# Portable digital compact cassette recorder DCC170

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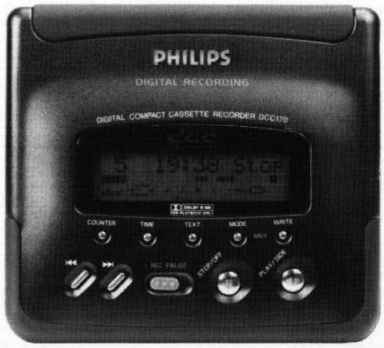


# Service Manual

DIGITAL dcc COMPACT CASSETTE

## CONTENTS



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## SAFETY PRECAUTIONS (This "safety precaution" is applied only in U.S.A.)

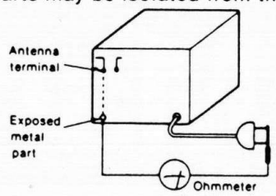
1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

### ● INSULATION RESISTANCE TEST

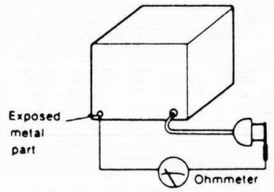
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

**Note:** Some exposed parts may be isolated from the chassis by design. These will read infinity.

(Fig A)
Resistance = 3MΩ–5.2MΩ




(Fig B)
Resistance = Approx ∞




4. If the measurement is outside the specified limits, there is a possibilty of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.


**CAUTION :**
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE ONLY WITH SAME TYPE 800mA,125V FUSE.
REFER REPLACEMENT TO QUALIFIED SERVICE PERSONNEL.

**(GB) WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

**ESD**

**(F) ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux decharges statiques (ESD).
Leur longevite pourrait être considérablement ecourtee par le fait qu'aucune precaution n'est prise a leur manipulation.
Lors de reparations, s'assurer de bien être relie au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une resistance de securite.
Veiller a ce que les composants ainsi que les outils que l'on utilise soient également a ce potentiel.

**(D) WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD).
Unsorgfaltige Behandlung bei der Reparatur kann die Lebensdauer drastisch vermindern.
Sorgen sie dafür, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerates verbunden sind.
halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

**(NL) WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

**(I) AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevita potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.



## SPECIFICATIONS

### DIGITAL SIGNAL FORMAT:

| | |
|---|---|
| **Tape recording system** | Digital compact cassette |
| **Sampling frequencies:** | 48 kHz, 44.1 kHz, 32 kHz (selected automatically) |
| **No. of quantizing bits:** | 16-bits, linear |
| **Coding format** | PASC |
| **No. of channels:** | 2-channel, stereo |

### AUDIO PERFORMANCE:

**DCC**

| | |
|---|---|
| **Frequency response:** | |
| **fs:44.1 kHz** | 20 Hz – 20 kHz + 0.5 dB, –1.5 dB |
| **fs:48 kHz** | 20 Hz – 22 kHz + 0.5 dB, –1.5 dB |
| **fs:32 kHz** | 20 Hz – 14.5 kHz + 0.5 dB, –1.5 dB |
| **S/N ratio** | 90 dB or more |
| **Dynamic range:** | 90 dB or more |
| **Wow and flutter** | Quartz crystal precision |

**Compact cassette**

| | |
|---|---|
| **Track format:** | 4 track 2-channel stereo |
| **Frequency range:** | 20 Hz –18 kHz |
| **S/N ratio ($CrO_2$):** | 50 dB or more |

### TERMINALS

| | |
|---|---|
| **Line output (fixed):** | 3.5 mm jack |
| **output level:** | 1.0 V (50 kΩ) |
| **Phones output:** | 3.5 mm jack |
| **max. output power:** | 18 mW +18mW (16 Ω) |
| **DC input:** | 6.0 V |

### POWER REQUIREMENTS

| | | |
|---|---|---|
| **Battery** | | Ni-Cd rechargeable battery |
| **Recording time** | | Approx. 2.5 hours |
| **Playback time** | | Approx. 2.5 hours |
| **Recharging time** | | Approx. 3 hours |
| **External:** | mains adapter | |
| **USA/Canada** | SBC6619/47 | 120 V, 60 Hz |
| **Europe** | SBC6619/30 | 220 – 230 V, 50 Hz |
| **U. K.** | SBC6619/35 | 240 V, 50 Hz |
| **Australia/New Zealand** | SBC6619/40 | 230 – 240 V, 50 Hz |
| **Other countries** | SBC6619/31 | 120/230 V, 50/60 Hz |

### MISCELLANEOUS

| | |
|---|---|
| **Mechanism** | |
| **Head:** | 36 channel thin-film head |
| **Motor:** | Brushless motor |
| **Tape speed** | 4.76 cm/sec. |

### GENERAL

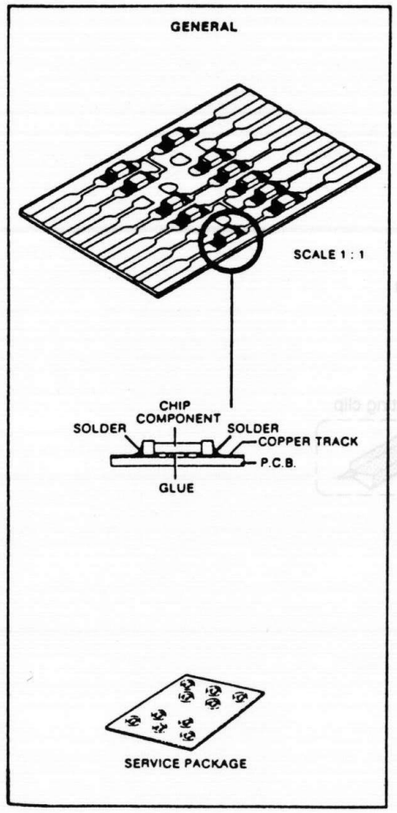
| | |
|---|---|
| **Dimensions (W x H x D):** | 111.6 x 38.1 x 99.8 mm ($4\ 3/8$ x $1\ 1/2$ x $3\ 15/16$ inch) |
| **Weight (incl. rechargeable battery):** | 420 gr. |

### ACCESSORIES

| | |
|---|---|
| **In-ear phones** | SBC3179 |
| **Head band type** | SBC3184 (only for BK01) |
| **Remote control** | SBC6270 |
| **Rechargeable battery:** | SBC6434 |
| **Coaxial digital cable** | SBC1275 |
| **Mains adapter:** | |
| **Carrying case** | |
| **HiFi connection cable** | |

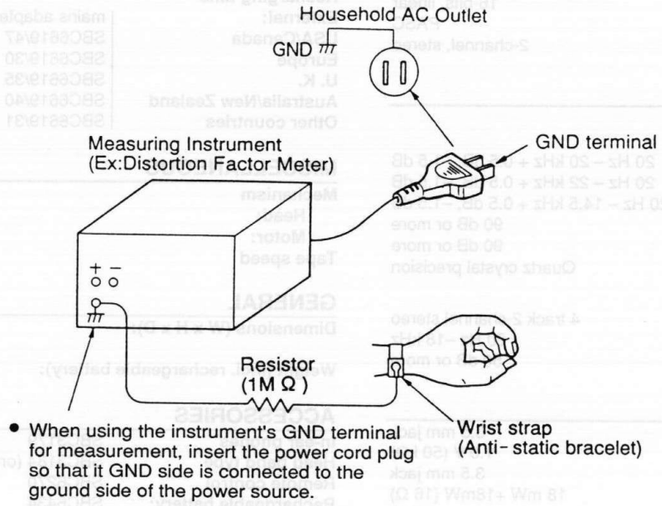
**Note :** These specifications are subject to change without notice.

### HANDLING CHIP COMPONENTS



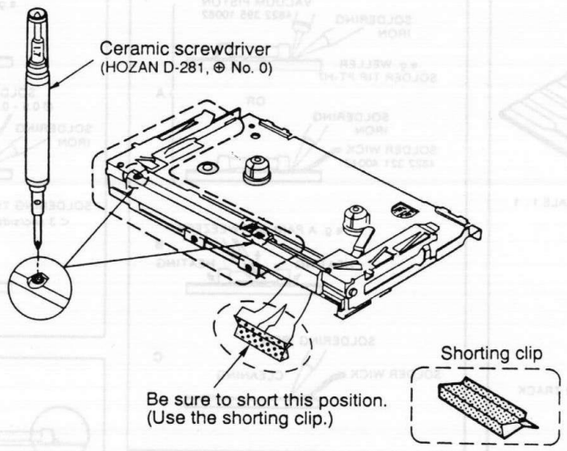
## PRECAUTIONS FOR MECHANISM AND HEAD ASSEMBLY HANDLING

(1) Connect your wrist strap to the unit's GND or to the grounding post of a measuring instrument you are using.
To protect the head assembly from magnetic or electrostatic damage, be sure to wear the wrist strap whenever replacing the head assembly or handling the PC boards.




(2) When disconnecting the head FPC from the Mechanism P.C.B., install a shorting clip on the FPC to protect it from magnetic or electrostatic damage.

(3) • Use a ceramic screwdriver for all head replacement and adjustment.
• Keep magnetized metallic screwdrivers away from the head assembly, as they may damage the head's magnetic properties.

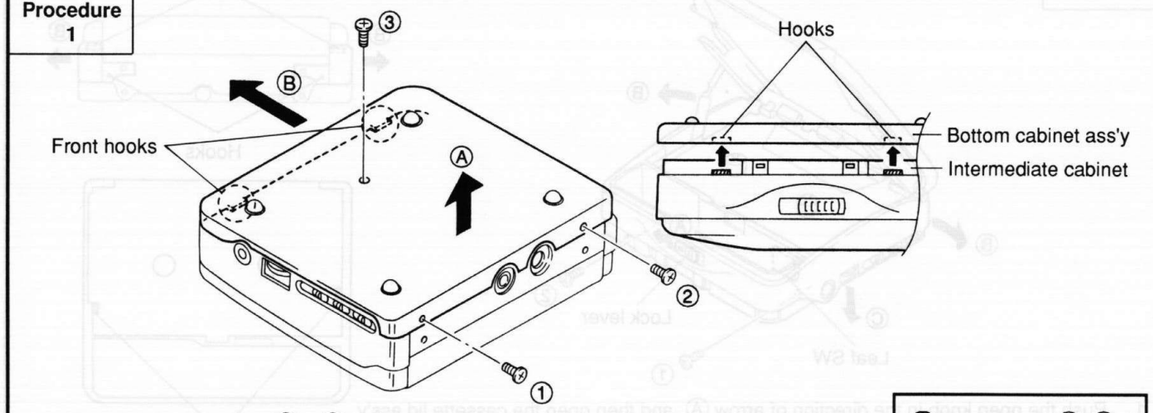





## DISASSEMBLY INSTRUCTIONS

**Ref. No. 1** — **Removal of the bottom cabinet ass'y**

**Procedure 1**

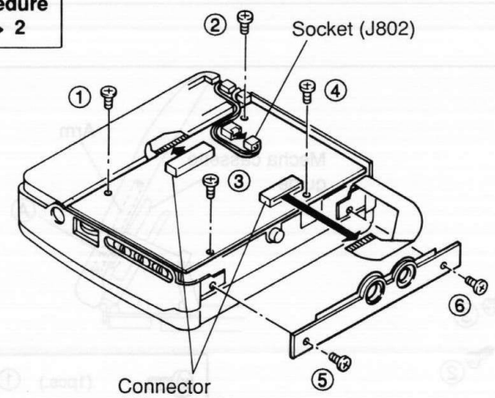



1. Remove the 3 screws (① ~ ③).
2. Lift up the bottom cabinet ass'y in the direction of arrow Ⓐ, and push it in the direction of arrow Ⓑ to release the 2 front hooks.

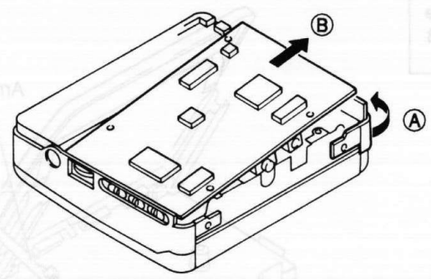
(3pcs.) ①~③ M1.4 x 2.5

**Ref. No. 2** — **Removal of the MAIN P. C. B.**

**Procedure 1 ➡ 2**

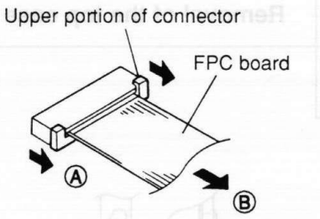



1. Remove the 2 FPC boards (JU01, JU02).
2. Remove a socket of battery terminal wire (J802).
3. Remove the 4 screws (① ~ ④).
4. Remove the 2 screws (⑤, ⑥). And then remove the rear frame panel.
5. Open the intermediate cabinet in the direction of arrow Ⓐ.
Remove the MAIN P. C. B. shifting in the direction of arrow Ⓑ.




**Removal of the FPC board**

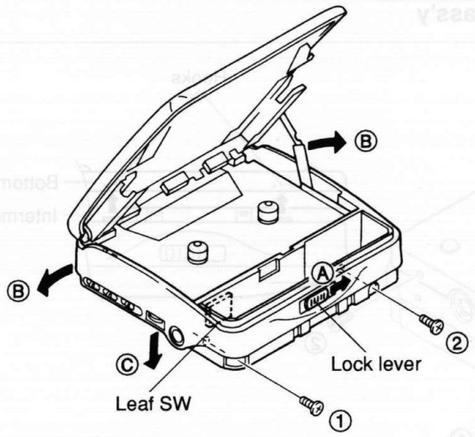
1. Push the upper portion of connector in the direction of arrow Ⓐ, and then pull the FPC board in the direction of arrow Ⓑ.

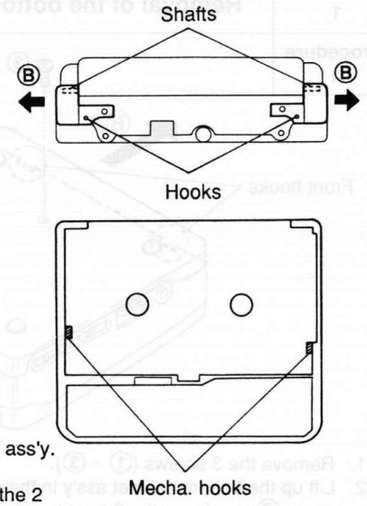



(1pcs.) ① M1.4 x 3.5
(5pcs.) ②~⑥ M1.4 x 2.5

## Ref. No. 3 — Removal of the intermediate cabinet

**Procedure** 1 → 2 → 3



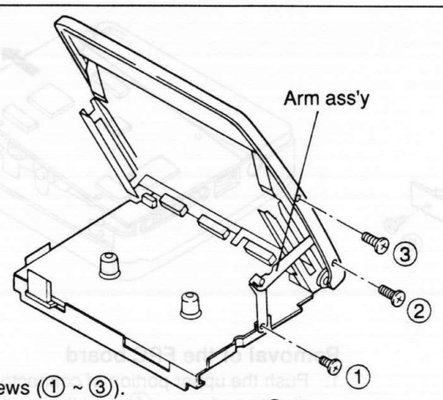

1. Push the open knob in the direction of arrow Ⓐ, and then open the cassette lid ass'y.
2. Remove the 2 screws (①, ②).
3. Stretch the intermediate cabinet in the direction of arrow Ⓑ, and then remove the 2 hooks of the back side bracket ass'y and the 2 shafts.
4. While stretching the intermediate cabinet, release the 2 mecha. hooks, and then remove the intermediate cabinet in the direction of arrow Ⓒ.

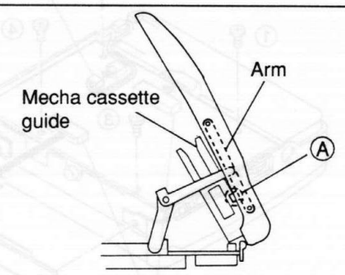
**Note:** Be sure not to hook the leaf SW up the intermediate cabinet.

(2pcs.) ①, ②
M1.4 x 2.5

## Ref. No. 4 — Removal of the arm ass'y

**Procedure** 1 → 2 → 3 → 4




1. Remove the 3 screws (① ~ ③).

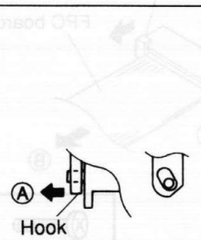
**Note:** Check the projection of head block holder at Ⓐ is in the link angles when assembling.

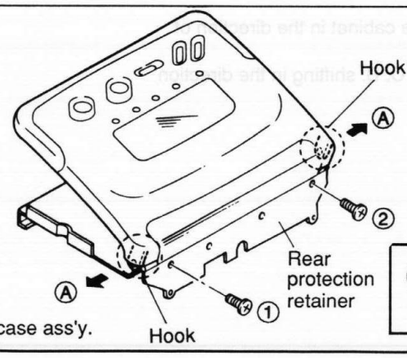
(1pcs.) ①
M1.4 x 1.5

(2pcs.) ②, ③
M1.4 x 2

## Ref. No. 5 — Removal of the top case ass'y

**Procedure** 1 → 2 → 3 → 4 → 5



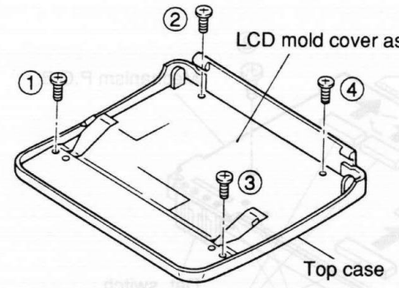

1. Remove the 2 screws (①, ②).
2. Stretch the hooks (Ⓐ), and then remove the top case ass'y.

(2pcs.) ①, ②
M1.4 x 2
SCREW HEAD Ø 2.0



## Ref. No. 6 — Removal of the LCD mold cover ass'y

**Procedure** 1 → 2 → 3 → 4 → 5 → 6

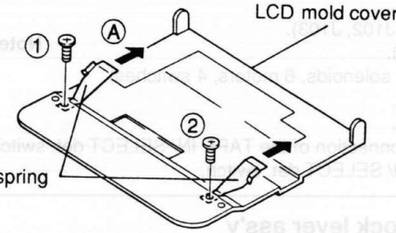



1. Remove the 4 screws (① ~ ④).

(4pcs.) ①~④
M1.4 x 2.5

## Ref. No. 7 — Removal of the cassette guide spring

**Procedure** 7

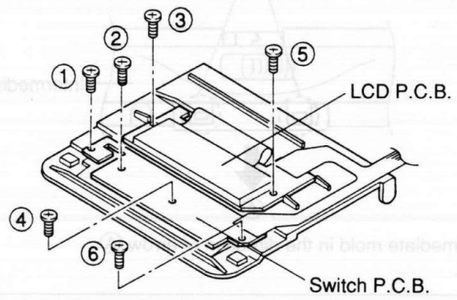



1. Remove the 2 screws (① , ②).
2. Pull out the cassette guide spring in the direction of arrow Ⓐ.

(2pcs.) ①,②
M1.4 x 2.5

## Ref. No. 8 — Removal of the LCD P. C. B. and the switch P. C. B.

**Procedure** 1 → 2 → 3 → 4 → 5 → 6 → 8

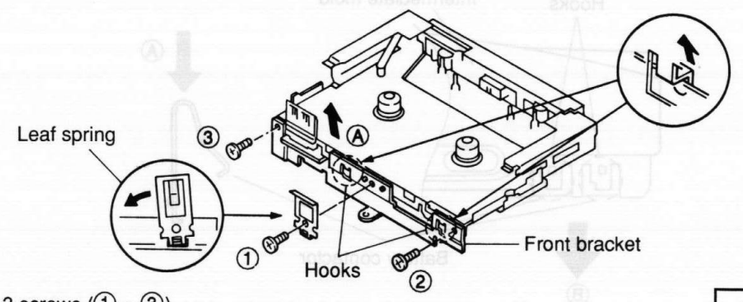



1. Remove the 6 screws (① ~ ⑥).

(6pcs.) ①~⑥
B TITE1.4 x 2.5

## Ref. No. 9 — Removal of the mechanism chassis

**Procedure** 1 → 2 → 3 → 4 → 5 → 9

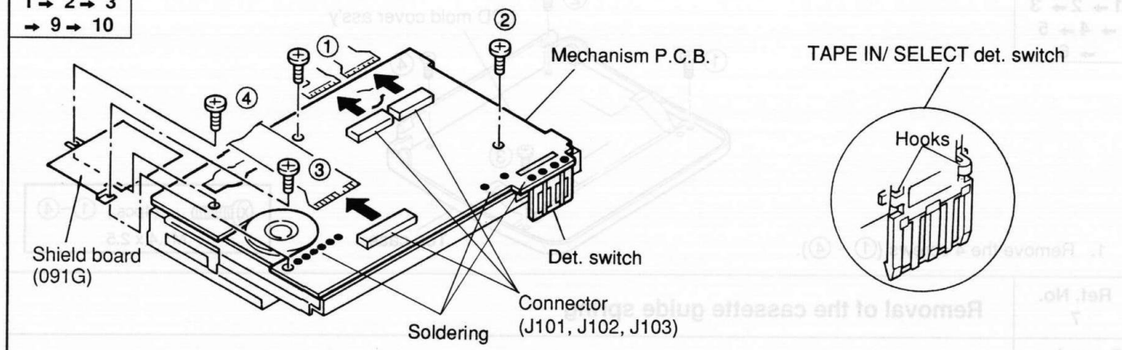



1. Remove the 3 screws (① ~ ③).
2. Pull out the leaf spring by slanting it as shown.
3. Lift up the front bracket, and then release the hooks. Remove it in the direction of arrow Ⓐ.

(3pcs.) ①~③
M1.4 x 2.5

**Ref. No. 10** — **Removal of the mechanism P. C. B. and TAPE IN/ SELECT det. switch**

**Procedure** 1 → 2 → 3 → 9 → 10



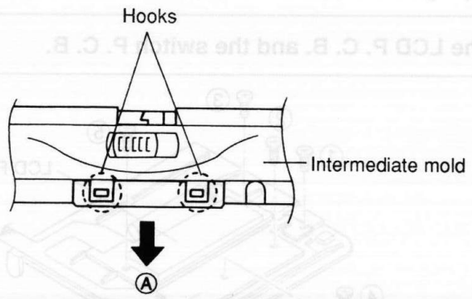

1. Remove the FPC boards (J101, J102, J103).
2. Remove the shield board (091G).
3. Remove the 12 soldering part (2 solenoids, 6 motors, 4 switches).
4. Remove the 4 screws (① ~ ④).
5. Remove the mechanism P. C. B.
   (Be sure not to damage at the connection of the TAPE IN/ SELECT det. switch).
6. Release the 2 hooks of TAPE IN/ SELECT det. switch.

**Note:** Be sure to use a clip to the terminal of the FPC board which is from the head during repair in order to avoid the static electricity.

(4pcs.) ①~④
B TITE1.4 x 2.5

**Ref. No. 11** — **Removal of the lock lever ass'y**

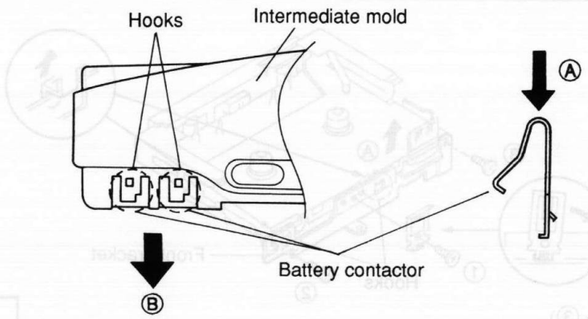
**Procedure** 1 → 11




1. Lift up the hooks of the intermediate mold in the direction of arrow Ⓐ and pull it out with the pliers.

**Ref. No. 12** — **Removal of the battery contactor**

**Procedure** 1 → 12



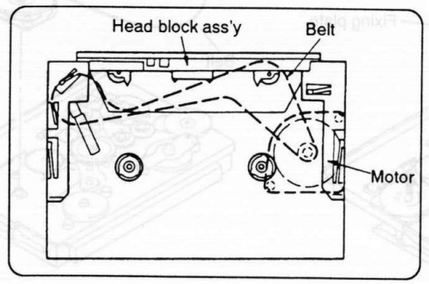

1. Lift up the hooks of the intermediate cabinet.
2. Push from the inside of the intermediate cabinet in the direction of arrow Ⓐ and remove it in the direction of arrow Ⓑ.



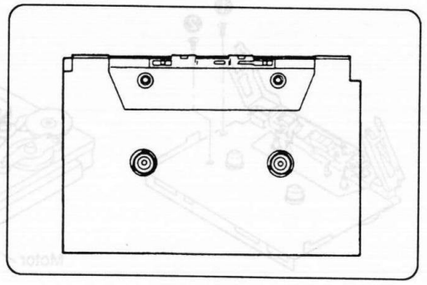
## ● How to replace the mechanism block

The mechanism block is supplied without other parts as a semi-assembly. The head block ass'y, motor and belt are supplied separately from the mechanism block.
If the mechanism block is exchanged as a replacement assembly, follow the preparation procedure below.

**Preparation procedure**
Remove the head block ass'y, motor and belt from the mechanism to be replaced and replace those parts to the new mechanism block. (Refer to Fig. 1 and 2.)
(Follow the procedures in Ref. No. 9, 10 in the Disassembly instructions. Refer to pages 5 and 6.)




Mechanism to be repaired
**Fig. 1**



Mechanism block
**Fig. 2**

## ● How to replace the head block ass'y

The head block is supplied as a head block ass'y. (Refer to Fig 3.)
The head and pinch roller arm(L)•(R) are supplied together in the head block ass'y.
The pinch roller arm(L)•(R) is also supplied separetely.

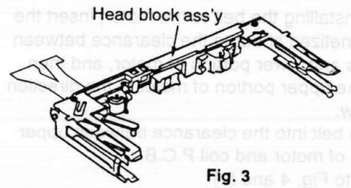


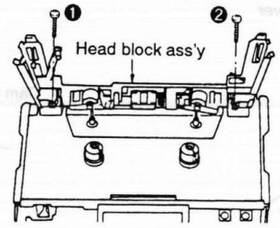

**Fig. 3**

## ● How to replace cam gear and solenoid

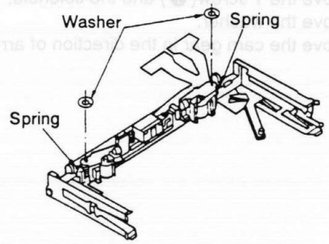
The cam gear and solenoid are included in the mechanism block. They are also supplied separately.

## ● How to remove the head block ass'y and pinch roller arm(L)•(R)

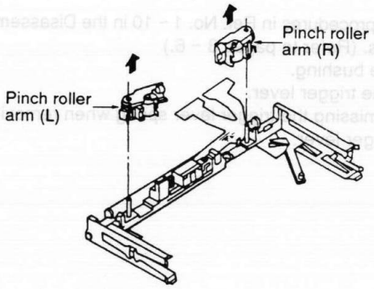
1. Follow the procedures in Ref. No. 1 ~ 5 in the Disassembly instructions. (Refer to pages 3 and 4.)




2. Remove the 2 screws(❶, ❷) to remove the head block ass'y.




3. Remove the 2 washers.
4. Remove the springs from the hook.




5. Lift up the pinch roller arm(L)•(R) in the direction of arrow.

## ● Removal of the motor and belt

1. Follow the procedures in Ref. No. 1 ~ 10 in the Disassembly instructions. (Refer to pages 3 ~ 6.)
2. Remove the 2 screws(❶, ❷).(Refer to Fig. 1.)
3. Remove the 2 screws(❸, ❹) and the fixing plate.(Refer to Fig. 2.)
4. Remove the motor in the direction of arrow.(Refer to Fig. 2.)
5. Remove the belt from the motor.(Refer to Fig. 3.)

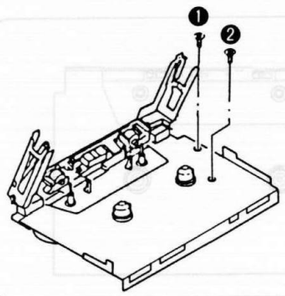



Fig. 1

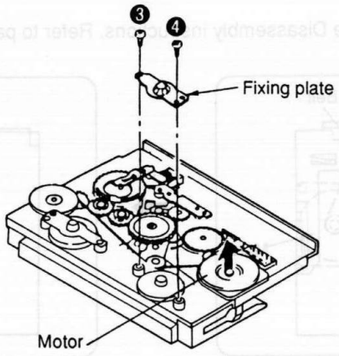



Fig. 2

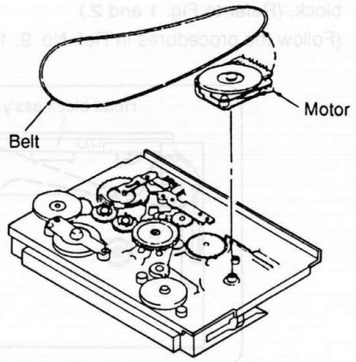



Fig. 3

• Befor installing the belt to the motor, insert the unmagnetized sheet to the clearance between chassis and lower portion of motor, and then push the upper portion of motor in the direction of arrow.
Put the belt into the clearance between upper portion of motor and coil P.C.B.
(Refer to Fig. 4 and 5.)

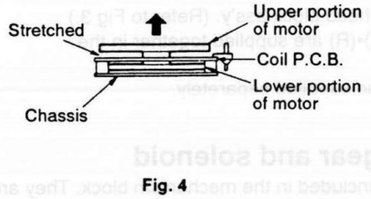



Fig. 4

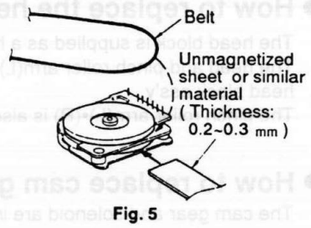
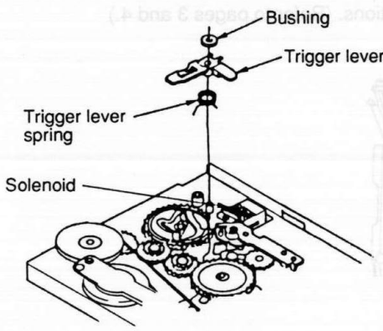
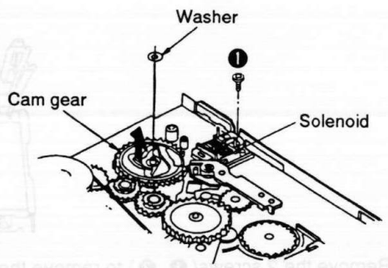



Fig. 5

## ● Removal of the cam gear and solenoid




1. Follow the procedures in Ref. No. 1 ~ 10 in the Disassembly instructions. (Refer to pages 3 ~ 6.)
2. Pull out the bushing.
3. Remove the trigger lever.

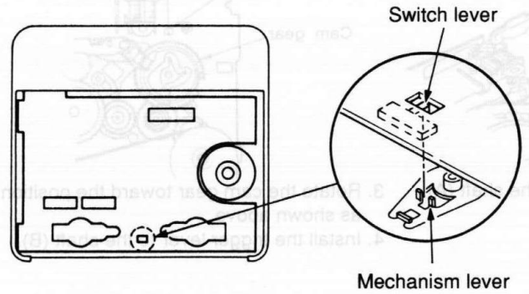
**Note**: Avoid missing the trigger lever spring when removing the trigger lever.

4. Remove the 1 screw(❶) and the solenoid.
5. Remove the washer.
6. Remove the cam gear in the direction of arrow.



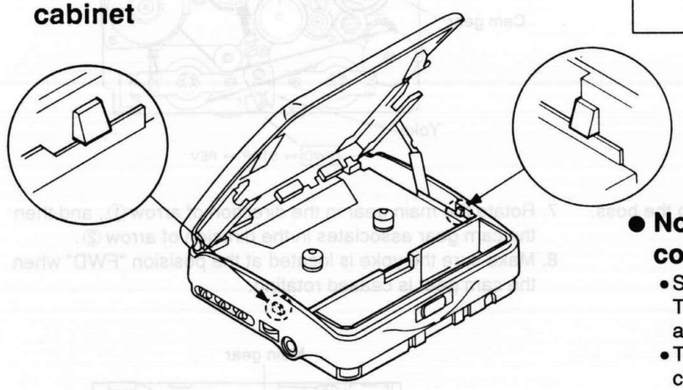
# ◘ NOTE FOR ASSEMBLY

## ● Notice for assembling the Mechanism P.C.B.




• Align the switch lever with mechanism lever when installing the Mechanism P.C.B.

## ● Notice for assembling the intermediate cabinet

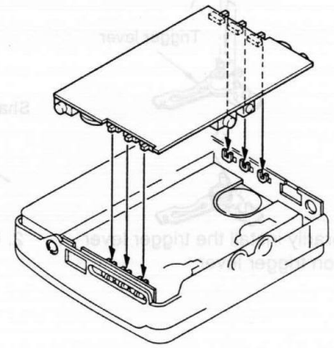


• Make sure the hooks inside the intermediate cabinet are joined to the mechanism. When installing the intermediate cabinet to unit.

## ● Notice for assembling the Head block assembly

1. Unhook the pinch roller springs (L) and (R) on the head block.
2. Fix the screw the hold piece support (R) on the mechanism block.
3. Interlock an axis of the hold piece support (R) by opening the head block 50 ~ 60° to the mechanism chassis, and keep the condition. Do not damage to the pinch roller and control lod.
4. Hold the hold pieces support (L) with the screw by using tweezers, and then interlock a hole at the L side of the head block. Additionally, interlock a locating hole of the mechanism chassis with a boss at the bottom of the hold piece support (L).
5. Fix the screw the hold piece support (L) on the mechanism block.
6. Hook the pinch roller springs (L) and (R).

## ● Notice for assembling the jack ornament and switch ornament

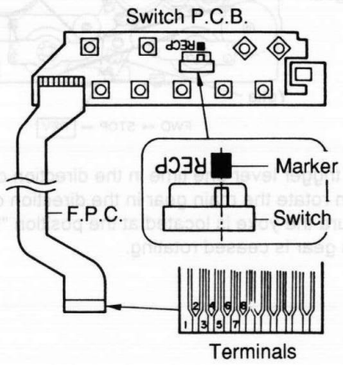


• Align the switch levers with switch knobs when installing the switch ornament.

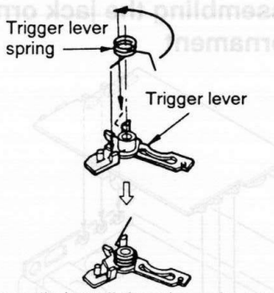
**Note:** Before installing the switch knob, be sure to check the claws for defects that would render the claws unserviceable.
(If a white line like white wax on a claw is found, the claw may be broken when installing the switch knob.)

## ● Notice for assembling the LCD mold cover Ass'y

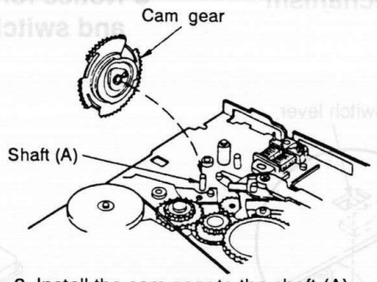
• Set the switch lever to the marker of switch P.C.B. The knob lever will be engaged when the top case is assembled.
• To check whether the switch works correctly, connect a circuit tester across terminals 2 and 8 (see the illustration), and check to see there is a conductivity when the knob is set to "right" side (viewed from front side).



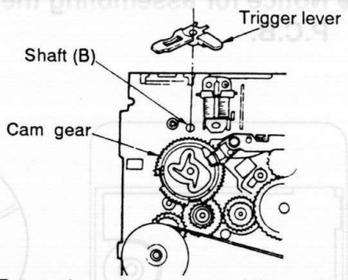
## • Notice for assembling the cam gear




1. Temporarily install the trigger lever spring on trigger lever.

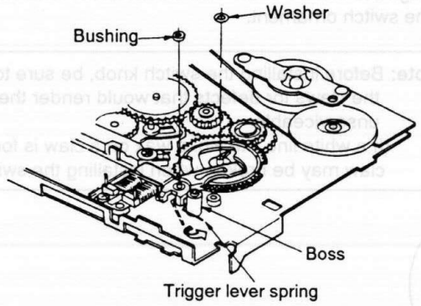



2. Install the cam gear to the shaft (A).

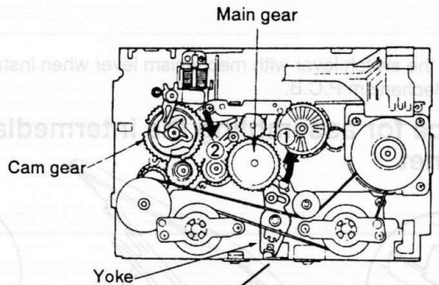



3. Rotate the cam gear toward the position as shown above.
4. Install the trigger lever to the shaft (B).

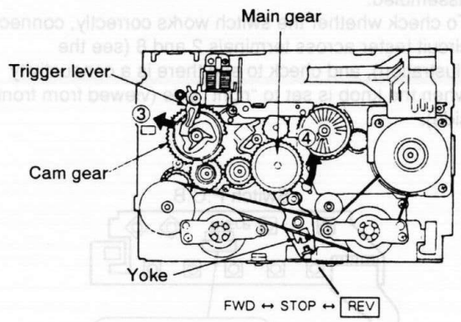
## • Confirmation of cam gear operation



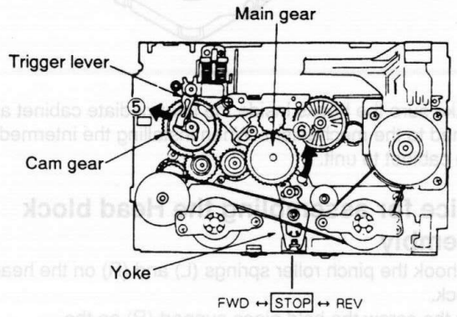

5. Latch the temporary attached trigger lever spring to the boss.
6. Install the bushing and washer.




7. Rotate the main gear in the direction of arrow ①, and then the cam gear associates in the direcion of arrow ②.
8. Make sure the yoke is located at the posision "FWD" when the cam gear is ceased rotating.




9. Pull the trigger lever one time in the direction of arrow ③, and then rotate the main gear in the direction of arrow ④.
10. Make sure the yoke is located at the position "REV" when the cam gear is ceased rotating.



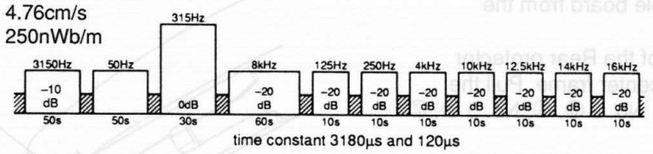

11. Further, pull the trigger lever one time in the direction of arrow ⑤, and then rotate the main gear in the direction of arrow ⑥.
12. Make sure the yoke is located at the position "STOP" when the cam gear is ceased rotating.



# SERVICE TOOLS

Required Jigs, Test Tapes, and Measuring Instruments

## • Test tape

| Part No. | Contents | Use |
|---|---|---|
| SBC420 (4822 397 30071) | 315Hz: 0dB, 3150Hz: –10dB<br>125Hz ~16kHz: –20dB<br>4.76cm/s<br>250nWb/m<br>  <br>time constant 3180µs and 120µs | Playback sensitivity check and adjustment<br>High frequency response check and adjustment<br>Tape speed adjustment |
| SBC438 (4822 395 30288) | Mirror tape | Tape transport adjustment |
| 9.6kHz (4822 397 30264) | Level tape (DCC)<br>9.6kHz: 0dB | Recording current adjustment |
| (4822 397 30252) | Blank tape (DCC) | Recording current adjustment |



## • Measuring instrument

| | | | |
|---|---|---|---|
| Oscilloscope | Frequency counter | Digital voltmenter (Dig.-vol.) | Electronic voltmeter (E.V.M.) (AC/DC) |

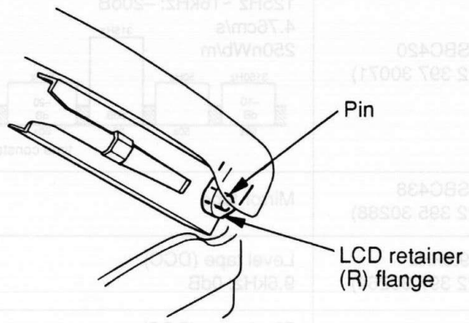
## • Jigs and Tools

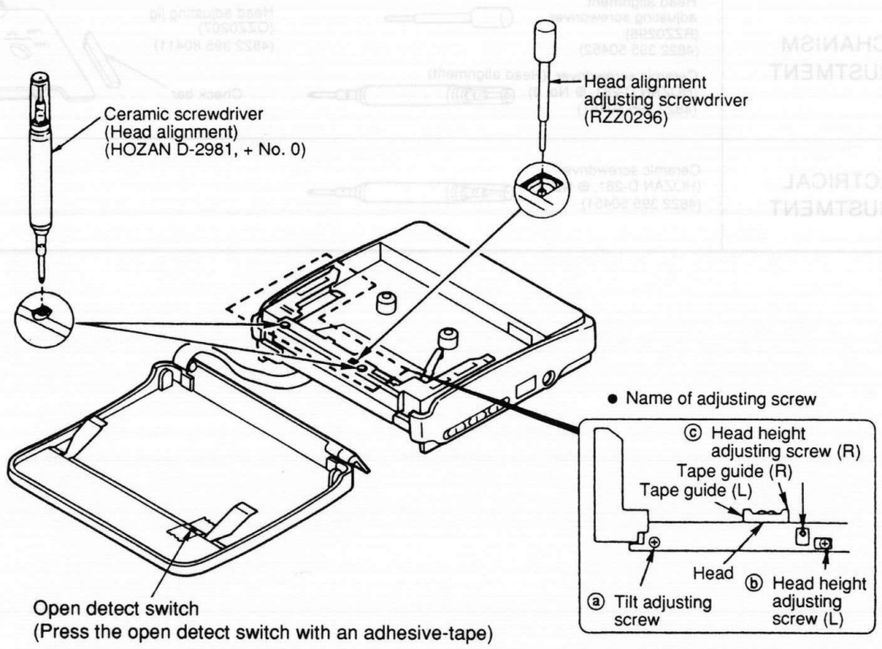
| | | |
|---|---|---|
| (A) MECHANISM ADJUSTMENT | Head alignment adjusting screwdriver (RZZ0296) (4822 395 50452)<br>Ceramic screwdriver (Head alignment) (HOZAN D-281, ⊕ No. 0) (4822 395 50451) | Head adjusting jig (QZZ0207) (4822 395 80411)<br>Check bar<br>Base |
| (B) ELECTRICAL ADJUSTMENT | Ceramic screwdriver (HOZAN D-281, ⊕ No. 1.7) (4822 395 50451) | |

## ◘ MECHANISM ADJUSTMENTS (HEAD POSITION ADJUSTMENT)

### ● Disassembly

1. Remove the 2 screws of the arm on the cassette lid ass'y. (Ref. No. 4 ②, ③ on page 4.)
2. Remove the 3 screws of the bottom cabinet ass'y and then, take out the bottom cabinet ass'y. (Ref. No. 1 on page 3.)
3. Remove the LCD flexible board from the connector. (JU02)
4. Remove the 4 screws of the Rear protector retainer and open the center frame. Pull the cassette lid ass'y. (Ref. No. 2 ⑤, ⑥, No. 5 ①, ② on pages 3 and 4.)
5. Insert the small (–) screwdriver into a clearance between the LCD retainer (R) flange and the cassette holder in the mechanism little by little, and then remove a pin at the mechanism side (shown on the right figure).
6. Remove a pin at the left side as well.
7. Connect the connecter (JU02) with the LCD flexible board which is removed on No. 3.
8. Press the open detecting switch with an adhesive tape and hold the power "ON". A tape is loading without any interference with the cassette lid ass'y.
9. Perform head position adjustment after disassembling the unit to the point shown on the below.

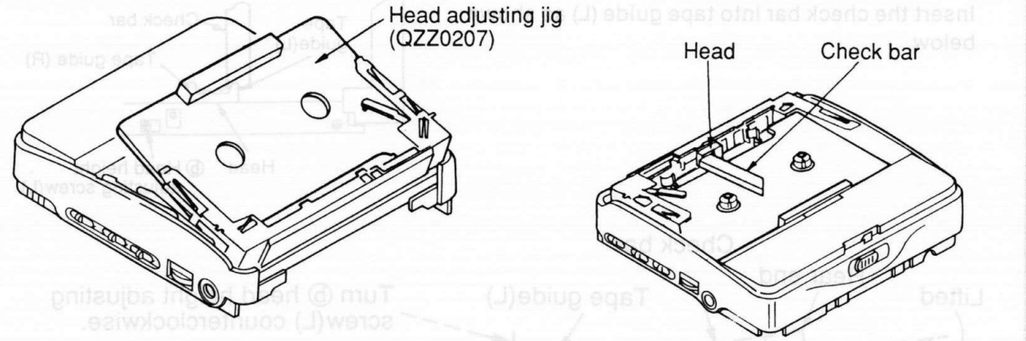





### ● Loading Head Adjusting Jig (QZZ0207)

1. Load the head adjusting jig (QZZ0207) into the unit.

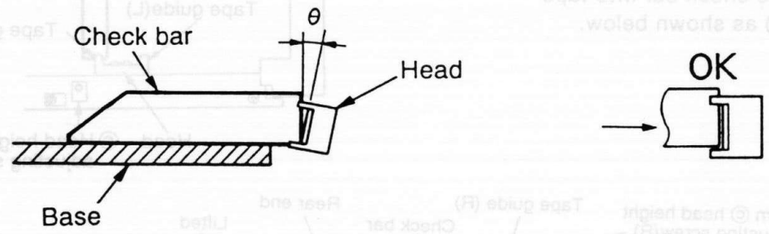



### ● Power Connection

1. Plug the accessory AC Adaptor (or other 6.0 V DC power supply) into the unit's DC IN jack.
2. Press the PLAY button and then rotate the take up side reel for a while by hand.

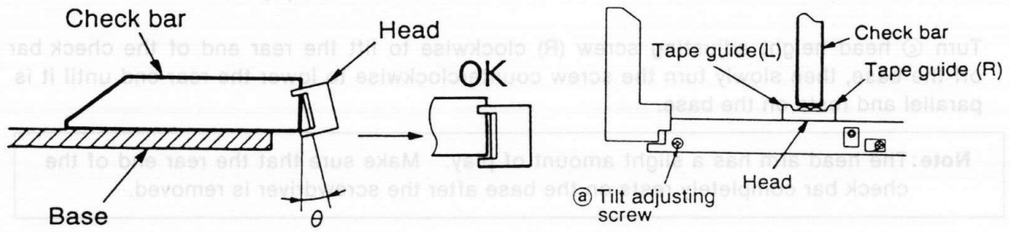
### (1) Tilt Adjustment

**• If the head tilts backward:**




Turn the ⓐ tilt adjusting screw clockwise until the head surface is parallel with the end of the check bar (θ = within ±30′).

**• If the head tilts forward:**

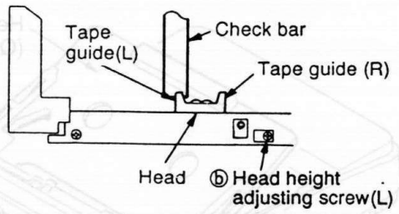


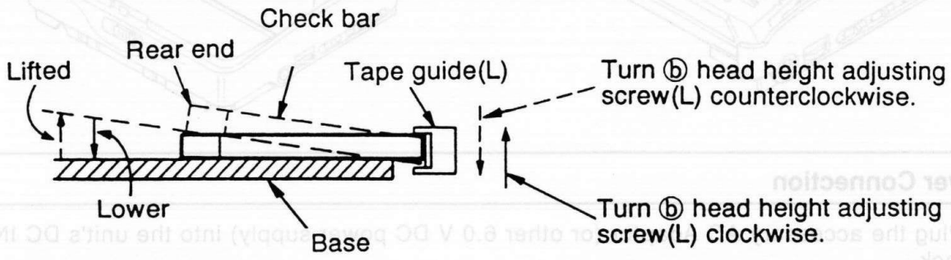

Turn ⓐ tilt adjusting screw counterclockwise until the head surface is parallel with the end of the check bar (θ = within ±30′).

## (2) Guide Heights Adjustment

**• Adjusting Guide (L)**

Insert the check bar into tape guide (L) as shown below.

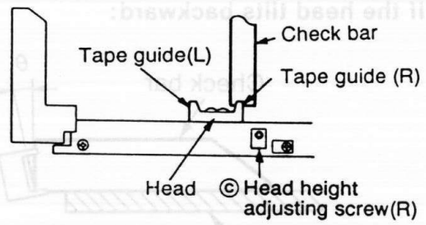


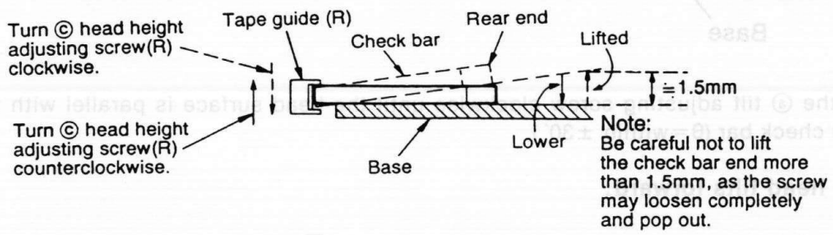




Turn ⓑ head height adjusting screw (L) counterclockwise to lift the rear end of the check bar off the base, then slowly turn the screw clockwise to lower the rear end until it is parallel and rests on the base.

**• Adjusting Guide (R)**

Insert the check bar into tape guide (R) as shown below.



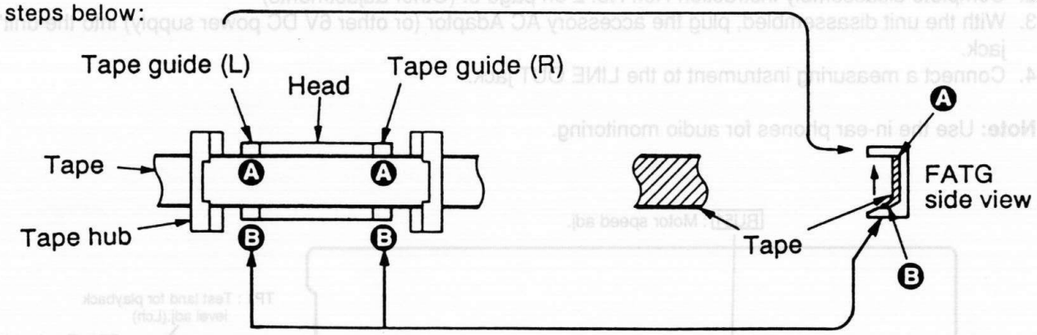

Turn ⓒ head height adjusting screw (R) clockwise to lift the rear end of the check bar off the base, then slowly turn the screw counterclockwise to lower the rear end until it is parallel and rests on the base.

**Note:** The head arm has a slight amount of play. Make sure that the rear end of the check bar completely rests on the base after the screwdriver is removed.



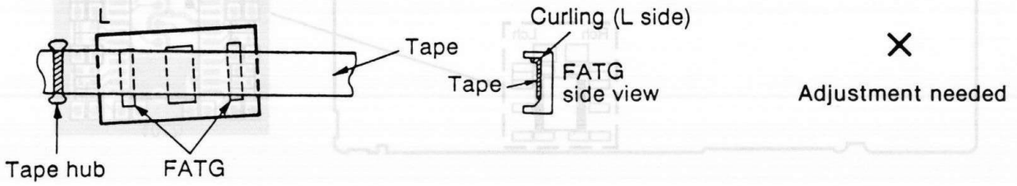
## (3) Tape Transport Adjustment

• Load the mirror tape (SBC438) into the unit and check tape transport in PLAY mode, Check both forward and reverse directions. If the top edge of the tape is curled, remove the curl by following the steps below:

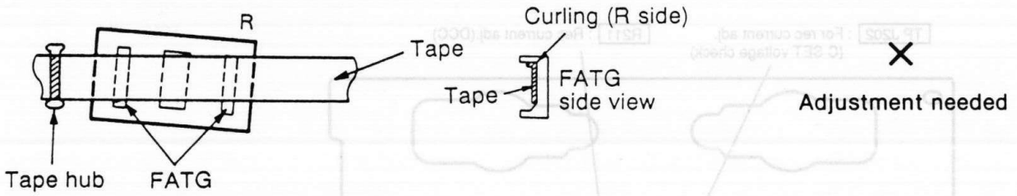



A curled tape edge will not occur at the bottom Ⓑ of the tape guide, as the tape is pushed up along a slope.
Check for a curled tape edge at the top Ⓐ of the tape guide.

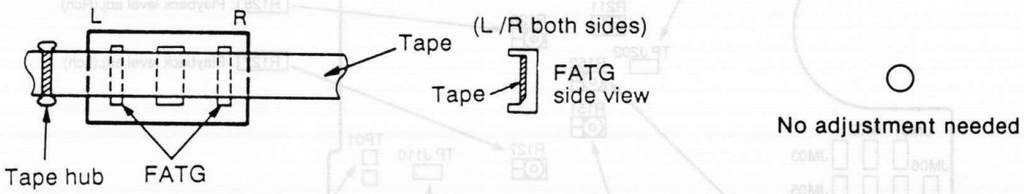
① If a curled tape edge occurs on FATG (L):
Turn ⓒ head height adjusting screw (R) clockwise until the curl is removed.




② If a curled tape edge occurs on FATG (R):
Turn ⓒ head height adjusting screw (R) counterclockwise until the curl is removed.




③ When the relative positioning of the tape hub and tape head (tape guides) is correct:




After completing the above adjustment, run the tape both forward and backward to check for a curled tape edge. If it still occurs, repeat step ① or ②.

**Note:** Since the head arm has a slight amount of play, the degree to which the tape edge curls will differ before and after the adjustment screwdriver is removed. (Allow a sufficient adjustment margin.)

# ELECTRICAL ADJUSTMENTS

## ● Disassembly

1. Complete disassembly instruction Ref. No. 1 on page 3. (Tape speed adjustment)
2. Complete disassembly instruction Ref. No. 2 on page 3. (Other adjustments)
3. With the unit disassembled, plug the accessory AC Adaptor (or other 6V DC power supply) into the unit's DC IN jack.
4. Connect a measuring instrument to the LINE OUT jack.

**Note:** Use the in-ear phones for audio monitoring.

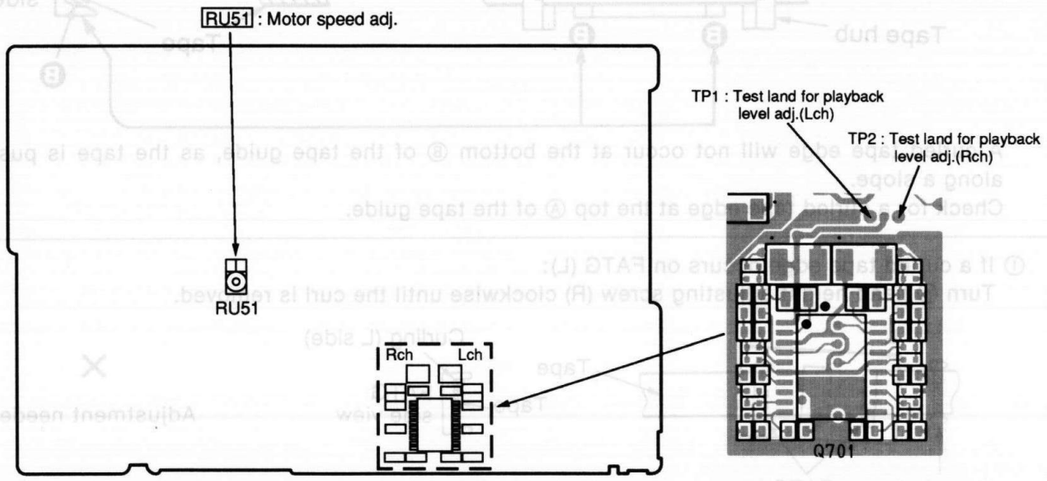



**Fig. 1 MAIN PCB (P503)**

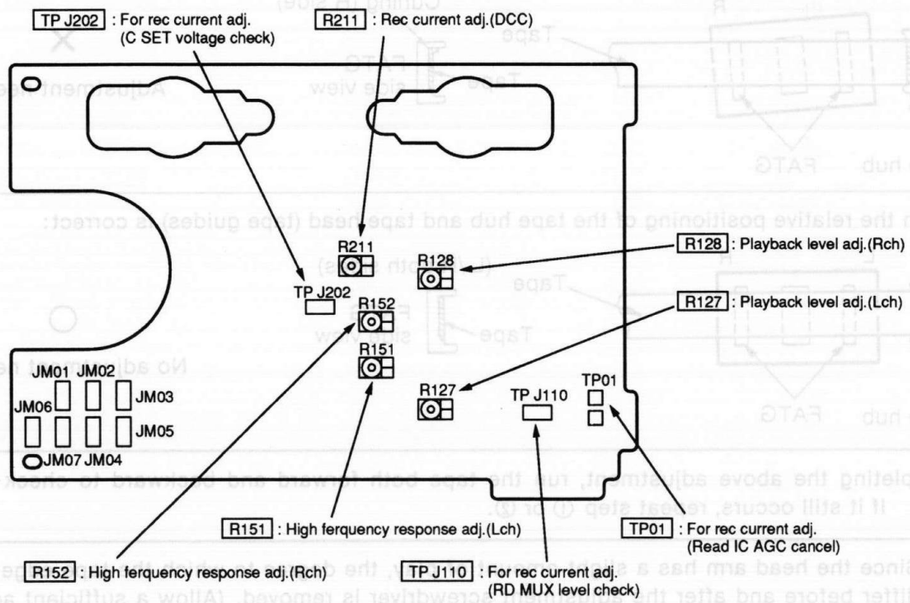
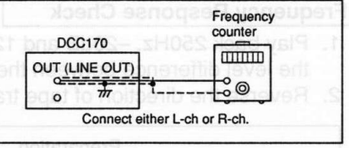



**Fig. 2 MECHANISM PCB (P103)**



## (1) Tape Speed Adjustment

| Preparation | | Setup |
|---|---|---|
| Test tape and tool required | Measuring instruments required | |
| 1. ACC test tape (SBC420)<br>2. Ceramic screwdriver (HOZAN D-281,⊕No. 1.7) | 1. Frequency counter |  |



● **Caution**

This adjustment can be made only in the (4) Motor Speed Adjustment mode under Factory mode.

1. Set the mode to the "Motor Speed Adjustment Mode" under Factory Mode. (Refer to page 20.)
2. Play back the ACC Test Tape (SBC420: 3150Hz, –10dB) forward.
3. Adjust RU51 until the frequency counter reads 3150Hz.

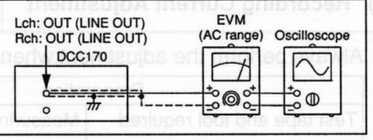
**Adjustment Target: 3150 ±15Hz**

4. Reverse the direction of tape transport and perform the same check.

**Check Target: 3150 ±30Hz**

**Note:** Four digit number (hexa value) displayed on the LCD is a voltage value of RU51 A/D-converted by the microcomputer.

## (2) Playback Sensitivity Check

| Preparation | | Setup |
|---|---|---|
| Test tape and tool required | Measuring instruments required | |
| 1. ACC test tape (SBC420) | 1. Oscilloscope<br>2. Electronic voltmeter (EVM) (AC range) |  |



● **Check Procedure**

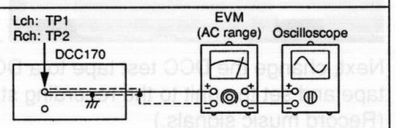
1. Play back the ACC Test Tape (SBC420: 315Hz, 0dB) forward.
2. Check that the line output levels on both channels fall within the following limits:

**Check Target: 450mV ±1dB**

3. Reverse the direction of tape transport and perform the same check.

● If it is still outside the limits after realignment, do the Playback Sensitivity Adjustment described in item (3).

## (3) Playback Sensitivity Adjustment

| Preparation | | Setup |
|---|---|---|
| Test tape and tool required | Measuring instruments required | |
| 1. ACC test tape (SBC420)<br>2. Ceramic screwdriver (HOZAN D-281,⊕No. 1.7) | 1. Oscilloscope<br>2. Electronic voltmeter (EVM) (AC range) |  |



● **Adjustment Procedure**

1. Play back the ACC Test Tape (SBC420: 315Hz, 0dB) forward.
2. Adjust R127 (L ch) and R128 (R ch) until the test land TP1 (Lch) and TP2 (R ch) levels on both channels fall within the following limits:

**Adjustment Target: 113mV ±1dB**

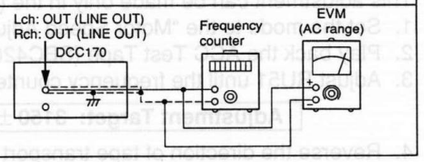
3. Reverse the direction of tape transport and perform the same check.

## (4) High Frequency Response Check and Adjustment

**Cautions:** ● Be sure to check the frequency response after the head assembly is replaced.
● If the frequency response does not fall within the limits, perform the following adjustment.

**Frequency Response Check**

1. Play back 250Hz, –20dB and 12.5kHz, –20dB of the ACC Test Tape (SBC420) forward, and verify that the level difference between the two bands is within 0 ± 1dB.
2. Reverse the direction of tape transport and perform the same check.

| Preparation | | Setup |
|---|---|---|
| Test tape and tool required | Measuring instruments required | |
| 1. ACC test tape (SBC420)<br>2. Ceramic screwdriver (HOZAN D-281,⊕No. 1.7) | 1. Frequency counter<br>2. Electronic voltmeter (EVM) (AC range) |  |



● **Adjustment Procedure**

1. While playing back 250Hz, –20dB of ACC Test Tape (SBC420) forward, measure the LINE OUT levels on both channels. Use these levels as standards.
2. Play back 12.5kHz, –20dB of the same test tape forward, and adjust R151 (L ch) and R152 (R ch) until the LINE OUT levels are identical to the standard levels obtained above.

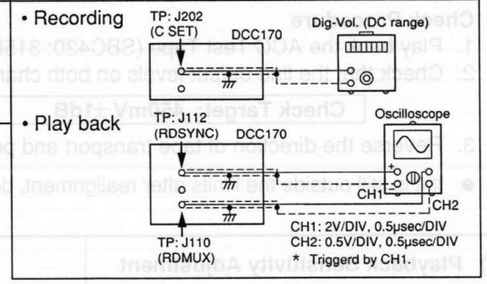
**Adjustment Target: 0 ±0.5dB**

3. Reverse the direction of tape transport and perform the same check.

**Check Target: 0 ±1.5dB**

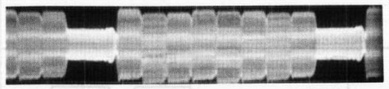
## (5) Recording Current Adjustment

● Always perform the adjustment when the head block is replaced.

| Preparation | | Setup |
|---|---|---|
| Test tape and tool required | Measuring instruments required | |
| 1. DCC test tape (9.6kHz level tape)<br>2. DCC blank tape<br>3. Ceramic screwdriver (HOZAN D-281,⊕No. 1.7) | 1. Digital voltmeter (Dig.-vol.)<br>2. Oscilloscope |  |



1. Press the STOP button twice to turn the unit OFF.
2. Short lands of TP01. (Refer to Fig. 1 MECHANISM PCB.)
3. Play back the DCC test tape (9.6kHz, 0dB).
4. Measure that the TP: J110 (peak to peak level), J110:RDMUX level by Oscilloscope. Use this level as standard.



Memorized RDMUX level

5. Next, change the DCC test tape to a DCC blank tape and set the unit to the recording status. (Record music signals.)
6. Adjust R211 until voltage value at TP: J202 shows 130mV~ 140mVDC. (Temporary adjustment)
7. Play back the music signals recorded in the step 6, and measure the voltage at TP:J110 again (peak to peak level). Check this level and the standard level in 4, to see their level difference is within 0±100mV.

**Adjustment Target: 0 ±100mV**

8. If the value is out of the limit, repeat steps 5 ~ 7.
   • If the level is higher than the reference level, rotate R211 counterclockwise to decrease the voltage (C SET) at J202.
   • If the level is lower than the reference level, rotate R211 clockwise to increase the voltage (C SET) at J202.
9. Open the short-circuit at lands of TP01.

**Caution:**
For each head, a recommended recording current exists individually. If this value is not adjusted correctly, the RDMUX value does not match between a self recorded tape and prerecorded tape. Moreover, if a recording is made at a deep layer with a high value, the previous records can not be erased when an overwrite recording is made at that area later. As a consequence the error rate will be increased at that area.



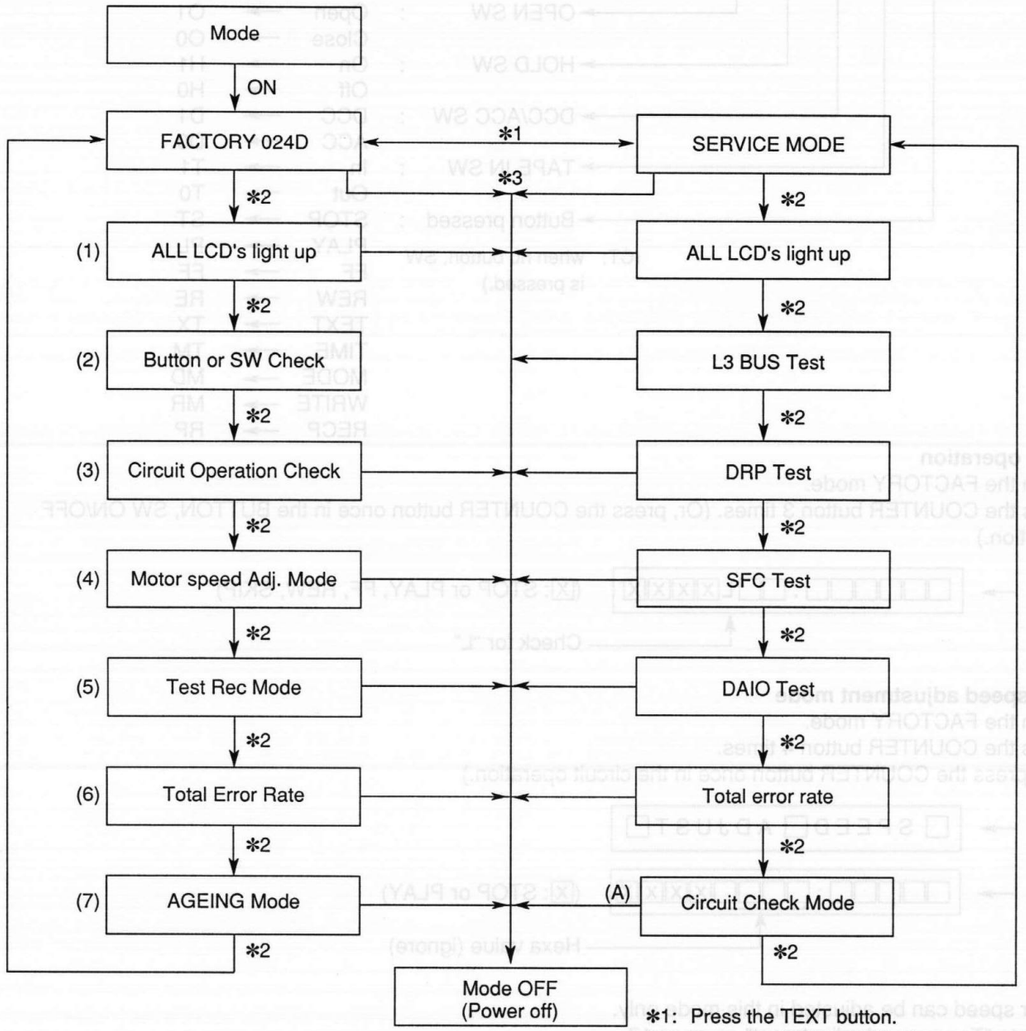
# FACTORY/SERVICE MODE

● **Mode ON/OFF**

**ON:** 1. Insert a DCC tape.
2. In the power off or the stop mode, press the COUNTER button and the PLAY/SIDE button over 3 times at the same time.

LCD → ☐FACTORY☐024D☐ (14 digits display)

**OFF:** Press the STOP/OFF button. (Disappear the indication after showing the "power off".)





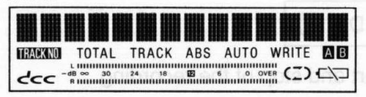
∗1: Press the TEXT button.
∗2: Press the COUNTER button.
∗3: Press the STOP/OFF button in the STOP mode or 3 minutes after entering the STOP mode.

● **Factory mode**

**(1) All LCD's light up**

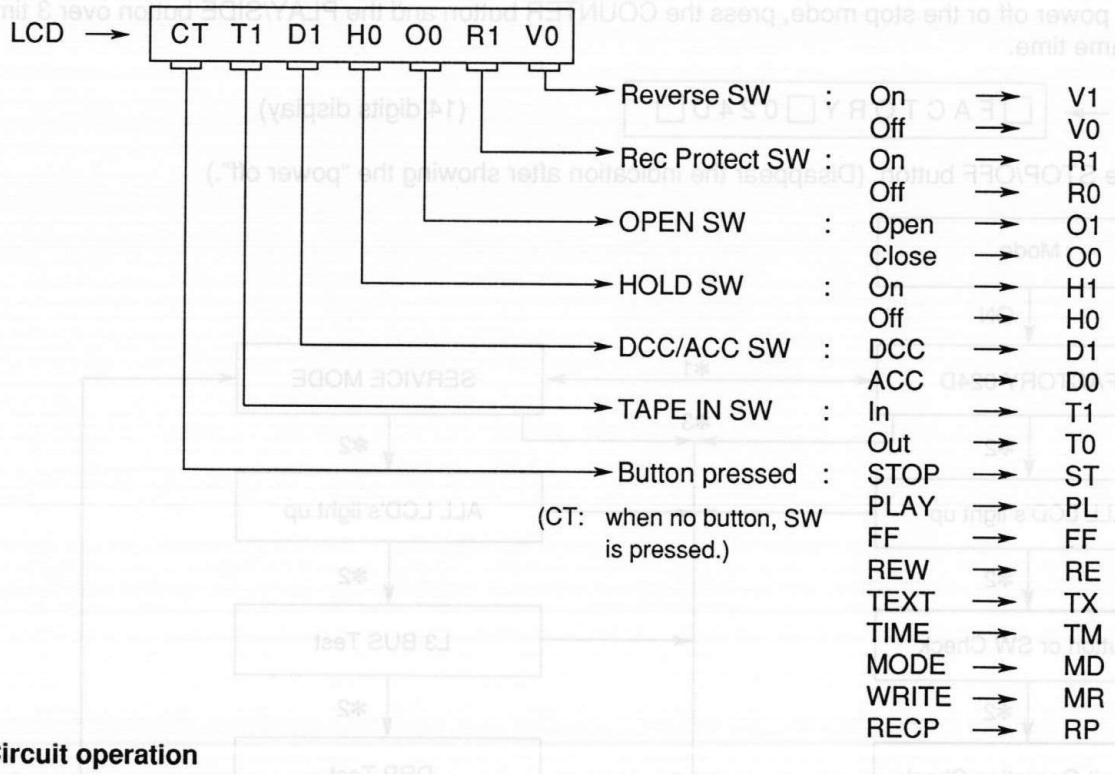
1. Set in the FACTORY mode.
2. Press the COUNTER button once.

LCD →



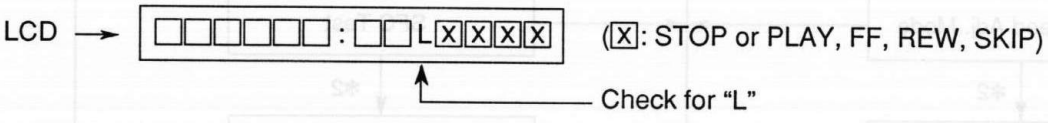
### (2) Button, SW ON/OFF

1. Set in the FACTORY mode.
2. Press the COUNTER button twice. (Or, press the COUNTER button once on the all LCD's light up condition.)
3. Shown BUTTON and SW ON/OFF below.



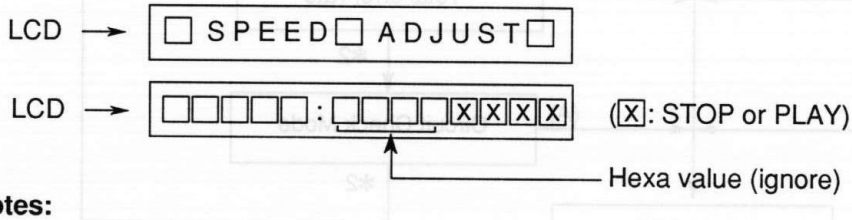

### (3) Circuit operation

1. Set in the FACTORY mode.
2. Press the COUNTER button 3 times. (Or, press the COUNTER button once in the BUTTON, SW ON/OFF condition.)




### (4) Motor speed adjustment mode

1. Set in the FACTORY mode.
2. Press the COUNTER button 4 times.
   (Or, press the COUNTER button once in the circuit operation.)




**Notes:**

1. Motor speed can be adjusted in this mode only.
2. Refer to "Tape speed adjustment" on page 17.

### (5) Test Rec mode

1. Set in the FACTORY mode.
2. Press the COUNTER button 5 times.
   (Or, press the COUNTER button once in the motor speed adjustment mode.)


**Note:** Marker write does not operate at start and stop of the recording.

**(6) Total error rate**

1. Set in the FACTORY mode.
2. Press the COUNTER button 6 times.
   (Or, press the COUNTER button once in the test rec mode.)

LCD → □-□□□-□□□□□□□□

**Note:** Refer Step 3 of Troubleshooting on page 25.

**(7) Ageing mode**

1. Set in the FACTORY mode.
2. Press the COUNTER button 7 times.
   (Or, press the COUNTER button once in the total error rate.)

LCD → □AGEING□MODE□□

3. Repeat the same operating after indicated.

AGEING MODE → REW → PLAY → F-SKIP (+2) → PLAY (approx. 5min.)
STOP ← SIDE A ← PLAY (approx. 5 min.) ← SIDE B ← FF (10 sec.) ← STOP

4. When pressing the COUNTER button, reset in the "FACTORY MODE".

## ● Service mode

Refer Step 3 of Troubleshooting on page 25. (Except, (A) Circuit Check mode.)

**(A) Circuit check mode**

This check mode allows checks for both the Main PCB circuit and mechanism operations with Mechanism PCB separated from the mechanism. (Reel sensor and F/R switch signals are ignored.)

● **Check procedure**

1. Set in the FACTORY mode.
2. With the LCD shown "FACTORY 024D", press the "TEXT" button, and "SERVICE MODE" will appear on the LCD.

LCD → □SERVICE□MODE□

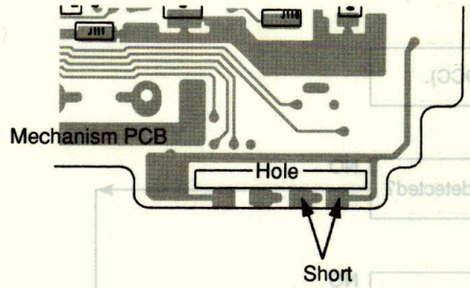
3. Press the COUNTER button 7 times.

LCD → □□□□□□: □□ R [X][X][X][X] ([X]: STOP or PLAY)
Check for "R"

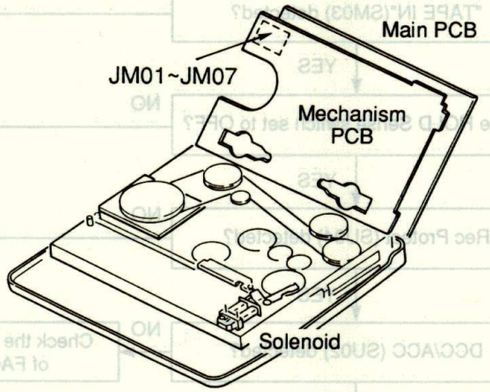


● **Disassembly**

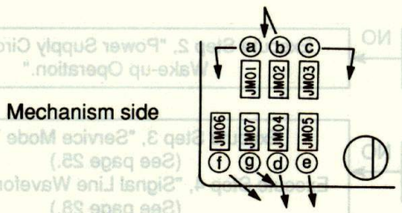
a) Follow the procedures in Ref. No. 3 in the Disassembly instructions. (Refer page 4.)
b) Follow the procedures in Ref. No. 10 in the Disassembly instructions. (Refer page 6.)
   In this care, short-circuit the TAPE IN terminals of the mechanism PCB.

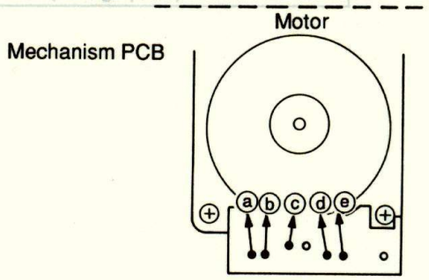


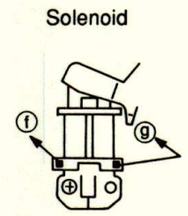

c) Arrange as shown below.




d) Connect checker terminals (JM01~JM07) on the mechanism PCB to each pin of the motor and solenoid on the mechanism side, using cables with chips. (Refer to illustration shown below.)

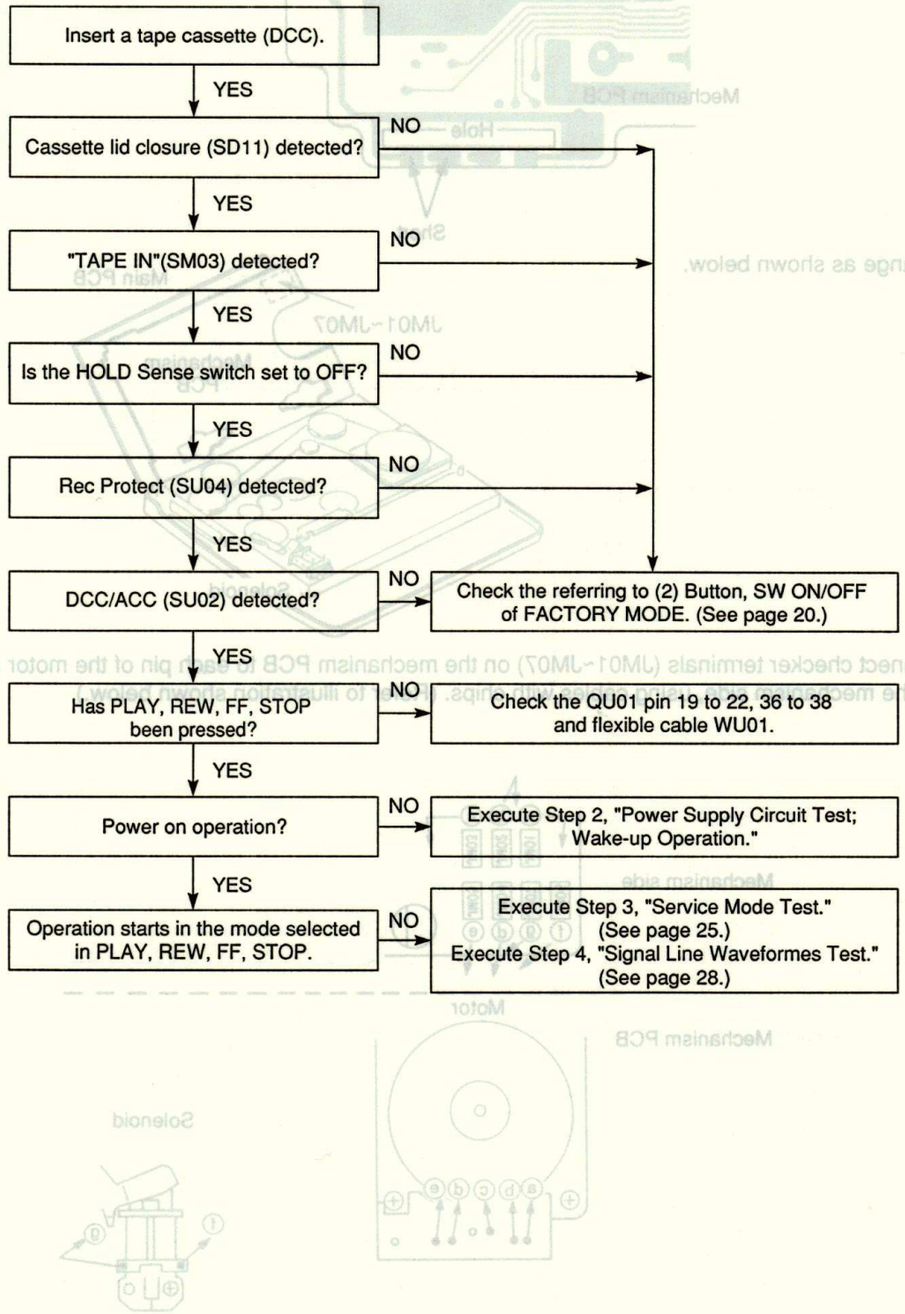


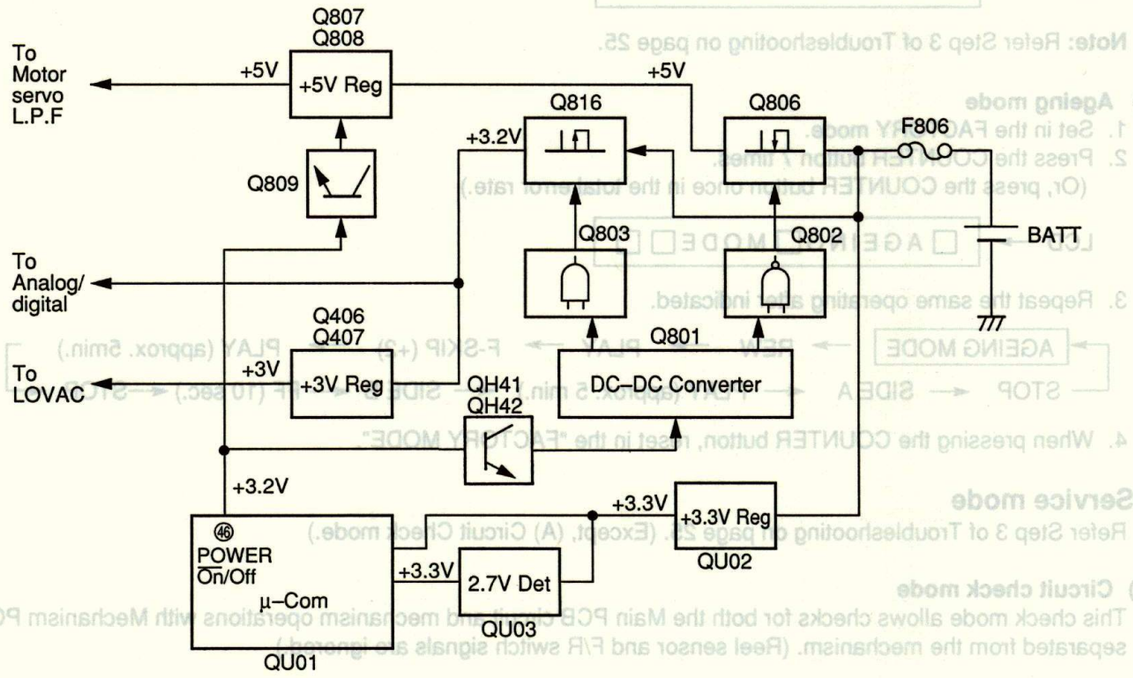



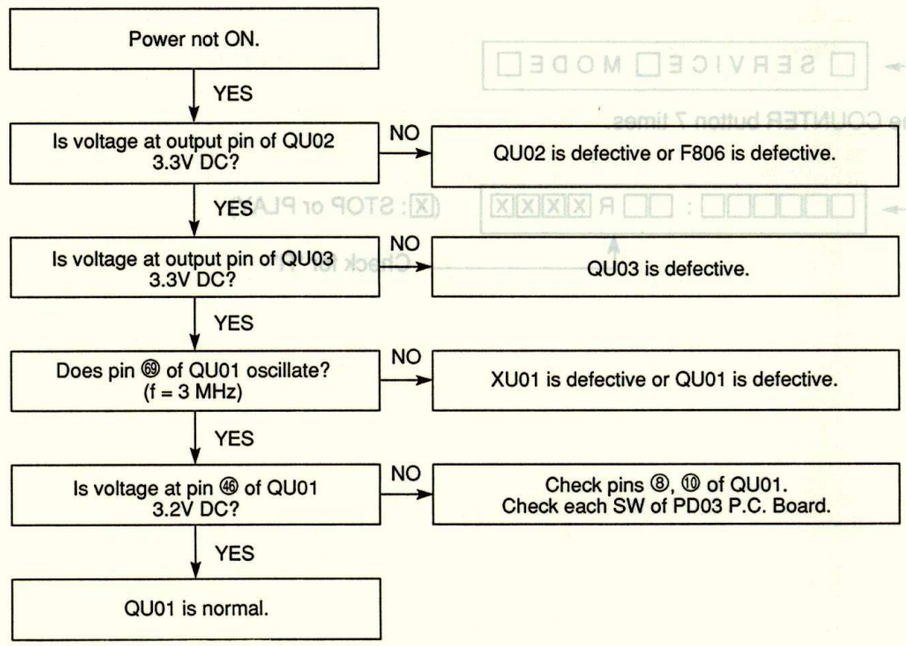
# TROUBLESHOOTING

## Step 1. Checking Operations from Tape Insertion though Operation Start




## Step 2. Power Supply Circuit Test; Wake-Up Operation



## Step 3. CPU ⟷ IC's Communication (Bus Line ) test [Self Diagnostic (Factory/Service Mode)]

In Service mode, the CPU checks for circuit integrity and displays the test results on the LCD. Use this mode for quick fault isolation.

### How To Enter Service Mode

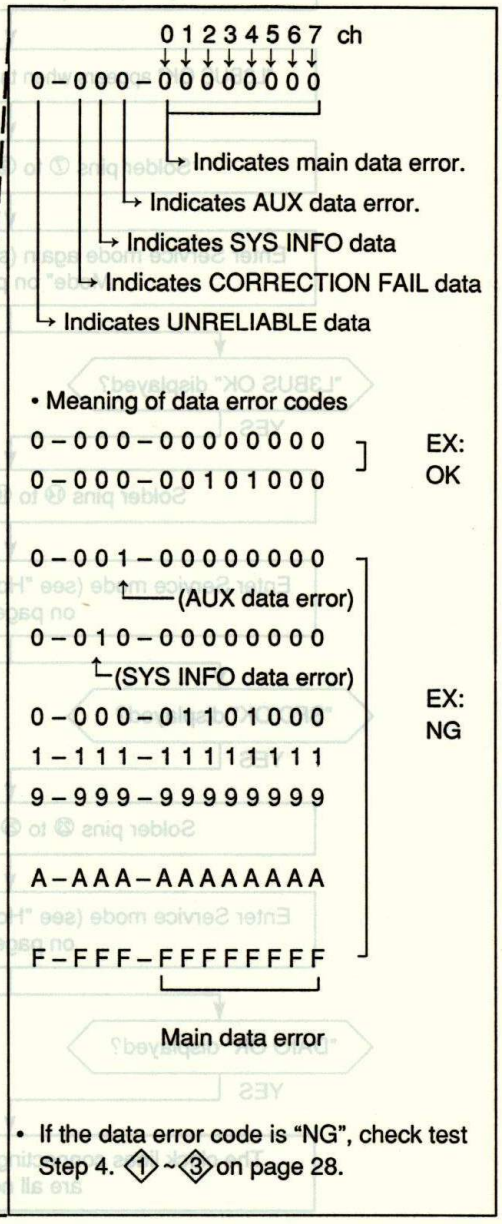
1. Set to "Factory mode".
2. With the LCD shown "FACTORY 024D", press the "TEXT" button, and "SERVICE MODE" will appear on the LCD.

LCD → □SERVICE□MODE□

Note: Pressing the "TEXT" button again, returns the mode to the FACTORY MODE.

| COUNTER button operation count | Test item | LCD message | Remarks |
|---|---|---|---|
| 1 | (LCD) test | (All LCD's light up.) | |
| 2 | L3 BUS communication test | L3 BUS OK or L3 BUS NG | See communication Test on pages 25~27. |
| 3 | DRP communication test | DRP OK or DRP NG | |
| 4 | SFC communication test | SFC OK or SFC NG | |
| 5 | DAIO communication test | DAIO OK or DAIO NG | |
| 6 | Total error rate | Displays number of errors generated in 32 segments (for 1.3 sec.) in hexa decimal. | See Digital Error Rate Display. |

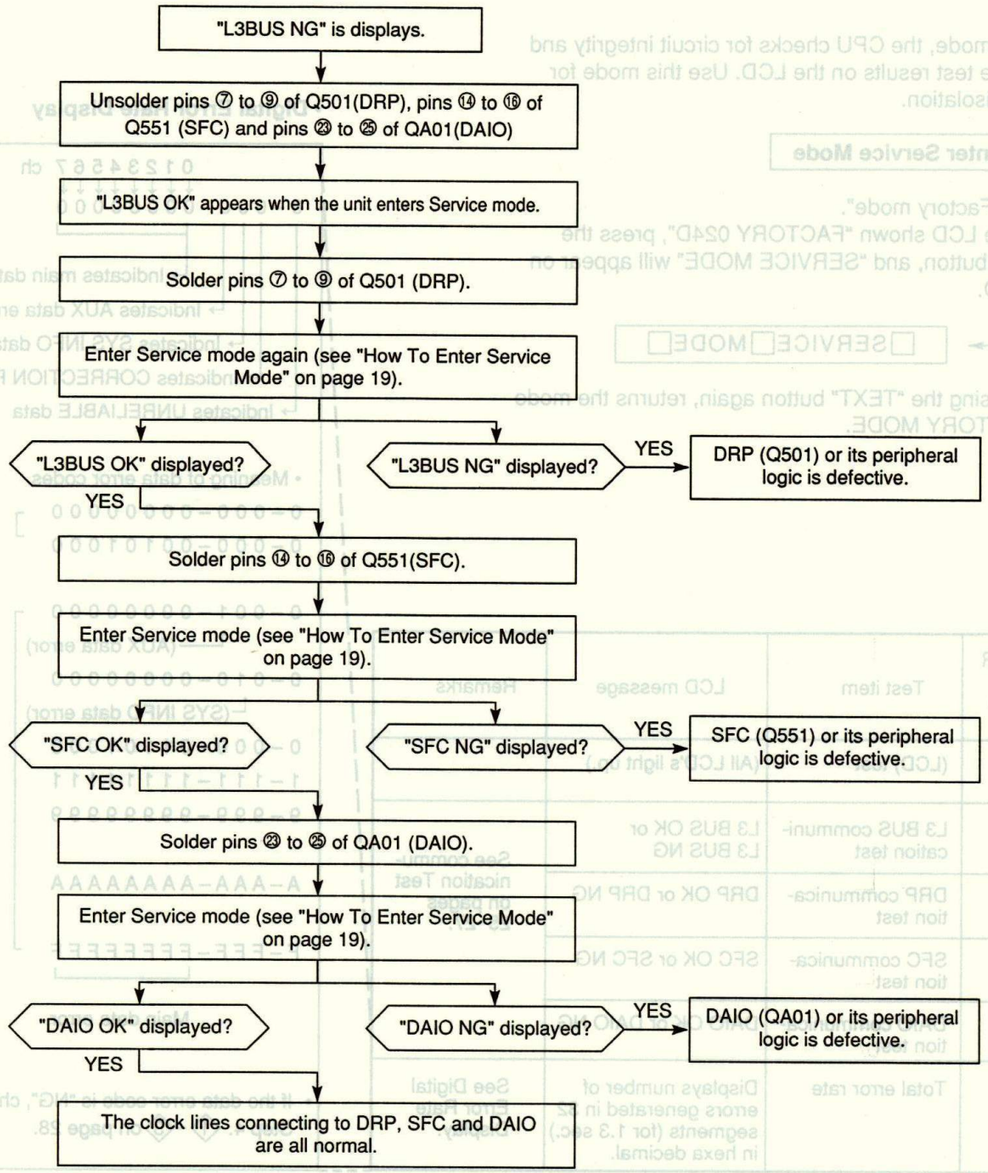
### • Digital Error Rate Display



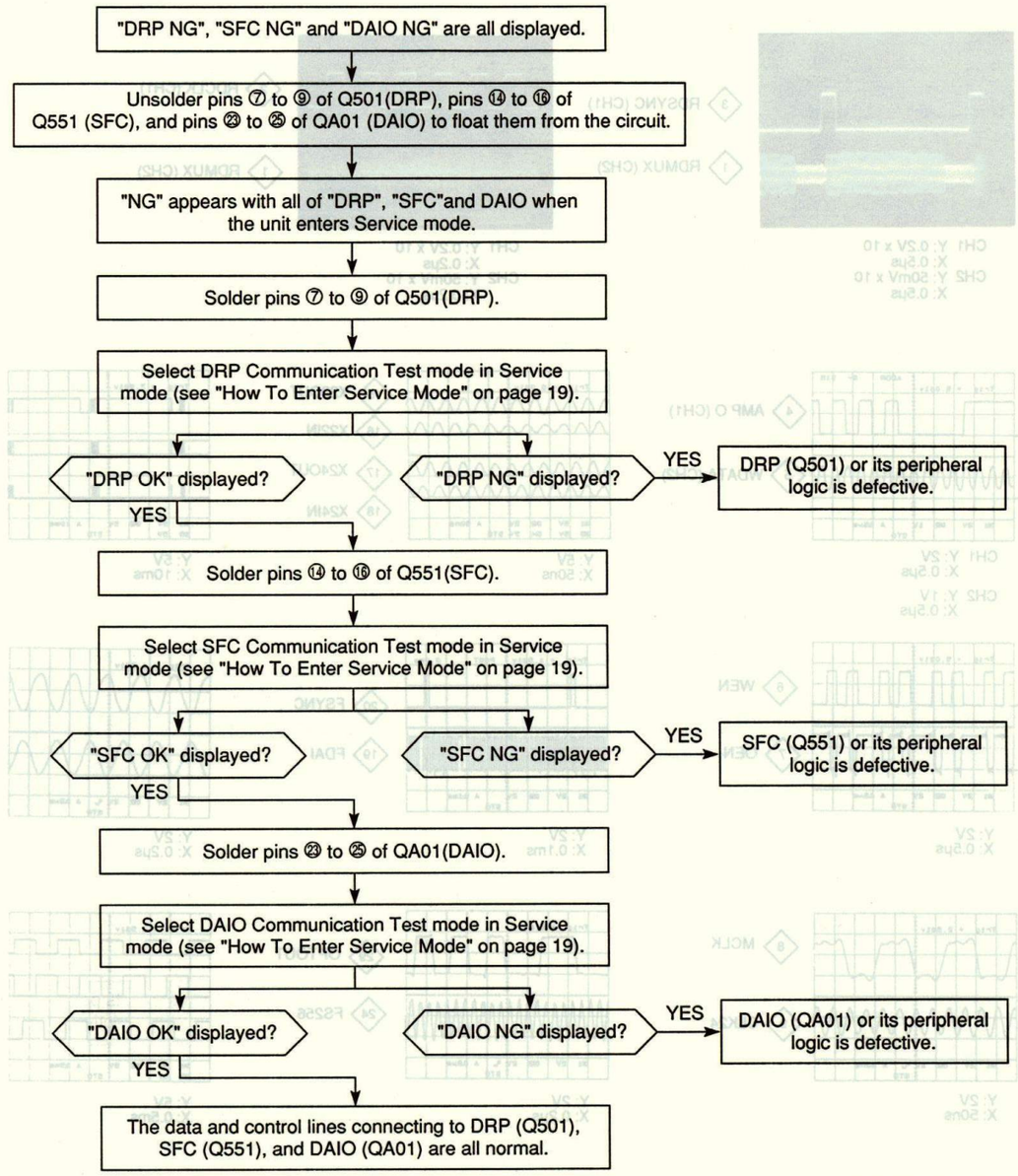

## ● LSI, DRP SFC and DAIO Communication Test

The CPU is connected to its peripheral ICs (DRP, SFC and DAIO) via a parallel bus consisting of clock, data, and control lines. If an "NG" message is displayed on the LCD as a result of self diagnostics in Service mode, it is necessary to determines which IC out of DRP, SFC and DAIO (including their peripheral components) is defective. The flowcharts on the following pages provide a quick troubleshooting guide to locate the defective IC(s).

## (1) Locating the defective division of LSI communication test (Clock Line: "L3BUS NG")



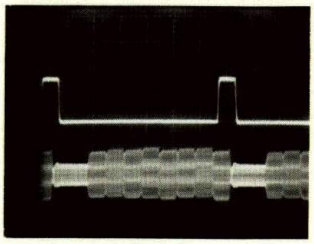

## (2) Locating the defective division of DRP, SFC and DAIO communication (Data and Control Line: "DRP/SFC/ DAIO NG")




**Notes:**

- If an IC or its peripheral component is found to be defective, leave its pin(s) unsoldered or replace if with a functioning component.
- If a defective IC or peripheral is left soldered, an "NG" message will reappear when another IC is tested.
- ICs or peripherals found to be normal may be resoldered.
- More than one IC or peripheral may be defective at a time. Carry out all the troubleshooting steps even if a defective IC or component is discovered before you complete all the steps.
- The unit turns off if no button is operated for 3 minutes after entering Service mode.
- Use a normal (new) tape for troubleshooting.
- To exit Service mode, press the STOP button.

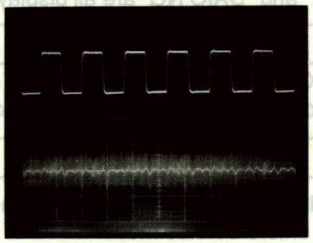
## Step 4. Signal Line Waveforms Test (See Block Diagram No. )



3 RDSYNC (CH1)

1 RDMUX (CH2)

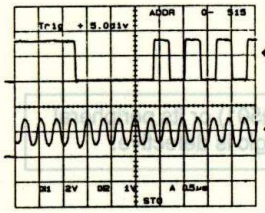
CH1 Y: 0.2V x 10
X: 0.5µs
CH2 Y: 50mV x 10
X: 0.5µs



2 RDCLK (CH1)

1 RDMUX (CH2)

CH1 Y: 0.2V x 10
X: 0.2µs
CH2 Y: 50mV x 10
X: 0.2µs



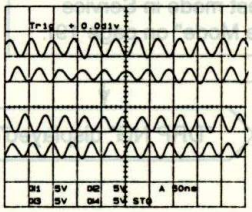
0V

0V

4 AMP O (CH1)

5 WDATA (CH2)

CH1 Y: 2V
X: 0.5µs
CH2 Y: 1V
X: 0.5µs



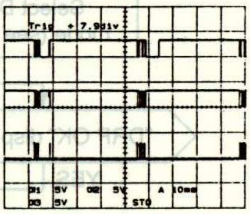
15 X22OUT

16 X22IN

17 X24OUT

18 X24IN

Y: 5V
X: 50ns

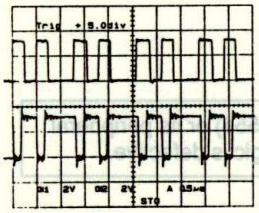


35 L3MODE

33 L3CLK

34 L3DATA

Y: 5V
X: 10ms



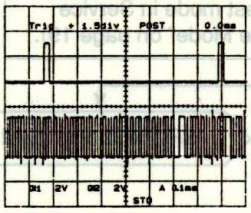
0V

0V

6 WEN

7 OEN

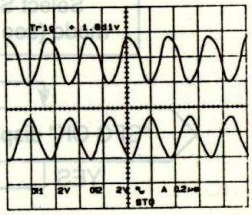
Y: 2V
X: 0.5µs



20 FSYNC

19 FDAI

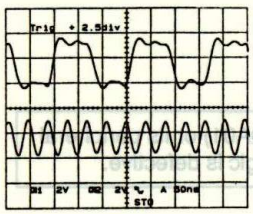
Y: 2V
X: 0.1ms



36 X2

37 X1

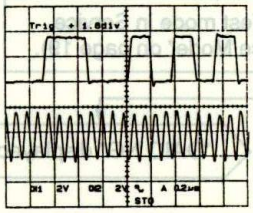
Y: 2V
X: 0.2µs



8 MCLK

9 CLK24

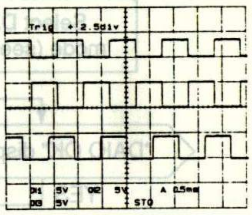
Y: 2V
X: 50ns



29 OPTOUT

24 FS256

Y: 2V
X: 0.2µs

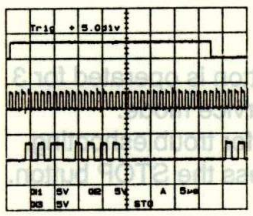


38 F-REF

39 F-REF

40 FGIN/FG

Y: 5V
X: 0.5ms

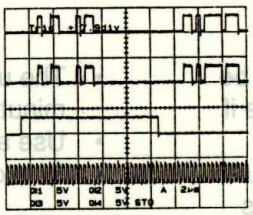


11 SBWS

12 SBCL

13 SBDA

Y: 5V
X: 5µs



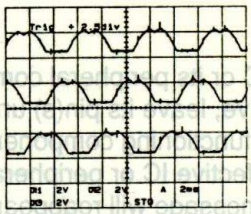
27 SDA2

28 SDA1

25 SWS

26 SCL

Y: 5V
X: 2µs



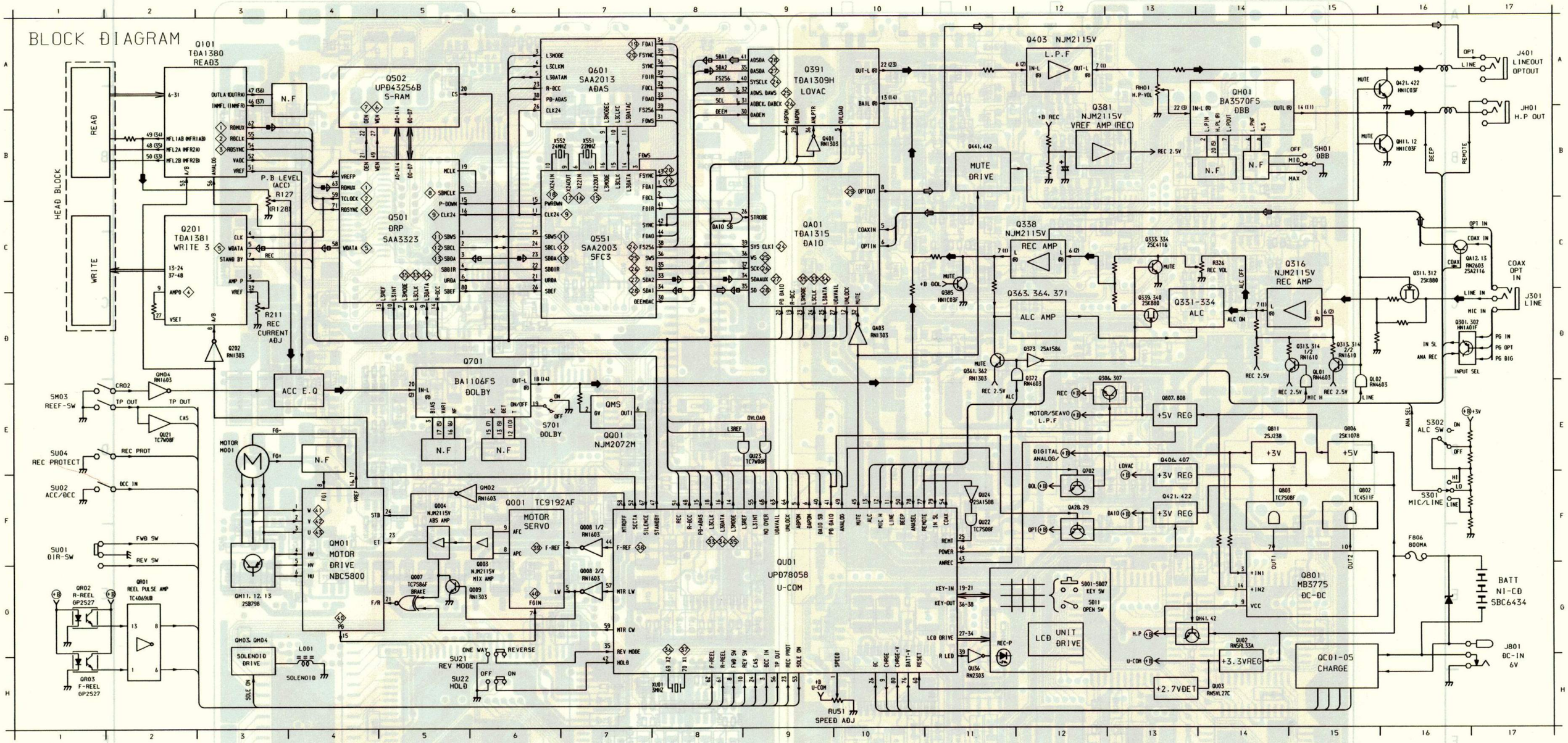
41 W

42 V

43 U

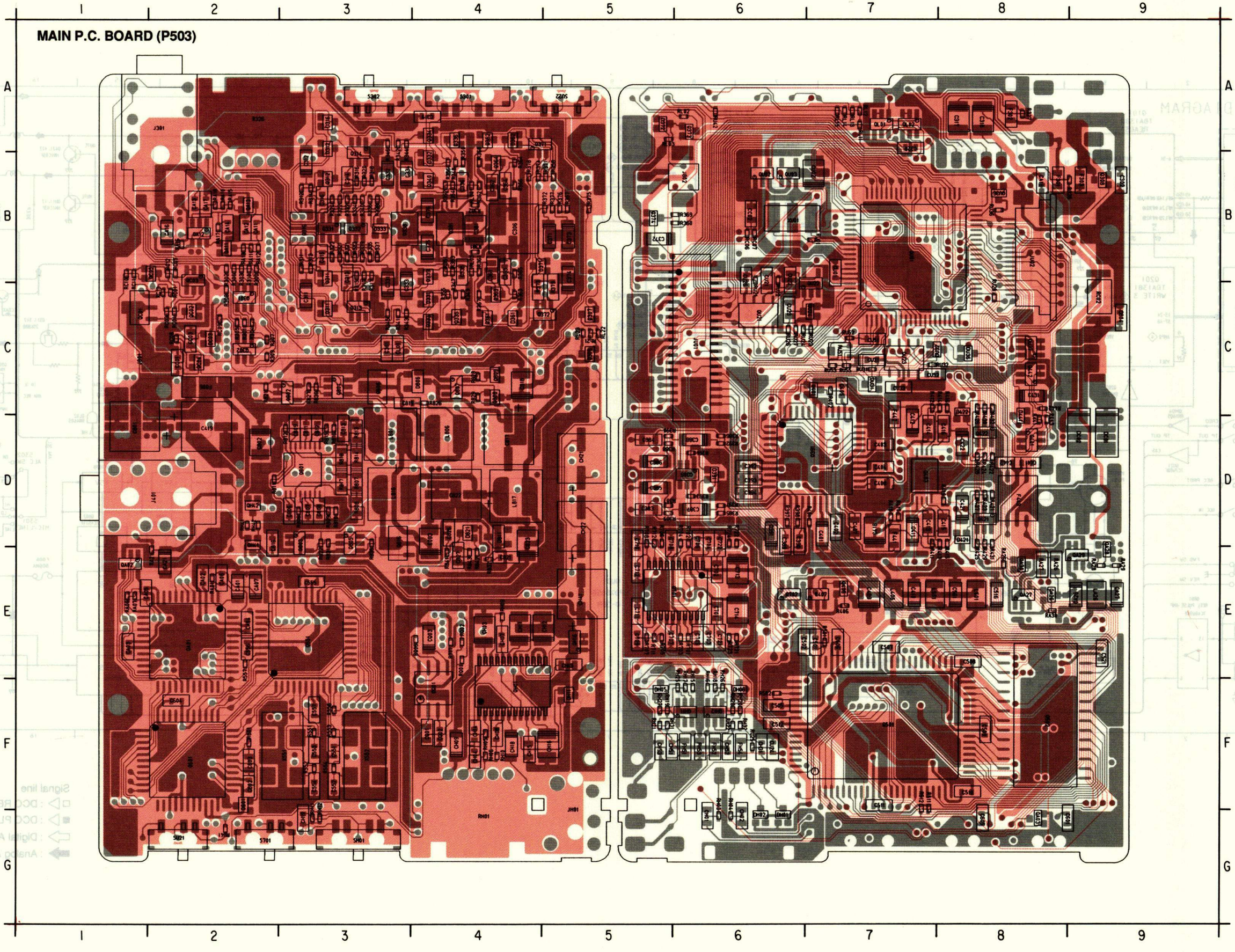
Y: 2V
X: 2ms

# BLOCK DIAGRAM

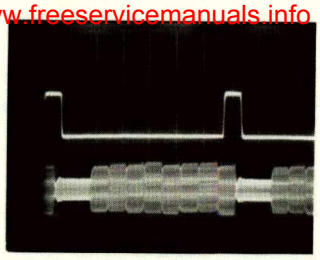


# PRINTED CIRCUIT BOARDS DIAGRAM

## MAIN P.C. BOARD (P503)



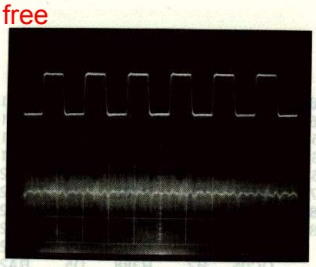
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C301 | C3 | C721 | E6 | DH01 | G6 | QA26 | E8 | R376 | B5 | RA15 | B2 |
| C302 | B9 | C801 | D1 | DH02 | G6 | QA27 | E8 | R377 | B5 | RA16 | B2 |
| C306 | B4 | C802 | D2 | DH05 | F5 | QA28 | E9 | R378 | B4 | RA17 | B2 |
| C311 | C3 | C803 | D4 | DH06 | F6 | QA29 | E9 | R379 | C5 | RA18 | B2 |
| C312 | B3 | C804 | C9 | DH11 | F5 | QA30 | E8 | R381 | B4 | RA21 | E2 |
| C313 | B3 | C806 | D3 | DU31 | C7 | QC01 | C1 | R382 | B4 | RA25 | E8 |
| C314 | B3 | C807 | D3 | DU32 | C8 | QC02 | C2 | R385 | D6 | RA26 | E8 |
| C315 | B3 | C808 | D3 | DU36 | C8 | QC03 | B2 | R386 | D6 | RA27 | E8 |
| C316 | B3 | C809 | D3 | | | QC04 | C2 | R387 | D5 | RA28 | E9 |
| C317 | A8 | C811 | D3 | | | QC05 | B2 | R388 | D5 | RA29 | E9 |
| C318 | A8 | C812 | D3 | F301 | B8 | QH01 | F4 | R389 | D5 | RA30 | E8 |
| C319 | A4 | C816 | D2 | F302 | A8 | QH11 | F6 | R390 | D5 | RC01 | C2 |
| C320 | A7 | C817 | D4 | F303 | B9 | QH12 | F6 | R391 | D6 | RC02 | C9 |
| C331 | C3 | C818 | C4 | F441 | D7 | QH16 | E5 | R392 | D6 | RC03 | C2 |
| C332 | B3 | C819 | C3 | F442 | C7 | QH41 | E2 | R393 | D6 | RC04 | C2 |
| C333 | C3 | C821 | E4 | F443 | D8 | QH42 | D2 | R394 | D6 | RC05 | B2 |
| C334 | B3 | C822 | D4 | FH51 | F6 | QL01 | A7 | R397 | D6 | RC06 | B6 |
| C335 | B4 | C823 | D4 | FH52 | F6 | QL02 | A7 | R398 | D6 | RC07 | B6 |
| C336 | B4 | C826 | D4 | FH53 | F6 | QQ01 | F4 | R401 | D7 | RC08 | C2 |
| C361 | B4 | C827 | E4 | FH54 | F6 | QU01 | B7 | R402 | C7 | RC09 | C2 |
| C362 | B4 | CA01 | E2 | | | QU02 | B6 | R406 | E7 | RC10 | B1 |
| C363 | B4 | CA02 | E2 | | | QU03 | B6 | R411 | D7 | RC11 | B1 |
| C364 | B4 | CA03 | E1 | J302 | A2 | QU21 | C6 | R412 | C7 | RC12 | B2 |
| C371 | B5 | CA04 | E2 | J401 | D1 | QU22 | B7 | R413 | D8 | RC13 | C2 |
| C372 | B5 | CA05 | E1 | J801 | C1 | QU23 | C7 | R414 | C8 | RH03 | G6 |
| C373 | B5 | CA06 | E2 | J802 | B6 | QU24 | C7 | R415 | D8 | RH04 | G6 |
| C374 | B5 | CA07 | E2 | JU01 | C6 | QU36 | B8 | R416 | C8 | RH05 | F4 |
| C376 | B4 | CA11 | B2 | JU02 | B8 | QU37 | C8 | R417 | D7 | RH06 | F4 |
| C381 | B4 | CA12 | B2 | | | | | R418 | D7 | RH09 | E4 |
| C383 | D5 | CA13 | B2 | | | | | R419 | D8 | RH10 | F4 |
| C384 | D5 | CA14 | B2 | L406 | E7 | R300 | B2 | R421 | D8 | RH11 | G3 |
| C385 | D5 | CA16 | B2 | L501 | E8 | R301 | C2 | R422 | D8 | RH12 | G3 |
| C386 | D5 | CA17 | B2 | L551 | E8 | R302 | B2 | R423 | D8 | RH15 | F6 |
| C387 | D6 | CA18 | B8 | L800 | D4 | R303 | B2 | R424 | D8 | RH16 | F6 |
| C388 | D6 | CA21 | E2 | L801 | D3 | R304 | C2 | R425 | D8 | RH17 | F6 |
| C389 | D6 | CA26 | E9 | L816 | D3 | R305 | C2 | R426 | C8 | RH18 | F6 |
| C390 | D6 | CA27 | E9 | L817 | D4 | R306 | B2 | R427 | D8 | RH19 | F5 |
| C391 | D6 | CC01 | C2 | LA26 | E9 | R307 | C2 | R428 | D8 | RH20 | F6 |
| C392 | D6 | CC02 | B6 | | | R308 | C2 | R429 | D8 | RH21 | F5 |
| C393 | D6 | CC03 | C2 | | | R309 | C2 | R430 | C8 | RH22 | F6 |
| C394 | D6 | CH01 | G6 | Q301 | C2 | R310 | B2 | R431 | D8 | RH25 | F6 |
| C401 | D7 | CH02 | G6 | Q302 | C2 | R311 | B3 | R432 | C8 | RH26 | F6 |
| C402 | D7 | CH03 | E4 | Q306 | C5 | R312 | B3 | R441 | D8 | RH27 | F5 |
| C403 | D7 | CH04 | F4 | Q307 | C5 | R313 | B3 | R442 | C8 | RH28 | F6 |
| C404 | D7 | CH07 | E4 | Q308 | B9 | R314 | B3 | R443 | D8 | RH31 | F5 |
| C405 | C7 | CH08 | F4 | Q311 | B3 | R315 | B3 | R501 | E7 | RH32 | F6 |
| C407 | D7 | CH09 | F4 | Q312 | B3 | R316 | B3 | R502 | F6 | RH41 | D2 |
| C408 | D7 | CH11 | E4 | Q313 | C3 | R317 | B3 | R511 | G7 | RH42 | D2 |
| C409 | E7 | CH12 | E5 | Q314 | B3 | R318 | B3 | R512 | G7 | RL02 | A6 |
| C410 | E7 | CH13 | F5 | Q316 | B3 | R319 | B3 | R551 | F3 | RL03 | A5 |
| C411 | D7 | CH14 | F4 | Q331 | B3 | R320 | B3 | R552 | F3 | RL04 | B4 |
| C412 | D7 | CH15 | F4 | Q332 | B3 | R321 | B3 | R553 | F3 | RL05 | B4 |
| C413 | D7 | CH16 | F5 | Q333 | C4 | R322 | B3 | R554 | F3 | RL11 | A7 |
| C414 | D7 | CH18 | F4 | Q334 | A4 | R323 | B3 | R556 | F3 | RL12 | A7 |
| C415 | D8 | CH19 | G3 | Q335 | C4 | R324 | B3 | R557 | E2 | RL13 | A7 |
| C416 | D8 | CH21 | D5 | Q336 | A4 | R326 | A2 | R601 | F2 | RL14 | A7 |
| C418 | D7 | CH22 | D5 | Q338 | B3 | R327 | A8 | R701 | E6 | RL15 | A7 |
| C419 | D2 | CH31 | F6 | Q339 | B4 | R328 | B9 | R703 | E6 | RL21 | C5 |
| C421 | D8 | CH41 | E5 | Q340 | B4 | R331 | B3 | R705 | E5 | RL22 | C5 |
| C422 | D8 | CH51 | F5 | Q361 | C4 | R332 | B3 | R706 | D5 | RL23 | C5 |
| C431 | C8 | CH52 | F6 | Q362 | A4 | R333 | B3 | R707 | E5 | RQ01 | E4 |
| C441 | D8 | CH53 | F5 | Q363 | C4 | R335 | B3 | R708 | D5 | RQ02 | E4 |
| C442 | D8 | CL01 | C3 | Q364 | B4 | R336 | B3 | R711 | E5 | RQ06 | E4 |
| C501 | E7 | CQ01 | F4 | Q371 | A4 | R337 | B3 | R712 | D5 | RU01 | B7 |
| C502 | E7 | CQ02 | F4 | Q372 | C5 | R338 | B3 | R717 | E4 | RU21 | B6 |
| C505 | F6 | CQ03 | E4 | Q373 | A6 | R339 | B3 | R721 | E6 | RU22 | B6 |
| C506 | E7 | CU01 | B7 | Q374 | B5 | R340 | B3 | R723 | E6 | RU23 | C7 |
| C507 | E7 | CU02 | B7 | Q381 | B4 | R341 | C3 | R806 | D3 | RU24 | C6 |
| C508 | E8 | CU21 | B6 | Q385 | D6 | R342 | A3 | R807 | D3 | RU25 | F6 |
| C509 | F8 | CU22 | B6 | Q391 | D7 | R343 | C3 | R808 | D3 | RU26 | C6 |
| C510 | F8 | CU23 | C6 | Q401 | C7 | R344 | A3 | R809 | D3 | RU27 | C6 |
| C511 | G7 | CU24 | F6 | Q403 | D7 | R345 | C3 | R810 | D3 | RU28 | C8 |
| C512 | F6 | CU26 | B6 | Q406 | E7 | R346 | A3 | R811 | D2 | RU31 | C7 |
| C516 | E8 | CU31 | C7 | Q407 | E7 | R347 | C4 | R812 | D3 | RU32 | C7 |
| C521 | E9 | CU32 | C7 | Q421 | D8 | R348 | B4 | R813 | D3 | RU36 | B8 |
| C551 | F3 | CU33 | C7 | Q422 | D8 | R349 | C4 | R814 | D3 | RU41 | G2 |
| C552 | F3 | CU51 | C7 | Q441 | D8 | R350 | B4 | R815 | D3 | RU42 | A6 |
| C553 | F3 | | | Q442 | C8 | R351 | B4 | R816 | D3 | RU51 | C7 |
| C554 | F3 | | | Q501 | F7 | R352 | B4 | R817 | D3 | RU52 | C7 |
| C555 | E3 | D311 | C3 | Q502 | F8 | R353 | B4 | R818 | D3 | RU53 | C7 |
| C556 | E2 | D312 | A3 | Q551 | E3 | R354 | B4 | R821 | C2 | | |
| C557 | F3 | D316 | A3 | Q601 | F2 | R355 | C4 | R822 | E3 | | |
| C561 | E8 | D331 | C4 | Q701 | E6 | R356 | B4 | R826 | C4 | S301 | A4 |
| C601 | G9 | D332 | B4 | Q702 | E6 | R357 | B5 | R827 | C3 | S302 | A3 |
| C602 | F2 | D333 | B3 | Q801 | D3 | R358 | B5 | R828 | C4 | S701 | G2 |
| C603 | F2 | D361 | C4 | Q802 | C3 | R360 | B6 | R829 | C4 | SH01 | G3 |
| C604 | F2 | D362 | A4 | Q803 | D3 | R361 | B4 | R831 | E3 | SU21 | G2 |
| C605 | G8 | D371 | B5 | Q804 | C3 | R362 | B4 | R832 | E4 | SU22 | A5 |
| C701 | E6 | D372 | A5 | Q805 | D3 | R363 | C4 | R835 | E3 | | |
| C702 | E6 | D391 | D6 | Q806 | C3 | R364 | B4 | R836 | C3 | | |
| C703 | E6 | D421 | D8 | Q807 | C4 | R365 | B4 | R841 | E4 | X551 | F3 |
| C705 | E6 | D422 | C8 | Q808 | C4 | R366 | B4 | R842 | E4 | X552 | F3 |
| C707 | E6 | D441 | D8 | Q809 | C4 | R367 | C4 | R843 | E4 | XU01 | B6 |
| C708 | D5 | D601 | F2 | Q816 | E3 | R368 | B4 | RA01 | E2 | | |
| C709 | E5 | D806 | C4 | QA01 | E2 | R369 | B6 | RA06 | E1 | | |
| C710 | D5 | D811 | D4 | QA02 | E1 | R371 | B5 | RA07 | E1 | | |
| C711 | E5 | D821 | D4 | QA03 | G8 | R372 | B5 | RA10 | B2 | | |
| C712 | E5 | DC01 | D9 | QA11 | B2 | R373 | C4 | RA11 | B2 | | |
| C713 | E6 | DC02 | D9 | QA12 | B2 | R374 | B4 | RA12 | B2 | | |
| C714 | E6 | DC03 | C2 | QA13 | B2 | R375 | B5 | RA13 | B2 | | |



3 RDSYNC (CH1)

1 RDMUX (CH2)

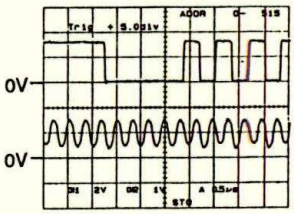
CH1 Y: 0.2V x 10
X: 0.5µs
CH2 Y: 50mV x 10
X: 0.5µs



2 RDCLK (CH1)

1 RDMUX (CH2)

CH1 Y: 0.2V x 10
X: 0.5µs
CH2 Y: 50mV x 10
X: 0.5µs



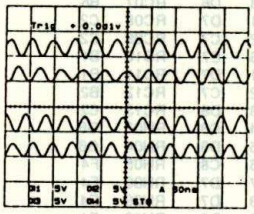
0V

0V

4 AMP O(CH1)

5 WDATA(CH2)

CH1 Y: 2V
X: 0.5µs
CH2 Y: 1V
X: 0.5µs



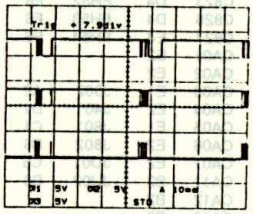
15 X22OUT

16 X22IN

17 X24OUT

18 X24IN

Y: 5V
X: 50ns

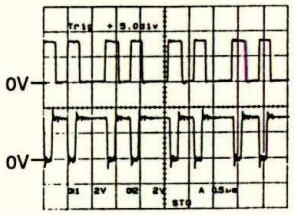


35 L3MODE

33 L3CLK

34 L3DATA

Y: 5V
X: 10ms



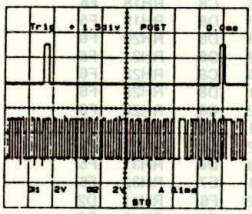
0V

0V

6 WEN

7 OEN

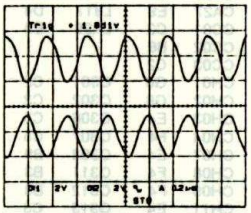
Y: 2V
X: 0.5µs



20 FSYNC

19 FDAI

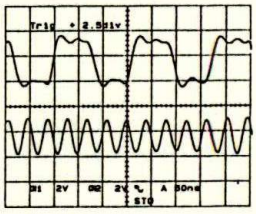
Y: 2V
X: 0.1ms



36 X2

37 X1

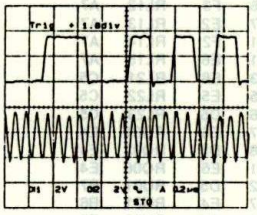
Y: 2V
X: 0.2µs



8 MCLK

9 CLK24

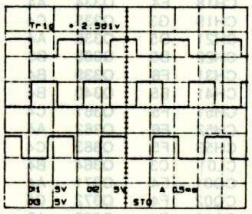
Y: 2V
X: 50ns



29 OPTOUT

24 FS256

Y: 2V
X: 0.2µs

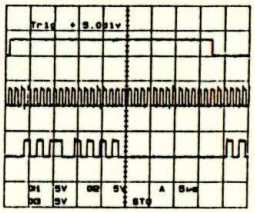


38 F-REF

39 F-REF

40 FGIN/FG

Y: 5V
X: 0.5ms

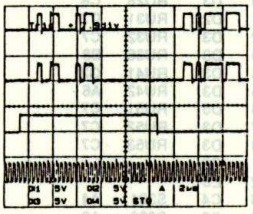


11 SBWS

12 SBCL

13 SBDA

Y: 5V
X: 5µs



27 SDA2

28 SDA1

25 XL

26 SWS

Y: 5V
X: 2µs

Signal line

□▷ : DCC REC(WRITE)

■▷ : DCC PLAY(READ)

⇨ : Digital Audio

➡ : Analog Audio(ACC PLAY)

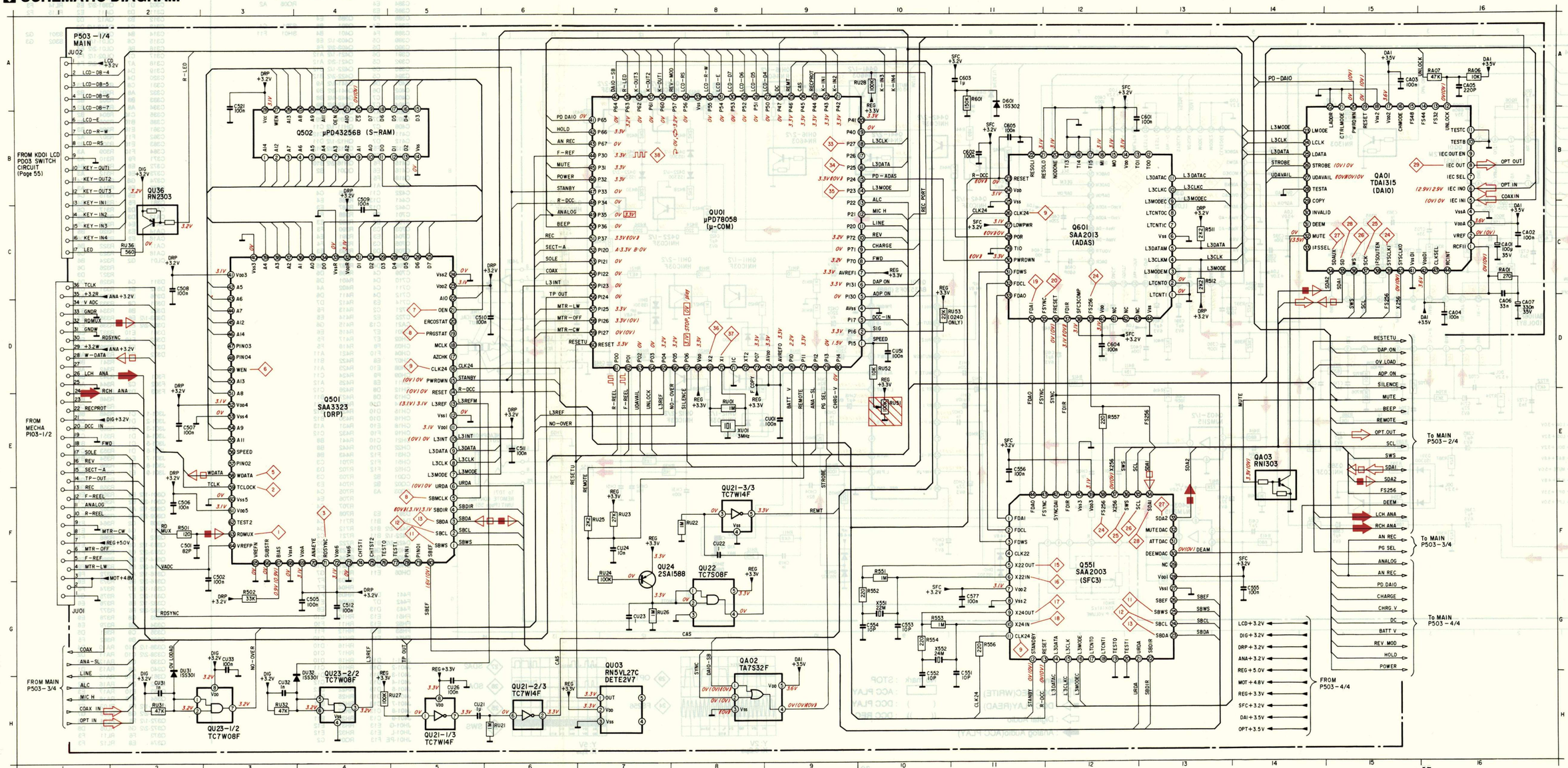
No mark : STOP

▭ : ACC PLAY

( ) : DCC PLAY

(( )) : DCC REC

# SCHEMATIC DIAGRAM




| | | | |
|---|---|---|---|
| C501 | F2 | Q502 | B4 |
| C502 | F3 | Q551 | F12 |
| C505 | G4 | Q601 | C12 |
| C506 | F2 | QA01 | B15 |
| C507 | E2 | QA02 | H8 |
| C508 | C2 | QA03 | E14 |
| C509 | C4 | QU03 | H7 |
| C510 | D6 | QU08 | C8 |
| C511 | E6 | QU21 | F8 |
| C512 | G4 | QU21 | H5 |
| C521 | A3 | QU21 | H6 |
| C551 | G8 | QU22 | G8 |
| C552 | G10 | QU23 | H3 |
| C553 | G10 | QU23 | H4 |
| C554 | G10 | QU24 | F7 |
| C555 | G14 | QU36 | C2 |
| C556 | E11 | | |
| C577 | G11 | | |
| C601 | B13 | R501 | F2 |
| C602 | B11 | R502 | G3 |
| C603 | A11 | R511 | C13 |
| C604 | D12 | R512 | C13 |
| C605 | B11 | R551 | F10 |
| CA01 | C16 | R552 | G10 |
| CA02 | C16 | R553 | G10 |
| CA03 | D16 | R554 | G10 |
| CA04 | D16 | R556 | G11 |
| CA05 | A16 | R557 | E12 |
| CA06 | C16 | R601 | A11 |
| CA07 | D16 | RA01 | C16 |
| CU01 | E9 | RA06 | A16 |
| CU21 | H5 | RA07 | A16 |
| CU22 | F8 | RU01 | E8 |
| CU23 | G7 | RU18 | A10 |
| CU24 | F7 | RU21 | H6 |
| CU26 | H5 | RU22 | F8 |
| CU31 | H2 | RU23 | F7 |
| CU32 | H3 | RU24 | F7 |
| CU33 | G3 | RU25 | F7 |
| CU51 | D10 | RU26 | G7 |
| | | RU27 | H4 |
| | | RU31 | H2 |
| D601 | A11 | RU32 | H3 |
| DU31 | H2 | RU36 | C2 |
| DU31 | H2 | RU51 | E10 |
| | | RU52 | D10 |
| | | RU53 | D10 |
| JU01-1 | G1 | RU54 | D10 |
| JU01-10 | F1 | | |
| JU01-11 | F1 | | |
| JU01-12 | F1 | X551 | G10 |
| JU01-13 | F1 | X552 | G10 |
| JU01-14 | E1 | XU01 | E8 |
| JU01-15 | E1 | | |
| JU01-16 | E1 | | |
| JU01-17 | E1 | | |
| JU01-18 | E1 | | |
| JU01-19 | E1 | | |
| JU01-2 | G1 | | |
| JU01-20 | E1 | | |
| JU01-21 | E1 | | |
| JU01-22 | E1 | | |
| JU01-23 | E1 | | |
| JU01-24 | D1 | | |
| JU01-25 | D1 | | |
| JU01-26 | D1 | | |
| JU01-27 | D1 | | |
| JU01-28 | D1 | | |
| JU01-29 | D1 | | |
| JU01-3 | F1 | | |
| JU01-30 | D1 | | |
| JU01-31 | D1 | | |
| JU01-32 | D1 | | |
| JU01-33 | D1 | | |
| JU01-34 | D1 | | |
| JU01-35 | C1 | | |
| JU01-36 | C1 | | |
| JU01-4 | F1 | | |
| JU01-5 | F1 | | |
| JU01-6 | F1 | | |
| JU01-7 | F1 | | |
| JU01-8 | F1 | | |
| JU01-9 | F1 | | |
| JU02-1 | A1 | | |
| JU02-10 | B1 | | |
| JU02-11 | B1 | | |
| JU02-12 | B1 | | |
| JU02-13 | B1 | | |
| JU02-14 | C1 | | |
| JU02-15 | C1 | | |
| JU02-16 | C1 | | |
| JU02-17 | C1 | | |
| JU02-2 | A1 | | |
| JU02-3 | A1 | | |
| JU02-4 | A1 | | |
| JU02-5 | A1 | | |
| JU02-6 | B1 | | |
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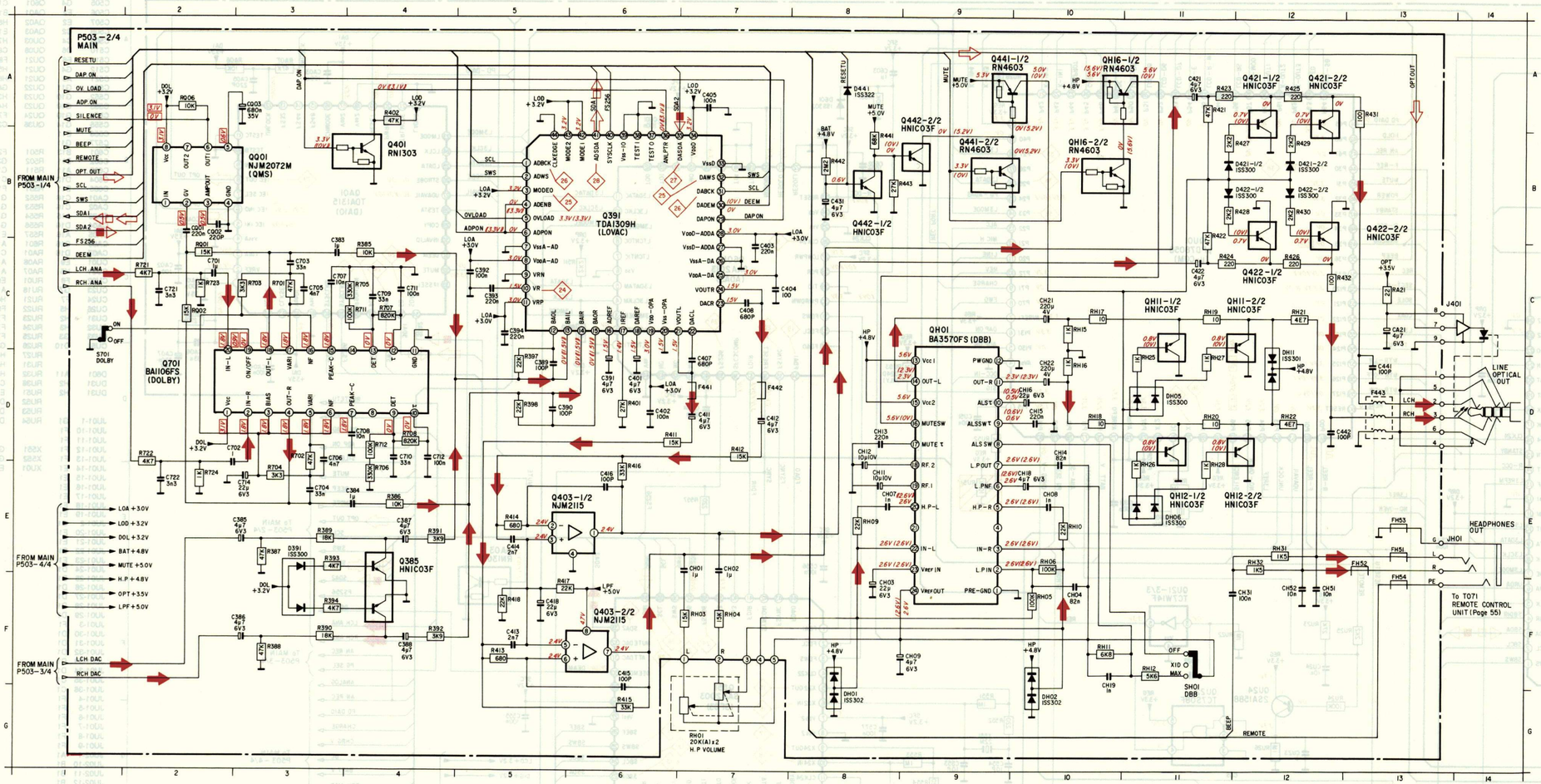
| JU02-9 | B1 | | |
| Q501 | E4 | | |




| | | | | | |
|---|---|---|---|---|---|
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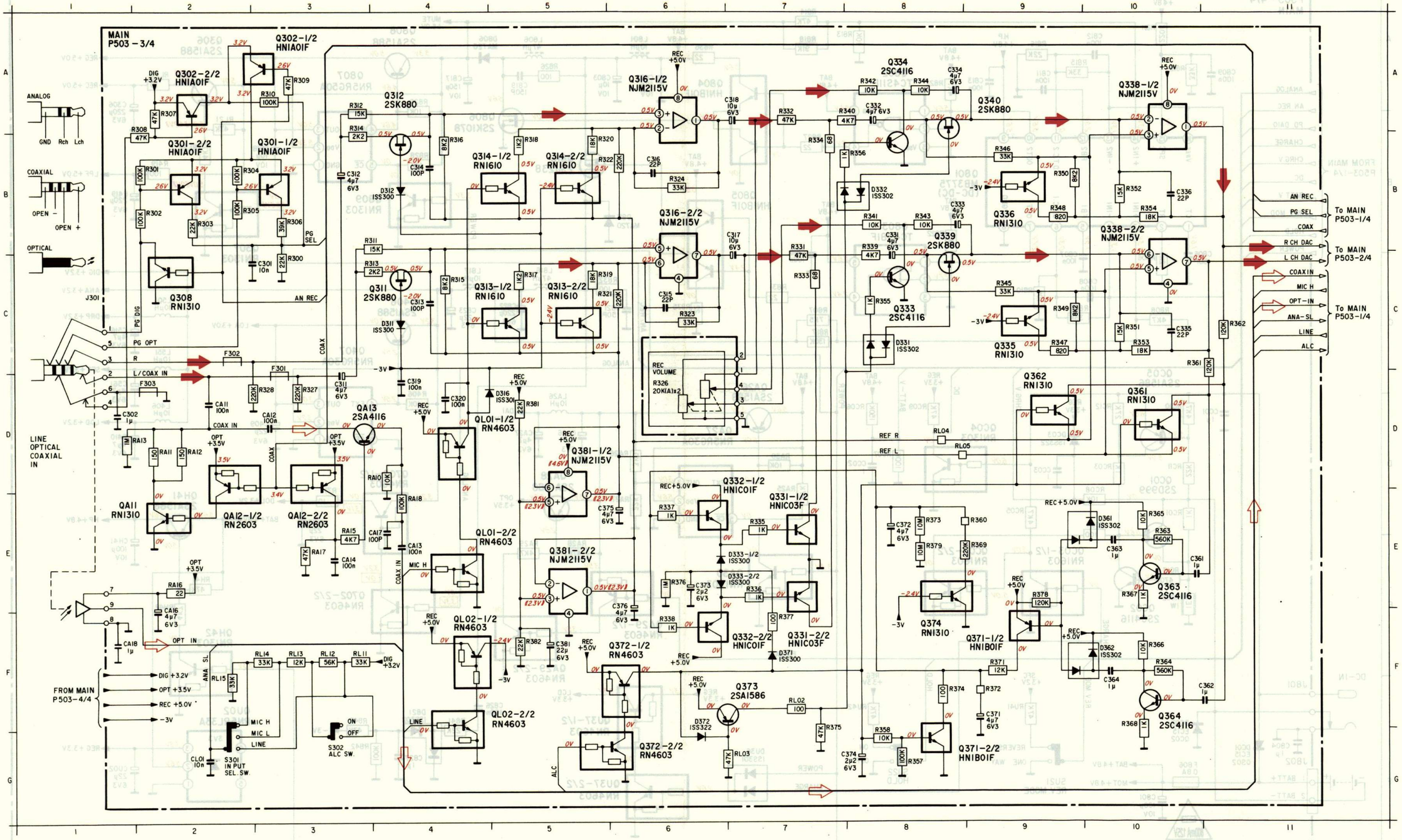
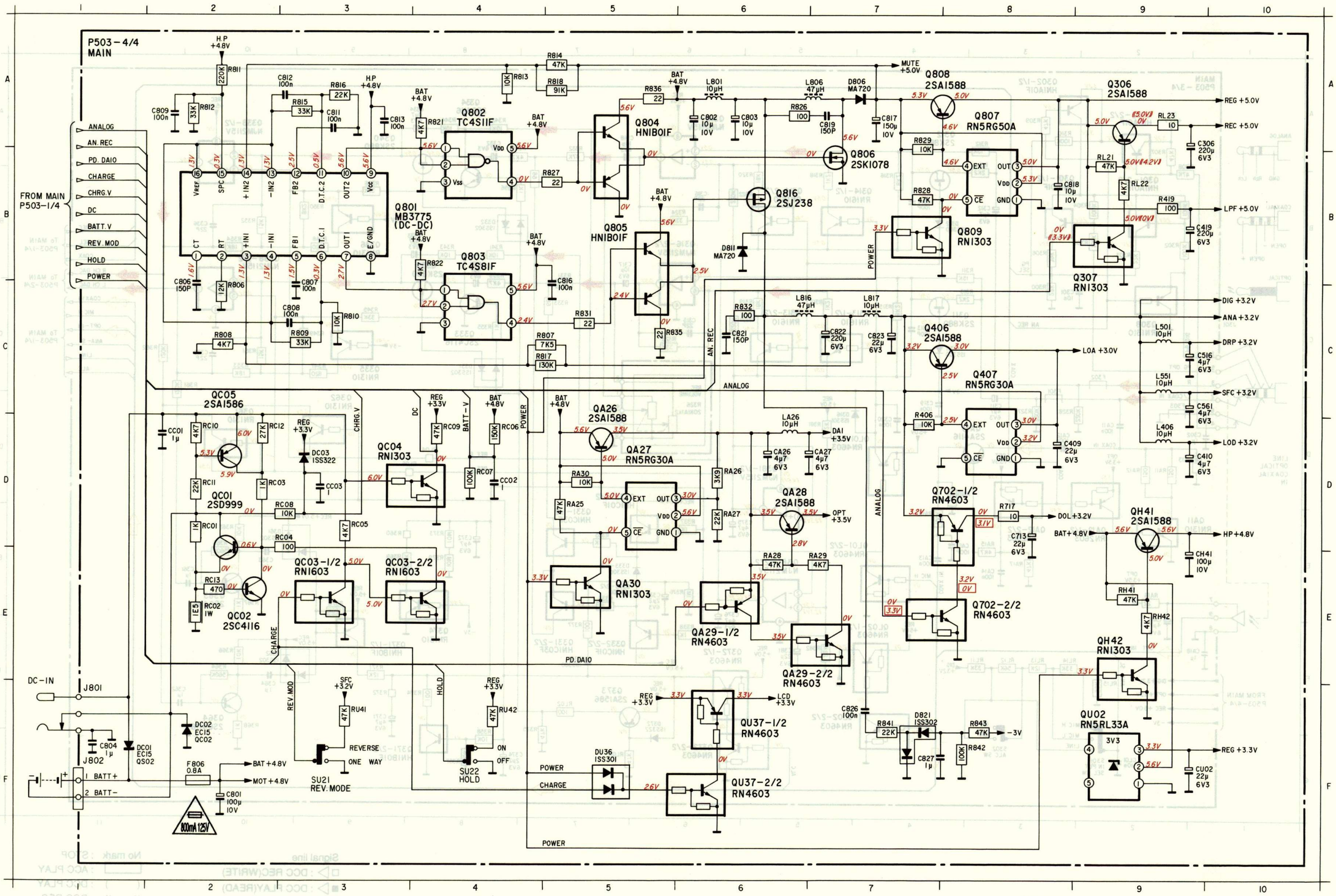
| C384 | E4 | | | RQ06 | A2 |
| C385 | E3 | | | | |
| C386 | F3 | Q385 | E4 | | |
| C387 | E4 | Q391 | B6 | S701 | C1 |
| C388 | F4 | Q401 | B4 | SH01 | F11 |
| C389 | D5 | Q403-1/2 | E6 | | |
| C390 | D5 | Q403-2/2 | F6 | | |
| C391 | D6 | Q421-1/2 | A12 | | |
| C392 | C5 | Q421-2/2 | A12 | | |
| C393 | C5 | Q422-1/2 | B12 | | |
| C394 | C5 | Q422-2/2 | B12 | | |
| C401 | D6 | Q441-1/2 | A9 | | |
| C402 | D6 | Q441-2/2 | B9 | | |
| C403 | C7 | Q442-1/2 | B8 | | |
| C404 | C7 | Q442-2/2 | B9 | | |
| C405 | A7 | Q701 | D3 | | |
| C407 | D7 | QH01 | D9 | | |
| C408 | C7 | QH11-1/2 | C11 | | |
| C411 | D7 | QH11-2/2 | C12 | | |
| C412 | D7 | QH12-1/2 | D11 | | |
| C413 | F5 | QH12-2/2 | D12 | | |
| C414 | E5 | QH16-1/2 | A10 | | |
| C415 | F6 | QH16-2/2 | B10 | | |
| C416 | E6 | QQ01 | B2 | | |
| C418 | F5 | | | | |
| C421 | A11 | | | | |
| C422 | C11 | R385 | C4 | | |
| C441 | D13 | R386 | E4 | | |
| C442 | D12 | R387 | E3 | | |
| C701 | C2 | R388 | F3 | | |
| C702 | D2 | R389 | E3 | | |
| C703 | C3 | R390 | F3 | | |
| C704 | E3 | R391 | E4 | | |
| C705 | C3 | R392 | F4 | | |
| C706 | D3 | R393 | E3 | | |
| C707 | C3 | R394 | F3 | | |
| C708 | D4 | R397 | D5 | | |
| C709 | C4 | R398 | D5 | | |
| C710 | D4 | R401 | D6 | | |
| C711 | C4 | R402 | A4 | | |
| C712 | D4 | R411 | D6 | | |
| C714 | E3 | R412 | D7 | | |
| C721 | C2 | R413 | F5 | | |
| C722 | E2 | R414 | E5 | | |
| CA21 | C13 | R415 | G6 | | |
| CH01 | E7 | R416 | E6 | | |
| CH02 | E7 | R417 | F5 | | |
| CH03 | F8 | R418 | F5 | | |
| CH04 | F10 | R421 | A11 | | |
| CH07 | E8 | R422 | B11 | | |
| CH08 | E10 | R423 | A11 | | |
| CH09 | F9 | R424 | C11 | | |
| CH11 | E8 | R425 | A12 | | |
| CH12 | D8 | R426 | C12 | | |
| CH13 | D8 | R427 | B11 | | |
| CH14 | D10 | R428 | B11 | | |
| CH15 | D10 | R429 | B12 | | |
| CH16 | D10 | R430 | B12 | | |
| CH18 | E10 | R431 | A13 | | |
| CH19 | F10 | R432 | C12 | | |
| CH21 | C10 | R441 | B8 | | |
| CH22 | D10 | R442 | B8 | | |
| CH31 | F12 | R443 | B8 | | |
| CH51 | F12 | R701 | C3 | | |
| CH52 | F12 | R702 | D3 | | |
| CQ01 | B2 | R703 | C3 | | |
| CQ02 | B2 | R704 | E3 | | |
| CQ03 | A3 | R705 | C4 | | |
| | | R706 | E4 | | |
| D391 | E3 | R707 | C4 | | |
| D421 | B11 | R708 | D4 | | |
| D421-2/2 | B12 | R711 | C4 | | |
| D422-1/2 | B11 | R712 | D4 | | |
| D422-2/2 | B12 | R721 | C2 | | |
| DH01 | G9 | R722 | D2 | | |
| DH02 | E10 | R723 | C2 | | |
| DH05 | D11 | R724 | E2 | | |
| DH06 | E11 | RA21 | C13 | | |
| | | RH01 | G7 | | |
| | | RH03 | F7 | | |
| | | RH04 | F7 | | |
| F441 | D7 | RH05 | F10 | | |
| F442 | D7 | RH06 | E10 | | |
| F443 | D13 | RH09 | E8 | | |
| FH51 | E13 | RH10 | E10 | | |
| FH52 | E13 | RH11 | F10 | | |
| FH53 | E13 | RH12 | F11 | | |
| FH54 | F13 | RH15 | C10 | | |
| | | RH16 | D10 | | |
| | | RH17 | C10 | | |
| J401-1 | D13 | RH18 | D10 | | |
| J401-2 | D13 | RH19 | C10 | | |
| J401-3 | D13 | RH20 | D11 | | |
| J401-4 | D13 | RH21 | C12 | | |
| J401-5 | D13 | RH22 | D12 | | |
| J401-6 | D13 | RH25 | D11 | | |
| J401-7 | C13 | RH26 | E11 | | |
| J401-8 | C13 | RH27 | D11 | | |
| J401-9 | C13 | RH28 | E11 | | |
| JH01-G | E13 | RH31 | E12 | | |
| JH01-L | E13 | RH32 | E12 | | |
| JH01-PE | F13 | RQ01 | C2 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| C301 | C3 | Q381-1/2 | D5 | RL13 | F3 | | |
| C302 | D1 | Q381-2/2 | E5 | RL14 | F3 | | |
| C311 | D3 | QA11 | E2 | RL15 | F2 | | |
| C312 | B3 | QA12 | D3 | | | | |
| C313 | C4 | QA12-1/2 | D2 | | | | |
| C314 | B4 | QA13 | D3 | S301 | G2 | | |
| C315 | C6 | QL01-1/2 | D4 | S302 | G3 | | |
| C316 | B6 | QL01-2/2 | E4 | | | | |
| C317 | C7 | QL02-1/2 | F4 | | | | |
| C318 | A7 | QL02-2/2 | F4 | | | | |
| C319 | D4 | | | | | | |
| C320 | D4 | | | | | | |
| C331 | C8 | R300 | C3 | | | | |
| C332 | A8 | R301 | B2 | | | | |
| C333 | B8 | R302 | B2 | | | | |
| C334 | A8 | R303 | B2 | | | | |
| C335 | C10 | R304 | B2 | | | | |
| C336 | B10 | R305 | B2 | | | | |
| C361 | E10 | R306 | B3 | | | | |
| C362 | F11 | R307 | A2 | | | | |
| C363 | E10 | R308 | B2 | | | | |
| C364 | F10 | R309 | A3 | | | | |
| C371 | F9 | R310 | A3 | | | | |
| C372 | E8 | R311 | B4 | | | | |
| C373 | E6 | R312 | A3 | | | | |
| C374 | G8 | R313 | C4 | | | | |
| C375 | E6 | R314 | A3 | | | | |
| C376 | E6 | R315 | C4 | | | | |
| C381 | F5 | R316 | B4 | | | | |
| CA11 | E2 | R317 | C5 | | | | |
| CA12 | D3 | R318 | B5 | | | | |
| CA13 | E4 | R319 | C5 | | | | |
| CA14 | E3 | R320 | B5 | | | | |
| CA16 | E2 | R321 | C6 | | | | |
| CA17 | E4 | R322 | B6 | | | | |
| CA18 | F1 | R323 | C6 | | | | |
| CL01 | G2 | R324 | B6 | | | | |
| | | R326 | D6 | | | | |
| | | R327 | D3 | | | | |
| D311 | C4 | R328 | D3 | | | | |
| D312 | B4 | R331 | C7 | | | | |
| D316 | D5 | R332 | A7 | | | | |
| D331 | C8 | R333 | C7 | | | | |
| D332 | B8 | R334 | B7 | | | | |
| D333-1/2 | E6 | R335 | E7 | | | | |
| D333-2/2 | E6 | R336 | E7 | | | | |
| D361 | E10 | R337 | E6 | | | | |
| D362 | F10 | R338 | F6 | | | | |
| D371 | G9 | R339 | C8 | | | | |
| D372 | G7 | R340 | A8 | | | | |
| | | R341 | B8 | | | | |
| | | R342 | A8 | | | | |
| F301 | C3 | R343 | B8 | | | | |
| F302 | C2 | R344 | A9 | | | | |
| F303 | D2 | R345 | C9 | | | | |
| | | R346 | B9 | | | | |
| | | R347 | C9 | | | | |
| J301-1 | C1 | R348 | B9 | | | | |
| J301-2 | C1 | R349 | C9 | | | | |
| J301-3 | C1 | R350 | B9 | | | | |
| J301-4 | D1 | R351 | C10 | | | | |
| J301-5 | C1 | R352 | B10 | | | | |
| J301-6 | D1 | R353 | C10 | | | | |
| J301-7 | E1 | R354 | B10 | | | | |
| J301-8 | F1 | R355 | C8 | | | | |
| J301-9 | E1 | R356 | B8 | | | | |
| | | R357 | G8 | | | | |
| | | R358 | G8 | | | | |
| | | R360 | E9 | | | | |
| Q301-1/2 | B3 | R361 | C11 | | | | |
| Q301-2/2 | B2 | R362 | C11 | | | | |
| Q302-1/2 | A3 | R363 | E10 | | | | |
| Q302-2/2 | A2 | R364 | F10 | | | | |
| Q306 | C2 | R365 | E10 | | | | |
| Q311 | C4 | R366 | F10 | | | | |
| Q312 | B4 | R367 | E10 | | | | |
| Q313-1/2 | C5 | R368 | F10 | | | | |
| Q313-2/2 | C5 | R369 | E9 | | | | |
| Q314-1/2 | B5 | R371 | F9 | | | | |
| Q314-2/2 | B5 | R372 | F9 | | | | |
| Q316-1/2 | A6 | R373 | E8 | | | | |
| Q316-2/2 | B6 | R374 | F8 | | | | |
| Q331-1/2 | E7 | R375 | G7 | | | | |
| Q331-2/2 | E7 | R376 | E6 | | | | |
| Q332-1/2 | E6 | R377 | F7 | | | | |
| Q332-2/2 | F6 | R378 | E9 | | | | |
| Q333 | C8 | R379 | E8 | | | | |
| Q334 | B8 | R381 | D5 | | | | |
| Q335 | C9 | R382 | F5 | | | | |
| Q336 | B9 | RA10 | D4 | | | | |
| Q338-1/2 | A10 | RA11 | D2 | | | | |
| Q338-2/2 | C10 | RA12 | D2 | | | | |
| Q339 | C8 | RA13 | D1 | | | | |
| Q340 | A8 | RA15 | E3 | | | | |
| Q361 | D10 | RA16 | E2 | | | | |
| Q362 | D9 | RA17 | E3 | | | | |
| Q363 | E10 | RA18 | E4 | | | | |
| Q364 | F10 | RL02 | F7 | | | | |
| Q371-1/2 | F9 | RL03 | G7 | | | | |
| Q371-2/2 | G8 | RL04 | D8 | | | | |
| Q372-1/2 | F6 | RL05 | D8 | | | | |
| Q372-2/2 | G6 | RL11 | F3 | | | | |
| Q373 | F6 | RL12 | F3 | | | | |
| Q374 | E8 | | | | | | |




Signal line
- □▷ : DCC REC(WRITE)
- ■▷ : DCC PLAY(READ)
- ⇨ : Digital Audio
- ➡ : Analog Audio(ACC PLAY)

No mark : STOP
- ▭ : ACC PLAY
- ( ) : DCC PLAY
- (( )) : DCC REC




**CAUTION :**
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 800mA,125V FUSE.
REFER REPLACEMENT TO QUALIFIED SERVICE PERSONNEL.

| | | | |
|---|---|---|---|
| C306 | A9 | R808 | C2 |
| C409 | D8 | R809 | C3 |
| C410 | D9 | R810 | C3 |
| C419 | B9 | R811 | A2 |
| C516 | C9 | R812 | A2 |
| C561 | C9 | R813 | A4 |
| C713 | D8 | R814 | A5 |
| C801 | F2 | R815 | A3 |
| C802 | A6 | R816 | A3 |
| C803 | A6 | R817 | C5 |
| C804 | F1 | R818 | A5 |
| C806 | C2 | R821 | A4 |
| C807 | C3 | R822 | B4 |
| C808 | C3 | R826 | A6 |
| C809 | A2 | R827 | B5 |
| C811 | A3 | R828 | B7 |
| C812 | A3 | R829 | A7 |
| C813 | A3 | R831 | C5 |
| C816 | C5 | R832 | C6 |
| C817 | A7 | R835 | C5 |
| C818 | B8 | R836 | A5 |
| C819 | A7 | R841 | F7 |
| C821 | C6 | R842 | F8 |
| C822 | C7 | R843 | F8 |
| C823 | C7 | RA25 | D5 |
| C826 | F7 | RA26 | D6 |
| C827 | F8 | RA27 | D6 |
| CA26 | D6 | RA28 | E6 |
| CA27 | D7 | RA29 | E7 |
| CC01 | D2 | RA30 | D5 |
| CC02 | D4 | RC01 | D2 |
| CC03 | D3 | RC02 | E2 |
| CH41 | E9 | RC03 | D2 |
| CU02 | F9 | RC04 | D3 |
| | | RC05 | D3 |
| | | RC06 | D4 |
| D806 | A7 | RC07 | D4 |
| D811 | B6 | RC08 | D3 |
| D821 | F7 | RC09 | D4 |
| DC01 | F1 | RC10 | D2 |
| DC02 | F2 | RC11 | D2 |
| DC03 | D3 | RC12 | D2 |
| DU36 | F5 | RC13 | E2 |
| | | RH41 | E9 |
| | | RH42 | E9 |
| F806 | F2 | RL21 | B9 |
| | | RL22 | B9 |
| | | RL23 | A9 |
| J801 | F1 | RU41 | F3 |
| J802-1 | F1 | RU42 | F4 |
| J802-2 | F1 | | |
| | | SU21 | F3 |
| L406 | D9 | SU22 | F4 |
| L501 | C9 | | |
| L551 | C9 | | |
| L801 | A6 | | |
| L806 | A7 | | |
| L816 | C6 | | |
| L817 | C7 | | |
| LA26 | D6 | | |

| | |
|---|---|
| Q306 | A9 |
| Q307 | B9 |
| Q406 | C7 |
| Q407 | D8 |
| Q702-1/2 | D8 |
| Q702-2/2 | E8 |
| Q801 | B3 |
| Q802 | B4 |
| Q803 | C4 |
| Q804 | A5 |
| Q805 | B5 |
| Q806 | B7 |
| Q807 | B8 |
| Q808 | A7 |
| Q809 | B7 |
| Q816 | B6 |
| QA26 | D5 |
| QA27 | D5 |
| QA28 | D6 |
| QA29-1/2 | E6 |
| QA29-2/2 | E7 |
| QA30 | E5 |
| QC01 | D2 |
| QC02 | E2 |
| QC03-1/2 | E3 |
| QC03-2/2 | E3 |
| QC04 | D3 |
| QC05 | D2 |
| QH41 | D9 |
| QH42 | E9 |
| QU02 | F9 |
| QU37-1/2 | F6 |
| QU37-2/2 | F6 |
| R406 | D7 |
| R419 | B9 |
| R717 | D8 |
| R806 | C2 |
| R807 | C5 |

Signal line

□▷ : DCC REC(WRITE)

■▷ : DCC PLAY(READ)

⇨ : Digital Audio

➡ : Analog Audio(ACC PLAY)

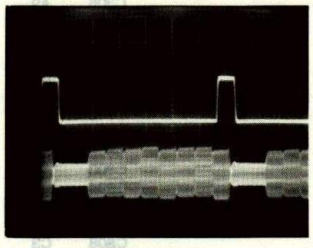
No mark : STOP

▭ : ACC PLAY

( ) : DCC PLAY

(( )) : DCC REC

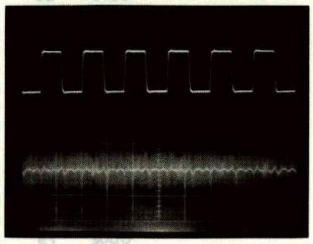
| | | | | | |
|---|---|---|---|---|---|
| C101 | A5 | J101-7 | B3 | R140 | F11 |
| C102 | B5 | J101-8 | B3 | R141 | C11 |
| C103 | B5 | J101-9 | B3 | R142 | E11 |
| C104 | B5 | J102-1 | D3 | R147 | D11 |
| C105 | B5 | J102-10 | E3 | R148 | E11 |
| C106 | B5 | J102-11 | E3 | R149 | D11 |
| C107 | B5 | J102-12 | E3 | R150 | E11 |
| C108 | C5 | J102-13 | E3 | R151 | C11 |
| C109 | C5 | J102-14 | E3 | R152 | F11 |
| C110 | C5 | J102-15 | E3 | R176 | A13 |
| C111 | D5 | J102-16 | E3 | R177 | A6 |
| C112 | D5 | J102-17 | E3 | R201 | G12 |
| C113 | D5 | J102-18 | E3 | R202 | G15 |
| C114 | E5 | J102-19 | F3 | R203 | D15 |
| C115 | E5 | J102-2 | D3 | R204 | D15 |
| C116 | E5 | J102-20 | F3 | R205 | D13 |
| C117 | E5 | J102-21 | F3 | R206 | E12 |
| C118 | F5 | J102-22 | F3 | R207 | E12 |
| C119 | F5 | J102-23 | F3 | R208 | F12 |
| C120 | F5 | J102-24 | F3 | R209 | C12 |
| C121 | F4 | J102-25 | F3 | R210 | G12 |
| C122 | E4 | J102-26 | F3 | R211 | F12 |
| C123 | E4 | J102-3 | D3 | R212 | B14 |
| C124 | C4 | J102-4 | D3 | R215 | B15 |
| C125 | B4 | J102-5 | D3 | | |
| C126 | A4 | J102-6 | D3 | | |
| C131 | A4 | J102-7 | D3 | T.P 01 | C6 |
| C132 | B4 | J102-8 | E3 | T.P J110 | B6 |
| C133 | B4 | J102-9 | E3 | T.P J111 | C7 |
| C134 | B4 | J103-1 | D16 | T.P J112 | B8 |
| C135 | C4 | J103-10 | C16 | T.P J201 | E12 |
| C136 | C4 | J103-11 | C16 | T.P J202 | E12 |
| C137 | D4 | J103-12 | C16 | | |
| C138 | D4 | J103-13 | C16 | | |
| C139 | E4 | J103-14 | C16 | | |
| C140 | E4 | J103-15 | C16 | | |
| C141 | F4 | J103-17 | C16 | | |
| C142 | F4 | J103-18 | C16 | | |
| C143 | C6 | J103-19 | C16 | | |
| C146 | D6 | J103-2 | D16 | | |
| C147 | D6 | J103-20 | B16 | | |
| C148 | F9 | J103-21 | B16 | | |
| C149 | C8 | J103-22 | B16 | | |
| C150 | C6 | J103-23 | B16 | | |
| C151 | C7 | J103-24 | B16 | | |
| C152 | C6 | J103-25 | B16 | | |
| C156 | B9 | J103-26 | B16 | | |
| C157 | B9 | J103-27 | B16 | | |
| C158 | A8 | J103-28 | B16 | | |
| C159 | B8 | J103-29 | B16 | | |
| C160 | A5 | J103-3 | D16 | | |
| C161 | A6 | J103-30 | B16 | | |
| C162 | B8 | J103-31 | A16 | | |
| C163 | A13 | J103-32 | A16 | | |
| C171 | D10 | J103-33 | A16 | | |
| C172 | E10 | J103-34 | A16 | | |
| C173 | D10 | J103-35 | A16 | | |
| C174 | E10 | J103-36 | A16 | | |
| C175 | D11 | J103-4 | D16 | | |
| C176 | E11 | J103-5 | D16 | | |
| C177 | C11 | J103-6 | D16 | | |
| C178 | E11 | J103-7 | D16 | | |
| C179 | D11 | J103-8 | D16 | | |
| C180 | E11 | J103-9 | D16 | | |
| C181 | D11 | | | | |
| C182 | E11 | | | | |
| C187 | C10 | L101 | A8 | | |
| C188 | F9 | L102 | B8 | | |
| C189 | C10 | L201 | B14 | | |
| C190 | E9 | | | | |
| C197 | D10 | | | | |
| C198 | E10 | Q101 | D7 | | |
| C201 | F15 | Q105 | B11 | | |
| C202 | D15 | Q106 | F11 | | |
| C204 | D12 | Q116 | A12 | | |
| C205 | F12 | Q117 | B13 | | |
| C206 | D12 | Q118 | A6 | | |
| C207 | B14 | Q119 | B6 | | |
| | | Q201 | E13 | | |
| | | Q202 | C15 | | |
| J101-1 | A3 | | | | |
| J101-10 | B3 | | | | |
| J101-11 | B3 | R101 | C6 | | |
| J101-12 | B3 | R102 | D6 | | |
| J101-13 | B3 | R103 | D6 | | |
| J101-14 | B3 | R104 | C6 | | |
| J101-15 | B3 | R115 | G9 | | |
| J101-16 | C3 | R116 | F9 | | |
| J101-17 | C3 | R117 | C10 | | |
| J101-18 | C3 | R118 | E10 | | |
| J101-19 | C3 | R119 | C9 | | |
| J101-2 | A3 | R120 | C10 | | |
| J101-20 | C3 | R125 | D10 | | |
| J101-21 | C3 | R126 | E9 | | |
| J101-22 | C3 | R127 | C10 | | |
| J101-23 | C3 | R128 | F10 | | |
| J101-24 | C3 | R131 | D10 | | |
| J101-25 | C3 | R132 | E10 | | |
| J101-26 | D3 | R135 | D10 | | |
| J101-3 | A3 | R136 | E10 | | |
| J101-4 | A3 | R137 | C10 | | |
| J101-5 | B3 | R138 | F10 | | |
| J101-6 | B3 | R139 | C11 | | |



3 RDSYNC (CH1)

1 RDMUX (CH2)

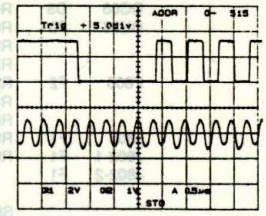
CH1 Y: 0.2V x 10
X: 0.5µs
CH2 Y: 50mV x 10
X: 0.5µs



2 RDCLK (CH1)

1 RDMUX (CH2)

CH1 Y: 0.2V x 10
X: 0.2µs
CH2 Y: 50mV x 10
X: 0.2µs



4 AMP O

5 WDATA

CH1 Y: 2V
X: 0.5µs

CH2 Y: 1V
X: 0.5µs

Signal line

□▷ : DCC REC(WRITE)

■▷ : DCC PLAY(READ)

⇨ : Digital Audio

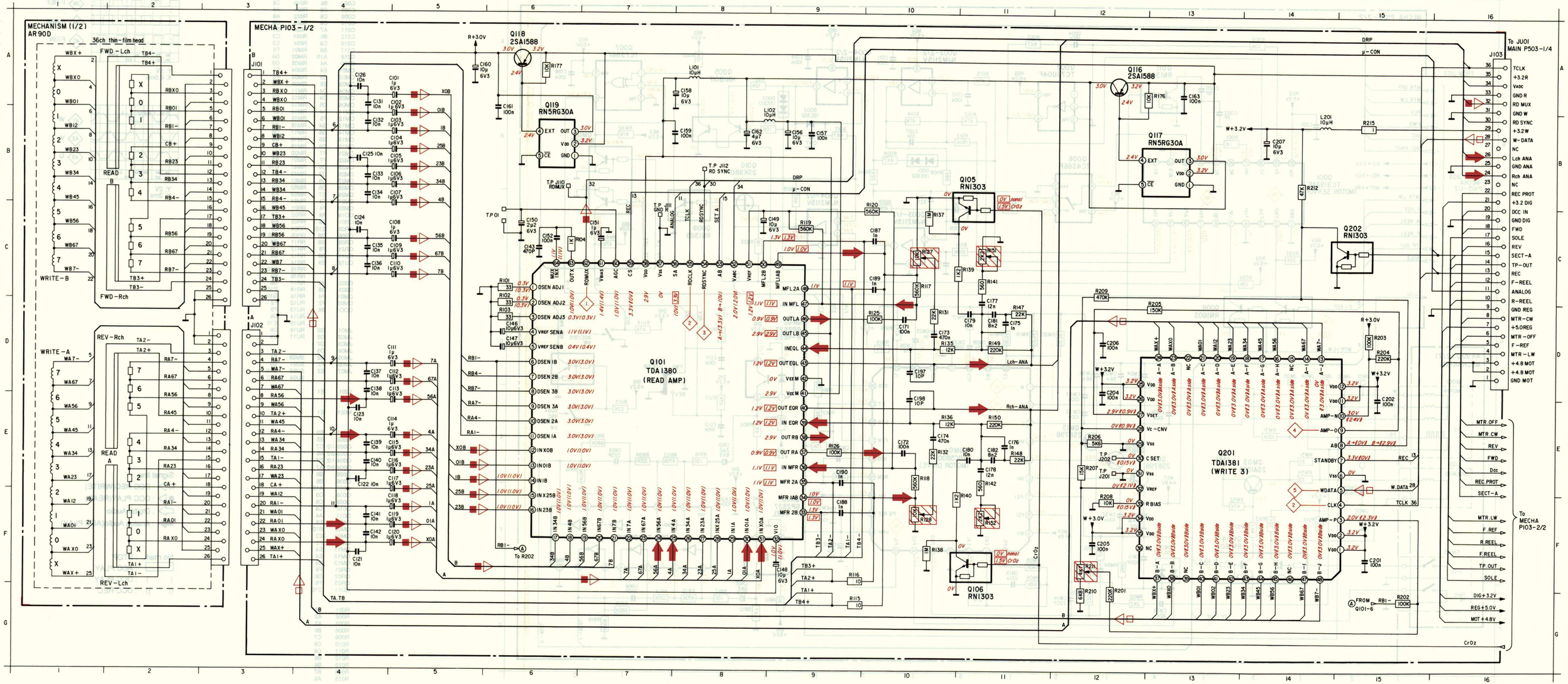
➡ : Analog Audio(ACC PLAY)

No mark : STOP

▭ : ACC PLAY

( ) :DCC PLAY

(( )) :DCC REC



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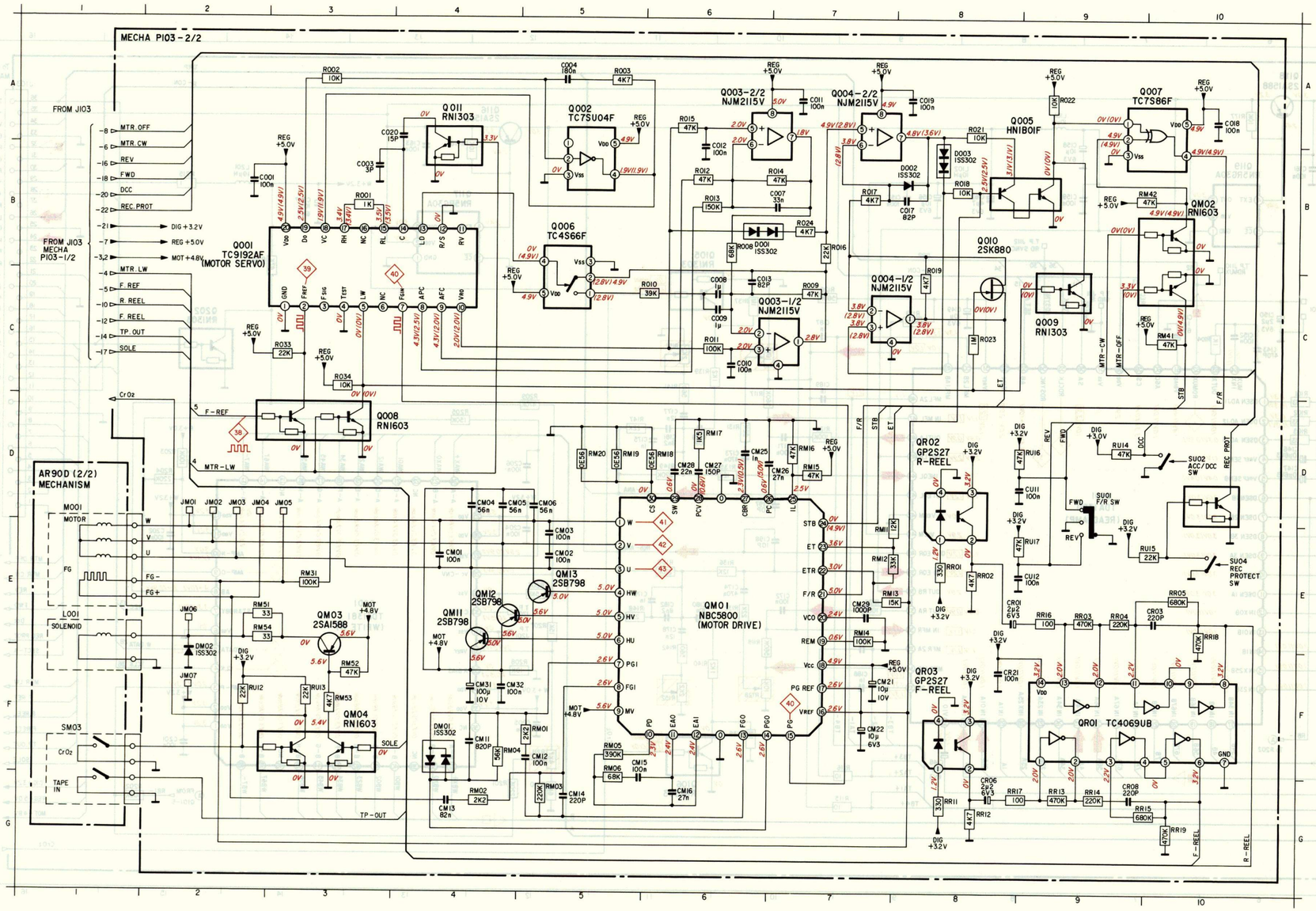
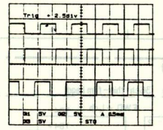
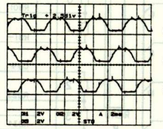



| | | | |
|---|---|---|---|
| C001 | B2 | R016 | B7 |
| C003 | B3 | R017 | B7 |
| C004 | A5 | R018 | B8 |
| C007 | B6 | R019 | C8 |
| C008 | C6 | R021 | A8 |
| C009 | C6 | R022 | A9 |
| C010 | C6 | R023 | C8 |
| C011 | A7 | R024 | B7 |
| C012 | B6 | R033 | C3 |
| C013 | C6 | R034 | C3 |
| C017 | B8 | RM01 | F5 |
| C018 | A10 | RM02 | G4 |
| C020 | A4 | RM03 | G5 |
| CM01 | E4 | RM04 | F4 |
| CM02 | E5 | RM05 | F5 |
| CM03 | E5 | RM06 | G5 |
| CM04 | D4 | RM11 | E7 |
| CM05 | D4 | RM12 | E7 |
| CM06 | D5 | RM13 | E7 |
| CM11 | F4 | RM14 | E7 |
| CM12 | F5 | RM15 | D7 |
| CM13 | G4 | RM16 | D7 |
| CM14 | G5 | RM17 | D6 |
| CM15 | G5 | RM18 | D6 |
| CM16 | G6 | RM19 | D5 |
| CM21 | F7 | RM20 | D5 |
| CM22 | F7 | RM31 | E3 |
| CM25 | D6 | RM41 | C10 |
| CM26 | D7 | RM42 | B9 |
| CM27 | D6 | RM51 | E2 |
| CM28 | D6 | RM52 | F3 |
| CM29 | E7 | RM53 | F3 |
| CM31 | F4 | RM54 | E2 |
| CM32 | F4 | RR01 | E8 |
| CO19 | A8 | RR02 | E8 |
| CR01 | E8 | RR03 | E9 |
| CR03 | E10 | RR04 | E9 |
| CR06 | G8 | RR05 | E10 |
| CR08 | G9 | RR11 | G8 |
| CR21 | F8 | RR12 | G8 |
| CU11 | D9 | RR13 | G9 |
| CU12 | E9 | RR14 | G9 |
| | | RR15 | G10 |
| | | RR16 | E9 |
| D002 | B8 | RR17 | G8 |
| D003 | B8 | RR18 | E10 |
| DM01 | F4 | RR19 | G10 |
| DM02 | F2 | RU12 | F2 |
| DOO1 | B6 | RU13 | F3 |
| | | RU14 | D9 |
| | | RU15 | E10 |
| JM01 | D2 | RU16 | D9 |
| JM02 | D2 | RU17 | E9 |
| JM03 | D2 | | |
| JM04 | D3 | | |
| JM05 | D2 | SM03 | F1 |
| JM06 | F2 | SU01 | D9 |
| JM07 | E2 | SU02 | D10 |
| | | SU04 | E10 |
| L001 | E1 | | |
| M001 | E1 | | |
| Q001 | B3 | | |
| Q002 | B5 | | |
| Q003-1/2 | C7 | | |
| Q003-2/2 | A6 | | |
| Q004-1/2 | C7 | | |
| Q004-2/2 | A7 | | |
| Q005 | B9 | | |
| Q006 | B5 | | |
| Q007 | A10 | | |
| Q008 | D3 | | |
| Q009 | C9 | | |
| Q010 | C8 | | |
| Q011 | A4 | | |
| QM01 | E6 | | |
| QM02 | B10 | | |
| QM03 | E3 | | |
| QM04 | F3 | | |
| QM11 | E4 | | |
| QM12 | E4 | | |
| QM13 | E5 | | |
| QR01 | F9 | | |
| QR02 | D8 | | |
| QR03 | F8 | | |
| QU11 | D10 | | |
| R001 | B3 | | |
| R002 | A3 | | |
| R003 | A5 | | |
| R008 | B6 | | |
| R009 | C7 | | |
| R010 | C6 | | |
| R011 | C6 | | |
| R012 | B6 | | |
| R013 | B6 | | |
| R014 | B7 | | |
| R015 | A6 | | |

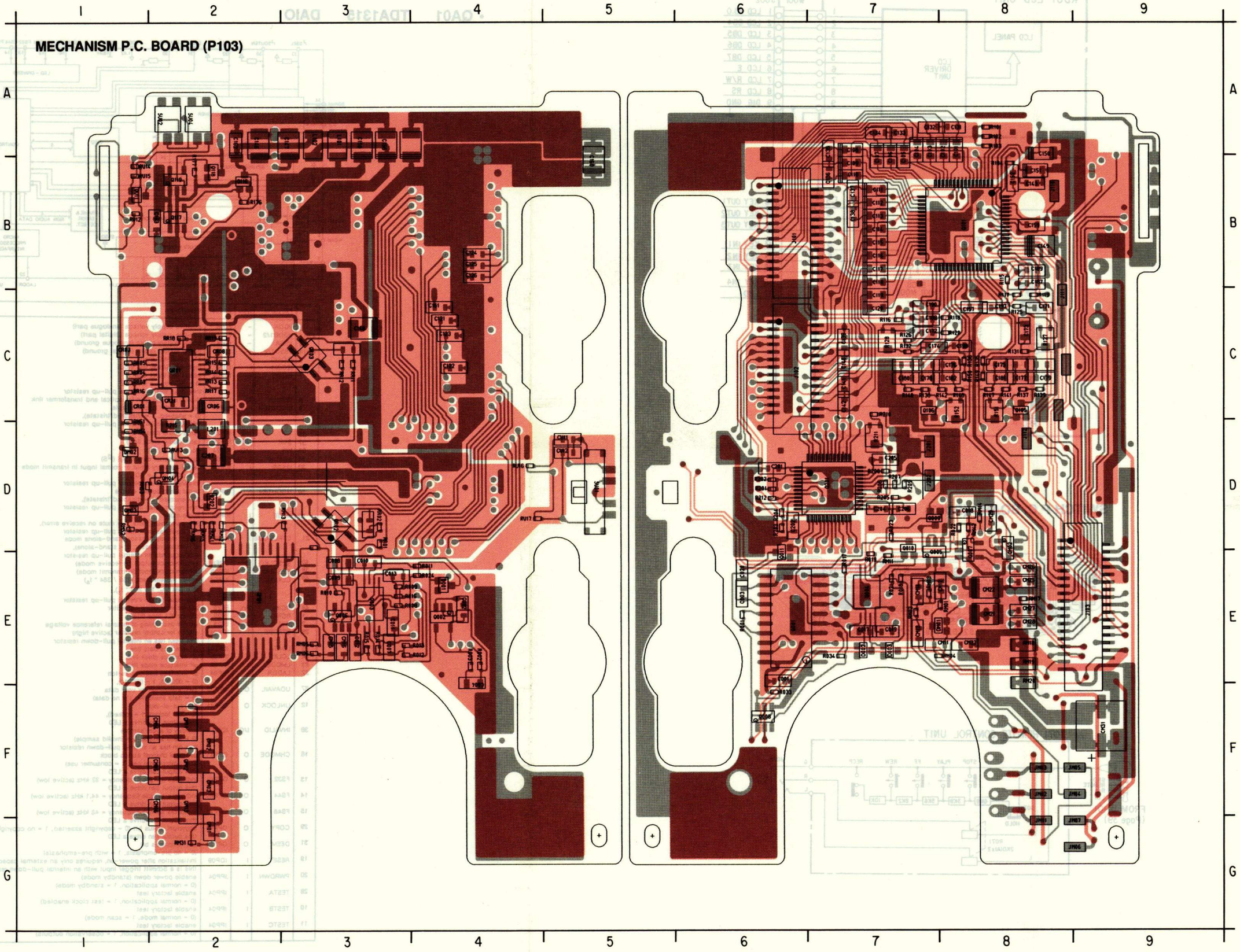


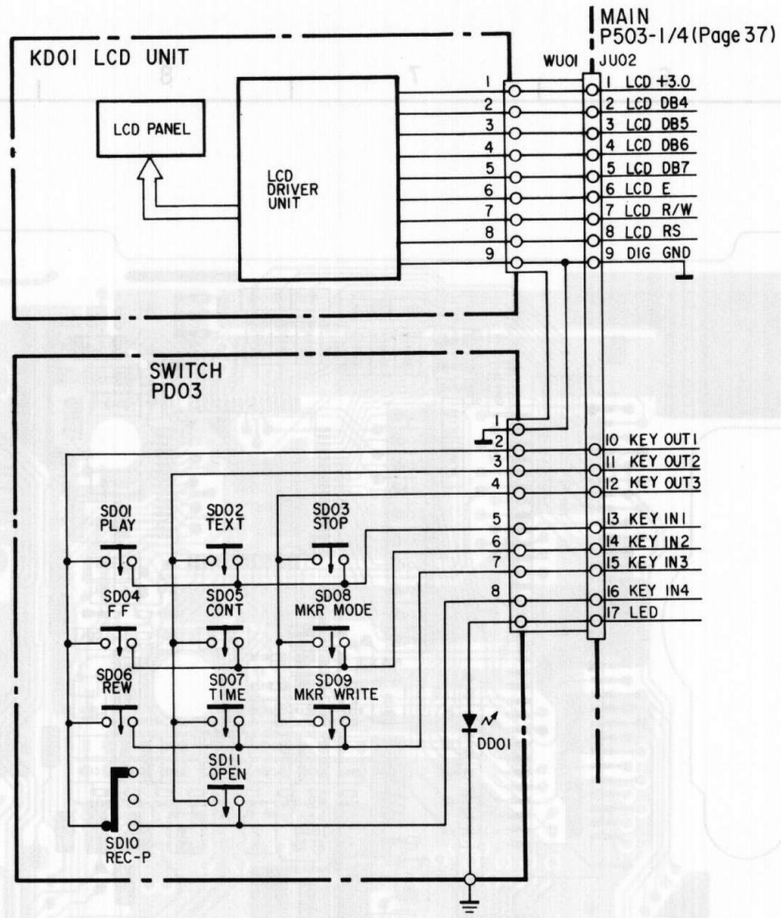

Signal line
□▷ : DCC REC(WRITE)
■▷ : DCC PLAY(READ)
▷ : Digital Audio
➡ : Analog Audio(ACC PLAY)

No mark : STOP
▭ : ACC PLAY
( ) : DCC PLAY
(( )) : DCC REC

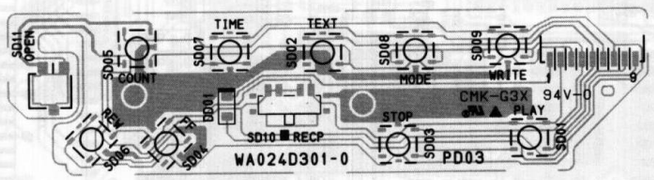
## MECHANISM P.C. BOARD (P103)

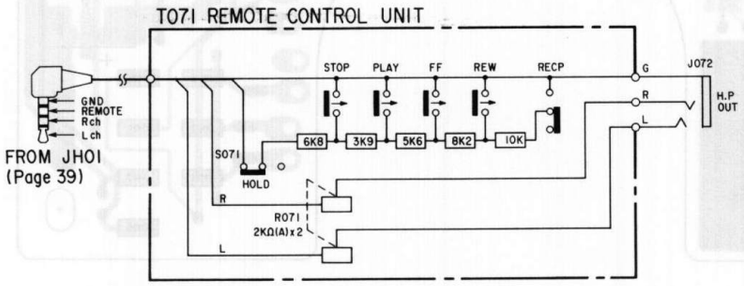


| | | | | | |
|---|---|---|---|---|---|
| C001 | F6 | CM13 | E7 | R022 | D8 |
| C002 | E4 | CM14 | E7 | R023 | D7 |
| C003 | E6 | CM15 | E3 | R024 | E4 |
| C004 | F4 | CM16 | E3 | R033 | F6 |
| C007 | E3 | CM21 | E8 | R034 | E7 |
| C008 | E3 | CM22 | E8 | R101 | A8 |
| C009 | E3 | CM25 | E8 | R102 | A8 |
| C010 | E3 | CM26 | E8 | R103 | A8 |
| C011 | E3 | CM27 | E8 | R104 | B8 |
| C012 | E3 | CM28 | E8 | R115 | B8 |
| C013 | E3 | CM29 | D8 | R116 | C7 |
| C017 | E7 | CM31 | F9 | R117 | C8 |
| C018 | D8 | CM32 | E8 | R118 | C8 |
| C019 | E7 | CR01 | C1 | R119 | C8 |
| C020 | E6 | CR03 | C1 | R120 | C8 |
| C101 | A8 | CR06 | C2 | R125 | C8 |
| C102 | A8 | CR08 | C2 | R126 | C7 |
| C103 | A7 | CR21 | C2 | R127 | C8 |
| C104 | A7 | CU11 | D5 | R128 | C7 |
| C105 | B7 | CU12 | D5 | R131 | C8 |
| C106 | B7 | | | R132 | C7 |
| C107 | B7 | | | R135 | C8 |
| C108 | A7 | D001 | E4 | R136 | C8 |
| C109 | B7 | D002 | E7 | R137 | C8 |
| C110 | B7 | D003 | E7 | R139 | C8 |
| C111 | B7 | DM01 | E8 | R140 | C7 |
| C112 | B7 | DM02 | D1 | R141 | C8 |
| C113 | B7 | | | R142 | C8 |
| C114 | B7 | | | R148 | C8 |
| C115 | B7 | J101 | B6 | R149 | C8 |
| C117 | B7 | J102 | C6 | R150 | C8 |
| C118 | B7 | J103 | E9 | R151 | C8 |
| C119 | C7 | J110 | B8 | R152 | C8 |
| C120 | C7 | J111 | C8 | R176 | B2 |
| C121 | C4 | J112 | D8 | R177 | B2 |
| C122 | C4 | J201 | D7 | R201 | D6 |
| C123 | C4 | J202 | D7 | R202 | D6 |
| C124 | B4 | JM01 | G8 | R203 | D6 |
| C125 | B4 | JM02 | F8 | R204 | D6 |
| C126 | B4 | JM03 | F8 | R205 | D7 |
| C131 | A7 | JM04 | F9 | R206 | D7 |
| C132 | A7 | JM05 | F9 | R207 | D7 |
| C133 | A7 | JM06 | G9 | R208 | D7 |
| C134 | A7 | JM07 | G9 | R209 | D7 |
| C135 | A7 | | | R210 | C7 |
| C136 | B7 | | | R211 | D7 |
| C137 | B7 | L101 | A3 | R212 | D6 |
| C138 | B7 | L102 | A3 | R215 | D2 |
| C139 | C7 | L201 | D2 | RM01 | E8 |
| C140 | C7 | | | RM02 | E7 |
| C141 | C7 | | | RM03 | E7 |
| C142 | C7 | Q001 | E6 | RM04 | E8 |
| C143 | B8 | Q002 | E4 | RM05 | E3 |
| C146 | A2 | Q003 | E3 | RM06 | E3 |
| C147 | A3 | Q004 | E7 | RM11 | E7 |
| C148 | C3 | Q005 | E7 | RM12 | D2 |
| C149 | B8 | Q006 | E3 | RM13 | D3 |
| C150 | A8 | Q007 | D8 | RM14 | D8 |
| C151 | B8 | Q008 | F6 | RM15 | D2 |
| C152 | B8 | Q009 | D7 | RM16 | D2 |
| C156 | A3 | Q010 | E7 | RM17 | E8 |
| C157 | C8 | Q011 | E6 | RM18 | E8 |
| C158 | A3 | Q101 | B8 | RM19 | E8 |
| C159 | B8 | Q105 | C8 | RM20 | F8 |
| C160 | B5 | Q106 | C7 | RM31 | G2 |
| C161 | C4 | Q116 | B2 | RM41 | D2 |
| C162 | A2 | Q117 | B2 | RM42 | D8 |
| C163 | B2 | Q118 | B2 | RM51 | D1 |
| C171 | C8 | Q119 | B2 | RM52 | D1 |
| C172 | C7 | Q201 | D7 | RM53 | D1 |
| C173 | C8 | Q202 | D2 | RM54 | D1 |
| C174 | C7 | QM01 | E2 | RR01 | D3 |
| C175 | C8 | QM02 | D8 | RR02 | D3 |
| C176 | C8 | QM03 | D1 | RR03 | C1 |
| C177 | C8 | QM04 | D2 | RR04 | C1 |
| C178 | C7 | QM11 | F2 | RR05 | C1 |
| C179 | C8 | QM12 | F2 | RR11 | C3 |
| C180 | C7 | QM13 | F2 | RR12 | C3 |
| C181 | C8 | QR01 | C2 | RR13 | C2 |
| C182 | C8 | QR02 | D3 | RR14 | C2 |
| C187 | B8 | QR03 | C3 | RR15 | C2 |
| C188 | C7 | QU11 | B1 | RR16 | C1 |
| C189 | B8 | | | RR17 | C2 |
| C190 | C7 | | | RR18 | C2 |
| C197 | C8 | R001 | E6 | RR19 | C2 |
| C198 | C8 | R002 | E4 | RU12 | B1 |
| C201 | D6 | R003 | E4 | RU13 | D2 |
| C202 | D6 | R008 | E3 | RU14 | B1 |
| C204 | D7 | R009 | E3 | RU15 | B1 |
| C205 | D7 | R010 | E3 | RU16 | D4 |
| C206 | D7 | R011 | E4 | RU17 | D4 |
| C207 | D2 | R012 | E3 | | |
| CM01 | G2 | R013 | E3 | | |
| CM02 | F2 | R014 | E3 | SU01 | D5 |
| CM03 | F2 | R015 | E3 | SU02 | A2 |
| CM04 | F2 | R016 | E3 | SU04 | A2 |
| CM05 | F2 | R017 | E7 | | |
| CM06 | F2 | R018 | E7 | | |
| CM11 | E8 | R019 | E7 | | |
| CM12 | E8 | R021 | E7 | | |



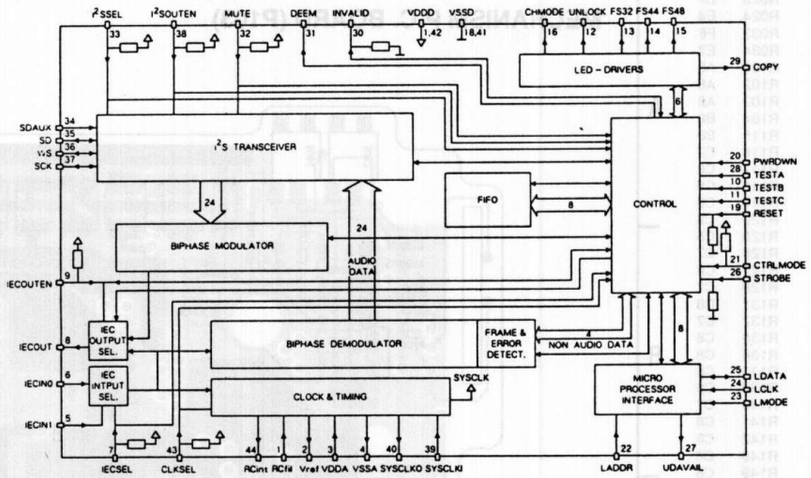

## SWITCH P.C. BOARD (PD03)



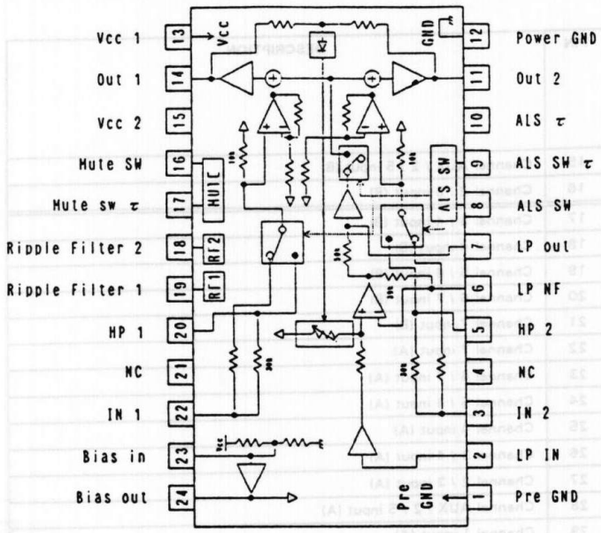

# IC BLOCK DIAGRAM AND TERMINAL FUNCTION OF IC'S

- **QA01 TDA1315 DAIO**




| | Pin name | type | padcell | description |
|---|---|---|---|---|
| 3 | VDDA | - | E008 | positive supply voltage (analogue part) |
| 47/17 | VDDD1/2 | - | E008 | positive supply voltage (digital part) |
| 4 | VSSA | - | E004 | power supply return (analogue ground) |
| 41/18 | VSSD1/2 | - | E009 | power supply return (digital ground) |
| 6 | IECIN0 | I | IPP04 | TTL-level IEC input |
| 5 | IECIN1 | I | E029 | high-sensitivity IEC input |
| 7 | IECSEL | I | IUP04 | select IEC input 0 or 1 (0 = IECIN0, 1 = IECIN1), this input has an internal pull-up resistor |
| 8 | IECOUT | O | OPFH3 | digital audio output for optical and transformer link |
| 9 | IECOUTEN | I | IUP04 | digital audio output enable (0 = enabled, 1 = disabled/tristate), this input has an internal pull-up resistor |
| 35 | SD | I/O | IOF24 | serial audio data ($I^2S$) |
| 37 | SCK | I/O | IOF29 | serial audio clock ($I^2S$) |
| 36 | WS | I/O | IOF24 | word select ($I^2S$) |
| 34 | SDAUX | I | IPP04 | auxiliary serial data input ($I^2S$) |
| 33 | I2SSEL | I | IUP04 | select auxiliary input or normal input in transmit mode (0 = SDAUX, 1 = SD), this input has an internal pull-up resistor |
| 38 | I2SOUTEN | I | IUP04 | serial audio output enable (0 = enabled, 1 = disabled/tristate), this input has an internal pull-up resistor |
| 32 | MUTE | I | IUP04 | audio mute (0 = permanent mute, 1 = mute on receive error), this input has an internal pull-up resistor |
| 21 | CTRLMODE | I | IUP04 | select microprocessor/stand-alone mode (0 = microprocessor, 1 = stand-alone), this input has an internal pull-up resistor |
| 40 | SYSCLKO | O | OPFA3 | system clock output (in receive mode) |
| 39 | SYSCLKI | I | IPP09 | system clock input (in transmit mode) |
| 48 | CLKSEL | I | IUP04 | select system clock (256 / 384 * $f_s$) (0 = 384 * $f_s$, 1 = 256 * $f_s$), this input has an internal pull-up resistor |
| 44 | RCint | An. | E029 | pin for integrating capacitor |
| 1 | RCfil | An. | E029 | pin for PLL loop filter |
| 2 | Vref | An. | E029 | pin for decoupling of internal reference voltage |
| 26 | STRCBE | I | IDP04 | strobe for control register (active high) this input has an internal pull-down resistor |
| 25 | LDATA | I/O | IOF24 | µP interface data line |
| 24 | LCLK | I | IPP09 | µP interface clock line |
| 23 | LMODE | I | IPP09 | µP interface mode line |
| 22 | LADDR | I | IPP04 | µP interface address switch (0 = 000001, 1 = 000010), |
| 27 | UDAVAIL | O | OPF23 | synchronization for user data (0 = data available, 1 = no data) |
| 12 | UNLOCK | O | OPP41 | PLL out-of-lock (0 = not locked, 1 = locked), this output can drive a LED |
| 30 | INVALID | I/O | IOD24 | validity of audio sample (0 = valid sample, 1 = invalid sample) this pin has an internal pull-down resistor |
| 16 | CHMODE | O | OPP41 | usage of channel status block (0 = professional use, 1 = consumer use) this output can drive a LED |
| 13 | FS32 | O | OPP41 | indicates sample frequency = 32 kHz (active low) this output can drive a LED |
| 14 | FS44 | O | OPP41 | indicates sample frequency = 44.1 kHz (active low) this output can drive a LED |
| 15 | FS48 | O | OPP41 | indicates sample frequency = 48 kHz (active low) this output can drive a LED |
| 29 | COPY | O | OPP41 | copyright status bit (0 = copyright asserted, 1 = no copyright asserted) this output can drive a LED |
| 31 | DEEM | O | OPF23 | pre-emphasis bit (0 = no pre-emphasis, 1 = with pre-emphasis) |
| 19 | RESET | I | IDP09 | initialization after power-on, requires only an external capacitor to VDD this is a Schmitt trigger input with an internal pull-down resistor |
| 20 | PWRDWN | I | IPP04 | enable power down (standby mode) (0 = normal application, 1 = standby mode) |
| 28 | TESTA | I | IPP04 | enable factory test (0 = normal application, 1 = test clock enabled) |
| 10 | TESTB | I | IPP04 | enable factory test (0 = normal mode, 1 = scan mode) |
| 11 | TESTC | I | IPP04 | enable factory test (0 = normal application, 1 = observation outputs) |

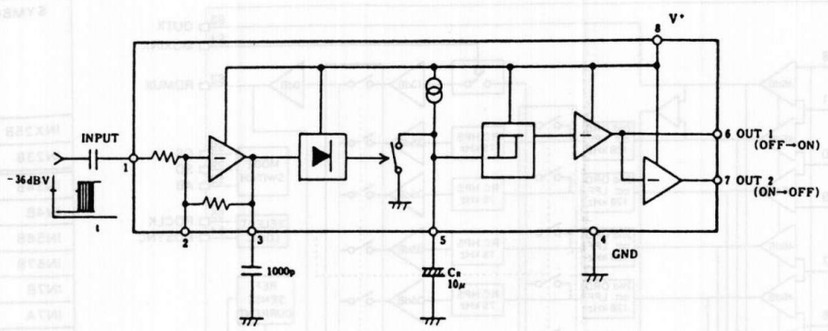
## • QH01 BA3570FS HEAD PHON DRIVER



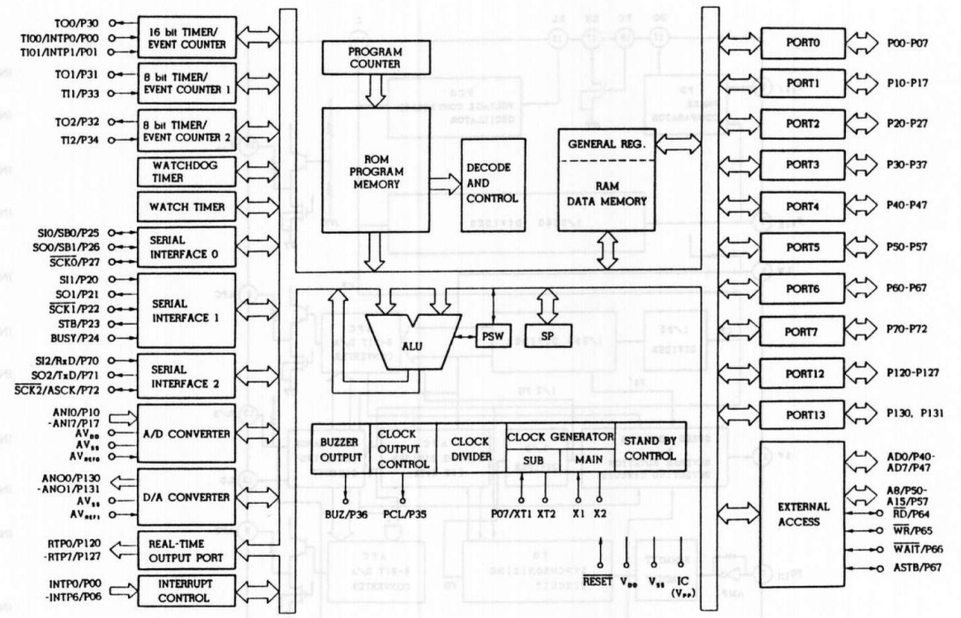

## • QM01 NBC5800 MOTOR DRIVER

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 1 | W | O | W phase output terminal |
| 2 | V | O | V phase output terminal |
| 3 | U | O | U phase output terminal |
| 4 | HW | O | W phase pre-drive output |
| 5 | HV | O | V phase pre-drive output |
| 6 | HU | O | U phase pre-drive output |
| 7 | PGI | I | PG amp input |
| 8 | FGI | I | FG amp input |
| 9 | VM | I | Motor power supply terminal |
| 10 | PD | O | Phase det. terminal |
| 11 | EAO | O | Error amp output |
| 12 | EAI | I | Error amp input |
| 13 | FGOUT | O | FG amp output |
| 14 | PGOUT | O | PG amp output |
| 15 | PG | O | PG comparator output |
| 16 | VREF | I | Reference voltage terminal |
| 17 | PGREF | I | PG amp non-inversion input |
| 18 | VCC | I | Power supply terminal |
| 19 | RFM | — | Low frequency setting terminal |
| 20 | VCO | O | Voltage control OSC terminal |
| 21 | F/R | I | FWD/REV select terminal |
| 22 | ETR | I | Torque command voltage input |
| 23 | ET | I | Torque command input |
| 24 | STB | I | Standby input terminal |
| 25 | TL | I | Torque limit terminal |
| 26 | PCI | — | Phase compensating of current feedback terminal |
| 27 | CBR | — | Condition det. terminal |
| 28 | PCV | — | Phase compensating of voltage feedback terminal |
| 29 | SW | — | Slope OSC terminal |
| 30 | CS | I | Current det. input |

## • QQ01 NJM2072M LEVEL SENSOR



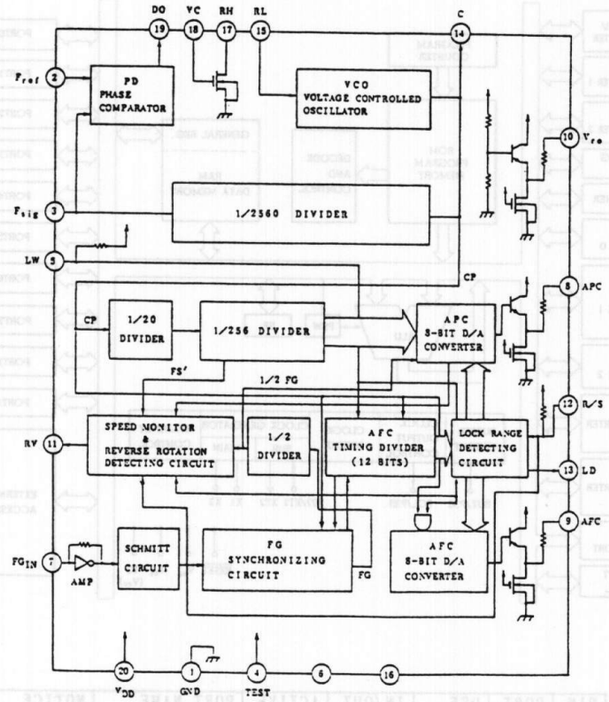

## • QU01 μPD78058 μ-COM




| PIN | PORT | USE | IN/OUT | ACTIVE | PORT NAME | NOTICE |
|---|---|---|---|---|---|---|
| 1 | P15 | ANI5 | A/D | | SPEED | |
| 2 | P16 | ANI6 | A/D | | SIG | (H)PH/PH/PH/MEI(L) |
| 3 | P17 | ANI7 | A/D | | DCC_IN | H:DCC L:ACC |
| 4 | | AVss | - | | | A/D GND |
| 5 | P130 | | OUT | H:ON | ADPON | LOVAC(AD POWER ON) |
| 6 | P131 | | OUT | H:ON | DAPON | LOVAC DA power |
| 7 | | AVref1 | - | | | conect to Vdd |
| 8 | P70 | | IN | L:ON | _FWD | DIR SW |
| 9 | P71 | | OUT | H:QUICK | CHARGE | Select R for charge |
| 10 | P72 | | IN | L:ON | _REV | DIR SW |
| 11 | P20 | | OUT | L:LINE | _LINE | |
| 12 | P21 | | OUT | H:MIC | MIC_H | |
| 13 | P22 | | OUT | L:ALC | _ALC | |
| 14 | P23 | | OUT | | L3MODE | L3 control |
| 15 | P24 | | OUT | H:P_DOW | PD_ADAS | ADAS POWER DOWN |
| 16 | P25 | SIO | IN/OUT | | L3DATA | 2 lines serial data |
| 17 | P26 | | OUT | | | reserve |
| 18 | P27 | SCK0 | OUT | | L3CLK | serial clock |
| 19 | P40 | | IN (R) | | K_IN4 | key assign |
| 20 | P41 | | IN (R) | | K_IN3 | key assign |
| 21 | P42 | | IN (R) | | K_IN2 | key assign |
| 22 | P43 | | IN (R) | | K_IN1 | key assign |
| 23 | P44 | | IN (R) | H:PROT | RECPROT | REC protect SW |
| 24 | P45 | | IN (R) | L:IN | _CAS | wake up CASSETT |
| 25 | P46 | | IN (R) | L:IN | _REMT | wake up REMOTE |
| 26 | P47 | | IN (R) | L:IN | _DC | extern DC power |
| 27 | P50 | | I/O | | LCD_D4 | LCD data bus |
| 28 | P51 | | I/O | | LCD_D5 | LCD data bus |
| 29 | P52 | | I/O | | LCD_D6 | LCD data bus |
| 30 | P53 | | I/O | | LCD_D7 | LCD data bus |
| 31 | P54 | | OUT | | LCD_E | LCD control |
| 32 | P55 | | OUT | | LCD_R_W | LCD control |
| 33 | | VSS | - | | | GND |
| 34 | P56 | | OUT | | LCD_RS | LCD control |
| 35 | P57 | | IN | H:REV | REV_MOD | REV_REC/CONT_PLAY SW |
| 36 | P60 | | OUT | L:ACTIV | K_OUT1 | key assign |
| 37 | P61 | | OUT | L:ACTIV | K_OUT2 | key assign |
| 38 | P62 | | OUT | L:ACTIV | K_OUT3 | key assign |
| 39 | P63 | | OUT | L:ON | _R_LED | REC LED |
| 40 | P64 | | OUT | H:ACTIV | DATO_SB | same SYNCDATO |

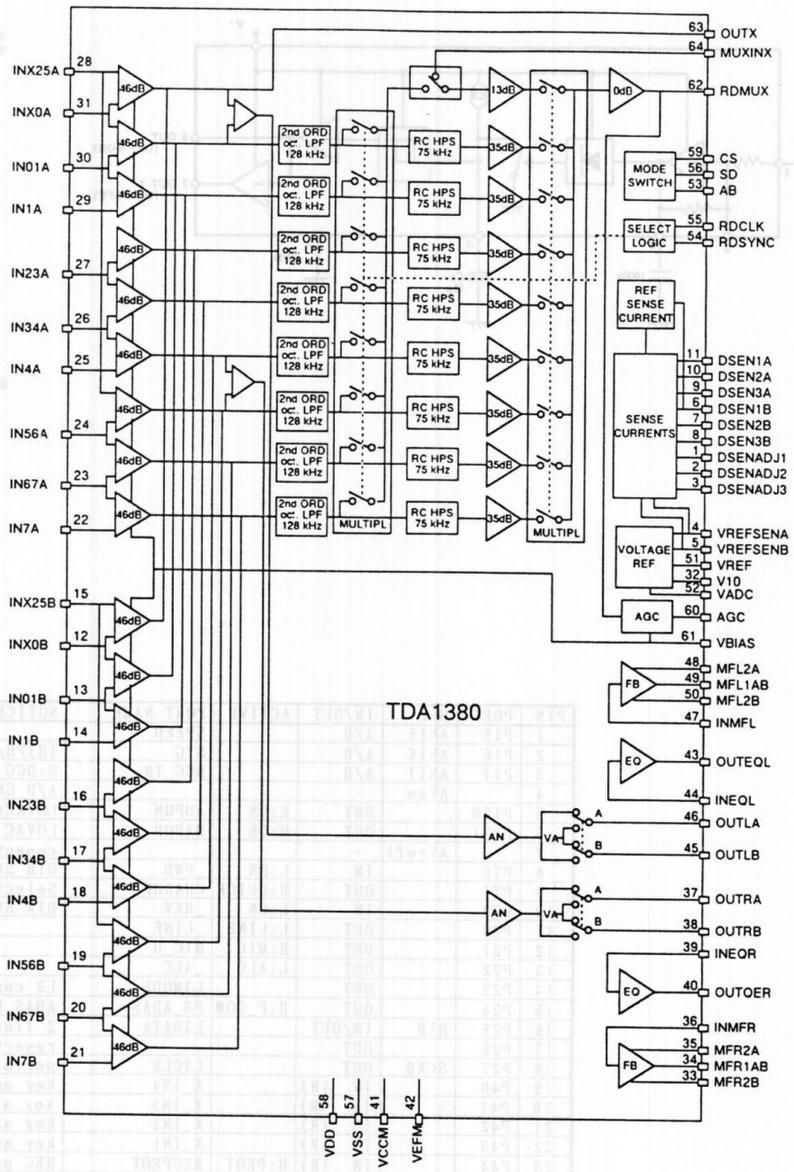
| PIN | PORT | USE | IN/OUT | ACTIVE | PORT NAME | NOTICE |
|---|---|---|---|---|---|---|
| 41 | P65 | | OUT | H:P_DN | PD_DATO | DATO power down |
| 42 | P66 | | IN | H:HOLD | HOLD | HOLD SW |
| 43 | P67 | | OUT | H:ON | AN_REC | ana. rec circuit pow |
| 44 | P30 | TO0 | OUT | 920 Hz | F_REF | square wave out |
| 45 | P31 | | OUT | H:MUTE | MUTE | AUDIO mute |
| 46 | P32 | | OUT | H:ON | POWER | all circuit power |
| 47 | P33 | | OUT | H:STAND | STANBY | dig ics power |
| 48 | P34 | TI2 | OUT | H:RESET | R_DCC | reset DCC ICs |
| 49 | P35 | | OUT | H:ANA | ANALOG | Audio ana. or dig. |
| 50 | P36 | BUZ | OUT | | BEEP | BEEP sound |
| 51 | P37 | | OUT | L:REC | _REC | REC/PB circuit |
| 52 | P120 | | OUT | H:A | SECT_A | READ_3 |
| 53 | P121 | | OUT | H:ON | SOLE_ON | SOLENOID ON/OFF |
| 54 | P122 | | OUT | L:COAX | _COAX | |
| 55 | P123 | | IN | | L3INT | DRP |
| 56 | P124 | | IN | L:IN | TP_OUT | TAPE detect SW |
| 57 | P125 | | OUT | H:LOW G | MTR_LW | motor gain |
| 58 | P126 | | OUT | L:ON | MTR_OFF | motor off |
| 59 | P127 | | OUT | H:CW | MTR_CW | motor rotate CW/CCW |
| 60 | | RESET | - | L:RESET | RESETU | uP reset in |
| 61 | P00 | INTP0 | INT | L_EDGE | R_REEL | R_REEL (neg.edge) |
| 62 | P01 | INTP1 | INT | L_EDGE | F_REEL | F_REEL (neg.edge) |
| 63 | P02 | INTP2 | INT | H:NO DA | UDAVAIL | from DATO |
| 64 | P03 | INTP3 | INT | | UNLOCK | from DATO |
| 65 | P04 | INTP4 | INT | L_EDGE | L3REF | DRP(neg.edge) |
| 66 | P05 | INTP5 | INT | L:OVER | NO_OVR | LOVAC(over load) |
| 67 | P06 | INTP6 | IN | H:SILEN | SILENC | USE ONLY ACC |
| 68 | | Vdd | - | | | Vdd |
| 69 | | X2 | - | | | main system x'tal |
| 70 | | X1 | - | | | main system x'tal |
| 71 | | IC(Vpp) | - | | | connect to Vss |
| 72 | | XT2 | - | | | open (sub X'tal) |
| 73 | P07 | | IN | L:OK | F_COPY | free copy |
| 74 | | AVdd | - | | | A/D Vdd |
| 75 | | AVref0 | - | | | A/D reference V |
| 76 | P10 | ANI0 | A/D | | BATT_V | battery detect |
| 77 | P11 | ANI1 | A/D | | REMOTE | remote detect |
| 78 | P12 | ANI2 | A/D | | ANA_SI | LINE, MIC_H, MIC_L |
| 79 | P13 | ANI3 | A/D | | PG_SI | PG_IN, DIG, OPT |
| 80 | P14 | ANI4 | A/D | | CHRG_V | for charge |

## • Q001 TC9192AF MOTOR CONTROLLER



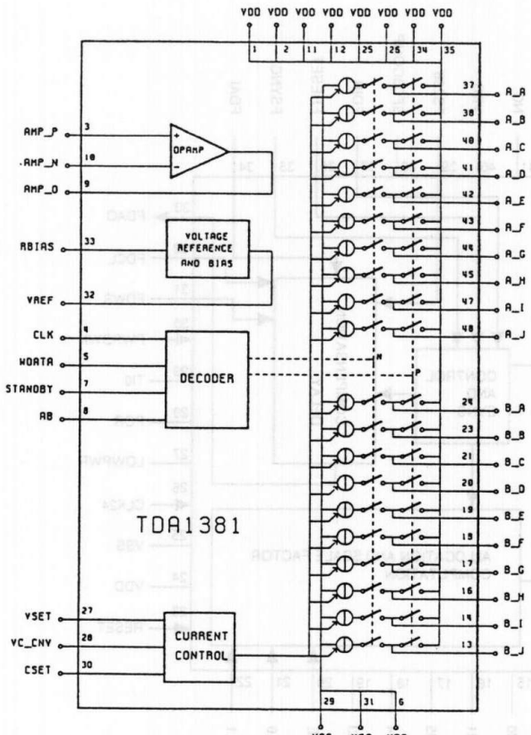

| PIN NO. | SYMBOL | FUNCTION, OPERATION | REMARKS |
|---|---|---|---|
| 20 | $V_{DD}$ | Power supply voltage terminal and grounding terminal. | |
| 1 | GND | | |
| 2 | Fref | Reference frequency input terminal for phase comparator. | C-MOS input |
| 3 | Fsig | 1/2560 dividing output terminal of VCO frequency, internally comparison signal is made. | C-MOS output |
| 5 | LW | Switching terminal of lock range. at LW="L", normal range. at LW="H", double range. | Built-in pull-up resistance speed |
| 7 | $FG_{IN}$ | Pulse input terminal for indicating the rotation speed of motor. | Built-in amp. |
| 8 | APC | Output terminal of APC 8-bit D/A converter output. | Built-in bipolar transistor |
| 9 | AFC | Output terminal fo AFC 8-bit D/A converter output. | Built-in bipolar transistor |
| 10 | $V_{ro}$ | Output terminal for reference voltage. | Built-in bipolar transistor |
| 11 | RV | Reverse rotation signal for output driver. | C-MOS output |
| 12 | RIS | RUN/STOP switching terminal of motor at RIS="L", RUN. at RIS="H", STOP | Built-in pull-up resistance |
| 13 | LD | Lock detecting terminal. When the rotation frequency is within lock range, "H" level, and in other cases, "L" level. | C-MOS output |
| 14 | C | Terminal attached with capacitor for adjusting frequency. Internal control signal is made. | |
| 15 | RL | Current control terminal for controlling VCO frequency. | |
| 17 | RH | Current control output terminal for VCO | Nch open drain |
| 18 | VC | Voltage control input terminal for VCO | |
| 19 | DO | Output terminal of phase comparator | C-MOS output |
| 4 | Test | Input terminal of internal test. Generally ground. | C-MOS input |

## • Q101 TDA1380 READ3




| SYMBOL | PIN | DESCRIPTION |
|---|---|---|
| DSENADJ1 | 1 | Adjust pin for DCC sense current 1 (A,B) |
| DSENADJ2 | 2 | Adjust pin for DCC sense current 2 (A,B) |
| DSENADJ3 | 3 | Adjust pin for DCC sense current 3 (A,B) |
| VREFSENA | 4 | Reference voltage output DCC sense (A) |
| VREFSENB | 5 | Reference voltage output DCC sense (B) |
| DSEN1B | 6 | DCC sense current output 1 (B) |
| DSEN2B | 7 | DCC sense current output 2 (B) |
| DSEN3B | 8 | DCC sense current output 3 (B) |
| DSEN3A | 9 | DCC sense current output 3 (A) |
| DSEN2A | 10 | DCC sense current output 2 (A) |
| DSEN1A | 11 | DCC sense current output 1 (A) |
| INX0B | 12 | Auxiliary channel input / channel 0 input (B) |
| IN01B | 13 | Channel 0 / 1 input (B) |
| IN1B | 14 | Channel 1 input (B) |
| INX25B | 15 | Channel AUX / 2 / 5 input (B) |
| IN23B | 16 | Channel 2 / 3 input (B) |
| IN34B | 17 | Channel 3 / 4 input (B) |
| IN4B | 18 | Channel 4 input (B) |
| IN56B | 19 | Channel 5 / 6 input (B) |
| IN67B | 20 | Channel 6 / 7 input (B) |
| IN7B | 21 | Channel 7 input (B) |
| IN7A | 22 | Channel 7 input (A) |
| IN67A | 23 | Channel 6 / 7 input (A) |
| IN56A | 24 | Channel 5 / 6 input (A) |
| IN4A | 25 | Channel 4 input (A) |
| IN34A | 26 | Channel 3 / 4 input (A) |
| IN23A | 27 | Channel 2 / 3 input (A) |
| INX25A | 28 | Channel AUX / 2 / 5 input (A) |
| IN1A | 29 | Channel 1 input (A) |
| IN01A | 30 | Channel 0 / 1 input (A) |
| INX0A | 31 | Auxiliary channel input / channel 0 input (A) |
| V10 | 32 | Reference voltage output for DCC inputs |
| MFR2B | 33 | Right channel feedback amplifier output 2 (B) |
| MFR1AB | 34 | Right channel feedback amplifier output 1 (A,B) |
| MFR2A | 35 | Right channel feedback amplifier output 2 (A) |
| INMFR | 36 | Right channel feedback amplifier input |
| OUTRA | 37 | Right channel ACC output (A) |
| OUTRB | 38 | Right channel ACC output (B) |
| INEQR | 39 | Right channel pre-egalisation amplifier input |
| OUTEQR | 40 | Right channel pre-egalisation amplifier output |
| $V_{CCM}$ | 41 | Positive supply for feedback amplifiers |
| $V_{EEM}$ | 42 | Ground for feedback amplifiers |
| OUTEQL | 43 | Left channel pre-egalisation amplifier output |
| INEQL | 44 | Left channel pre-egalisation amplifier input |
| OUTLB | 45 | Left channel ACC output (B) |
| OUTLA | 46 | Left channel ACC output (A) |
| INMFL | 47 | Left channel feedback amplifier input |
| MFL2A | 48 | Left channel feedback amplifier output 2 (A) |
| MFL1AB | 49 | Left channel feedback amplifier output 1 (A,B) |
| MFL2B | 50 | Left channel feedback amplifier output 2 (B) |
| VREF | 51 | Reference voltage output |
| VADC | 52 | ADC reference voltage output |
| AB | 53 | Tape side A or B selection input |
| RDSYNC | 54 | Read sync pulse input |
| RDCLK | 55 | Read clock pulse input |
| SD | 56 | Select DCC mode input |
| $V_{SS}$ | 57 | General ground |
| $V_{DD}$ | 58 | General positive supply |
| CS | 59 | Chip select input |
| AGC | 60 | AGC time constant |
| VBIAS | 61 | DCC preamplifier gain control voltage input |
| RDMUX | 62 | Output of sampled and multiplexed auxiliary and main data signals |
| OUTX | 63 | Auxiliary channel preamplifier output |
| MUXINX | 64 | Auxiliary channel multiplexer input |

## • Q201 TDA1381 WRITE3

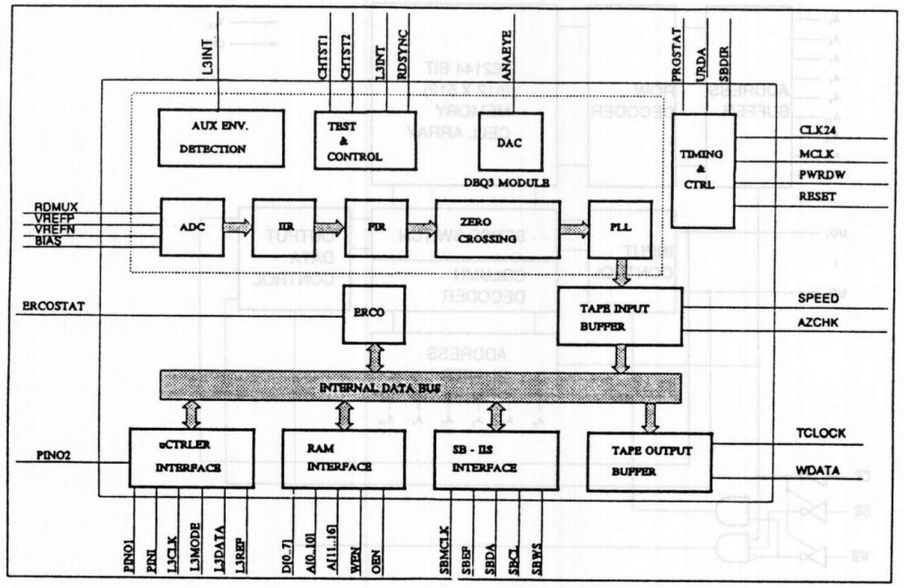



| PIN | NAME | DESCRIPTION |
|---|---|---|
| 1 | $V_{DD}$ | positive supply voltage |
| 2 | $V_{DD}$ | positive supply voltage |
| 3 | AMP_P | opamp non-inverting input |
| 4 | CLK | write CLOCK input |
| 5 | WDATA | write data input |
| 6 | $V_{SS}$ | ground |
| 7 | STANDBY | standby mode control input |
| 8 | AB | tape sector select input |
| 9 | AMP_O | opamp output |
| 10 | AMP_N | opamp inverting input |
| 11 | $V_{DD}$ | positive supply voltage |
| 12 | $V_{DD}$ | positive supply voltage |
| 13 | B_J | sector B write pulse output |
| 14 | B_I | sector B write pulse output |
| 15 | n.c. | (not connected) |
| 16 | B_H | sector B write pulse output |
| 17 | B_G | sector B write pulse output |
| 18 | B_F | sector B write pulse output |
| 19 | B_E | sector B write pulse output |
| 20 | B_D | sector B write pulse output |
| 21 | B_C | sector B write pulse output |
| 22 | n.c. | (not connected) |
| 23 | B_B | sector B write pulse output |
| 24 | B_A | sector B write pulse output |

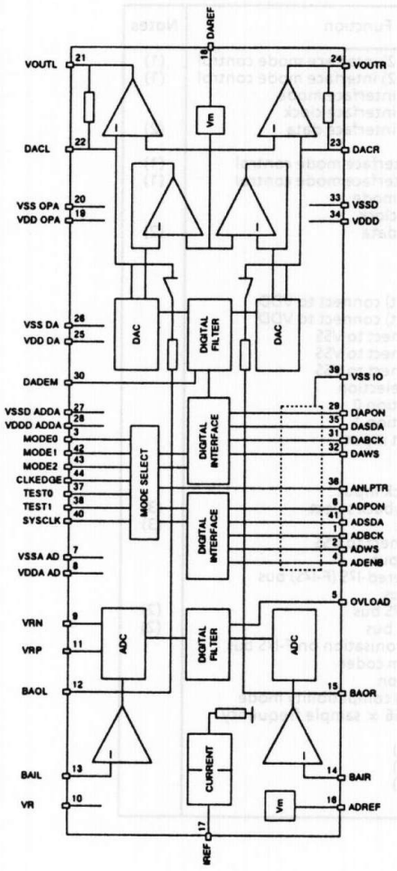
| PIN | NAME | DESCRIPTION |
|---|---|---|
| 25 | $V_{DD}$ | positive supply voltage |
| 26 | $V_{DD}$ | positive supply voltage |
| 27 | VSET | control voltage input 1 |
| 28 | VC_CNV | control voltage input 2 |
| 29 | $V_{SS}$ | ground |
| 30 | CSET | control current input |
| 31 | $V_{SS}$ | ground |
| 32 | VREF | reference voltage output |
| 33 | RBIAS | bias current resistor |
| 34 | $V_{DD}$ | positive supply voltage |
| 35 | $V_{DD}$ | positive supply voltage |
| 36 | n.c. | (not connected) |
| 37 | A_A | sector A write pulse output |
| 38 | A_B | sector A write pulse output |
| 39 | n.c. | (not connected) |
| 40 | A_C | sector A write pulse output |
| 41 | A_D | sector A write pulse output |
| 42 | A_E | sector A write pulse output |
| 43 | A_F | sector A write pulse output |
| 44 | A_G | sector A write pulse output |
| 45 | A_H | sector A write pulse output |
| 46 | n.c. | (not connected) |
| 47 | A_I | sector A write pulse output |
| 48 | A_J | sector A write pulse output |

NOTE : Section A and section B are connected in reverse on this model.

## • Q501 SAA3323 DRP




## • Q391 TDA1309H LOVAC



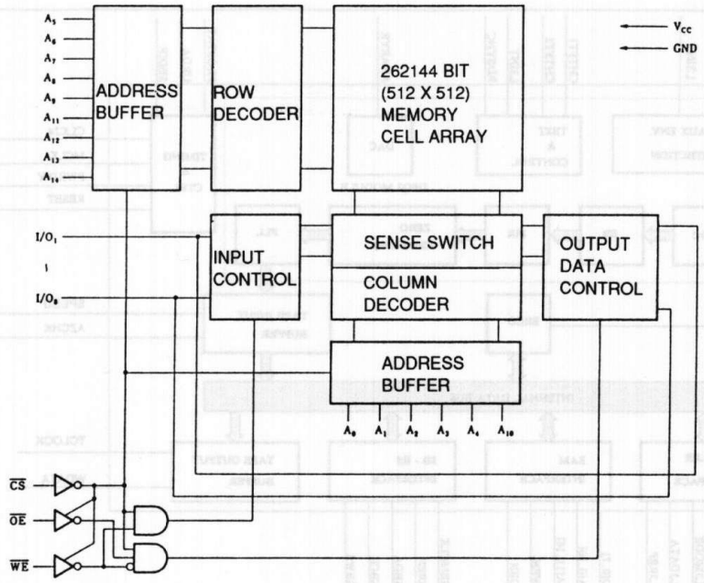

| Nr | Name | Type | Part | Description |
|---|---|---|---|---|
| 1 | ADBCK | input | A/D | Bit clock = 32.$f_s$ or 64.$f_s$ |
| 2 | ADWS | input | A/D | Word Select = $f_s$ |
| 3 | MODE0 | input | A/D D/A | Mode selection |
| 4 | ADENB | input | A/D | Serial Data enable |
| 5 | OVLOAD | output | A/D | Overload flag left and right channel |
| 6 | ADPON | input | A/D | Power On mode (H = power on) |
| 7 | VSSA-AD | supply | A/D | Analog ground supply voltage |
| 8 | VDDA-AD | supply | A/D | Analog positive supply voltage |
| 9 | VRN | input | A/D | Negative reference voltage input (gnd) |
| 10 | VR | decoupl | A/D | Decoupling capacitor |
| 11 | VRP | decoupl | A/D | Positive reference voltage decoupl. cap. |
| 12 | BAOL | output | A/D | Input amplifier output left |
| 13 | BAIL | input | A/D | Input amplifier virtual ground left |
| 14 | BAIR | input | A/D | Input amplifier virtual ground right |
| 15 | BAOR | output | A/D | Input amplifier output right |
| 16 | ADREF | decoupl | A/D | Decoupling capacitor |
| 17 | IREF | input | A/D D/A | Reference current resistor |
| 18 | DAREF | decoupl | D/A | Decoupling capacitor |
| 19 | VDD-OPA | supply | A/D D/A | Opamps analog positive supply voltage |
| 20 | VSS-OPA | supply | A/D D/A | Opamps analog ground supply voltage |
| 21 | VOUTL | output | D/A | DA voltage output left |
| 22 | DACL | output | D/A | DA current output left |
| 23 | DACR | output | D/A | DA current output right |
| 24 | VOUTR | output | D/A | DA voltage output right |
| 25 | VDDA-DA | supply | D/A | Analog positive supply voltage |
| 26 | VSSA-DA | supply | D/A | Analog ground supply voltage |
| 27 | VSSD-AD/DA | supply | A/D D/A | AD/DA digital ground supply voltage |
| 28 | VDDD-AD/DA | supply | A/D D/A | AD/DA digital positive supply voltage |
| 29 | DAPON | input | D/A | Power On mode (H = power on) |
| 30 | DADEM | input | D/A | DA Digital de-emphasis |
| 31 | DABCK | input | D/A | Bit clock = 32.$f_s$ or 64.$f_s$ |
| 32 | DAWS | input | D/A | Word Select = $f_s$ |
| 33 | VSSD | supply | A/D D/A | Digital filters ground supply voltage |
| 34 | VDDD | supply | A/D D/A | Digital filters positive supply voltage |
| 35 | DASDA | input | D/A | Serial data |
| 36 | ANLPTR | input | A/D D/A | Analog loopthrough (High is loopthrough) |
| 37 | TEST0 | input | A/D D/A | Enable test mode (Low is normal mode) |
| 38 | TEST1 | input | A/D D/A | Enable test mode (Low is normal mode) |
| 39 | VSS-IO | supply | A/D D/A | Digital I/O ground supply voltage |
| 40 | SYSCLK | input | A/D D/A | System clock, SCK = 256.$f_s$ |
| 41 | ADSDA | output | A/D | Serial Data |
| 42 | MODE1 | input | A/D D/A | Mode selection |
| 43 | MODE2 | input | A/D D/A | Mode selection |
| 44 | CLKEDGE | input | A/D D/A | Bit clock rising/falling edge |

| Pin No. | Name | Type | Comment |
|---|---|---|---|
| 1 | SBWS | I/O 1mA | Word select for SB-I2S interface |
| 2 | SBCL | I/O 1mA | Bit clock for SB-I2S interface |
| 3 | SBDA | I/O 1mA | Data line for SB-I2S interface |
| 4 | SBDIR | O 1mA | Direction line for SB-I2S interface |
| 5 | SBMCLK | I | Master clock for SB-I2S interface |
| 6 | URDA | O 1mA | Unreliable data |
| 7 | L3MODE | I | Mode line for L3 interface |
| 8 | L3CLK | I | Bit Clock line for L3 interface |
| 9 | L3DATA | I/O 2mA | Serial data line for L3 interface |
| 10 | L3INT | O 1mA | L3 interrupt output |
| 11 | VDD1 | P | Digital +VDD |
| 12 | VSS1 | P | Digital ground |
| 13 | L3REF | O 1mA | L3 bus timing reference |
| 14 | RESET | I | Reset DRP chip |
| 15 | PWRDWN | I | Put DRP into power down mode |
| 16 | CLK24 | I | 24.576 MHz clock input |
| 17 | AZCHK | O 1mA | channel 0 and channel 7 azimuth monitor |
| 18 | MCLK | O 1mA | 6.144 MHz clock output |
| 19 | PRGSTAT | O 1mA | TFE3 program status, for test only |
| 20 | ERCOSTAT | O 1mA | ERCO status, for test only |
| 21 | OEN | O 2mA | Output Enable for RAM |
| 22 | A10/RAS | O 2mA | Address SRAM; RAS DRAM |
| 23 | VDD2 | P | Power digital +VDD |
| 24 | VSS2 | P | Power digital ground |
| 25 | D7 | I/O 4mA | Data SRAM; |
| 26 | D6 | I/O 4mA | Data SRAM; |
| 27 | D5 | I/O 4mA | Data SRAM; |
| 28 | D4 | I/O 4mA | Data SRAM; |
| 29 | D3 | I/O 4mA | Data SRAM; Data DRAM |
| 30 | D2 | I/O 4mA | Data SRAM; Data DRAM |
| 31 | D1 | I/O 4mA | Data SRAM; Data DRAM |
| 32 | VDDR | P | Power digital +VDD for RAM |
| 33 | VSSR | P | Power digital ground for RAM |
| 34 | D0 | I/O 4mA | Data SRAM; Data DRAM |
| 35 | A0 | O 2mA | Address SRAM; Address DRAM |
| 36 | A1 | O 2mA | Address SRAM; Address DRAM |
| 37 | A2 | O 2mA | Address SRAM;Address DRAM |
| 38 | A3 | O 2mA | Address SRAM; Address DRAM |
| 39 | A4 | O 2mA | Address SRAM; Address DRAM |
| 40 | VSS3 | P | Power digital ground |

| Pin No. | Name | Type | Comment |
|---|---|---|---|
| 41 | VDD3 | P | Power digital +VDD |
| 42 | A5 | O 2mA | Address SRAM; Address DRAM |
| 43 | A6 | O 2mA | Address SRAM; Address DRAM |
| 44 | A7 | O 2mA | Address SRAM; Address DRAM |
| 45 | A12/PinO5 | O 2mA | Address SRAM; Port expander output 5 |
| 46 | A14/PinO1 | O 2mA | Address SRAM; Port expander output 1 |
| 47 | A16/PinO3 | O 2mA | Address SRAM; Port expander output 3 |
| 48 | A15/PinO4 | O 2mA | Address SRAM; Port expander output 4 |
| 49 | WEN | O 2mA | Write enable for RAM |
| 50 | A13/PinO2 | O 2mA | Address SRAM; Port expander output 2 |
| 51 | A8 | O 2mA | Address SRAM; Address DRAM |
| 52 | VDD4 | P | Power digital +VDD |
| 53 | VSS4 | P | Power digital ground |
| 54 | A9/CAS | O 2mA | Address SRAM; CAS for DRAM |
| 55 | A11 | O 2mA | Address SRAM; |
| 56 | SPEED | tO 1mA | PWM capstan control output for deck |
| 57 | PinO2/SPEEDB | tO 1mA | Port expander output 2 / PWM capstan control output for deck B |
| 58 | WDATA | O 1mA | Serial output to WRITE AMPLIFIER |
| 59 | TCLOCK | O 1mA | 3.072 MHz clock output for tape I/O |
| 60 | VSS5 | P | Power digital ground |
| 61 | VDD5 | P | Power digital +VDD |
| 62 | TEST2 | Id | Test mode select |
| 63 | RDMUX | Ia | Analogue mpx'ed input from READ AMP |
| 64 | VREFP | Ia | ADC reference voltage P |
| 65 | VREFN | Ia | ADC reference voltage N |
| 66 | SUBSTR | Ia | Substrate connection |
| 67 | BIAS | Ia | Bias current for ADC |
| 68 | VSSA | P | Analogue ground |
| 69 | VDDA | P | Analogue +VDD |
| 70 | ANAEYE | Oa | Analogue eye pattern output |
| 71 | RDSYNC | O 1mA | Synchronization output for READ AMP |
| 72 | VDD6 | P | Power digital +VDD |
| 73 | VSS6 | P | Power digital ground |
| 74 | CHTST1 | O 1mA | Channel test pin 1 |
| 75 | CHTST2 | O 1mA | Channel test pin 2 |
| 76 | TEST0 | Id | Test mode select |
| 77 | TEST1 | Id | Test mode select |
| 78 | PINI | I | Port expander input |
| 79 | PINO1 | O 1mA | Port expander output 1 |
| 80 | SBEF | O 1mA | SB-I2S error flag line |

Where: I = input, Ia = analogue input, Id = input with pull-down resistance, Ih = hysteresis input, I/O = bidirectional, O = output, tO = tri-state output, P = power.

## • Q502 μPD43256BGU-B12 S-RAM




| PIN NO. | NAME | I/O | FUNCTION |
|---|---|---|---|
| 1 | A14 | I | Address input |
| 2 | A12 | I | Address input |
| 3 | A7 | I | Address input |
| 4 | A6 | I | Address input |
| 5 | A5 | I | Address input |
| 6 | A4 | I | Address input |
| 7 | A3 | I | Address input |
| 8 | A2 | I | Address input |
| 9 | A1 | I | Address input |
| 10 | A0 | I | Address input |
| 11 | D0 | I/O | Data input output |
| 12 | D1 | I/O | Data input output |
| 13 | D2 | I/O | Data input output |
| 14 | Vss | – | GND |
| 15 | D3 | I/O | Data input output |
| 16 | D4 | I/O | Data input output |
| 17 | D5 | I/O | Data input output |
| 18 | D6 | I/O | Data input output |
| 19 | D7 | I/O | Data input output |
| 20 | CS | I | Chip select |
| 21 | A10 | I | Address input |
| 22 | OEN | I | Output enable inout |
| 23 | A11 | I | Address input |
| 24 | A9 | I | Address input |
| 25 | A8 | I | Address input |
| 26 | A13 | I | Address input |
| 27 | WEN | I | Write enable input |
| 28 | Vcc | I | Power supply |

## • Q551 SAA2003 SFC3

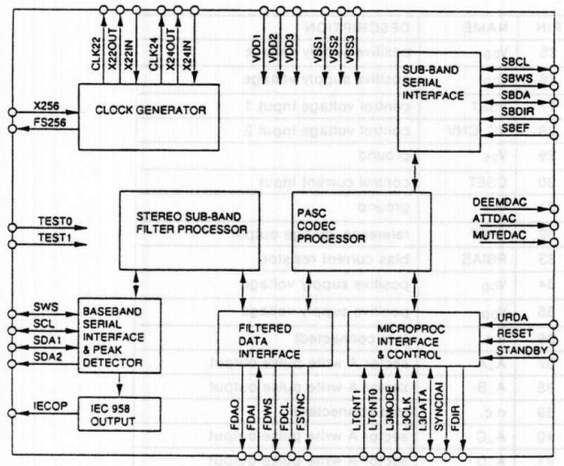
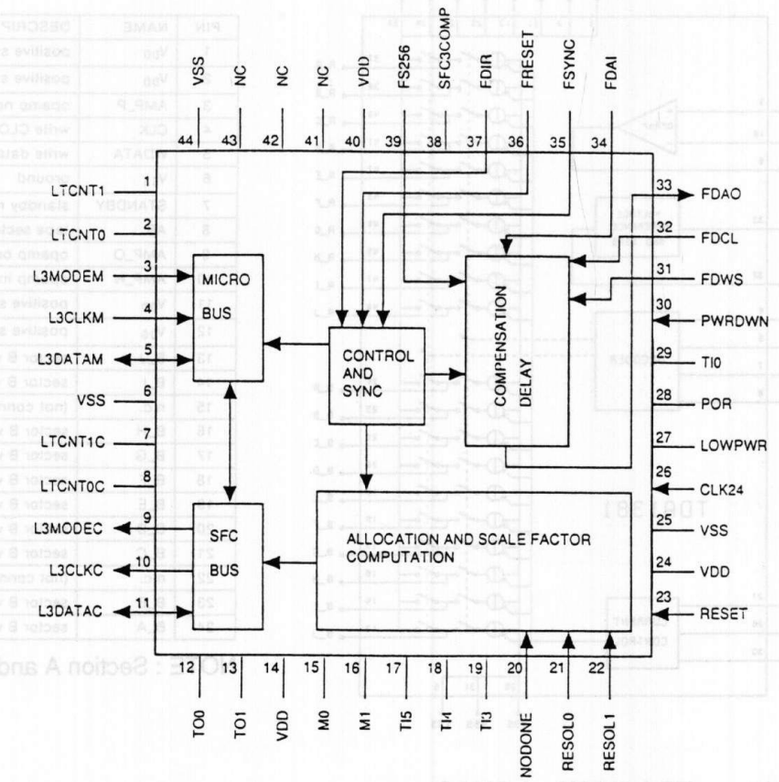



Table 1 Revised Device Pinning

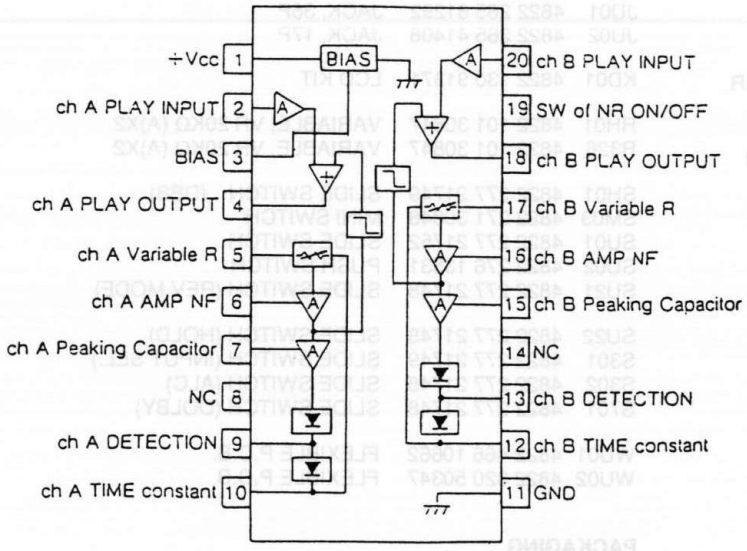
| Pin | Name | Type | Function |
|---|---|---|---|
| 1 | FDAI | I | filtered serial data input (from ADAS) |
| 2 | FDCL | O | filtered data bit clock |
| 3 | FDWS | O | filtered data word select |
| 4 | CLK22 | O | 22.5792 MHz buffered clock output |
| 5 | X22OUT | O | 22.5792 MHz XTAL oscillator output |
| 6 | X22IN | I | 22.5792 MHz XTAL oscillator input |
| 7 | VDD2 | | positive supply (clock oscillators) |
| 8 | VSS2 | | supply ground (clock oscillators) |
| 9 | X24OUT | O | 24.576 MHz XTAL oscillator output |
| 10 | X24IN | I | 24.576 MHz XTAL oscillator input |
| 11 | CLK24 | O | 24.576 MHz buffered clock output |
| 12 | STANDBY | I | device inactive |
| 13 | RESET | I | device reset |
| 14 | L3DATA | I/O | L3 interface serial data |
| 15 | L3CLK | I | L3 interface bit clock |
| 16 | L3MODE | I | L3 interface mode control |
| 17 | LTCNT0 | I | LT compatible interface mode control |
| 18 | LTCNT1 | I | LT compatible interface mode control |
| 19 | TEST0 | I | test mode select |
| 20 | TEST1 | I | test mode select |
| 21 | URDA | I | unreliable data from drive processing |
| 22 | SBDIR | I | sub-band data direction |
| 23 | SBDA | I/O | sub-band serial data |
| 24 | SBCL | I/O | sub-band bit clock |
| 25 | SBWS | I/O | sub-band word select |
| 26 | SBEF | I | sub-band error flag from drive processing |
| 27 | VSS1 | | supply ground (logic) |
| 28 | VDD1 | | positive supply (logic) |
| 29 | IECOP | O | IEC958 digital audio output |
| 30 | DEEMDAC | O | DAC control or general purpose output |
| 31 | ATTDAC | O | DAC control or general purpose output |
| 32 | MUTEDAC | O | DAC control or general purpose output |
| 33 | SDA2 | O | baseband serial data output to DAC |
| 34 | SDA1 | I/O | baseband serial data to/from DAIO and ADC |
| 35 | SCL | I/O | baseband bit clock |
| 36 | SWS | I/O | baseband word select |
| 37 | X256 | I | master audio clock input from external source |
| 38 | FS256 | O | master audio clock at 256 × sample frequency |
| 39 | VDD3 | | positive supply (FS256 pin) |
| 40 | VSS3 | | supply ground (FS256 pin) |
| 41 | FDIR | O | PASC mode encode/decode |
| 42 | SYNCDAI | O | settings synchronisation for DAIO |
| 43 | FSYNC | O | sub-band 0 sample synchronisation |
| 44 | FDAO | O | filtered serial data output (to ADAS) |

## • Q601 SAA2013 ADAS

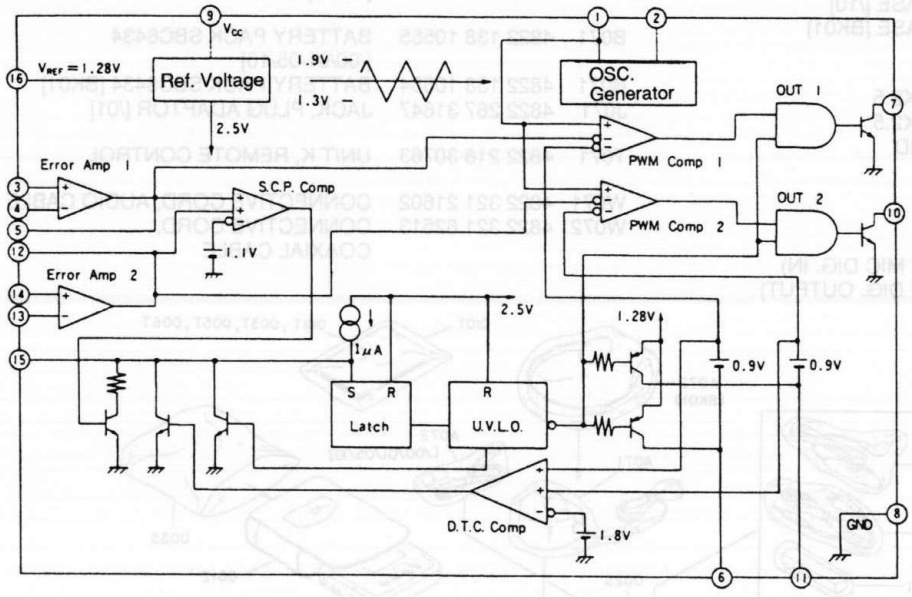



| Pin | Name | I/O | Function | Notes |
|---|---|---|---|---|
| 1 | LTCNT1 | I | ADAS2 (SAA2012) interface mode control | (1) |
| 2 | LTCNT0 | I | ADAS2 (SAA2012) interface mode control | (1) |
| 3 | L3MODEM | I | microcontroller interface mode | |
| 4 | L3CLKM | I | microcontroller interface clock | |
| 5 | L3DATAM | I/O | microcontroller interface data | (2) |
| 6 | VSS | | supply ground | |
| 7 | LTCNT1C | O | SAA2002 SFC interface mode control | (1) |
| 8 | LTCNT0C | O | SAA2002 SFC interface mode control | (1) |
| 9 | L3MODEC | O | codec interface mode | |
| 10 | L3CLKC | O | codec interface clock | |
| 11 | L3DATAC | I/O | codec interface data | (2) |
| 12 | TO0 | O | (test output) | |
| 13 | TO1 | O | (test output) | |
| 14 | VDD | | positive supply | |
| 15 | M0 | I | (test mode input) connect to VDD | |
| 16 | M1 | I | (test mode input) connect to VDD | |
| 17 | TI5 | I | (test input) connect to VSS | |
| 18 | TI4 | I | (test input) connect to VSS | |
| 19 | TI3 | I | (test input) connect to VSS | |
| 20 | NODONE | I | No done state selection | |
| 21 | RESOL0 | I | resolution selection 0 | |
| 22 | RESOL1 | I | resolution selection 1 | |
| 23 | RESET | I | active high reset input | |
| 24 | VDD | | positive supply | |
| 25 | VSS | | supply ground | |
| 26 | CLK24 | I | 24.576 MHz clock input | |
| 27 | LOWPWR | I | Low power playback select | (3) |
| 28 | POR | I | Power On Reset | (3) |
| 29 | TI0 | I | (test input) connect to VSS | |
| 30 | PWRDWN | I | power down input | |
| 31 | FDWS | I | word select filtered-I2S (F-I2S) bus | |
| 32 | FDCL | I | bit clock F-I2S bus | |
| 33 | FDAO | I/O | output data F-I2S bus | (2) |
| 34 | FDAI | I/O | input data F-I2S bus | (2) |
| 35 | FSYNC | I | subband synchronisation on F-I2S bus | |
| 36 | FRESET | I | reset signal from codec | |
| 37 | FDIR | I | F-I2S bus direction | |
| 38 | SFC3COMP | I | SFC3 (SAA2003) compatibility mode | |
| 39 | FS256 | I | system clock, 256 × sample frequency | |
| 40 | VDD | | positive supply | |
| 41 | NC | | (not connected) | |
| 42 | NC | | (not connected) | |
| 43 | NC | | (not connected) | |
| 44 | VSS | | supply ground | |

## • Q701 BA1106FS DOLBY




## • Q801 MB3775 DC-DC CONVERTER



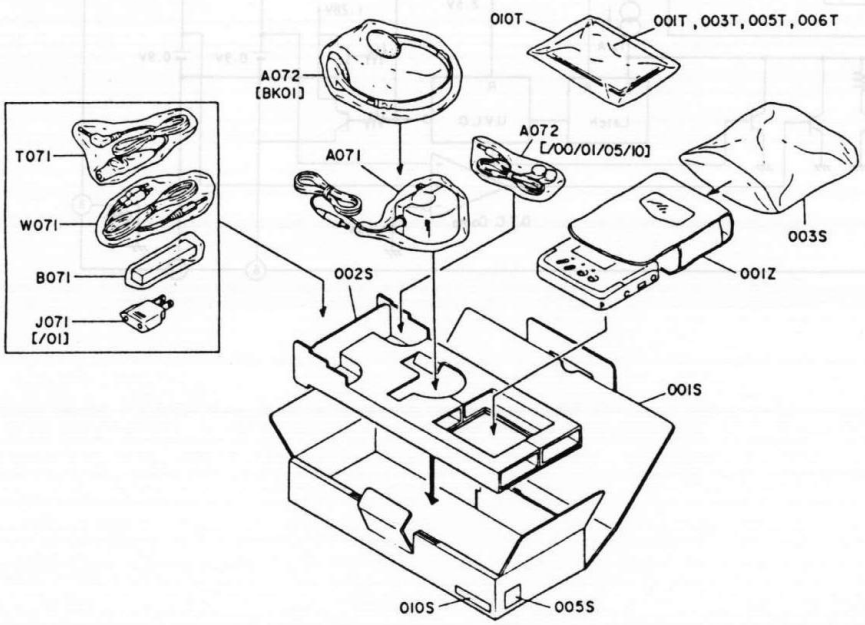
# SET EXPLODED VIEW AND PARTS LIST

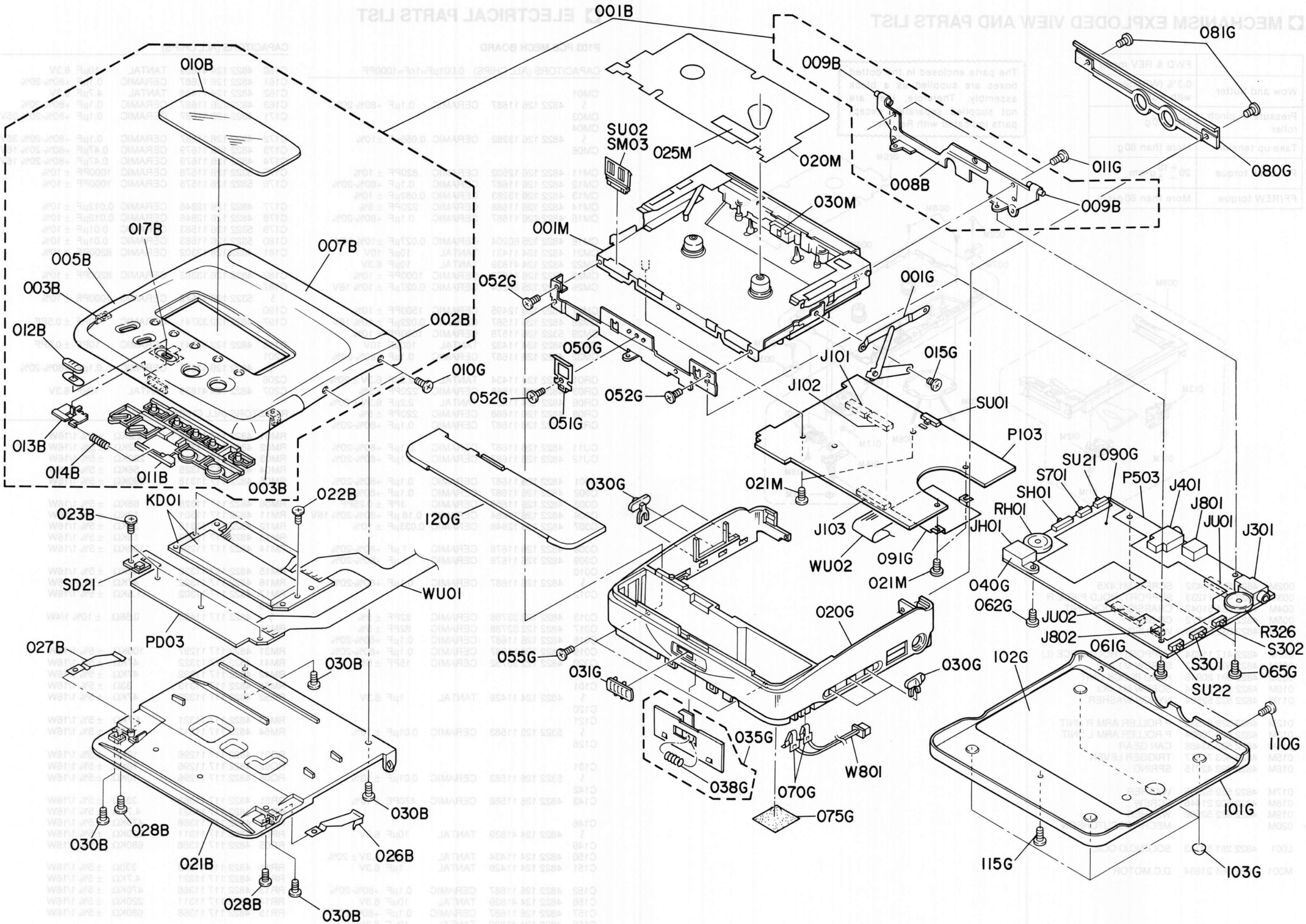
| | | |
|---|---|---|
| 001B | 4822 443 41406 | TOP CASE KIT |
| 010B | 4822 450 62266 | LCD WINDOW |
| 011B | 4822 410 63301 | OPERATING BUTTON |
| 012B | 4822 411 61984 | REC KNOB |
| 014B | 4822 492 33462 | SPRING |
| 017B | 4822 381 11533 | LENS |
| 021B | 4822 443 64211 | RETAINER, LCD MOLD COVER |
| 022B | 4822 502 30753 | SCREW 1.4X2.5 |
| 023B | 4822 502 30753 | SCREW 1.4X2.5 |
| 026B | 4822 492 71573 | CASSETE GUIDE SPRING (R) |
| 027B | 4822 492 71574 | CASSETE GUIDE SPRING (L) |
| 028B | 4822 502 21516 | SCREW 1.4X2.5 |
| 030B | 4822 502 21516 | SCREW 1.4X2.5 |
| 001G | 4822 403 71118 | ARM ASS'Y |
| 010G | 4822 502 21421 | SCREW 1.4X2 |
| 011G | 4822 502 21428 | SCREW 1.4X2 |
| 015G | 4822 502 21517 | SCREW 1.4X1.5 |
| 020G | 4822 464 51044 | CENTER FRAME KIT |
| 030G | 4822 411 61982 | SLIDE KNOB |
| 031G | 4822 411 61983 | OPEN KNOB |
| 035G | 4822 403 71121 | LOCK LEVER ASS'Y |
| 038G | 4822 492 52408 | SPRING, LOCK HOOK |
| 040G | 4822 502 30753 | SCREW 1.4X2.5 |
| 043G | 4822 532 52597 | WASHER |
| 050G | 4822 403 71119 | FRONT BRACKET |
| 052G | 4822 502 21516 | SCREW 1.4X2.5 |
| 055G | 4822 502 21516 | SCREW 1.4X2.5 |
| 061G | 4822 502 21516 | SCREW 1.4X2.5 |
| 062G | 4822 502 21518 | SCREW 1.4X3.5 |
| 065G | 4822 502 21516 | SCREW 1.4X2.5 |
| 070G | 4822 492 71576 | BATTERY CONTACTOR |
| 080G | 4822 464 51043 | REAR FRAME |
| 081G | 4822 502 21516 | SCREW METAL 1.4X2.5 |
| 101G | 4822 443 51261 | BOTTOM CASE [/00] |
| 101G | 4822 443 51262 | BOTTOM CASE [/01] |
| 101G | 4822 443 51259 | BOTTOM CASE [/05] |
| 101G | 4822 443 51263 | BOTTOM CASE [/10] |
| 101G | 4822 443 51258 | BOTTOM CASE [BK01] |
| 103G | 4822 462 42119 | LEG |
| 110G | 4822 502 21516 | SCREW 1.4X2.5 |
| 115G | 4822 502 21516 | SCREW 1.4X2.5 |
| 120G | 4822 443 64215 | BATTERY LID |
| J101 | 4822 265 51376 | JACK, 26P |
| J102 | 4822 265 51376 | JACK, 26P |
| J103 | 4822 265 61292 | JACK, 36P |
| J301 | 4822 265 20671 | JACK, (LINE MIC DIG. IN) |
| J401 | 4822 265 20669 | JACK, (LINE DIG. OUTPUT) |
| J801 | 4822 267 31789 | JACK, DC IN |
| J802 | 4822 265 31064 | JACK |
| JH01 | 4822 267 31787 | JACK, HEADPHONES OUT |
| JU01 | 4822 265 61292 | JACK, 36P |
| JU02 | 4822 265 41408 | JACK, 17P |
| KD01 | 4822 130 91371 | LCD KIT |
| RH01 | 4822 101 30847 | VARIABLE, VR 20KΩ (A)X2 |
| R326 | 4822 101 30847 | VARIABLE, VR 20KΩ (A)X2 |
| SH01 | 4822 277 21749 | SLIDE SWITCH (DBB) |
| SM03 | 4822 271 30848 | MINI SWITCH |
| SU01 | 4822 277 21752 | SLIDE SWITCH |
| SU02 | 4822 276 13531 | PUSH SWITCH |
| SU21 | 4822 277 21748 | SLIDE SWITCH (REV MODE) |
| SU22 | 4822 277 21748 | SLIDE SWITCH (HOLD) |
| S301 | 4822 277 21749 | SLIDE SWITCH (INPUT SEL.) |
| S302 | 4822 277 21748 | SLIDE SWITCH (ALC) |
| S701 | 4822 277 21748 | SLIDE SWITCH (DOLBY) |
| WU01 | 4822 466 10662 | FLEXIBLE P.C.B. |
| WU02 | 4822 320 50347 | FLEXIBLE P.C.B. |

**PACKAGING**

| | | |
|---|---|---|
| 001T | 4822 736 22088 | USER MANUAL DCC 170 [/00/01/05/10] |
| 001T | 4822 736 22087 | USER MANUAL DCC 170 [BK01] |
| 001Z | | CARRYING CASE |
| A071 | 4822 219 82697 | AC.ADAPTOR SBS6619/30 [/00] |
| A071 | 4822 219 82701 | AC.ADAPTOR SBC6619/31 [/01] |
| A071 | 4822 219 82698 | AC.ADAPTOR SBC6619/35 [/05] |
| A071 | 4822 219 82699 | AC.ADAPTOR SBC6619/40 [/10] |
| A071 | 4822 219 82696 | AC.ADAPTOR SBC6619/47 [BK01] |
| A072 | 4822 242 50083 | HEADPHONES IN EAR TYPE [/00/01/05/10] |
| A072 | 4822 242 50084 | HEADPHONES HEAD BAND TYPE [BK01] |
| B071 | 4822 138 10555 | BATTERY PACK SBC6434 [/00/01/05/10] |
| B071 | 4822 138 10554 | BATTERY PACK SBC6434 [BK01] |
| J071 | 4822 267 31647 | JACK, PLUG ADAPTOR [/01] |
| T071 | 4822 218 30763 | UNIT K, REMOTE CONTROL |
| W071 | 4822 321 21602 | CONNECTIVE CORD, AUDIO CABLE |
| W072 | 4822 321 62513 | CONNECTIVE CORD, COAXIAL CABLE |

## ● PACKAGING

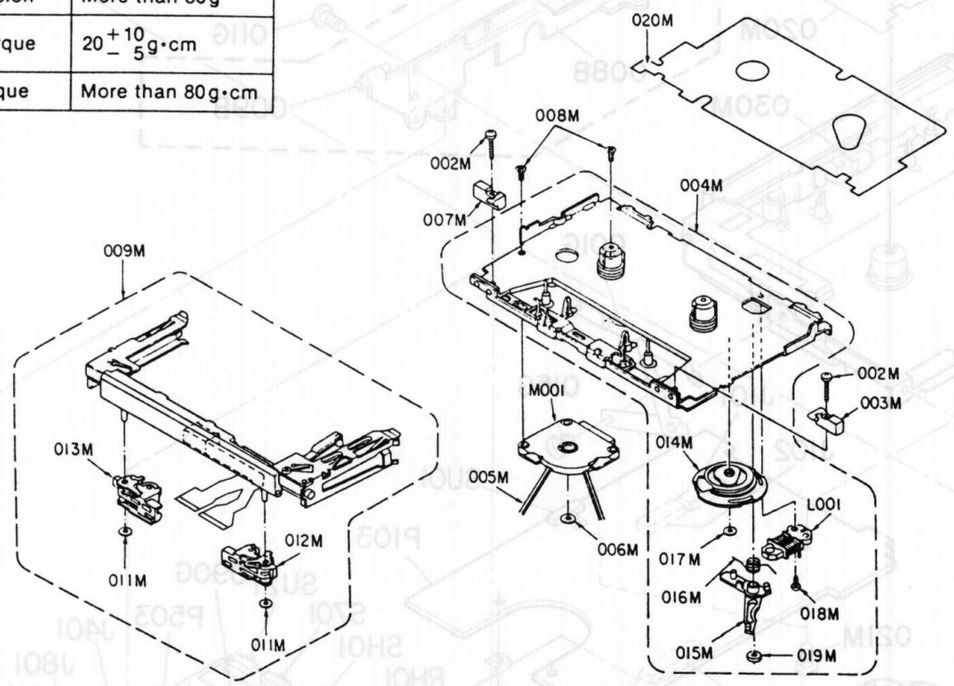




# MECHANISM EXPLODED VIEW AND PARTS LIST

| | FWD & REV mode |
|---|---|
| Wow and flutter | 0.3% (WRMS) with ACC |
| Pressure of pinch roller | 250±20g |
| Take-up tension | More than 80g |
| Playback torque | $20^{+10}_{-5}$g·cm |
| FF/REW torque | More than 80g·cm |

The parts enclosed in the dotted boxes are supplied as a block assembly. Therefore, they are not supplied separately except parts indicated with Ref. No.




| | | |
|---|---|---|
| 002M | 4822 502 21432 | SCREW M1.4X5 |
| 003M | 4822 417 11233 | SUPPORT, HOLD PIECE R |
| 004M | 4822 464 51042 | CHASSIS BLOCK UNIT |
| 005M | 4822 358 31272 | CP BELT |
| 006M | 4822 532 52593 | WASHER |
| 007M | 4822 417 11234 | SUPPORT, HOLD PIECE (L) |
| 008M | 4822 502 21433 | SCREW M1.4X2 |
| 009M | 4822 691 20946 | HEAD BLOCK UNIT |
| 010M | 4822 502 21434 | SCREW M1.4X3 |
| 011M | 4822 532 52594 | NYRON WASHER |
| 012M | 4822 528 81532 | P ROLLER ARM R UNIT |
| 013M | 4822 528 70834 | P ROLLER ARM L UNIT |
| 014M | 4822 522 33486 | CAN GEAR |
| 015M | 4822 403 71117 | TRIGGER LEVER |
| 016M | 4822 492 42715 | SPRING |
| 017M | 4822 532 52595 | WASHER |
| 018M | 4822 502 21446 | SCREW |
| 019M | 4822 532 52596 | WASHER |
| 020M | | MECHA ESCUTCHEON |
| L001 | 4822 281 50183 | SOLENOID COIL |
| M001 | 4822 361 21654 | D.C.MOTOR |



# ELECTRICAL PARTS LIST

**P103 PCB MECH BOARD**

CAPACITORS (ALL CHIPS) 0.001µF=1nF=1000PF

| | | | | |
|---|---|---|---|---|
| CM01 ~ CM03 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| CM04 ~ CM06 | 4822 126 13282 | CERAMIC | 0.056µF | ±10% |
| CM11 | 4822 126 12502 | CERAMIC | 820PF | ± 10% |
| CM12 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| CM13 | 4822 126 13283 | CERAMIC | 0.082µF | ± 10% |
| CM14 | 4822 126 11668 | CERAMIC | 220PF | ± 5% |
| CM15 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| CM16 | 4822 125 60204 | CERAMIC | 0.027µF | ±10% 16V |
| CM21 | 4822 124 11431 | TANTAL | 10µF | 10V |
| CM22 | 4822 124 41839 | TANTAL | 10µF | 6.3V |
| CM25 | 5322 126 11578 | CERAMIC | 1000PF | ± 10% |
| CM26 | 4822 125 60204 | CERAMIC | 0.027µF | ± 10% 16V |
| CM27 | 4822 126 12495 | CERAMIC | 1500PF | ± 10% |
| CM28 | 4822 126 11567 | CERAMIC | 0.022µF | ± 10% 16V |
| CM29 | 5322 126 11578 | CERAMIC | 1000PF | ± 10% |
| CM31 | 4822 124 11432 | TANTAL | 100µF | 10V |
| CM32 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| CR01 | 4822 124 11434 | TANTAL | 2.2µF | 6.3V ± 20% |
| CR03 | 4822 126 11668 | CERAMIC | 220PF | ± 5% |
| CR06 | 4822 124 11434 | TANTAL | 2.2µF | 6.3V ± 20% |
| CR08 | 4822 126 11668 | CERAMIC | 220PF | ± 5% |
| CR21 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| CU11 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| CU12 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C001 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C002 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C003 | 4822 126 11659 | CERAMIC | 3PF | ± 0.25PF |
| C004 | 4822 126 13284 | CERAMIC | 0.18 µF | +80%-20% 16V |
| C007 | 4822 126 12848 | CERAMIC | 0.033µF | ± 10% |
| C008 | 4822 126 11678 | CERAMIC | 1 µF | +80%-20% |
| C009 | 4822 126 11678 | CERAMIC | 1 µF | +80%-20% |
| C010 ~ C012 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C013 | 4822 122 33788 | CERAMIC | 82PF | ± 5% |
| C017 | 4822 122 33788 | CERAMIC | 82PF | ± 5% |
| C018 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C019 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C020 | 4822 122 33752 | CERAMIC | 15PF | ± 5% |
| C101 ~ C120 | 4822 124 11428 | TANTAL | 1µF | 6.3V |
| C121 ~ C126 | 5322 126 11583 | CERAMIC | 0.01µF | ± 10% |
| C131 ~ C142 | 5322 126 11583 | CERAMIC | 0.01µF | ± 10% |
| C143 | 4822 126 11568 | CERAMIC | 470PF | ± 10% |
| C146 ~ C149 | 4822 124 41839 | TANTAL | 10µF | 6.3V |
| C150 | 4822 124 11434 | TANTAL | 2.2µF | 6.3V ± 20% |
| C151 | 4822 124 11428 | TANTAL | 1µF | 6.3V |
| C152 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C156 | 4822 124 41839 | TANTAL | 10µF | 6.3V |
| C157 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C158 | 4822 124 41839 | TANTAL | 10µF | 6.3V |
| C159 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |

CAPACITORS (ALL CHIPS)

| | | | | |
|---|---|---|---|---|
| C160 | 4822 124 41839 | TANTAL | 10µF | 6.3V |
| C161 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C162 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| C163 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C171 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% 35V |
| C172 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% 35V |
| C173 | 4822 126 11679 | CERAMIC | 0.47µF | +80%-20% 16V |
| C174 | 4822 126 11679 | CERAMIC | 0.47µF | +80%-20% 16V |
| C175 | 5322 126 11578 | CERAMIC | 1000PF | ± 10% |
| C176 | 5322 126 11578 | CERAMIC | 1000PF | ± 10% |
| C177 | 4822 126 12846 | CERAMIC | 0.012µF | ± 10% |
| C178 | 4822 126 12846 | CERAMIC | 0.012µF | ± 10% |
| C179 | 5322 126 11583 | CERAMIC | 0.01µF | ± 10% |
| C180 | 5322 126 11583 | CERAMIC | 0.01µF | ± 10% |
| C181 | 4822 126 13302 | CERAMIC | 8200PF | ± 10% |
| C182 | 4822 126 13302 | CERAMIC | 8200PF | ± 10% |
| C187 ~ C190 | 5322 126 11578 | CERAMIC | 1000PF | ± 10% |
| C197 | 4822 122 33741 | CERAMIC | 10PF | ± 0.5PF |
| C198 | 4822 122 33741 | CERAMIC | 10PF | ± 0.5PF |
| C201 ~ C206 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C207 | 4822 124 41839 | TANTAL | 10µF | 6.3V |

RESISTORS (ALL CHIPS)

| | | | |
|---|---|---|---|
| RM01 | 4822 117 11308 | 2.2KΩ | ± 5% 1/16W |
| RM02 | 4822 117 11308 | 2.2KΩ | ± 5% 1/16W |
| RM03 | 4822 117 11311 | 220KΩ | ± 5% 1/16W |
| RM04 | 4822 117 11325 | 56KΩ | ± 5% 1/16W |
| RM05 | 4822 117 11318 | 390KΩ | ± 5% 1/16W |
| RM06 | 4822 117 11328 | 68KΩ | ± 5% 1/16W |
| RM11 | 4822 117 11301 | 12KΩ | ± 5% 1/16W |
| RM12 | 4822 117 11315 | 33KΩ | ± 5% 1/16W |
| RM13 | 4822 117 11303 | 15KΩ | ± 5% 1/16W |
| RM14 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| RM15 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RM16 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RM17 | 4822 117 11302 | 1.5KΩ | ± 5% 1/16W |
| RM18 ~ RM20 | 4822 117 11425 | 0.56Ω | ± 10% 1/4W |
| RM31 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| RM41 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RM42 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RM51 | 4822 117 11313 | 33Ω | ± 5% 1/16W |
| RM52 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RM53 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| RM54 | 4822 117 11313 | 33Ω | ± 5% 1/16W |
| RQ01 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| RQ02 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| RQ06 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| RR01 | 4822 117 11363 | 330Ω | ± 5% 1/16W |
| RR02 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| RR03 | 4822 117 11366 | 470KΩ | ± 5% 1/16W |
| RR04 | 4822 117 11311 | 220KΩ | ± 5% 1/16W |
| RR05 | 4822 117 11368 | 680KΩ | ± 5% 1/16W |
| RR11 | 4822 117 11363 | 330Ω | ± 5% 1/16W |
| RR12 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| RR13 | 4822 117 11366 | 470KΩ | ± 5% 1/16W |
| RR14 | 4822 117 11311 | 220KΩ | ± 5% 1/16W |
| RR15 | 4822 117 11368 | 680KΩ | ± 5% 1/16W |
| RR16 | 4822 117 11294 | 100Ω | ± 5% 1/16W |

## RESISTORS (ALL CHIPS)

| | | | |
|---|---|---|---|
| RR17 | 4822 117 11294 | 100Ω | ± 5% 1/16W |
| RR18 | 4822 117 11366 | 470KΩ | ± 5% 1/16W |
| RR19 | 4822 117 11366 | 470KΩ | ± 5% 1/16W |
| RU12 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| RU13 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| RU14 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RU15 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| RU16 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RU17 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R001 | 4822 117 11295 | 1KΩ | ± 5% 1/16W |
| R002 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R003 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| R008 | 4822 117 11328 | 68KΩ | ± 5% 1/16W |
| R009 | 4822 117 11311 | 220KΩ | ± 5% 1/16W |
| R010 | 4822 117 11317 | 39KΩ | ± 5% 1/16W |
| R011 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| R012 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R013 | 4822 117 11304 | 150KΩ | ± 5% 1/16W |
| R014 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R015 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R016 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R017 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| R018 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R019 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| R021 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R022 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R023 | 4822 117 11298 | 1MΩ | ± 5% 1/16W |
| R024 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| R033 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R034 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R101 ≀ R103 | 4822 117 11313 | 33Ω | ± 5% 1/16W |
| R104 | 4822 117 11295 | 1KΩ | ± 5% 1/16W |
| R115 | 4822 117 11293 | 10Ω | ± 5% 1/16W |
| R116 | 4822 117 11293 | 10Ω | ± 5% 1/16W |
| R117 | 4822 117 11326 | 560KΩ | ± 5% 1/16W |
| R118 | 4822 117 11326 | 560KΩ | ± 5% 1/16W |
| R119 | 4822 117 11326 | 560Ω | ± 5% 1/6W |
| R120 | 4822 117 11326 | 560KΩ | ± 5% 1/16W |
| R125 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| R126 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| R127 | 4822 100 12186 | 10KΩ | POTMETER |
| R128 | 4822 100 12186 | 10KΩ | POTMETER |
| R131 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R132 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R135 | 4822 117 11301 | 12KΩ | ± 5% 1/16W |
| R136 | 4822 117 11301 | 12KΩ | ± 5% 1/16W |
| R137 | 4822 117 11298 | 1MΩ | ± 5% 1/16W |
| R138 | 4822 117 11298 | 1MΩ | ± 5% 1/16W |
| R139 | 4822 117 11299 | 1.2KΩ | ± 5% 1/16W |
| R140 | 4822 117 11299 | 1.2KΩ | ± 5% 1/16W |
| R141 | 4822 117 11323 | 560Ω | ± 5% 1/16W |
| R142 | 4822 117 11323 | 560Ω | ± 5% 1/16W |
| R147 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R148 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R149 | 4822 117 11311 | 220KΩ | ± 5% 1/16W |
| R150 | 4822 117 11311 | 220KΩ | ± 5% 1/16W |
| R151 | 4822 100 12187 | 2.2KΩ | POTMETER |
| R152 | 4822 100 12187 | 2.2KΩ | POTMETER |
| R176 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R177 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R201 | 4822 117 11311 | 220KΩ | ± 5% 1/16W |
| R202 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| R203 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| R204 | 4822 117 11311 | 220KΩ | ± 5% 1/16W |
| R205 | 4822 117 11304 | 150KΩ | ± 5% 1/16W |

## RESISTORS (ALL CHIPS)

| | | | |
|---|---|---|---|
| R206 | 4822 117 11324 | 5.6KΩ | ± 5% 1/16W |
| R207 | 4822 117 11303 | 15KΩ | ± 5% 1/16W |
| R208 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R209 | 4822 117 11366 | 470KΩ | ± 5% 1/16W |
| R210 | 4822 117 11327 | 6.8KΩ | ± 5% 1/16W |
| R211 | 4822 100 12191 | 5KΩ | POTMETER |
| R212 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R215 | 4822 117 11339 | 1Ω | ± 5% 1/8W |

## SEMICONDUCTORS

| | | | |
|---|---|---|---|
| DM01 | 4822 130 81324 | DIODE | 1SS302 |
| DM02 | 4822 130 81324 | DIODE | 1SS302 |
| D001 ≀ D003 | 4822 130 81324 | DIODE | 1SS302 |
| QM01 | 4822 209 32621 | IC, MOTOR DRIVER | NBC5800 |
| QM02 | 4822 111 92185 | DIGITAL TRANSISTOR | RN1603 |
| QM03 | 4822 130 63609 | TRANSISTOR | 2SA1588 |
| QM04 | 4822 111 92185 | DIGITAL TRANSISTOR | RN1603 |
| QM11 ≀ QM13 | 4822 130 42734 | TRANSISTOR2SB798 | |
| QR01 | 4822 209 33557 | IC, | MC14069UBDTEL |
| QR02 | 4822 130 63399 | PHOTO UNIT, REEL SENS | GP2S27 |
| QR03 | 4822 130 63399 | PHOTO UNIT, REEL SENS | GP2S27 |
| QU11 | 4822 111 92184 | DIGITAL TRANSISTOR | RN1303 |
| Q001 | 4822 209 33572 | IC, MOTOR CONTROL | TC9192AF |
| Q002 | 4822 209 32984 | IC, | TC7SU04F |
| Q003 | 4822 209 33563 | IC, OP AMP | NJM2115V |
| Q004 | 4822 209 33563 | IC, OP AMP | NJM2115V |
| Q005 | 4822 111 92189 | DIGITAL TRANSISTOR | HN1B01F |
| Q006 | 4822 209 61747 | IC, | TC4S66F |
| Q007 | 4822 209 31754 | IC, | TC7S86F |
| Q008 | 4822 111 92185 | DIGITAL TRANSISTOR | RN1603 |
| Q009 | 4822 111 92184 | DIGITAL TRANSISTOR | RN1303 |
| Q010 | 4822 130 63618 | CHIP FET | 2SK880 (GR,BL) |
| Q011 | 4822 111 92184 | DIGITAL TRANSISTOR | RN1303 |
| Q101 | 4822 209 33558 | IC, READ3TDA1380 | |
| Q105 | 4822 111 92184 | DIGITAL TRANSISTOR | RN1303 |
| Q106 | 4822 111 92184 | DIGITAL TRANSISTOR | RN1303 |
| Q116 | 4822 130 63609 | TRANSISTOR | 2SA1588 (Y) |
| Q117 | 4822 209 33556 | IC, V-REGULATOR 3.0V | RN5RG30A |
| Q118 | 4822 130 63609 | TRANSISTOR | 2SA1588 (Y) |
| Q119 | 4822 209 33556 | IC, V-REGULATOR 3.0V | RN5RG30A |
| Q201 | 4822 209 33579 | IC, TDA1381 WRITE3 | |
| Q202 | 4822 111 92184 | DIGITAL TRANSISTOR | RN1303 |

## MISCELLANEOS

| | | |
|---|---|---|
| J101 | 4822 265 51376 | JACK, 26P |
| J102 | 4822 265 51376 | JACK, 26P |
| J103 | 4822 265 61292 | JACK, 36P |
| L101 | 4822 157 63437 | ELJ-FA100J |
| L102 | 4822 157 63437 | ELJ-FA100J |
| L201 | 4822 157 63437 | ELJ-FA100J |
| SM03 | 4822 271 30848 | MINI SWITCH |
| SU01 | 4822 277 21752 | SLIDE SWITCH |
| SU02 | 4822 276 13531 | PUSH SWITCH |
| SU04 | 4822 276 13531 | PUSH SWITCH |

## P503 PCB MAIN BOARD

### CAPACITORS (ALL CHIPS)

| | | | | |
|---|---|---|---|---|
| CA01 | 4822 122 32671 | TANTAL | 0.1µF | 35V |
| CA02 | | | | |
| ⌇ | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| CA04 | | | | |
| CA05 | 4822 126 11668 | CERAMIC | 220PF | ± 5% |
| CA06 | 4822 126 12848 | CERAMIC | 0.033µF | ± 10% |
| CA07 | 4822 122 32679 | TANTAL | 0.33µF | 35V |
| CA11 | | | | |
| ⌇ | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| CA14 | | | | |
| CA16 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| CA17 | 4822 122 33744 | CERAMIC | 100PF | ± 5% |
| CA18 | 4822 126 13303 | CERAMIC | 1µF | +80%-20% |
| CA21 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| CA26 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| CA27 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| CC01 | 4822 126 13303 | CERAMIC | 1µF | +80%-20% |
| CC02 | 4822 126 11678 | CERAMIC | 1µF | +80%-20% |
| CC03 | 4822 126 11678 | CERAMIC | 1µF | +80%-20% |
| CH01 | 4822 126 11678 | CERAMIC | 1µF | +80%-20% |
| CH02 | 4822 126 11678 | CERAMIC | 1µF | +80%-20% |
| CH03 | 4822 124 11435 | TANTAL | 22µF | 6.3V |
| CH04 | 4822 126 13283 | CERAMIC | 0.082µF | ± 10% 16V |
| CH07 | 5322 126 11578 | CERAMIC | 1000PF | ± 10% |
| CH08 | 5322 126 11578 | CERAMIC | 1000PF | ± 10% |
| CH09 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| CH11 | 4822 124 11431 | TANTAL | 10µF | 10V |
| CH12 | 4822 124 11431 | TANTAL | 10µF | 10V |
| CH13 | 4822 126 11679 | CERAMIC | 0.22µF | +80%-20% 16V |
| CH14 | 4822 126 13283 | CERAMIC | 0.082µF | ± 10% 16V |
| CH15 | 4822 126 11679 | CERAMIC | 0.22µF | +80%-20% 16V |
| CH16 | 4822 124 11435 | TANTAL | 22µF | 6.3V |
| CH18 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| CH19 | 5322 126 11578 | CERAMIC | 1000PF | ± 10% |
| CH21 | 4822 124 11396 | TANTAL | 220µF | 4V |
| CH22 | 4822 124 11396 | TANTAL | 220µF | 4V |
| CH31 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| CH41 | 4822 124 11432 | TANTAL | 100µF | 10V |
| CH51 | 5322 126 11583 | CERAMIC | 0.01µF | ± 10% |
| CH52 | 5322 126 11583 | CERAMIC | 0.01µF | ± 10% |
| CH53 | 4822 126 12516 | CERAMIC | 3300PF | +80%-20% |
| CL01 | 5322 126 11583 | CERAMIC | 0.01µF | ± 10% |
| CQ01 | 4822 126 11679 | CERAMIC | 0.22µF | +80%-20% |
| CQ02 | 5322 126 11668 | CERAMIC | 220PF | ± 10% |
| CQ03 | 4822 124 11441 | TANTAL | 0.68µF | 35V |
| CU01 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| CU02 | 4822 124 11435 | TANTAL | 22µF | 6.3V ± 20% |
| CU21 | | | | |
| ⌇ | 4822 126 11678 | CERAMIC | 1µF | +80%-20% |
| CU23 | | | | |
| CU24 | 5322 126 11583 | CERAMIC | 0.01µF | ± 10% |
| CU26 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| CU31 | 5322 126 11578 | CERAMIC | 1000PF | ± 10% |
| CU32 | 5322 126 11578 | CERAMIC | 1000PF | ± 10% |
| CU33 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| CU51 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C301 | 5322 126 11583 | CERAMIC | 0.01µF | ± 10% |
| C302 | 4822 126 13303 | CERAMIC | 1µF | +80%-20% |
| C306 | 4822 124 11436 | TANTAL | 220µF | 6.3V |
| C311 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| C312 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| C313 | 4822 122 33744 | CERAMIC | 100PF | ± 5% |
| C314 | 4822 122 33744 | CERAMIC | 100PF | ± 5% |
| C315 | 4822 122 33761 | CERAMIC | 22PF | ± 5% |

### CAPACITORS (ALL CHIPS)

| | | | | |
|---|---|---|---|---|
| C316 | 4822 122 33761 | CERAMIC | 22PF | ± 5% |
| C317 | 4822 124 41839 | TANTAL | 10µF | 6.3V |
| C318 | 4822 124 41839 | TANTAL | 10µF | 6.3V |
| C319 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C320 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C331 | | | | |
| ⌇ | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| C334 | | | | |
| C335 | 4822 122 33761 | CERAMIC | 22PF | ± 5% |
| C336 | 4822 122 33761 | CERAMIC | 22PF | ± 5% |
| C361 | | | | |
| ⌇ | 4822 126 11678 | CERAMIC | 1µF | +80%-20% |
| C364 | | | | |
| C371 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| C372 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| C373 | 4822 124 11434 | TANTAL | 2.2µF | 6.3V |
| C374 | 4822 124 11434 | TANTAL | 2.2µF | 6.3V |
| C375 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| C376 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| C381 | 4822 124 11435 | TANTAL | 22µF | 6.3V ± 20% |
| C383 | 4822 126 11678 | CERAMIC | 1µF | +80%-20% |
| C384 | 4822 126 11678 | CERAMIC | 1µF | +80%-20% |
| C385 | | | | |
| ⌇ | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| C388 | | | | |
| C389 | 4822 122 33744 | CERAMIC | 100PF | ± 5% |
| C390 | 4822 122 33744 | CERAMIC | 100PF | ± 5% |
| C391 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| C392 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C393 | 4822 126 11679 | CERAMIC | 0.22µF | +80%-20% 16V |
| C394 | 4822 126 11679 | CERAMIC | 0.22µF | +80%-20% 16V |
| C401 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| C402 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C403 | 4822 126 11679 | CERAMIC | 0.22µF | +80%-20% 16V |
| C404 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C405 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C407 | 4822 123 30406 | MICA | 680PF | ± 5% |
| C408 | 4822 123 30406 | MICA | 680PF | ± 5% |
| C409 | 4822 124 11435 | TANTAL | 22µF | 6.3V ± 20% |
| C410 | | | | |
| ⌇ | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| C412 | | | | |
| C413 | 4822 123 30405 | MICA | 2700PF | ± 5% |
| C414 | 4822 123 30405 | MICA | 2700PF | ± 5% |
| C415 | 4822 123 30404 | MICA | 100PF | ± 5% |
| C416 | 4822 123 30404 | MICA | 100PF | ± 5% |
| C418 | 4822 124 11435 | TANTAL | 22µF | 6.3V ± 20% |
| C419 | 4822 124 11436 | TANTAL | 220µF | 6.3V |
| C421 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| C422 | 4822 124 11438 | TANTAL | 4.7µF | 6.3V |
| C431 | 4822 124 11441 | TANTAL | 0.68µF | 35V |
| C441 | 5322 126 33744 | CERAMIC | 100P | ± 10% |
| C442 | 5322 126 33744 | CERAMIC | 100P | ± 10% |
| C501 | 4822 122 33788 | CERAMIC | 82PF | ± 5% |
| C502 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C505 | | | | |
| ⌇ | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C512 | | | | |
| C516 | 4822 124 11438 | TANTAL | 4.7µF | 1/16W |
| C521 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C551 | | | | |
| ⌇ | 4822 122 33741 | CERAMIC | 10PF | ± 0.5PF |
| C554 | | | | |
| C555 | | | | |
| ⌇ | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C557 | | | | |
| C561 | 4822 124 11438 | TANTAL | 4.7µF | 1/16W |
| C601 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |



### CAPACITORS (ALL CHIPS)

| | | | | |
|---|---|---|---|---|
| C602 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C603 | 4822 126 11678 | CERAMIC | 1µF | +80%-20% |
| C604 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C605 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C701 | 4822 126 11678 | CERAMIC | 1µF | +80%-20% |
| C702 | 4822 126 11678 | CERAMIC | 1µF | +80%-20% |
| C703 | 4822 126 12848 | CERAMIC | 0.033µF | ± 10% |
| C704 | 4822 126 12848 | CERAMIC | 0.033µF | ± 10% |
| C705 | 4822 126 11685 | CERAMIC | 4700PF | ± 10% |
| C706 | 4822 126 11685 | CERAMIC | 4700PF | ± 10% |
| C707 | 5322 126 11583 | CERAMIC | 0.01µF | ± 10% |
| C708 | 5322 126 11583 | CERAMIC | 0.01µF | ± 10% |
| C709 | 4822 126 12848 | CERAMIC | 0.033µF | ± 10% |
| C710 | 4822 126 12848 | CERAMIC | 0.033µF | ± 10% |
| C711 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C712 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C713 | 4822 124 11435 | TANTAL | 22µF | 6.3V |
| C714 | 4822 124 11435 | TANTAL | 22µF | 6.3V |
| C721 | 4822 126 11579 | CERAMIC | 3300PF | ± 10% |
| C722 | 4822 126 11579 | CERAMIC | 3300PF | ± 10% |
| C801 | 4822 124 11432 | TANTAL | 100µF | 10V |
| C802 | 4822 124 11431 | TANTAL | 10µF | 10V |
| C803 | 4822 124 11431 | TANTAL | 10µF | 10V |
| C804 | 4822 126 13303 | CERAMIC | 1µF | +80%-20% |
| C806 | 4822 122 33753 | CERAMIC | 150PF | ± 10% |
| C807 | | | | |
| ⌇ | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C809 | | | | |
| C811 | | | | |
| ⌇ | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C813 | | | | |
| C816 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C817 | 4822 124 11433 | TANTAL | 150µF | 10V |
| C818 | 4822 124 11431 | TANTAL | 10µF | 10V |
| C819 | 4822 122 33753 | CERAMIC | 150PF | ± 5% |
| C821 | 4822 122 33753 | CERAMIC | 150PF | ± 5% |
| C822 | 4822 124 11436 | TANTAL | 220µF | 6.3V |
| C823 | 4822 124 11435 | TANTAL | 22µF | 6.3V |
| C826 | 4822 126 11687 | CERAMIC | 0.1µF | +80%-20% |
| C827 | 4822 126 11678 | CERAMIC | 1µF | +80%-20% |

### RESISTORS (ALL CHIPS)

| | | | |
|---|---|---|---|
| RA01 | 4822 117 11362 | 270Ω | ± 5% 1/16W |
| RA06 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| RA07 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RA10 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| RA11 | 4822 117 11357 | 150Ω | ± 5% 1/16W |
| RA12 | 4822 117 11357 | 150Ω | ± 5% 1/16W |
| RA13 | 4822 117 11298 | 1MΩ | ± 5% 1/16W |
| RA15 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| RA16 | 4822 117 11306 | 22Ω | ± 5% 1/16W |
| RA17 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RA18 | 4822 117 11294 | 100Ω | ± 5% 1/16W |
| RA21 | 4822 117 11306 | 22Ω | ± 5% 1/16W |
| RA25 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RA26 | 4822 111 91364 | 3.9KΩ | ± 5% 1/10W |
| RA27 | 4822 116 82573 | 22KΩ | ± 5% 1/10W |
| RA28 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RA29 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| RA30 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| RC01 | 4822 117 11295 | 1KΩ | ± 5% 1/16W |
| RC02 | 4822 117 11341 | 1.5Ω | ± 5% 1W |
| RC03 | 4822 117 11295 | 1KΩ | ± 5% 1/16W |
| RC04 | 4822 117 11294 | 100Ω | ± 5% 1/16W |
| RC05 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| RC06 | 4822 117 11304 | 150KΩ | ± 5% 1/16W |
| RC07 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| RC08 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |

### RESISTORS (ALL CHIPS)

| | | | |
|---|---|---|---|
| RC09 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RC10 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| RC11 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| RC12 | 4822 117 11312 | 27KΩ | ± 5% 1/16W |
| RC13 | 4822 117 11319 | 470Ω | ± 5% 1/16W |
| RH01 | 4822 101 30847 | VARIABLE, VR 20KΩ (A)X2 | |
| RH03 | 4822 117 11303 | 15KΩ | ± 5% 1/16W |
| RH04 | 4822 117 11303 | 15KΩ | ± 5% 1/16W |
| RH05 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| RH06 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| RH09 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| RH10 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| RH11 | 4822 117 11327 | 6.8KΩ | ± 5% 1/16W |
| RH12 | 4822 117 11324 | 5.6KΩ | ± 5% 1/16W |
| RH15 | 4822 117 11295 | 1KΩ | ± 5% 1/16W |
| RH16 | 4822 117 11295 | 1KΩ | ± 5% 1/16W |
| RH17 | | | |
| ⌇ | 4822 117 11293 | 10Ω | ± 5% 1/16W |
| RH20 | | | |
| RH21 | 4822 117 11338 | 4.7Ω | ± 5% 1/16W |
| RH22 | 4822 117 11338 | 4.7Ω | ± 5% 1/16W |
| RH25 | | | |
| ⌇ | 4822 117 11295 | 1KΩ | ± 5% 1/16W |
| RH28 | | | |
| RH31 | 4822 117 11302 | 1.5KΩ | ± 5% 1/16W |
| RH32 | 4822 117 11302 | 1.5KΩ | ± 5% 1/16W |
| RH41 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RH42 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| RL02 | 4822 117 11294 | 100Ω | ± 5% 1/16W |
| RL03 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RL04 | 4822 117 11292 | 0Ω | |
| RL05 | 4822 117 11292 | 0Ω | |
| RL11 | 4822 117 11315 | 33KΩ | ± 5% 1/16W |
| RL12 | 4822 117 11325 | 56KΩ | ± 5% 1/16W |
| RL13 | 4822 117 11301 | 12KΩ | ± 5% 1/16W |
| RL14 | 4822 117 11315 | 33KΩ | ± 5% 1/16W |
| RL15 | 4822 117 11315 | 33KΩ | ± 5% 1/16W |
| RL21 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RL22 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| RL23 | 4822 117 11293 | 10Ω | ± 5% 1/16W |
| RQ01 | 4822 117 11303 | 15KΩ | ± 5% 1/16W |
| RQ02 | 4822 117 11303 | 15KΩ | ± 5% 1/16W |
| RU01 | 4822 117 11298 | 1MΩ | ± 5% 1/16W |
| RU21 | 4822 117 11298 | 1MΩ | ± 5% 1/16W |
| RU22 | 4822 117 11298 | 1MΩ | ± 5% 1/16W |
| RU23 | 4822 117 11312 | 27KΩ | ± 5% 1/16W |
| RU24 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| RU25 | 4822 117 11308 | 2.2KΩ | ± 5% 1/16W |
| RU26 | 4822 117 11298 | 1MΩ | ± 5% 1/16W |
| RU27 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| RU28 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| RU31 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RU32 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RU36 | 4822 117 11323 | 560Ω | ± 5% 1/16W |
| RU41 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RU42 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| RU51 | 4822 100 12189 | 100KΩ | POTMETER |
| RU52 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| RU53 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R300 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R301 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| R302 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| R303 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R304 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| R305 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| R306 | 4822 117 11317 | 39KΩ | ± 5% 1/16W |

## RESISTORS (ALL CHIPS)

| | | | |
|---|---|---|---|
| R307 | | | |
| ⟆ | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R309 | | | |
| R310 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| R311 | 4822 117 11303 | 15KΩ | ± 5% 1/16W |
| R312 | 4822 117 11303 | 15KΩ | ± 5% 1/16W |
| R313 | 4822 117 11308 | 2.2KΩ | ± 5% 1/16W |
| R314 | 4822 117 11308 | 2.2KΩ | ± 5% 1/16W |
| R315 | 4822 117 11371 | 8.2KΩ | ± 5% 1/16W |
| R316 | 4822 117 11371 | 8.2KΩ | ± 5% 1/16W |
| R317 | 4822 117 11299 | 1.2KΩ | ± 5% 1/16W |
| R318 | 4822 117 11299 | 1.2KΩ | ± 5% 1/16W |
| R319 | 4822 117 11305 | 18KΩ | ± 5% 1/16W |
| R320 | 4822 117 11305 | 18KΩ | ± 5% 1/16W |
| R321 | 4822 117 11311 | 220KΩ | ± 5% 1/16W |
| R322 | 4822 117 11311 | 220KΩ | ± 5% 1/16W |
| R323 | 4822 117 11315 | 33KΩ | ± 5% 1/16W |
| R324 | 4822 117 11315 | 33KΩ | ± 5% 1/16W |
| R326 | 4822 101 30847 | VARIABLE, VR 20KΩ (A)X2 | |
| R327 | 4822 117 11311 | 220KΩ | ± 5% 1/16W |
| R328 | 4822 117 11311 | 220KΩ | ± 5% 1/16W |
| R331 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R332 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R333 | 4822 117 11367 | 68Ω | ± 5% 1/16W |
| R334 | 4822 117 11367 | 68Ω | ± 5% 1/16W |
| R335 | | | |
| ⟆ | 4822 117 11295 | 1KΩ | ± 5% 1/16W |
| R338 | | | |
| R339 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| R340 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| R341 | | | |
| ⟆ | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R344 | | | |
| R345 | 4822 117 11315 | 33KΩ | ± 5% 1/16W |
| R346 | 4822 117 11315 | 33KΩ | ± 5% 1/16W |
| R347 | 4822 117 11369 | 820Ω | ± 5% 1/16W |
| R348 | 4822 117 11369 | 820Ω | ± 5% 1/16W |
| R349 | 4822 117 11371 | 8.2KΩ | ± 5% 1/16W |
| R350 | 4822 117 11371 | 8.2KΩ | ± 5% 1/16W |
| R351 | 4822 117 11303 | 15KΩ | ± 5% 1/16W |
| R352 | 4822 117 11303 | 15KΩ | ± 5% 1/16W |
| R353 | 4822 117 11305 | 18KΩ | ± 5% 1/16W |
| R354 | 4822 117 11305 | 18KΩ | ± 5% 1/16W |
| R355 | 4822 117 11295 | 1KΩ | ± 5% 1/16W |
| R356 | 4822 117 11295 | 1KΩ | ± 5% 1/16W |
| R357 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| R358 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R360 | 4822 117 11292 | 0Ω | |
| R361 | 4822 117 11424 | 120KΩ | ± 5% 1/16W |
| R362 | 4822 117 11424 | 120KΩ | ± 5% 1/16W |
| R363 | 4822 117 11326 | 560KΩ | ± 5% 1/16W |
| R364 | 4822 117 11326 | 560KΩ | ± 5% 1/16W |
| R365 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R366 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R367 | 4822 117 11295 | 1KΩ | ± 5% 1/16W |
| R368 | 4822 117 11295 | 1KΩ | ± 5% 1/16W |
| R369 | 4822 117 11311 | 220KΩ | ± 5% 1/16W |
| R371 | 4822 117 11301 | 12KΩ | ± 5% 1/16W |
| R372 | 4822 117 11292 | 0Ω | |
| R373 | 4822 117 10154 | 10MΩ | ± 5% 1/16W |
| R374 | 4822 117 11294 | 100Ω | ± 5% 1/16W |
| R375 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R376 | 4822 117 11298 | 1MΩ | ± 5% 1/16W |
| R377 | 4822 117 11294 | 100Ω | ± 5% 1/16W |
| R378 | 4822 117 11424 | 120KΩ | ± 5% 1/16W |
| R379 | 4822 117 10154 | 10MΩ | ± 5% 1/16W |
| R381 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R382 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R385 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |

## RESISTORS (ALL CHIPS)

| | | | |
|---|---|---|---|
| R386 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R387 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R388 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R389 | 4822 117 11305 | 18KΩ | ± 5% 1/16W |
| R390 | 4822 117 11305 | 18KΩ | ± 5% 1/16W |
| R391 | 4822 117 11364 | 3.9KΩ | ± 5% 1/16W |
| R392 | 4822 117 11364 | 3.9KΩ | ± 5% 1/16W |
| R393 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| R394 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| R397 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R398 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R401 | 4822 117 11312 | 27KΩ | ± 5% 1/16W |
| R402 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R406 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R408 | 4822 111 90892 | 0Ω | |
| R409 | 4822 111 90892 | 0Ω | |
| R411 | 4822 117 11303 | 15KΩ | ± 5% 1/16W |
| R412 | 4822 117 11303 | 15KΩ | ± 5% 1/16W |
| R413 | 4822 117 11398 | 680Ω | ± 5% 1/16W |
| R414 | 4822 117 11398 | 680Ω | ± 5% 1/16W |
| R415 | 4822 117 11315 | 33KΩ | ± 5% 1/16W |
| R416 | 4822 117 11315 | 33KΩ | ± 5% 1/16W |
| R417 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R418 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R419 | 4822 117 11294 | 100Ω | ± 5% 1/16W |
| R421 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R422 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R423 | | | |
| ⟆ | 4822 117 11307 | 220Ω | ± 5% 1/16W |
| R426 | | | |
| R427 | | | |
| ⟆ | 4822 117 11308 | 2.2KΩ | ± 5% 1/16W |
| R430 | | | |
| R431 | 4822 117 11294 | 100Ω | ± 5% 1/16W |
| R432 | 4822 117 11294 | 100Ω | ± 5% 1/16W |
| R441 | 4822 117 11328 | 68KΩ | ± 5% 1/16W |
| R442 | 4822 117 11361 | 2.2MΩ | ± 5% |
| R443 | 4822 117 11312 | 27KΩ | ± 5%1/16W |
| R501 | 4822 117 11353 | 120Ω | ± 5% 1/16W |
| R502 | 4822 117 11315 | 33KΩ | ± 5% 1/16W |
| R511 | 4822 117 11308 | 2.2KΩ | ± 5% 1/16W |
| R512 | 4822 117 11308 | 2.2KΩ | ± 5% 1/16W |
| R551 | 4822 117 11298 | 1MΩ | ± 5% 1/16W |
| R552 | 4822 117 11307 | 220Ω | ± 5% 1/16W |
| R553 | 4822 117 11298 | 1MΩ | ± 5% 1/16W |
| R554 | 4822 117 11307 | 220Ω | ± 5% 1/16W |
| R556 | 4822 117 11307 | 220Ω | ± 5% 1/16W |
| R557 | 4822 117 11307 | 220Ω | ± 5% 1/16W |
| R601 | 4822 117 11304 | 150KΩ | ± 5% 1/16W |
| R701 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R702 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R703 | 4822 117 11314 | 3.3KΩ | ± 5% 1/16W |
| R704 | 4822 117 11314 | 3.3KΩ | ± 5% 1/16W |
| R705 | 4822 117 11316 | 330KΩ | ± 5% 1/16W |
| R706 | 4822 117 11316 | 330KΩ | ± 5% 1/16W |
| R707 | 4822 117 11329 | 820KΩ | ± 5% 1/16W |
| R708 | 4822 117 11329 | 820KΩ | ± 5% 1/16W |
| R711 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| R712 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| R717 | 4822 117 11293 | 10Ω | ± 5% 1/16W |
| R721 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| R722 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| R723 | 4822 117 11295 | 1KΩ | ± 5% 1/16W |
| R724 | 4822 117 11295 | 1KΩ | ± 5% 1/16W |
| R806 | 4822 117 11301 | 12KΩ | ± 5% 1/16W |
| R807 | 4822 116 82735 | 7.5KΩ | ± 1% 1/10W |
| R808 | 4822 117 11337 | 4.7KΩ | ± 1% 1/10W |
| R809 | 4822 117 11315 | 33KΩ | ± 5% 1/16W |



## RESISTORS (ALL CHIPS)

| | | | |
|---|---|---|---|
| R810 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R811 | 4822 117 11311 | 220KΩ | ± 5% 1/16W |
| R812 | 4822 117 11315 | 33KΩ | ± 5% 1/16W |
| R813 | 4822 111 90883 | 10KΩ | ± 1% 1/10W |
| R814 | 4822 117 10147 | 47KΩ | ± 1% 1/10W |
| R815 | 4822 117 11315 | 33KΩ | ± 5% 1/16W |
| R816 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R817 | 4822 117 11356 | 130KΩ | ± 1% 1/10W |
| R818 | 4822 116 80974 | 91KΩ | ± 1% 1/10W |
| R821 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| R822 | 4822 117 11321 | 4.7KΩ | ± 5% 1/16W |
| R826 | 4822 117 11294 | 100Ω | ± 5% 1/16W |
| R827 | 4822 117 11306 | 22Ω | ± 5% 1/16W |
| R828 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |
| R829 | 4822 117 11296 | 10KΩ | ± 5% 1/16W |
| R831 | 4822 117 11306 | 22Ω | ± 5% 1/16W |
| R832 | 4822 117 11294 | 100Ω | ± 5% 1/16W |
| R835 | 4822 117 11306 | 22Ω | ± 5% 1/16W |
| R836 | 4822 117 11306 | 22Ω | ± 5% 1/16W |
| R841 | 4822 117 11309 | 22KΩ | ± 5% 1/16W |
| R842 | 4822 117 11297 | 100KΩ | ± 5% 1/16W |
| R843 | 4822 117 11322 | 47KΩ | ± 5% 1/16W |

## SEMICONDUCTORS (ALL CHIPS)

| | | | |
|---|---|---|---|
| DC01 | 4822 130 83718 | DIODE | EC15QS02L 1.3A |
| DC02 | 4822 130 83718 | DIODE | EC15QS02L 1.3A |
| DC03 | 5322 130 83285 | DIODE | 1SS322 |
| DH01 | 4822 130 81324 | DIODE | 1SS302 |
| DH02 | 4822 130 81324 | DIODE | 1SS302 |
| DH05 | 4822 130 83721 | DIODE | 1SS300 |
| DH06 | 4822 130 83721 | DIODE | 1SS300 |
| DH11 | 4822 130 83715 | DIODE | 1SS301 |
| DH12 | 4822 130 81324 | DIODE | 1SS302 |
| DU31 | 4822 130 83715 | DIODE | 1SS301 |
| DU32 | 4822 130 83715 | DIODE | 1SS301 |
| DU36 | 4822 130 83715 | DIODE | 1SS301 |
| D311 | 4822 130 83721 | DIODE | 1SS300 |
| D312 | 4822 130 83721 | DIODE | 1SS300 |
| D316 | 4822 130 83715 | DIODE | 1SS301 |
| D331 | 4822 130 81324 | DIODE | 1SS302 |
| D332 | 4822 130 81324 | DIODE | 1SS302 |
| D333 | 4822 130 83721 | DIODE | 1SS300 |
| D361 | 4822 130 81324 | DIODE | 1SS302 |
| D362 | 4822 130 81324 | DIODE | 1SS302 |
| D371 | 4822 130 83721 | DIODE | 1SS300 |
| D372 | 5322 130 83285 | DIODE | 1SS322 |
| D391 | 4822 130 83721 | DIODE | 1SS300 |
| D421 | 4822 130 83721 | DIODE | 1SS300 |
| D422 | 4822 130 83721 | DIODE | 1SS300 |
| D441 | 5322 130 83285 | DIODE | 1SS322 |
| D601 | 4822 130 81324 | DIODE | 1SS302 |
| D806 | 4822 130 82452 | DIODE | MA720 |
| D811 | 4822 130 82452 | DIODE | MA720 |
| D821 | 4822 130 81324 | DIODE | 1SS302 |
| QA01 | 4822 209 33578 | IC, | TDA1315 |
| QA02 | 4822 209 61751 | IC, | TC7S32F |
| QA03 | 4822 111 92184 | DIGITAL TRANSISTOR | RN1303 |
| QA11 | 4822 111 92192 | DIGITAL TRANSISTOR | RN1310 |
| QA12 | 4822 111 92191 | DIGITAL TRANSISTOR | RN2603 |
| QA13 | 4822 130 61541 | TRANSISTOR | 2SC4116 (GR) |
| QA26 | 4822 130 63609 | TRANSISTOR | 2SA1588 (Y) |
| QA27 | 4822 209 33556 | IC, V-REGULATOR 3.0V | RN5RG30A |
| QA28 | 4822 130 63609 | TRANSISTOR | 2SA1588 (Y) |
| QA29 | 4822 111 92188 | DIGITAL TRANSISTOR | RN4603 |
| QA30 | 4822 111 92184 | DIGITAL TRANSISTOR | RN1303 |
| QC01 | 4822 130 43954 | TRANSISTOR | 2SD999 |

## SEMICONDUCTORS (ALL CHIPS)

| | | | |
|---|---|---|---|
| QC02 | 4822 130 61541 | TRANSISTOR | 2SC4116 (GR) |
| QC03 | 4822 111 92185 | DIGITAL TRANSISTOR | RN1603 |
| QC04 | 4822 111 92184 | DIGITAL TRANSISTOR | RN1303 |
| QC05 | 4822 130 61554 | TRANSISTOR | 2SA1586 (Y,G) |
| QH01 | 4822 209 32583 | IC, HEAD PHON DRIVER | BA3570FS |
| QH11 | 4822 111 92187 | DIGITAL TRANSISTOR | HN1C03F (B) |
| QH12 | 4822 111 92187 | DIGITAL TRANSISTOR | HN1C03F (B) |
| QH16 | 4822 111 92188 | DIGITAL TRANSISTOR | RN4603 |
| QH41 | 4822 130 63609 | TRANSISTOR | 2SA1588 (Y) |
| QH42 | 4822 111 92184 | DIGITAL TRANSISTOR | RN1303 |
| QL01 | 4822 111 92188 | DIGITAL TRANSISTOR | RN4603 |
| QL02 | 4822 111 92188 | DIGITAL TRANSISTOR | RN4603 |
| QQ01 | 5322 209 32044 | IC, LEVEL SENSOR | NJM2072M |
| QU01 | 4822 209 33582 | µPD78058GC-3B9 (U-COM) | |
| QU02 | 4822 209 33571 | IC, V-REGULATOR 3.3V | RN5RL33A |
| QU03 | 4822 209 33569 | IC, V-DETECTOR 2.7V | RN5VL27C |
| QU21 | 4822 209 33573 | IC, INVERTER | TC7W14F |
| QU22 | 4822 209 63557 | IC, | TC7S08F |
| QU23 | 4822 209 33581 | IC, | TC7W08F |
| QU24 | 4822 130 63609 | TRANSISTOR | 2SA1588(Y) |
| QU36 | 4822 111 92183 | DIGITAL TRANSISTOR | RN2303 |
| QU37 | 4822 111 92188 | DIGITAL TRANSISTOR | RN4603 |
| Q301 | 4822 111 92195 | DIGITAL TRANSISTOR | HN1A01F |
| Q302 | 4822 111 92195 | DIGITAL TRANSISTOR | HN1A01F |
| Q306 | 4822 130 63609 | TRANSISTOR | 2SA1588 (Y) |
| Q307 | 4822 111 92184 | DIGITAL TRANSISTOR | RN1303 |
| Q308 | 4822 111 92192 | DIGITAL TRANSISTOR | RN1310 |
| Q311 | 4822 130 63618 | FET | 2SK880 (GR,BL) |
| Q312 | 4822 130 63618 | FET | 2SK880 (GR,BL) |
| Q313 | 4822 111 92193 | DIGITAL TRANSISTOR | RN1610 |
| Q314 | 4822 111 92193 | DIGITAL TRANSISTOR | RN1610 |
| Q316 | 4822 209 33563 | IC, OP-AMP | NJM2115V |
| Q331 | 4822 111 92187 | DIGITAL TRANSISTOR | HN1C03F (B) |
| Q332 | 4822 111 92186 | DIGITAL TRANSISTOR | HN1C01F (G) |
| Q333 | 4822 130 61541 | TRANSISTOR | 2SC4116 (GR) |
| Q334 | 4822 130 61541 | TRANSISTOR | 2SC4116 (GR) |
| Q335 | 4822 111 92192 | DIGITAL TRANSISTOR | RN1310 |
| Q336 | 4822 111 92192 | DIGITAL TRANSISTOR | RN1310 |
| Q338 | 4822 209 33563 | IC, OP AMP | NJM2115V |
| Q339 | 4822 130 63618 | FET | 2SK880 (GR,BL) |
| Q340 | 4822 130 63618 | FET | 2SK880 (GR,BL) |
| Q361 | 4822 111 92192 | DIGITAL TRANSISTOR | RN1310 |
| Q362 | 4822 111 92192 | DIGITAL TRANSISTOR | RN1310 |
| Q363 | 4822 130 61541 | TRANSISTOR | 2SC4116 (GR) |
| Q364 | 4822 130 61541 | TRANSISTOR | 2SC4116 (GR) |
| Q371 | 4822 111 92189 | DIGITAL TRANSISTOR | HN1B01F |
| Q372 | 4822 111 92188 | DIGITAL TRANSISTOR | RN4603 |
| Q373 | 4822 130 61554 | TRANSISTOR | 2SA1586 (Y,GR) |
| Q374 | 4822 111 92192 | DIGITAL TRANSISTOR | RN1310 |
| Q381 | 4822 209 33563 | IC, OP AMP | NJM2115V |
| Q385 | 4822 111 92187 | DIGITAL TRANSISTOR | HN1C03F (B) |
| Q391 | 4822 209 33577 | IC, LOVAC | TDA1309 |
| Q401 | 4822 111 92184 | DIGITAL TRANSISTOR | RN1303 |
| Q403 | 4822 209 33563 | IC, | NJM2115V |
| Q406 | 4822 130 63609 | TRANSISTOR | 2SA1588 (Y) |
| Q407 | 4822 209 33556 | IC, V-REGULATOR 3.0V | RN5RG30A |
| Q421 | 4822 111 92187 | DIGITAL TRANSISTOR | HN1C03F (B) |
| Q422 | 4822 111 92187 | DIGITAL TRANSISTOR | HN1C03F(B) |
| Q441 | 4822 111 92188 | DIGITAL TRANSISTOR | RN4603 |
| Q442 | 4822 111 92187 | DIGITAL TRANSISTOR | HN1C03F (G) |
| Q501 | 4822 209 33559 | IC, DRP | SAA3323 |
| Q502 | 4822 209 33564 | IC, S-RAM µPD43256BGU-B12 | |
| Q551 | 4822 209 33399 | IC, SFC3 | SAA2003 |
| Q601 | 4822 209 33401 | IC, ADAS | SAA2013 |
| Q701 | 4822 209 32622 | IC, DOLBY | BA1106FS |
| Q702 | 4822 111 92188 | DIGITAL TRANSISTOR | RN4603 |

SEMICONDUCTORS (ALL CHIPS)

| | | |
|---|---|---|
| Q801 | 4822 209 33561 | IC, DC-DC CONVERTER MB3775 |
| Q802 | 4822 209 31901 | IC, LOGIC TC4S11F |
| Q803 | 4822 209 60334 | IC, LOGIC TC4S81F |
| Q804 | 4822 111 92189 | DIGITAL TRANSISTOR HN1B01F |
| Q805 | 4822 111 92189 | DIGITAL TRANSISTOR HN1B01F |
| Q806 | 4822 130 63612 | FET 2SK1078 |
| Q807 | 4822 209 33554 | IC, V-REGULATOR 5.0V RN5RG50A |
| Q808 | 4822 130 63609 | TRANSISTOR 2SA1588 (Y) |
| Q809 | 4822 111 92184 | DIGITAL TRANSISTOR RN1303 |
| Q816 | 4822 130 63611 | FET 2SJ238 |

MISCELLANEOS (ALL MSD)

| | | |
|---|---|---|
| FH51 ~ FH54 | 4822 156 21729 | FERRITE BEAD BK2125HM102 |
| F301 | 4822 156 21729 | FERRITE BEAD BK2125HM102 |
| F302 | 4822 156 21729 | FERRITE BEAD BK2125HM102 |
| F441 | 4822 156 21729 | FERRITE BEAD BK2125HM102 |
| F442 | 4822 156 21729 | FERRITE BEAD BK2125HM102 |
| F443 | 4822 157 71226 | Coil, ZCYS51R5-M3PT |
| F806 | 4822 252 51166 | FUSE 125V 800MA |
| JH01 | 4822 267 31787 | JACK, HEADPHONES OUT |
| JU01 | 4822 265 61292 | JACK, 36P |
| JU02 | 4822 265 41408 | JACK, 17PIN |
| J301 | 4822 265 20671 | JACK, (LINE MIC DIG. IN) |
| J401 | 4822 265 20669 | JACK, (LINE DIG. OUTPUT) |
| J801 | 4822 267 31789 | JACK, DC IN |
| J802 | 4822 265 31064 | JACK |
| LA26 | 4822 157 63437 | ELJ-FA100J |
| L406 | 4822 157 63437 | ELJ-FA100J |
| L501 | 4822 157 63437 | ELJ-FA100J |
| L551 | 4822 157 63437 | ELJ-FA100J |
| L801 | 4822 157 71227 | CD54-100K |
| L806 | 4822 157 71228 | CDR74-470K |
| L816 | 4822 157 71228 | CDR74-470K |
| L817 | 4822 157 71227 | CD54-100K |
| SH01 | 4822 277 21749 | SLIDE SWITCH |
| SU21 | 4822 277 21748 | SLIDE SWITCH (REV MODE) |
| SU22 | 4822 277 21748 | SLIDE SWITCH (HOLD) |
| S301 | 4822 277 21749 | SLIDE SWITCH (INPUT SEL.) |
| S302 | 4822 277 21748 | SLIDE SWITCH (ALC) |
| S701 | 4822 277 21748 | SLIDE SWITCH (DOLBY) |
| XU01 | 4822 242 81792 | CERAMIC VIBRATOR KBR3.0MWS |
| X551 | 4822 242 81793 | OTHER VIBRATORS CS-20 (22.5792MHZ) |
| X552 | 4822 242 81794 | OTHER VIBRATORS CS20 (24.5760MHZ) |

**PD03 PCB SWITCH BOARD**

SEMICONDUCTORS (ALL CHIPS)

| | | |
|---|---|---|
| DD01 | 5322 209 12296 | L.E.D BR1101W (REC.IND) |

MISCELLANEOS (ALL MSD)

| | | |
|---|---|---|
| SD01 ~ SD09 | 4822 276 13525 | PUSH SWITCH |
| SD10 | 4822 277 21752 | SLIDE SWITCH |
| SD11 | 4822 276 13526 | PUSH SWITCH |

800mA 125V

**CAUTION:**
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME 800mA,125V FUSE. REFER REPLACEMENT TO QUALIFIED SERVICE PERSONNEL.