.

**STEP 18
FEED GAIN ADJUSTMENT**

- ① Switch off the YPDR601 and the RC601.
 - ② Place the test disc TX911920 (A-BEX 70µm eccentricity) on the turntable and hold the disc in place with depressor weight.
 - ③ Set the SW1001 switch on the System Control circuit board to the OFF (NORMAL MODE) position and switch on both the YPDR601 and the RC601.
 - ④ Confirm that VR314 is set approximately at its center position.
 - ⑤ Select and play TRACK 15.
- Note: Make the following adjustment only when playing TRACK 15. If the track finishes playing before you complete the adjustment replay the track.
- ⑥ Adjust the feed motor driving voltage (measured between TP327 and TP301 or GND) with VR314.
Adjustment value: 2.0V_{pp} ± 0.5V_{pp}

**Step 17
◆50mm位置調整**

- ①未記録ディスクYOD-063をセットしてディスク装着用重りで固定する。
- ②MODE 0でTRACKの►►ボタンを押して“06”にセットする。
- ③PLAY KEYを押すと自動的に50mm位置調整が行なわれる。この時のRC601のパネル表示は次のようになり位置セットの完了が確認できる。

	Track	Index	Min	Sec
調整中	06	01		
調整完了時	06	01	00	00

- ④STOPボタンを押してMODE 0にする。

**Step 18
◆フィードゲインの調整**

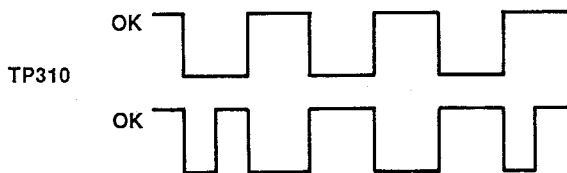
- ①YPDR601とRC601の両方の電源スイッチをOFFにする。
- ②テストディスクTX911920 (A-BEX 70µm偏芯ディスク)をセットしてディスク装着用重りで固定する。
- ③SYSCONシートのSW1001をノーマルモード (OFFの位置)にしてYPDR601とRC601の両方の電源スイッチをONする。
- ④VR314が機械的センター近辺にあることを確認する。
- ⑤15曲目を再生する。
- ⑥TP327 (サーボ基板がBバージョンの場合はFEM1) とTP301 (TP1 GND) 間のフィードモーターの駆動電圧が下記の値になるようにVR314を調整する。

調整値 2.0V_{pp} ± 0.5V_{pp}

注: この調整中に15曲目が終わった場合は再度15曲目を再生して行うこと。

**STEP 19
ASYMMETRIC DETECTION ADJUSTMENT**

- ① Switch off the YPDR601 and the RC601.
 - ② Place the test disc TX913510 on the turntable and hold the disc in place with depressor weight.
 - ③ Set the SW1001 switch on the System Control circuit board to the OFF (NORMAL MODE) position. Confirm that the RC601 TOC (PRE/AFTER) switch is set to the PRE TOC position. Switch on the YPDR601 and the RC601.
 - ④ Play the track number printed on the cover of the test disc. It is important to play this track because the track number may vary from disc to disc.
- Note:** Make the following measurements and adjustment only when playing the specified track (this track plays for approximately 30 seconds). If the track finishes before you complete taking the measurements and making the adjustment re-play the track.
- ⑤ Measure the voltage between TP311 and TP301 (GND) using a digital multimeter.
This voltage is V#1.
 - ⑥ Measure the voltage between TP310 and TP301 (GND).
This is V#2.
 - ⑦ Adjust VR502 so that the voltage, V#2, will satisfy the following condition.
 $V\#2 = V\#1 \pm 0.1 \text{ VDC}$
 - ⑧ It is a rare occurrence, but, if it is difficult to adjust the voltage due to high voltage fluctuation, connect pin 7 of IC502 to an oscilloscope. Adjust VR502 so that the 5V and 0V transitions are equal in duration (refer to fig. 12).



**Step 19
◆アシンメトリ検出調整**

- ① YPDR601とRC601の両方の電源スイッチをOFFにする。
 - ② テストディスクTX913510をセットしてディスク装着用重りて固定する。
- 注:** この時RC601のTOCはPRE側にセットされていることを確認する。
- ③ SYSCONシートのSW1001をノーマルモードにしてYPDR601とRC601の両方の電源スイッチをONする。
 - ④ ディスクケースに表示されているトラックを再生する。
- 注:** トラック毎の録音時間は30秒となっているので調整中にそのトラック終わった場合は指定トラックに戻して再生する。
- ⑤ TP311 (サーボ基板がBバージョンの場合はIC519 # 2) の電圧をオシロスコープまたはデジタルボルトメーターで測定する。この電圧をV # 1 とする。
 - ⑥ TP310 (サーボ基板がBバージョンの場合はIC519 # 8) の電圧 (V # 2) が下記の値になるようにVR502を調整する。
- 調整値** $V\#2 = V\#1 \pm 0.1 \text{ VDC}$
- ⑦ まれに⑤⑥の方法ではV # 2の変動が大きすぎて調整が出来ないことがあるのでその場合は、IC502の7ピンをオシロスコープで観測し、5Vと0Vがほぼ同等に出現するようにVR502を調整する。(Fig.12)

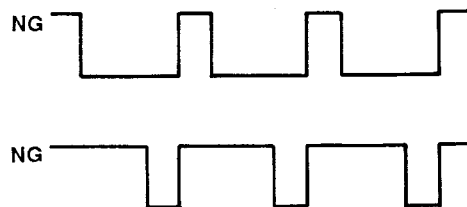


Fig. 12

**STEP 20
OPC SET RANK SELF ADJUSTMENT**

- WARNING:** This adjustment proceed to write the data on the test disc by using the specified laser power and appropriate disc area. Then the optimum laser power is set after comparing the output level of the newly recorded data to the pre-recorded data. Make sure that STEP 1 through 19 have been performed and adjusted properly before proceeding. The OPC rank can only be written to the disc one time! Therefore, after this OPC rank is written once, the same disc CANNOT be use for STEP 20 again. So that you do not attempt to used this same test disc again, mark "USED" on the disc after completing this adjustment.
- ① Switch off the YPDR601 and the RC601.
 - ② Place the test disc TX913520 on the turntable and hold the disc in place with depressor weight.
 - ③ Set the SW1001 switch on the System Control circuit board to the ON (TEST MODE) position. Switch on both the YPDR601 and the RC601.
 - ④ Select Mode 0 and then select Mode 7 using the TRACK ►► button (ref. page 14).
 - ⑤ The OPC rank is set automatically when the PLAY button is pressed.
 - ⑥ The SEC display on the RC601 will indicate the OPC rank. Confirm that the OPC rank is between 05 to 0A (05, 06, 07, 08, 09 and 0A). If the OPC rank number is not in this range either the unit has not been adjusted properly or the laser head may be bad.

**Step 20
◆OPCセットランク調整**

- 注:** OPCセットランク調整では、テストディスクの決められた位置に階段状に変化させた光出力で書き込んだ後、記録された信号を読みだして、前もって記録されている信号と比較してその光ヘッドの最適出力値を検出している。従ってOPCセットランク調整用のテストディスクはこの調整には一回しか使用出来ないのので、Step19までの調整を充分行った上でこの調整を行うこと。また、一度使用したディスクを再度この調整に使用するとYPDR601に間違った値を記録することになるので、調整完了時に必ず使用済みのディスクであることが判るようにディスク自身にマジックインクで印を付けること。
- ① YPDR601とRC601の両方の電源スイッチをOFFにする。
 - ② テストディスクTX913520をセットしてディスク装着用重りて固定する。
 - ③ SYSCONシートのSW1001をTESTモード(ONの位置)にしてYPDR601とRC601の両方の電源スイッチをONする。
 - ④ MODE 0でTrackの►►ボタンを押して"07"にする。
 - ⑤ PLAYボタンを押すとOPCランクが自動的にセットされる。
 - ⑥ OPCランクのセットが完了するとRC601の表示器のSEC欄にランクが表示されるのでその値が05, 06, 07, 08, 09, 0Aのいずれかになっていることを確認する。このランク以外が表示された場合はユニット全体の調整をやり直して再度この調整を行うこと。

**STEP 21
AUDIO CIRCUIT ADJUSTMENT**

1. YPDR SETUP

- ① Switch off the YPDR601 and the RC601.
- ② Set the SW1001 switch on the System Control circuit board to the OFF (NORMAL MODE) position.
- ③ Switch on the YPDR601 and the RC601.

2. CMRR (Common Mode Rejection Ratio) adjustment

- ① Short the hot and cold terminals (pins 2 and 3) of the Left channel ANALOG IN connector (XLR-3-31). Apply a 1.5KHz, 15dB (4.35Vrms) sine wave signal to this input (refer to figure 13).
- ② Adjust VR703 so that the TP700 signal is minimized.
- ③ Repeat above items 1 and 2 for the Right channel adjusting VR704 so that the TP701 signal is minimized.

3. Output level adjustment

- ① Place the test disc TX911730 (SONY YEDS-18) on the turntable and hold the disc in place with depressor weight.
- Note:** Press the OPEN/CLOSE switch twice. This lets the YPDR601 know that you have changed the disc.
- ② Make a dummy load by attaching a 600 ohm resistor between the hot and cold terminals (pins 2 and 3) of a female XLR connector as shown in the figure 14.
- ③ Insert the dummy load into the Left channel ANALOG OUT connector.
- ④ Play track number 2 (1KHz, 0dB).
- ⑤ Adjust the output level with VR702 for Left channel.
Adjustment value: 12 dBm +/- 0.5 dBm
- ⑥ Repeat items 3, 4 and 5 for the Right channel, adjusting VR701.

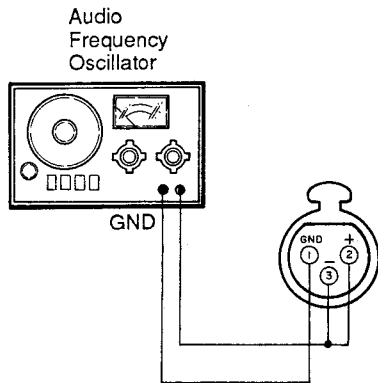


Fig. 13

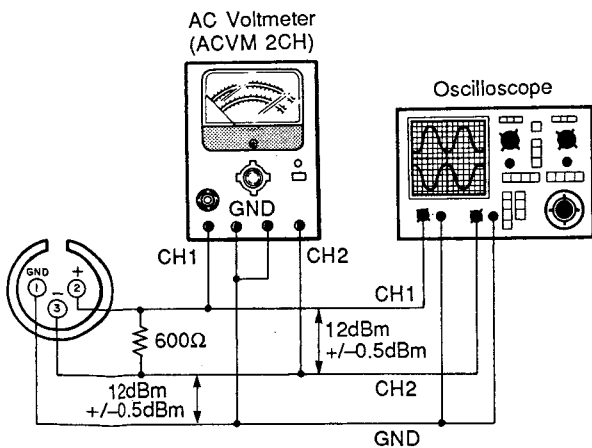


Fig. 14

**Step 21
◆オーディオ回路の調整**

1. YPDR601のセットアップ

- ① YPDR601とRC601の両方の電源スイッチをOFFにする。
- ② SYSCONシートのSW1001をノーマルモード (OFFの位置) にしてYPDR601とRC601の両方の電源スイッチをONする。

2. CMRR (同相信号除去比調整)

(Common Mode Rejection Ratio)

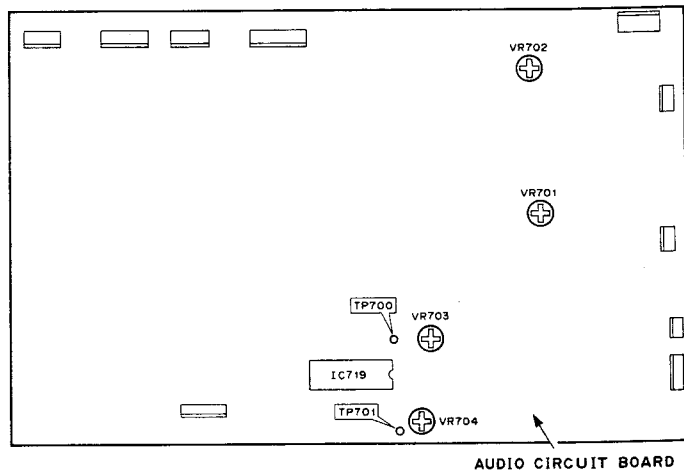
- ① Lchのアナログイン(XLR-3-31)のホット(2ピン)とコールド(3ピン)の両端子をショートして、1 KHz 15dBs (4.35V)の正弦波の信号を入力する。(Fig.13)
- ② TP700の同相信号レベルが最小になるようにVR703を調整する。
- ③ 同様にRchのアナログイン(XLR-3-31)のホット(2ピン)とコールド(3ピン)の両端子をショートして、1 KHz 15dBs (4.35V)の正弦波の信号を入力する。(Fig.13)
- ④ TP701の同相信号レベルが最小になるようにVR704を調整する。

3. 出力の調整

- ① テストディスクTX911730 (SONY YEDS-18) をセットしてディスク装着用重りて固定する。
注: OPEN/CLOSEボタンを押してディスクを読み込ませる。
- ② アナログアウト(XLR-3-32)のホット(2ピン)とコールド(3ピン)の端子に600Ωの抵抗を接続する。
- ③ トラック2(1 KHz 0 dB)をプレーし、ホット(2ピン)とコールド(3ピン)の出力レベルが12dBm ± 0.5 dBになるようにそれぞれのVRを調整する。

Lch	VR702
Rch	VR701

この時、オシロスコープを接続すると出力信号のホット端子とコールド端子では位相が180°反転していることが確認出来る。(Fig.14)

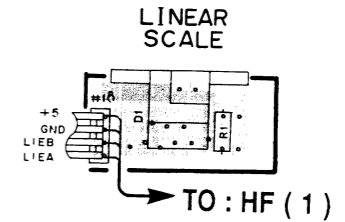


■ YPDR601 PRINTED CIRCUIT BOARD (Parts side)

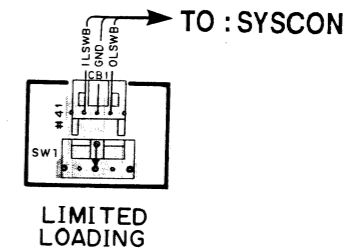
⑤ to ⑦ : WAVEFORM OF TEST POINT (See page 55)

HF C. B (1)

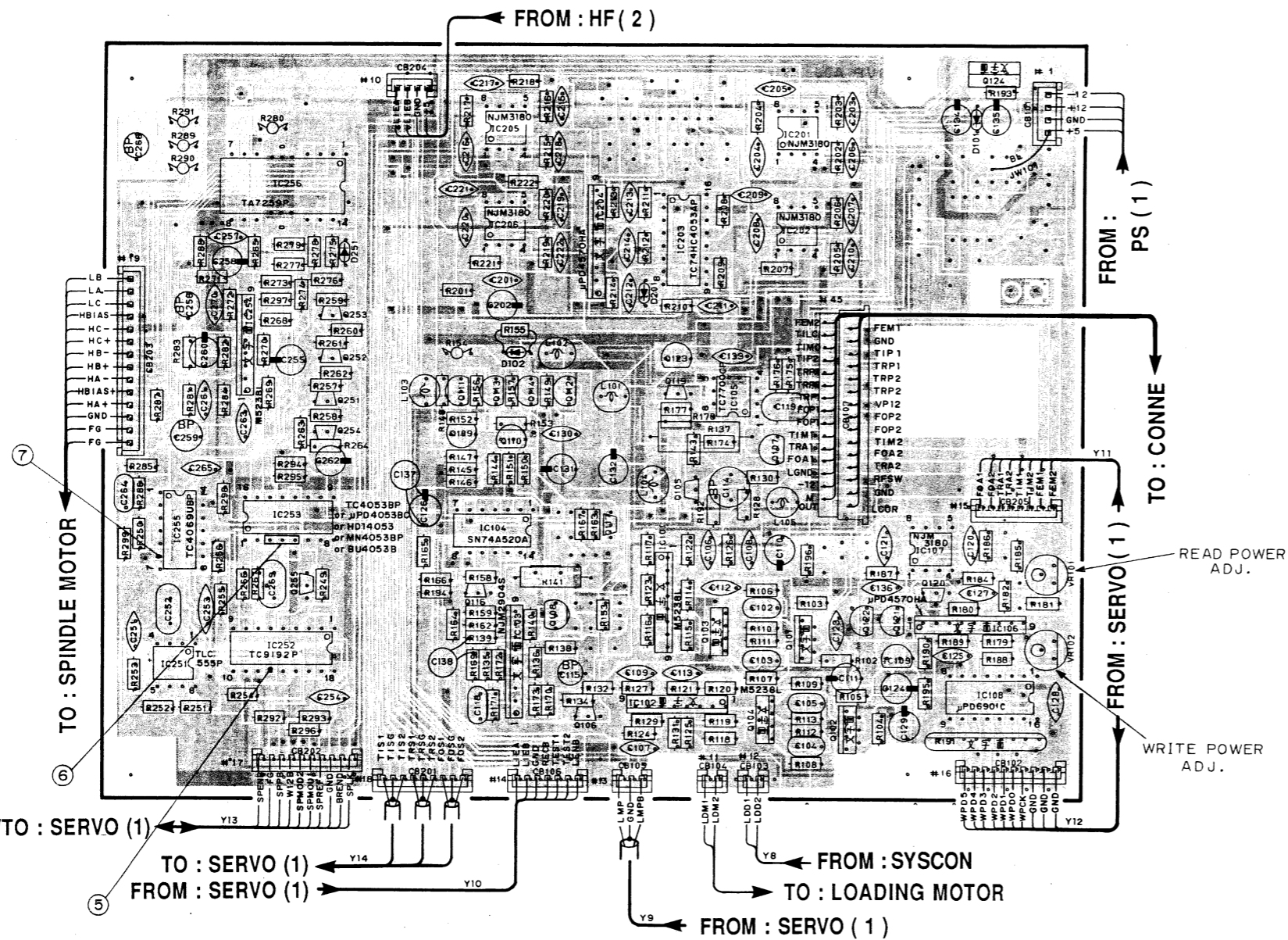
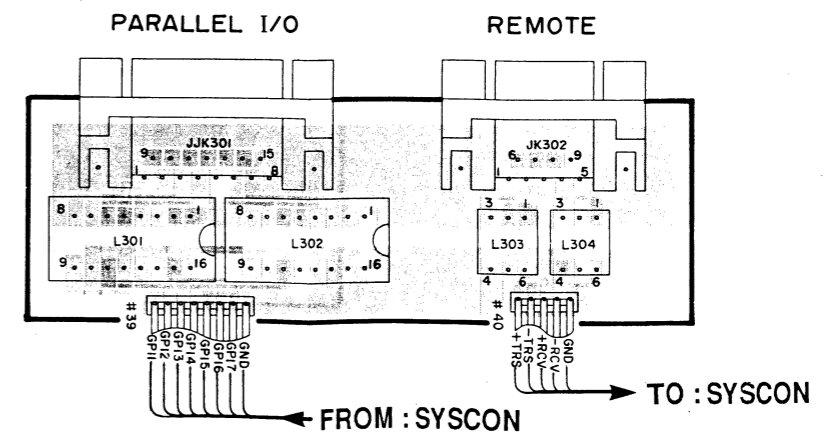
HF C. B (2)



HF C. B (3)



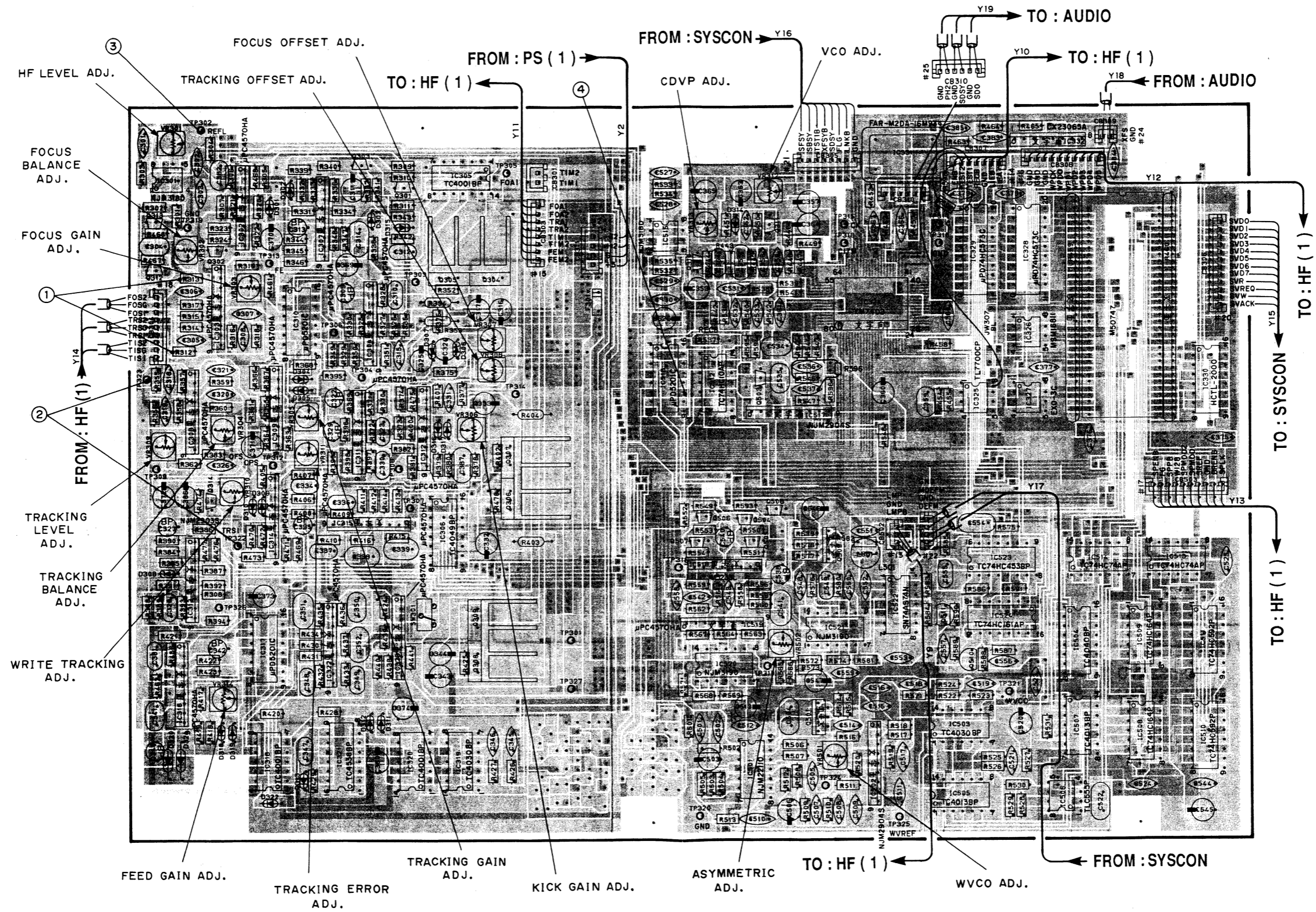
Servo C. B (2)



■ YPDR601 PRINTED CIRCUIT BOARD (Parts side)

① to ④ : WAVEFORM OF TEST POINT (See page 55)

Servo C. B (1)

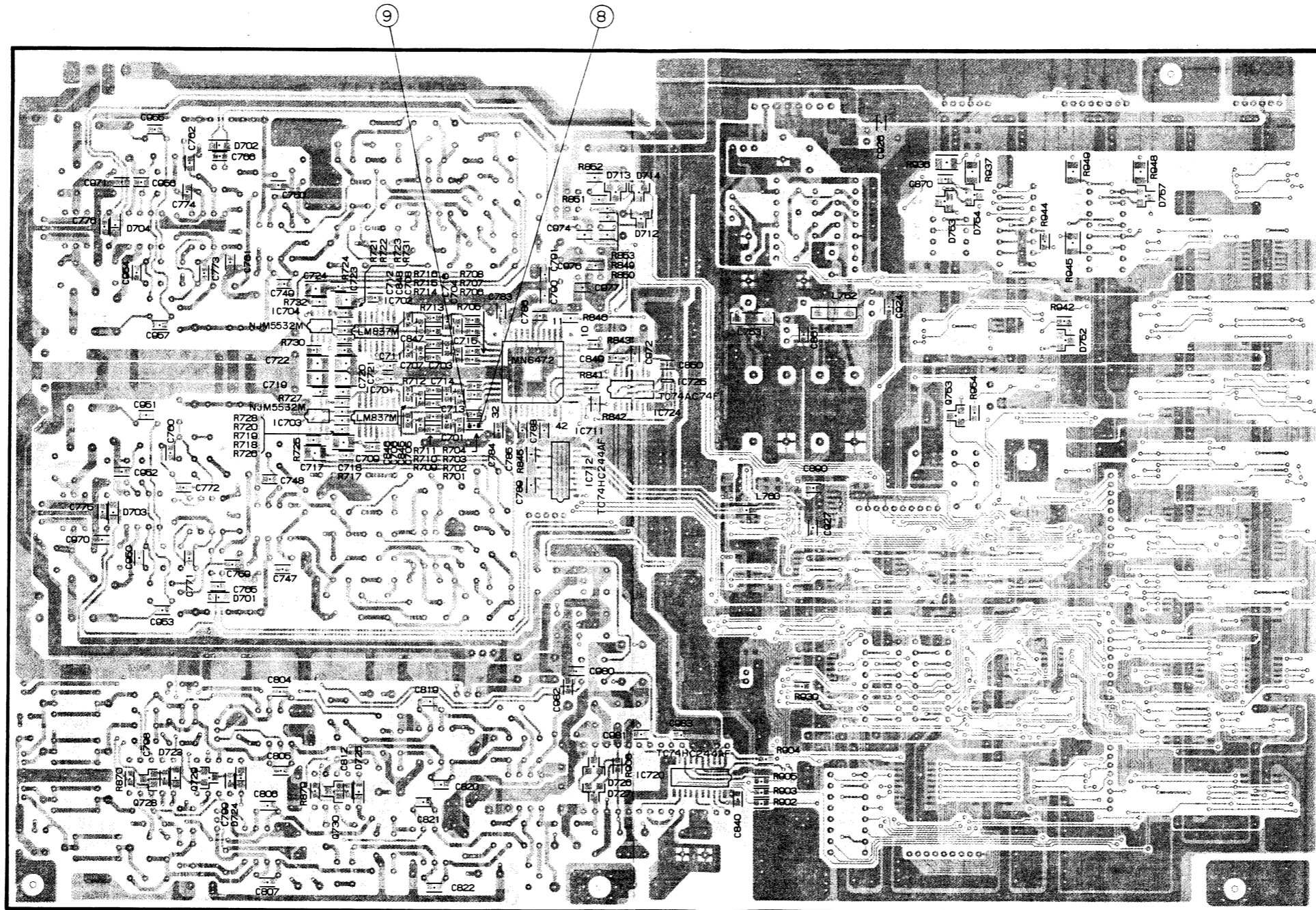


YPDR601/RC601

■ YPDR601 PRINTED CIRCUIT BOARD (Foil side)

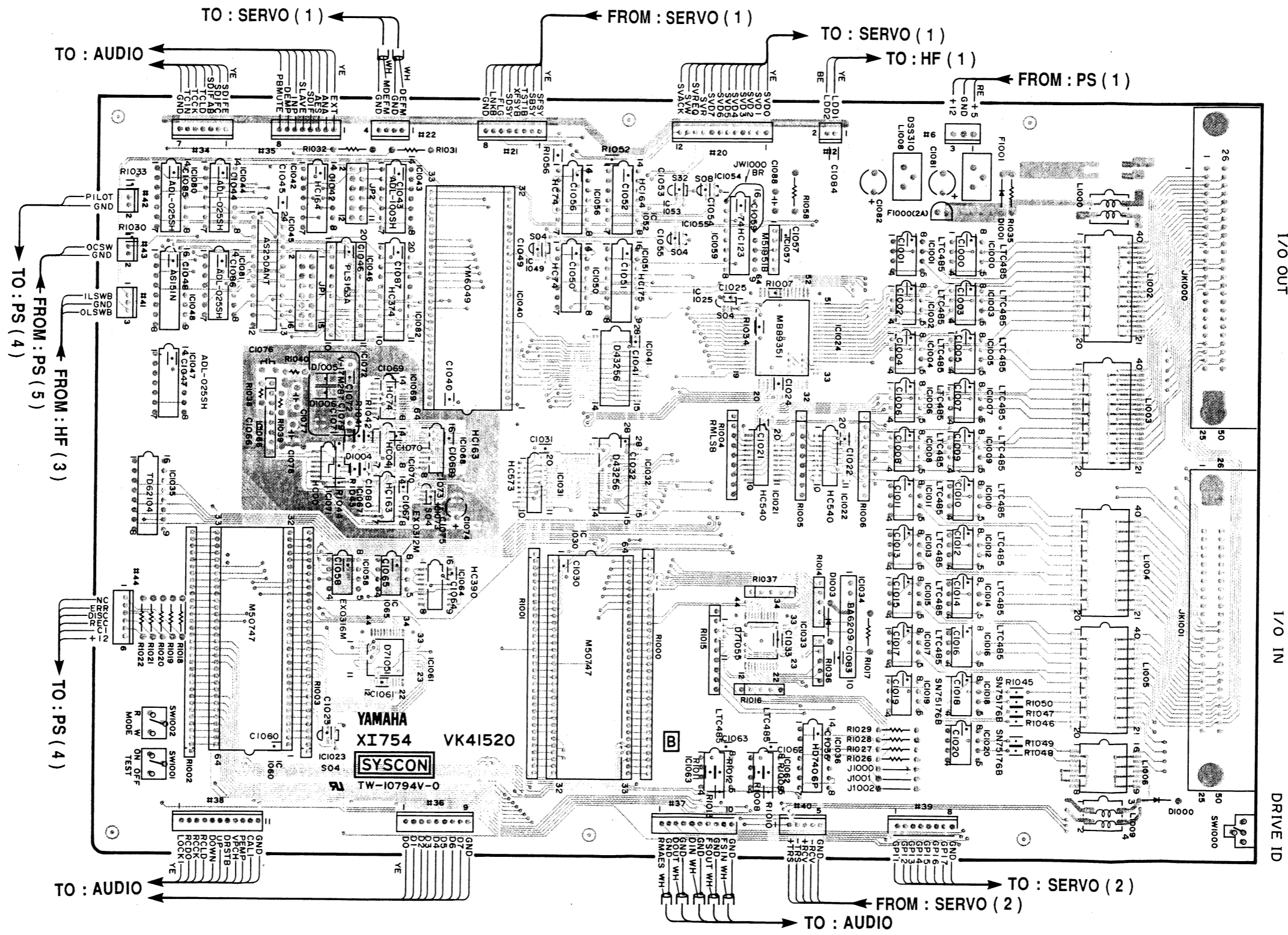
⑧ and ⑨ : WAVEFORM OF TEST POINT (See page 55)

AUDIO C. B



YPDR601 PRINTED CIRCUIT BOARD (Parts side)

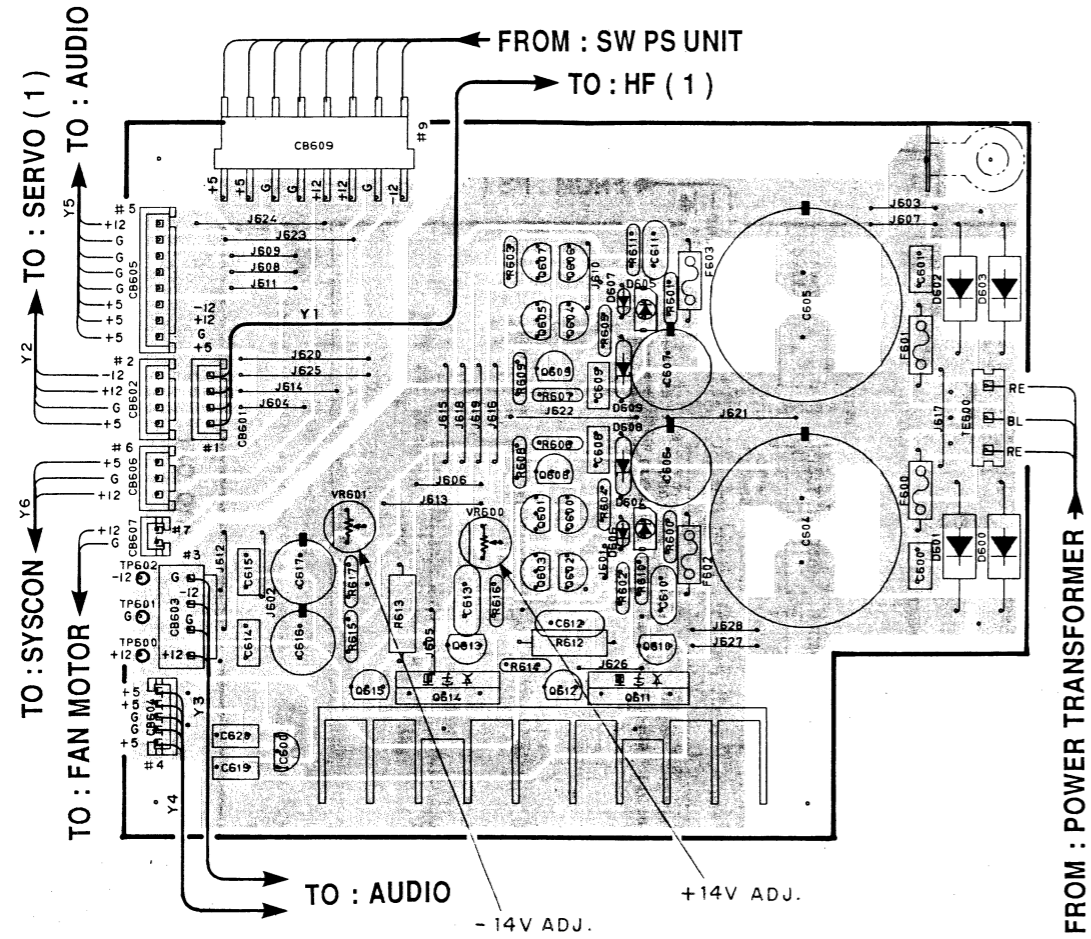
SYSCON C. B



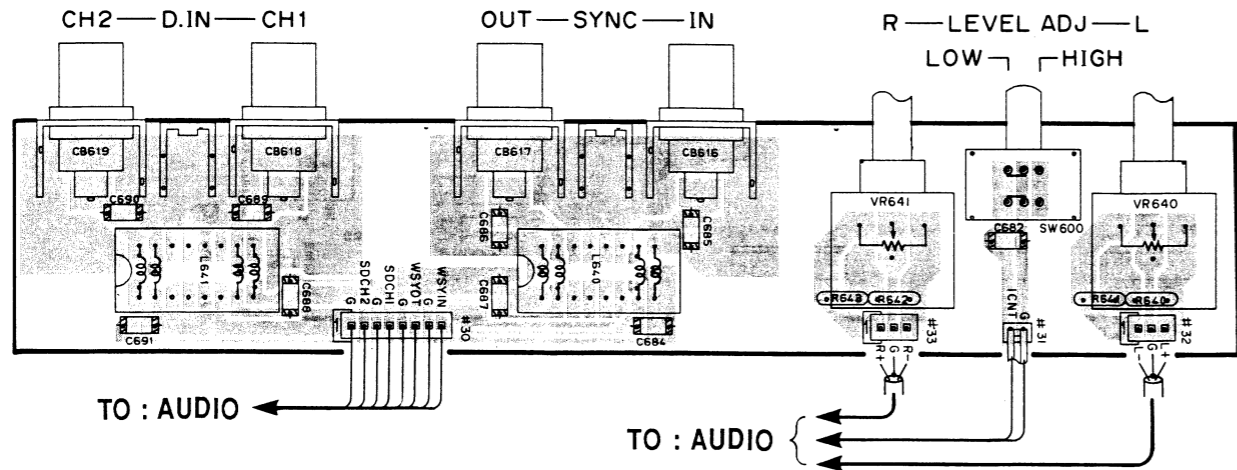
YPDR601/RC601

■ YPDR601 PRINTED CIRCUIT BOARD (Parts side)

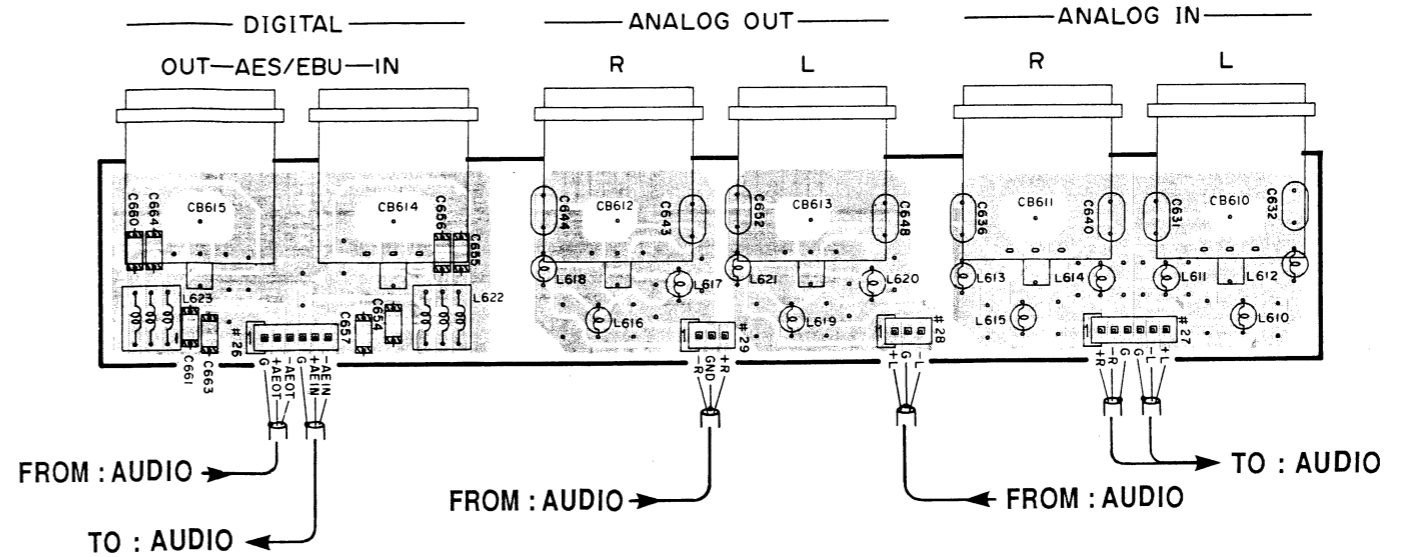
PS C. B (1)



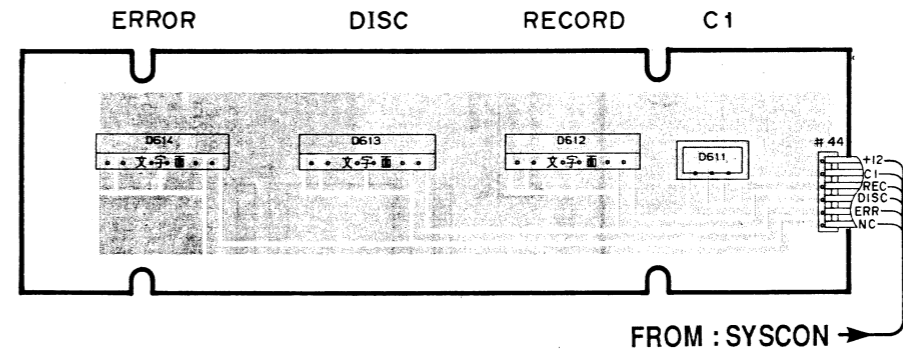
PS C. B (2)



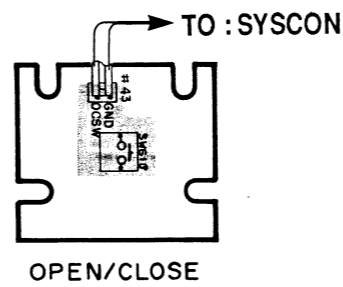
PS C. B (3)



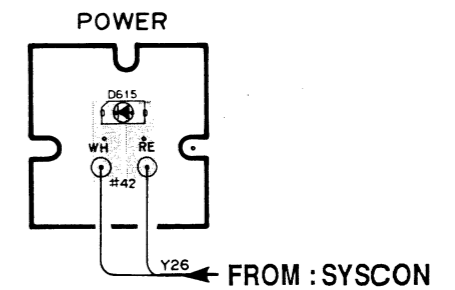
PS C. B (4)



PS C. B (5)



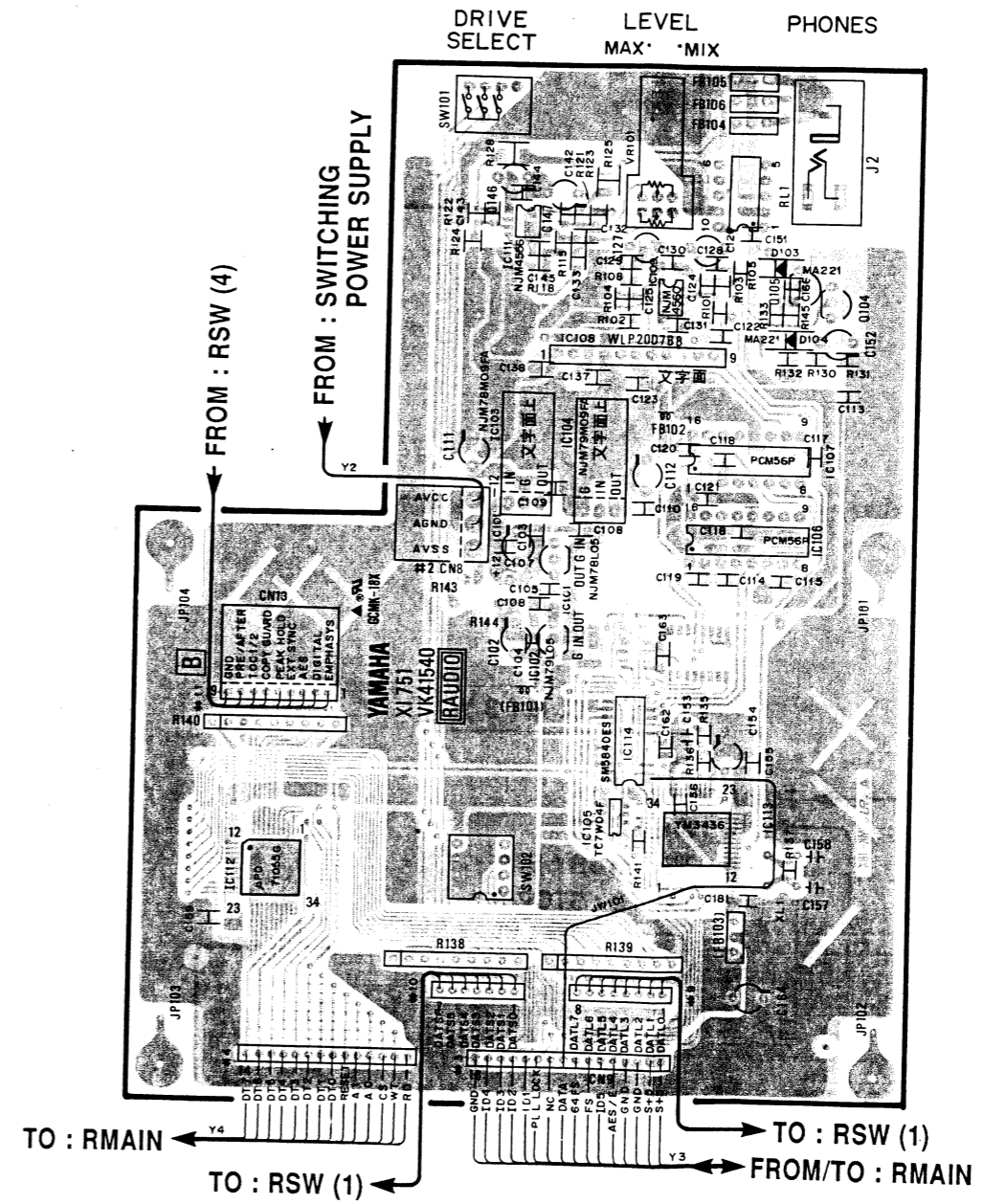
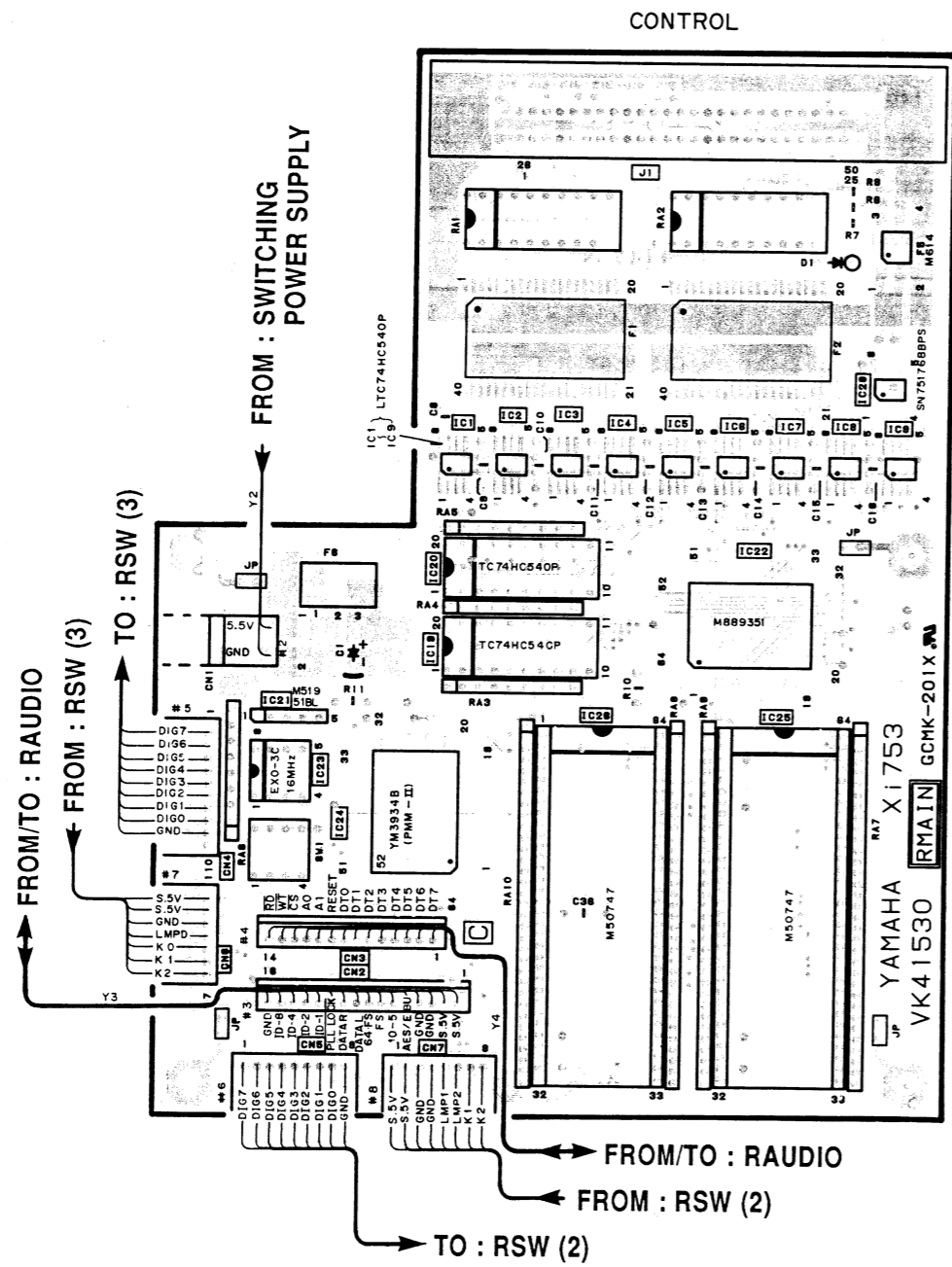
PS C. B (6)



■ RC601 PRINTED CIRCUIT BOARD (Parts side)

RMAIN C. B

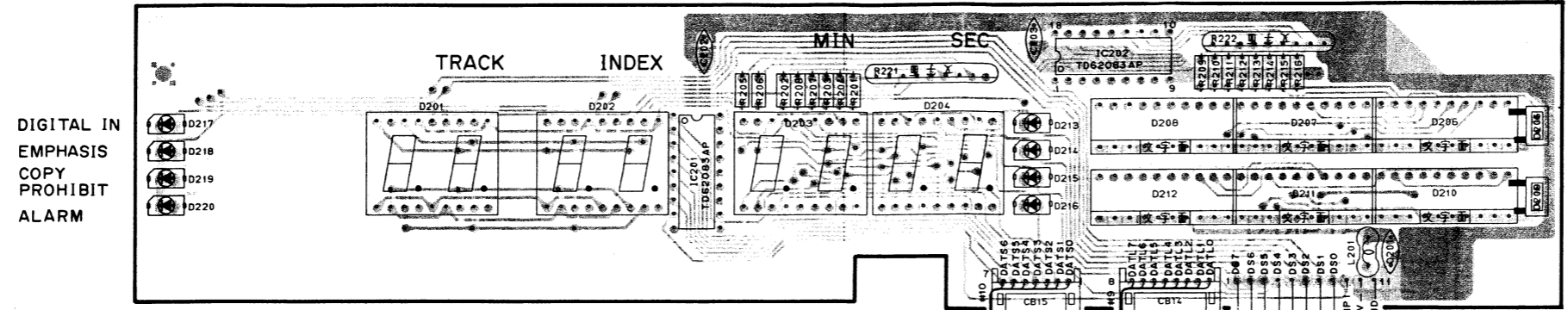
RAUDIO C. B



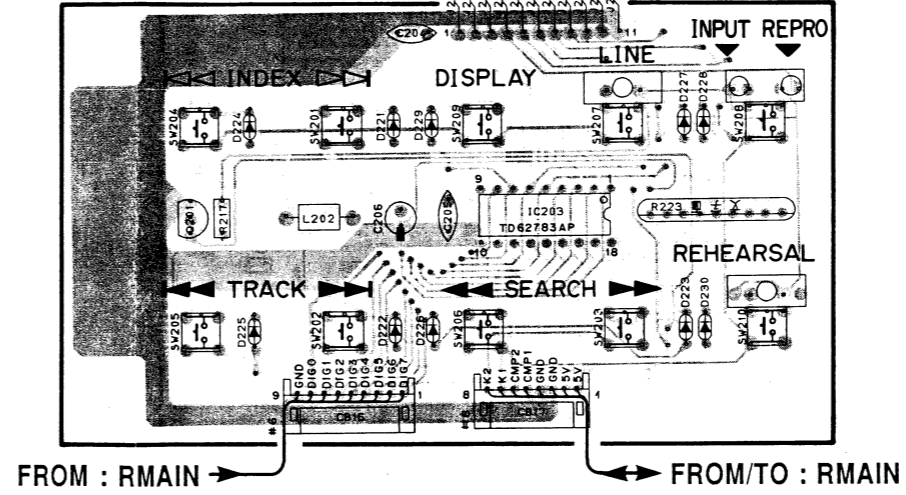
■ RC601 PRINTED CIRCUIT BOARD (Parts side)

RSW C. B (1)

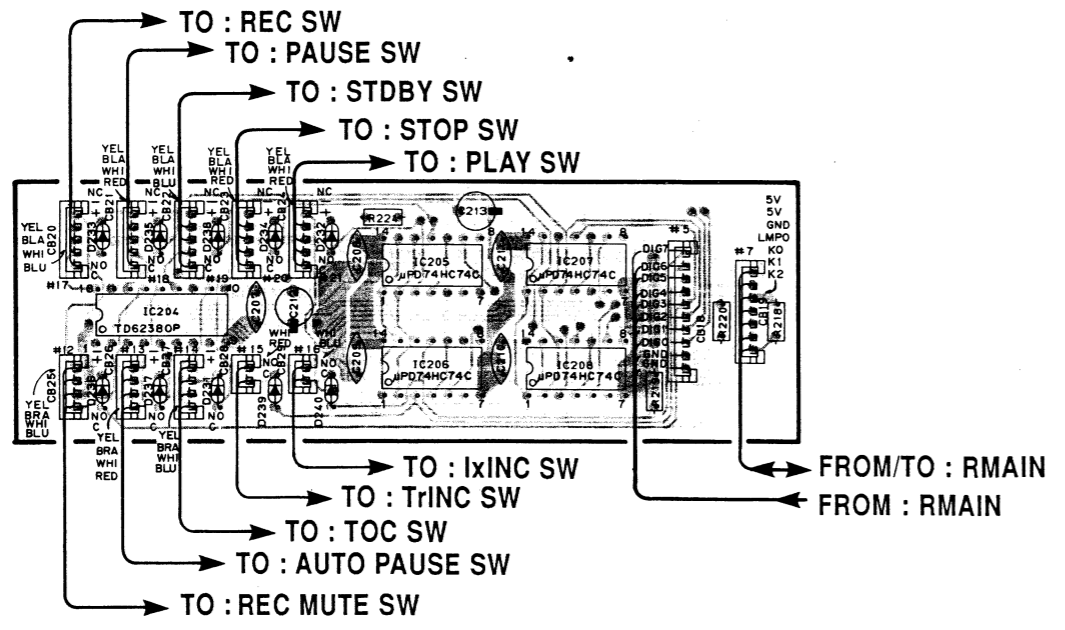
D213	A-TIME	L	∞							OVER	
D214	P-TIME	L									
D215	REMAIN	-dB	60	40	30	20	10	6	4	2	0
D216	TOC	R									



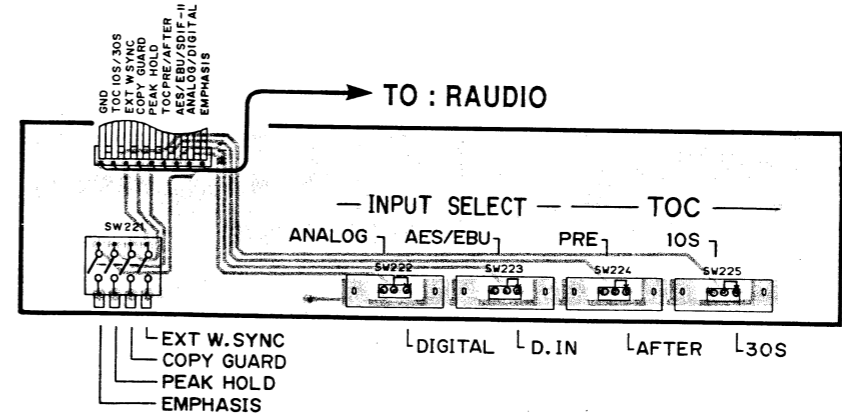
RSW C. B (2)



RSW C. B (3)

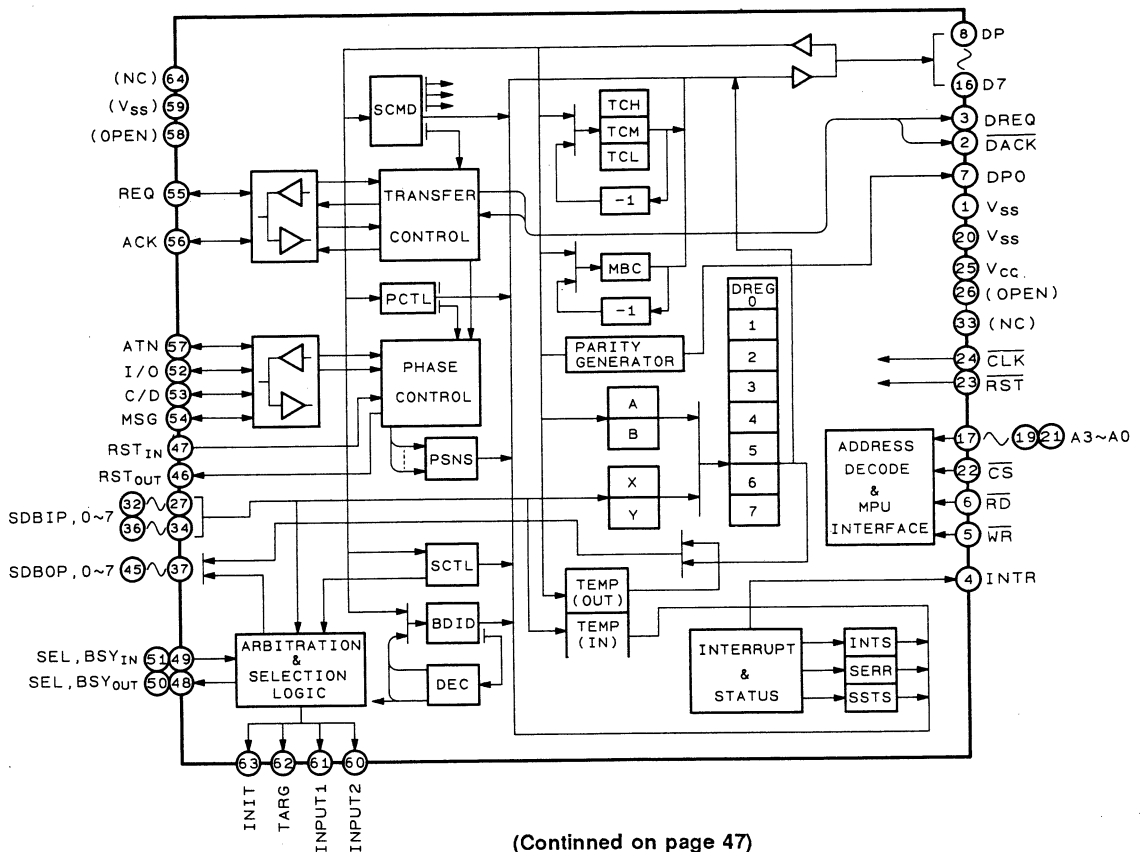
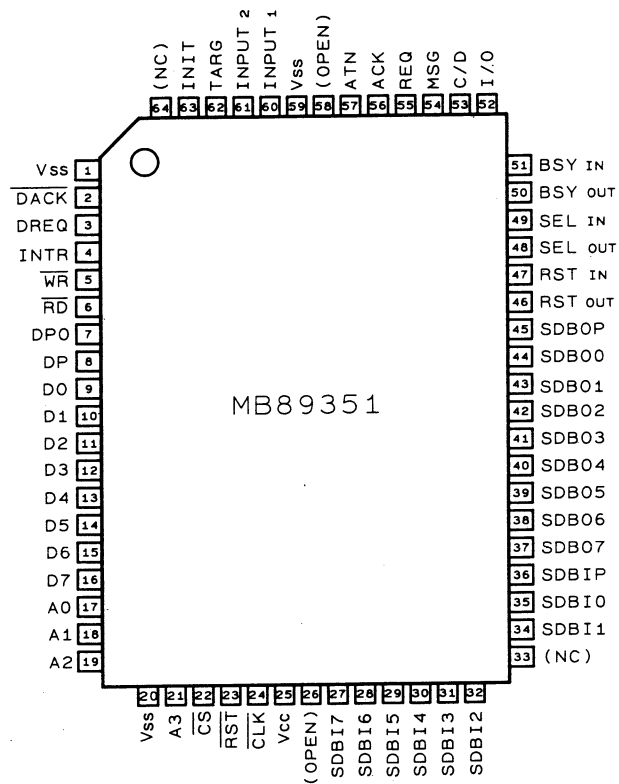


RSW C. B (4)



■ IC DATA

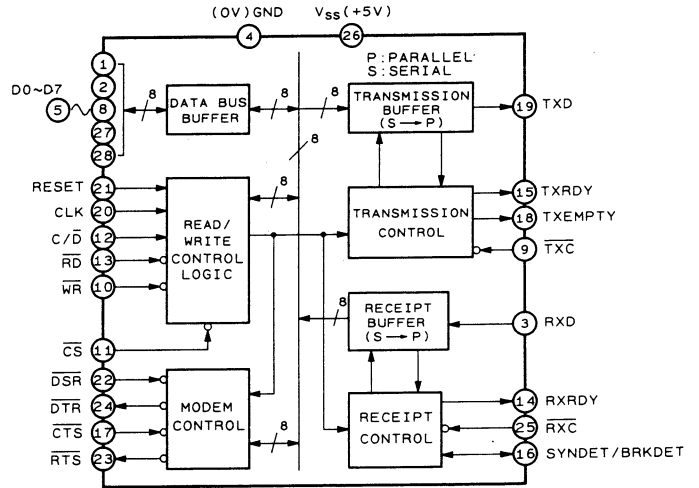
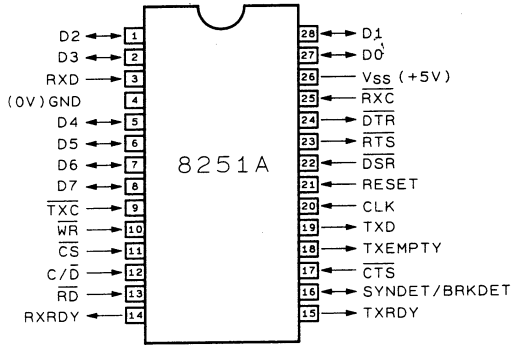
IC22, 1024 : MB89351-PF-G-BND
SCSI Controller



(Continued on page 47)

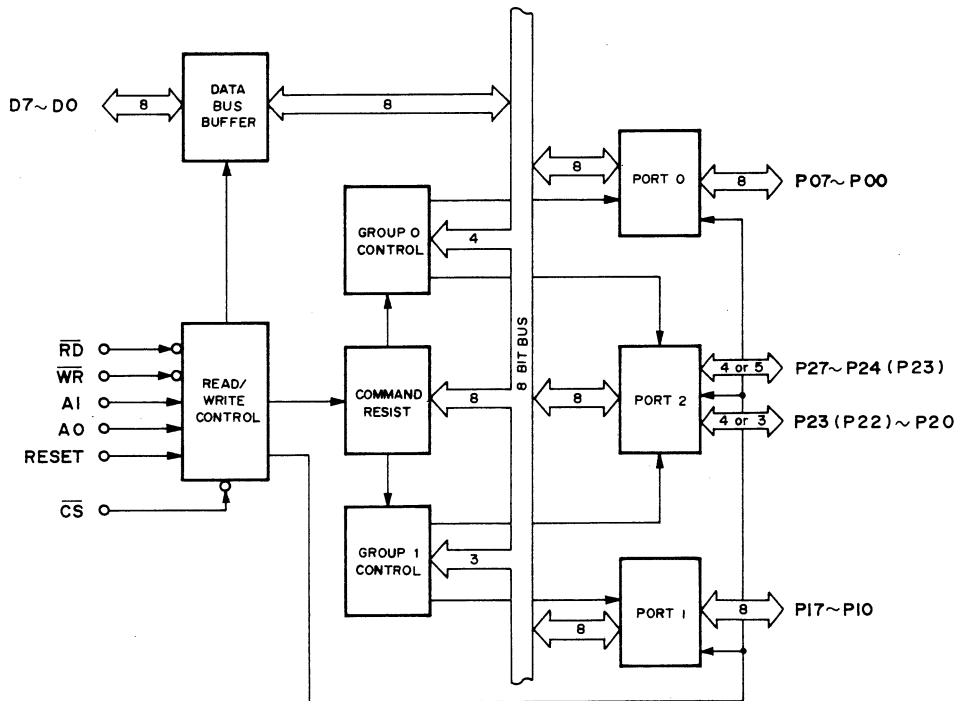
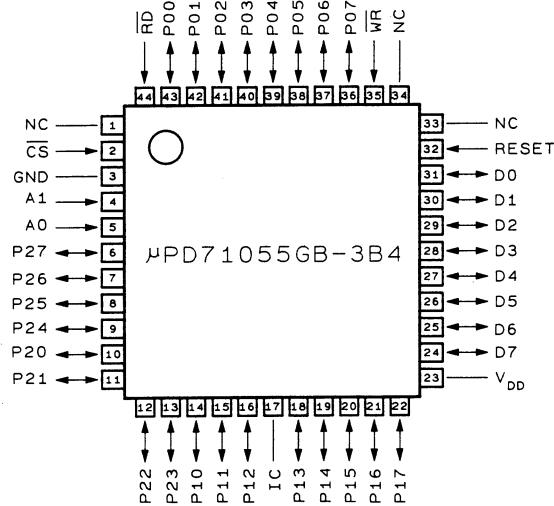
Pin No.	Pin Name	I/O	Function
62	RST	I	Asynchronous reset input to clear internal circuit
63	CLK	I	Clock input
61	CS	I	Select enable signal for internal register
44	RD	I	Strobe input to read out internal register
43	WR	I	Strobe input to write internal register
60, 57-55	A5, A2~A0	I	Address input to select internal register
54~46	D7~D0, DP	I/O	Bidirectional data bus to be used for reading/writing internal register
42	INTR	O	Interrupt request signal to inform end of internal operation, DREG access request and error detect.
1~6, 8-10	SDBI7~SDBI0 SDBIP	I	Input terminal of SCSI bus
11~19	SDBO7~SDBO0 SDBOP	O	Output terminal of SCSI bus
40	DACK	I	Response signal for DREQ signal requesting transfer with memory in DMA mode.
20	RESTO	O	Output signal for resetting to another device and input signal for resetting from another device.
21	RESTI	I	
41	DREQ	O	Data transfer request signal to execute data transfer with memory in DMA mode.
45	DPO	O	Odd No. parity of D7 - D0 is output.
48	SELO	O	Signal output by initiator and target and input signal to detect them.
49	SELI	I	
24	BSYO	O	Signal to show use conditions of SCSI bus
25	BSYI	I	
26	I/O	I/O	Indicates direction of data transfer.
27	C/D	I/O	Enters "H" at command phase, status phase and message phase.
28	MSG	I/O	Enters "H" only at message phase.
29	REQ	I/O	Informs from target to initiator of data request and data ready.
30	ACK	I/O	Response signal for REQ signal requesting transfer from target.
31	ATN	I/O	Signal to indicate attention condition.
36, 35	INIT, TARG	O	Signal to indicate coupling condition
33	INPUT1	O	Almost the same as INIT and TARG signals, corresponding to INPUT1 and INPUT2 respectively.
34	INPUT2		
64	VCC	I	+5V power supply terminal
59, 39, 32	VSS	I	Zero ground (0V)
58, 38, 37, 7	NC	—	NC terminal
26, 58	OPEN	—	Open terminal

IC1061 : μ PD71051GB-3B4
 Universal Synchronous Asynchronous Receiver Transmitter



Pin No.	Pin Name	I/O	Function																																			
20	CLK	I	Being a main clock, it requires a frequency more than 4.5 times as high as Rx C and Tx C (more than 30 times for X1 mode).																																			
21	RESET	I	Requires a pulse width for 6 cycles of master reset and system clock.																																			
11	\overline{CS}	I	<table border="1"> <thead> <tr> <th></th> <th>Data Write</th> <th>Data Read</th> <th>Command Write</th> <th>Status Read</th> <th colspan="2">High Impedance</th> </tr> </thead> <tbody> <tr> <td>\overline{CS}</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>H</td> </tr> <tr> <td>$\overline{C/D}$</td> <td>L</td> <td>L</td> <td>H</td> <td>H</td> <td>x</td> <td>x</td> </tr> <tr> <td>\overline{WR}</td> <td>L</td> <td>H</td> <td>L</td> <td>H</td> <td>H</td> <td>x</td> </tr> <tr> <td>\overline{RD}</td> <td>H</td> <td>L</td> <td>H</td> <td>L</td> <td>H</td> <td>x</td> </tr> </tbody> </table> <p>$\overline{WR}=\overline{RD}$"L" : prohibit</p>		Data Write	Data Read	Command Write	Status Read	High Impedance		\overline{CS}	L	L	L	L	L	H	$\overline{C/D}$	L	L	H	H	x	x	\overline{WR}	L	H	L	H	H	x	\overline{RD}	H	L	H	L	H	x
	Data Write	Data Read		Command Write	Status Read	High Impedance																																
\overline{CS}	L	L		L	L	L	H																															
$\overline{C/D}$	L	L		H	H	x	x																															
\overline{WR}	L	H	L	H	H	x																																
\overline{RD}	H	L	H	L	H	x																																
12	$\overline{C/D}$	I																																				
10	\overline{WR}	I																																				
13	\overline{RD}	I																																				
24, 23	$\overline{DTR}, \overline{RTS}$	O	Input/output signal corresponding to RS-232C signal.																																			
22	\overline{DSR}	I	Only I/O signal (freely usable) when not used.																																			
17	\overline{CTS}	I	Signal transmission circuit is disabled when at "H".																																			
19	T x D	O	Serial output																																			
15	T x RDY	O	Indicates ready state for writing next data (enters "L" when data is written). Masked at Tx disable and prevented from entering "H".																																			
18	T x EMPTY	O	Indicates that all data have been sent out (enters "L" when data is written).																																			
9	$\overline{T x C}$	I	Signal transmission clock																																			
3	R x D	I	Serial input																																			
14	R x RDY	O	Indicates that every bit of data has been received and can be read out (enters "L" when data is read out).																																			
25	$\overline{R x C}$	I	Signal receiving clock																																			
16	SYNDET (Synchronous mode)	I/O	Enters "H" when Sync character specified by internal SYNC(O) is detected and "L" when status is read out. Synchronous detect mode is cancelled at more than 1 cycle input of external SYNC(I) \overline{RxC} .																																			
	BRKDET (Asynchronous mode)	O	Enters "H" when break status is detected and 1 word space is inputted, and "L" at mark input or RESET. (Enters "H" at 2 words space input for x1 mode.)																																			

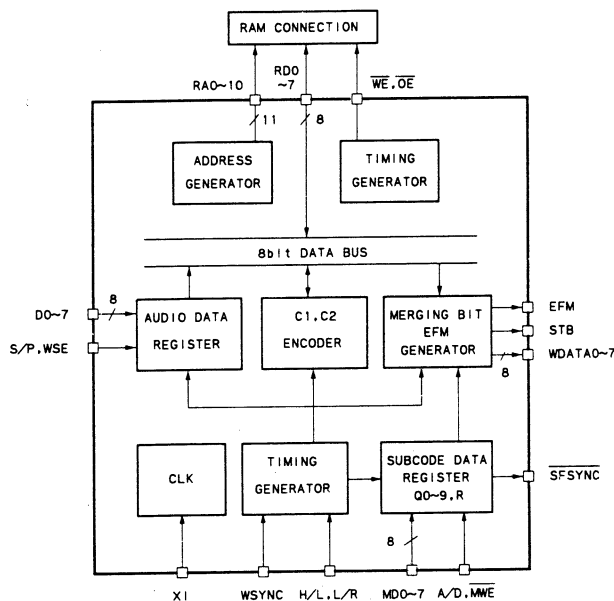
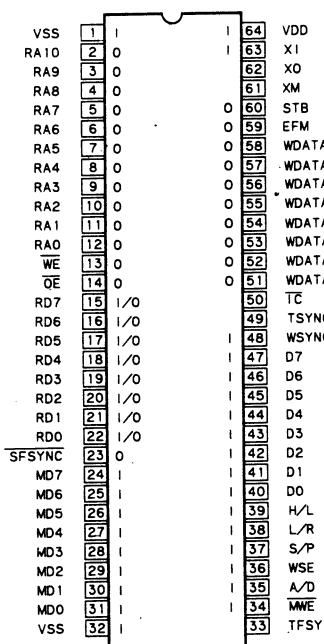
IC112 : μ PD71055GB-3B6
 IC1033 : μ PD71055GB-3B4
 Parallel Interface Unit



CS	RD	WR	A1	A0	Action	CPU Action
1	0	1	0	0	PORT0 → DATA • PASS	INPUT
0	0	1	0	1	PORT1 → DATA • PASS	INPUT
0	0	1	1	0	PORT2 → DATA • PASS	INPUT
0	0	1	1	1	PROHIBITION	
0	0	0	X	X		
0	1	0	0	0	DATA • PASS → PORT0	OUTPUT
0	1	0	0	1	DATA • PASS → PORT1	OUTPUT
0	1	0	1	0	DATA • PASS → PORT2	OUTPUT
0	1	0	1	1	DATA • PASS → COMMAND RESISTOR	OUTPUT
0	1	1	X	X	DATA • PASS → HIGH • IMPEDANCE	
1	X	X	X	X		

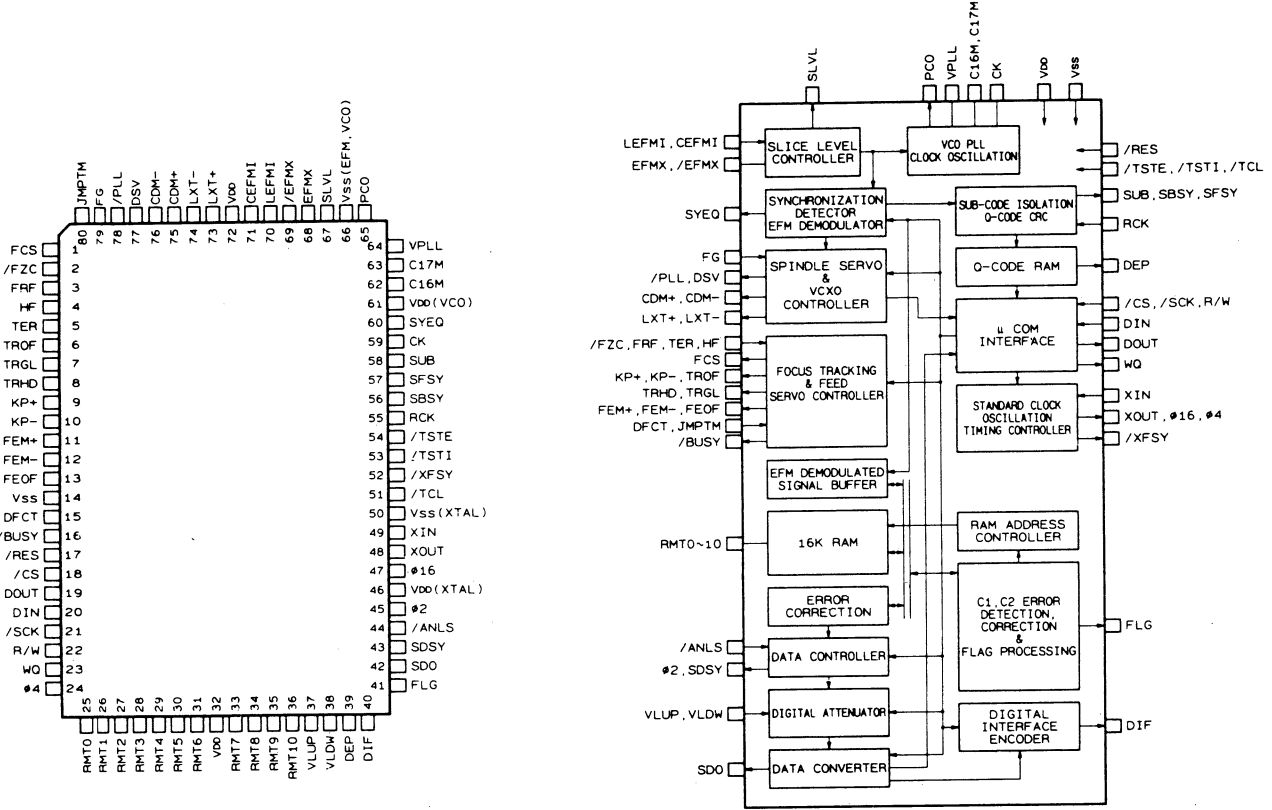
Note: X = 0 or 1

IC1040 : YM6049
Encoder



Pin No.	Pin Name	I/O	Function
64	VDD	I	+5V power supply terminal
32	VSS	I	Ground terminal
63	Xi	I	For connection of crystal oscillator
62	XO	O	Clock can be inputted externally through Xi.
61	XM	O	Master clock output
2~12	RA10~0	O	Address output terminal for external RAM
13	WE	O	Write enable output terminal for external RAM
14	OE	O	Out enable output terminal for external RAM
15~22	RD7~0	I/O	Data input/output terminal for external RAM
23	SFSYNC	O	Sub-code frame synchronous signal. Used when inputting sub-code data.
24~31	MD7~0	I	Sub-code data input terminal
34	MWE	I	Sub-code data write enable input terminal
35	A/D	I	Control input terminal of internal register for sub-code data. Register address is specified at A/D=1 and input data is specified at A/D=0.
36	WSE	I	Synchronous signal of input data is specified at serial input of audio data. Data is inputted while synchronized with WSYNC signal at WSE=1 and with SYNC pattern in input data at WSE=0.
37	S/P	I	Specifies whether to input audio data serially or in parallel. Serial input is possible at S/P=1 and parallel input at S/P=0.
38	L/R	O	Synchronous signal output terminal used when inputting audio data in parallel. L channel data is inputted at L/R=1 and R channel data at L/R=0.
39	H/L	O	Inputs 16 bits data for each channel of synchronous signal output terminal used when inputting audio data in parallel by dividing them into upper and lower parts. Upper 8 bits are inputted at H/L=1 and lower 8 bits at H/L=0.
40~47	D7~0	I	Audio data input terminal. Only D0 and D1 are used for serial input. R channel data is inputted in D0 and L channel data in D1.
48	WSYNC	I	External synchronous signal input terminal used when inputting audio data.
50	TC	I	Input terminal for initializing internal circuit.
51~58	WDATA7~0	O	Output terminal for converting bit length/blank length of EFM signal
60	STB	O	Strobe signal output while synchronized with WDATA
59	EFM	O	Terminal to output EFM signal directly.
49	TSYNC	I	Input pin for testing. Usually fixed to "1" or "0".
33	TFSY	I	Input pin for testing. Usually fixed to "1" or "0".

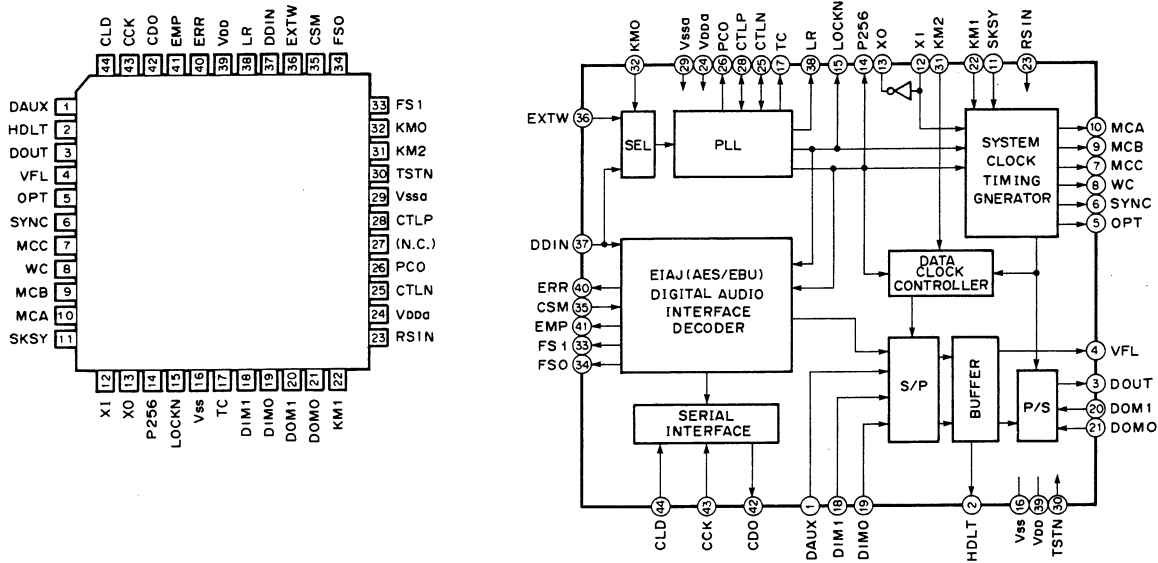
IC324 : YM7402
Signal Processor & Controller for Compact Disc Player



Pin No.	Pin Name	I/O	Function
1	FCS	O	Focus search signal output
2	FZC	I	Focus zero cross signal input
3	FRF	I	Focus reflection signal input
4	HF	I	HF signal input
5	TER	I	Tracking error signal input
6	TROF	O	Tracking servo OFF signal output
7	TRGL	O	TRGL signal output
8	TRHD	O	Tracking hold signal output
9	KP+	O	Outward kick pulse output
10	KP-	O	Inward kick pulse output
11	FEM+	O	Outward feed pulse output
12	FEM-	O	Inward feed pulse output
13	FE OF	O	Feed servo OFF signal output
14	VSS		GND
15	DFCT	I	For setting track count synchronous mode
16	BUSY	O	Sequence control output (H : End of track count)
17	RES	I	System reset input
18	CS	I	Chip select input from μ-COM
19	D OUT	O	Serial data output to μ-COM
20	D IN	I	Serial data input from μ-COM
21	SCK	I	Clock input for input/output of serial data with μ-COM
22	R/W	I	Control signal input for data input/output with μ-COM
23	WQ	O	Request signal output for data output to μ-COM
24	Ø4	O	System clock output (4.2336MHz)

Pin No.	Pin Name	I/O	Function	
25	RMT0		For testing internal RAM	
26	RMT1			
27	RMT2			
28	RMT3			
29	RMT4			
30	RMT5			
31	RMT6			
32	VDD		+5V	
33	RMT7		For testing internal RAM	
34	RMT8			
35	RMT9			
36	RMT10			
37	VL UP	I	Volume up input Volume down input } Digital attenuator	
38	VL DW	I		
39	DEP	O	Deemphasis control signal output	Audio data output
40	DIF	O	Data output for digital interface	
41	FLG	O	Flag output to correct error in SDO output data	
42	SDO	O	Serial data output	
43	SDSY	O	Synchronous signal output (44.1kHz) of SDO output data	
44	ANLS	I	Analog sound serial data input	
45	Ø2	O	System lock output (2.1168MHz)	
46	VDD		XTAL system +5V	
47	Ø16	O	System clock output	
48	X OUT	O	For connecting quartz oscillator (16.9344MHz)	
49	X IN	I		
50	VSS		XTAL system GND	
51	TCL	I	Test signal input	
52	XFSY	O	Frame synchronous signal output (7.35kHz)	
53	TSTI		Test mode input Test mode control signal input } For testing	
54	TSTE			
55	RCK	I	Clock input for reading sub-code Sub-code block synchronization output Sub-code frame signal output Sub-code serial output (P~W) } Sub-code output	
56	SBSY	O		
57	SFSY	O		
58	SUB	O		
59	CK	O	VCO system clock output (4.3218MHz)	
60	SYEQ	O	Synchronous coincidence monitor (H : EFM pattern and internal counter are synchronized.)	
61	VDD		VCO system +5V	
62	C16M	I/O	For VCO control	
63	C17M	I/O	For VCO adjusted voltage	
64	VPLL		For VCO power supply	
65	PCO	O	Clock reproduction system phase error output	
66	VSS		EFM, VCO system GND	
67	SLVL	O	Slice level output	
68	EFMX	O	Signal output after limiting amplitude of EFM signal input (normal phase)	
69	EFMX	O	Signal output after limiting amplitude of FFM signal output (reverse phase)	
70	LEFMI	I	LD mode EFM signal input	
71	CEFMI	I	CD mode EFM signal input	
72	VDD		+5V	
73	LXT+	O	VCXO frequency up signal output (only in LD mode)	
74	LXT-	O	VCXO frequency down signal output (only in LD mode)	
75	CDM+	O	Disc motor acceleration signal output (only in CD mode)	
76	CDM-	O	Disc motor deceleration signal output (only in CD mode)	
77	DSV	O	For system expansion	
78	PLL	O	PLL operation monitor (L : Spindle control is PLL operated.)	
79	FG	I	FG signal input	
80	JMPTM	I	Trigger input to start sequence control	

IC113, 799 : YM3436BG (XG948C0)
 Digital Format Interface Receiver



Pin No.	Pin Name	I/O	Function	Pin No.	Pin Name	I/O	Function
1	DAUX	I	Auxiliary input for audio data	26	PCO	O	PLL phase comparison output
2	HDLT	O	Asynchronous buffer operation flag	27	(NC)		
3	DOUT	O	Audio data output	28	CTLP	I	VCO control input P
4	VFL	O	Parity flag output	29	Vssa		VCO section power (GND)
5	OPT	O	Fs x 1 Synchronous output signal for DAC	30	TSTN	I	Test terminal. Open for normal use
6	SYNC	O	Fs x 1 Synchronous output signal for DSP	31	KM2	I	Clock mode switching input 2
7	MCC	O	Fs x 64Bit clock output	32	KM0	I	Clock mode switching input 0
8	WC	O	Fs x 1Word clock output	33	FS1	O	Channel status sampling frequency display output 1
9	MCB	O	Fs x 128Bit clock output	34	FS0	O	Channel status sampling frequency display output 0
10	MCA	O	Fs x 256Bit clock output	35	CSM	I	Channel status output method selection
11	SKSY	I	Clock synchronization control input	36	EXTW	I	External synchronous auxiliary input word clock
12	XI	I	Crystal oscillator connection or external clock input	37	DDIN	I	EIAJ (AES/EBU) data input
13	XO	O	Crystal oscillator connection	38	LR	O	PLL word clock output
14	P256	O	VCO oscillating clock connection	39	Vdd		Logic section power (+5V)
15	LOCK	O	PLL lock flag	40	ERR	O	Data error flag output
16	Vss		Logic section power (GND)	41	EMP	O	Channel status emphasis control code output
17	TC	O	PLL time constant switching output	42	CDO	O	3-wire type microcomputer interface data output
18	DIM1	I	Data input mode selection	43	CCK	I	3-wire type microcomputer interface clock input
19	DIM0	I	Data input mode selection	44	CLD	I	3-wire type microcomputer interface load input
20	DOM1	I	Data output mode selection				
21	DOM0	I	Data output mode selection				
22	KM1	I	Clock mode switching input 1				
23	RSTN	I	System reset input				
24	Vdda		VCO section power (+5V)				
25	CTLN	I	VCO control input N				

IC795, 796 : YM3437 (XG949A0)
Digital Format Interface Transmitter

Pin No.	Pin Name	I/O	Function	Pin No.	Pin Name	I/O	Function
1	VSS		Ground	9	MUTE	I	Mute
2	MCLK	I	Master clock input	10	VFL	I	Validity flag
3	DM0	I	DIN/BCLK/WCLK format select	11	CCL	I	C, U bit clock input/C bit data input
4	DM1	I	DM1, DM0 = 0,0 DSP, LDSP (64bit, LSB first)	12	CIN	I	C, U bit data input/U bit data input
			DM1, DM0 = 0,1 stereo DSP (64bit, MSB first)	13	CLD	I	End of C, U bit input/16, 20bit/24bit select
			DM1, DM0 = 1,0 DSP2 (128bit, MSB first)	14	CNTR	I	32bit counter reset/Top of block
5	RES	I	System reset	15	CSM	I	Channel status input mode select CSM = 0 Asynchronous mode, CSM = 1 Synchronous mode,
6	WCIN	I	Word clock input				
7	DIN	I	Digital audio serial data input				
8	VDD		Power supply (+5V)	16	DOUT	O	Digital interface formatted data output

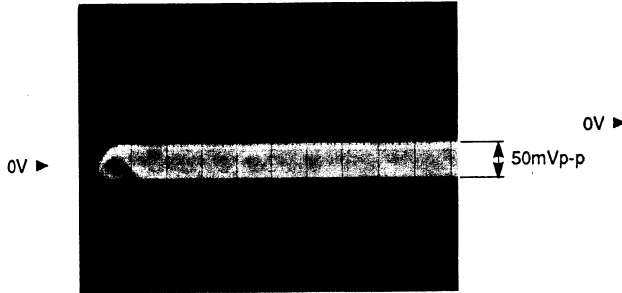
IC24 : YM3934 (XE798A0)
Peak Meter Module

Pin No.	Pin Name	I/O	Function	Pin No.	Pin Name	I/O	Function	
1	NC			33	NC			
2	NC			34	NC			
3	NC			35	NC			
4	DB11	O	Meter data output	36	DI00	I	Digital in data	
5	DB10	O		37	DI01	I		
6	DB9	O		38	DI02	I		
7	DB8	O		39	DI03	I		
8	DB7	O		40	DI04	I		
9	DB6	O		41	DI05	I		
10	NC			42	NC			
11	DB5	O		43	DI06	I		
12	DB4	O		44	DI07	I		
13	DB3	O		45	DI08	I		
14	DB2	O		46	DI09	I		
15	DB1	O		47	DI10	I		
16	DB0	O		48	DI11	I		
17	NC			49	NC			
18	NC			50	NC			
19	NC			51	NC			
20	NC		52	NC				
21	OVD	I	Overflow data	53	HT1	I	Falling and holding times are determined by these inputs.	
22	OMODE	I	Output mode control	54	HT0	I		
23	IMODE	I	Input mode control	55	FT1	I		
24	NC			56	FT0	I		
25	TST	I	Test pin	57	VSS		Ground	
26	VDD		Power supply	58	VDD		Power supply	
27	VSS		Ground	59	NC			
28	ICLK	I	System clock input	60	C3	O	Channel select	
29	SYNC	I	Synch. pulse	61	C2	O		
30	RST	I	Initial reset	62	C1	O		
31	DIEN	I	Digital input enable	63	C0	O		
32	NC			64	NC			

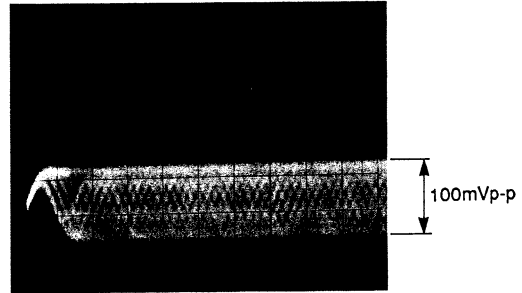
■ WAVEFORM OF TEST POINT (Test Disc TX911730, Track No. 2 1kHz 0dB)

< SERVO >

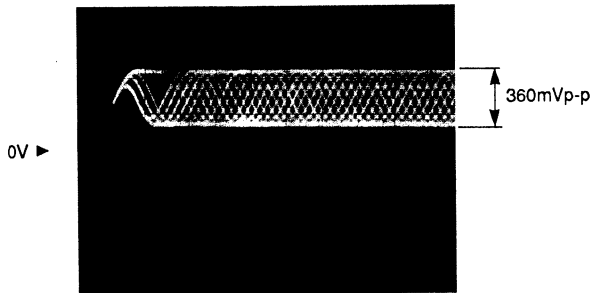
Point ① : F0S1 or F0S2
 V : 50 mV/div H : 1 μsec/div
 DC coupling 1:1 prove



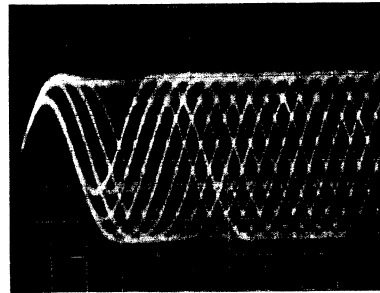
Point ② : TRS1 or TRS2 (TP322 or TP323)
 V : 50 mV/div H : 1 μsec/div
 DC coupling 1:1 prove



Point ③ : REFL (TP302)
 V : 200 mV/div H : 1 μsec/div
 DC coupling 1:1 prove

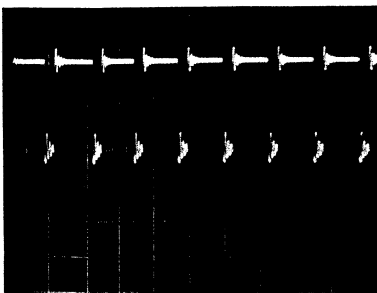


Point ④ : Eye pattern (Pin11 of IC516)
 V : 200 mV/div H : 0.5 msec/div
 AC coupling 1:1 prove

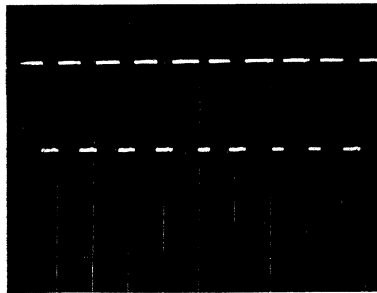


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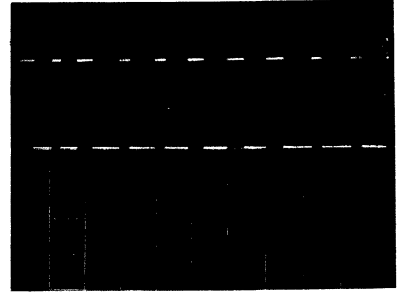
Point ⑤ : CK (Pin13 of IC252)
 V : 2 V/div H : 1 μsec/div
 DC coupling 1:1 prove



Point ⑥ : Z1, Z, Z0 (Pin3 to 5 of IC253)
 V : 2 V/div H : 20 nsec/div
 DC coupling 1:1 prove

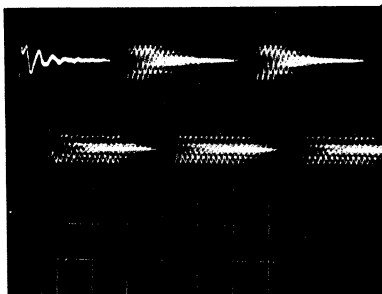


Point ⑦ (Pin6 of IC255)
 V : 2 V/div H : 10 nsec/div
 DC coupling 1:1 prove

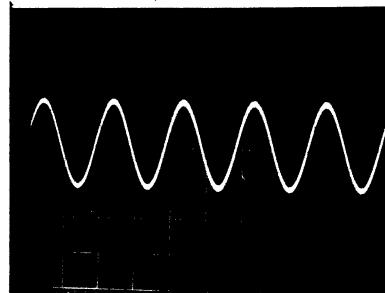


< AUDIO >

Point ⑧ : OUTR2- (Pin32 of IC711)
 V : 2 V/div H : 0.2 μsec/div
 DC coupling 1:1 prove

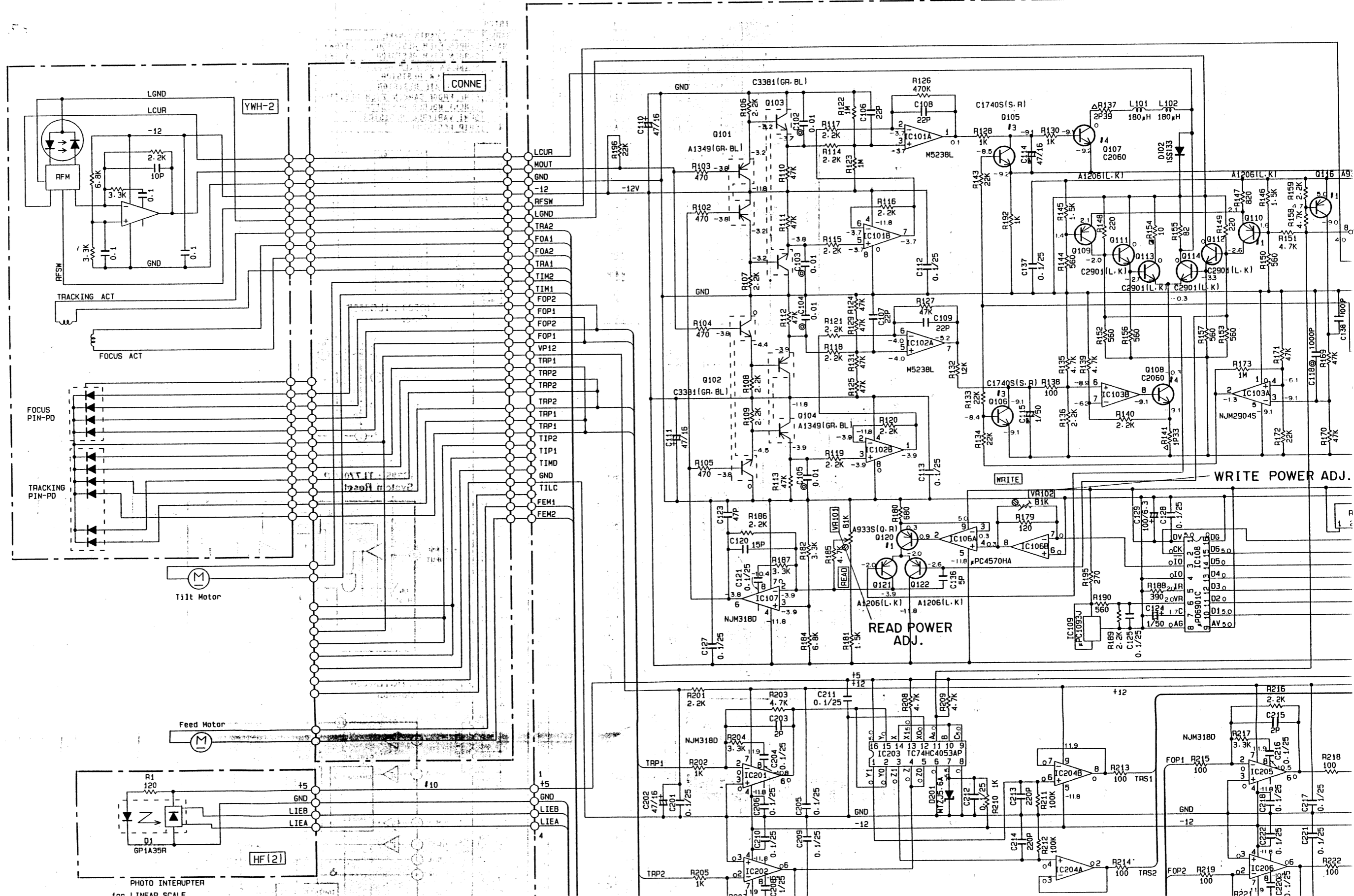


Point ⑨ (R709 side of C701)
 V : 1 V/div H : 0.5 msec/div
 AC coupling 1:1 prove

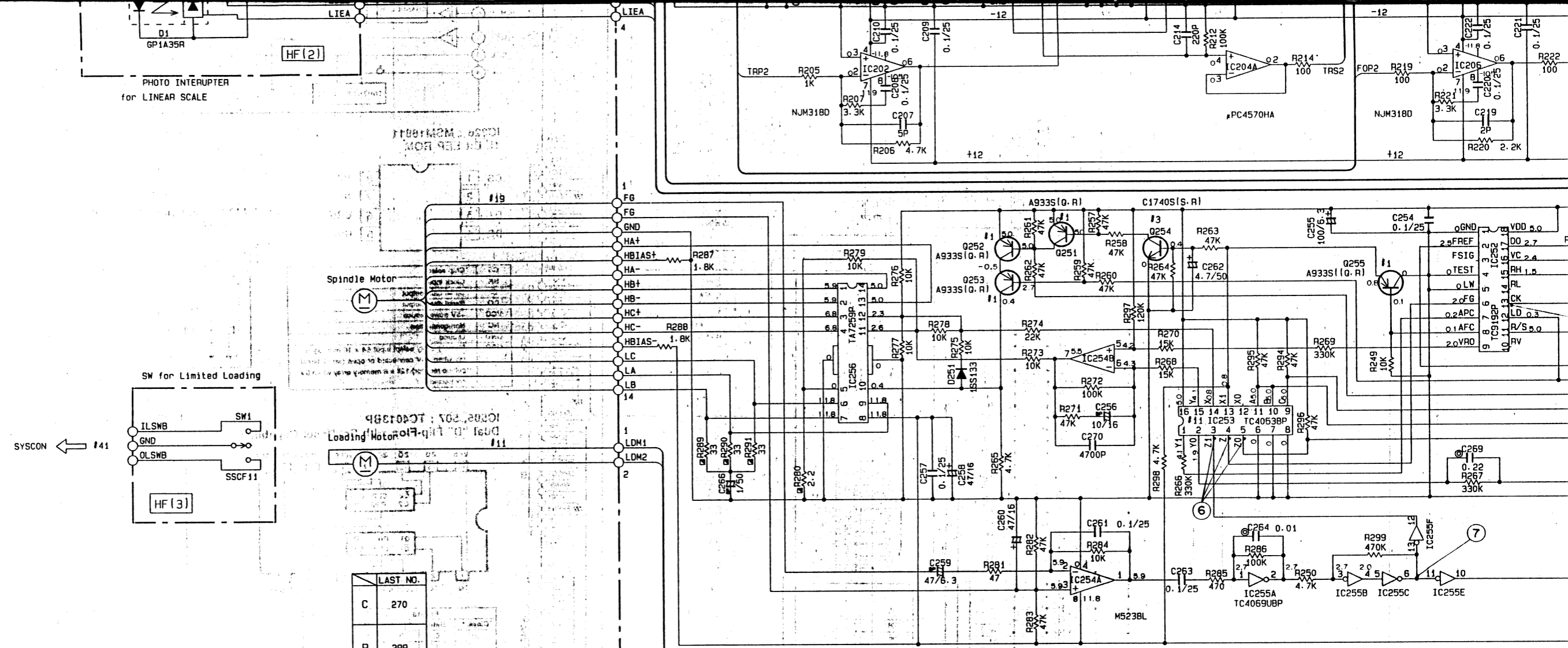


YPR601 (HF) SCHEMATIC DIAGRAM

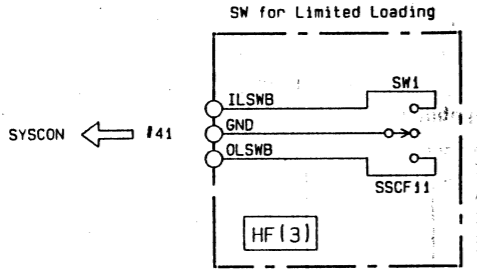
(5) to (7) : WAVEFORM OF TEST POINT (See page 55)



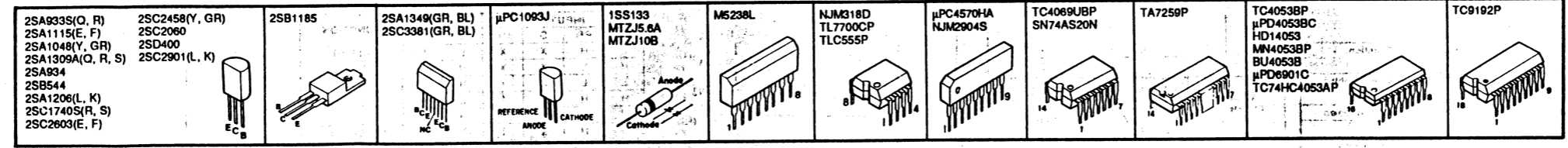
6
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LAST NO.	
C	270
R	299
Q	255
D	251
IC	256



PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.



REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
□	CARBON FILM RESISTOR (1/4W)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
▣	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊙	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

G

H

I

J

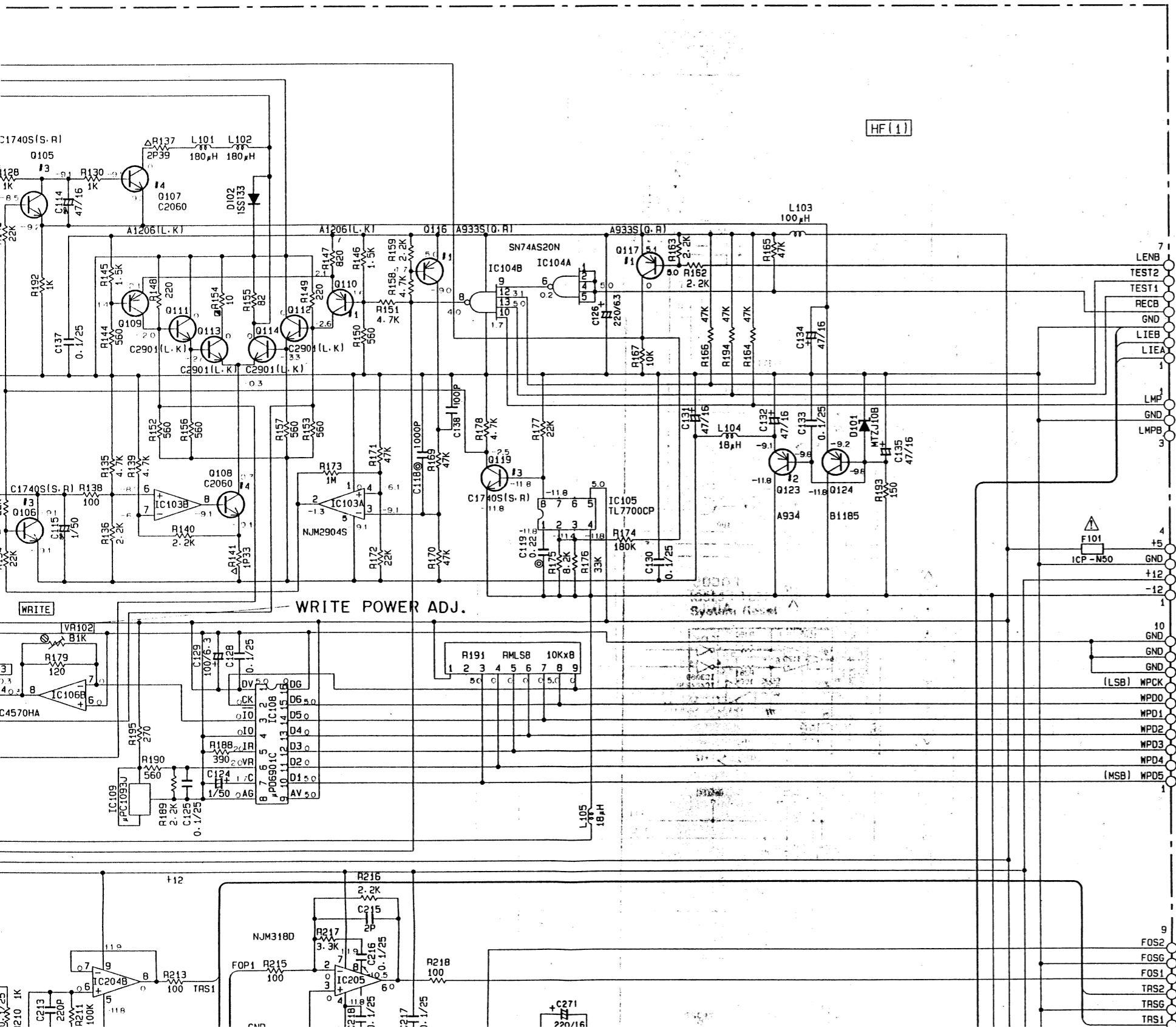
K

L

M

N

YPDR601/RC601



Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
#11	IC253	TC4053BP μPD4053BC HD14053 MN4053BP BU4053B

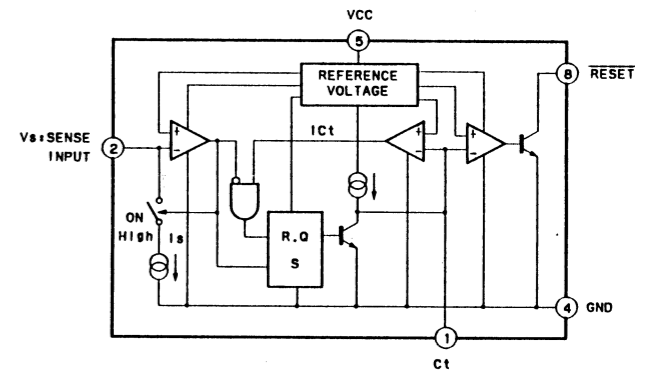
Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
#1	Q116, 117, 120, 251-253, 255	2SA933S(O.R) 2SA1115(E.F) 2SA104B(Y.GR) 2SA1309A(O.R.S)
#2	Q123	2SA934 2SB544
#3	Q105, 106, 119, 254	2SC1740S(R.S) 2SC2603(E.F) 2SC2458(Y.GR) 2SC3311A(O.R.S)
#4	Q107, 108	2SC2060 2SD400

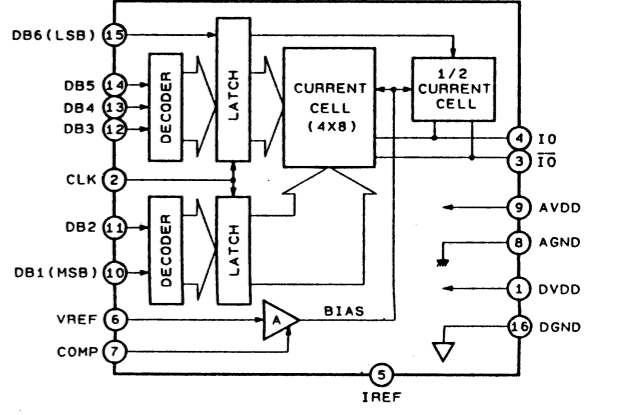
NOTICE

(J)..... Japanese model
 (U)..... U.S.A model
 (C)..... Canadian model
 (A)..... Australian model
 (G)..... European model
 (B)..... British model
 (R)..... General model
 (P)..... AP model

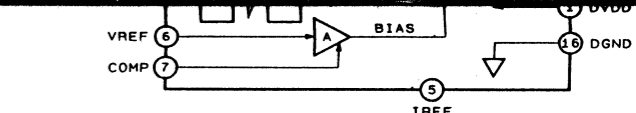
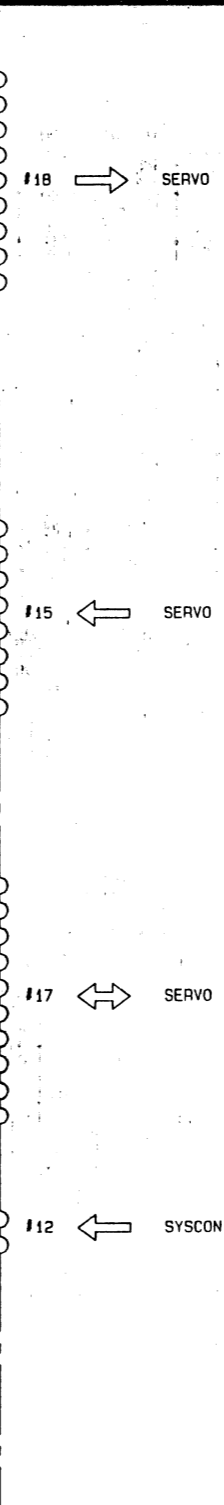
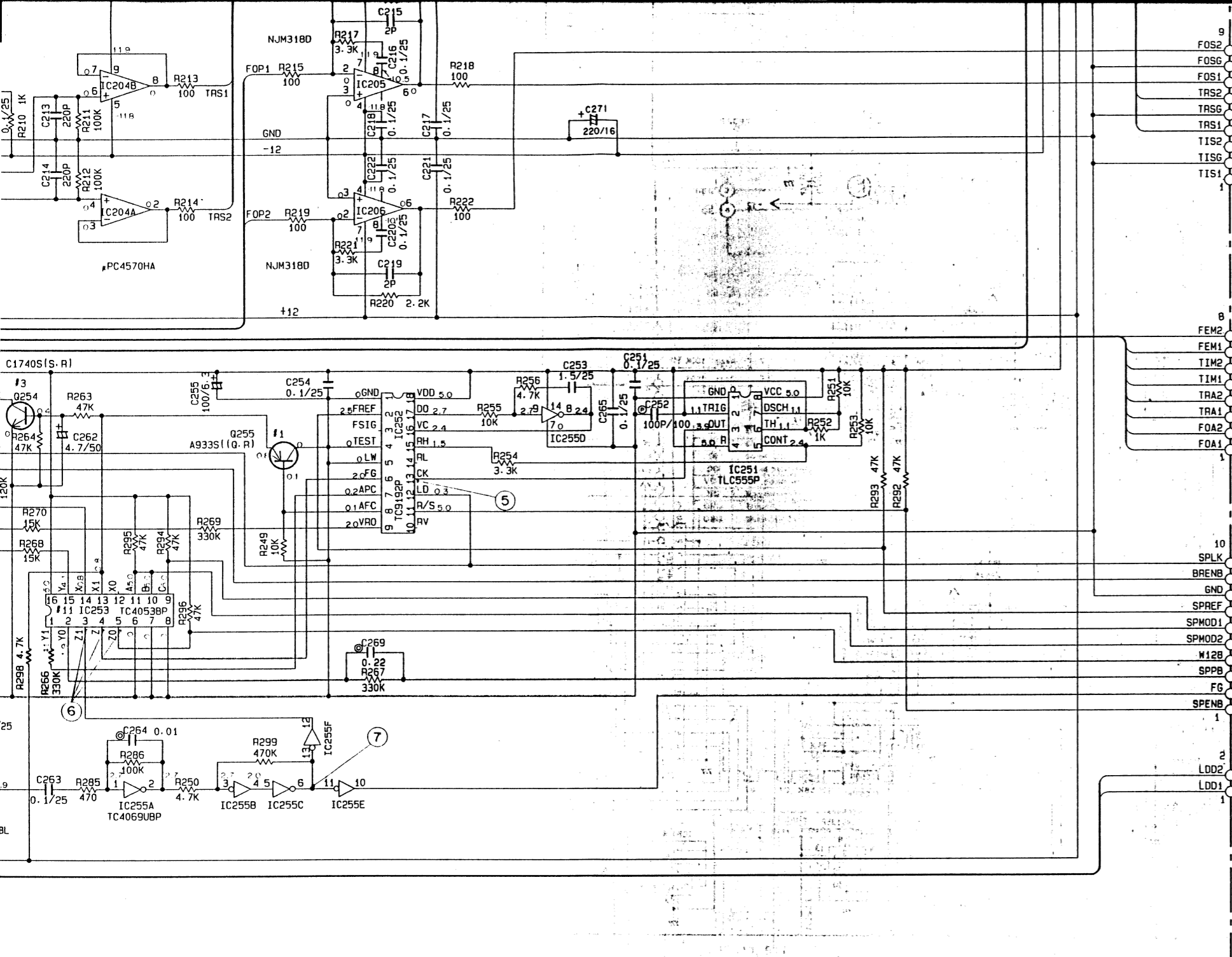
IC105 : TL7700CP System Reset



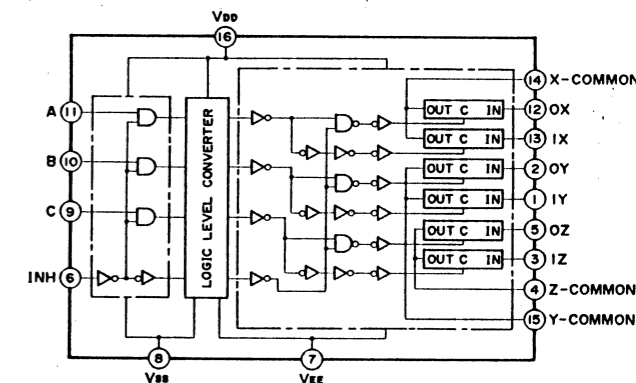
IC108 : μPD6901C 6 Bit D/A Converter for Video



IC203 : TC74HC4053AP IC253 : TC4053BP, μPD4053BC, HD14053, MN4053BP or BU4053B



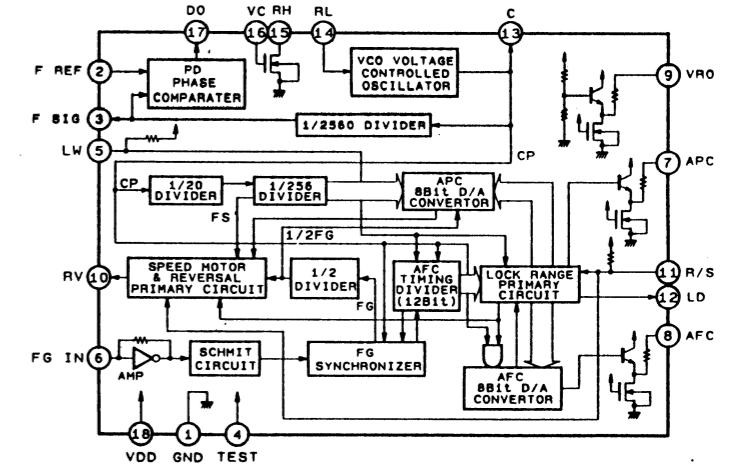
IC203 : TC74HC4053AP
 IC253 : TC4053BP, μ PD4053BC, HD14053, MN4053BP or BU4053B
 Triple-2 Channel Multiplexer/Demultiplexer



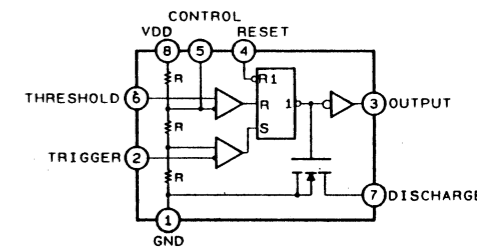
CONTROL INPUTS				"ON" CHANNEL
INHIBIT (Pin 6)	C (Pin 9)	B (Pin 10)	A (Pin 11)	OX (Pin 12), OY (Pin 2), OZ (Pin 5) 1X (Pin 13), 1Y (Pin 1), 1Z (Pin 3)
L	L	L	L	OX, OY, OZ
L	L	L	H	1X, OY, OZ
L	L	H	L	OX, 1Y, OZ
L	L	H	H	1X, 1Y, OZ
L	H	L	L	OX, OY, 1Z
L	H	L	H	1X, OY, 1Z
L	H	H	L	OX, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	*	*	*	NOTE

* Don't Care

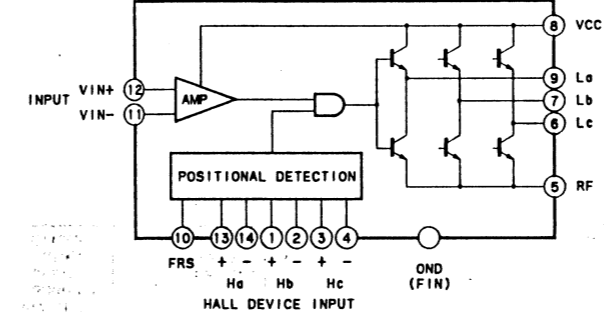
IC252 : TC9192P
 Motor Controller



IC251 : TLC555P
 Timer



IC256 : TA7259P



RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
□	CARBON FILM RESISTOR (1/4W)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
▨	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
○	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

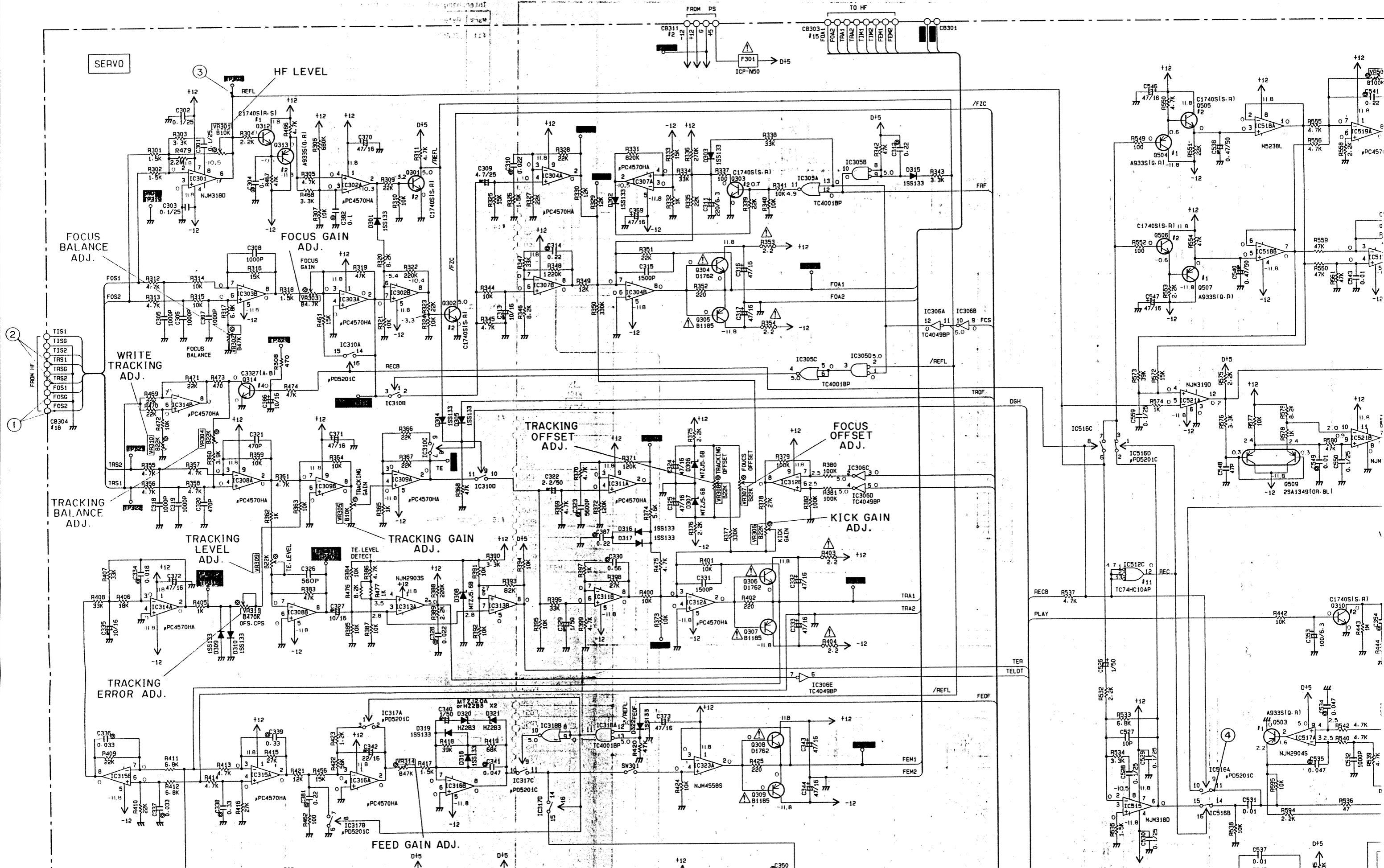
CAPACITOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊙	AXIAL LEAD CERAMIC CAPACITOR
⊖	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
⊕	MICA CAPACITOR
⊖	POLYPROPYLENE FILM CAPACITOR
⊙	SEMICONDUCTIVE CERAMIC CAPACITOR

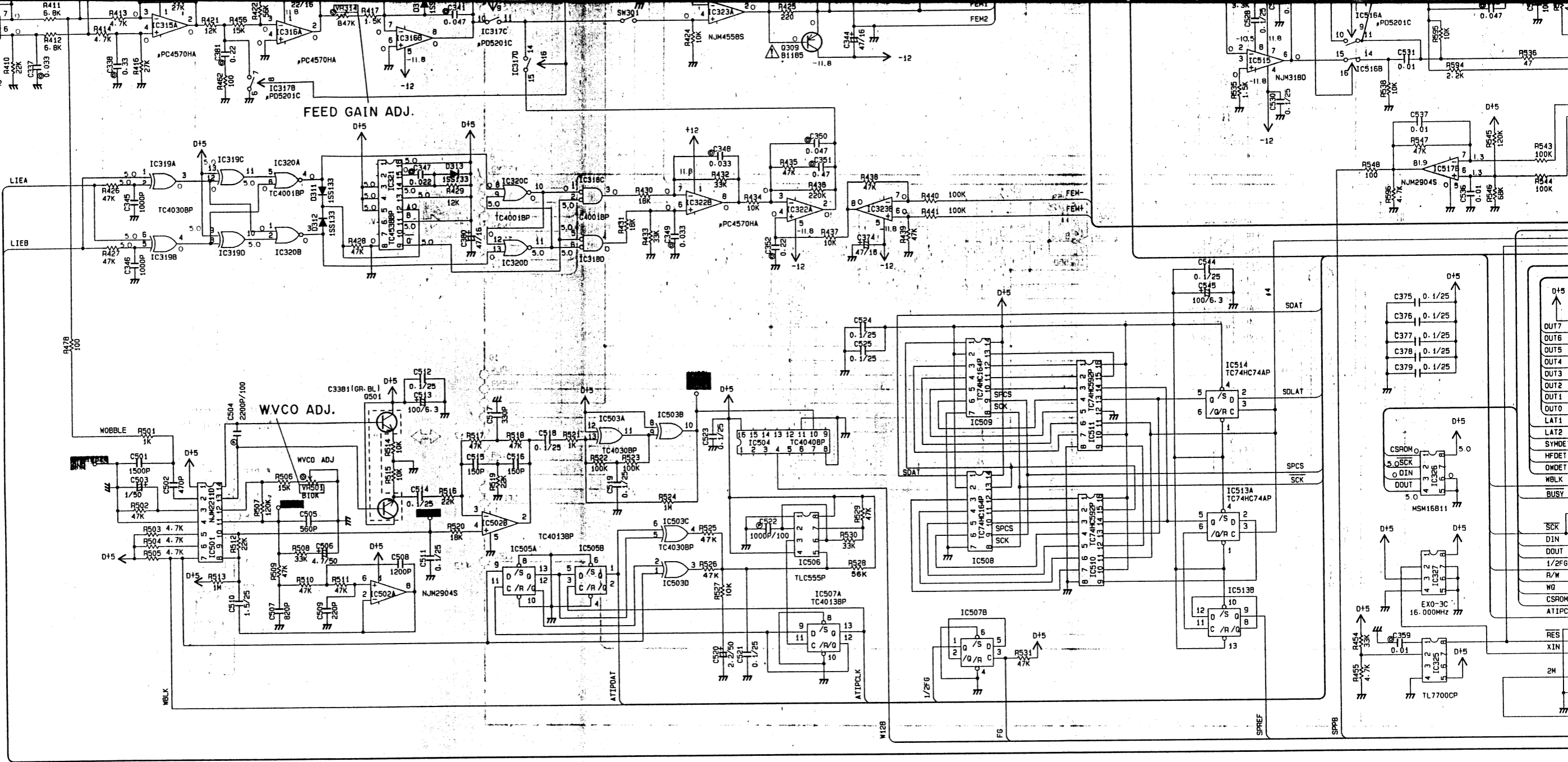
* All voltage are measured with a 10M Ω /DC electric volt meter.
 * Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
 * Schematic diagram is subject to change without notice.

YPDR601 (SERVO) SCHEMATIC DIAGRAM

① to ④ : WAVEFORM OF TEST POINT (See page 55)



6
7
8
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57

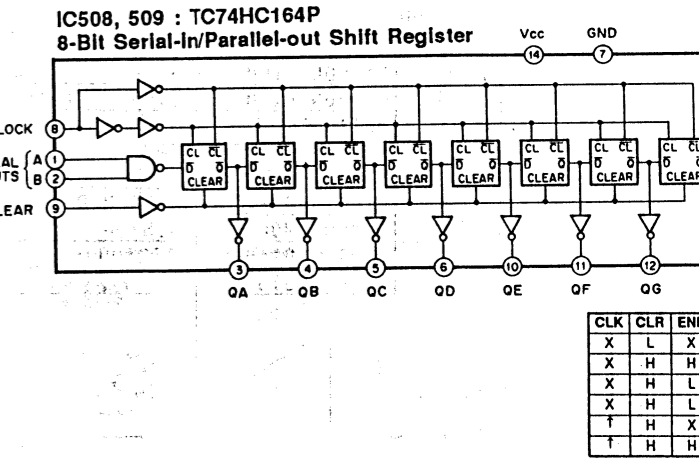


- * All voltage are measured with a 10MΩ/DC electric volt meter.
- * Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- * Schematic diagram is subject to change without notice.

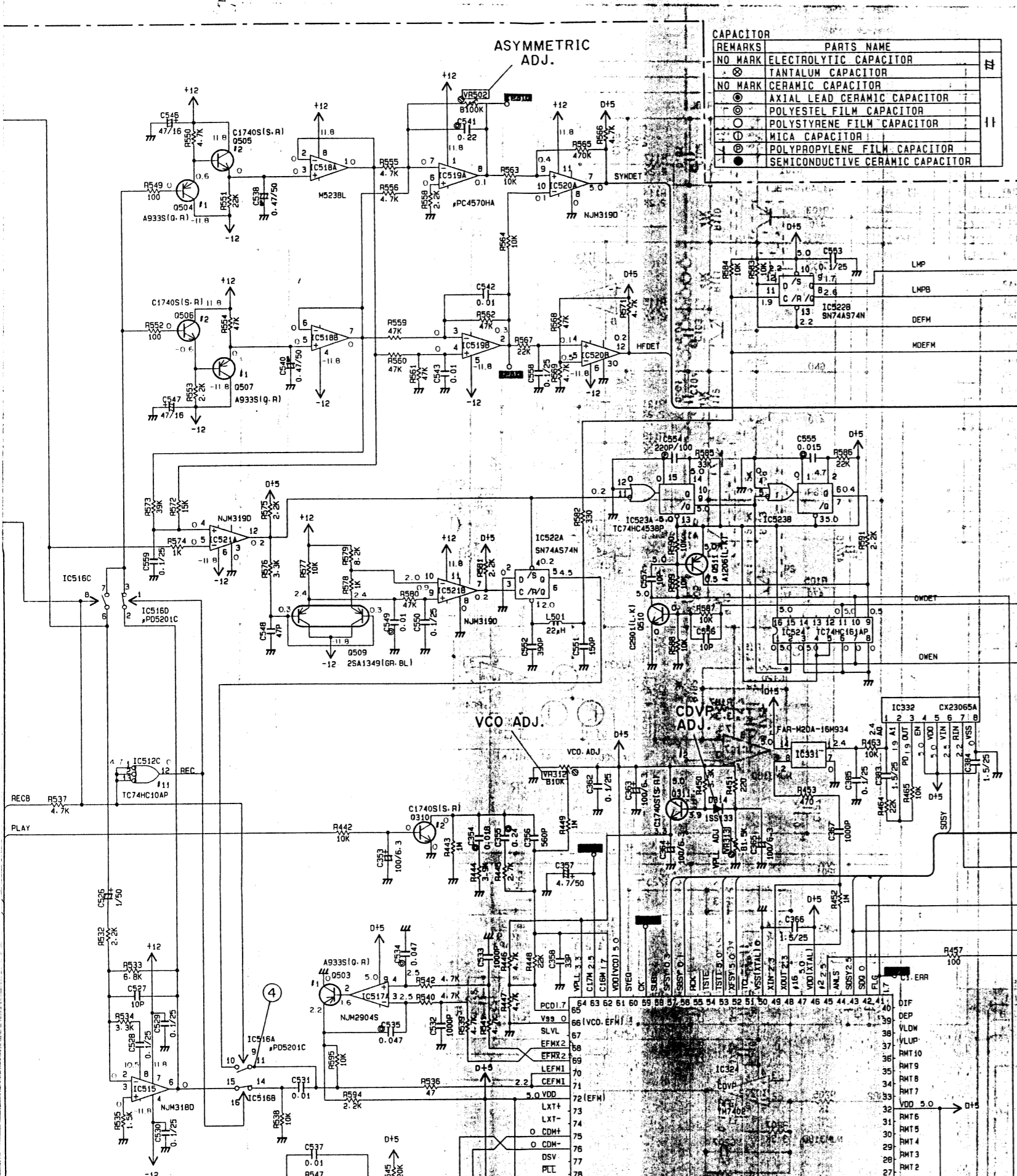
PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.

2SA933S(Q, R) 2SA1115(E, F) 2SA1309A(O, R, S) 2SA1048(Y, GR) 2SA1208(L, K) 2SC1740S(S, R) 2SC2603(E, F) 2SC3311A(O, R, S) 2SC2458(Y, GR) 2SC2901(L, K)	2SC2878(A, B) 2SC3327(A, B) 2SD1782	2SB1185 2SD1782	2SA1349(GR, BL) 2SC3381(GR, BL)	1SS133 MJZJ5.6B	M5238L CX23085A	NJM318D NJM319D TL7700CP TLC555P MSM16811 EXO-3C	μPC4570HA NJM2904S NJM2903S	NJM2211D TC4001BP TC4013BP TC4030BP TC4038BP TC74HC74AP TC74HC164P SN74AS74N TC74HC10AP μPD74HC10C	FAR-M2DA-16M934	μPD5201C TC4049BP TC4040BP TC4538BP TC74HC161AP TC74HC592P TC74HC4538P HCTL-2000	μPD74HC573C	YM7402
---	---	--------------------	------------------------------------	--------------------	--------------------	---	-----------------------------------	---	-----------------	---	-------------	--------

Inputs		Outputs								
Clear	Clock	A	B	QA	QB	QC	QD	QE	QF	QG
L	X	X	X	L	L	L	L	L	L	L
H	L	X	X	QA0	QB0	QC0	QD0	QE0	QF0	QG0
H	↑	H	H	QA1	QB1	QC1	QD1	QE1	QF1	QG1
H	↑	L	X	L	L	L	L	L	L	L
H	↑	X	L	L	L	L	L	L	L	L



CLK	CLR	ENP
X	L	X
X	H	H
X	H	L
X	H	L
↑	H	X
↑	H	H



REMARKS	PARTS NAME	SYMBOL
NO MARK	ELECTROLYTIC CAPACITOR	⌘
⊗	TANTALUM CAPACITOR	⊗
NO MARK	CERAMIC CAPACITOR	⊖
⊙	AXIAL LEAD CERAMIC CAPACITOR	⊙
⊕	POLYESTER FILM CAPACITOR	⊕
⊖	POLYSTYRENE FILM CAPACITOR	⊖
⊗	MICA CAPACITOR	⊗
⊕	POLYPROPYLENE FILM CAPACITOR	⊕
⊖	SEMICONDUCTIVE CERAMIC CAPACITOR	⊖

REMARKS	PARTS NAME	SYMBOL
NO MARK	CARBON FILM RESISTOR (1/6W)	□
⊗	CARBON FILM RESISTOR (1/4W)	⊗
⊕	METAL OXIDE FILM RESISTOR	⊕
⊖	METAL FILM RESISTOR	⊖
⊗	METAL PLATE RESISTOR	⊗
⊕	FIRE PROOF CARBON FILM RESISTOR	⊕
⊖	CEMENT MOLDED RESISTOR	⊖
⊗	POLYPROPYLENE FILM CAPACITOR	⊗
⊕	CHIP RESISTOR	⊕

NOTICE
 (J)..... Japanese model
 (U)..... U.S.A model
 (C)..... Canadian model
 (A)..... Australian model
 (G)..... European model
 (B)..... British model
 (R)..... General model
 (P)..... RP model

Interchangeable Parts at Manufacture-Stage

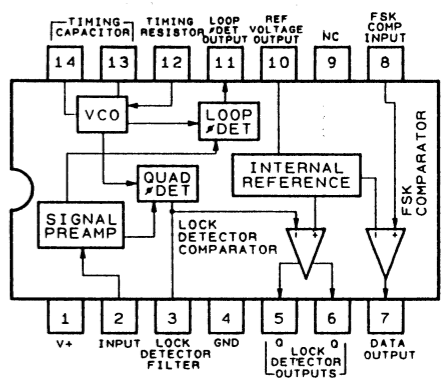
Mark	Reference Parts Number	Parts Name
#1	0313-503-504-507	2SA933S(I.O.R) 2SA1115(E.F) 2SA1309A(O.R.S) 2SA1048(I.G.R)
#2	0301-303-310-312 505-506	2SC1740S(R.S) 2SC2603(E.F) 2SC331A(O.R.S) 2SC2458(I.G.R)
#3		
#4	0314	2SC3327(A.B) 2SD1915(F)

LAST NO.	Parts Name
C	387
R	478
Q	596
D	314
	511
	321
	332
IC	524

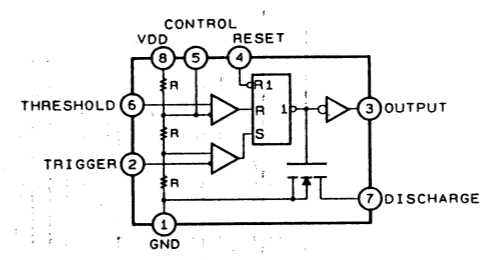
Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
#11	IC512	TC74HC10AP #PD74HC10C
#12		

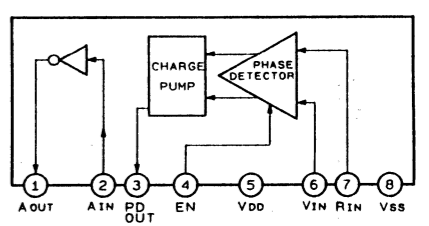
IC501 : NJM2211D FSK Demodulator/Tone Decoder



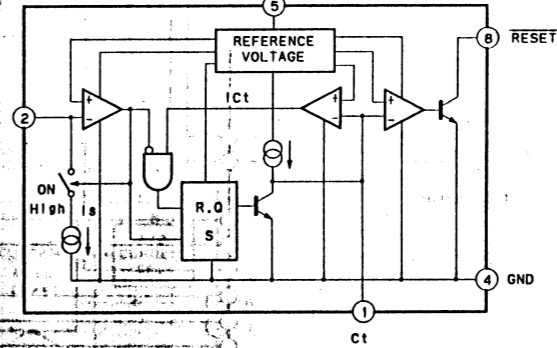
IC506 : TLC555P Timer



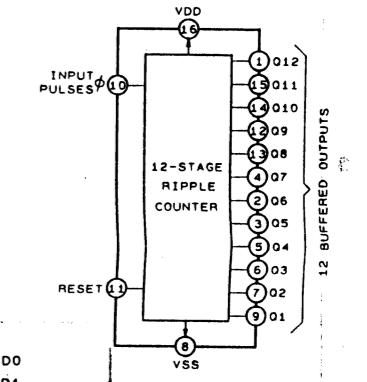
IC332 : CX23065A Digital Phase Detector



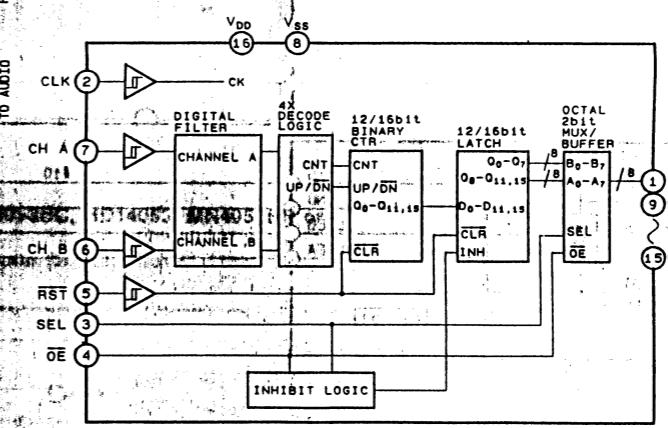
IC325 : TL7700CP System Reset



IC504 : TC4040BP 12-Stage Binary Ripple Counter

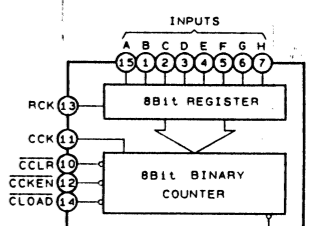


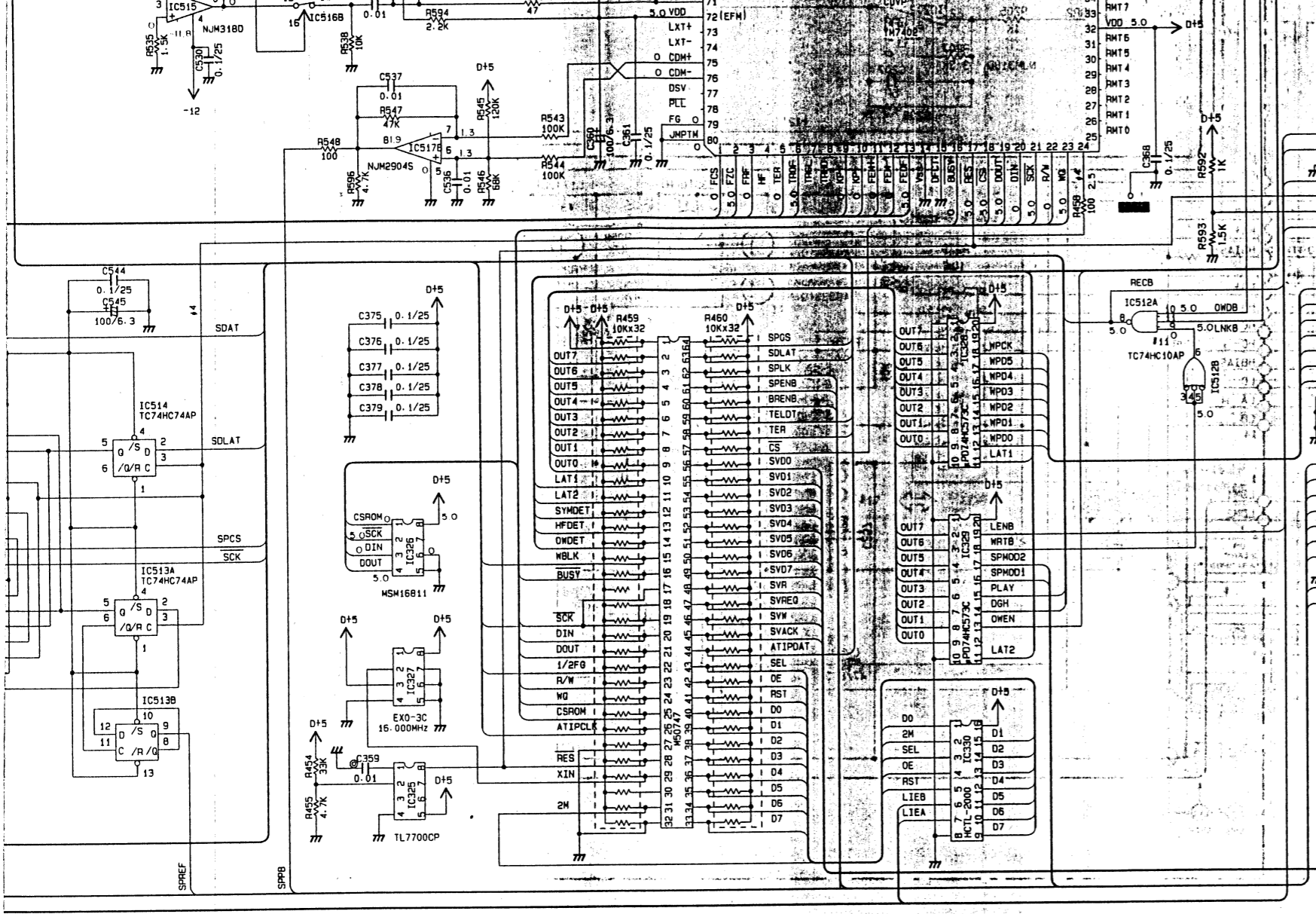
IC330 : HCTL-2000 POS. Counter



IC326 : MSM16811 1k Bit EEPROM

IC510, 511 : TC74HC592P 8 Bit Binary Counter with Input Register





IC326 : MSM16811
1k Bit EEPROM

CS	1	8	VCC
SK	2	7	NC
DI	3	6	ORG
DO	4	5	GND

Pin Functions:

CS	Chip select
SK	Clock input
DI	Serial data output
DO	Serial data output
VCC	+5V power source
NC	Non-connection
GND	Ground
ORG	Memory array select input 64 x 16 memory array when +5V connected or open (with internal pull-up resistor) 128 x 8 memory array when 0V connected

IC327 : EX0-3C (16,000MHz)
Oscillator

Pinout:

ST	1
VDD	2
GND	3
OUTPUT	F
D	(F/2 - F/2)

IC505, 507 : TC4013BP
Dual "D" Flip-Flop with Set/Reset Capability

VDD	20	25	2CLOCK	2CLEAR	2DATA	2PRESET
GND	14	13	12	11	10	9

Truth Table:

Clock	Inputs			Outputs	
	Data	Reset	Set	Q	Q̄
0	0	0	0	1	1
1	0	0	0	0	0
X	X	0	0	Q	Q̄
X	X	1	0	0	1
X	X	0	1	1	0
X	X	1	1	1	1

X: Don't Care
*: Level Change

IC328, 329 : μPD74HC573C
Octal 3 State D-Latches

Truth Table:

Output Control	Latch Enable	Data	Output
L	H	H	H
L	H	L	L
L	L	X	Q ₀
H	X	X	Z

IC321 : TC4538BP
IC523 : TC74HC4538AP
Dual Precision Retriggerable/Resetable Monostable Multivibrator

Truth Table:

Input	Output		Note
	A	Q	
J	H	H	Output Enable
X	L	L	Inhibit
H	X	L	Inhibit
L	L	L	Output Enable
X	X	L	Inhibit

X: Don't Care

IC508, 509 : TC74HC164P
8-Bit Serial-In/Parallel-Out Shift Register

CLK	CLR	ENP	ENT	Load	Function
X	L	X	X	X	Clear
X	H	H	L	H	Count & RC disabled
X	H	L	H	H	Count disabled
X	H	L	L	H	Count & RC disabled
L	H	X	X	L	Load
L	H	H	H	H	Increment Counter

IC524 : TC74HC161AP
4-Bit Synchronous Binary Counter with Asynchronous Clear

Truth Table:

CLR	CLOCK	A	B	C	D	ENABLE
L	X	X	X	X	X	0
H	X	X	X	X	X	1

IC516 : μPD5201C
Analog Switch

Truth Table:

IN1	D1	S1	V-	GND	IN2
L	1	3	4	5	16
H	2	4	6	9	15
X	5	7	13	12	14
X	6	8	14	10	11
X	7	9	11	8	13
X	8	10	12	7	14
X	9	11	13	6	15
X	10	12	14	5	16

IC513, 514, 522 : SN74AS74N
Dual D-FFs with Preset and Clear

Truth Table:

CLR	PR	D	CK	Q	Q̄	FUNCTION
L	H	X	X	L	H	CLEAR
H	L	X	X	H	L	PRESET
L	L	X	X	H	H	—
H	H	L	X	L	H	—
H	H	H	X	H	L	—
H	H	X	X	Q _n	Q̄ _n	NO CHANGE

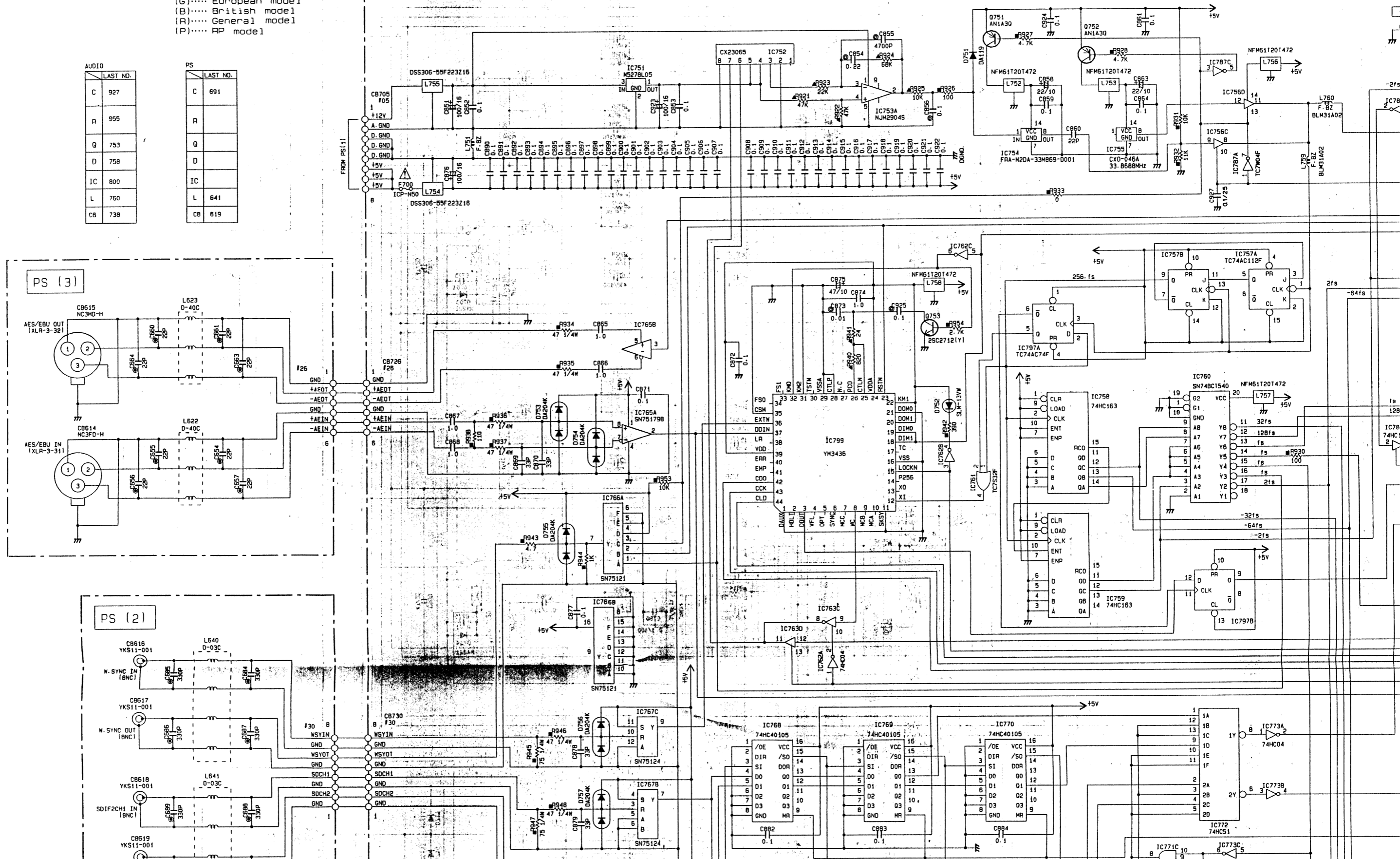
X: Don't Care

YPRD601 (AUDIO 1/2) SCHEMATIC DIAGRAM

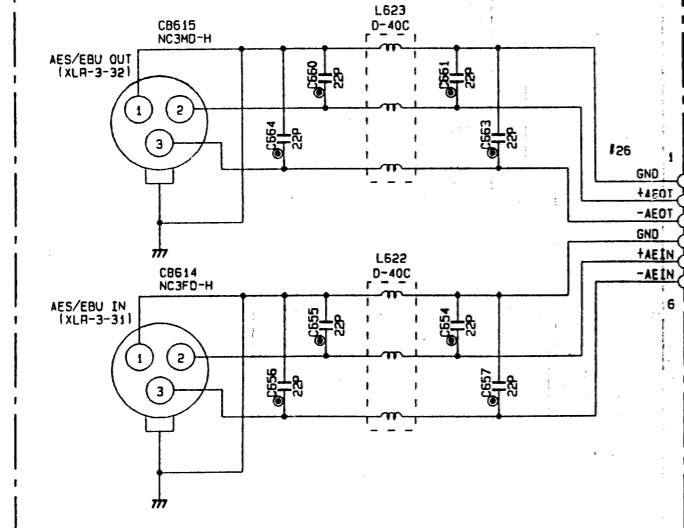
NOTICE
 (J)..... Japanese model
 (U)..... U.S.A model
 (C)..... Canadian model
 (A)..... Australian model
 (G)..... European model
 (B)..... British model
 (R)..... General model
 (P)..... RP model

AUDIO		PS	
	LAST NO.		LAST NO.
C	927	C	691
R	955	R	
Q	753	Q	
D	758	D	
IC	800	IC	
L	760	L	641
CB	738	CB	619

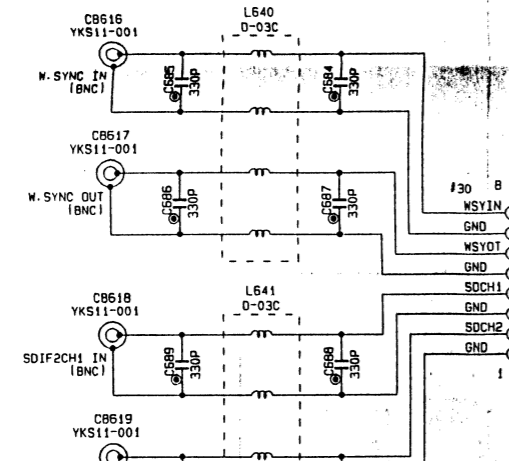
AUDIO 1/2

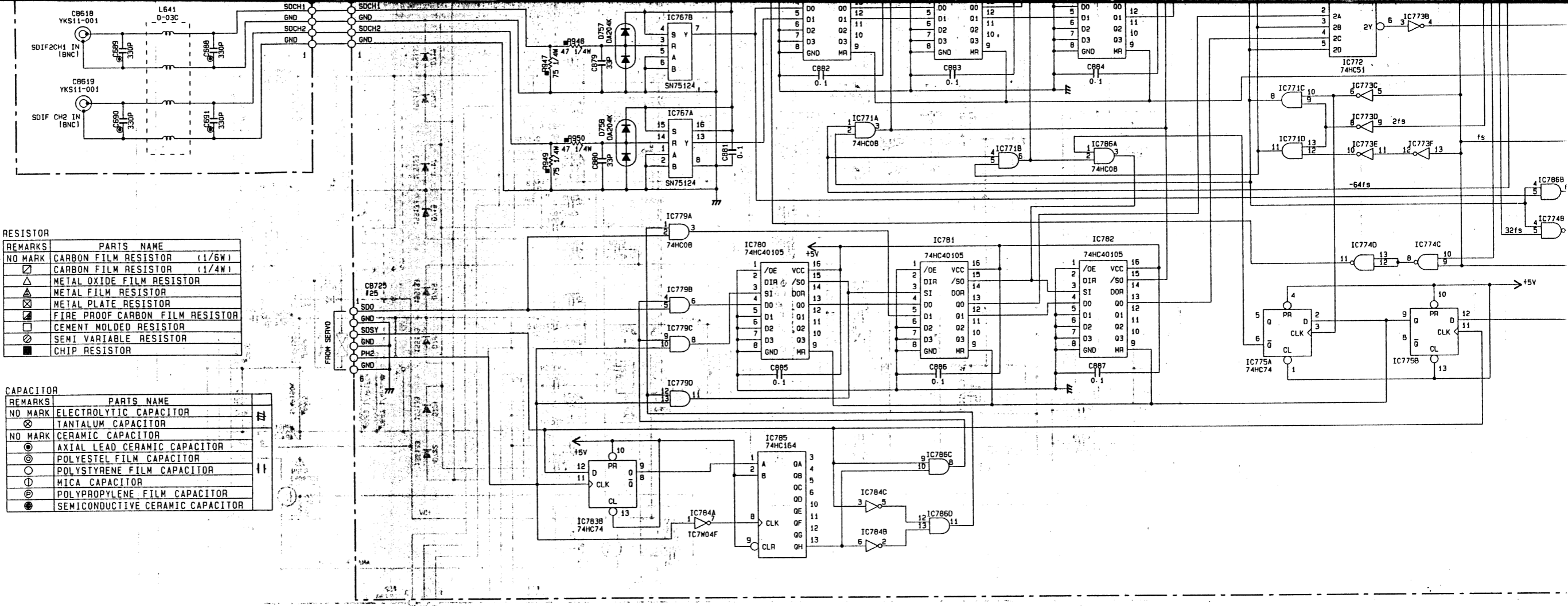


PS (3)



PS (2)





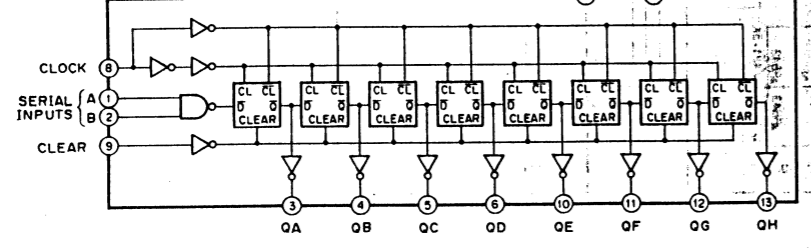
RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
□	CARBON FILM RESISTOR (1/4W)
△	METAL OXIDE FILM RESISTOR
⊠	METAL FILM RESISTOR
⊞	METAL PLATE RESISTOR
⊞	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊞	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

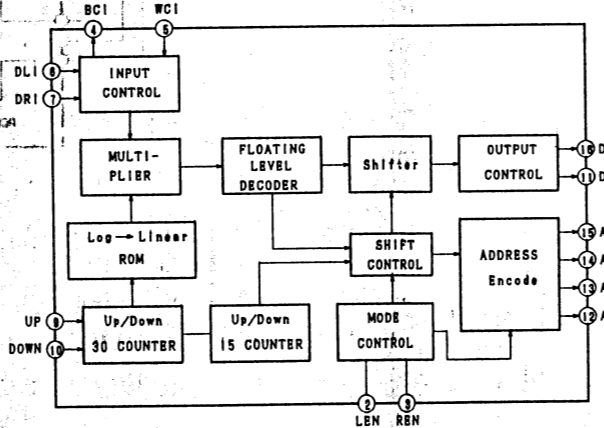
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊙	AXIAL LEAD CERAMIC CAPACITOR
⊙	POLYESTER FILM CAPACITOR
⊙	POLYSTYRENE FILM CAPACITOR
⊙	MICA CAPACITOR
⊙	POLYPROPYLENE FILM CAPACITOR
⊙	SEMICONDUCTIVE CERAMIC CAPACITOR

IC785 : TC74HC164AF
8-Bit Shift Register

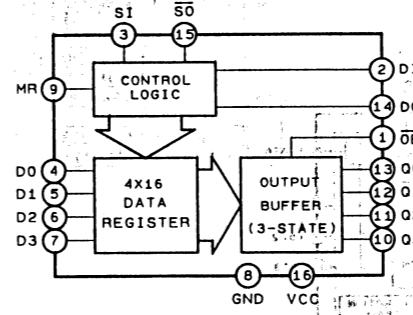


Inputs		Outputs									
Clear	Clock	A	B	QA	QB	QC	QD	QE	QF	QG	QH
L	X	X	X	L	L	L	L	L	L	L	L
H	L	X	X	QA0	QB0	QC0	QD0	QE0	QF0	QG0	QH0
H	t	H	X	HA	HB	HC	HD	HE	HF	HG	HH
H	t	L	X	LA	LB	LC	LD	LE	LF	LG	LH
H	t	X	L	LA	LB	LC	LD	LE	LF	LG	LH

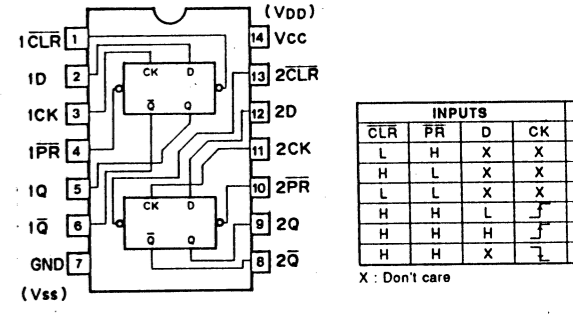
IC798 : YM6013 (XD711A0)
Digital Volume Controller



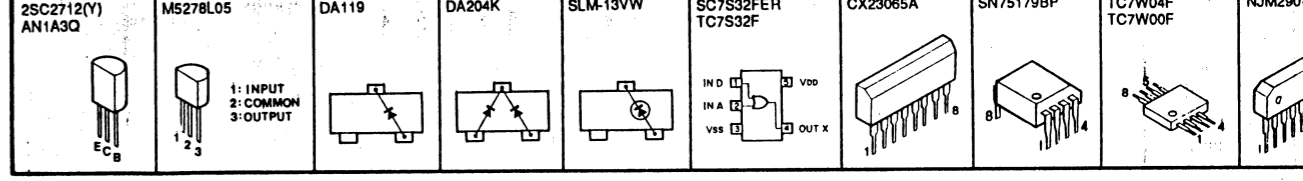
IC768-770, 780-782 : TC74HC40105AF
4 Bit x 16 Word FIFO Register



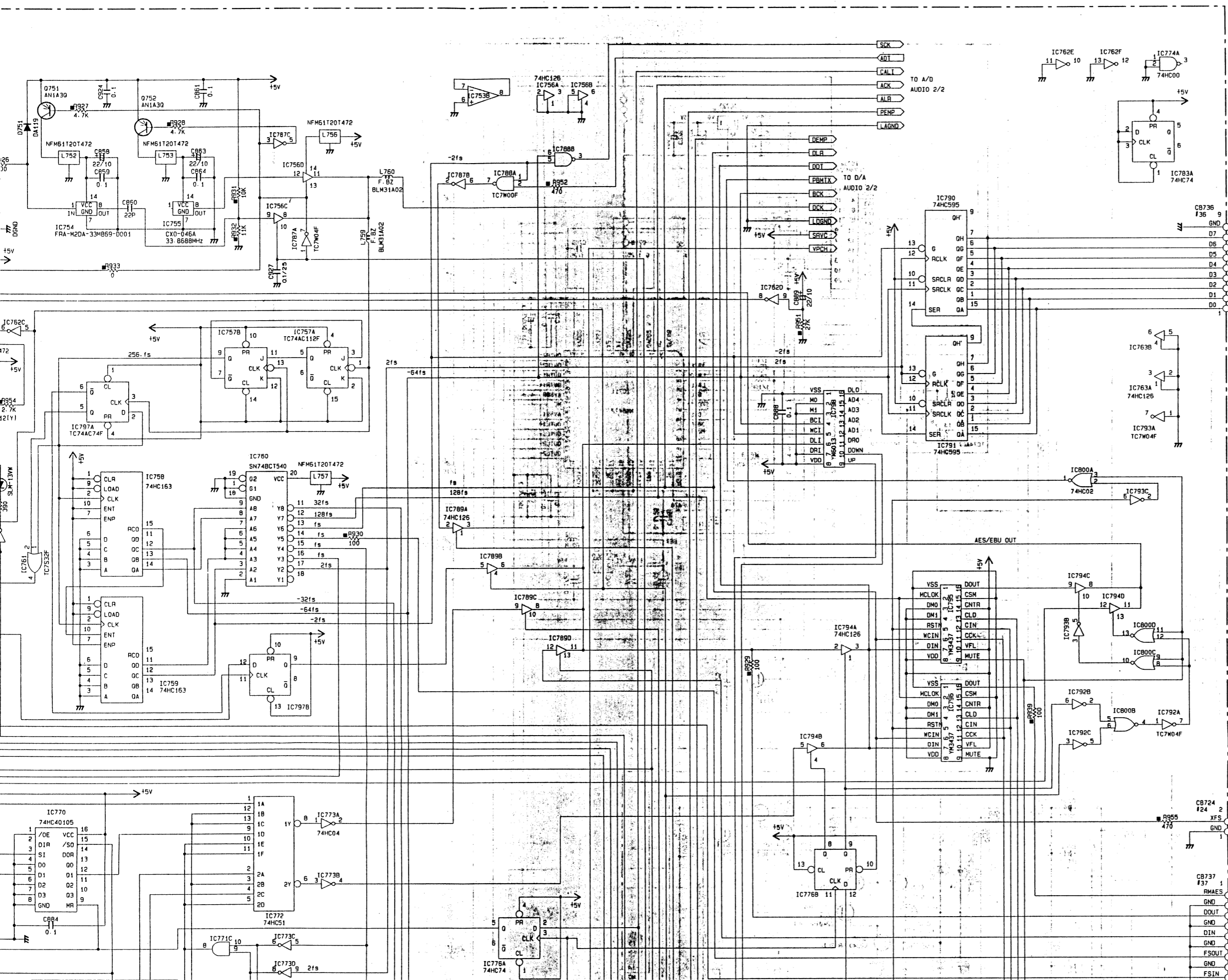
IC797 : TC74AC74F
IC775, 776, 783 : SN74HC74NSR
Dual D-FFs with Preset and Clear



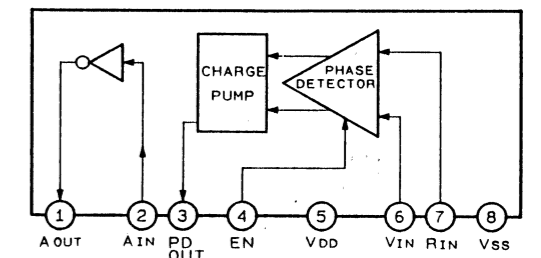
PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.



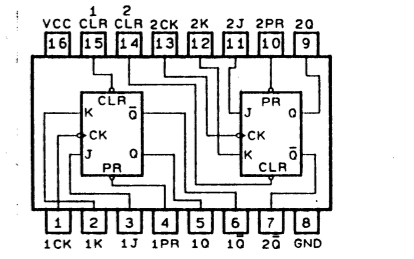
58



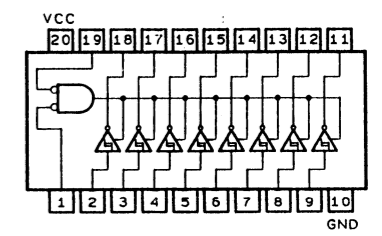
IC752 : CX23065A
Digital Phase Detector



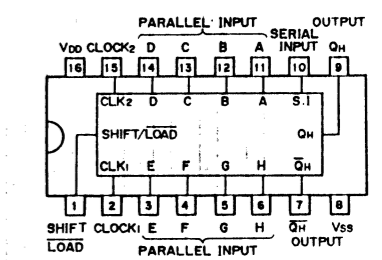
IC757 : TC74AC112F
Dual JK-FFs with Preset and Clear



IC760 : SN74BCT540NS
Octal 3-State Buffer



IC758, 759 : TC74HC163AF
Synchronous Presettable Binary Counter with Clear

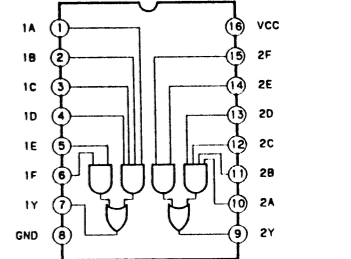


Truth Table

INPUT					OUTPUTS
CLOCK	RESET	LOAD	ENABLE P	ENABLE T	QA
L	X	X	X	X	L
H	L	X	X	X	LOAD
H	H	H	H	H	COUNT
X	H	H	L	L	NO COUNT
X	H	H	H	L	NO COUNT

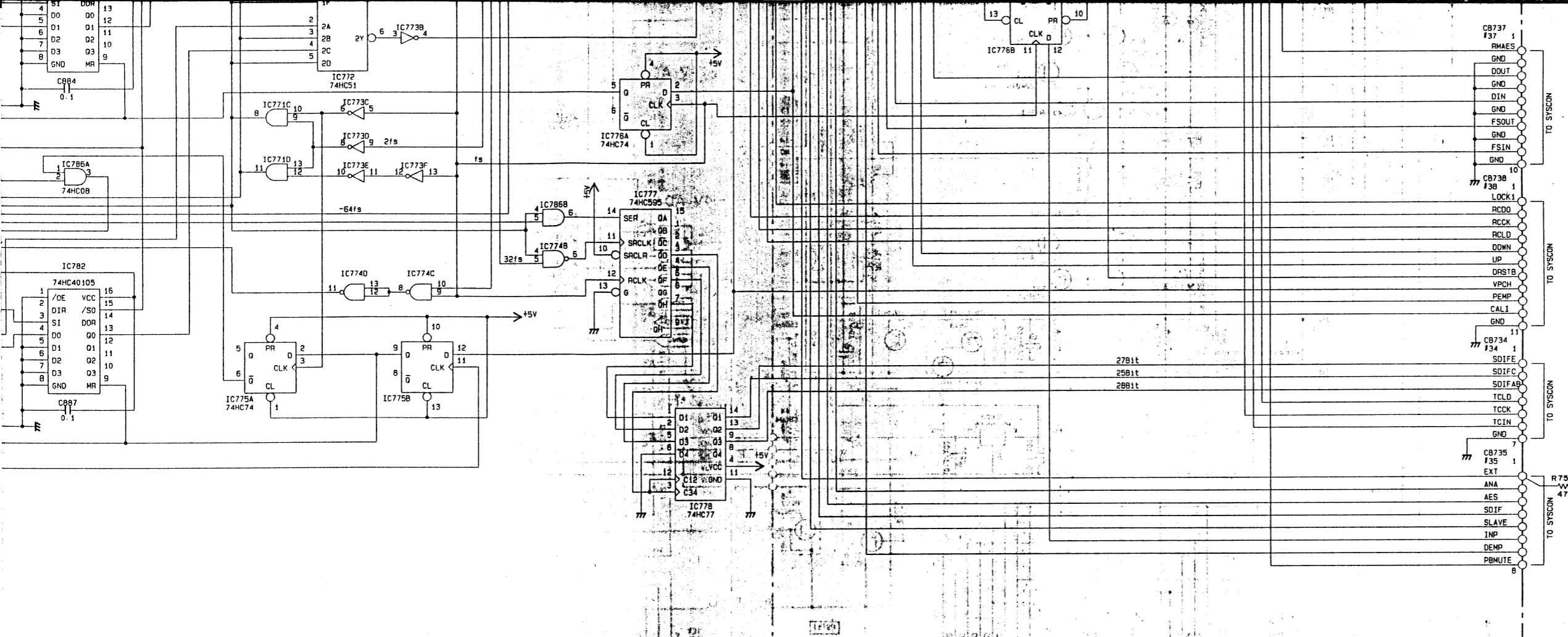
H: HIGH LEVEL L: LOW LEVEL X: Hor L n = A ~ D

IC766 : SN75121N
Dual Line Driver

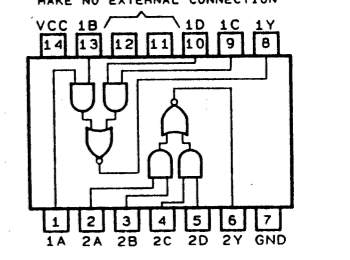


IC772 : TC74HC51AF
Dual 2W-2 Input AND-OR-INV

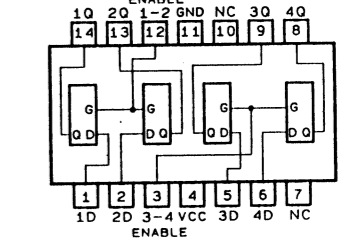




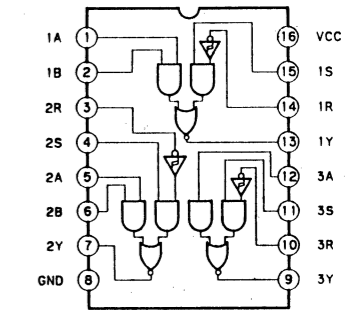
IC772 : TC74HC51AF
Dual 2W-2 Input AND-OR-INV



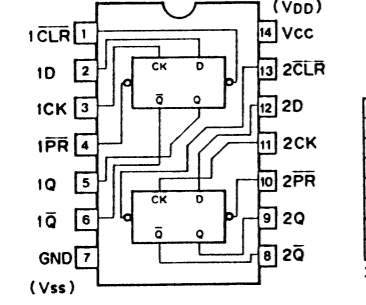
IC778 : TC74HC77AF
4-Bit Latches



IC767 : SN75124N
Dual Line Driver and Triple Line Receivers



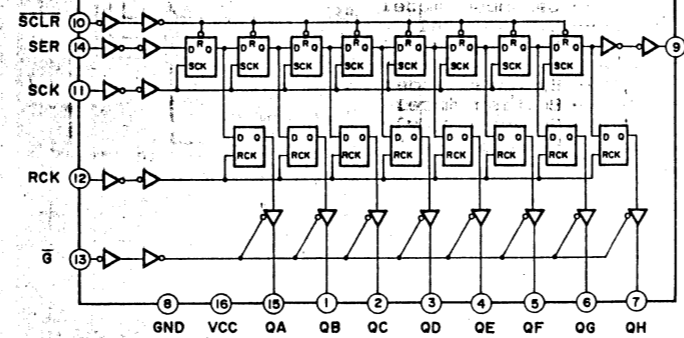
IC797 : TC74AC74F
IC775, 776, 783 : SN74HC74NSR
Dual D-FFs with Preset and Clear



CLR	PR	D	CK	Q	Q'	FUNCTION
L	H	X	X	L	H	CLEAR
H	L	X	X	H	L	PRESET
L	L	X	X	H	H	—
H	H	L	—	L	H	—
H	H	H	—	H	L	—
H	H	X	—	Q _n	Q' _n	NO CHANGE

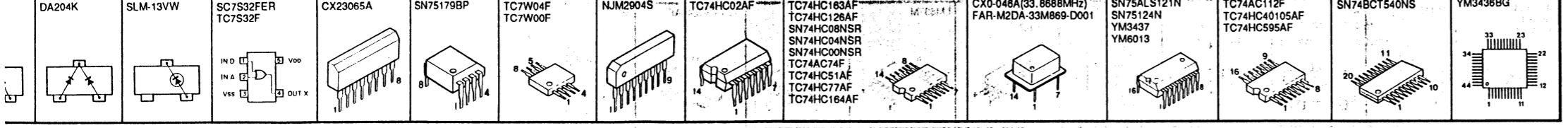
X : Don't care

IC777, 790, 791 : TC74HC595AF
8-Bit Shift Registers with Output Latches



RCK	SCK	SCLR	G	Function
X	X	X	1	QA thru QH = Tri-State
X	X	L	X	Shift Register cleared QH' = 0
X	↑	H	X	Shift Register clocked QN = Q _{n-1} , Q0 = SER
↑	X	H	X	Contents of Shift Register transferred to output latches

RESISTORS, DIODES AND ICs.

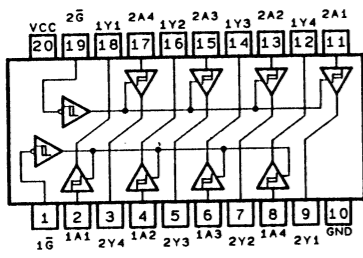


All voltage are measured with a 10MΩ/DC electric volt meter.
Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
Schematic diagram is subject to change without notice.

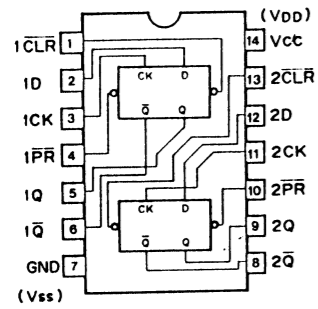
■ YPDR601 (AUDIO 2/2, PS) SCHEMATIC DIAGRAM

⑧ and ⑨ : WAVEFORM OF TEST POINT (See page 55)

IC712, 720 : TC74HC244FP
Octal 3-State Bus Buffers



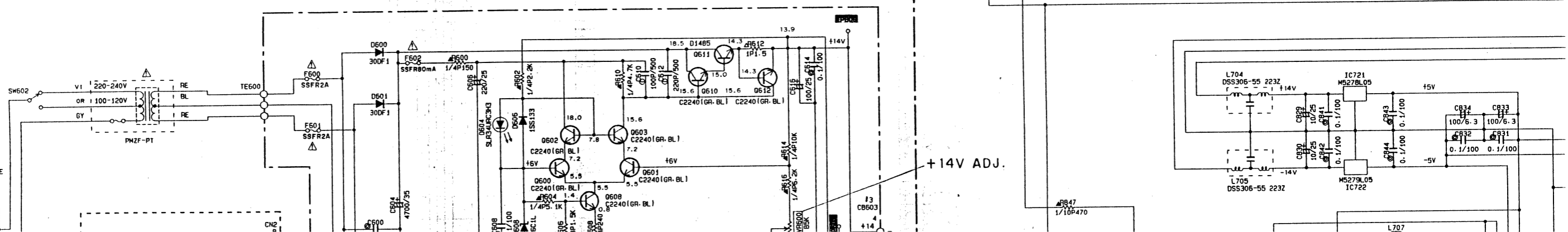
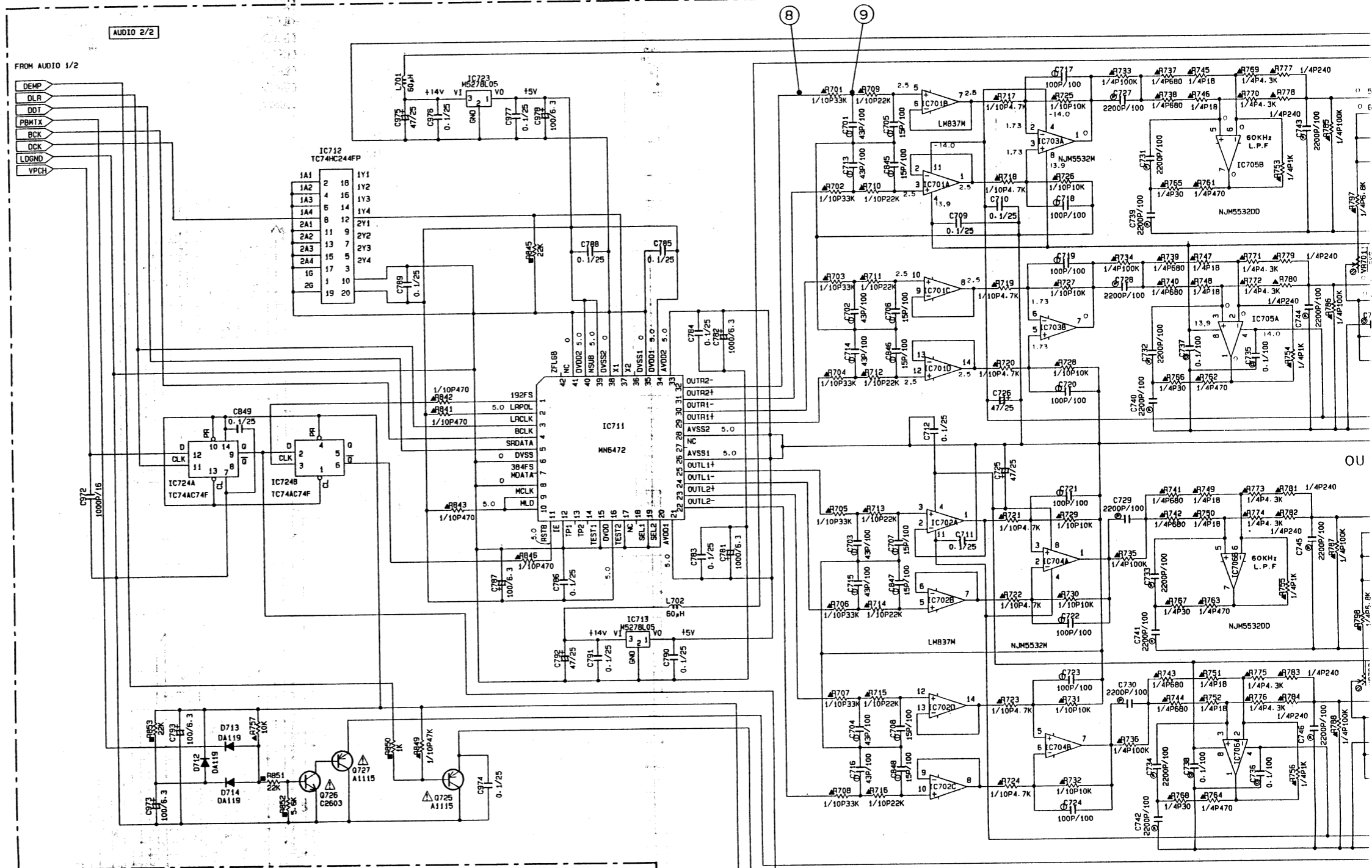
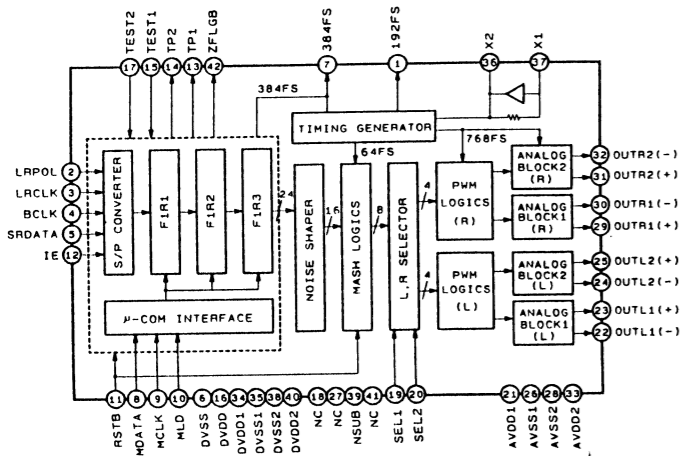
IC724 : TC74AC74F
Dual D-FFs with Preset and Clear



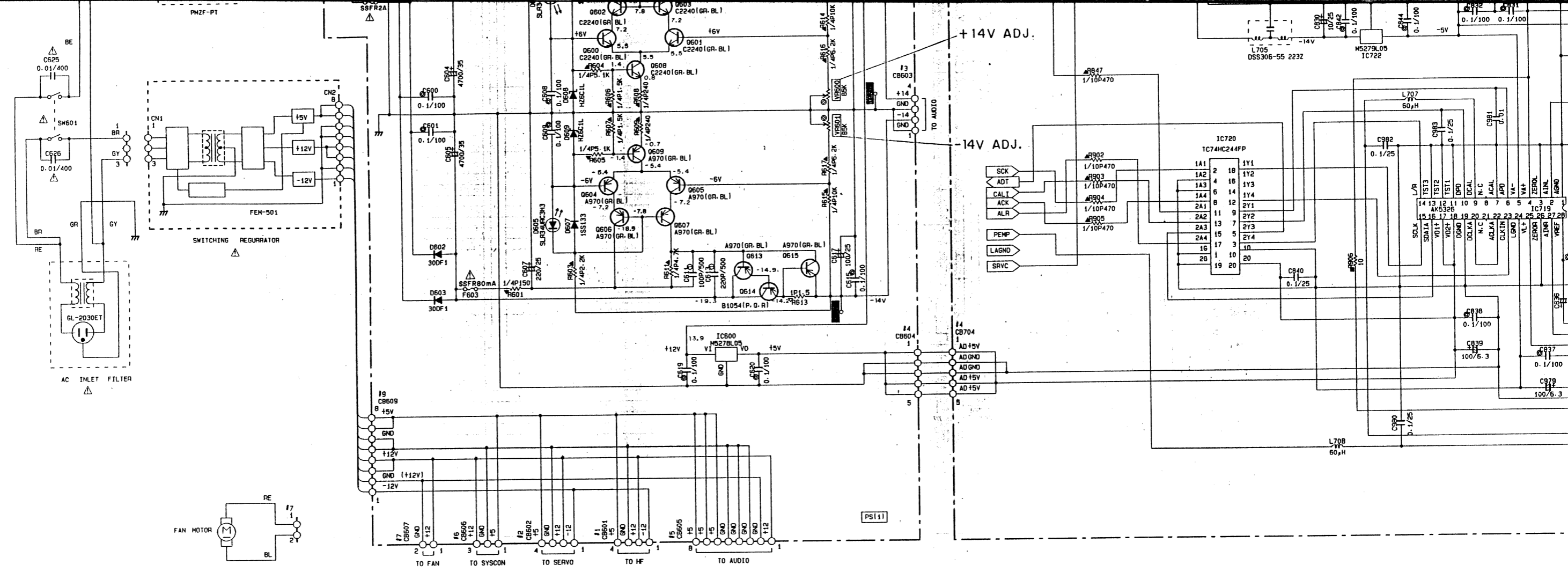
CLR	INPUTS				OUTPUTS		FUNCTION
	PR	D	CK	Q	Q	Q	
L	H	X	X	L	H	L	CLEAR
H	L	X	X	H	L	L	PRESET
L	L	X	X	H	H	L	—
H	H	L	L	L	L	H	—
H	H	H	L	H	L	L	—
H	H	X	L	Qn	Qn	Qn	NO CHANGE

X : Don't care

IC711 : MN6472
D/A Converter



6
7
8

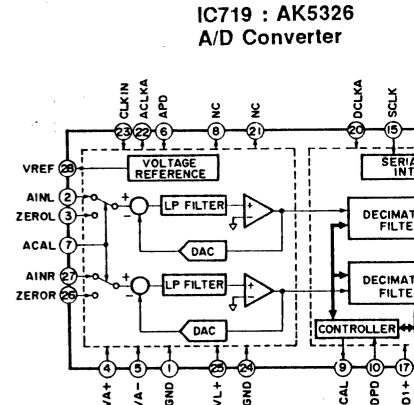


9
10

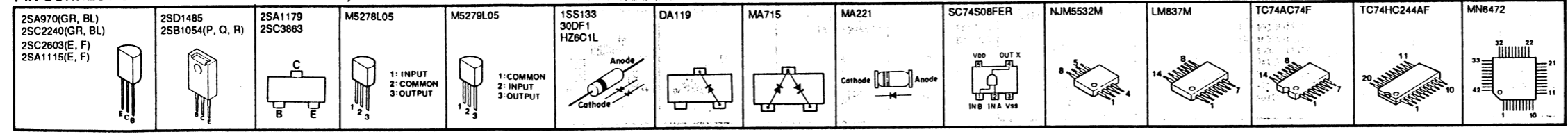
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	⊃
⊃	TANTALUM CAPACITOR	⊃
NO MARK	CERAMIC CAPACITOR	⊃
⊃	AXIAL LEAD CERAMIC CAPACITOR	⊃
⊃	POLYESTER FILM CAPACITOR	⊃
⊃	POLYSTYRENE FILM CAPACITOR	⊃
⊃	MICA CAPACITOR	⊃
⊃	POLYPROPYLENE FILM CAPACITOR	⊃
⊃	SEMICONDUCTIVE CERAMIC CAPACITOR	⊃

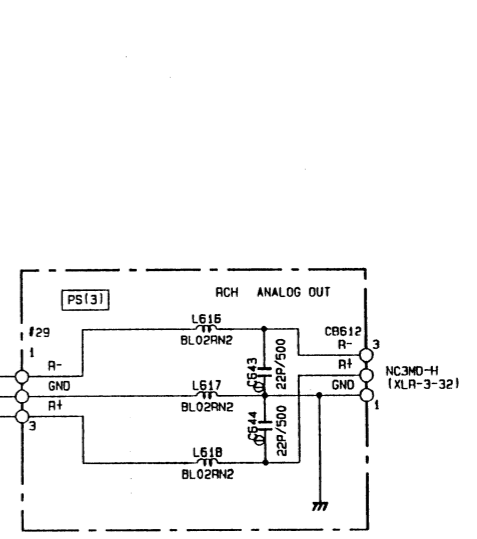
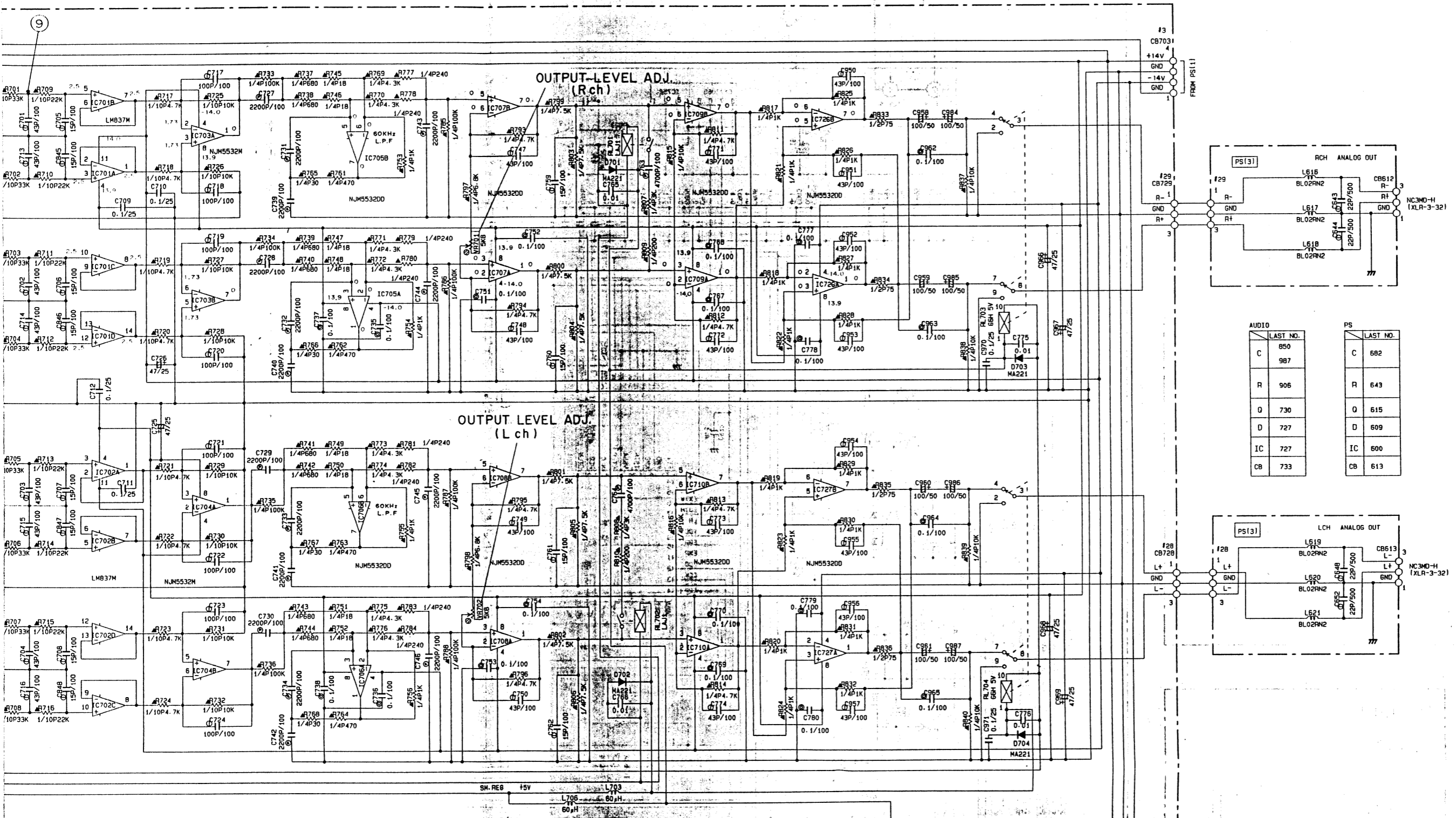
REMARKS	PARTS NAME	
NO MARK	CARBON FILM RESISTOR (1/6W)	⊃
⊃	CARBON FILM RESISTOR (1/4W)	⊃
⊃	METAL OXIDE FILM RESISTOR	⊃
⊃	METAL FILM RESISTOR	⊃
⊃	METAL PLATE RESISTOR	⊃
⊃	FIRE PROOF CARBON FILM RESISTOR	⊃
⊃	CEMENT MOLDED RESISTOR	⊃
⊃	SEMI VARIABLE RESISTOR	⊃
⊃	CHIP RESISTOR	⊃

NOTICE
 (J)..... Japanese model
 (U)..... U.S.A model
 (C)..... Canadian model
 (A)..... Australian model
 (G)..... European model
 (B)..... British model
 (R)..... General model
 (P)..... AP model

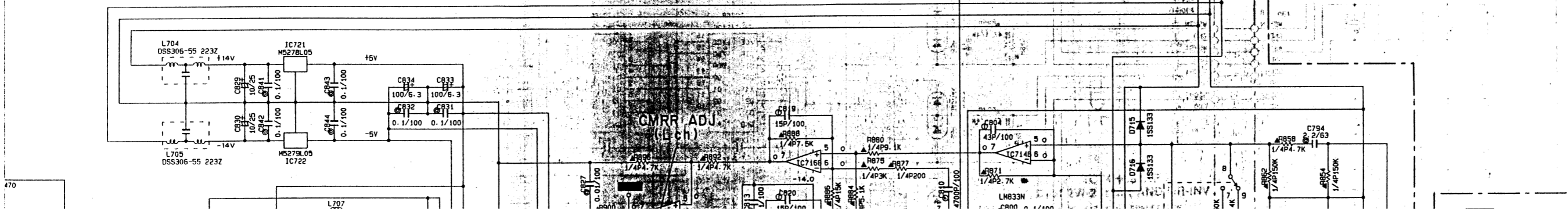
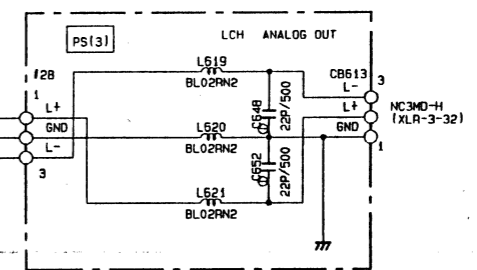


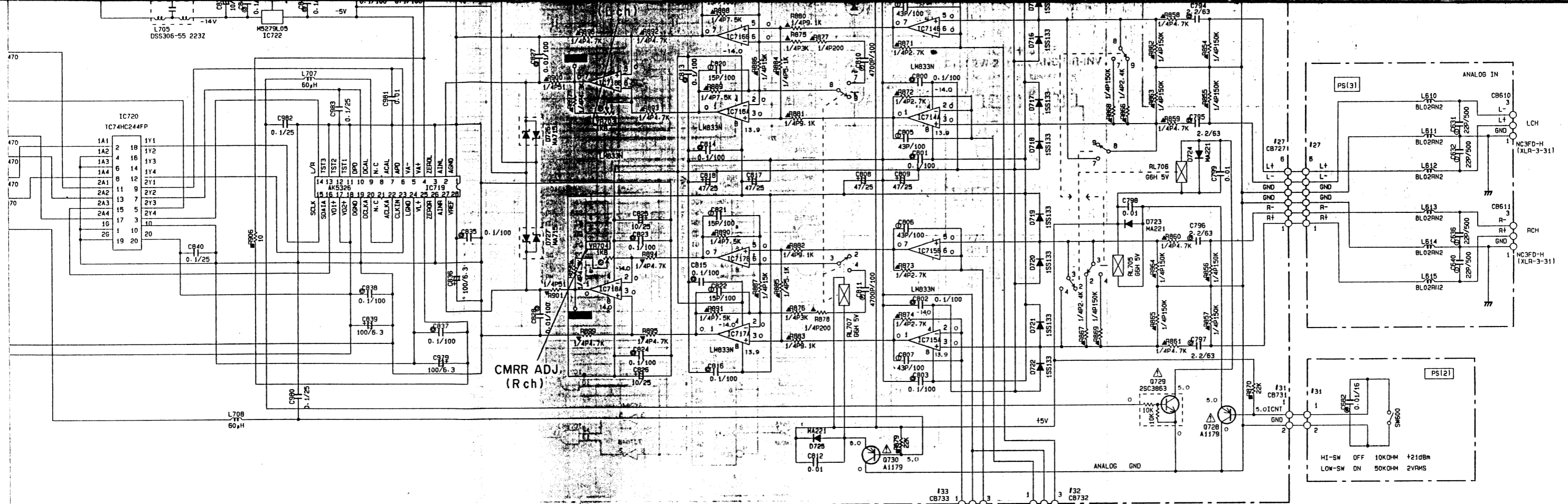
PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.



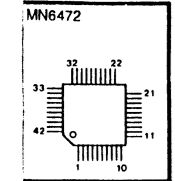
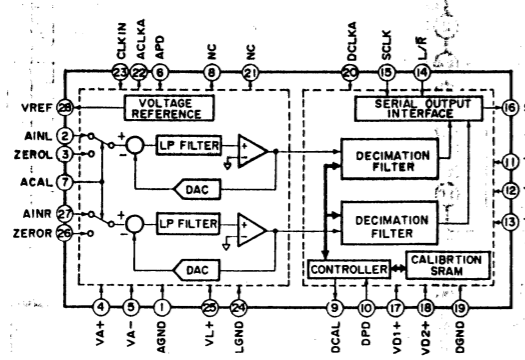


AUDIO	LAST NO.	PS	LAST NO.
C	850	C	682
	987	R	643
R	906	Q	615
Q	730	D	609
D	727	IC	600
IC	727	CB	613
CB	733		

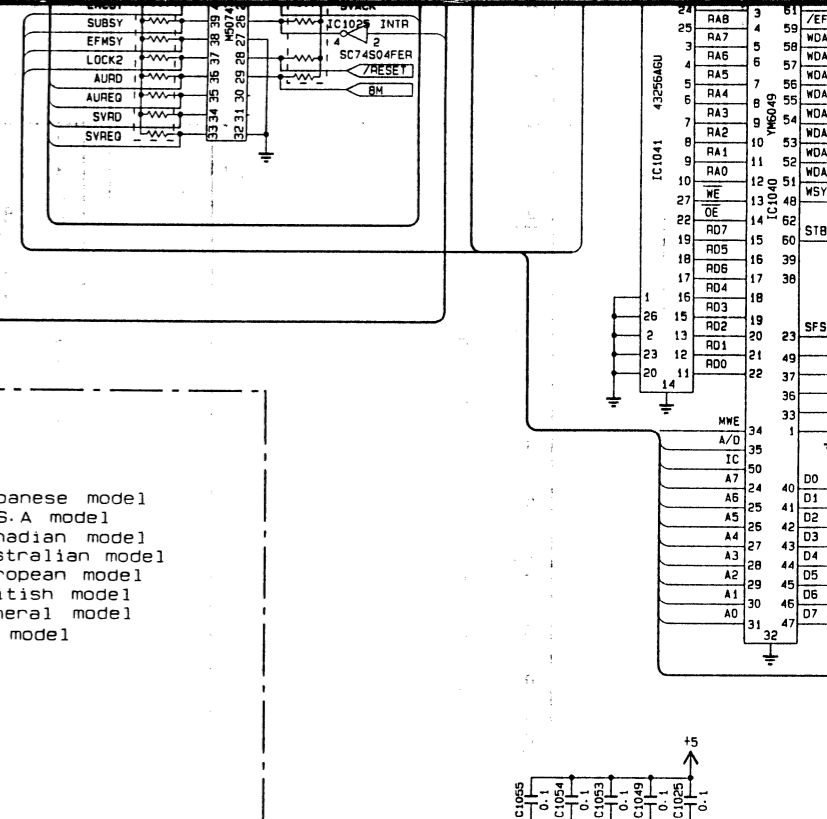
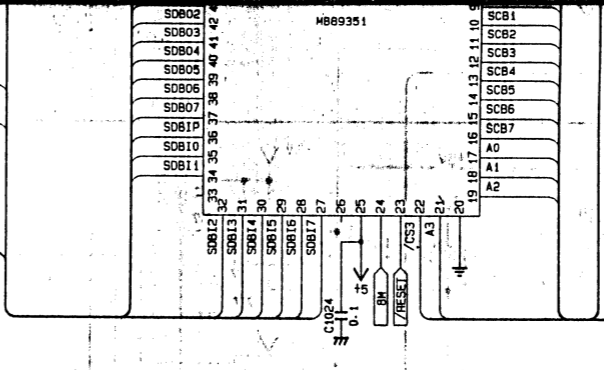
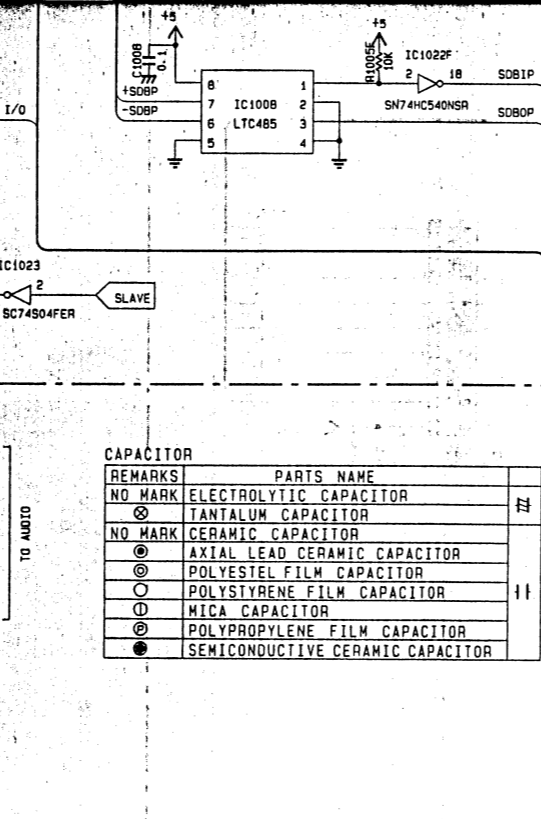
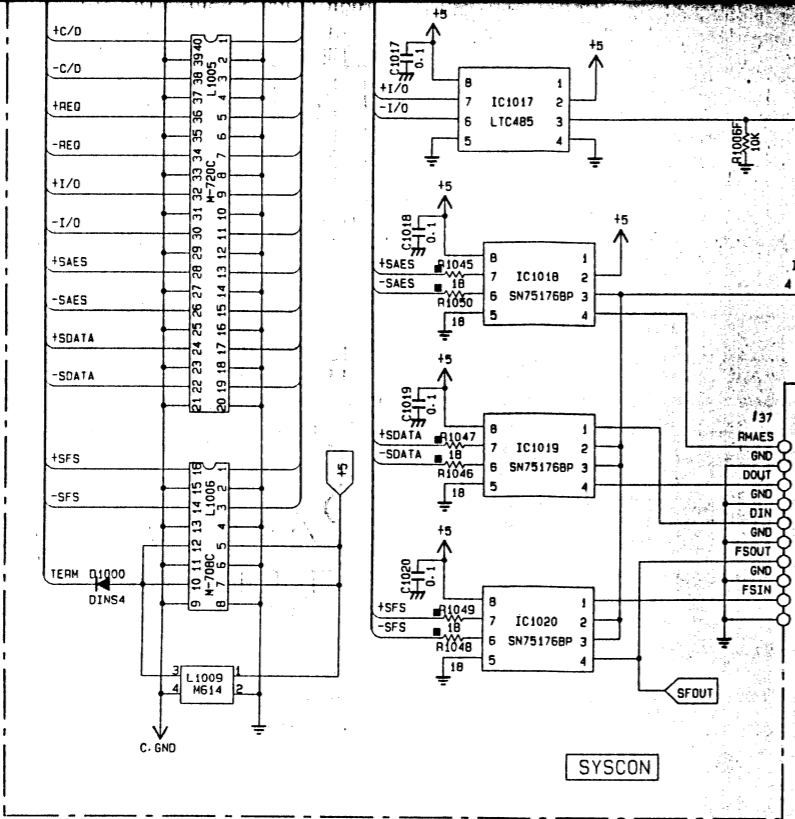




IC719 : AK5326
A/D Converter



- * All voltage are measured with a 10MΩ/DC electric volt meter.
- * Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- * Schematic diagram is subject to change without notice.



CAPACITOR

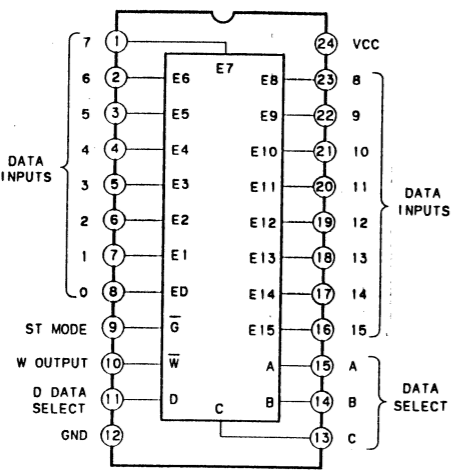
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	ZZ
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	
⊙	AXIAL LEAD CERAMIC CAPACITOR	
⊙	POLYESTER FILM CAPACITOR	
⊙	POLYSTYRENE FILM CAPACITOR	
⊙	MICA CAPACITOR	
⊙	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	

RESISTOR

REMARKS	PARTS NAME	
NO MARK	CARBON FILM RESISTOR (1/6W)	
□	CARBON FILM RESISTOR (1/4W)	
△	METAL OXIDE FILM RESISTOR	
⊠	METAL FILM RESISTOR	
⊠	METAL PLATE RESISTOR	
⊠	FIRE PROOF CARBON FILM RESISTOR	
□	CEMENT MOLDED RESISTOR	
⊠	SEMI VARIABLE RESISTOR	
■	CHIP RESISTOR	

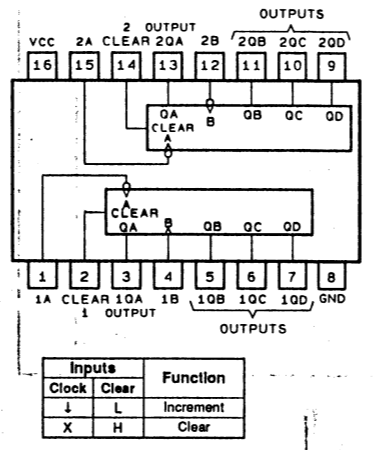
NOTICE
 (J)..... Japanese model
 (U)..... U.S.A model
 (C)..... Canadian model
 (A)..... Australian model
 (G)..... European model
 (A)..... Australian model
 (B)..... British model
 (R)..... General model
 (P)..... RP model

IC1045 : SN74AS250ANT



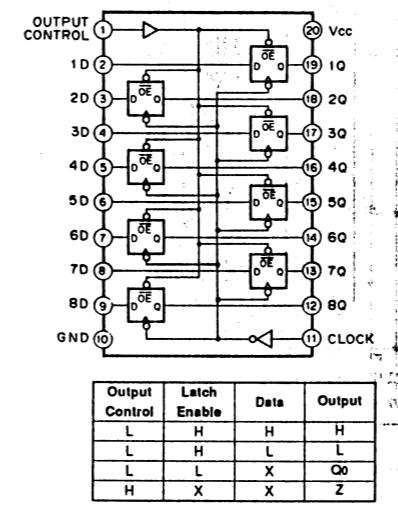
Input		Output	
G	A	B	W
L	L	L	E0
L	H	L	E1
L	L	H	E2
L	H	H	E3
L	L	L	E4
L	H	L	E5
L	L	H	E6
L	H	H	E7
L	L	L	E8
L	H	L	E9
L	L	H	E10
L	H	H	E11
L	L	L	E12
L	H	L	E13
L	L	H	E14
L	H	H	E15
H	X	X	Z

IC1064 : SN74HC390NSR
Dual Decade Counters



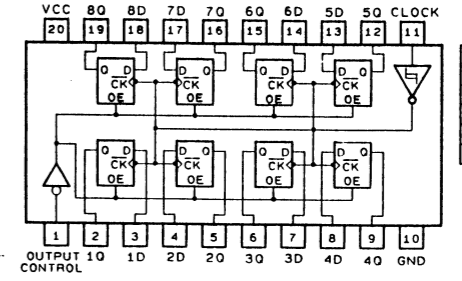
Inputs		Function	
Clock	Clear		
↓	L	Increment	
X	H	Clear	

IC1031 : SN74HC573NSR or TC74HC573AF
Octal 3 State D-Latches



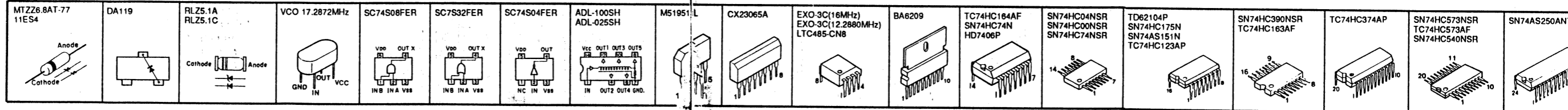
Output Control	Latch Enable	Data	Output
L	H	H	H
L	H	L	L
L	L	X	Q0
H	X	X	Z

IC1082 : TC74HC374AP
Octal 3-States D-FFs

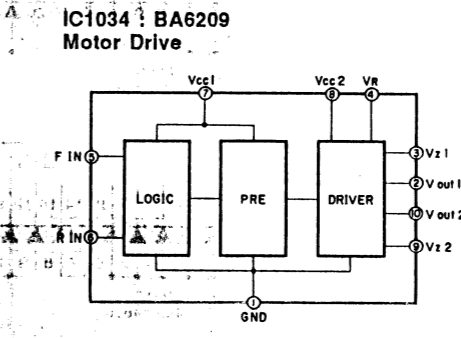
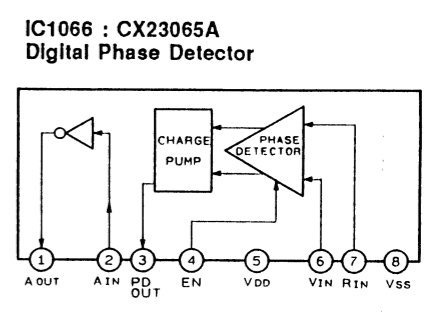
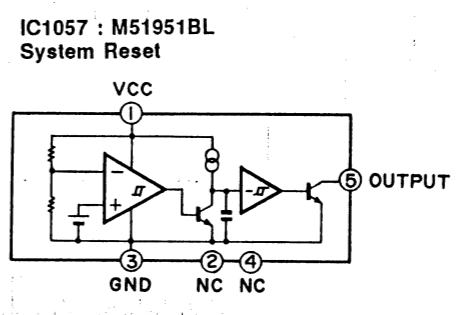
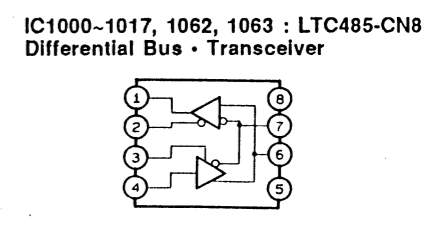
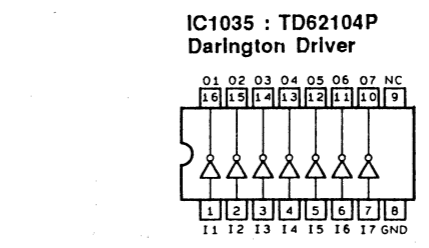
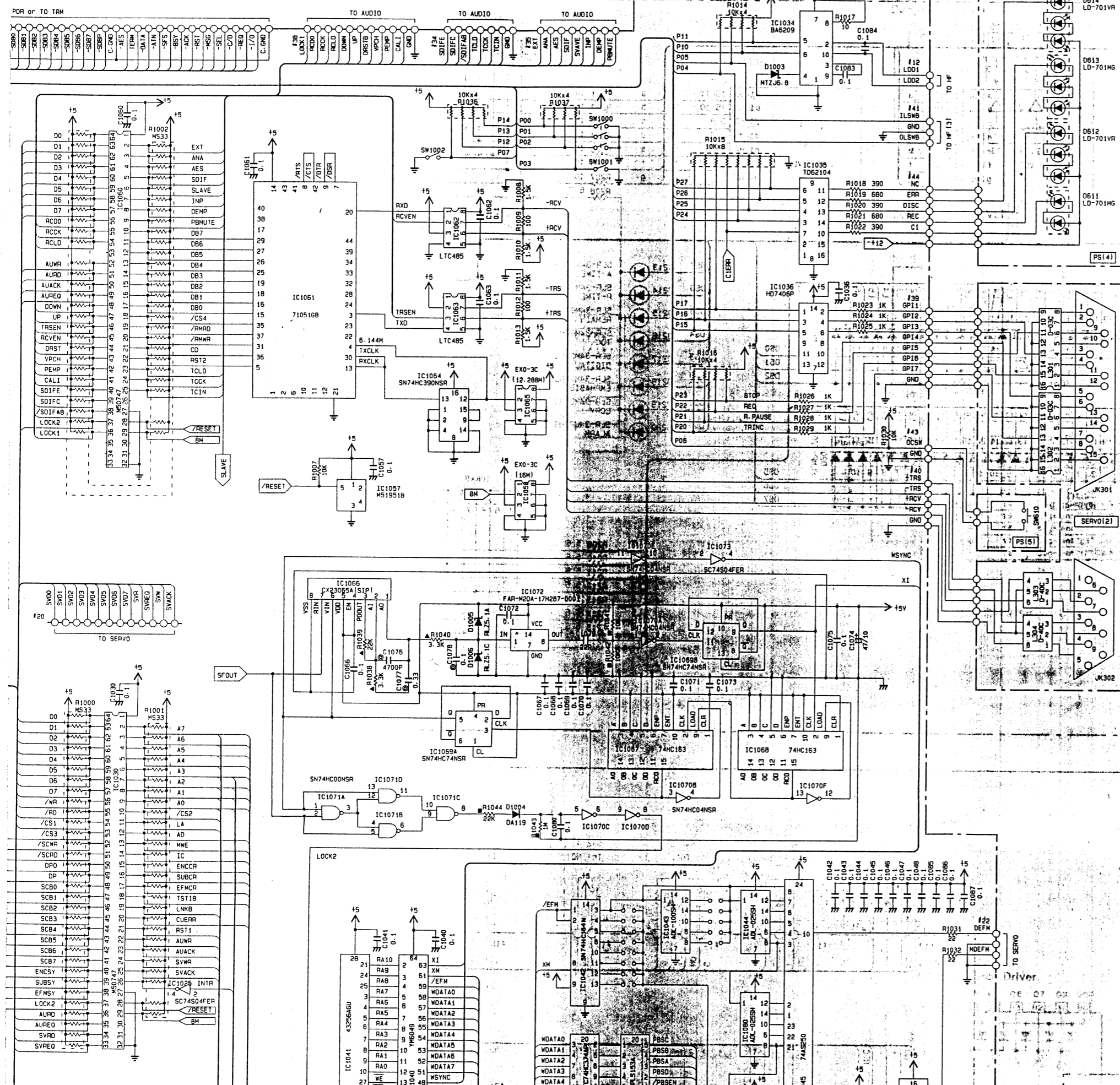


Output Control	Clock	Data	Output
L	↑	H	H
L	↑	L	L
L	L	X	Q0
H	X	X	Z

PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.

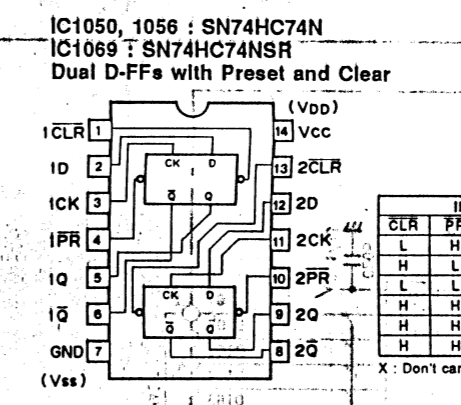
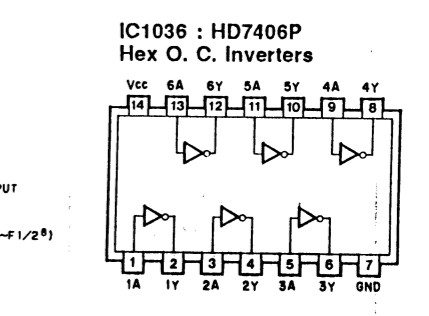
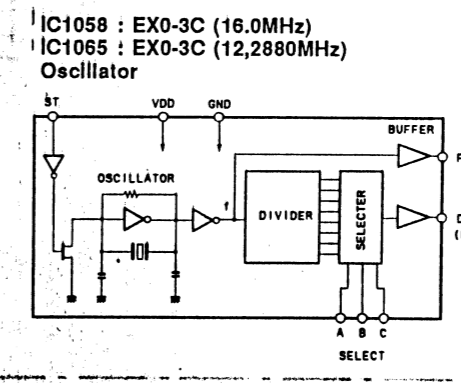


60



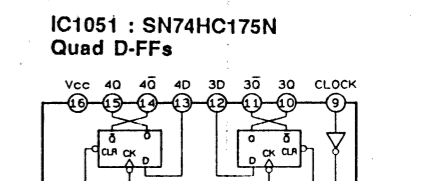
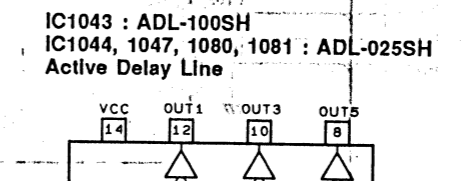
Truth Table

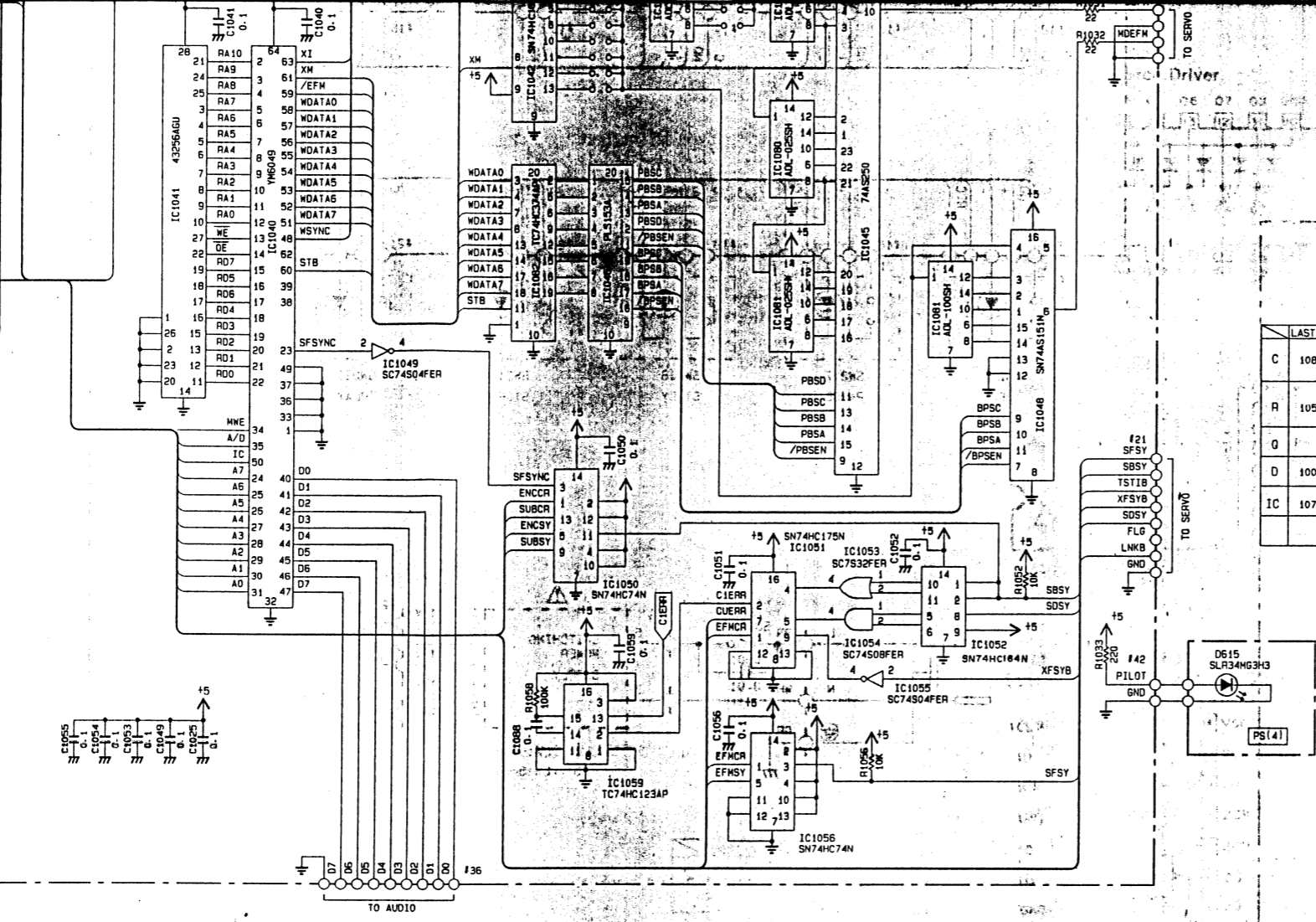
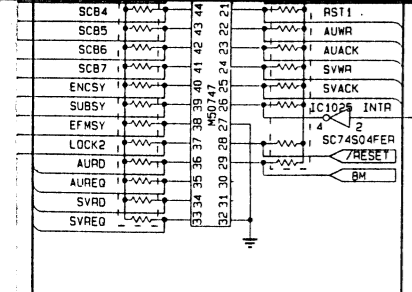
F IN	R IN	V out 1	V out 2
1	1	L	L
0	1	L	H
1	0	H	L
0	0	L	L



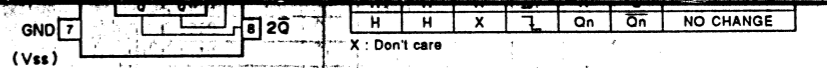
INPUTS				OUTPUTS		FUNCTION
CLR	PR	D	CK	Q	\bar{Q}	
L	H	X	X	L	H	CLEAR
H	L	X	X	H	L	PRESET
L	L	X	X	H	H	—
H	H	L	X	L	H	—
H	H	X	L	H	L	—
H	H	X	X	Qn	$\bar{Q}n$	NO CHANGE

X : Don't care

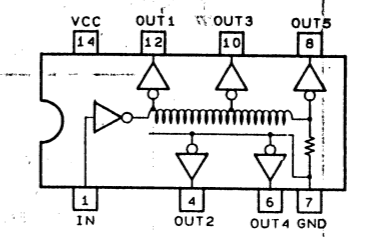




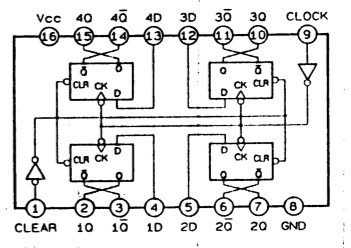
LAST NO.	
C	1080
R	1058
Q	
D	1006
IC	1073



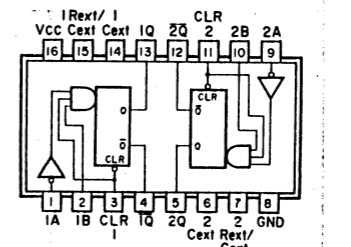
IC1043 : ADL-100SH
IC1044, 1047, 1080, 1081 : ADL-025SH
 Active Delay Line



IC1051 : SN74HC175N
 Quad D-FFs



IC1059 : TC74HC123AP
 Dual Retriggerable Single Shot



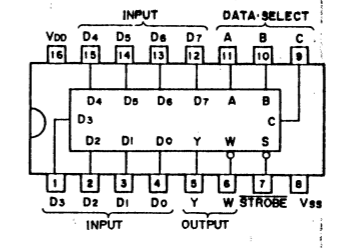
Clear	A	B	Q	Q'
L	X	X	L	H
X	H	X	L	H
X	X	L	L	H
H	L	L	L	H
H	L	H	L	H
H	H	L	L	H
H	H	H	L	H

Truth Table

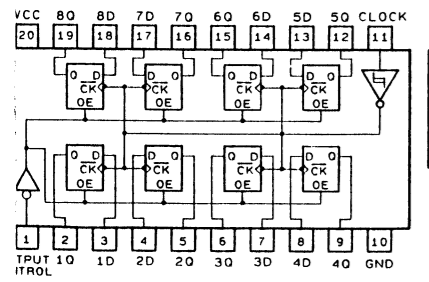
Inputs		Strobe		Output	
C	B	A	S	Y	W
X	X	X	H	L	H
L	L	L	L	D ₀	D ₀
L	L	H	L	D ₁	D ₁
L	H	L	L	D ₂	D ₂
L	H	H	L	D ₃	D ₃
H	L	L	L	D ₄	D ₄
H	L	H	L	D ₅	D ₅
H	H	L	L	D ₆	D ₆
H	H	H	L	D ₇	D ₇

H : High Level L : Low Level X : H or L

IC1048 : SN74AS151N
 8 to 1 Data Selector

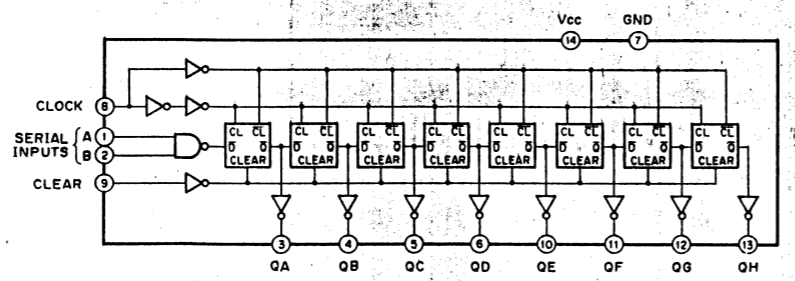


IC1082 : TC74HC374AP
 8-bit 3-States D-FFs



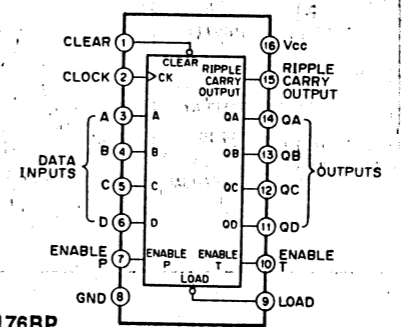
Output Control	Clock	Data	Output
L	T	H	H
L	T	L	L
L	L	X	X
H	X	X	Z

IC1042, 1052 ; SN74HC164N
 8-Bit Serial-In/Parallel-out Shift Register



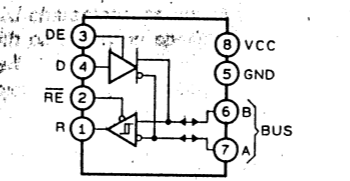
Inputs		Outputs			
Clear	Clock	A	B	QA	QB...QH
L	X	X	X	L	L.....L
H	L	X	X	QA	QB.....QH
H	T	H	H	QA	QB.....QH
H	T	L	X	QA	QB.....QH
H	T	X	L	QA	QB.....QH

IC1067, 1068 : TC74HC163AF
 4-Bit Synchronous Binary Counter with Synchronous Clear

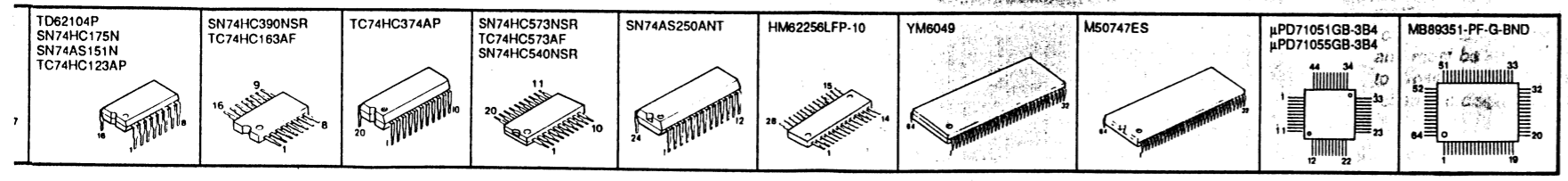


CLK	CLR	ENP	ENT	Load	Function
T	L	X	X	X	Clear
X	H	H	L	H	Count & RC disabled
X	H	L	H	H	Count disabled
X	H	L	L	H	Count & RC disabled
T	H	X	X	L	Load
T	H	H	H	H	Increment Counter

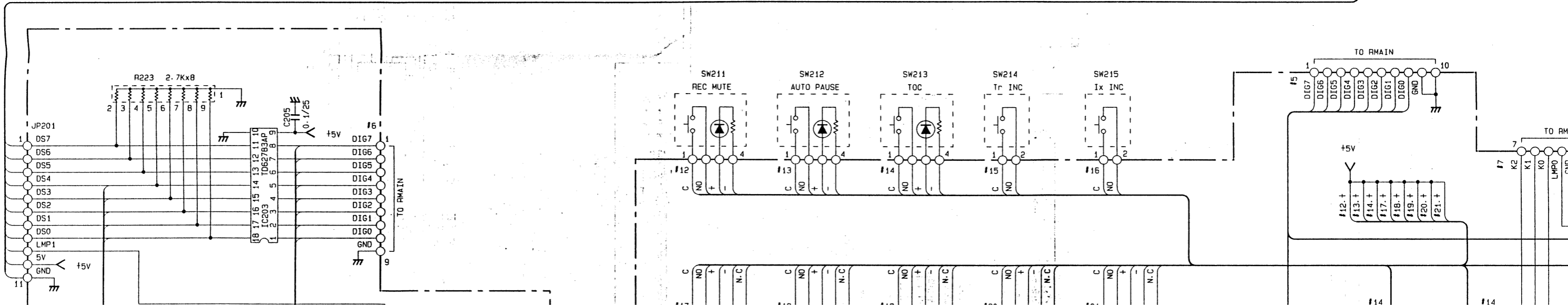
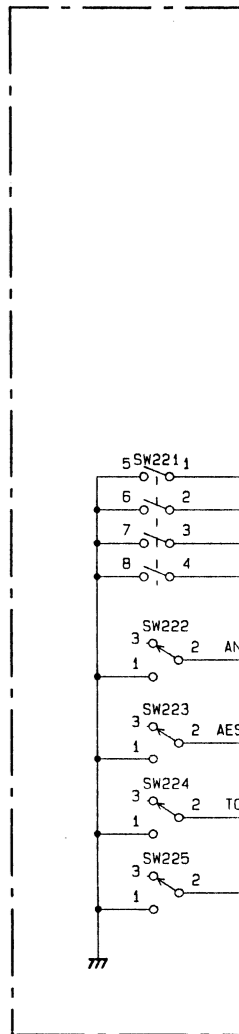
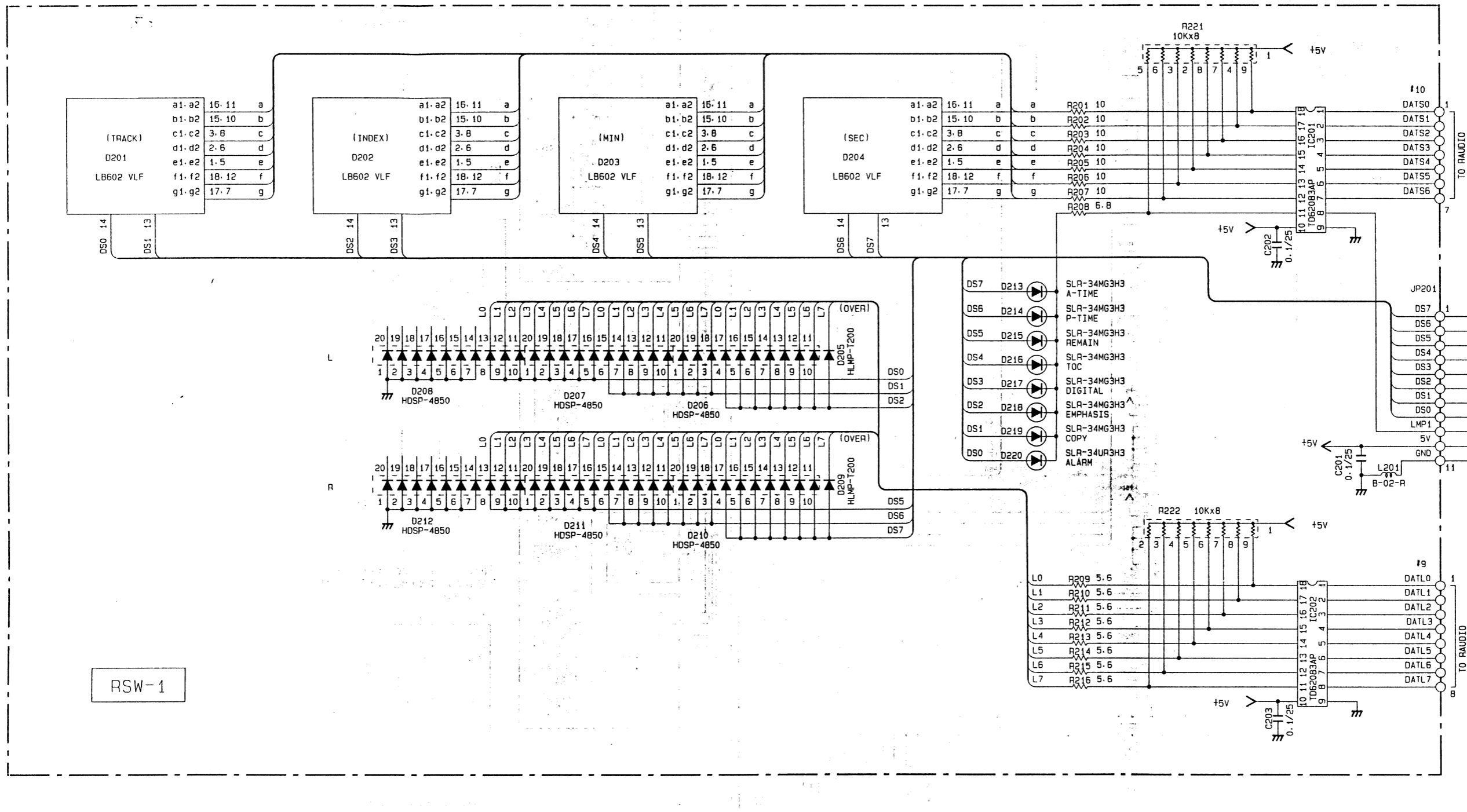
IC1018-1020 : SN75176BP
 Differential Bus Transceiver

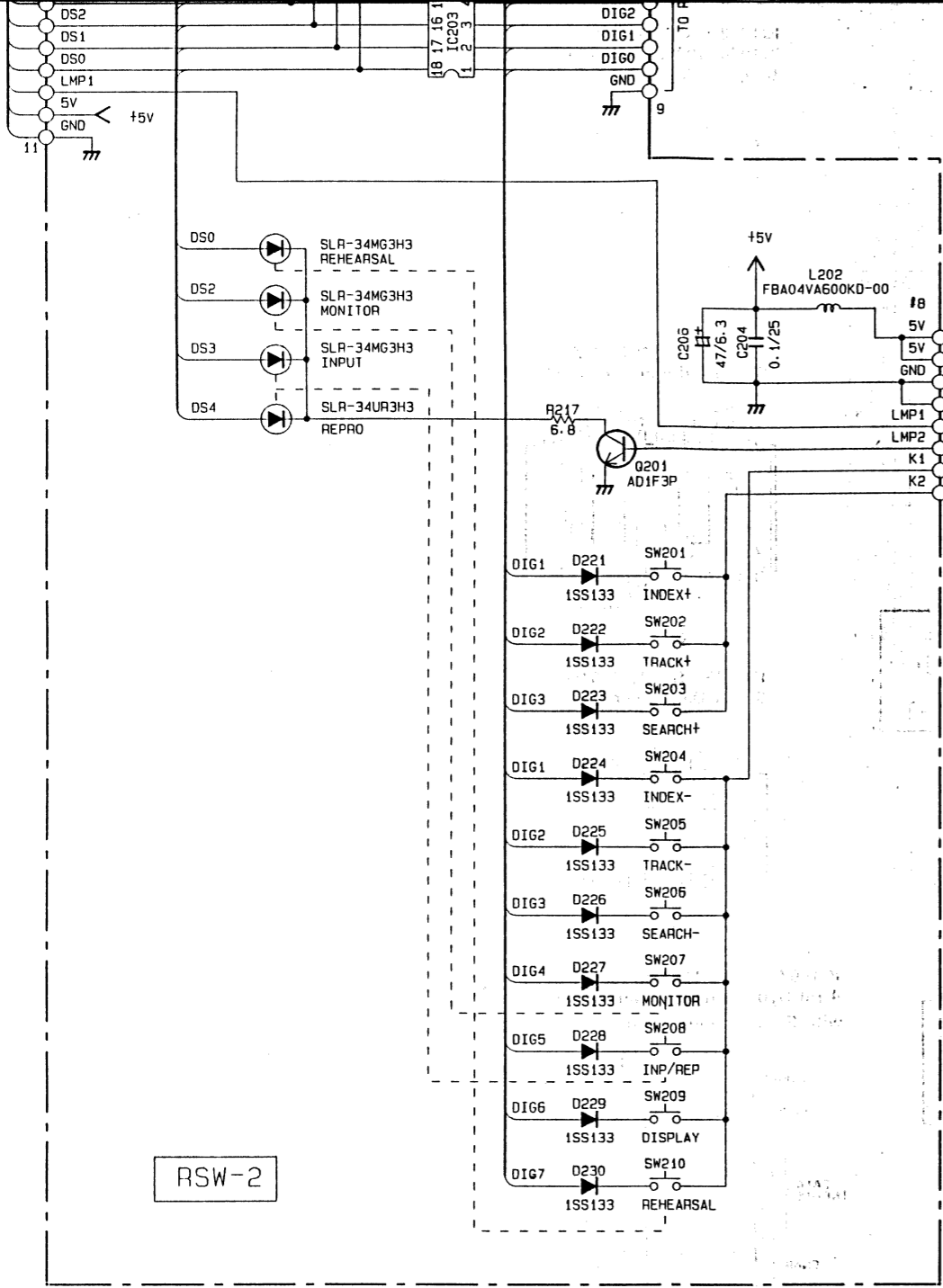


All voltage are measured with a 10MΩ/DC electric volt meter.
 * Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
 * Schematic diagram is subject to change without notice.

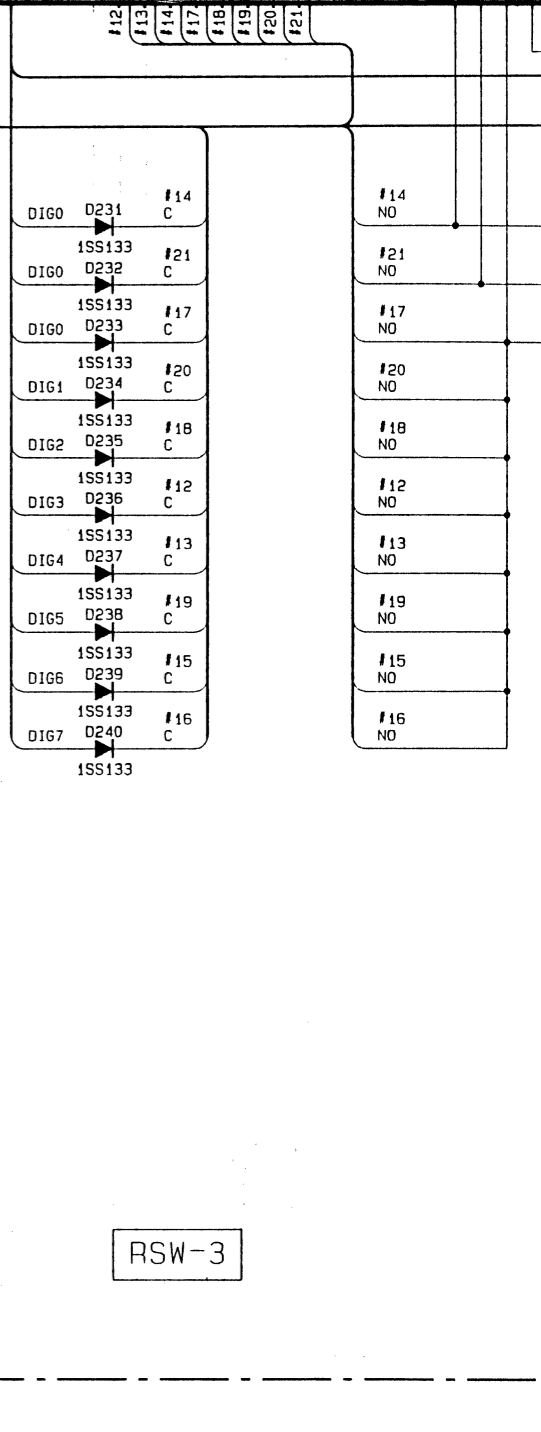
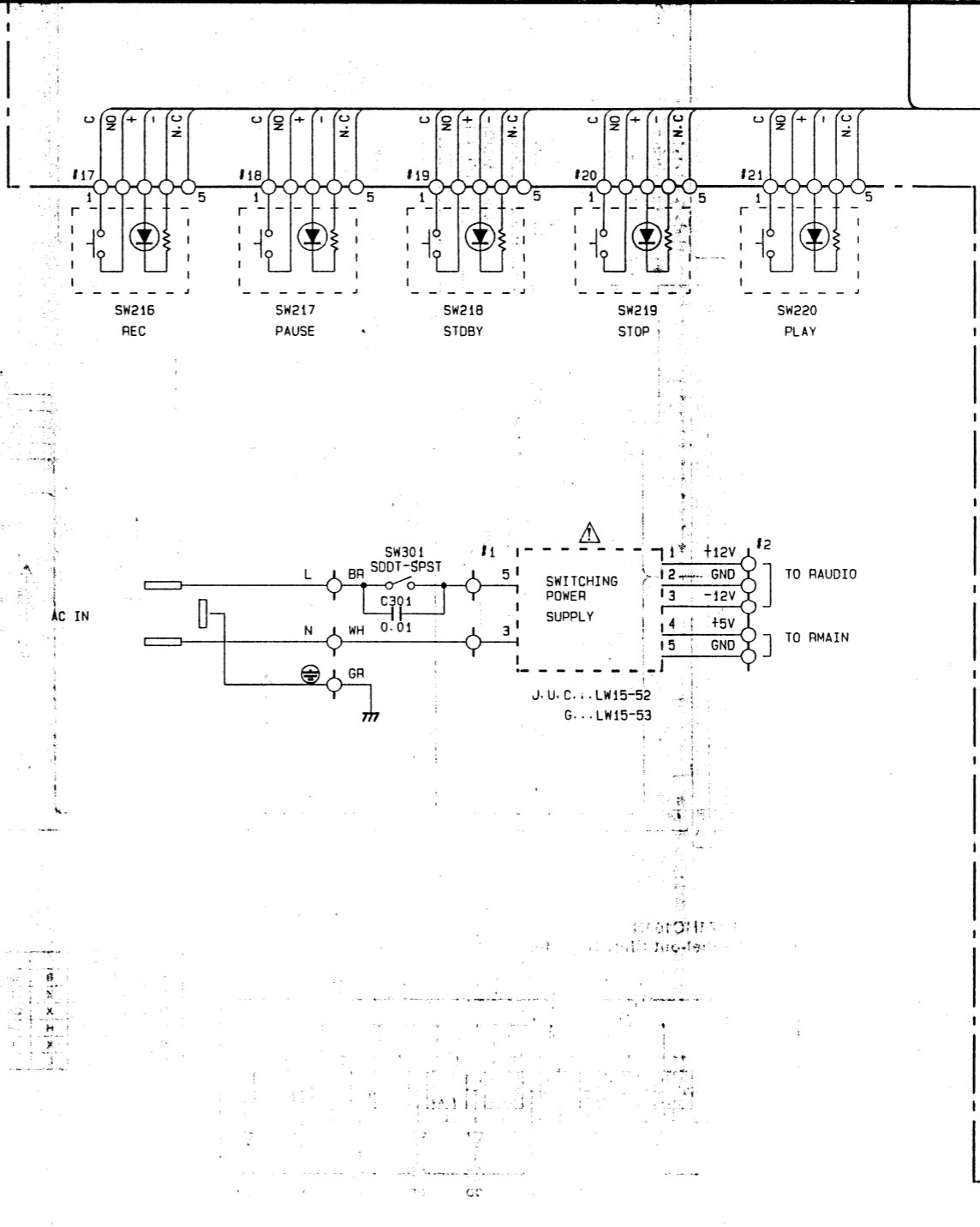


RC601 (R SW) SCHEMATIC DIAGRAM



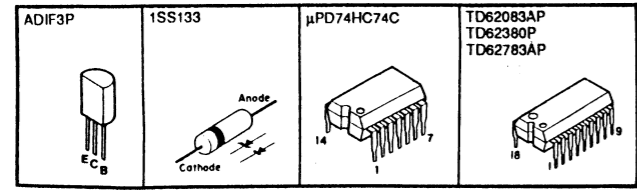


RSW-2

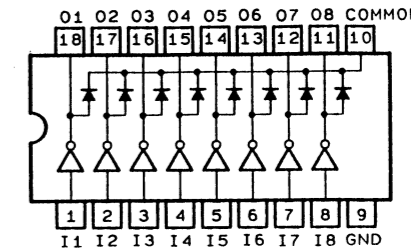


RSW-3

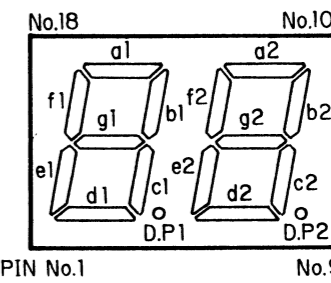
PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.



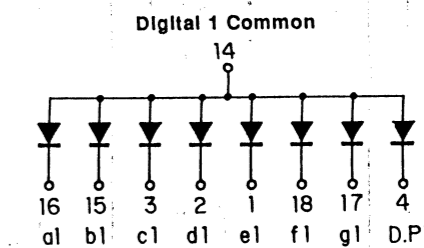
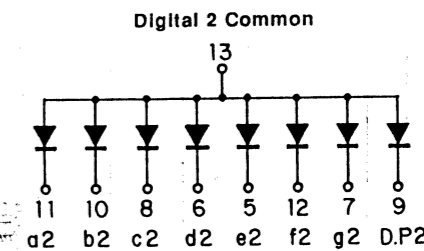
IC201, 202 : TD62083AP
Darlington Driver



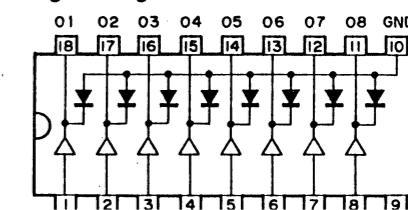
D201~204 : LB602VLF



Pin No.	Function	Pin No.	Function
1	Segment "a1" Cathode	10	Segment "b2" Cathode
2	Segment "d1" Cathode	11	Segment "a2" Cathode
3	Segment "c1" Cathode	12	Segment "f2" Cathode
4	D.P.1 Cathode	13	Digit.2 Common Anode
5	Segment "e2" Cathode	14	Digit.1 Common Anode
6	Segment "d2" Cathode	15	Segment "b1" Cathode
7	Segment "g2" Cathode	16	Segment "a1" Cathode
8	Segment "c2" Cathode	17	Segment "g1" Cathode
9	D.P.2 Cathode	18	Segment "f1" Cathode



IC203 : TD62783AP
High Voltage Source Driver



NOTICE

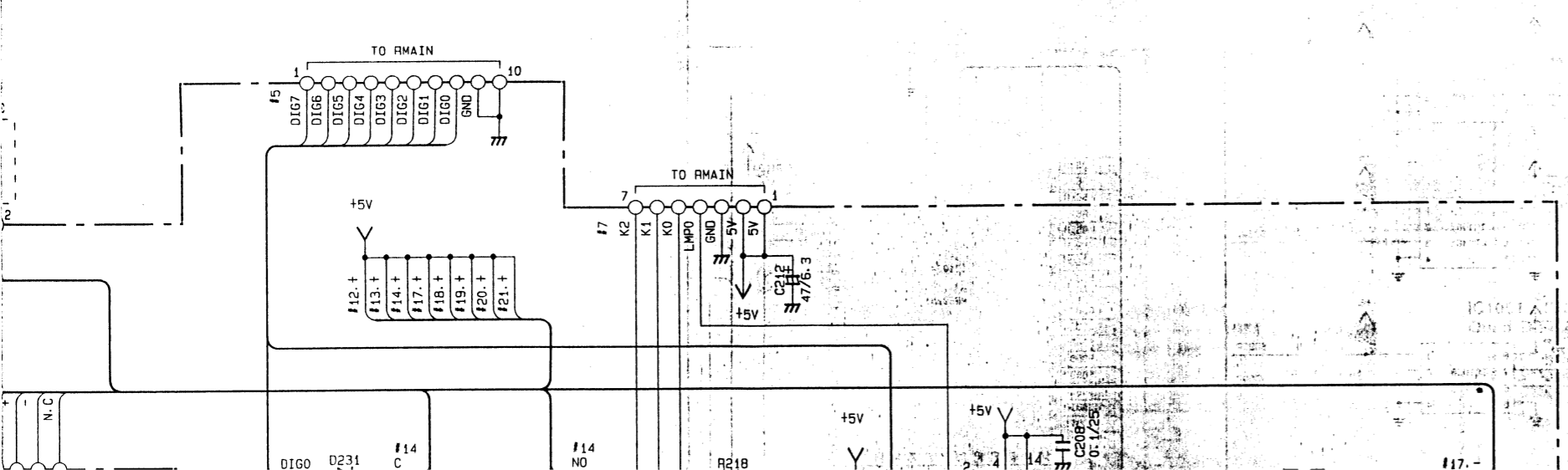
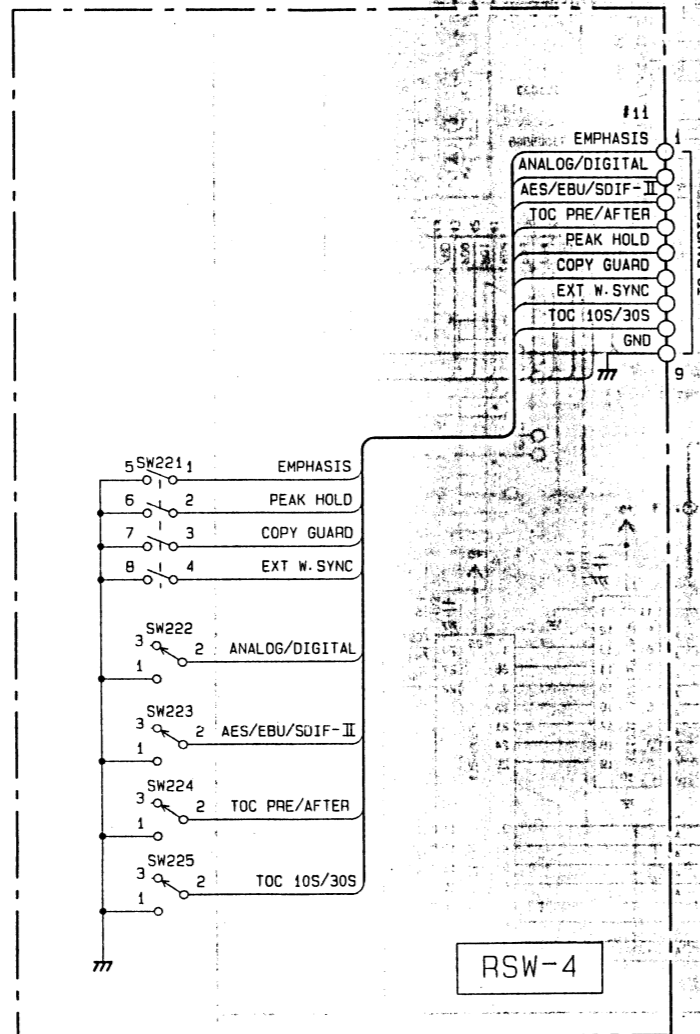
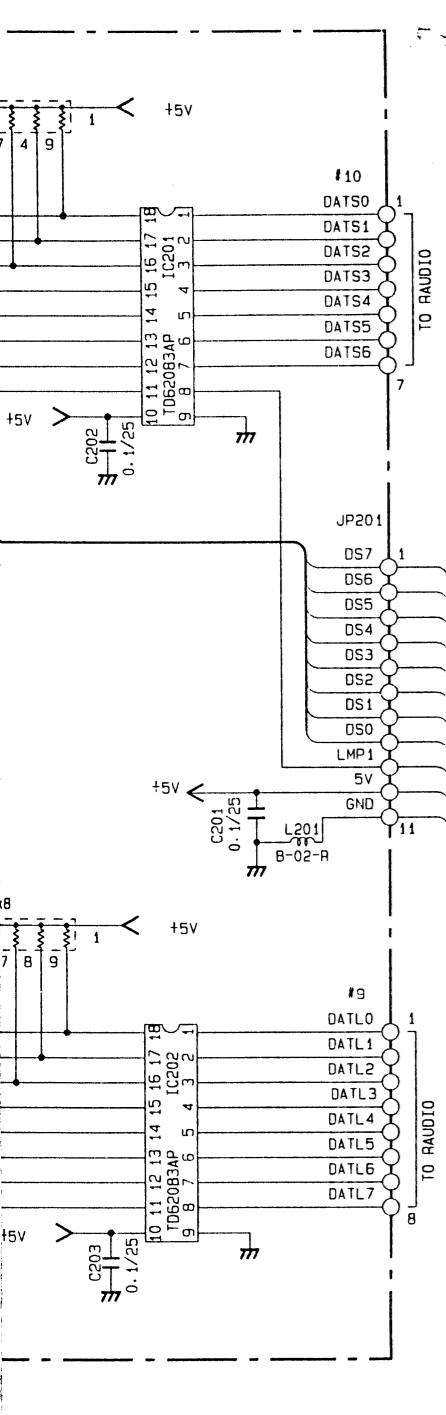
- (J)..... Japanese model
- (U)..... U.S.A model
- (C)..... Canadian model
- (A)..... Australian model
- (G)..... European model
- (B)..... British model
- (R)..... General model
- (P)..... RP model

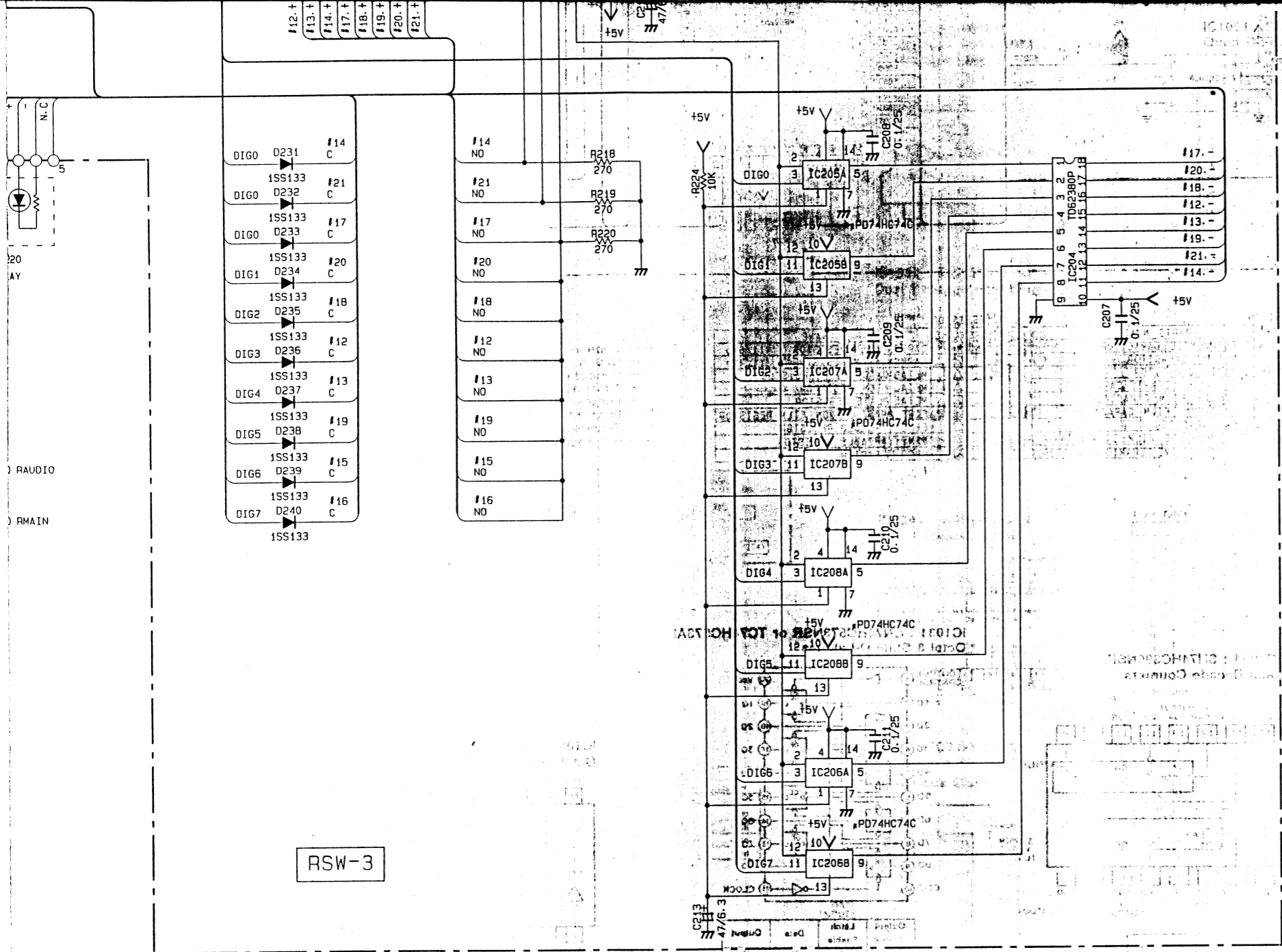
RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
⊗	CARBON FILM RESISTOR (1/4W)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
⊞	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊕	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

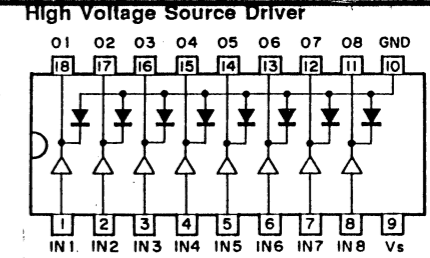
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊙	AXIAL LEAD CERAMIC CAPACITOR
⊖	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
⊖	MICA CAPACITOR
⊖	POLYPROPYLENE FILM CAPACITOR
⊖	SEMICONDUCTIVE CERAMIC CAPACITOR



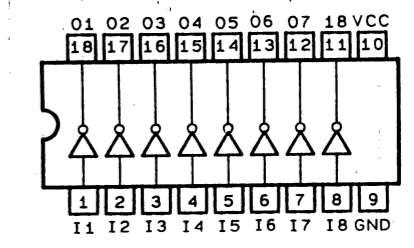


RSW-3

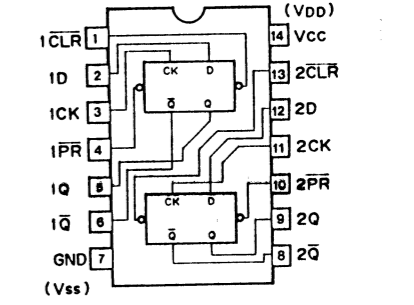
LAST NO.	
C	213
R	224
Q	201
D	240
IC	208



IC204 : TD62380P LED Driver



IC205 : μPD74HC74 Dual D-FFs with Preset and Clear



INPUTS				OUTPUTS		FUNCTION
CLR	PR	D	CK	Q	Q̄	
L	H	X	X	L	H	CLEAR
H	L	X	X	H	L	PRESET
L	L	X	X	H	H	—
H	H	L	↓	L	H	—
H	H	H	↓	H	L	—
H	H	X	↓	Qn	Q̄n	NO CHANGE

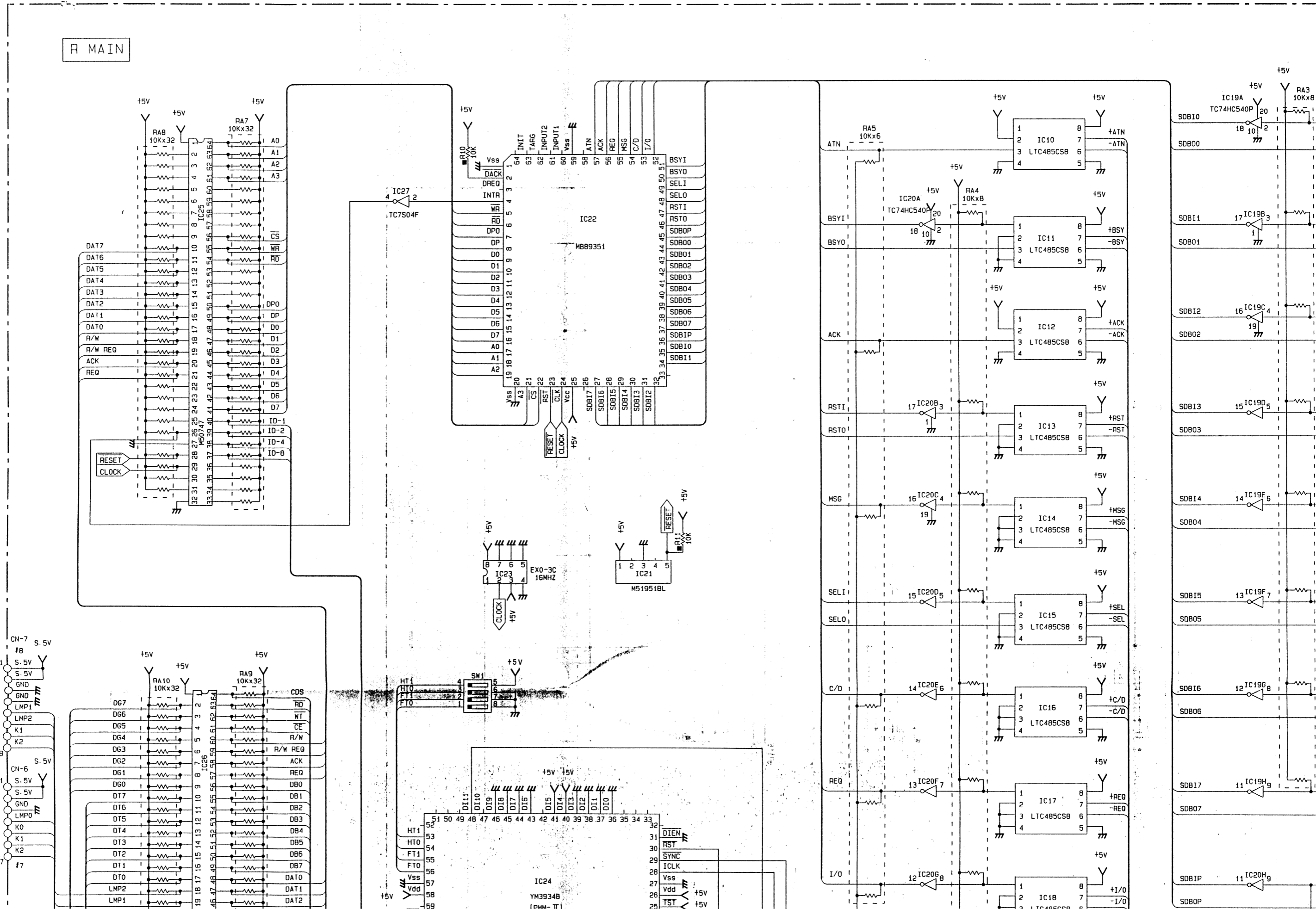
X : Don't care

- * All voltage are measured with a 10MΩ/DC electric volt meter.
- * Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- * Schematic diagram is subject to change without notice.

GA

RC601 (R MAIN) SCHEMATIC DIAGRAM

1
2
3
4
5
6



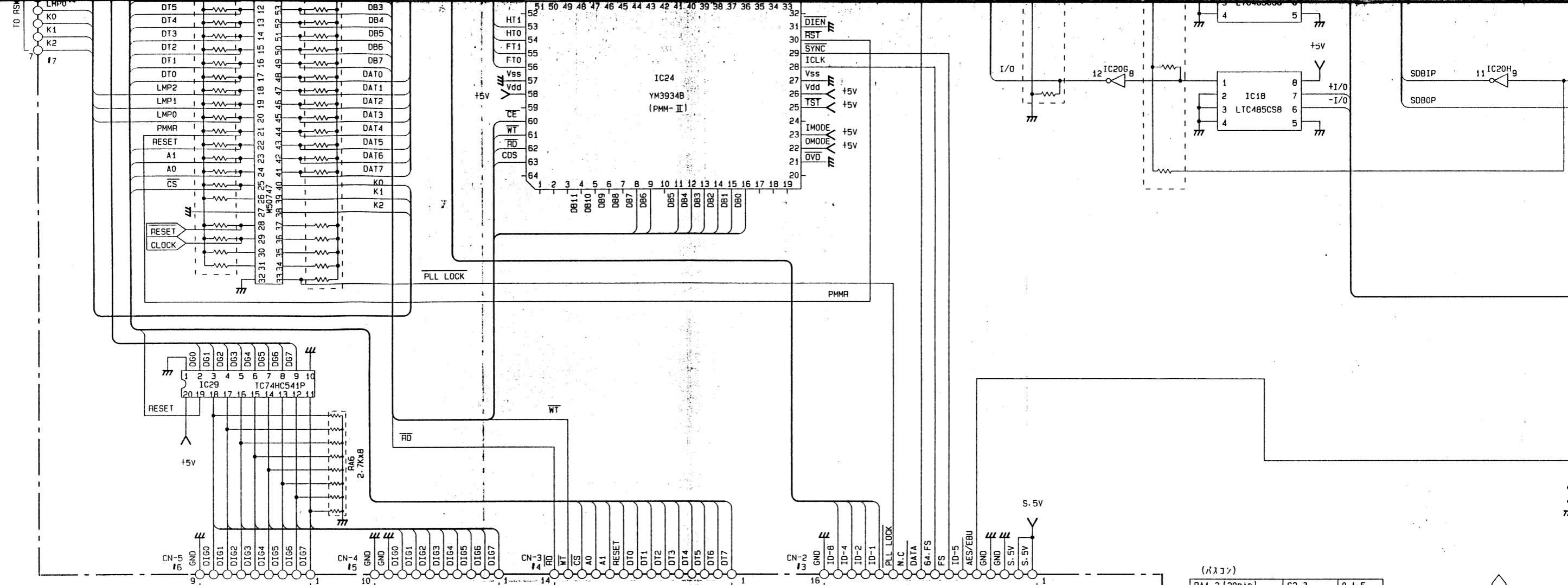
6

7

8

9

10



LAST NO.	
C	1
	36
R	11
Q	
D	
IC	29

CAPACITOR		
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	⌘
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	
⊙	AXIAL LEAD CERAMIC CAPACITOR	
⊖	POLYESTER FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	⌘
Ⓜ	MICA CAPACITOR	
⊕	POLYPROPYLENE FILM CAPACITOR	
⊗	SEMICONDUCTIVE CERAMIC CAPACITOR	

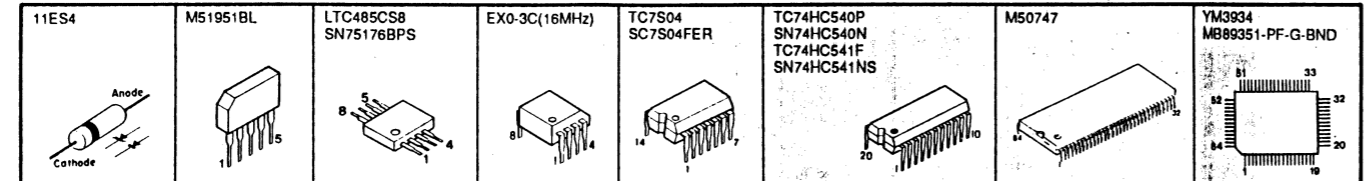
RESISTOR		
REMARKS	PARTS NAME	
NO MARK	CARBON FILM RESISTOR (1/6W)	
□	CARBON FILM RESISTOR (1/4W)	
△	METAL OXIDE FILM RESISTOR	
▲	METAL FILM RESISTOR	
⊠	METAL PLATE RESISTOR	
⊞	FIRE PROOF CARBON FILM RESISTOR	
□	CEMENT MOLDED RESISTOR	
⊗	SEMI VARIABLE RESISTOR	
■	CHIP RESISTOR	

NOTICE
 (J)..... Japanese model
 (U)..... U.S.A model
 (C)..... Canadian model
 (A)..... Australian model
 (G)..... European model
 (B)..... British model
 (R)..... General model
 (P)..... RP model

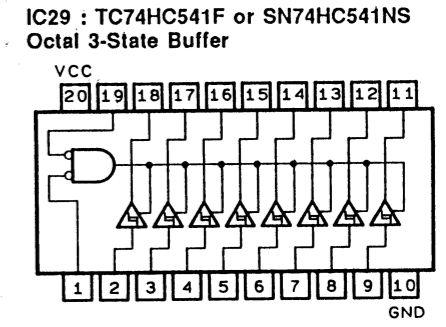
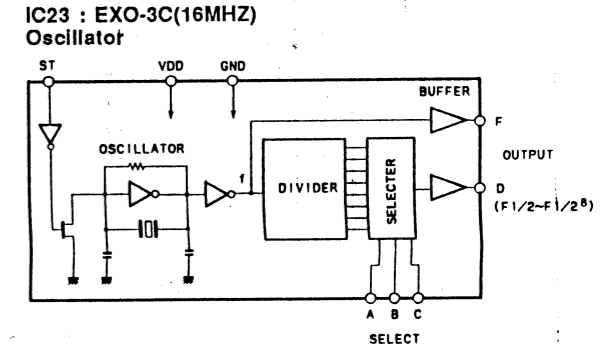
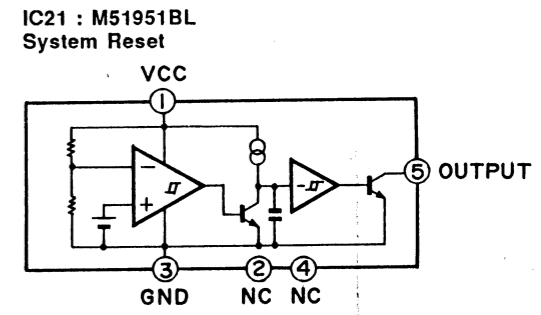
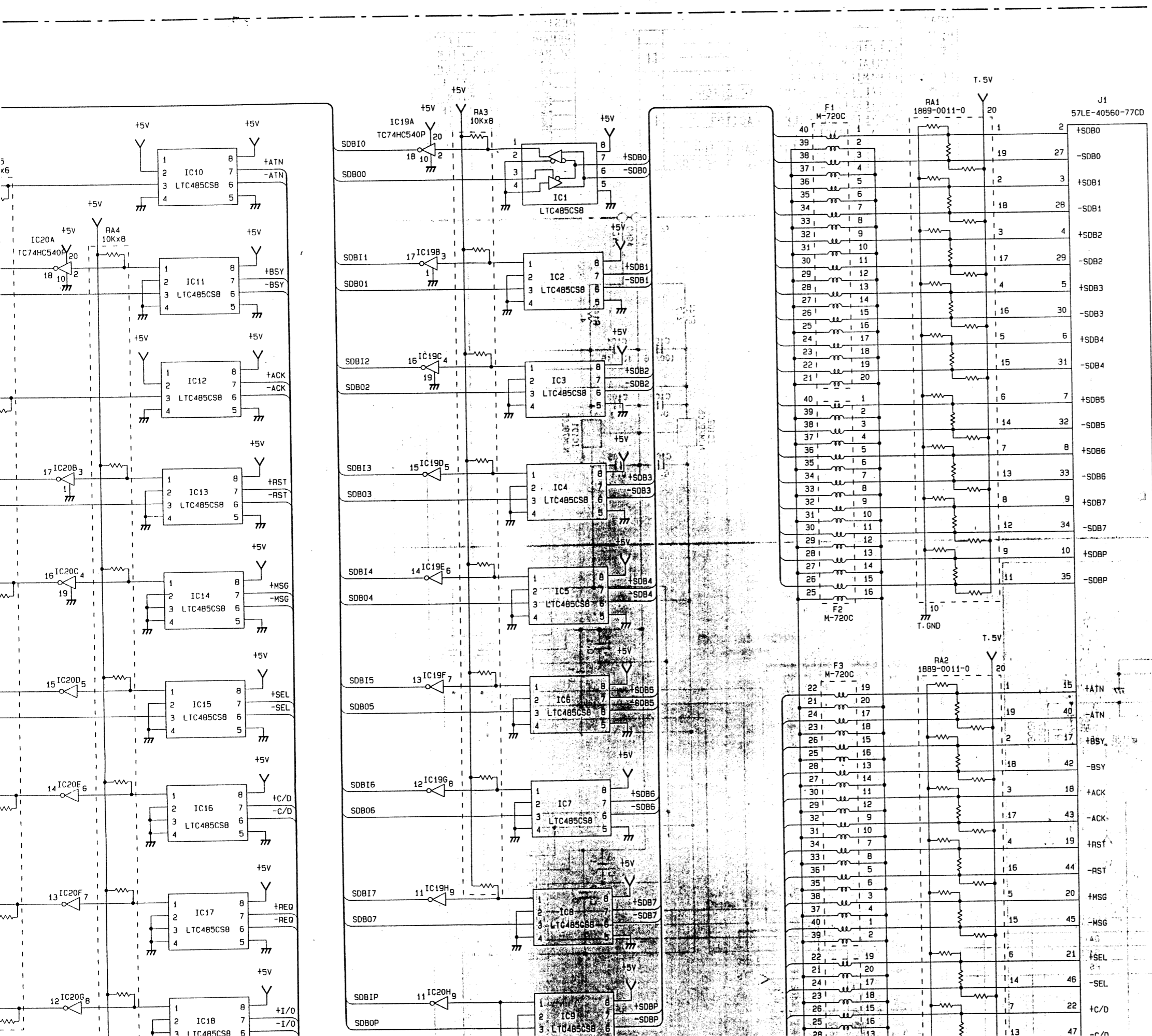
(λλλ)

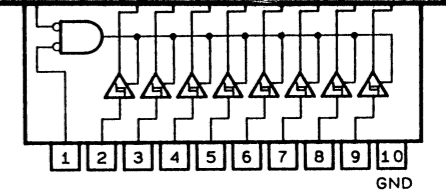
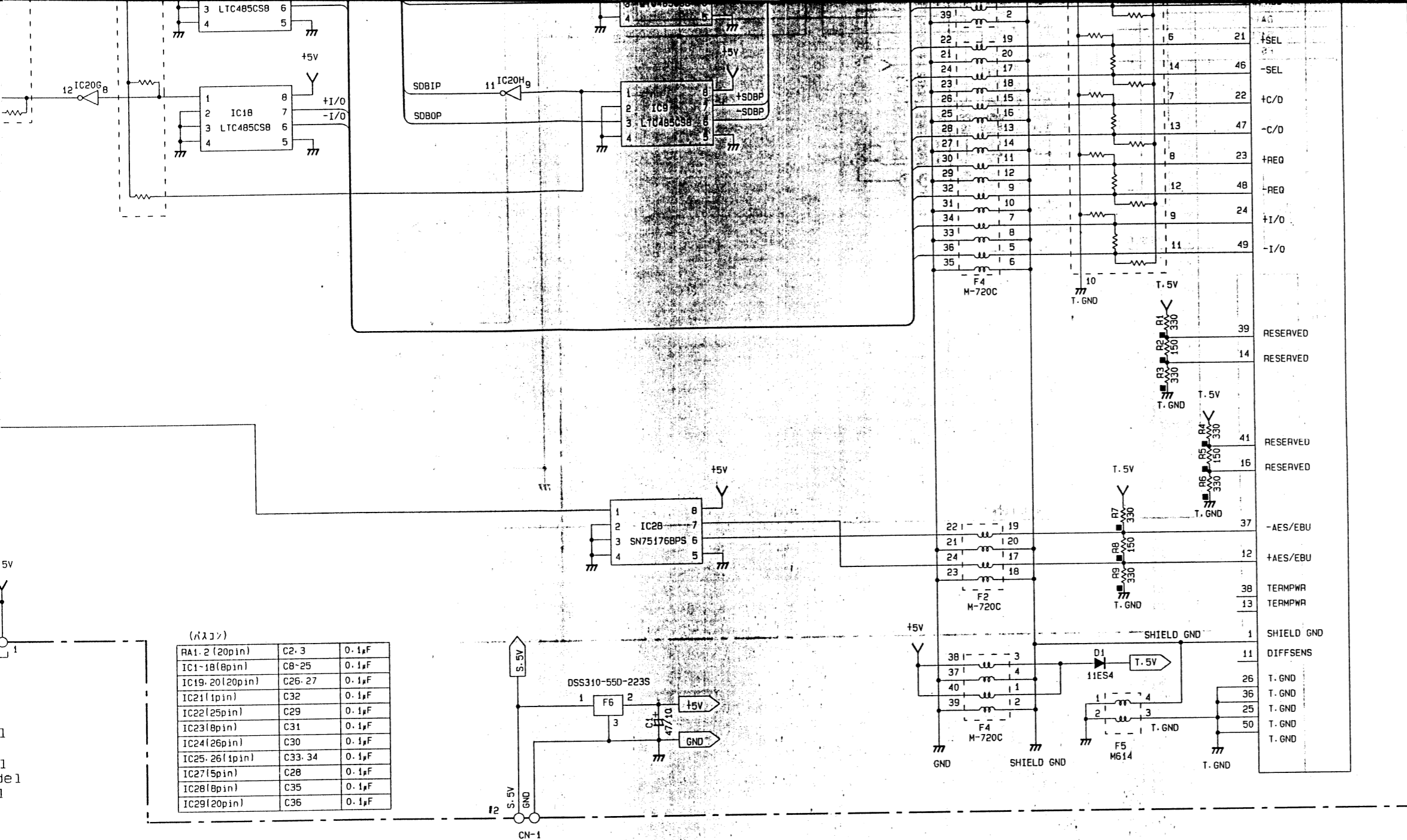
RA1.2 (20pin)	C2.3	0.1μF
IC1-18(8pin)	C8-25	0.1μF
IC19-20(20pin)	C26-27	0.1μF
IC21(1pin)	C32	0.1μF
IC22(25pin)	C29	0.1μF
IC23(8pin)	C31	0.1μF
IC24(26pin)	C30	0.1μF
IC25-26(1pin)	C33-34	0.1μF
IC27(5pin)	C28	0.1μF
IC28(8pin)	C35	0.1μF
IC29(20pin)	C36	0.1μF

PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.



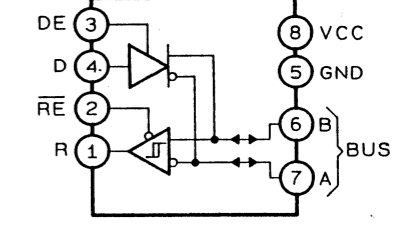
62





INPUT		OUTPUT
E1	E2	D
L	L	
H	X	High-Z
X	H	

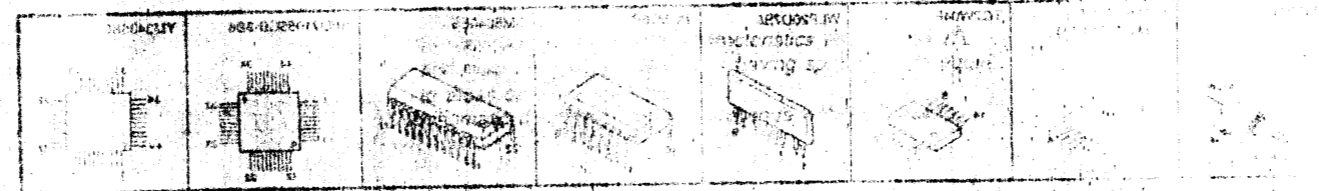
IC28 : SN75176BPS
Differential Bus Transceiver



INPUT	ENABLE	OUTPUTS	
D	DE	A	B
H	H	H	L
L	H	L	H
X	L	Z	Z

H = high level, L = low level, ? = indeterminate.
X = irrelevant, Z = high impedance (off)

- * All voltage are measured with a 10MΩ/DC electric volt meter.
- * Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- * Schematic diagram is subject to change without notice.



RC601 (R AUDIO) SCHEMATIC DIAGRAM

CAPACITOR

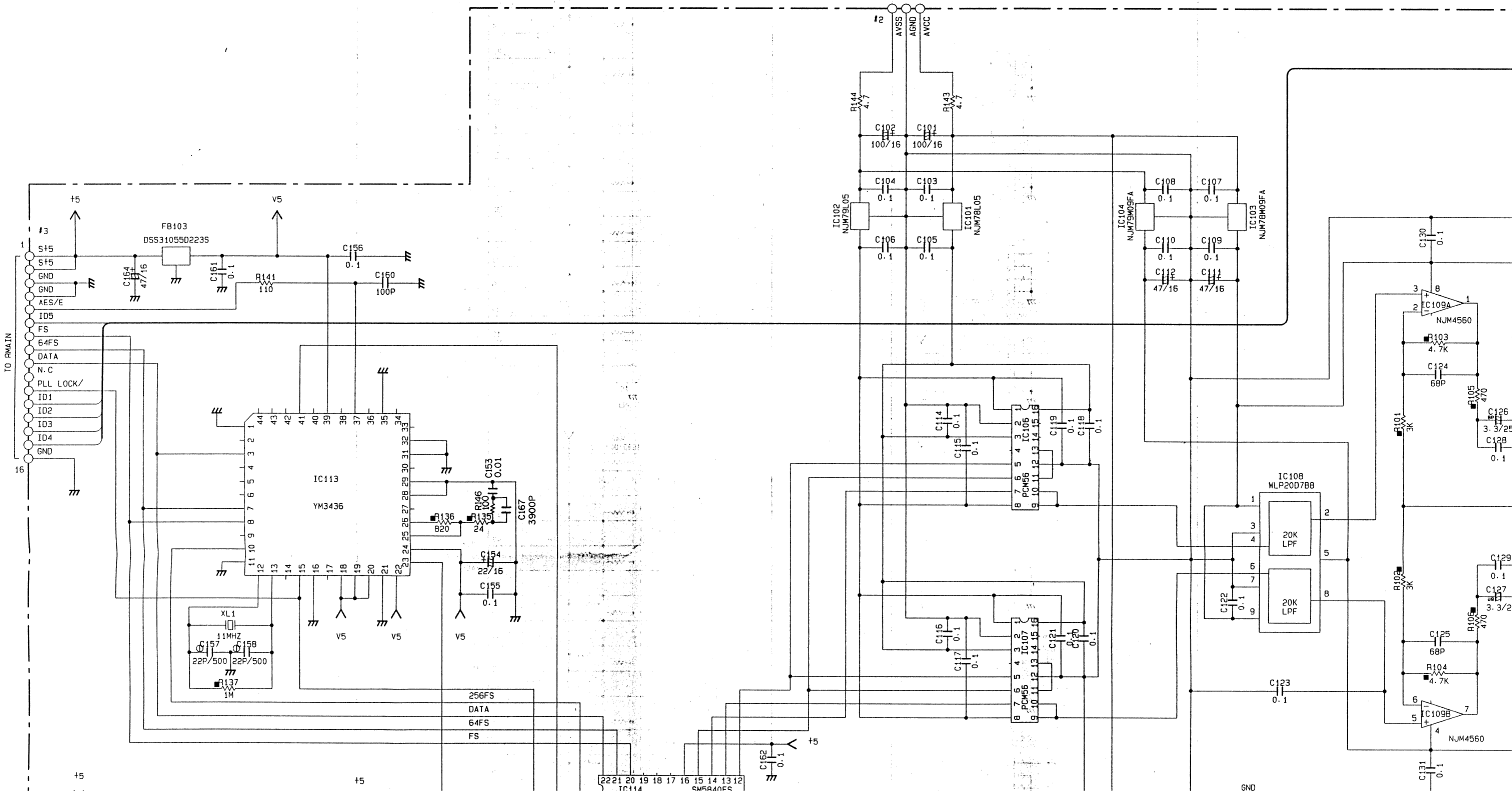
REMARKS	PARTS NAME	SYMBOL
NO MARK	ELECTROLYTIC CAPACITOR	⌘
⊗	TANTALUM CAPACITOR	⌘
NO MARK	CERAMIC CAPACITOR	⌘
⊙	AXIAL LEAD CERAMIC CAPACITOR	⌘
⊙	POLYESTER FILM CAPACITOR	⌘
○	POLYSTYRENE FILM CAPACITOR	⌘
⊖	MICA CAPACITOR	⌘
⊖	POLYPROPYLENE FILM CAPACITOR	⌘
⊖	SEMICONDUCTIVE CERAMIC CAPACITOR	⌘

RESISTOR

REMARKS	PARTS NAME	SYMBOL
NO MARK	CARBON FILM RESISTOR (1/6W)	⌘
⊠	CARBON FILM RESISTOR (1/4W)	⌘
△	METAL OXIDE FILM RESISTOR	⌘
△	METAL FILM RESISTOR	⌘
⊠	METAL PLATE RESISTOR	⌘
⊠	FIRE PROOF CARBON FILM RESISTOR	⌘
⊠	CEMENT MOLDED RESISTOR	⌘
⊠	SEMI VARIABLE RESISTOR	⌘
⊠	CHIP RESISTOR	⌘

NOTICE

(J)..... Japanese model
 (U)..... U.S.A model
 (C)..... Canadian model
 (A)..... Australian model
 (G)..... European model
 (B)..... British model
 (R)..... General model
 (P)..... RP model

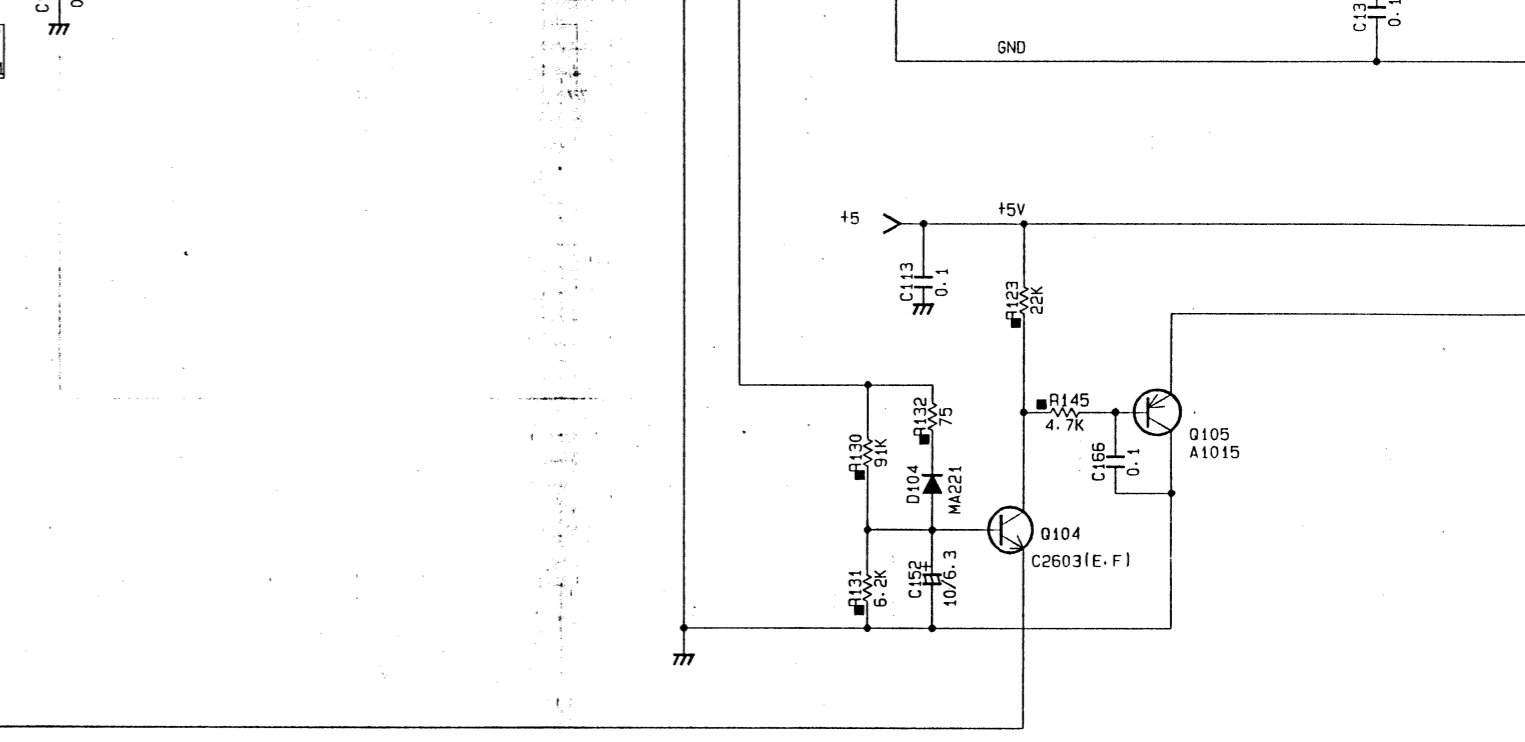
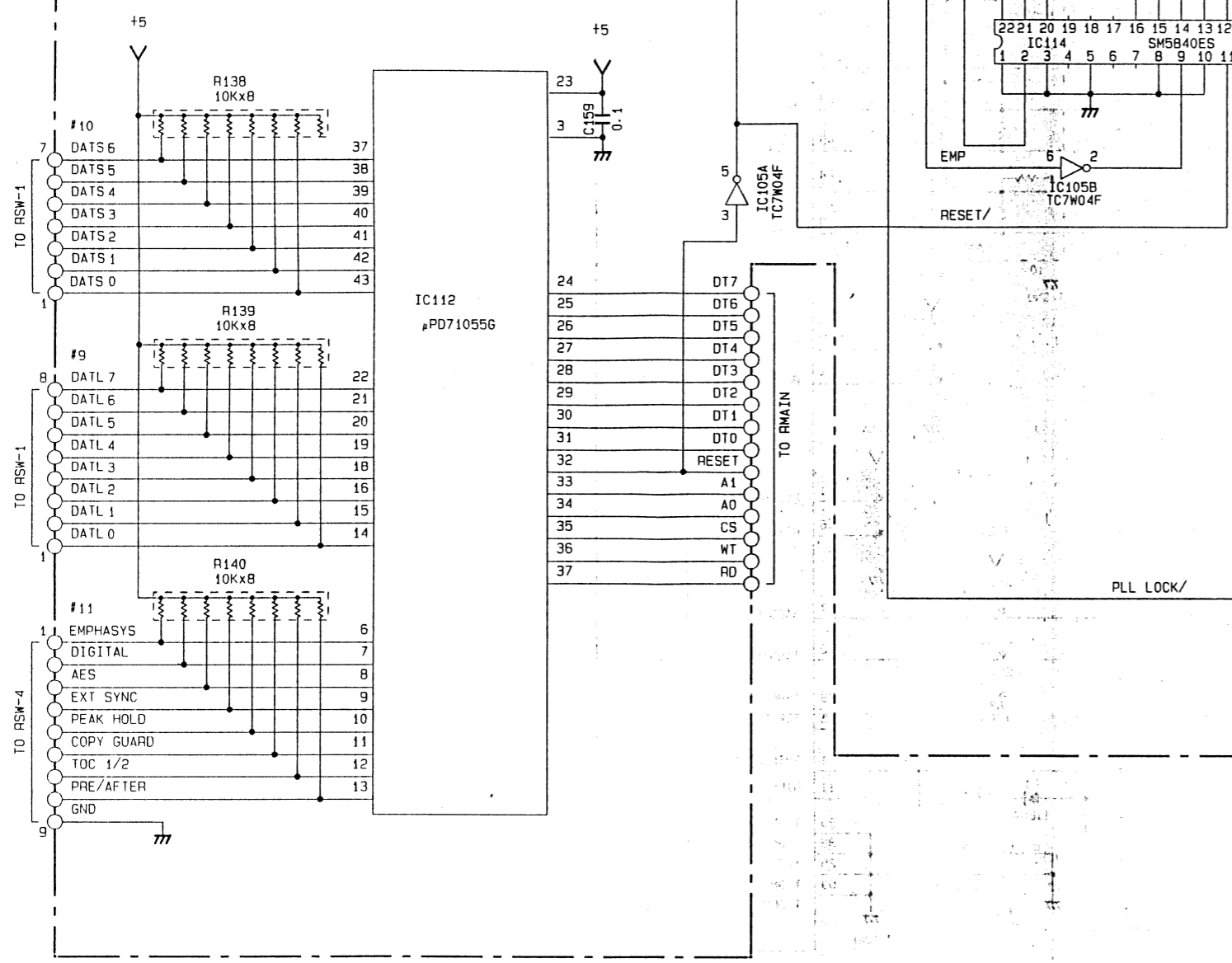


7

8

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10



PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.

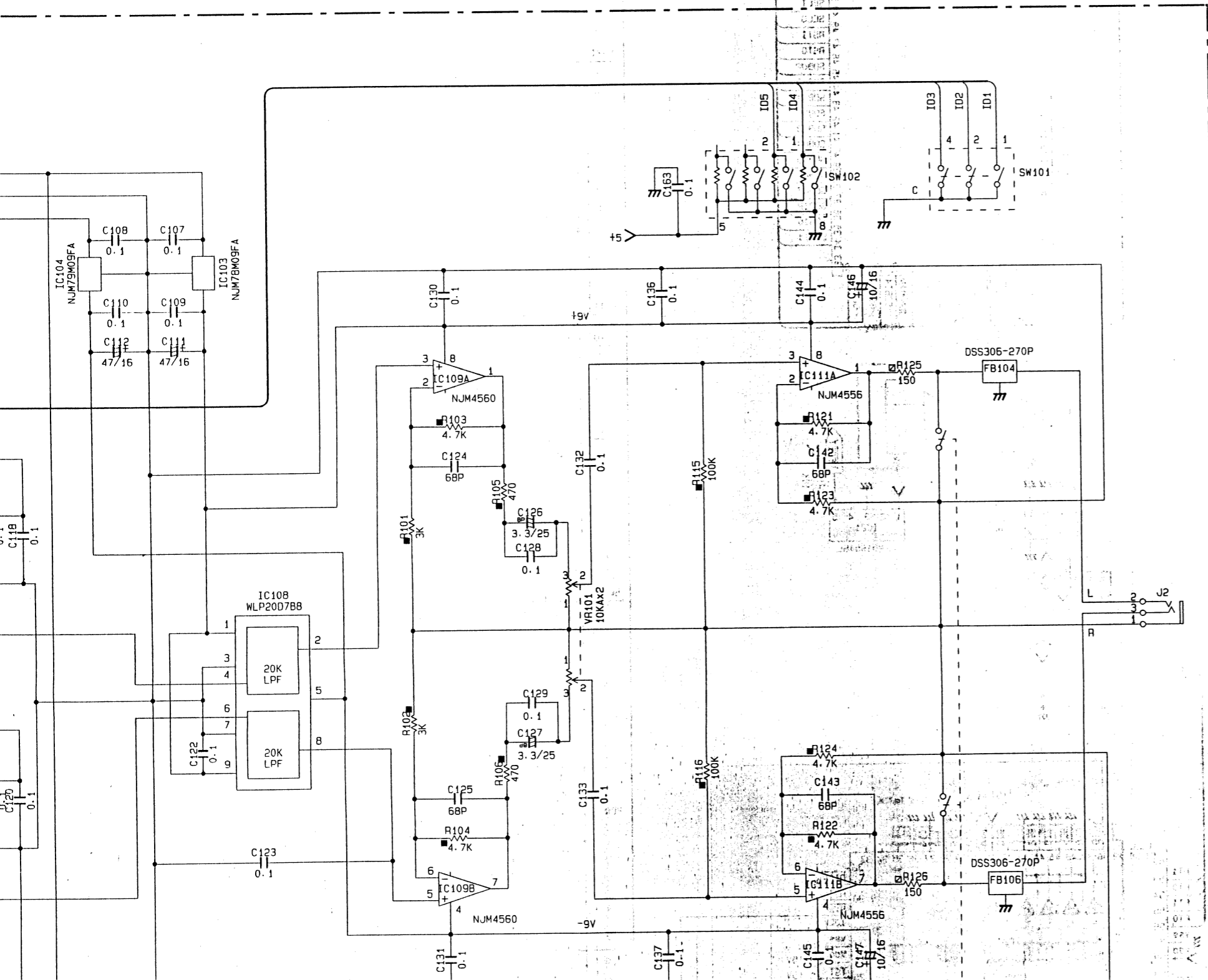
<p>2SC2603 2SA1015TP</p>	<p>NJM78L05A</p>	<p>NJM79L05A</p>	<p>NJM78M09FA</p>	<p>NJM79M09FA</p>	<p>MA221</p>	<p>NJM4560M(T1) NJM4556MB(T1)</p>	<p>TC7W04F</p>	<p>WLP20D7B8</p>	<p>PCM56P</p>	<p>SM5840ES</p>	<p>µPD71055GB-3B6</p>	<p>YM3436BG</p>
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ARTS NAME
ILM RESISTOR (1/5W)
ILM RESISTOR (1/4W)
DE FILM RESISTOR
.M RESISTOR
TE RESISTOR
OF CARBON FILM RESISTOR
LODED RESISTOR
IABLE .RESISTOR
ISTOR

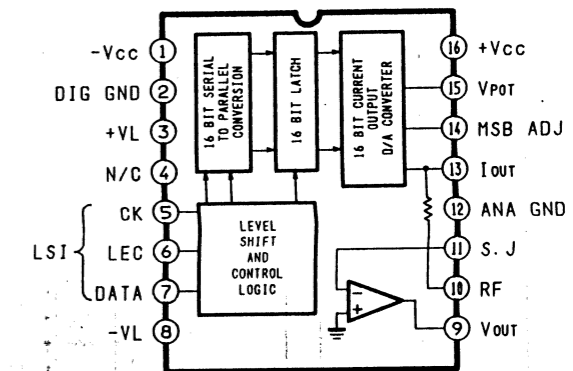
NOTICE

(J)..... Japanese model
 (U)..... U.S.A model
 (C)..... Canadian model
 (A)..... Australian model
 (G)..... European model
 (B)..... British model
 (R)..... General model
 (P)..... AP model

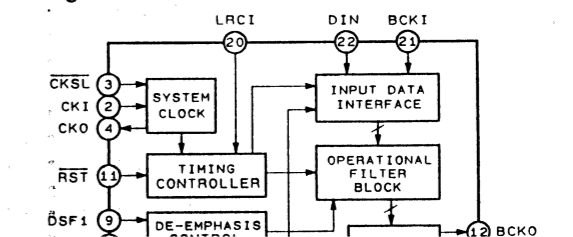
LAST NO.	
C	166
R	145
Q	105
D	104
IC	117

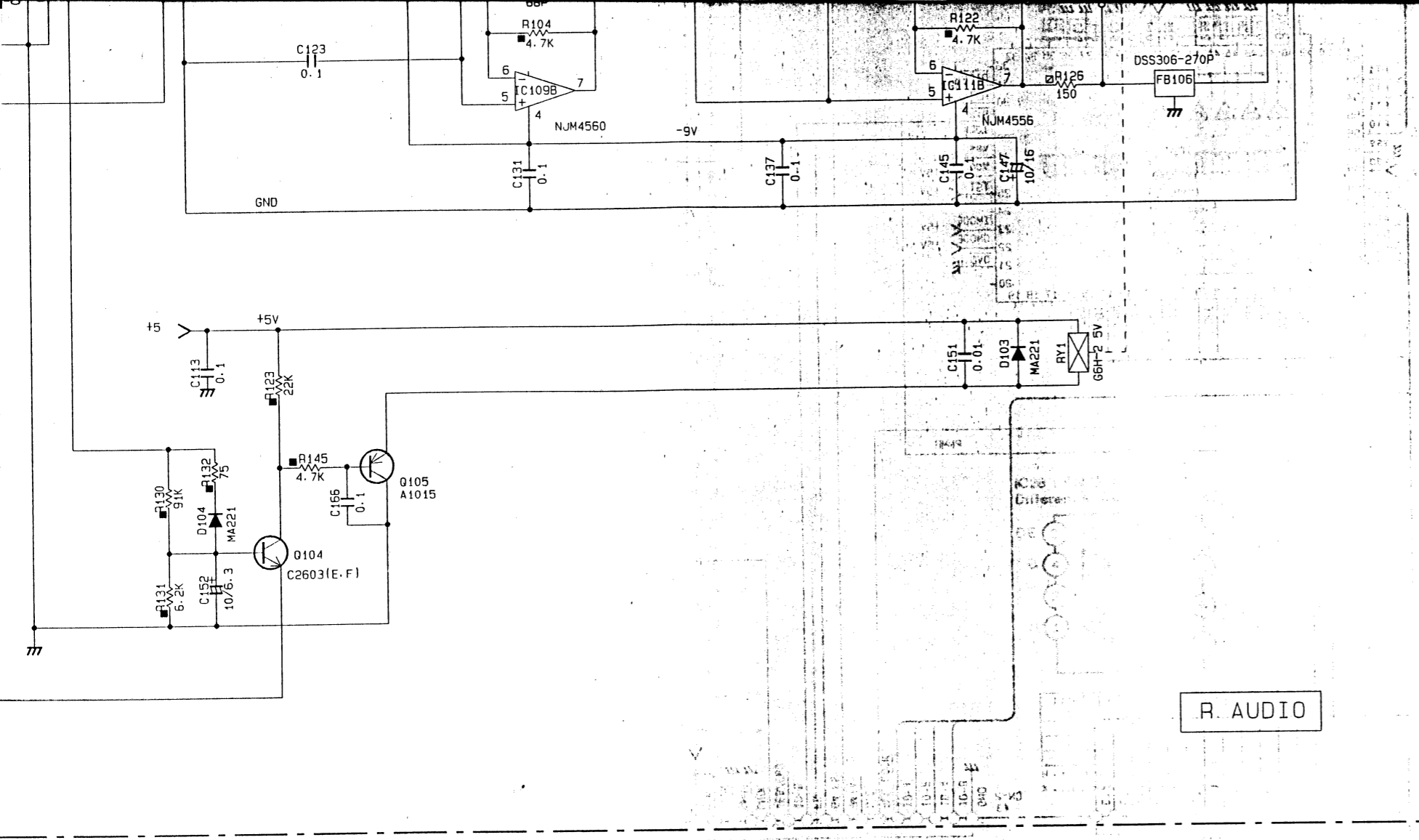


IC106, 107 : PCM56P D/A Converter

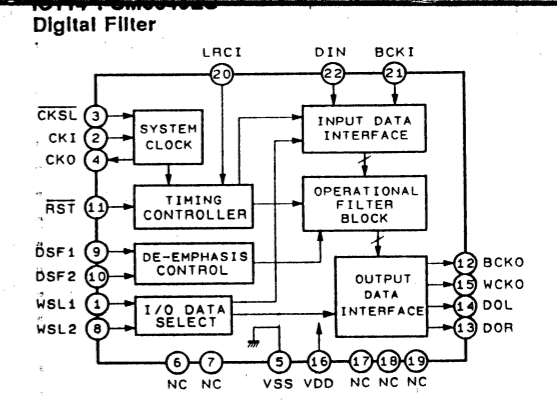


IC114 : SM5840ES Digital Filter





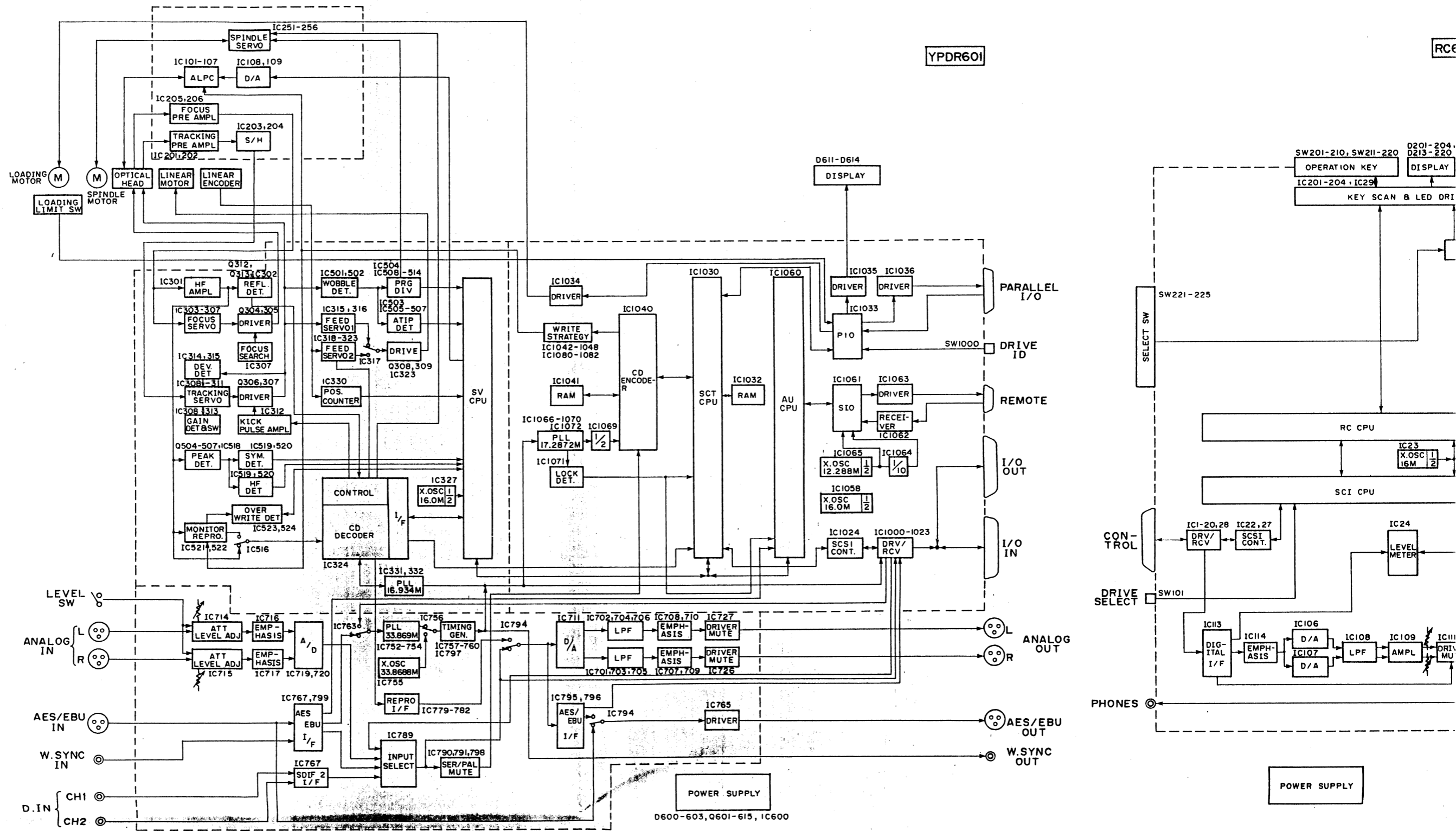
R. AUDIO



- * All voltage are measured with a 10MΩ/DC electric volt meter.
- * Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- * Schematic diagram is subject to change without notice.

63

BLOCK DIAGRAM



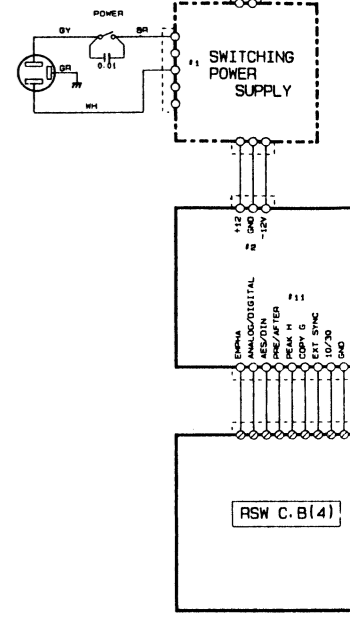
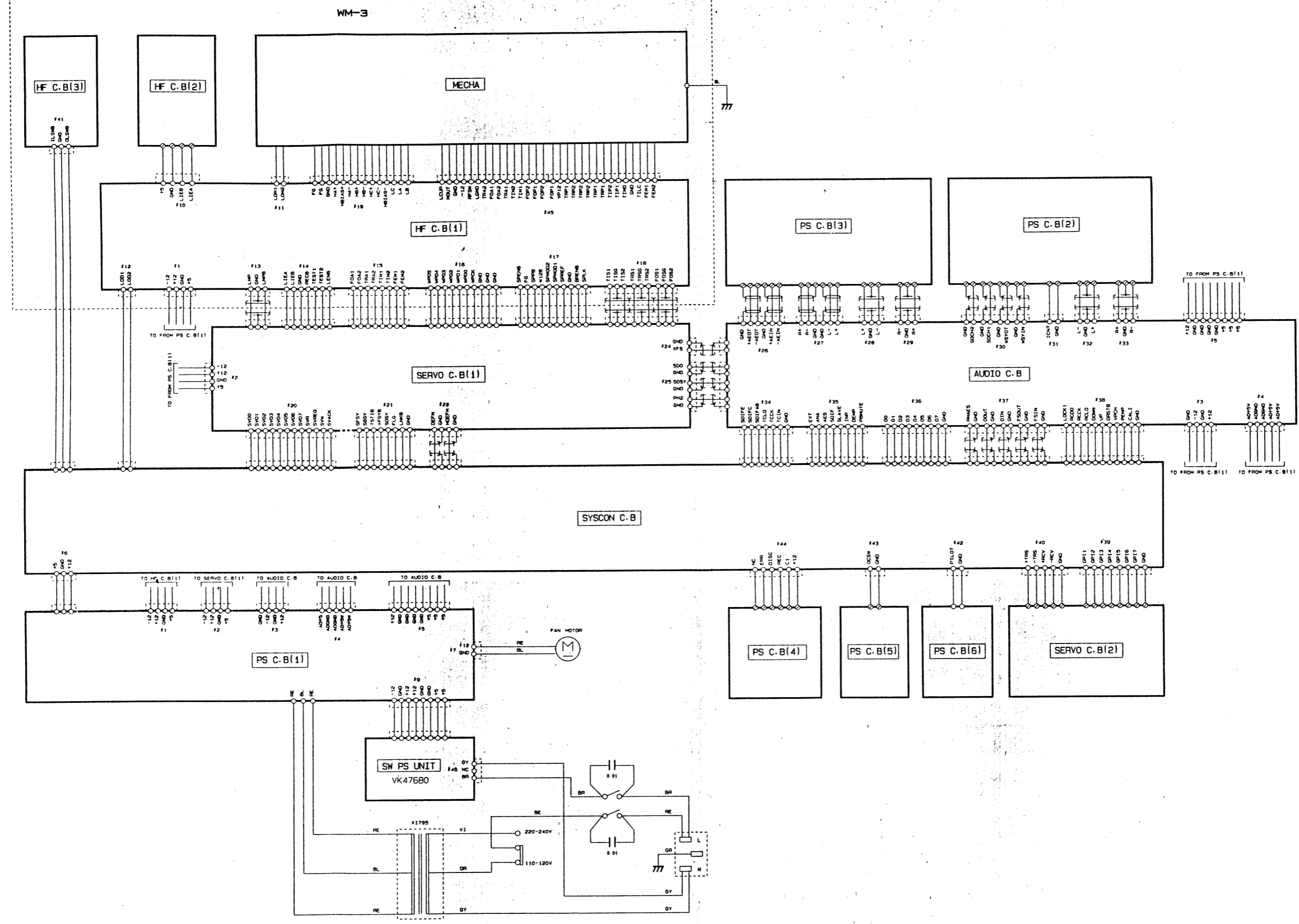
INTERCONNECT WIRING DIAGRAM

YPDR601



64

7
8
9
10



G

H

I

J

K

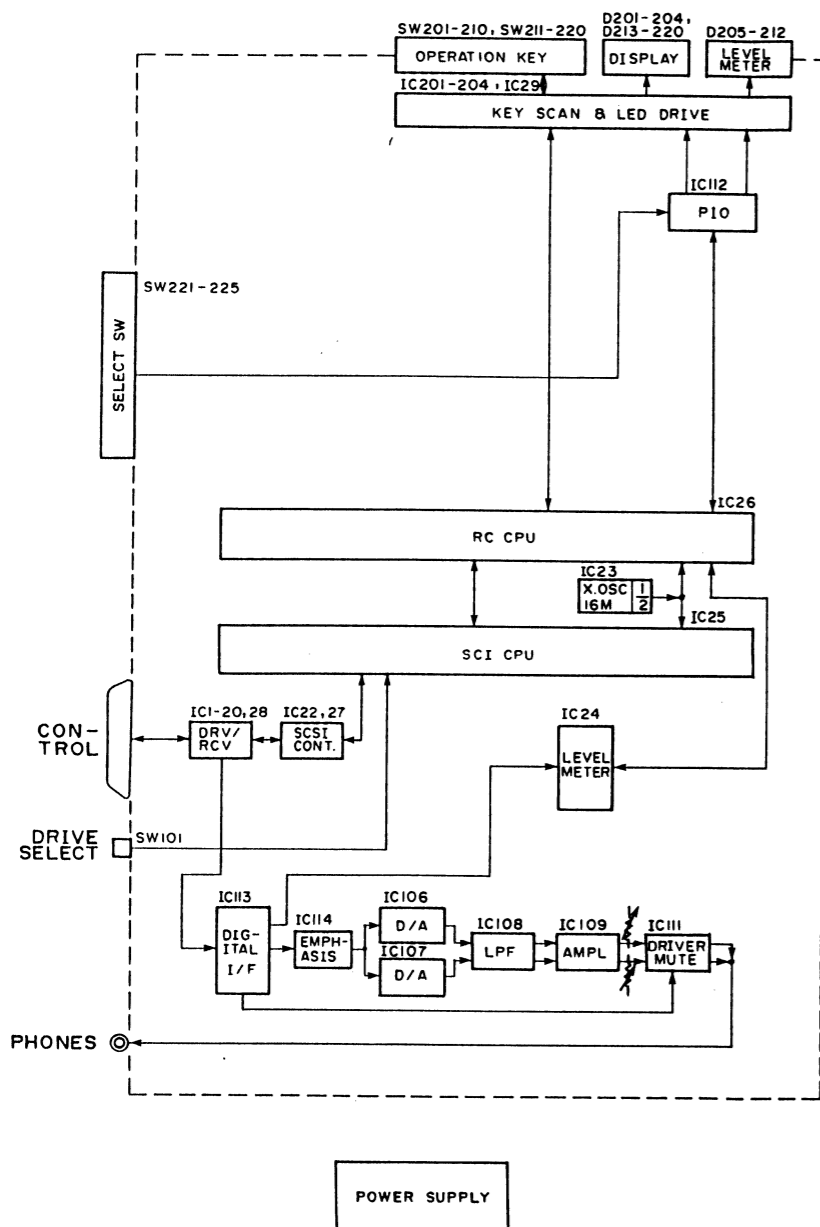
L

M

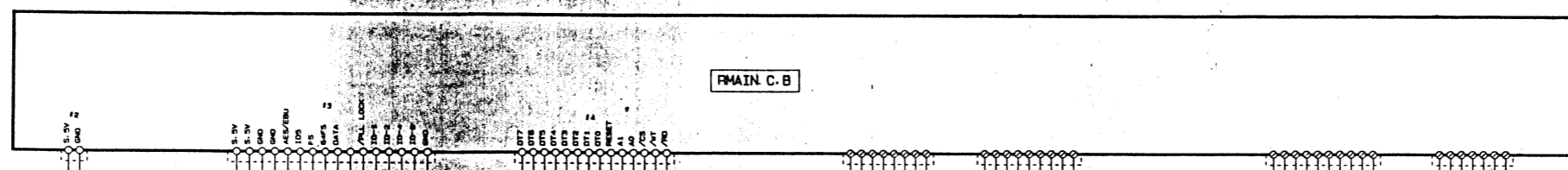
N

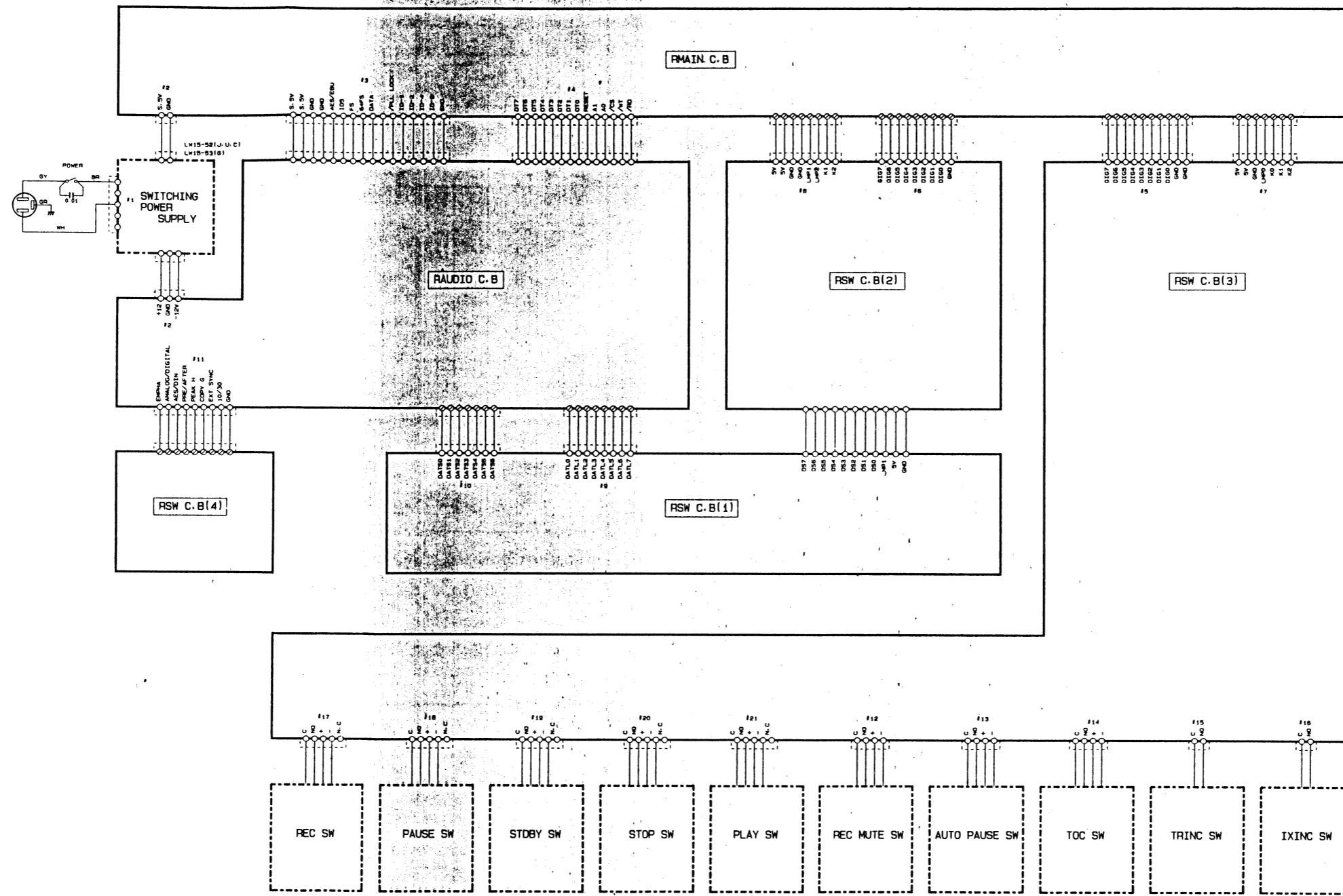
RC601

PARALLEL I/O
DRIVE
MUTE
CONTROL
DRIVE SELECT
ANALOG OUT
S/EBU OUT
SYNC OUT



• RC601





PARTS LIST

Y PDR601 ELECTRICAL PARTS

Y PDR601/RC601

WARNING

Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.

Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS List. For the parts No. of the carbon resistors, refer to P. 82.

Ref	Part No	Description	部品名	Remarks	ランク
	VK412600	Circuit Board	SERVO	サーボシート	68
	VK412800	Circuit Board	PS	PSシート	56
	VK415100	Circuit Board	AUDIO	AUDIOシート	79
	VK415200	Circuit Board	SYSCON	SYSCONシート	78
	VK413600	Circuit Board	CONN	CONNシート	15
	VK413700	Circuit Board	HF	HFシート	63
	VK412600	Circuit Board	SERVO	サーボシート	68
	FA153560	Mylar Capacitor	5600P 50V J	マイラーコン C323	02
	FA154100	Mylar Capacitor	0.0100 50V J	マイラーコン C359, 538, 549	02
	FA154150	Mylar Capacitor	0.0150 50V J	マイラーコン C555	02
	FA154180	Mylar Capacitor	0.0180 50V J	マイラーコン C334, 354	02
	FA154220	Mylar Capacitor	0.0220 50V J	マイラーコン C310, 328, 347	02
	FA154330	Mylar Capacitor	0.0330 50V J	マイラーコン C336, 337, 348, 349	02
	FA154470	Mylar Capacitor	0.0470 50V J	マイラーコン C341, 350, 534, 535	02
	FA155100	Mylar Capacitor	0.1000 50V J	マイラーコン C304, 382	02
	FA155220	Mylar Capacitor	0.2200 50V J	マイラーコン C312, 314, 352, 381, 387, 541	02
	FA155240	Mylar Capacitor	0.2400 50V J	マイラーコン C355	02
	FA155330	Mylar Capacitor	0.3300 50V J	マイラーコン C388, 339	02
	FA155470	Mylar Capacitor	0.4700 50V J	マイラーコン C351	02
	FA155560	Mylar Capacitor	0.5600 50V J	マイラーコン C330	03
	UT452220	Polypropylene Film Cap.	220P 100V J	PPコン C554	03
	UT453100	Polypropylene Film Cap.	1000P 100V J	PPコン C522	03
	UT453220	Polypropylene Film Cap.	2200P 100V J	PPコン C504	03
	FI551100	Ceramic Capacitor	10P 50V D	セラコン ≡ニ C527, 556, 557	01
	FG211330	Ceramic Capacitor	33P 50V J	セラコン ≡ニ C358	01
	FI551470	Ceramic Capacitor	47P 50V J	セラコン ≡ニ C548	01
	FG212120	Ceramic Capacitor	120P 50V J	セラコン ≡ニ C326	01
	FG212150	Ceramic Capacitor	150P 50V K	セラコン S L C515, 516, 551	01
	FG212220	Ceramic Capacitor	220P 50V K	セラコン S L C509	01
	FG212330	Ceramic Capacitor	330P 50V K	セラコン S L C517	01
	FG212390	Ceramic Capacitor	390P 50V K	セラコン S L C552	01
	FG212470	Ceramic Capacitor	470P 50V K	セラコン ≡ニ C320, 321, 502	01
	FG212560	Ceramic Capacitor	560P 50V K	セラコン ≡ニ C326, 356, 505	01
	FG212820	Ceramic Capacitor	820P 50V K	セラコン ≡ニ C507	01
	FI553100	Ceramic Capacitor	1000P 50V K	セラコン ≡ニ C305-308, 318, 319, 345, 346, 367, 532, 533, C508	01
	FG713120	Ceramic Capacitor	1200P 50V K	セラコン ≡ニ C315, 331, 501	01
	FG213150	Ceramic Capacitor	1500P 50V K	セラコン ≡ニ C531, 536, 537, 542	01
	FG244100	Ceramic Capacitor	0.010 50V Z	セラコン ≡ニ C543	01
	FZ005880	Monolithic Cera. Cap.	0.100 25V M	積層セラコン C301-303, 361, 362, 368, 375-379, 385, 511, 512, 514, 518, 519, 521, 523-525, 528-530, 544, 550, 553, 558, 559	01
	VD534400	Monolithic Cera. Cap.	1.500 25V Z	積層セラコン C366, 383, 384, 510	01
	UJ818100	Electrolytic Cap.	100.00 6.3V	ケミコン C353, 360, 363-365, 513, 545	01
	UJ818220	Electrolytic Cap.	220.00 6.3V	ケミコン C311	01
	UJ837100	Electrolytic Cap.	10.00 16.0V	ケミコン C386	01
	UJ837470	Electrolytic Cap.	47.00 16.0V	ケミコン C316, 317, 324, 325	01
	UK565470	Electrolytic Cap.	0.47 50.0V	B P ケミコン C538, 540	01
	UJ866100	Electrolytic Cap.	1.00 50.0V	ケミコン C503, 526	01
	UJ866220	Electrolytic Cap.	2.20 50.0V	ケミコン C520	01
	UJ866470	Electrolytic Cap.	4.70 50.0V	ケミコン C357, 506	01
	UK137100	Electrolytic Cap.	10.00 16.0V	B P ケミコン C313, 327, 335	01
	UK537220	Electrolytic Cap.	22.00 16.0V	B P ケミコン C342	01
	UK546470	Electrolytic Cap.	4.70 25.0V	B P ケミコン C309	01
	UK566100	Electrolytic Cap.	1.00 50.0V	B P ケミコン C329, 340	01
	UK566220	Electrolytic Cap.	2.20 50.0V	B P ケミコン C322	01
	VK661300	IC Protector	ICP-N50	I C プロテクター F301	01 Δ
	VG012400	Coil	EL0606 22u	コイル L501	07
	VA928000	Noise Filter DIP	D-03C	ノイズフィルタ L301, 302	07
	VG414700	Data Line Filter	D-40C	データラインフィルタ L303, 304	06
	VH293400	Fuse Resistor	2.20 1/6 K	ヒューズ抵抗 R353, 354, 403, 404	01 Δ
	VK493600	Resistor Array	10KX32	抵抗 R459, 460	03
	XB247A00	IC, OP AMP	UPC4570HA	アンプ I C IC302, 304, 307, 309, 311, 312, 314-316, 322, 519	01
	IG076800	IC, OP AMP	NJM4558S	アンプ I C IC323	03
	XB248A00	IC, OP AMP	H5238L	アンプ I C IC518	03

* New Parts (新規部品)

ランク : Japan only

Ref	Part No	Description	部品名	Remarks	ランク	
	XD568A00	IC, COMPARATOR	NJN2904S	アンプ I C	IC502,517	03
	XF482A00	IC, OP AMP	NJN2903S	アンプ I C	IC313	03
	XF514A00	IC, OP AMP	NJN318D	アンプ I C	IC301,515	05
	XB251001	IC, COMPARATOR	NJN319D	コンパレータ	IC520,521	05
	XF400A00	IC, VOLTAGE DETECTOR	TL7700CP	電圧監視用 I C	IC325	07
	XF447A00	IC, ANALOG SWITCH	UPD5201C	アナログ I C	IC310,317,516	06
	XI756A00	IC, FSK DEMOD	NJN2211D	I C	IC501	06
	XI758A00	IC, TIMER	TLC555P	I C	IC506	04
	IG001170	IC, NOR	TC4001BP	ロジック I C	IC305,318,320	03
	IG001180	IC, FF	TC4013BP	ロジック I C	IC505,507	05
	IG001790	IC, XOR	TC4030BP	ロジック I C	IC319,503	03
	IG001260	IC, BUFFER	TC4049BP	ロジック I C	IC306	03
	IG052400	IC, COUNTER	TC4040BP	ロジック I C	IC504	05
	IG140200	IC, FF	TC4538BP	ロジック I C	IC321	05
	IR007400	IC, D-FF	TC74HC74AP	ロジック I C	IC513,514	04
	IR016100	IC, SWCC	TC74HC161AP	ロジック I C	IC524	03
	IR016400	IC, SHIFT REGISTER	TC74HC164P	ロジック I C	IC508,509	03
	IR057320	IC, LATCH	UPD74HC573	ロジック I C	IC328,329	05
	XJ010A00	IC, PLL	CX23065A	ロジック I C	IC332	07
	XD376A00	IC, D-FF	SN74AS74N	ロジック I C	IC522	03
	XI760A00	IC, COUNTER	TC74HC592P	ロジック I C	IC510,511	04
	XI794A00	IC, MONO MULTI	TC74HC4538AP	ロジック I C	IC523	03
	IR001000	IC, NAND	TC74HC10AP	ロジック I C	IC512	03
	XI802A00	IC, COUNTER	HCTL-2000	ロジック I C	IC330	11
	VM520600	IC, FPLA-WR	PLS153A	I C	IC1046	
	XK178A00	IC, SV CPU	H50747ESP	サーボマイコン I C	IC***	
	XF451A00	IC, EPROM	MSM16811	メモリ I C	IC326	06
	XF455A00	Crystal Resonator	EXO-3C16MHZ	水晶発振器	IC327	06
	XJ305A00	IC, VCO	FAR-M2DA-16M934	バリメガモジュール	IC331	16
	XG491A00	IC, CDVP	YM7402	I C	IC324	12
	VD110500	Slide Switch	SSSS2 1-2(A)	スライド S W	SW301	01
	VE340300	Test Point	IRS-1169	テストポイントピン	TP301-326	01
	VC026500	D-sub Connector	D-SUB 15P SE	D-SUBコネクタ	JK301	06
	VI576000	D-sub Connector	DELIC-J9SAF-10L9	D-SUBコネクタ	JK302	05
	VJ693100	Trimmer Potentiometer	B 1.5K 3P	半固定抵抗	VR313	01
	VJ693400	Trimmer Potentiometer	B 4.7K 3P	半固定抵抗	VR303	01
	VJ693600	Trimmer Potentiometer	B 10.0K 3P	半固定抵抗	VR301,305,312,501	01
	VJ694200	Trimmer Potentiometer	B 100.0K 3P	半固定抵抗	VR502	01
	VJ693800	Trimmer Potentiometer	B 22.0K 3P	半固定抵抗	VR304,306-310	01
	VJ694000	Trimmer Potentiometer	B 47.0K 3P	半固定抵抗	VR302,314	01
	VJ694600	Trimmer Potentiometer	B 470.0K 3P	半固定抵抗	VR311	01
	IA093320	Transistor	2SA933S Q,R	トランジスタ	Q313,503,504,507	01
	VG578600	Transistor	2SA1206 L,K	トランジスタ	Q511	
	VC139700	Transistor	2SB1185	トランジスタ	Q305,307,309	02
	IC174020	Transistor	2SC17405 R,S	トランジスタ	Q301-303,310-312,505,506	01
	VG413700	Transistor	2SC2901 L,K	トランジスタ	Q510	02
	VC139800	Transistor	2SD1762	トランジスタ	Q304,306,308	02
	VK432900	Transistor	2SD1915(F) ST	トランジスタ	Q314	01
	IA134900	Transistor Array	2SA1349 GR,BL	トランジスタアレイ	Q509	03
	IC338100	Transistor	2SC3381 GR,BL	トランジスタ	Q501	02
	IF004600	Diode	1SS133 T-77	ダイオード	D301-305,309-319	01
	VG437700	Zener Diode	MTZ J 5.6B 5.6V	ツェナーダイオード	D306-308	01
	IF010540	Zener Diode	HZ2B3	ツェナーダイオード	D321	01
	VG435000	Zener Diode	MTZJ 2.0A	ツェナーダイオード	D320	01
	VA024500	IC Socket	DICS-64AS	I Cソケット		08
	VC132300	Heat Sink	20X15X25	ヒートシンク		03
	EG330030	Bind Head Screw	3.0X6 FCM3BL	バインド小ネジ	6pcs	01
	VK412800	Circuit Board	PS	P Sシート		56
	VG276600	Ceramic Capacitor	22P 50V J	円筒セラ (S L)	C654-657,660,661,663,664	01
	VF467300	Ceramic Capacitor	0.01 16.0V	円筒セラ	C682	01
	VG278600	Ceramic Capacitor	330P 50V K	円筒セラ (B)	C684-691	01
	VK445900	Electrolytic Cap.	100.0 25.0V	ケミコン	C616,617	02
	VK476100	Electrolytic Cap.	220.00 25.0V	ケミコン	C606,607	02
	VK446000	Electrolytic Cap.	4700 35.0V	ケミコン	C604,605	06
	FU452100	Maica Capacitor	100P 500V J	マイカコン	C610,611	01
	FU452220	Maica Capacitor	220P 500V J	マイカコン	C612,613	02
	FU451220	Maica Capacitor	22.0 500V	マイカコン	C631,632,636,640,643,644,648,652	01
	VI862200	Metalized Polypropylene C.	0.100 100V	メタライズドポリコン	C600,601,608,609,614,615,619,620	01
	VB871100	Ferrite Bead	BL02RN2-R62	フェライトビーズ	L610-621	
	VA928000	Noise Filter DIP	D-03C	ノイズフィルタ	L640,641	07
	VG414700	Data Line Filter	D-40C	データラインフィルタ	L622,623	06
	HU575150	Metal Film Resistor	150.0 1/4 F	金属被膜抵抗	R600,601	02

* New Parts (新規部品)

ランク : Japan only

Ref	Part No	Description	部品名	Remarks	ランク	
	HU575240	Metal Film Resistor	240.0 1/4 F	金属被膜抵抗	R608,609	02
	HU576150	Metal Film Resistor	1.5K 1/4 F	金属被膜抵抗	R606,607,640,642	02
	HU576220	Metal Film Resistor	2.2K 1/4 F	金属被膜抵抗	R602,603	02
	HU576470	Metal Film Resistor	4.7K 1/4 F	金属被膜抵抗	R610,611	02
	HU576510	Metal Film Resistor	5.1K 1/4 F	金属被膜抵抗	R604,605	02
	HU576620	Metal Film Resistor	6.2K 1/4 F	金属被膜抵抗	R616,617	02
	HU577100	Metal Film Resistor	10.0K 1/4 F	金属被膜抵抗	R614,615	02
	HU577110	Metal Film Resistor	11.0K 1/4 F	金属被膜抵抗	R641,643	02
	HL313150	Metal Oxide Film Resistor	1.5 1W K	酸化金属被膜抵抗	R612,613	01
	XG945A00	IC, REGULATOR +5V	M5278L05	電源IC	IC600	01
	VG392900	Switch	SKHVAA	タクトスイッチ	SW610	01
	VK446400	Slide Switch	SSSP12	スライドスイッチ	SW600	03
	VI.826600	IC Protector	SSFR80MA-N1	ICプロテクタ	F602,603	
	VI.826700	IC Protector	SSFR2A-N1-F003	ICプロテクタ	F600,601	
	VF340300	Test Point	IRS-1169	テストポイント	TP600-602	01
	LA002120	Wrapping Terminal	3P T-503NMA	ラッピング端子	TE600	01
	V1552200	BNC Connector	YKS11-0 1P	BNCコネクタ	CB616-619	05
	VK429300	XLB Connector	3P NC3FD-H	キャノンコネクタ	CB610,611,614	06
	VK429400	XLB Connector	3P NC3MD-H	キャノンコネクタ	CB612,613,615	06
	VK455900	Trimmer Potentiometer	B 5.0K 3P	半固定抵抗	VR600,601	05
	VK456000	Variable Resistor	C 10K RK18111	ロータリーVR	VR640,641	05
	IA097030	Transistor	2SA970 GR,BL	トランジスタ	Q604,607,609,613,615	01
	VK456100	Transistor	2SB1054 P,Q,R	トランジスタ	Q614	05
	IC224030	Transistor	2SC2240 GR,BL	トランジスタ	Q600-603,608,610	01
	VR222700	Transistor	2SD1485 P,Q,R	トランジスタ	Q612	04
	IF004600	Diode	1SS133 T-77	ダイオード	Q611	01
	IH000960	Diode	30DF1	ダイオード	D606,607	03
	IF003530	Zener Diode	HZ6C1L 6.0V	ツェナーダイオード	D600-603	01
	IF008230	LED	LD-001MG GR	LED	D611	03
	VB749800	LED	LD701VR RE	LED	D612,614	03
	VB822500	LED	LD701MG GR	LED	D613	03
	VK456600	LED	SLR-34MG3H3 GR	LED	D615	01
	VH201400	LED	SLR-34URC3H3 RE	LED	D604,605	01
	VL208800	Radiator	OSH-7030-SP	ラジエータ		04
	VK257500	Support	VOL	サポート		09
	V1014500	Pan Head Screw	SP3.0X12 ZMC2BL	小さなネジ	2pcs	62
	VK364900	Bind Head Tapping Screw-P	2.0x5 ZMC2BL	ナインドPタイト	6pcs	
	VC719300	Terminal Plate	P-424	ターミナル金具	2pcs	01
	BB066290	Waher	M4.5 CR-3020	ワッシャー	1pc	01
	EK395040	Bind Head Tapping Screw-B	3.0X8 ZMC2BL	ナインドBタイト	2pcs	01
	VK415100	Circuit Board	AUDIO	AUDIOシート		79
	VJ223900	Ceramic Capacitor	0.1 25V K	チップセラコン	C709-712,783-786,788-791,840,852,853,859,861,871,872,877,864,881	01
	VD915100	Ceramic Capacitor	0.01 50V K	チップセラコン	-888,890-922,982,977,980,974,976,970,971,849,850,924,983	01
	VJ900300	Ceramic Capacitor	22P 50V J	チップセラコン	C765,766,775,776,798,799,812,981	01
	VJ900700	Ceramic Capacitor	33P 50V J	チップセラコン	C860	01
	VD303400	Ceramic Capacitor	1.0 16V K	チップセラコン	C869,870,878,879,880	01
	VJ904300	Ceramic Capacitor	1000P 16V K	チップセラコン	C867,868,865,866,874	01
	UJ838100	Electrolytic Cap.	100.0 16V M	ケミコン	C927,972	01
	UJ827220	Electrolytic Cap.	22.0 10V M	ケミコン	C851,876	01
	UJ827470	Electrolytic Cap.	47.0 10V M	ケミコン	C858,863,889	01
	UJ837100	Electrolytic Cap.	10.0 16V M	ケミコン	C875	01
	VK679900	Electrolytic Cap.	47.0 25V M	ケミコン	C923	01
	FZ005420	Electrolytic Cap.	10.0 25V M	ケミコン	C725,726,792,808	01
	VL574100	Electrolytic Cap.	100.0 50V	ケミコン	.809,966-969,975	01
	VK679700	Electrolytic Cap.	100.0 6.3V M	ケミコン	C829,830	01
	VK679800	Electrolytic Cap.	10.0 25V M	ケミコン	C958-961,984-987	01
	UJ519100	Electrolytic Cap.	1000.0 6.3V M	ケミコン	C787,793,833,834,836,839,973,978,979	01
	VK679800	Electrolytic Cap.	10.0 25V M	ケミコン	C817,818,825,826	01
	UJ519100	Electrolytic Cap.	1000.0 6.3V M	ケミコン	C781,782	01
	VK680200	Mica Capacitor	43P 100V F	チップマイカコン	C701-704,713-716,747-750,771-774,804-807,950-957	03
	VK680100	Mica Capacitor	15P 100V F	チップマイカコン	C705-708,759,762	03

* New Parts. (新規部品)

ランク: Japan only

Ref	Part No	Description	部品名	Remarks	ランク
	VK680300	Mica Capacitor	チップマイカコン	.819-822,845-848	
	UA353470	Mylar Capacitor	マイラーコン	C717-724	03
	UA655220	Mylar Capacitor	マイラーコン	C855	01
	UA655100	Mylar Capacitor	マイラーコン	C854	01
	VI540000	Mylar Capacitor	マイラーコン	C856,925	01
	VK679300	Metalized Polypropyrene C.	メタライズドポリコン	C873	01
	VI862200	Metalized Polypropyrene C.	メタライズドポリコン	C794-797	06
				C735-738,751-754	01
				.767-770,779-780	
				.800-803,813-816	
				.823,824,831,832	
				.835,837,838,841	
				-844,777,778,962	
				-965	
	VI503200	Metalized Polypropyrene C.	メタライズドポリコン	C827,828	01
	VK679500	Polypropylene Film Cap.	PPコン	C727-734,739-746	02
	VK679600	Polypropylene Film Cap.	PPコン	C763,764,810,811	02
	GE300610	Ferrite Bead	フェライトビーズ	L751	01
	VD542700	EMI Filter	EMIフィルタ	L704,705,754,755	01
	VL298000	EMI Filter	チップEMIフィルタ	L752,753,756-758	01
	VL139800	Coil	チップインダクタンス	L759,760	
	VD473700	Coil	コイル	L701-703,706-708	01
	VI198600	Metal Film Resistor	チップ金属被膜抵抗	R701-708	01
	VI198200	Metal Film Resistor	チップ金属被膜抵抗	R709-716,851,870	01
				.879,845,853	
	VI196600	Metal Film Resistor	チップ金属被膜抵抗	R717-724	01
	VI197400	Metal Film Resistor	チップ金属被膜抵抗	R725,732	01
	VI194100	Metal Film Resistor	チップ金属被膜抵抗	R841-843,846,847	01
				.902-905	
	VI199000	Metal Film Resistor	チップ金属被膜抵抗	R849	01
	VK682700	Metal Film Resistor	金属被膜抵抗	R733-736,785-788	01
	VK681200	Metal Film Resistor	金属被膜抵抗	R737-744	01
	VK680500	Metal Film Resistor	金属被膜抵抗	R745-752	01
	VK681300	Metal Film Resistor	金属被膜抵抗	R753-756,817-820	01
				.825-832	
	VK681100	Metal Film Resistor	金属被膜抵抗	R761-764	01
	VK680600	Metal Film Resistor	金属被膜抵抗	R765-768	01
	VK681800	Metal Film Resistor	金属被膜抵抗	R769-776,897,898	01
	VK681000	Metal Film Resistor	金属被膜抵抗	R777-784	01
	VK681900	Metal Film Resistor	金属被膜抵抗	R793-796,811-814	01
				.858-861,892-896	
				.899	
	VK682000	Metal Film Resistor	金属被膜抵抗	R797,798	01
	VK682100	Metal Film Resistor	金属被膜抵抗	R799-802,886-891	01
				.803-806	
	VK681600	Metal Film Resistor	金属被膜抵抗	R807,808,875,876	01
	VK680900	Metal Film Resistor	金属被膜抵抗	R809,810,877,878	01
	VL208700	Metal Film Resistor	金属被膜抵抗	R815,816	01
	VK681400	Metal Film Resistor	金属被膜抵抗	R866,867	01
	VK681500	Metal Film Resistor	金属被膜抵抗	R871-874	01
	VK682200	Metal Film Resistor	金属被膜抵抗	R880-883	01
	VK682300	Metal Film Resistor	金属被膜抵抗	R837-840,757,815	
				.816	
	VL403400	Metal Film Resistor	金属被膜抵抗	R884,885	
	VK680800	Metal Film Resistor	金属被膜抵抗	R900,901	01
	HU474750	Metal Film Resistor	金属被膜抵抗	R833-836	01
	VK911600	Metal Film Resistor	金属被膜抵抗	R854-857,862-865	01
				.868,869	
	VB068800	Metal Film Resistor	金属被膜抵抗	R921,922	01
	VB068100	Metal Film Resistor	金属被膜抵抗	R923	01
	VA867000	Metal Film Resistor	金属被膜抵抗	R924	
	VA074400	Metal Film Resistor	金属被膜抵抗	R925	01
	VA863000	Metal Film Resistor	金属被膜抵抗	R940	
	VA859400	Metal Film Resistor	金属被膜抵抗	R941	
	VK684100	Diode Array	ダイオードアレイ	D726,727	
	VB493900	Diode	ダイオード	D701,704,723,725	01
	VK666000	Diode	ダイオード	D712-714,751	01
	VK666100	Diode	ダイオード	D753-758	
	VK666200	LED	LED	D752	01
	VB941200	Diode	ダイオード	D715-722	01
	VK683200	Transistor	チップトランジスタ	Q728,730	01
	VL276900	Transistor	トランジスタ	Q729	01
	IC260320	Transistor	トランジスタ	Q726	01
	IA111520	Transistor	トランジスタ	Q725,727	01
	VJ927100	Transistor	トランジスタ	Q753	01
	VK683800	Digital Transistor	デジタルトランジスタ	Q751,752	01
	XJ031A00	IC, OP AMP	IC	IC701,702	03
	XC011001	IC, OP AMP	IC	IC703,704	05
	XD238001	IC, BUFFER	IC	IC712,720	04

* New Parts (新規部品)

ランク : Japan only

Ref	Part No	Description	部品名	Remarks	ランク	
	XJ008A00	IC, JK-FF	TC74AC112F	IC	IC757	
	XJ007A00	IC, FF	TC74AC74F	IC	IC724,797	02
	XJ014A00	IC, BINARY COUNTER	TC74HC163AF	IC	IC758,759	03
	XJ022A00	IC, INVERTER	SN74BC7540NS	IC	IC760	07
	XJ013A00	IC, BUS BUFFER	TC74HC126AF	IC	IC756,763,789, 794	03
	XJ017A00	IC, FIFO	TC74HC40105AF	IC	IC768,769,770, 780,781,782	05
	XD831A00	IC, AND	SN74HC08NSR	IC	IC771,779,786	01
	XD830A00	IC, INVERTER	SN74HC04NSR	IC	IC773,762	01
	XE165A00	IC, NAND	SN74HC00NSR	IC	IC774	01
	XC726001	IC, D-FF	SN74HC74NSR	IC	IC775,776,783,	03
	XJ011A00	IC, AND/OR	TC74HC51AF	IC	IC772	01
	XJ016A00	IC, SHIFT REGISTER	TC74HC595AF	IC	IC777,790,791	04
	XJ012A00	IC, LATCH	TC74HC77AF	IC	IC778	02
	XJ015A00	IC, SHIFT REGISTER	TC74HC164AF	IC	IC785	03
	XI995A00	IC, AND	SC74S08FER	IC	IC725	01
	XJ021A00	IC, INVERTER	TC7W04F	IC	IC784,787,792, 793	01
	XJ020A00	IC, NAND	TC7W00F	IC	IC788	01
	XJ035A00	IC, DAC	MN6472	IC	IC711	09
	XJ010A00	IC, PLL	CX23065A	IC	IC752	07
	XD568A00	IC, OP AMP	NJM2904S	IC	IC753	03
	XJ023A00	IC, DRIVER	SN75179BP	IC	IC765	06
	XJ024A00	IC, LINE DRIVER	SN75ALS12N	IC	IC766	06
	XE737A00	IC, RECEIVER	SN75124N	IC	IC767	05
	IG142800	IC, OP AMP	NJM5532D	IC	IC705-710,726, 727	05
	XJ030A00	IC, OP AMP	LM833N	IC	IC714-718	03
	XJ034A00	IC, ADC	AK5326	IC	IC719	19
	XG945A00	IC, REGULATOR +5V	M5278L05	IC	IC713,721,723, 751	01
	XG946A00	IC, REGULATOR -5V	M5279L05	IC	IC722	02
	XG948C00	IC, DIR2	YM3436BG	IC	IC799	
	XG949A00	IC, DIT2	YM3437CE	IC	IC795,796	05
	XD711001	IC, DVC2	YM6013	IC	IC798	09
	VL136900	Crystal Resonator	CX0046A	IC	IC755 33.8668MHz	09
	XJ025A00	IC, VCO	FARM2DA33M869D0	IC	IC754	16
	XI000A00	IC, OR	SC7S32FER	IC	IC761	01
	XJ411A00	IC, NOR	TC74HC02AF	IC	IC800	
	VK683000	Relay	LAJ1 5V	リレー	RL701,702	08
	VK682900	Relay	G6H-2 5V	リレー	RL703-707	08
	VK455900	Trimmer Potentiometer	B5K TM-7P	半固定抵抗	VR701,702	05
	VK455800	Trimmer Potentiometer	B1K TM-7P	半固定抵抗	VR703,704	05
	VE340300	Test Point	IRS-1160	テストポイントピン	TP700,701	01
	VK661300	IC Protector	ICP-N50(2A)	ICプロテクタ	F700	02
	VK415200	Circuit Board	SYSCON	SYSCONシート		78
	VE439400	EMI Filter	DSS310-55Z223S	EMIフィルタ	L1008	01
	VK660800	EMI Filter	M614	チップEMIフィルタ	L1000,1009	08
	VK660900	EMI Filter	M708C	チップEMIフィルタ	L1006	07
	VK661000	EMI Filter	M720C	チップEMIフィルタ	L1002-1005	09
	VI225200	Ceramic Capacitor	22P 50V J	チップセラコン	C1079	01
	VJ798800	Ceramic Capacitor	0.10 25V Z	チップセラコン	C1000-1025,1030- 1033,1036,1040- 1058,1060-1072, 1075,1080,1083, 1084,1073,1059, 1085-1087	
	UA353470	Mylar Capacitor	4700P 50V J	マイラーコン	C1076	01
	UA655330	Mylar Capacitor	0.33 50V J	マイラーコン	C1077	01
	UA355100	Mylar Capacitor	0.10 50V J	マイラーコン	C1078	01
	UA253220	Mylar Capacitor	0.0022 50V	マイラーコン	C1088	02
	UJ847470	Electrolytic Cap.	47.0 25.0V	ケミコン	C1074,1081,1082	01
	VA864600	Metal Film Resistor	3.30K 1/4 F	金属被膜抵抗	R1038,1040	01
	VB068100	Metal Film Resistor	22.00K 1/4 F	金属被膜抵抗	R1039	01
	VK493600	Resistor Array	10K MS33-1-103J	抵抗アレイ	R1000-1003	03
	HZ004730	Resistor Array	10K RMLS8-103J	抵抗アレイ	R1004-1006,1015	02
	VA822600	Resistor Array	10K RMLS4-103J	抵抗アレイ	R1014,1016,1036, 1037	01
	VK661300	IC Protector	ICP-N50 2A	ICプロテクタ	F1000,L1007	02
	VB481900	Diode	11ES4	ダイオード	D1001,1002	01
	VG438200	Zener Diode	MTZ J 8.8AT-77	ツェナーダイオード	D1003	01
	VB506200	Zener Diode	RLZ 5.1A	ツェナーダイオード	D1005	01
	IF010700	Zener Diode	MTZ 5.1C	ツェナーダイオード	D1006	01
	VK666000	Zener Diode	DA119	ツェナーダイオード	D1004	01
	XI332A00	IC, SRAM 256K	NM62256LFP-10	IC	IC1032,1041	13
	XH600A00	IC, PIO	NPD71055GB-3B4	IC	IC1033	06

* New Parts (新規部品)

ランク : Japan only

YPDR601/RC601

Ref	Part No	Description	部品名	Remarks	ランク	
**	XI999A00	IC, SERIAL I/O	UPD71051GB-3B4	IC	IC1061	06
**	XI993A00	IC, SCSI CONTROLLER	MB89351PF-G-BND	IC	IC1024	11
**	XF403A00	IC, DATA SELECTOR	SN74AS151N	IC	IC1048	05
**	XF407A00	IC, DATA SELECTOR	SN74AS250ANT	IC	IC1045	06
**	IG058400	IC, INVERTER	HD7406P	IC	IC1036	03
**	IG085900	IC, INVERTER	TD82104P	IC	IC1035	04
**	XI991A00	IC, TRANSCEIVER	LTC485CN8	IC	IC1000-1017,1062 .1063	07
**	XJ703A00	IC, TRANSCEIVER	SN75176BP	IC	IC1018-1020	
**	XI996A00	IC, COUNTER	SN74HC390NSR	IC	IC1064	04
**	XE165A00	IC, NAND	SN74HC00NSR	IC	IC1071	01
**	XD830A00	IC, INVERTER	SN74HC04NSR	IC	IC1070	01
**	XJ014A00	IC, BINARY COUNTER	TC74HC163AF	IC	IC1067,1068	03
**	XC726A00	IC, D-FF	SN74HC74NSR	IC	IC1069	01
**	IR016450	IC, SHIFT REGISTER	SN74HC164N	IC	IC1042,1052	05
**	IR017550	IC, D-FF	SN74HC175N	IC	IC1051	04
**	IR007450	IC, D-FF	SN74HC74N	IC	IC1050,1056	04
**	IR037400	IC, D-FF	TC74HC374AP	IC	IC1082	06
**	XE537A00	IC, BUFFER	SN74HC540NSR	IC	IC1021,1022	04
**	IR012300	IC, MONO-FF	TC74HC123AP	IC	IC1059	04
**	XH224A00	IC, T-LATCH	TC74HC573AF	IC	IC1031	04
**	XI994A00	IC, INVERTER	SC74S04F	IC	IC1023,1025,1049 .1055,1073	01
**	XI995A00	IC, AND	SC74S08F	IC	IC1054	01
**	XI000A00	IC, OR	SC7S32FER	IC	IC1053	01
**	XB253001	IC, RESET	M51951BL	IC	IC1057	03
**	XJ010A00	IC, PLL	CX23065A	IC	IC1066	07
**	IG101100	IC, METER DRIVER	BA6209	IC	IC1034	05
**	XF418A00	IC, VCO	VCO 17.2872MHz	IC	IC1072	14
**	VC039800	Crystal Resonator	EX03C 16.000MHz	IC	IC1058	06
**	VC886700	Crystal Resonator	EX03C 12.288MHz	IC	IC1063	06
**	XJ000A00	IC, DELAY LINE	ADL025SH	IC	IC1044,1047,1080 .1081	08
**	XJ001A00	IC, DELAY LINE	ADL100SH	IC	IC1043	08
**	XF427A00	IC,	YM6049	IC	IC1040	11
**	XK177A00	IC, SYSTEM CPU	M50747ESP	IC	IC1030	
**	XK178A00	IC, AUDIO CPU	M50747ESP	IC	IC1060	
**	VD110500	Slide Switch	SSSS2 1-2A	IC	SW1001,1002	01
**	VK861200	Rotary Encoder	S8031	IC	SW1000	
**	VA024500	IC Socket	D1CS64AS	IC	(IC1030,1060)	08
**	VJ538700	IC Socket	D1CF20CS-E	IC	(IC1046)	01
**	VK413600	Circuit Board	CONNE	CONNEシート		15
**	VK413700	Circuit Board	HF	HFシート		63
**	FA154100	Mylar Capacitor	0.0100 50V J	マイラーコン	C102-105,264	02
**	UA253100	Mylar Capacitor	1000P 50V J	マイラーコン	C118	02
**	FA155220	Mylar Capacitor	0.2200 50V J	マイラーコン	C119,269	02
**	UT452100	Polypropylene Film Cap.	100P 100V J	PPコン	C252	03
**	FG200200	Ceramic Capacitor	2P 50V C	セラコン	C203,215,219	01
**	FG210500	Ceramic Capacitor	5P 50V C	セラコン	C136,207	01
**	FG211150	Ceramic Capacitor	15P 50V J	セラコン	C120	01
**	F1552100	Ceramic Capacitor	100P 50V J	セラコン	C138	01
**	F1551220	Ceramic Capacitor	22P 50V K	セラコン SL	C106-109	
**	F1551470	Ceramic Capacitor	47P 50V J	セラコン	C123	01
**	FG212220	Ceramic Capacitor	220P 50V K	セラコン SL	C213,214	01
**	FG213470	Ceramic Capacitor	4700P 50V K	セラコン SL	C270	01
**	FZ005880	Monolithic Cera. Cap.	0.100 25V M	積層セラコン	C112,113,121,125 .127,128,130,133 .201,204-206,208 -212,216-218,220 -222,251,254,259	01
**	VD534400	Monolithic Cera. Cap.	1.500 25V Z	積層セラコン	C253	01
**	UJ818220	Electrolytic Cap.	220.00 6.3V	ケミコン	C126	
**	UJ818100	Electrolytic Cap.	100.00 6.3V	ケミコン	C129,255	01
**	UJ837470	Electrolytic Cap.	47.00 16.0V	ケミコン	C110,111,131,132 .134,135,202,258	01
**	UJ866100	Electrolytic Cap.	1.00 50.0V	ケミコン	.260 C124	01
**	UJ866470	Electrolytic Cap.	4.70 50.0V	ケミコン	C262	01
**	UJ838220	Electrolytic Cap.	220.00 16.0V	ケミコン	C271	01
**	EM117470	Electrolytic Cap.	47.00 6.3V	BPケミコン	C259	03
**	UK137100	Electrolytic Cap.	10.00 16.0V	BPケミコン	C256	01
**	UK566100	Electrolytic Cap.	1.00 50.0V	BPケミコン	C115,266	01
**	VD926800	Electrolytic Cap.	47.00 16.0V	BPケミコン	C114	01
**	GE901960	Coil	EL0606RA 18u	固定コイル	L105	01

* New Parts (新規部品)

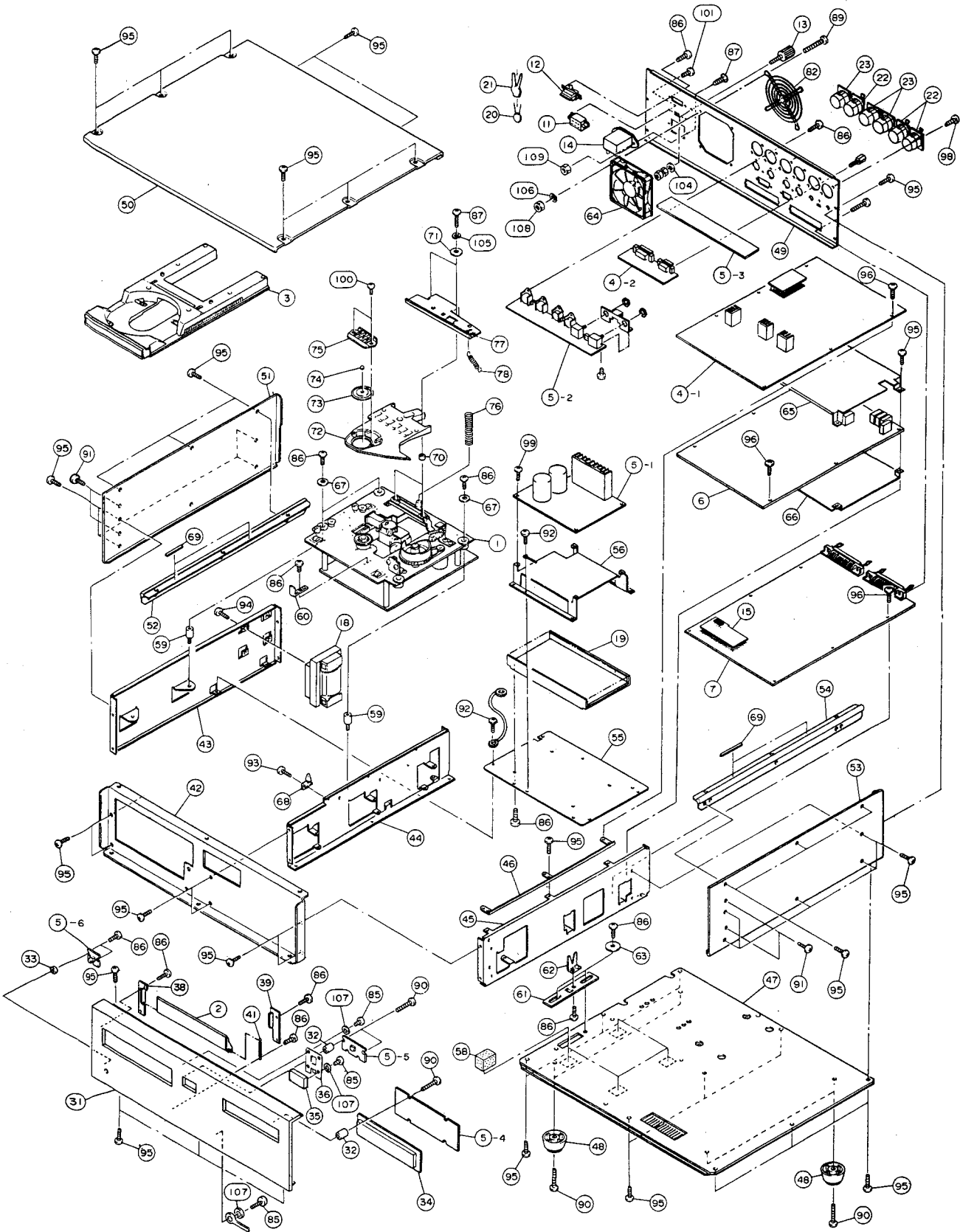
ランク : Japan only

Ref	Part No	Description	部品名	Remarks	ランク
	VG413100	Coil	ELO607RA 18u	L104	01
	VG869700	Coil	ELO607RA 180u	L101,102	01
	VE008800	Coil	ELO606RA 100u	L103	01
	HV453220	Flame Proof Carbon Resisto	2.2 1/4 J	R280	01
	HV454100	Flame Proof Carbon Resisto	10.0 1/4 J	R154	01
	HV454330	Flame Proof Carbon Resisto	33.0 1/4 J	R289-291	01
	HL314330	Metal Oxide Film Resistor	33.0 1W K	R141	01
	HL324390	Metal Oxide Film Resistor	39.0 2W K	R137	01
	HZ002880	Resistor Array	RMLS8 10KX8	R191	02
	XB247A00	IC, OP AMP	UPC4570HA	IC106,204	01
	XB248A00	IC, OP AMP	M5238L	IC101,102,254	03
	XD568A00	IC, OP AMP	NJN2904S	IC103	03
	XF514A00	IC, OP AMP	NJM318D	IC107,201,202, 205,206	05
	XF400A00	IC, VOLTAGE DETECTOR	TL7700CP	IC105	07
	XF445A00	IC, DRIVER	TA7259P	IC256	05
	XI758A00	IC, TIMER	TLC555P	IC251	04
	XI757A00	IC, COUNTER	TC9192P	IC252	06
	XH969A00	IC,	UPC1093	IC109	02
	IG001720	IC, INVERTER	TC4069UBP	IC255	03
	IG055100	IC, MULTIPLEXER	TC4053BP	IC253	05
	XI759A00	IC, GATE	SN74AS20N	IC104	03
	XI761A00	IC, DAC	UPD6901C	IC108	06
	JR405300	IC, ANALOG SWITCH	TC74HC4053AP	IC203	03
	VG452200	Slide Switch	SSCF11	SW1	02
	VE633300	Connector	FPC/FPC 30P	CB107	04
	VG858100	Trimmer Potentiometer	B 1K 3P	VR101,102	07
	JA093320	Transistor	2SA933S Q,R	Q116,117,120,251 -253,255	01
	IA093410	Transistor	2SA934 P,Q,R	Q123	01
	VG578600	Transistor	2SA1206 L,K	Q109,110,121,122	02
	VC139700	Transistor	2SB1185	Q124	01
	IC174020	Transistor	2SC1740S R,S	Q105,106,119,254	01
	IC206010	Transistor	2SC2060 P,Q,R	Q107,108	01
	VG413700	Transistor	2SC2901 L,K	Q111-114	02
	IA134900	Transistor Array	2SA1349 GR,BL	Q101,104	03
	IC338100	Transistor	3381 GR,BL	Q102,103	02
	IF004600	Diode	1SS133 T-77	D102,251	01
	VG437600	Zener Diode	MTZ J 5.6A	D201	01
	VG439500	Zener Diode	MTZ J 10.0B	D101	01
	VG465700	Photo Coupler	GPIA35R	D1	08
	VK661300	IC Protector	ICP-N50	F101	02

* New Parts (新規部品)

ランク : Japan only

■ EXPLODED VIEW



MECHANISM PARTS Note) ∅ : Diameter

Ref	Part No	Description	部品名	Remarks	ランク
*	1	OVERALL ASEMBLY	YPRD601	総組み立て	
*	2	WM-3 Unit	WM3ユニット		
*	3	Lid Assembly	リッド Ass'y		17
*	4	Tray Assembly	トレイ Ass'y		68
*	5	Circuit Board	SERVO	SERVOシート	
*	6	Circuit Board	PS	PSシート	56
*	7	Circuit Board	AUDIO	AUDIOシート	79
*	8	Circuit Board	SYSCON	SYSCONシート	78
*	9				
*	10				
*	11	Voltage Selector	SDKG-DPDT	電圧切替器	03
*	12	Sawsaw Switch	SDDT-DPST	シーソースイッチ	05
*	13	Terminal, Earth	1P T-10	アースターミナル	03
*	14	AC INLET	GI-2030ET	電源ソケット	
*	15	Jumper Socket	JM-2P	ジャンパーソケット	2pcs
*	16				01
*	17				09
*	18	Power Transformer	X1795A00	電源トランス	12
*	19	Power Supply Unit	VL678100	スイッチング電源	J,U,C
*	20	Ceramic Cap.	FEM-501Z	スイッチング電源	X
*	21	Cover, Capacitor	FEM-501	規格認定コン	2pcs
*	22	Connector Bracket	0.010 400V	コンデンサーカバー	2pcs
*	23	Connector Bracket	SB-0833	コネクタブラケット	3pcs
*	24	Connector Bracket	NC3FD-HB	コネクタブラケット	3pcs
*	25				
*	26				
*	27				
*	28				
*	29				
*	30				
*	31	Front Panel	VK254700	フロントパネル	22
*	32	Collar	VG673900	カラー	8pcs
*	33	Collar	VG674000	カラー	8pcs
*	34	Lens	VK420500	レンズ	
*	35	Button	VK694300	ボタン	
*	36	Button Hinge	VG629300	ボタンヒンジ	
*	37				11
*	38	Support, Lid	VK258200	サポート/リッド	04
*	39	Support, Lid	VK258400	サポート/リッド	04
*	40	Damper, Lid	VK258800	ダンパー/リッド	2pcs
*	41	Spring	VK258600	スプリング	03
*	42	Sub Chassis		サブシャーシ	
*	43	Frame		フレームL	
*	44	Frame		フレームC	
*	45	Frame		フレームR	
*	46	Sub Frame		フレームサブR	
*	47	Bottom Assembly	VG629800	ボトム Ass'y	
*	48	Leg	VH204700	レッグ	4pcs
*	49	Rear Panel	VK256300	リアパネル	12
*	50	Top Panel	VK256400	トップパネル	18
*	51	Side Panel	VK256500	サイドパネル	12
*	52	Rim	VK256700	リム	10
*	53	Side Panel	VK256600	サイドパネル	13
*	54	Rim	VK256800	リム	10
*	55	Plate		プレート	
*	56	Support		サポート	
*	57				
*	58	Cushion	VH613800	クッション	4pcs
*	59	Post, Damper	VK257000	ポスト/ダンパー	4pcs
*	60	Stopper	VH939500	ストッパー	04
*	61	Slide Plate	VG674500	スライドプレート	04
*	62	Plate	VG683900	プレート	06
*	63	Collar	VG674100	カラー	2pcs
*	64	Motor	VK381600	モーター 12V	11
*	65	Shield Plate		シールドプレート	
*	66	Shield Plate		シールドプレート	
*	67	Damper Washer	VG728300	ダンパーワッシャー	4pcs
*	68	Support, P.C.B.	CR099540	P.C.B.ヒンジ	3pcs
*	69	Cushion	VG873500	クッション	4pcs
*	70	Spacer	VG575500	スペーサー	2pcs
*	71	Washer	VG735300	ワッシャー	2pcs
*	72	Flapper	VG834800	フラッパー	03
*	73	Stabilizer	VG576100	スタビライザー	17
*	74	Roller	VD938700	ローラ	01
*	75	Thrust Bearing	CB655540	スラストベアリング	01
*	76	Spring	VE647800	スプリング	01
*	77	Lifter Lever Assembly	VH939600	リフターレバー Ass'y	

* New Parts (新規部品)

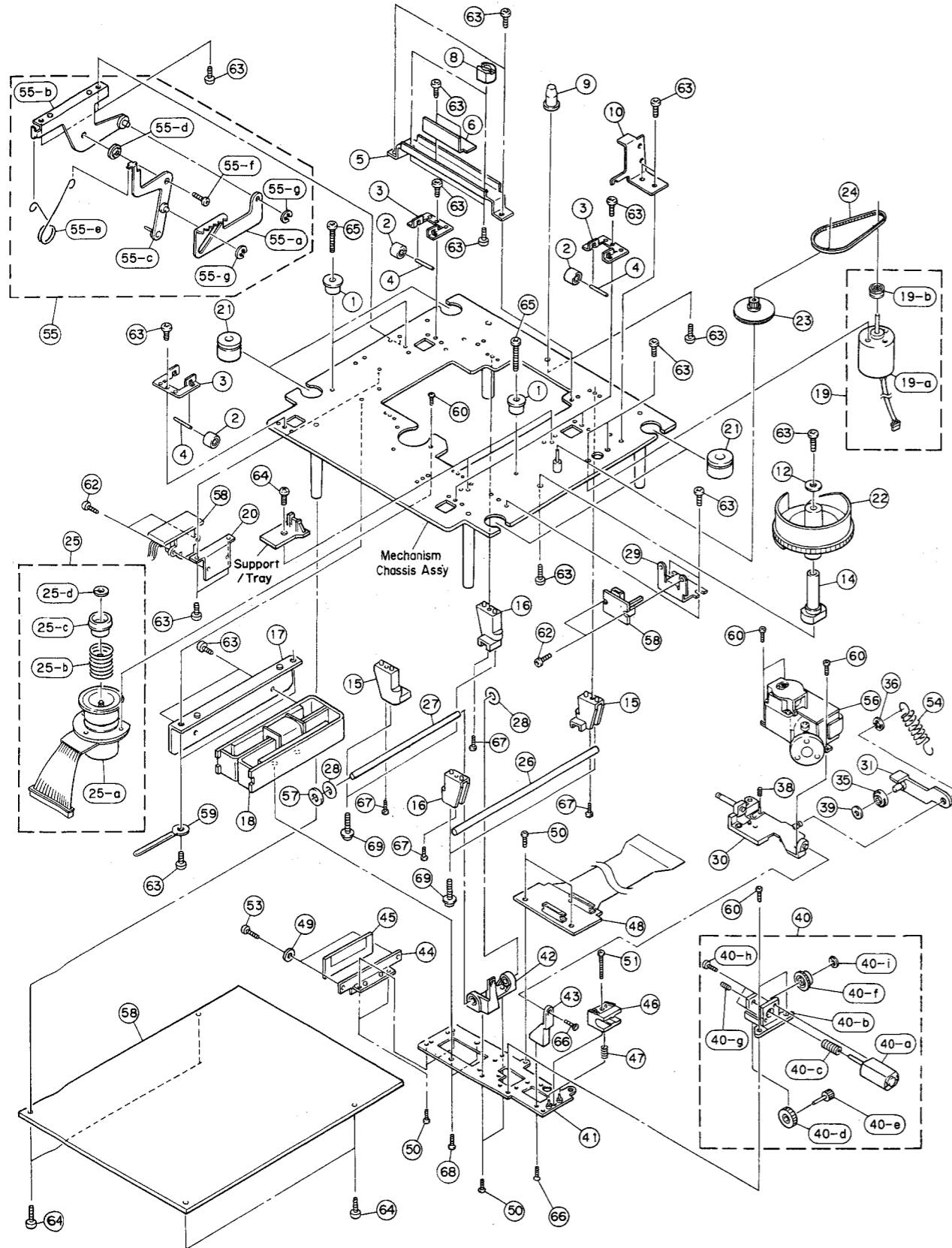
ランク : Japan only

Ref	Part No	Description	部品名	Remarks	ランク
*	78	Spring	VG576600	スプリング	02
*	79				
*	80				
*	81				
*	82	Fan Guard	VK949100	ファンガード	06
*	83				
*	84				
*	85	Bind Head Screw	ED330046	+ バインド小ネジ	5pcs
*	86	Bind Head Screw	EG330030	+ バインド小ネジ	28pcs
*	87	Bind Head Screw	ED330106	+ バインド小ネジ	4pcs
*	88	Pan Head Screw	EA040086	+ ナベ小ネジ	1pc.
*	89	Bind Head Screw	VK365100	+ バインド小ネジ	4pcs
*	90	Blaze Washer Head Screw	VH283300	+ BWH小ネジ	12pcs
*	91	Bind Head Screw	ED340106	+ バインド小ネジ	4pcs
*	92	Bind Head Tapping Screw-B	EK950020	+ バインドBタイト	9pcs
*	93	Bind Head Tapping Screw-B	EP600830	+ バインドBタイト	6pcs
*	94	Bind Head Tapping Screw-B	EK950060	+ バインドBタイト	4pcs
*	95	Bonding Tapping Screw-B	EX602050	+ バインディングBタイト	58pcs
*	96	Blaze Washer Head Screw-B	EX600240	+ BWHBタイト	11pcs
*	97				
*	98	Flat Head Tapping Screw-B	EO130086	+ 皿Bタイト	12pcs
*	99	Blaze Washer Head Screw-B	EK336020	+ BWHBタイト	4pcs
*	100	Bind Head Tapping Screw-P	EP620150	+ バインドPタイト	2pcs
*	101	Bind Head Tapping Screw-P	EP600730	+ バインドPタイト	2pcs
*	102				
*	103	Toothed Lock Washer	EV410046	歯付き座金内歯形	1pc.
*	104	Toothed Lock Washer	EV410036	歯付き座金内歯形	1pc.
*	105	Spring Washer	EV300300	バネ座金	2pcs
*	106	Spring Washer	EV300046	バネ座金	4pcs
*	107	Flat Washer	VA226300	平座金みがき丸	5pcs
*	108	Hexagonal Nut	EV100046	#2 4.0 ZMC2Y 六角ナット	4pcs
*	109	Hexagonal Nut	ES200020	#2 3.0 ZMC2Y 六角ナット	2pcs
*		<ACCESSORIES>		<付属品>	
*		AC Cord	VG525100	電源コード	J
*		AC Cord	VL741500	電源コード	U,C
*		AC Cord	VL023300	電源コード	X
*		AC Cord	VM554000	電源コード	B
*		Terminater	VK477400	ターミネータ	
*		Cable	VL641300	ケーブル	24
*		Rack Ear	VK368300	ラックイヤ	24

* New Parts (新規部品)

ランク : Japan only

■ EXPLODED VIEW (WM-3 Unit)



■ MECHANISM PARTS (WM-3 Unit) Note) Ø : Diameter

Ref	Part No	Description	部品名	Remarks	ランク
1	VK412500	WM-3 Unit	WM3ユニット		
2	VG574900	Guide	ガイド	4pcs	
3	VG575000	Roller	ローラ	4pcs	
4	VG575100	Bracket	ブラケット	4pcs	
5	VG575200	Shaft	シャフト	4pcs	
6	VG575300	Bracket	ブラケット		06
7	VH366300	Shield Plate	シールドプレート		02
8	VG575400	Guide	ガイド	2pcs	10
9	VG575800	Guide	ガイド		06
10	VG575700	Stopper	ストッパー		05
11	---	---	---		
12	VG735300	Washer	ワッシャー		03
13	---	---	---		
14	VG575900	Shaft	シャフト		09
15	VG616900	Shaft Holder	シャフトホルダー	2pcs	04
16	VG617100	Shaft Holder	シャフトホルダー	2pcs	04
17	VG617600	Bracket	LMブラケット		06
18	VG465600	Linear Motor	リニアモーター 10V		10
19	---	LO Motor Assembly	LOモーター Assy		
19a	VE356300	Motor	モーター 12V		06
19b	VC787300	Motor Pulley Assembly	モータープーリー Assy		01
20	VG684100	Sensor Bracket	センサーブラケット		06
21	VG617800	Damper rubber	ダンパーゴム	4pcs	05
22	CB655560	Loading Cam	ローディングカム		03
23	VF910500	Pulley Assembly	プーリー Assy		01
24	VF910400	Belt	ベルト		01
25	VG617900	SP Motor Assembly	SPモーター Assy		50
25a	---	Motor	モーター 12V		
25b	VG618200	Spring	スプリング		02
25c	VG618400	Chuck Ring Assembly	チャックリング Assy		14
25d	VG729000	CW	2.6X0.13		02
26	VG618900	Guide Shaft	ガイドシャフト		06
27	VG619100	Guide Shaft	ガイドシャフト		06
28	VG623300	O-Ring	Oリング	2pcs	
29	VG576000	Bracket	ブラケット		05
30	VG623800	PU Base Assembly	PUベース Assy		11
31	VG625100	Arm Assembly	アーム Assy		06
32	---	---	---		
33	---	---	---		
34	---	---	---		
35	VG625300	Roller	ローラ		06
36	VB294200	Stop Ring	E形止め輪		01
37	---	---	---		
38	EZ001380	Set Screw	2.0X6 ZMC2BL	すりわり付き止めねじ	01
39	VD880500	CW	1.7X0.25		02
40	VG625500	Tilt Motor Assembly	チルトモーター Assy		17
40a	---	Tilt Motor	モーター 4.5V		
40b	VG625800	Bracket Assembly	ブラケット Assy		09
40c	VG626200	Worm Gear	ウォームギヤ		06
40d	VG626400	Wheel	ホイール		05
40e	VG727700	Shaft Gear Assembly	シャフトギア Assy		08
40f	VH212900	Cam Gear	カムギヤ		04
40g	VG735100	Set Screw	2.0X4 ZMC2-BL	すりわり付き止めねじ	01
40h	EA320046	Pan Head Screw	2.0X4 ZMC2-BL	ナベ小ネジ	01
40i	VD880500	CW	1.7X0.25		02
41	VG620400	SL Sub-assembly	SLサブ Assy		07
42	VG621500	Metal Assembly	メタル Assy		18
43	VG621900	PU Base Guide	PUベースガイド		04
44	VG622100	Scale Holder	スケールホルダー		04
45	VG622300	Linear Encoder	リニアエンコーダー		14
46	VG622400	Slide Block	スライドブロック		03
47	VG622700	Spring	スプリング	2pcs	02
48	VK413800	Circuit Board	CONNEシート		15
49	VD015500	Washer	ワッシャー	2pcs	01
50	ED320046	Bind Head Screw	2.0X4 ZMC2BL	+バインド小ネジ	01
51	ED020126	Bind Head Screw	2.0X12 ZMC2Y	+バインド小ネジ	01
52	---	---	---		
53	VD294600	Bind Head Tapping Screw-P	2.0X6 FCM3B1	+バインドPタイト	2pcs
54	VG622800	Spring	PU/TE	スプリング	02
55	VG627200	Lock Gear Assembly	ロックギア Assy		10
55a	VG627400	Lock Gear	ロックギヤ		05
55b	VG623000	Lock Lever Assembly	ロックレバー Assy		05
55c	VG626800	Lock Arm Assembly	ロックアーム Assy		06
55d	CB072880	Isolation Bushing	絶縁ブッシュ		01
55e	VG727900	Spring	スプリング		03
55f	ED326056	Bind Head Screw	2.8X5 FCM3BL	+バインド小ネジ	01
55g	VB294200	Stop Ring	2.0	E形止め輪	01
55h	VK319500	YWH-1X		YWH-1X	93

* New Parts (新規部品)

ランク : Japan only

PARTS LIST

RC601 ELECTRICAL PARTS

WARNING

Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.

Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS List. For the parts No. of the carbon resistors, refer to P. 82.

Ref	Part No	Description	部品名	Remarks	ランク
	VK414700	Circuit Board	RSW	R S W シート	
	VK415300	Circuit Board	RMAIN	R M A I N シート	67
	VK415400	Circuit Board	RAUDIO	R A U D I O シート	38
	VK414700	Circuit Board	RSW	R S W シート	
	IRO07420	IC, D-FF	UPD74HC74C	I C	IC205-208
	IG136700	Transistor Array	TD62083AP	トランジスタアレイ	IC201,202
	VK456300	Transistor Array	TD62783AP	トランジスタアレイ	IC203
	VK456200	Transistor Array	TD62380P	トランジスタアレイ	IC204
	VK456400	Digital Transistor	AD1F3P	デジタルトランジスタ	Q201
	VK456800	Photo Diode	LB-602VLF	発光ダイオード	D201-204
	IF004600	Diode	1SS133 T-77	ダイオード	D221-240
	VK456500	LED	HLMP-T200 RE	L E D	D205,209
	VH201400	LED	SLR-34URC3H3 RE	L E D	D220
	VK456600	LED	SLR-34MG3H3 GR	L E D	D213-219
	VK456700	LED Display	SDSP-4850	LEDディスプレイ	D206-208,210-212
	VJ836100	Electrolytic Capacitor	47.00 6.3V	ケミコン	C206
	UM387470	Electrolytic Capacitor	47.00 6.3V	ケミコン	C212,213
	FZ005880	Monolithic Cera. Cap.	0.100 25V M	積層セラコン	C201-205,207,211
	HZ002880	Resistor Array	RMLS8	抵抗アレイ	R221,222
	VG522500	Resistor Array	RHLS8J272	抵抗アレイ	R233
	VE925600	Ferrite Bead	B-02-R	フェライトビーズ	L201
	VG778500	Ferrite Bead	FBA04VA600KD	フェライトビーズ	L202
	VK446600	Push Switch	TR1-01	プッシュSW	SW201-206,209
	VK446300	Dip Switch	KSPA04	ディップSW	SW221
	VK446500	Slide Switch	SSSS91	スライドSW	SW222-225
	VK446700	Push Switch with LED	TR3-01-L05	照明プッシュSW	SW207,210
	VK446800	Push Switch with LED	TR3-01-L502	照明プッシュSW	SW208
	VK415300	Circuit Board	RMAIN	R M A I N シート	67
	XI992A00	IC, TRANSCIEVER	LTC458CS8	I C	IC1-18
	JRO54050	IC, INVERTER BUFFER	SN74HC540N	I C	IC19,20
	XB253001	IC, RESET	M51951BL	I C	IC21
	XI993A00	IC, SCSI CONTROLLER	MB89351PF-G-BND	I C	IC22
	XE798A00	IC, PMM2	YM3934	I C	IC24
	XJO18A00	IC, INVERTER	TC7S04	I C	IC27
	XD659A00	IC, BUFFER	TC74HC541AF	I C	IC29
	XJ704A00	IC, DRIVER	SN75176BPS	I C	IC28
	VB481900	Diode	11ES4	ダイオード	D1
	VC039800	Crystal Resonator	EXO-3C 16MHz	水晶振動子	IC23
	UI627470	Electrolytic Capacitor	47.00 10.0V M	ケミコン	C1
	VJ798800	Chip Ceramic Capacitor	0.1 25V GRM40F	チップコンデンサ	C2,3,8-35,36
	VK661100	Resistor Array	1889-0011-0	抵抗アレイ	RA1,2
	VE445200	Resistor Array	RCRD-8X-103J	抵抗アレイ	RA3-5
	VE444900	Resistor Array	RCRD-8X-222J	抵抗アレイ	RA6
	VK493600	Resistor Array	MS33-1-103J	抵抗アレイ	RA7-10
	VK661000	Chip Filter	M-720C	EMCチップフィルタ	F1-4
	VK660800	Chip Filter	M-614	EMCチップフィルタ	F5
	VE439400	EMI Filter	DSS310-55D-223S	EMIフィルタ	F6
	VK879400	Slide Switch	WCAF4103	SライドSW	SW1
	VG518900	Connector, L Type	57LE-40560-77CD	L形ディップコネクタ	J1 (CONTROL)
	VA024500	IC Socket	64pin	I C ソケット	(IC25,26)
	VK415400	Circuit Board	RAUDIO	R A U D I O シート	38
	IG065510	IC, REGULATOR +5V	NJM78L05A	I C	IC101
	IG130500	IC, REGULATOR -5V	NJM79L05A	I C	IC102
	XJ141A00	IC, REGULATOR +9V	NJM78M09FA	I C	IC103
	XH899A00	IC, REGULATOR -9V	NJM79M09FA	I C	IC104
	XJO21A00	IC, INVERTER	TC7W04F	I C	IC105
	XB637A00	IC, DAC	PCM56P	I C	IC106,107
	VK684200	IC, ACTIVE FILTER	WLP20D788	I C	IC108
	XA862B00	IC, OP AMP	NJM4560W(T1)	I C	IC109
	IG158200	IC, OP AMP	NJM4556WB(T1)	I C	IC111
	XH600A00	IC, PIO	UPD71055GB-3B6	I C	IC112
	XG948C00	IC, DIR2	YN3436BG	I C	IC113
	XJ365A00	IC, DIGITAL FILTER	SW5840ES	I C	IC114
	XK179A00	IC, KEY CONTROL CPU	M50747ESP	キーコントロール CPU	IC26
	XK180A00	IC, SCSI CPU	M50747ESP	SCSI CPU	IC25
	IC260320	Transistor	2SC2603 E,F	トランジスタ	Q104
	IA101571	Transistor	2SA1015 O,Y	トランジスタ	Q105
	VB493900	Diode	MA221 TP	ダイオード	D103,104
	VK665900	Crystal Resonator	AT51 11.0592MHz	水晶振動子	XL1
	VF881700	Electrolytic Capacitor	100 16V	ケミコン	C101,102
	UM397470	Electrolytic Capacitor	47 16V	ケミコン	C111-112,164
	UM397100	Electrolytic Capacitor	10 16V	ケミコン	C146,147,152
	UM397220	Electrolytic Capacitor	22 16V	ケミコン	C154
	VK680000	Bypolar Electrolytic Cap.	3.3 25V	B P ケミコン	C126,127
	VJ798800	Chip Ceramic Capacitor	0.1 25V GRM40	チップ積層セラコン	C103-110,113-123
					C128-133,136,137

* New Parts (新規部品)

ランク: Japan only

Ref	Part No	Description	部品名	Remarks	ランク
	VI226400	Chip Ceramic Capacitor	チップ積層セラコン	C144,145,155,156	01
	VI226800	Chip Ceramic Capacitor	チップ積層セラコン	C159,161-163,166	01
	VJ798200	Chip Ceramic Capacitor	チップ積層セラコン	C124,125,142,143	01
	VI540000	Mylar Capcitor	マイラーコン	C160	01
	UA353390	Mylar Capcitor	マイラーコン	C150	01
	FU451220	Mica Capacitor	マイカコン	C153	01
	VI196600	Chip Metal Film Resistor	チップ金被膜抵抗	C167	01
	VI194100	Chip Metal Film Resistor	チップ金被膜抵抗	C157,158	01
	VI200000	Chip Metal Film Resistor	チップ金被膜抵抗	R101-104,121-124,145	01
	VF445200	Resistor Array	抵抗アレイ	R105,106	01
	VL709400	Variable Resistor	可変抵抗器	R115,116	01
	VD542700	FMI Filter	EMIフィルタ	R138-140	01
	VI243100	FMI Filter	EMIフィルタ	VR1	01
	VK682900	Relay	リレー	FB103	01
	VK682800	Rotary Switch	ロータリースイッチ	FB104,105	08
	VK879400	Dip Switch	ディップスイッチ	RL1	07
	LB302070	Phone Jack	ホンジャック	SW101	03
	VB858800	PH Connector	PHコネクタ	SW102	01
	VF352600	PH Connector	PHコネクタ	J2 (PHONES)	01
	VF283400	PH Connector	PHコネクタ	#6	01
				#10	01
				#4	01
				#3	01

* New Parts (新規部品)

ランク : Japan only

A

B

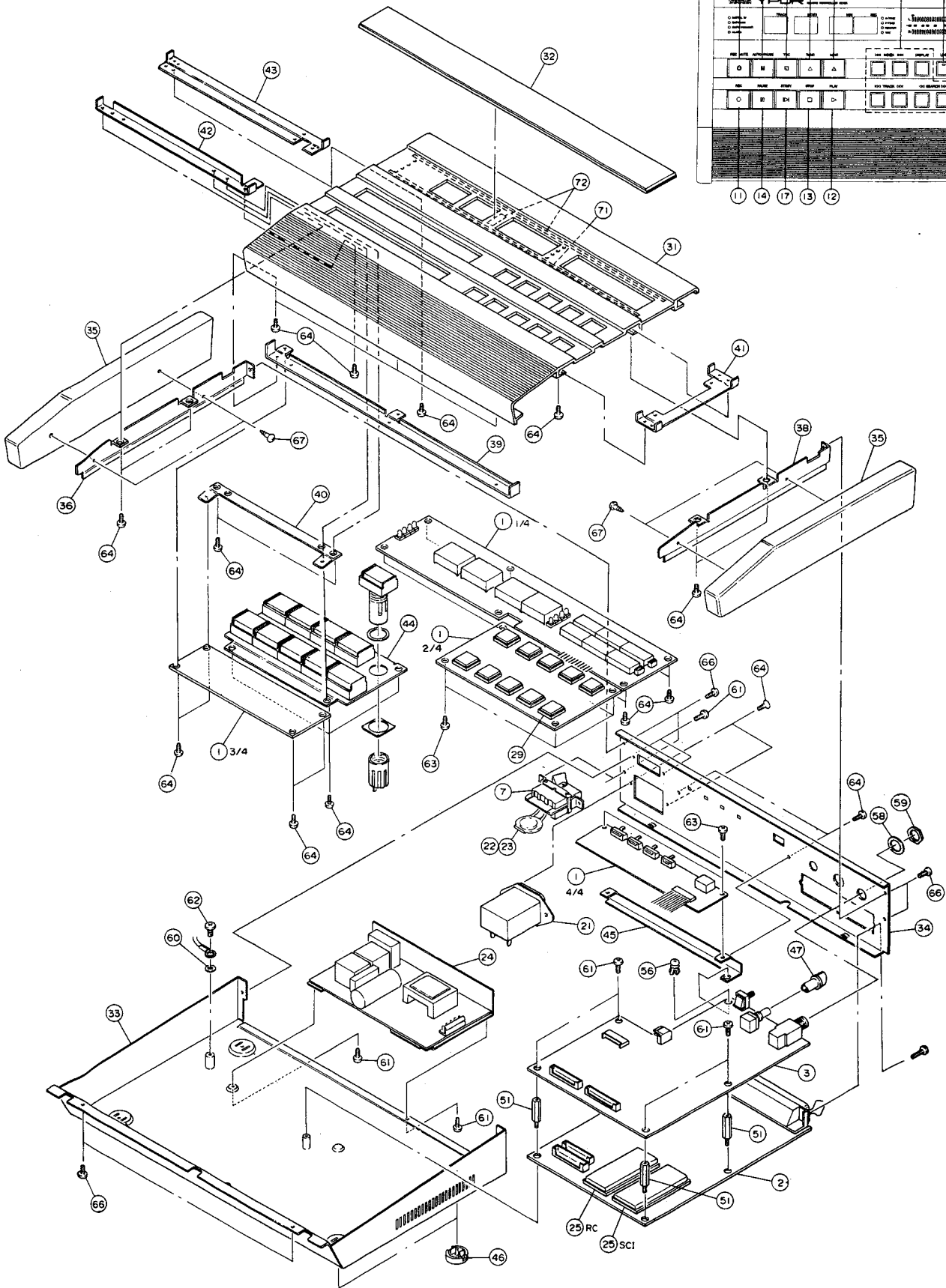
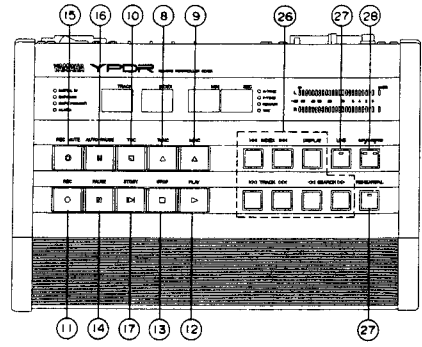
C

D

E

YPDR601/RC601

EXPLODED VIEW



MECHANISM PARTS Note) Ø : Diameter

Ref	Part No	Description	部品名	Remarks	ランク
1	VK414700	Circuit Board	RSW		67
2	VK415300	Circuit Board	RMAIN		38
3	VK415400	Circuit Board	RAUDIO		04
7	VG869800	Power Switch	SDDT-SPST	POWER	10
8	VK447800	Push Switch	ACD40520XTR	TrINC	10
9	VK447900	Push Switch	ACD40520XIX	1xINC 2pcs	12
10	VK446900	Push Switch with LED	ACD40127X	TOC	12
11	VK447000	Push Switch with LED	ACD40121R	REC	12
12	VK447100	Push Switch with LED	ACD40127X	PLAY	12
13	VK447200	Push Switch with LED	ACD40127X	STOP	12
14	VK447400	Push Switch with LED	ACD40127X	PAUSE	12
15	VK447500	Push Switch with LED	ACD40124JR	REC MUTE	12
16	VK447600	Push Switch with LED	ACD40127XA	AUTO PAUSE	12
17	VK447700	Push Switch with LED	ACD40127XS	STDBY	05
21	LB300560	AC INLET Connector	CM-11	AC IN	01
22	CB095260	Capacitor Cover	SB-0833		01
23	FI384100	Ceramic Capacitor	0.010 400V		26
24	VL120600	Power Supply Unit	LW15-52	J,U,C	
24	VL507100	Power Supply Unit	LW15-53	X	
25	--	--	--	--	
26	VK445600	Button, Push Switch	TZ0310D GY	7pcs	01
27	VK445700	Button, Push Switch	TZ0510D GY	2pcs	01
28	VK445800	Button, Push Switch	TZ0710D GY	1pc.	01
29	VK445500	Escutcheon	WDO340151D GY	10pcs	01
31	VK241400	Front Panel	C.B		21
32	VK242600	Window	C.B		12
33	--	--	C.B		
34	VK241500	Rear Panel	C.B		13
35	VK242700	Side Cover	L,R	1pair	22
36	VK241600	Support	Side L		09
38	VK241700	Support	Side R		09
39	VK241800	Support	Relay 1		10
40	VK241900	Support	Relay 2		07
41	VK242000	Support	Play B		09
42	VK242100	Support	Rec 1		09
43	VK242200	Support	Rec 2		09
44	VK242300	Support	Rec B		09
45	VK242400	Support	Slide		07
46	VK325100	Foot	P-D	4pcs	05
47	VH888800	Knob	(B) D10	LEVEL	03
51	VK493000	Spacer	BSB-319	4pcs	04
56	CB605620	Plastic Rivet	NO.1057		01
57	CB069250	Cord Clamper	BK-1	7pcs	01
58	IX200010	Flat Washer	9X14X0.5 FCRM3		01
59	IX200060	Hexagonal Nut	9.0 FNM33G		01
60	EV410046	Toothed Lock Washer	A 4.0 ZMC2Y		01
61	ED330066	Bind Head Screw	3.0X6 FCM3BL	8pcs	01
62	EA040086	Pan Head Screw	4.0x8 ZMC2Y		01
62a	EV300046	Spring Washer	4.0 ZMC2Y		01
63	EZ001040	Bind Head Tapping Screw-B	3.0X6 ZMC2Y	6pcs	01
64	EK395040	Bind Head Tapping screw-B	3.0X8 ZMC2BL	31pcs	01
65	--	--	--	--	
65	E0330086	Flat Head Tapping Screw-B	3.0X8 FCM3BL	2pcs	01
66	EN300010	Bonding Tapping Screw -B	3.0X8 FCM3BL	8pcs	01
67	E0031106	Round Head Wood Screw	3.1X10 ZMC2Y	4pcs	01
71	CB607350	Adhesive Tape			01
72	CB074190	Adhesive Tape			01
		<ACCESSORY>			
	VG525100	AC Cord	125V KP300 2.5m	J	08
	VL741500	AC Cord	125V KS31 2.5m	U,C	
	VL023300	AC Cord	250V KS31A 2.5m	X	08
	VM554000	AC Cord	6A HE-8 2.0m	B	

* New Parts (新規部品)

ランク : Japan only

Parts List for Carbon Resistors

Value	1/4W Type Part No.	1/6W Type Part No.	Value	1/4W Type Part No.	1/6W Type Part No.
1.0 Ω	HJ35 3100	HF853100	12 KΩ	HJ35 7120	HF85 7120
1.8 Ω	HJ35 3180	*	15 KΩ	HJ35 7150	HF85 7150
2.2 Ω	HJ35 3220	HF853220	18 KΩ	HJ35 7180	HF85 7180
3.3 Ω	HJ35 3330	HF853330	22 KΩ	HJ35 7220	HF85 7220
4.7 Ω	HJ35 3470	HF853470	27 KΩ	HJ35 7270	HF85 7270
5.6 Ω	HJ35 3560	HF853560	33 KΩ	HJ35 7330	HF85 7330
10 Ω	HJ35 4100	HF85 4100	39 KΩ	HJ35 7390	HF85 7390
15 Ω	HJ35 4150	HF85 4150	47 KΩ	HJ35 7470	HF85 7470
22 Ω	HJ35 4220	HF85 4220	56 KΩ	HJ35 7560	HF85 7560
27 Ω	HJ35 4270	HF85 4270	68 KΩ	HJ35 7680	HF85 7680
33 Ω	HJ35 4330	HF85 4330	82 KΩ	HJ35 7820	HF85 7820
39 Ω	HJ35 4390	HF85 4390	91 KΩ	HJ35 7910	HF85 7910
47 Ω	HJ35 4470	HF85 4470	100 KΩ	HJ35 8100	HF85 8100
56 Ω	HJ35 4560	HF85 4560	120 KΩ	HJ35 8120	HF85 8120
68 Ω	HJ35 4680	HF85 4680	150 KΩ	HJ35 8150	HF85 8150
82 Ω	HJ35 4820	HF85 4820	180 KΩ	HJ35 8180	HF85 8180
100 Ω	HJ35 5100	HF85 5100	220 KΩ	HJ35 8220	HF85 8220
110 Ω	HJ35 5110	HF85 5110	270 KΩ	HJ35 8270	HF85 8270
120 Ω	HJ35 5120	HF85 5120	330 KΩ	HJ35 8330	HF85 8330
150 Ω	HJ35 5150	HF85 5150	390 KΩ	HJ35 8390	HF85 8390
160 Ω	HJ35 5160	*	470 KΩ	HJ35 8470	HF85 8470
180 Ω	HJ35 5180	HF85 5180	560 KΩ	HJ35 8560	HF85 8560
220 Ω	HJ35 5220	HF85 5220	680 KΩ	HJ35 8680	HF85 8680
270 Ω	HJ35 5270	HF85 5270	820 KΩ	HJ35 8820	HF85 8820
330 Ω	HJ35 5330	HF85 5330	1.0 MΩ	HJ35 9100	HF85 9100
390 Ω	HJ35 5390	HF85 5390	1.2 MΩ	HJ35 9120	*
470 Ω	HJ35 5470	HF85 5470	1.5 MΩ	HJ35 9150	HF85 9150
510 Ω	*	HF85 5510	1.8 MΩ	HJ35 9180	HF85 9180
560 Ω	HJ35 5560	HF85 5560	2.2 MΩ	HJ35 9220	HF85 9220
680 Ω	HJ35 5680	HF85 5680	3.3 MΩ	HJ35 9330	HF85 9330
820 Ω	HJ35 5820	HF85 5820	3.9 MΩ	HJ35 9390	*
910 Ω	HJ35 5910	HF85 5910	4.7 MΩ	HJ35 9470	HF85 9470
1.0 KΩ	HJ35 6100	HF85 6100			
1.2 KΩ	HJ35 6120	HF85 6120			
1.5 KΩ	HJ35 6150	HF85 6150			
1.8 KΩ	HJ35 6180	HF85 6180			
2.0 KΩ	HJ35 6200	HF85 6200			
2.2 KΩ	HJ35 6220	HF85 6220			
2.4 KΩ	HJ35 6240	HF85 6240			
2.7 KΩ	HJ35 6270	HF85 6270			
3.0 KΩ	HJ35 6300	HF85 6300			
3.3 KΩ	HJ35 6330	HF85 6330			
3.6 KΩ	HJ35 6360	HF85 6360			
3.9 KΩ	HJ35 6390	HF85 6390			
4.7 KΩ	HJ35 6470	HF85 6470			
5.1 KΩ	HJ35 6510	HF85 6510			
5.6 KΩ	HJ35 6560	HF85 6560			
6.8 KΩ	HJ35 6680	HF85 6680			
8.2 KΩ	HJ35 6820	HF85 6820			
9.1 KΩ	HJ35 6910	HF85 6910			
10 KΩ	HJ35 7100	HF85 7100			

1/4W Type

HJ35 ○○○○

10mm

1/6W Type

HF85 ○○○○

5mm

YAMAHA CORPORATION

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SERVICE MANUAL CORRECTION AND ADDITIONAL ITEMS

CHANGE DETAILS: In STEP 14- "OPTICAL HEAD OPTIMUM TILT ADJUSTMENT" on page 24 of the service manual, the first sentence (Note:) should be corrected to read as follows:

Incorrectthe tilt cam (ref. page 73 No. 40f) ...

Correctthe tilt cam (ref. page 75 No. 40f) ...

ADDITIONAL ITEM: In item 7 of STEP 14 "OPTICAL HEAD OPTIMUM TILT ADJUSTMENT" on page 24 of the service manual, the change should be read as illustrated below:

The location of the jitter direction screw and lock paint application is shown (Fig. 9)



The location of the jitter direction screw, waveform example for adjustment and the location for applying lock paint is shown on page 25 (Fig. 9 and waveform photo 10).