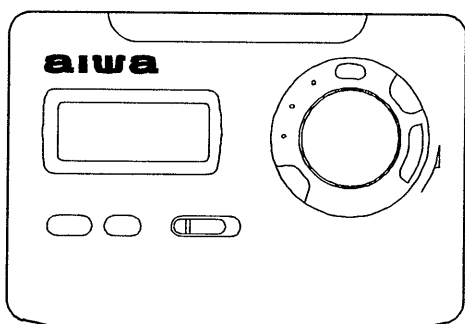


# aiwa



## HS-JX849



STEREO RADIO  
CASSETTE RECORDER

• BASIC TAPE MECHANISM: 4ZM-1 R2

• TYPE: AH,AU,AE,DAH,YHS

### 改 定 版 REVISION PUBLISHING

- このサービスマニュアルはシンプル版 ( S/M Code No. 09-952-095-70I ) の改定版です。  
差し替えて使用してください。
- This Service Manual is the "Revision Publishing" and replaces "Simple Manual"  
( S/M Code No. 09-952-095-70I ).

## SPECIFICATIONS

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                  |                                                                                                                                                                                                     |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Frequency range</b> | AH, DAH, AE, YHS<br>Reception area "E"<br>AM531 – 1,602 kHz (9 kHz steps)<br>FM1, FM2 87.5 – 108 MHz (50 kHz steps)<br>Reception area "L"<br>AM530 – 1,710 kHz (10 kHz steps)<br>FM1, FM2 87.5 – 108.1 MHz<br>(200 kHz steps)<br>AU<br>Reception area "L"<br>AM530 – 1,710 kHz (10 kHz steps)<br>FM1, FM2 87.5 – 108.1 MHz<br>(200 kHz steps)<br>Reception area "E"<br>AM531 – 1,602 kHz (9 kHz steps)<br>FM1, FM2 87.5 – 108 MHz (50 kHz steps)<br>Reception area "J"<br>AM531 – 1,629 kHz (9 kHz steps)<br>FM1, FM2 76 – 108 MHz (100 kHz steps) | <b>Battery life</b>              | Rechargeable battery (PB-S5)<br>Approx. 2 hours<br>(EIAJ, PB 1mW/10 minutes recharging)<br>Approx. 3 hours<br>(EIAJ, PB 1 mW/1 hour recharging)<br>Approx. 2 hours<br>(EIAJ, REC/1 hour recharging) |
|                        | 10 mW+10 mW (EIAJ/32 Ω)<br>12 mW+12 mW (EIAJ/16 Ω)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                  | 109.5(W) × 79(H) × 28.3(D)mm<br>(4 <sup>9</sup> / <sub>16</sub> × 3 <sup>1</sup> / <sub>16</sub> × 1 <sup>1</sup> / <sub>16</sub> in.)                                                              |
| <b>Maximum output</b>  | Battery DC 2V, rechargeable battery (PB-S5)<br>Battery DC 3V, R03, LR03 (AAA) × 2<br>Domestic AC power (using the supplied AC adaptor)                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Dimensions</b>                | <b>Weight</b>                                                                                                                                                                                       |
| <b>Power source</b>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Accessories</b>               | Approx. 225 g(0.5 lb) incl. rechargeable battery                                                                                                                                                    |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                  | Stereo headphones (1)<br>Remote control (1)<br>Stereo microphone (1)<br>AC adaptor (AC-207) (1)<br>Rechargeable battery (PB-S5) (1)<br>Battery case (1)<br>Carrying case (1)<br>Ear pads (1 pair)   |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>&lt;AC adaptor/AC-207&gt;</b> |                                                                                                                                                                                                     |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Rated voltage</b>             | AC-207H AC 115V/230V, switchable<br>(AH, DAH)<br>AC-207E AC 230V (AE)<br>AC-207U AC 120V (AU)                                                                                                       |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Rated output</b>              | DC 2V 350mA                                                                                                                                                                                         |

- Design and specifications are subject to change without notice.
- Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
- "Dolby", the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
- The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.
- Under license from BBE Sound, Inc.

## ■ ACCESSORIES/PACKAGE LIST

DESCRIPTION で判断できない物は "REFERENCE NAME LIST" を参照してください。  
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION            |
|---------|----------------|------------|------------------------|
| 1       | 84-HJ2-905-010 |            | IB, EX-EFS-J(AU)       |
| 2       | 84-HJ2-906-010 |            | IB, EX-ESC-J(DAH, AH1) |
| 3       | 84-HJ2-907-110 |            | IB, EX-GI-J(AE1)       |
| 4       | 82-HK3-951-010 |            | CARRYING CASE          |
| 5       | 84-HJ2-952-010 |            | RC, RC-JX849           |
| 6       | 87-041-081-010 |            | MIC, CM-S25A           |
| 7       | 87-042-097-019 |            | AC-207 U/C A(AU)       |
| 8       | 87-042-175-019 |            | AC-207 HJA(DAH, AH1)   |
| 9       | 87-042-176-019 |            | AC-207E2(C)(AE1)       |
| 10      | 87-047-138-010 |            | PB-S5 PRBA             |
| 11      | 87-048-251-210 |            | HP-23NAS(EXCEPT AU)    |
| 12      | 87-048-274-010 |            | HP-A270AS(AU)          |
| 13      | 09-028-139-010 |            | BATT BOX ASSY          |

## CAUTIONS WHEN SERVICING

When the main circuit board is opened during servicing, operation cannot be checked because the motor terminals, etc. are soldered directly to the board.

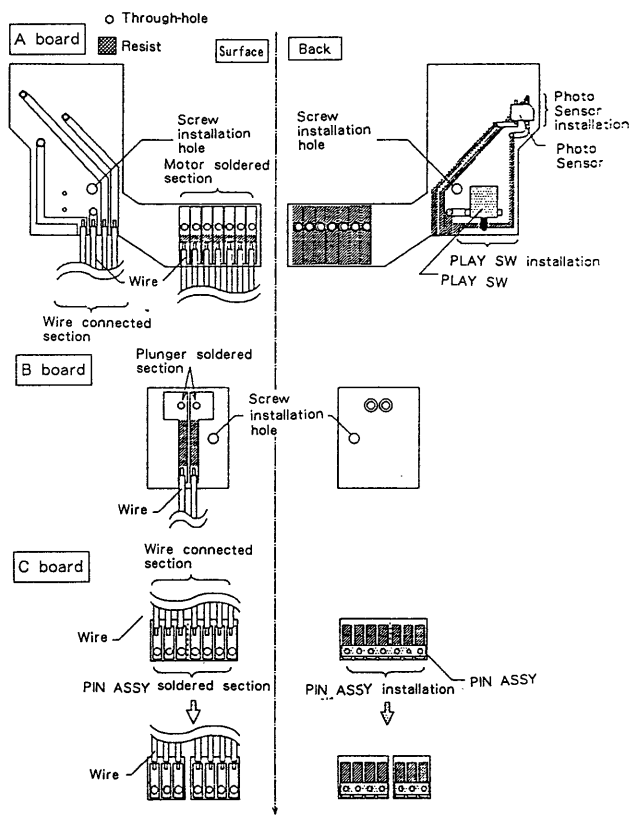
Use a jig (for the 4ZM-1) to check operation with the main circuit board open.

Part Description : 4ZM-1 JIG KIT, Part No. 09-001-323-010

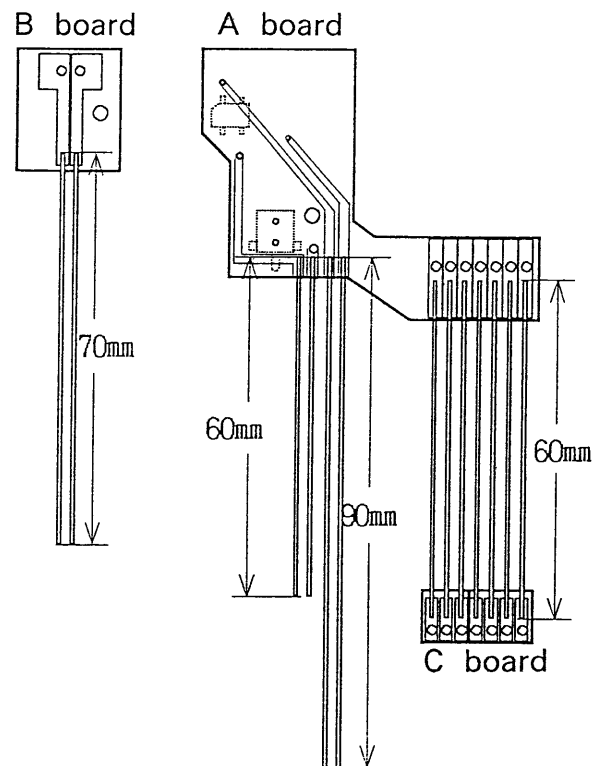
### 1. Assembling the Jig

Install the jig, referring to the following diagrams.

- 1) Divide the 6-pin flat cable to create three 2-pin wires.
- 2) Solder the C-SW PUSH and P-SNSR to the A board.
- 3) Solder the 7-pin flat cable and two 2-pin wires to the A board.
- 4) Solder the 2-pin wire to the B board.
- 5) Attach the PIN ASSY to the C board and solder it to the other end of the 7-pin flat cable which has been soldered to the A board.



Details of Jig and Assembly



Jig Complete View

## 2. Attaching the Jig

### A board

- Fix the A board to the mechanism using the main board holding screws.
- Solder the motor terminals.
- Solder wires ① and ② to the PHOTO SENSOR.
- Solder wires ③ and ④ to the PLAY SW.

### B board

- Fix the B board to the mechanism using the main board holding screws.
- Solder the plunger terminals.
- Solder wires ⑤ and ⑥ to plunger land on the MAIN board.

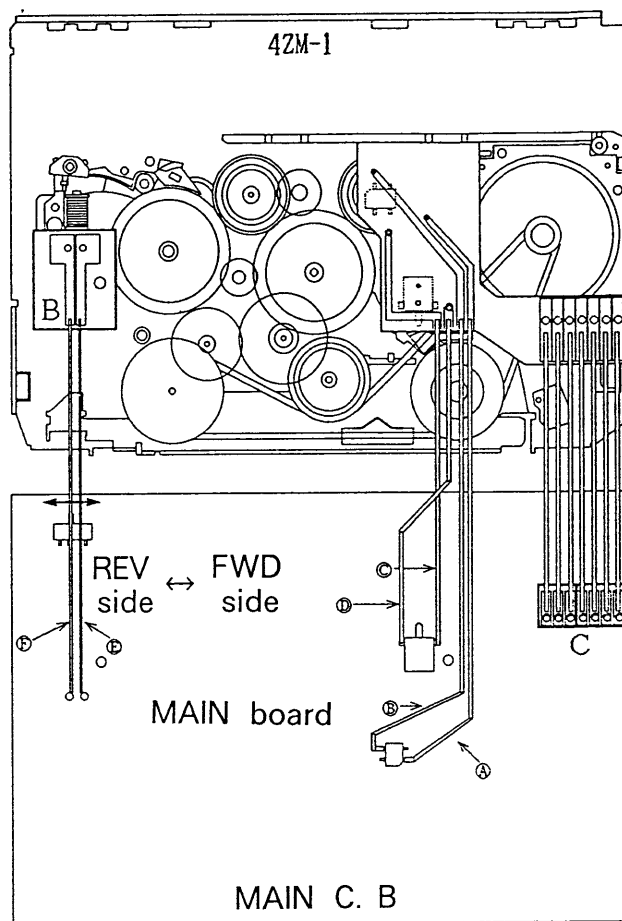
### C board

- Solder the PIN ASSY on the C board to motor land on the MAIN board.

## 3. Using the Jig

When the circuit board is opened, the operation switches on the board are at the back. To increase working efficiency, use the remote control to operate the unit.

- 1) Connect the remote control to the unit.
- 2) Set the remote switch to ON.
- 3) Short the C-SW terminal.
- 4) Be careful that no external light enters the photosensor on the MAIN board to prevent a malfunction.
- 5) Switch the F/R SW to match the running of tape.



# ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。  
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

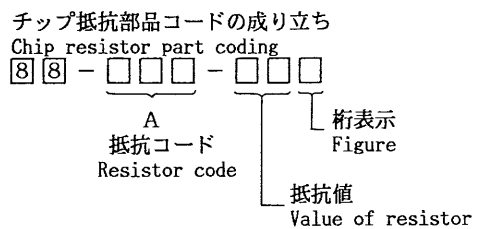
| REF. NO    | PART NO.       | カリ<br>NO.            | DESCRIPTION | REF. NO | PART NO.       | カリ<br>NO. | DESCRIPTION          |
|------------|----------------|----------------------|-------------|---------|----------------|-----------|----------------------|
| IC         |                |                      |             | C18     | 87-010-958-080 |           | C-CAP, S 0.01-25 B J |
|            | 87-001-894-080 | IC, TA8155FN         |             | C19     | 87-016-296-080 |           | C-CAP, TN 22-4 SV(A) |
|            | 87-001-875-080 | IC, BA1106 FS        |             | C20     | 87-016-296-080 |           | C-CAP, TN 22-4 SV(A) |
|            | 87-017-795-010 | IC, BA3840KV         |             | C21     | 87-016-462-080 |           | C-CAP, S 1-16 F      |
|            | 87-020-234-080 | IC, TA7688F(S)       |             | C22     | 87-016-462-080 |           | C-CAP, S 1-16 F      |
|            | 87-002-406-080 | IC, TPIC326ADB       |             | C23     | 87-012-282-080 |           | C-CAP, U 4700P-50 B  |
|            | 87-017-538-080 | IC, LB1674V          |             | C24     | 87-012-282-080 |           | C-CAP, U 4700P-50 B  |
|            | 87-002-691-080 | IC, BA3714AF         |             | C25     | 87-010-828-080 |           | C-CAP, U 0.033-16 F  |
|            | 87-001-808-010 | IC, ASP5410          |             | C26     | 87-010-828-080 |           | C-CAP, U 0.033-16 F  |
|            | 87-070-076-040 | IC, PST 9015         |             | C27     | 87-012-286-080 |           | C-CAP, U 0.01-25 B   |
|            | 87-001-149-080 | IC, TA8158F          |             | C28     | 87-012-286-080 |           | C-CAP, U 0.01-25 B   |
|            | 87-017-789-080 | IC, TA2022FN         |             | C29     | 87-010-828-080 |           | C-CAP, U 0.033-16 F  |
|            | 87-002-545-080 | IC, TA2018FN         |             | C30     | 87-010-828-080 |           | C-CAP, U 0.033-16 F  |
|            | 87-017-791-080 | IC, TD7103           |             | C31     | 87-010-831-080 |           | C-CAP, U 0.1-16F     |
|            | 87-017-686-080 | IC, AK93C45LF        |             | C32     | 87-010-831-080 |           | C-CAP, U 0.1-16F     |
|            | 87-017-946-110 | IC, TC9317F-021      |             | C33     | 87-016-462-080 |           | C-CAP, S 1-16 F      |
|            | 87-017-826-080 | IC, MM1085AFFE       |             | C34     | 87-016-462-080 |           | C-CAP, S 1-16 F      |
| TRANSISTOR |                |                      |             | C35     | 87-010-959-080 |           | C-CAP, U 0.056-16F   |
|            | 89-508-804-080 | C-FET, 2SK880 Y      |             | C36     | 87-010-959-080 |           | C-CAP, U 0.056-16F   |
|            | 87-026-412-080 | C-TR, RN1305         |             | C37     | 87-010-959-080 |           | C-CAP, U 0.056-16F   |
|            | 89-342-132-080 | C-TR, 2SC4213B       |             | C38     | 87-010-959-080 |           | C-CAP, U 0.056-16F   |
|            | 87-026-414-080 | C-TR, RN1307         |             | C39     | 87-012-281-080 |           | C-CAP, U 3900P-50 B  |
|            | 89-115-864-080 | C-TR, 2SA1586Y       |             | C40     | 87-012-281-080 |           | C-CAP, U 3900P-50 B  |
|            | 87-026-475-080 | C-TR, RN1607         |             | C41     | 87-010-831-080 |           | C-CAP, U 0.1-16F     |
|            | 87-026-467-080 | C-TR, HN1C01F(GR)    |             | C42     | 87-010-831-080 |           | C-CAP, U 0.1-16F     |
|            | 87-026-418-080 | C-TR, RN1311         |             | C43     | 87-010-831-080 |           | C-CAP, U 0.1-16F     |
|            | 89-113-625-080 | C-TR, 2SA1362GR      |             | C44     | 87-010-831-080 |           | C-CAP, U 0.1-16F     |
|            | 87-026-474-080 | C-TR, RN1605         |             | C45     | 87-010-787-080 |           | C-CAP, U 0.022-25B   |
|            | 87-026-423-080 | C-TR, RN2305         |             | C46     | 87-010-787-080 |           | C-CAP, U 0.022-25B   |
|            | 87-026-470-080 | C-TR, HN1C03F(B)     |             | C47     | 87-016-462-080 |           | C-CAP, S 1-16 F      |
|            | 87-026-428-080 | C-TR, RN2310         |             | C48     | 87-016-462-080 |           | C-CAP, S 1-16 F      |
|            | 89-342-153-080 | C-TR, 2SC42150       |             | C49     | 87-016-462-080 |           | C-CAP, S 1-16 F      |
|            | 87-026-482-080 | C-TR, RN4610         |             | C50     | 87-016-462-080 |           | C-CAP, S 1-16 F      |
|            | 89-508-814-080 | C-FET, 2SK881 Y      |             | C51     | 87-010-831-080 |           | C-CAP, U 0.1-16F     |
|            | 87-026-429-080 | C-TR, RN2311         |             | C52     | 87-010-831-080 |           | C-CAP, U 0.1-16F     |
|            | 87-026-425-080 | C-TR, RN2307         |             | C53     | 87-012-284-080 |           | C-CAP, U 6800P-50 B  |
|            | 89-341-165-080 | C-TR, 2SC4116GR      |             | C54     | 87-012-284-080 |           | C-CAP, U 6800P-50 B  |
|            | 87-026-476-080 | C-TR, RN1610         |             | C55     | 87-016-462-080 |           | C-CAP, S 1-16 F      |
|            | 87-026-417-080 | C-TR, RN1310         |             | C56     | 87-016-462-080 |           | C-CAP, S 1-16 F      |
|            | 89-112-134-080 | C-TR, 2SA1213Y       |             | C57     | 87-012-275-080 |           | C-CAP, U 1200P-50 B  |
| DIODE      |                |                      |             | C58     | 87-012-275-080 |           | C-CAP, U 1200P-50 B  |
|            | 87-001-167-080 | C-DIODE, 1SS302      |             | C59     | 87-012-141-080 |           | C-CAP, S 0.22-16 F   |
|            | 87-001-166-080 | C-DIODE, 1SS301      |             | C60     | 87-012-141-080 |           | C-CAP, S 0.22-16 F   |
|            | 87-001-764-080 | C-DIODE, 1MN10       |             | C61     | 87-016-431-080 |           | C-CAP, E 220-4 5.5N  |
|            | 87-001-165-080 | C-DIODE, 1SS300      |             | C62     | 87-016-431-080 |           | C-CAP, E 220-4 5.5N  |
| MAIN C.B   |                |                      |             | C65     | 87-016-462-080 |           | C-CAP, S 1-16 F      |
| C1         | 87-015-923-080 | C-CAP, TN 0.22-35    |             | C66     | 87-010-746-080 |           | C-CAP, TN 10-4 A     |
| C2         | 87-015-923-080 | C-CAP, TN 0.22-35    |             | C67     | 87-010-943-080 |           | C-CAP, E 100-4       |
| C3         | 87-010-787-080 | C-CAP, U 0.022-25B   |             | C68     | 87-010-196-080 |           | C-CAP, S 0.1-25 F    |
| C4         | 87-010-787-080 | C-CAP, U 0.022-25B   |             | C71     | 87-016-296-080 |           | C-CAP, TN 22-4 SV(A) |
| C5         | 87-016-462-080 | C-CAP, S 1-16 F      |             | C72     | 87-010-746-080 |           | C-CAP, TN 10-4 A     |
| C6         | 87-016-462-080 | C-CAP, S 1-16 F      |             | C73     | 87-016-296-080 |           | C-CAP, TN 22-4 SV(A) |
| C7         | 87-016-462-080 | C-CAP, S 1-16 F      |             | C74     | 87-012-286-080 |           | C-CAP, U 0.01-25 B   |
| C8         | 87-016-462-080 | C-CAP, S 1-16 F      |             | C75     | 87-010-942-080 |           | C-CAP, E 47-4        |
| C9         | 87-012-195-080 | C-CAP, U 100P-50 CH  |             | C76     | 87-010-831-080 |           | C-CAP, U 0.1-16F     |
| C10        | 87-012-195-080 | C-CAP, U 100P-50 CH  |             | C77     | 87-016-436-080 |           | C-CAP, TN 47-4(B2)   |
| C11        | 87-016-462-080 | C-CAP, S 1-16 F      |             | C78     | 87-010-746-080 |           | C-CAP, TN 10-4 A     |
| C12        | 87-016-462-080 | C-CAP, S 1-16 F      |             | C79     | 87-010-942-080 |           | C-CAP, E 47-4        |
| C13        | 87-012-274-080 | C-CAP, U 1000P-50 B  |             | C80     | 87-010-942-080 |           | C-CAP, E 47-4        |
| C14        | 87-012-274-080 | C-CAP, U 1000P-50 B  |             | C81     | 87-012-286-080 |           | C-CAP, U 0.01-25 B   |
| C15        | 87-012-270-080 | C-CAP, U 470P-50 B   |             | C83     | 87-016-462-080 |           | C-CAP, S 1-16 F      |
| C16        | 87-012-270-080 | C-CAP, U 470P-50 B   |             | C84     | 87-016-462-080 |           | C-CAP, S 1-16 F      |
| C17        | 87-010-958-080 | C-CAP, S 0.01-25 B J |             | C85     | 87-016-436-080 |           | C-CAP, TN 47-4(B2)   |
|            |                |                      |             | C86     | 87-010-831-080 |           | C-CAP, U 0.1-16F     |
|            |                |                      |             | C87     | 87-010-830-080 |           | C-CAP, U 0.068-16F   |
|            |                |                      |             | C88     | 87-016-436-080 |           | C-CAP, TN 47-4(B2)   |
|            |                |                      |             | C89     | 87-016-296-080 |           | C-CAP, TN 22-4 SV(A) |
|            |                |                      |             | C90     | 87-012-286-080 |           | C-CAP, U 0.01-25 B   |
|            |                |                      |             | C91     | 87-010-943-080 |           | C-CAP, E 100-4       |
|            |                |                      |             | C92     | 87-016-431-080 |           | C-CAP, E 220-4 5.5N  |

| REF. NO | PART NO.       | カリ<br>NO.     | DESCRIPTION |
|---------|----------------|---------------|-------------|
| C93     | 87-012-274-080 | C-CAP, U      | 1000P-50 B  |
| C94     | 87-012-270-080 | C-CAP, U      | 470P-50 B   |
| C95     | 87-012-270-080 | C-CAP, U      | 470P-50 B   |
| C96     | 87-012-278-080 | C-CAP, U      | 2200P-50 B  |
| C97     | 87-012-286-080 | C-CAP, U      | 0.01-25 B   |
| C98     | 87-010-197-080 | C-CAP, S      | 0.01-25 B   |
| C99     | 87-010-424-080 | C-CAP, TN     | 4.7-4       |
| C100    | 87-012-286-080 | C-CAP, U      | 0.01-25 B   |
| C101    | 87-012-279-080 | C-CAP, U      | 2700P-50 B  |
| C102    | 87-012-286-080 | C-CAP, U      | 0.01-25 B   |
| C103    | 87-016-462-080 | C-CAP, S      | 1-16 F      |
| C105    | 87-010-746-080 | C-CAP, TN     | 10-4 A      |
| C106    | 87-016-462-080 | C-CAP, S      | 1-16 F      |
| C107    | 87-016-462-080 | C-CAP, S      | 1-16 F      |
| C108    | 87-012-272-080 | C-CAP, U      | 680P-50 B   |
| C109    | 87-010-196-080 | C-CAP, S      | 0.1-25 F    |
| C110    | 87-010-182-080 | C-CAP, S      | 2200P-50 B  |
| C111    | 87-012-141-080 | C-CAP, S      | 0.22-16 F   |
| C112    | 87-010-193-080 | C-CAP, S      | 0.033-25 F  |
| C113    | 87-010-522-080 | C-CAP, TN     | 2.2-10      |
| C114    | 87-010-452-080 | C-CAP, 1-16 F |             |
| C115    | 87-010-504-080 | C-CAP, TN     | 0.47-25     |
| C116    | 87-010-194-080 | C-CAP, S      | 0.047-25 F  |
| C117    | 87-015-923-080 | C-CAP, TN     | 0.22-35     |
| C118    | 87-010-196-080 | C-CAP, S      | 0.1-25 F    |
| C119    | 87-016-461-080 | C-CAP, S      | 0.47-16 F   |
| C120    | 87-010-196-080 | C-CAP, S      | 0.1-25 F    |
| C121    | 87-010-829-080 | C-CAP, U      | 0.047-16F   |
| C122    | 87-010-197-080 | C-CAP, S      | 0.01-25 B   |
| C123    | 87-016-461-080 | C-CAP, S      | 0.47-16 F   |
| C124    | 87-016-436-080 | C-CAP, TN     | 47-4(B2)    |
| C125    | 87-012-142-080 | C-CAP, S      | 0.33-16 F   |
| C126    | 87-016-461-080 | C-CAP, S      | 0.47-16 F   |
| C127    | 87-012-141-080 | C-CAP, S      | 0.22-16 F   |
| C128    | 87-010-196-080 | C-CAP, S      | 0.1-25 F    |
| C149    | 87-016-436-080 | C-CAP, TN     | 47-4(B2)    |
| C501    | 87-012-286-080 | C-CAP, U      | 0.01-25 B   |
| C502    | 87-012-286-080 | C-CAP, U      | 0.01-25 B   |
| C503    | 87-010-829-080 | C-CAP, U      | 0.047-16F   |
| C504    | 87-010-829-080 | C-CAP, U      | 0.047-16F   |
| C505    | 87-010-829-080 | C-CAP, U      | 0.047-16F   |
| C506    | 87-010-829-080 | C-CAP, U      | 0.047-16F   |
| C507    | 87-010-829-080 | C-CAP, U      | 0.047-16F   |
| C508    | 87-010-829-080 | C-CAP, U      | 0.047-16F   |
| C509    | 87-012-191-080 | C-CAP, U      | 68P-50 CH   |
| C510    | 87-012-191-080 | C-CAP, U      | 68P-50 CH   |
| C511    | 87-010-522-080 | C-CAP, TN     | 2.2-10      |
| C512    | 87-010-522-080 | C-CAP, TN     | 2.2-10      |
| C513    | 87-010-424-080 | C-CAP, TN     | 4.7-4       |
| C514    | 87-010-424-080 | C-CAP, TN     | 4.7-4       |
| C515    | 87-012-142-080 | C-CAP, S      | 0.33-16 F   |
| C516    | 87-012-142-080 | C-CAP, S      | 0.33-16 F   |
| C517    | 87-012-266-080 | C-CAP, U      | 220P-50 B   |
| C518    | 87-012-266-080 | C-CAP, U      | 220P-50 B   |
| C519    | 87-016-462-080 | C-CAP, S      | 1-16 F      |
| C520    | 87-016-462-080 | C-CAP, S      | 1-16 F      |
| C521    | 87-010-424-080 | C-CAP, TN     | 4.7-4       |
| C522    | 87-010-746-080 | C-CAP, TN     | 10-4 A      |
| C523    | 87-010-424-080 | C-CAP, TN     | 4.7-4       |
| J1      | 87-099-676-010 | JACK, 3.5 ST  | BLK P/M     |
| J2      | 87-099-577-010 | JACK, DC      | 3.75        |
| L1      | 87-003-240-080 | C-COIL, S     | 3.3 UH      |
| L2      | 87-003-240-080 | C-COIL, S     | 3.3 UH      |
| L3      | 87-003-240-080 | C-COIL, S     | 3.3 UH      |
| L4      | 87-003-240-080 | C-COIL, S     | 3.3 UH      |
| L5      | 87-003-240-080 | C-COIL, S     | 3.3 UH      |
| L6      | 81-HJ1-620-010 | COIL, LOADING |             |
| L7      | 87-007-270-080 | C-COIL, OSC   | BIAS        |
| L8      | 87-003-367-080 | C-COIL, U     | 2.2UH K     |
| PL1     | 87-026-504-010 | P-SNSR, 5164K | F1-Q2       |

| REF. NO    | PART NO.       | カリ<br>NO.     | DESCRIPTION  |
|------------|----------------|---------------|--------------|
| R7         | 87-022-292-080 | C-RES, U      | 330K-1/16W F |
| R8         | 87-022-292-080 | C-RES, U      | 330K-1/16W F |
| R9         | 87-022-243-080 | C-RES, U      | 15K-1/16W F  |
| R10        | 87-022-243-080 | C-RES, U      | 15K-1/16W F  |
| R13        | 87-022-280-080 | C-RES, U      | 560-1/16W F  |
| R14        | 87-022-280-080 | C-RES, U      | 560-1/16W F  |
| R15        | 87-022-217-080 | C-RES, U      | 1.2K-1/16W F |
| R16        | 87-022-217-080 | C-RES, U      | 1.2K-1/16W F |
| R105       | 87-022-037-080 | PTR           | 0.68/4300    |
| R107       | 87-022-043-080 | C-RES, M      | M/F 8.2K-1/8 |
| SFR1       | 87-024-455-080 | C-SFR, 6.8K   | VG033C       |
| SFR2       | 87-024-455-080 | C-SFR, 6.8K   | VG033C       |
| SW1        | 87-036-244-080 | C-SW, SLIDE   | 1-2-2(NC)    |
| SW2        | 87-036-123-080 | C-SW, SLIDE   | 1-1-2        |
| SW3        | 87-036-146-080 | C-SW SLIDE    | 1-1-4        |
| SW4        | 87-036-123-080 | C-SW, SLIDE   | 1-1-2        |
| SW5        | 80-ZM4-605-010 | SW, LEAF      | REC          |
| SW6        | 87-036-145-080 | C-SW, SLIDE   | 1-1-3        |
| SW7        | 87-036-237-080 | C-SW, PUSH    |              |
| SW8        | 87-036-236-080 | C-SW, SLIDE   | 1-1-2(NC)    |
| SW9        | 87-036-123-080 | C-SW, SLIDE   | 1-1-2        |
| SW10       | 87-036-123-080 | C-SW, SLIDE   | 1-1-2        |
| SW12       | 84-HJ2-620-010 | SW, LEAF      | 42M-1 J(EH)  |
| SW13       | 84-HK3-604-010 | SW, LEAF      | 42M-1P       |
| TM1        | 84-HJ2-618-010 | TERM ASSY, RX | N            |
| VR1        | 87-099-677-080 | C-VR, 20KAX2  | DIA14        |
| TUNER C. B |                |               |              |
| BPF201     | 81-HW1-628-080 | C-BPF, GFWB1  |              |
| C201       | 87-012-195-080 | C-CAP, U      | 100P-50 CH   |
| C203       | 87-012-275-080 | C-CAP, U      | 1200P-50 B   |
| C204       | 87-012-274-080 | C-CAP, U      | 1000P-50 B   |
| C205       | 87-012-286-080 | C-CAP, U      | 0.01-25 B    |
| C207       | 87-012-199-080 | C-CAP, U      | 220P-50 CH   |
| C208       | 87-012-286-080 | C-CAP, U      | 0.01-25 B    |
| C209       | 87-012-166-080 | C-CAP, U      | 4P-50 CH     |
| C211       | 87-012-184-080 | C-CAP, U      | 33P-50 CH    |
| C212       | 87-012-286-080 | C-CAP, U      | 0.01-25 B    |
| C213       | 87-012-195-080 | C-CAP, U      | 100P-50 CH   |
| C214       | 87-012-162-080 | C-CAP, U      | 1P-50 CH     |
| C215       | 87-010-322-080 | C-CAP, S      | 100P-50 CH   |
| C216       | 87-010-197-080 | C-CAP, S      | 0.01-25 B    |
| C217       | 87-012-286-080 | C-CAP, U      | 0.01-25 B    |
| C218       | 87-012-193-080 | C-CAP, U      | 82P-50 CH    |
| C219       | 87-010-746-080 | C-CAP, TN     | 10-4 A       |
| C220       | 87-012-286-080 | C-CAP, U      | 0.01-25 B    |
| C221       | 87-012-286-080 | C-CAP, U      | 0.01-25 B    |
| C222       | 87-010-831-080 | C-CAP, U      | 0.1-16F      |
| C223       | 87-012-166-080 | C-CAP, U      | 4P-50 CH     |
| C224       | 87-012-336-080 | C-CAP, U      | 330P-50 SL   |
| C225       | 87-012-286-080 | C-CAP, U      | 0.01-25 B    |
| C226       | 87-012-274-080 | C-CAP, U      | 1000P-50 B   |
| C227       | 87-012-141-080 | C-CAP, S      | 0.22-16 F    |
| C228       | 87-010-831-080 | C-CAP, U      | 0.1-16F      |
| C229       | 87-012-141-080 | C-CAP, S      | 0.22-16 F    |
| C230       | 87-010-831-080 | C-CAP, U      | 0.1-16F      |
| C231       | 87-012-349-080 | C-CAP, S      | 1000P-50 CH  |
| C232       | 87-010-992-080 | C-CAP, S      | 0.047-25 B   |
| C233       | 87-010-831-080 | C-CAP, U      | 0.1-16F      |
| C234       | 87-012-274-080 | C-CAP, U      | 1000P-50 B   |
| C235       | 87-012-286-080 | C-CAP, U      | 0.01-25 B    |
| C236       | 87-012-286-080 | C-CAP, U      | 0.01-25 B    |
| C237       | 87-010-831-080 | C-CAP, U      | 0.1-16F      |
| C238       | 87-012-164-080 | C-CAP, U      | 2P-50 CH     |
| C239       | 87-012-286-080 | C-CAP, U      | 0.01-25 B    |
| C240       | 87-010-872-080 | C-CAP, U      | 470P-50 SL   |
| C241       | 87-012-337-080 | C-CAP, U      | 56P-50 CH    |
| C242       | 87-012-249-080 | C-CAP, U      | 22P-50UJ     |

| REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION         | REF. NO          | PART NO.       | カンリ<br>NO. | DESCRIPTION           |
|---------|----------------|------------|---------------------|------------------|----------------|------------|-----------------------|
| C243    | 87-012-273-080 |            | C-CAP, U 820P-50 B  | F202             | 87-008-539-080 |            | C-FLTR KIT, 10. 7Y-AE |
| C244    | 87-012-286-080 |            | C-CAP, U 0. 01-25 B | F203             | 87-008-539-080 |            | C-FLTR KIT, 10. 7Y-AE |
| C245    | 87-016-462-080 |            | C-CAP, S 1-16 F     | F204             | 87-008-499-080 |            | C-FLTR, PFBF450HM3    |
| C246    | 87-010-424-080 |            | C-CAP, TN 4. 7-4    | F205             | 87-008-539-080 |            | C-FLTR KIT, 10. 7Y-AE |
| C247    | 87-012-286-080 |            | C-CAP, U 0. 01-25 B |                  |                |            |                       |
| C248    | 87-012-274-080 |            | C-CAP, U 1000P-50 B | L203             | 81-HJ1-609-080 |            | COIL, FM RF(R)        |
| C249    | 87-012-141-080 |            | C-CAP, S 0. 22-16 F | L204             | 84-HJ2-619-010 |            | C-COIL, FM OSC EX     |
| C250    | 87-012-141-080 |            | C-CAP, S 0. 22-16 F | L205             | 87-005-564-080 |            | C-COIL, S 2. 2UH K    |
| C267    | 87-012-286-080 |            | C-CAP, U 0. 01-25 B | L206             | 82-HJ1-607-010 |            | BAR-ANT, MW           |
| C268    | 87-010-522-080 |            | C-CAP, TN 2. 2-10   | L207             | 87-003-247-080 |            | C-COIL, 100UH J       |
| C269    | 87-012-286-080 |            | C-CAP, U 0. 01-25 B | L208             | 87-008-420-080 |            | C-IFT, 450K, MW       |
| C270    | 87-016-462-080 |            | C-CAP, S 1-16 F     | L210             | 87-006-214-080 |            | C-COIL, DD(2018)      |
| C271    | 87-012-286-080 |            | C-CAP, U 0. 01-25 B | LCD201           | 84-HJ2-617-010 |            | LCD ASSY(E)           |
| C272    | 87-012-199-080 |            | C-CAP, U 220P-50 CH | LED201           | 87-017-828-070 |            | C-LED, SEC1401C GRN   |
| C273    | 87-016-462-080 |            | C-CAP, S 1-16 F     | LED202           | 87-017-829-070 |            | C-LED, SEC1901C ORN   |
| C274    | 87-012-172-080 |            | C-CAP, U 10P-50 CH  | LED203           | 87-017-827-070 |            | C-LED, SEC1201C RED   |
| C275    | 87-012-274-080 |            | C-CAP, U 1000P-50 B | LED204           | 87-017-827-070 |            | C-LED, SEC1201C RED   |
| C276    | 87-012-286-080 |            | C-CAP, U 0. 01-25 B | SFR201           | 87-024-408-080 |            | C-SFR, 15K RH03A3A    |
| C277    | 87-012-286-080 |            | C-CAP, U 0. 01-25 B | SW201            | 87-036-308-080 |            | C-SW, TACT(112HST)    |
| C278    | 87-012-286-080 |            | C-CAP, U 0. 01-25 B | SW202            | 87-036-308-080 |            | C-SW, TACT(112HST)    |
| C279    | 87-012-195-080 |            | C-CAP, U 100P-50 CH | SW203            | 87-036-308-080 |            | C-SW, TACT(112HST)    |
| C280    | 87-012-286-080 |            | C-CAP, U 0. 01-25 B | SW204            | 87-036-308-080 |            | C-SW, TACT(112HST)    |
| C281    | 87-010-746-080 |            | C-CAP, TN 10-4 A    | SW205            | 87-036-308-080 |            | C-SW, TACT(112HST)    |
| C282    | 87-012-286-080 |            | C-CAP, U 0. 01-25 B | SW206            | 87-036-308-080 |            | C-SW, TACT(112HST)    |
| C283    | 87-012-286-080 |            | C-CAP, U 0. 01-25 B | SW207            | 87-036-308-080 |            | C-SW, TACT(112HST)    |
| C284    | 87-012-176-080 |            | C-CAP, U 15P-50 CH  | SW208            | 87-036-308-080 |            | C-SW, TACT(112HST)    |
| C285    | 87-012-176-080 |            | C-CAP, U 15P-50 CH  | SW209            | 87-036-342-080 |            | C-SW, TACT V          |
| C286    | 87-016-462-080 |            | C-CAP, S 1-16 F     | SW210            | 87-036-342-080 |            | C-SW, TACT V          |
| C287    | 87-010-831-080 |            | C-CAP, U 0. 1-16F   | SW211            | 87-036-380-080 |            | C-SW, SL 1-1-2(3MT)   |
| C288    | 87-010-831-080 |            | C-CAP, U 0. 1-16F   | SW212            | 87-036-123-080 |            | C-SW, SLIDE 1-1-2     |
| C289    | 87-010-831-080 |            | C-CAP, U 0. 1-16F   | TC201            | 87-011-192-080 |            | C-TRIMER, CTZ30C      |
| C290    | 87-012-195-080 |            | C-CAP, U 100P-50 CH | TC202            | 87-011-189-080 |            | C-TRIMER, CTZ-10A     |
| C291    | 87-012-270-080 |            | C-CAP, U 470P-50 B  | X201             | 87-030-377-010 |            | VIB, XTAL 75. 0K-R2   |
| C292    | 87-012-274-080 |            | C-CAP, U 1000P-50 B |                  |                |            |                       |
| C293    | 87-012-195-080 |            | C-CAP, U 100P-50 CH |                  |                |            |                       |
| C294    | 87-012-195-080 |            | C-CAP, U 100P-50 CH | BATTERY C. B     |                |            |                       |
| C295    | 87-012-274-080 |            | C-CAP, U 1000P-50 B | C401             | 84-439-620-010 |            | CAP, E 470-4          |
| C296    | 87-012-274-080 |            | C-CAP, U 1000P-50 B | TM2              | 84-HK3-224-210 |            | TERM, B-BOX CONTACT   |
| C297    | 87-012-274-080 |            | C-CAP, U 1000P-50 B | TM3              | 84-HK3-229-110 |            | TERM, B-BOX CONTACT S |
| C298    | 87-012-274-080 |            | C-CAP, U 1000P-50 B |                  |                |            |                       |
| C300    | 87-012-195-080 |            | C-CAP, U 100P-50 CH | HEAD FLEX. C. B  |                |            |                       |
| D201    | 87-001-708-080 |            | C-VARACTOR, 1SV228  | RPH              | 84-HJ2-611-010 |            | HEAD RPH ASSY         |
| D202    | 87-001-708-080 |            | C-VARACTOR, 1SV228  | TUNER FLEX. C. B |                |            |                       |
| D203    | 87-001-708-080 |            | C-VARACTOR, 1SV228  |                  |                |            |                       |
| D204    | 87-001-708-080 |            | C-VARACTOR, 1SV228  |                  | 84-HJ2-602-010 |            | PWB, FLEX 38P         |
| D205    | 87-026-435-080 |            | C-VARICAP, KV1560   |                  |                |            |                       |

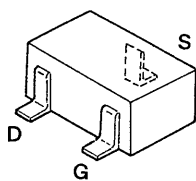
## ○チップ抵抗部品コード／CHIP RESISTOR PART CODE



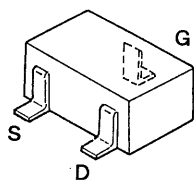
### チップ抵抗 Chip resistor

| Wattage<br>容量 | Type<br>種類 | Tolerance<br>許容誤差 | Symbol<br>記号 | Dimensions/寸法(mm) |     |      |             | Resistor Code : A |     |
|---------------|------------|-------------------|--------------|-------------------|-----|------|-------------|-------------------|-----|
|               |            |                   |              | Form/外形           | L   | W    | t           | 抵抗コード             | : A |
| 1/32W         | 1608       | ±5%               | CJ           |                   | 1.6 | 0.8  | 0.35        | 108               |     |
| 1/10W         | 2125       | ±5%               | CJ           |                   | 2   | 1.25 | 1.45        | 118               |     |
| 1/8W          | 3216       | ±5%               | CJ           |                   | 3.2 | 1.6  | 0.5<br>~0.7 | 128               |     |

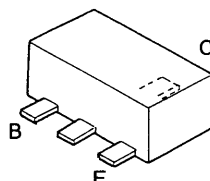
## TRANSISTOR ILLUSTRATION



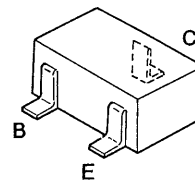
2SK881



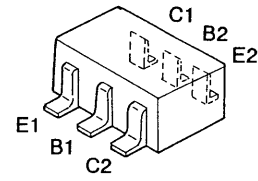
2SK880



2SA1213



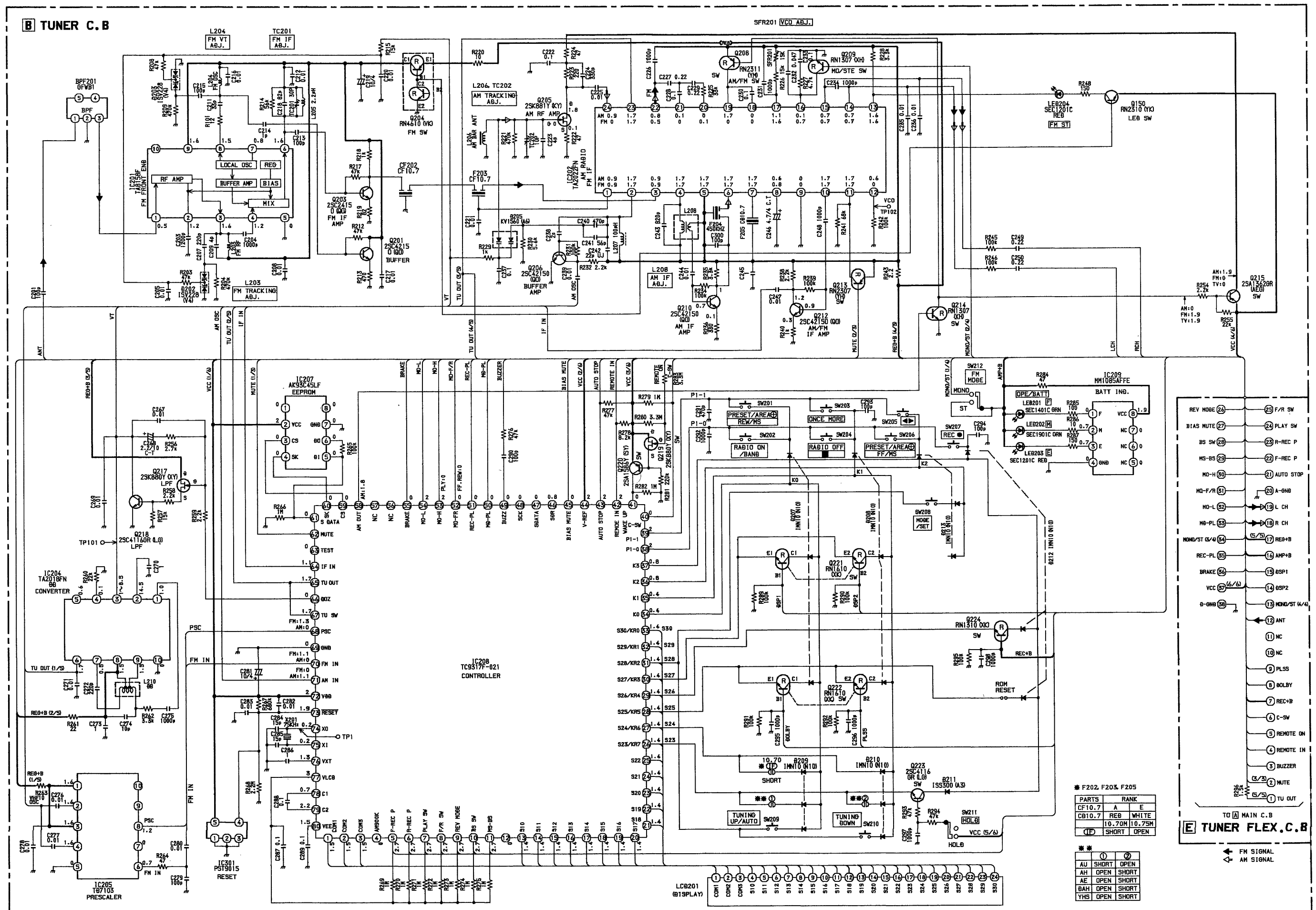
2SA1362  
2SA1586  
2SC4116  
2SC4213  
2SC4215  
RN1305  
RN1307  
RN1310  
RN1311  
RN2305  
RN2307  
RN2310  
RN2311

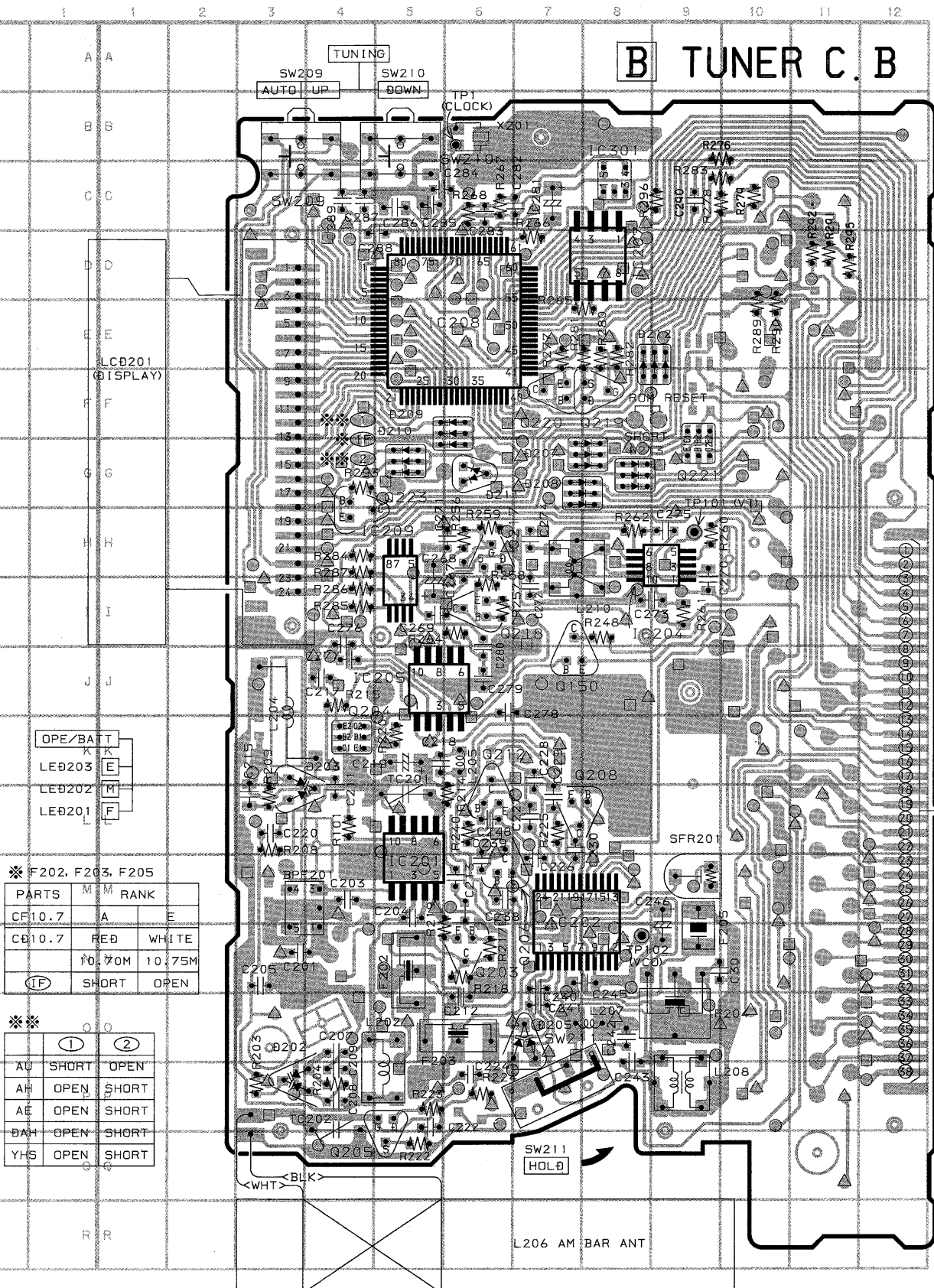
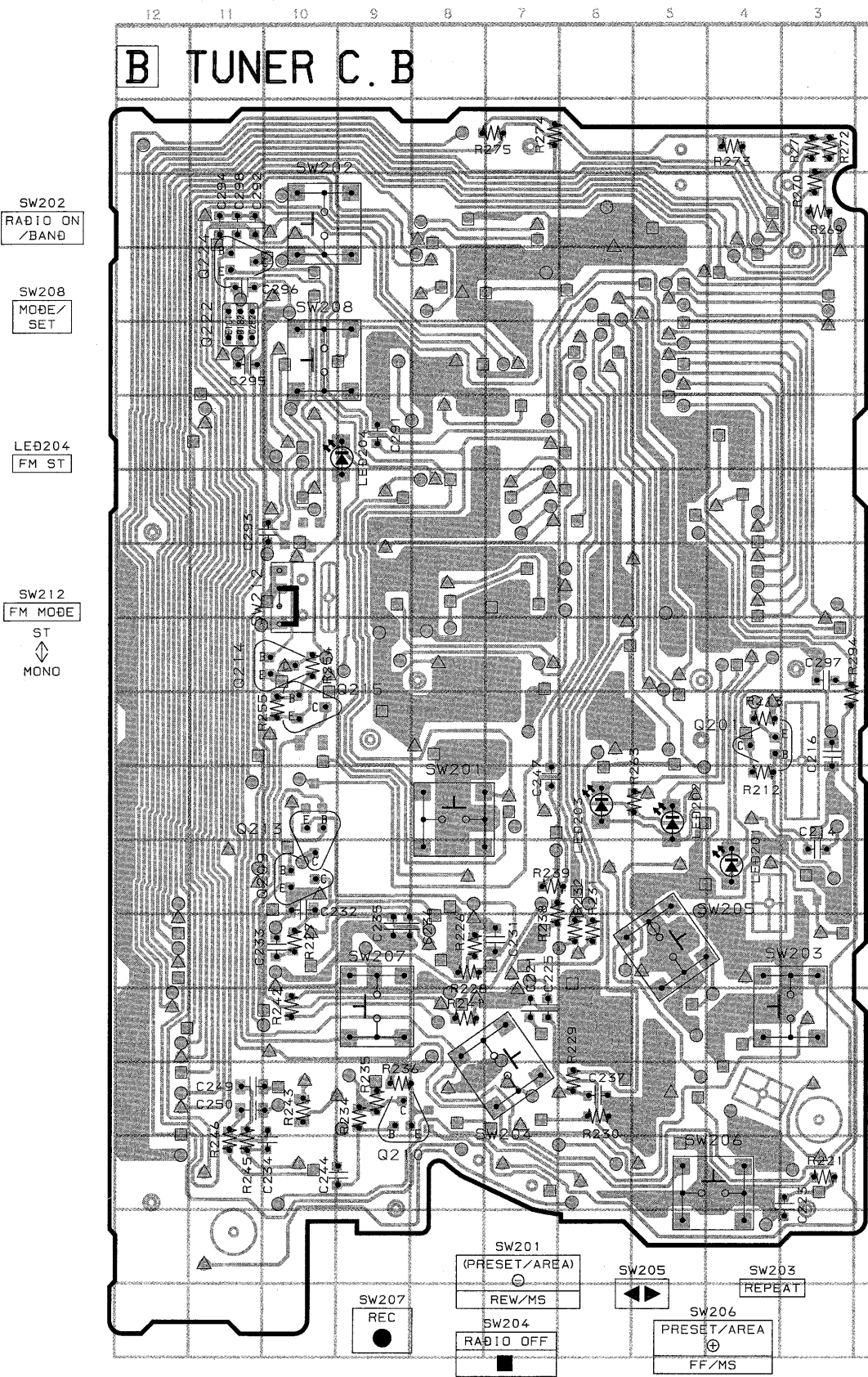


HN1C01  
HN1C03  
RN1605  
RN1607  
RN1610  
RN4610

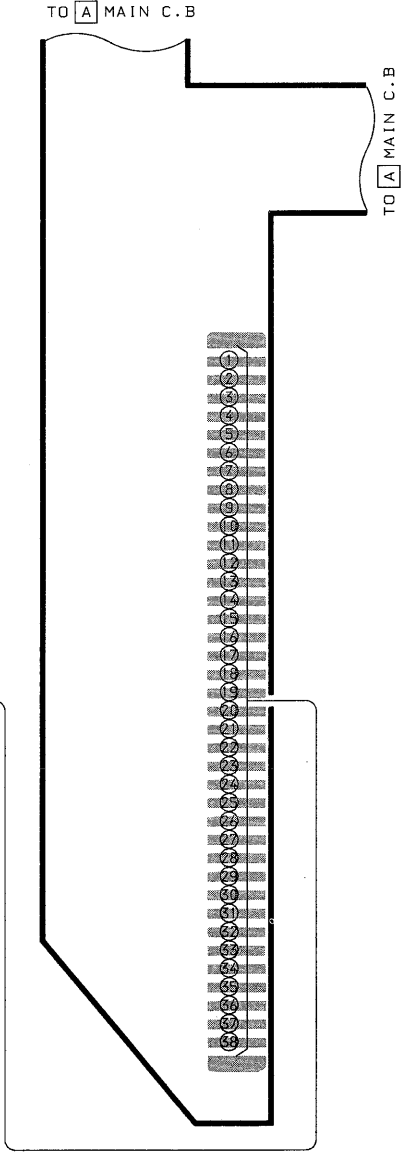








E TUNER FLEX. C.B



# IC DESCRIPTION

## IC, TC9317F – 021

| Pin No. | Pin Name     | I/O | Description                                                                                                                                                                                |
|---------|--------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | COM 1        | O   | LCD DRIVER COMMON terminals.                                                                                                                                                               |
| 2       | COM 2        |     |                                                                                                                                                                                            |
| 3       | COM 3        |     |                                                                                                                                                                                            |
| 4       | AM 900       | O   | Goes “H” near AM 900kHz frequency. (Not used)                                                                                                                                              |
| 5       | F REC P IN   | I   | H: Prohibit FWD REC, L: Possible FWD REC.                                                                                                                                                  |
| 6       | R REC P IN   | I   | H: Prohibit REV REC, L: Possible REV REC.                                                                                                                                                  |
| 7       | PLAY IN      | I   | H: Except PLAY mode, L: PLAY mode.                                                                                                                                                         |
| 8       | F/R SW IN    | I   | H: FWD direction, L: REV direction.                                                                                                                                                        |
| 9       | REV MODE IN  | I   | Mode switch. H:  , L:  . |
| 10      | BS SW IN     | I   | H: Set up BS mode, L: Cancel BS mode.                                                                                                                                                      |
| 11      | MS/BS IN     | I   | MS/BS pulse inputs. L: Exist music, H: Not exist music.                                                                                                                                    |
| 12      | NC           | –   | Not used.                                                                                                                                                                                  |
| 13      | S 10         | O   | LCD DRIVER output.                                                                                                                                                                         |
| 14      | S 11         |     |                                                                                                                                                                                            |
| 15      | S 12         |     |                                                                                                                                                                                            |
| 16      | S 13         |     |                                                                                                                                                                                            |
| 17      | S 14         |     |                                                                                                                                                                                            |
| 18      | S 15         |     |                                                                                                                                                                                            |
| 19      | S 16         |     |                                                                                                                                                                                            |
| 20      | S 17         |     |                                                                                                                                                                                            |
| 21      | S 18         |     |                                                                                                                                                                                            |
| 22      | S 19         |     |                                                                                                                                                                                            |
| 23      | S 20         |     |                                                                                                                                                                                            |
| 24      | S 21         |     |                                                                                                                                                                                            |
| 25      | S 22         |     |                                                                                                                                                                                            |
| 26      | S 23/KR 7    | O   | LCD DRIVER output, KEY PATTERN output.                                                                                                                                                     |
| 27      | S 24/KR 6    |     |                                                                                                                                                                                            |
| 28      | S 25/KR 5    |     |                                                                                                                                                                                            |
| 29      | S 26/KR 4    |     |                                                                                                                                                                                            |
| 30      | S 27/KR 3    |     |                                                                                                                                                                                            |
| 31      | S 28/KR 2    |     |                                                                                                                                                                                            |
| 32      | S 29/KR 1    |     |                                                                                                                                                                                            |
| 33      | S 30/KR 0    |     |                                                                                                                                                                                            |
| 34      | K 0          | I   | KEY PATTERN input.                                                                                                                                                                         |
| 35      | K 1          |     |                                                                                                                                                                                            |
| 36      | K 2          |     |                                                                                                                                                                                            |
| 37      | K 3          |     |                                                                                                                                                                                            |
| 38      | P 1 – 0      | O   | KEY PATTERN output.                                                                                                                                                                        |
| 39      | P 1 – 1      |     |                                                                                                                                                                                            |
| 40      | C – SW IN    | I   | H: Not exist cassette tape, L: Exist cassette tape.                                                                                                                                        |
| 41      | REMOTE ON    | I   | H: Possible remote controller key input, L: Impossible remote controller key input.                                                                                                        |
| 42      | REMOTE IN    | I   | Remote controller key input terminal.                                                                                                                                                      |
| 43      | AUTO STOP IN | I   | Detects tape running. Input P-SNSR output waveform.                                                                                                                                        |
| 44      | V REF        | I   | Inputs power for decide remote controller key input.                                                                                                                                       |
| 45      | BIAS MUTE    | O   | Outputs AF MUTE during TU REC mode. H: ON, L: OFF. (Not used)                                                                                                                              |

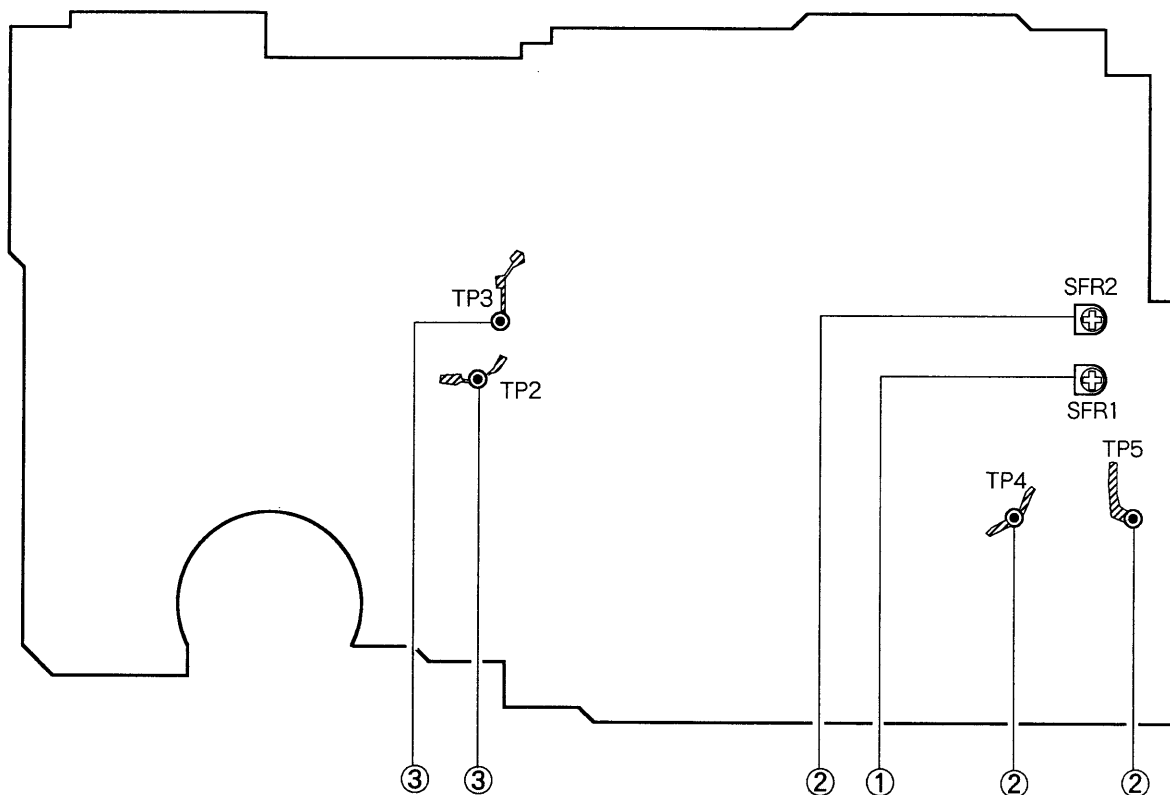
| Pin No. | Pin Name    | I/O | Description                                                 |
|---------|-------------|-----|-------------------------------------------------------------|
| 46      | SDR         | I   | Restricts the communication by terminal level condition.    |
| 47      | SDATA OUT   | O   | Serial data output for remote controller indicator.         |
| 48      | SCK         | O   | Serial clock.                                               |
| 49      | BZ OUT      | O   | Outputs buzzer sound.                                       |
| 50      | MD PL       | O   | Outputs pulse for mechanism operation.                      |
| 51      | REC PL      | O   | Outputs pulse for REC mechanism operation. (Not used)       |
| 52      | MOTOR F/R   | O   | Set up the motor direction H: FWD, L: REV.                  |
| 53      | MOTOR (HI)  | O   | Set up the motor operation. H: MOTOR (HI) OFF, L: ON.       |
| 54      | MOTOR (LO)  | O   | Set up the motor operation. H: MOTOR (LO) OFF, L: ON.       |
| 55      | BRAKE       | O   | H: MOTOR BRAKE ON, L: OFF.                                  |
| 56      | TV OUT      | O   | Goes "H" in the TV reception mode.                          |
| 57      | FM – TV OUT | O   | Goes "H" in the FM reception mode.                          |
| 58      | AM OUT      | O   | Goes "H" in the AM reception mode.                          |
| 59      | C – SEL     | O   | Control of E <sup>2</sup> PROM IC.                          |
| 60      | SCK         | I/O | Clock signal of E <sup>2</sup> PROM IC.                     |
| 61      | SDATA       | I/O | Data communications with E <sup>2</sup> PROM IC.            |
| 62      | MUTE OUT    | O   | Muting output. H: MUTE ON, L: OFF.                          |
| 63      | TEST        | –   | Not used.                                                   |
| 64      | IF IN       | I   | IF signal input.                                            |
| 65      | TU OUT      | O   | H: TU operate, L: TU OFF.                                   |
| 66      | PLL OUT     | O   | PLL output.                                                 |
| 67      | TU SW(HOLD) | I   | H: TU ON, L: TU OFF.                                        |
| 68      | PSC         | O   | PSC output.                                                 |
| 69      | GND         | –   | Connected to GND.                                           |
| 70      | FM IN       | I   | Input for prescaler output.                                 |
| 71      | AM IN       | I   | AM OSC input.                                               |
| 72      | VDD         | –   | Power supply.                                               |
| 73      | RESET       | I   | Input reset.                                                |
| 74      | X OUT       | –   | A crystal oscillator is connected.                          |
| 75      | X IN        |     |                                                             |
| 76      | V XT        | –   | Connected to GND.                                           |
| 77      | V LCD       | –   | LCD boosting power supply.                                  |
| 78      | C 1         | –   | Capacitors are connected for the LCD boosting power supply. |
| 79      | C 2         |     |                                                             |
| 80      | VEE         | –   | Connected to GND.                                           |

# KEY MATRIX TRUTH TABLE

|                             | K0                          | K1                  | K2             | K3     |
|-----------------------------|-----------------------------|---------------------|----------------|--------|
| FUNCTION                    | STOP                        | FF                  | REC            |        |
| P1 - 0                      |                             |                     |                | P1 - 0 |
| REW                         | REPEAT                      | PLAY                |                |        |
| P1 - 1                      |                             |                     |                | P1 - 1 |
| PRESET1                     | PRESET2                     | PRESET3             | PRESET4        |        |
| KR0                         |                             |                     |                | KR0    |
| PRESET5                     | PRESET6                     | PRESET+5            |                |        |
| KR1                         |                             |                     |                | KR1    |
| UP                          | DOWN                        | ENTER               |                |        |
| KR2                         |                             |                     |                | KR2    |
| DISP 1                      | DISP 2                      | BBE 1               | BBE 2          |        |
| KR3                         |                             |                     |                | KR3    |
| ZN 1                        | ZN 2                        | ZN 3                | REC+B          |        |
| KR4                         |                             |                     |                | KR4    |
| DOLBY                       | PLSS                        | ALL LCD<br>LIGHTS   | EPROM RESET    |        |
| KR5                         |                             |                     |                | KR5    |
| IF SW                       | IF REQ                      | AUTO AREA<br>ON/OFF | FUNCTION<br>SW |        |
| KR6                         |                             |                     |                | KR6    |
| DESTINATION<br>CHANGE SW(U) | DESTINATION<br>CHANGE SW(E) |                     | HOLD           |        |
| KR7                         |                             |                     |                | KR7    |

## ADJUSTMENT

### A MAIN C.B



#### < TAPE RECORDER SECTION >

##### 1. Tape Speed Adjustment NORMAL (PLAY)

- Settings :
- Test tape : TTA - 100
  - Test point : PHONES JACK
  - Adjustment location : SFR1

Method : Play back the test tape, adjust for 3000 Hz at FWD and  $\pm 45$  Hz at REV.

##### 2. Tape Speed Adjustment HIGH (REW)

- Settings :
- Blank tape
  - Test point : TP4 (VT), TP5 (VCC)
  - Adjustment location : SFR2

Method : Connect TP4 (5) to counter and check the frequency at TP4 is  $340 \text{ Hz} \pm 15 \text{ Hz}$ .

##### 3. Dolby Level Check

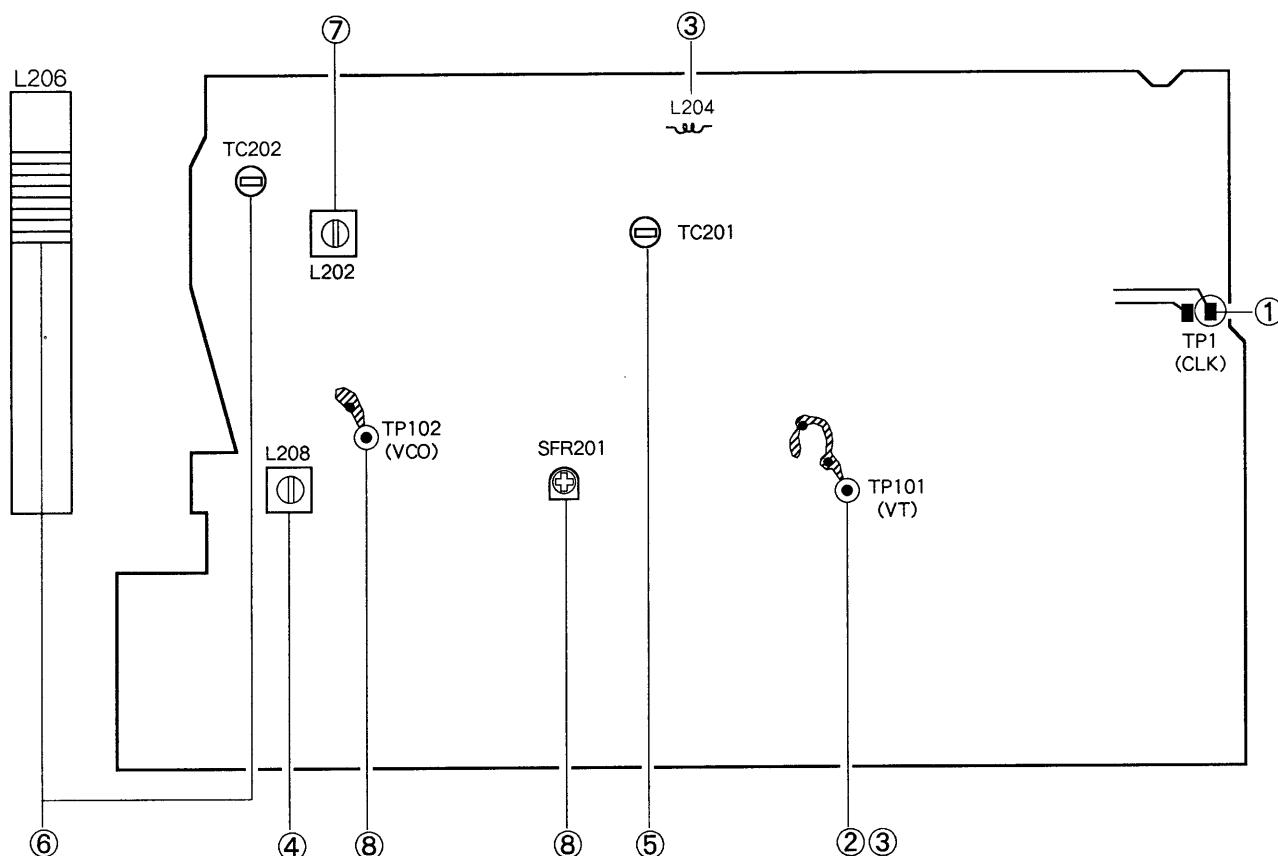
- Settings :
- Test tape : TTA - 200
  - Test point : TP2 (Rch), TP3 (Lch)
  - DOLBY SW : OFF
  - SUPER BASS SW : OFF

Method : Connect an electrolytic capacitor ( $10 \mu\text{F}/16\text{V}$ ) to measured equipment and TP2 (3), check the voltage for  $100\text{mV} \pm 1.0\text{dB}$ .

##### 4. Azimuth Adjustment

This model is no azimuth adjustment.

## B TUNER C.B



### < RADIO SECTION >

#### 1. Clock Frequency Check

Settings : • Test point : TP1

Method : Connect a resistor (1M $\Omega$ ) to counter and TP1.

Check the frequency at TP1 is 75 kHz  $\pm$  7.5 Hz.

When the cassette SW is ON, press the input key (play key etc.) and oscillate a clock.

Check the frequency is within the specification.

#### 2. AM VT Check

Settings : • Test point : TP101

Method : 1) Set to AM 531 kHz (except AU), AM 530 kHz (AU) and the test point becomes 0.8 V~1.4 V.

2) Set to AM 1602 kHz (except AU), AM 1710 kHz (AU) and the test point becomes 7.5 V~8.0 V.

#### 3. FM VT Adjustment

Settings : • Test point : TP101

• Adjustment location : L204

Method : Set to FM 87.5 MHz and adjust L204 so that the test point becomes 3.1 V~3.4 V. And also FM 108 MHz (except AU), FM 108.1 MHz (AU) becomes less than 9V.

#### 4. AM IF Adjustment

L208 ..... 450 kHz

#### 5. FM IF Adjustment

TC201 ..... 10.7 MHz

#### 6. AM Tracking Adjustment

L206 ..... 630 kHz

TC202 ..... 1440 kHz

#### 7. FM Tracking Adjustment

L202 ..... 76 MHz

#### 8. FM VCO Adjustment

Settings : • Test point : TP102

• Adjustment location : SFR201

Method : Connect the test point to counter and adjust SFR201 so that the frequency becomes 19 kHz  $\pm$  100 Hz.

## PRACTICAL SERVICE FIGURE

### < RADIO SECTION >

#### Sensitivity :

(IHF, THD 3%) FM Less than 20dB (98.5MHz)  
(S/N 10dB) AU

AM Less than 56dB (1000kHz)  
EXCEPT AU

AM Less than 56dB (999kHz)

Intermediate frequency : FM 10.7MHz

AM 450kHz

FM stereo separation : FM More than 17dB (98.5MHz)

### < TAPE RECORDER SECTION >

Wow & flutter : Less than 0.4% (R.M.S)

Distortion : Less than 3% (PB)

Less than 10% (REC)

S/N ratio : Mpre than 40dB (PB )

More than 30dB (REC)

Noise level :

Less than 3mV

(VOL MAX DC PB)

Less than 5mV

(VOL MAX DC REC)

Erasing ratio :

More than 55dB

REC bias frequency : 54kHz

Take-up torque : 22~32g-cm (FWD, REV)

F.F torque : 70~140g-cm

Rew torque : 60~100g-cm

Back tension : 2~4.5g-cm

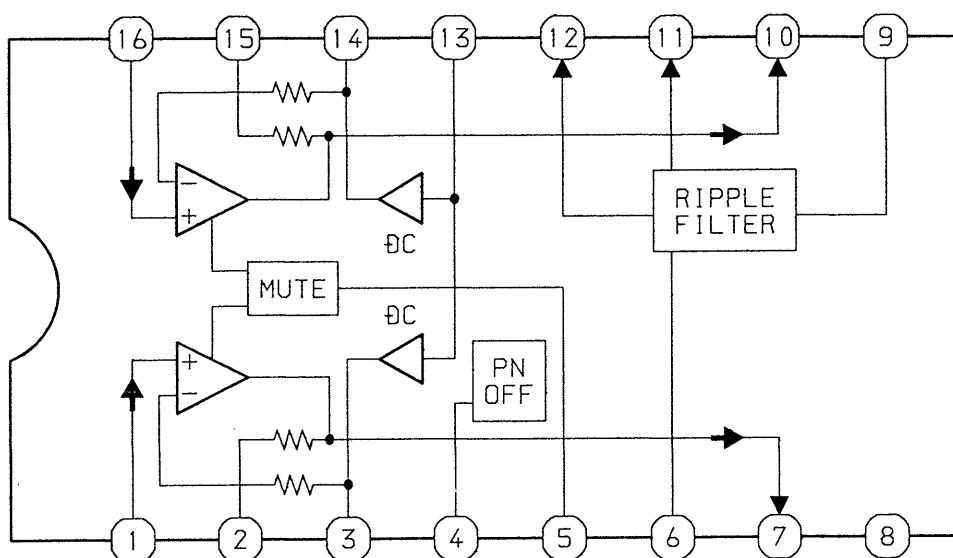
Frequency response : 63Hz~8kHz  $\pm$  4dB (NORMAL)

63Hz~12.5kHz  $\pm$  4dB

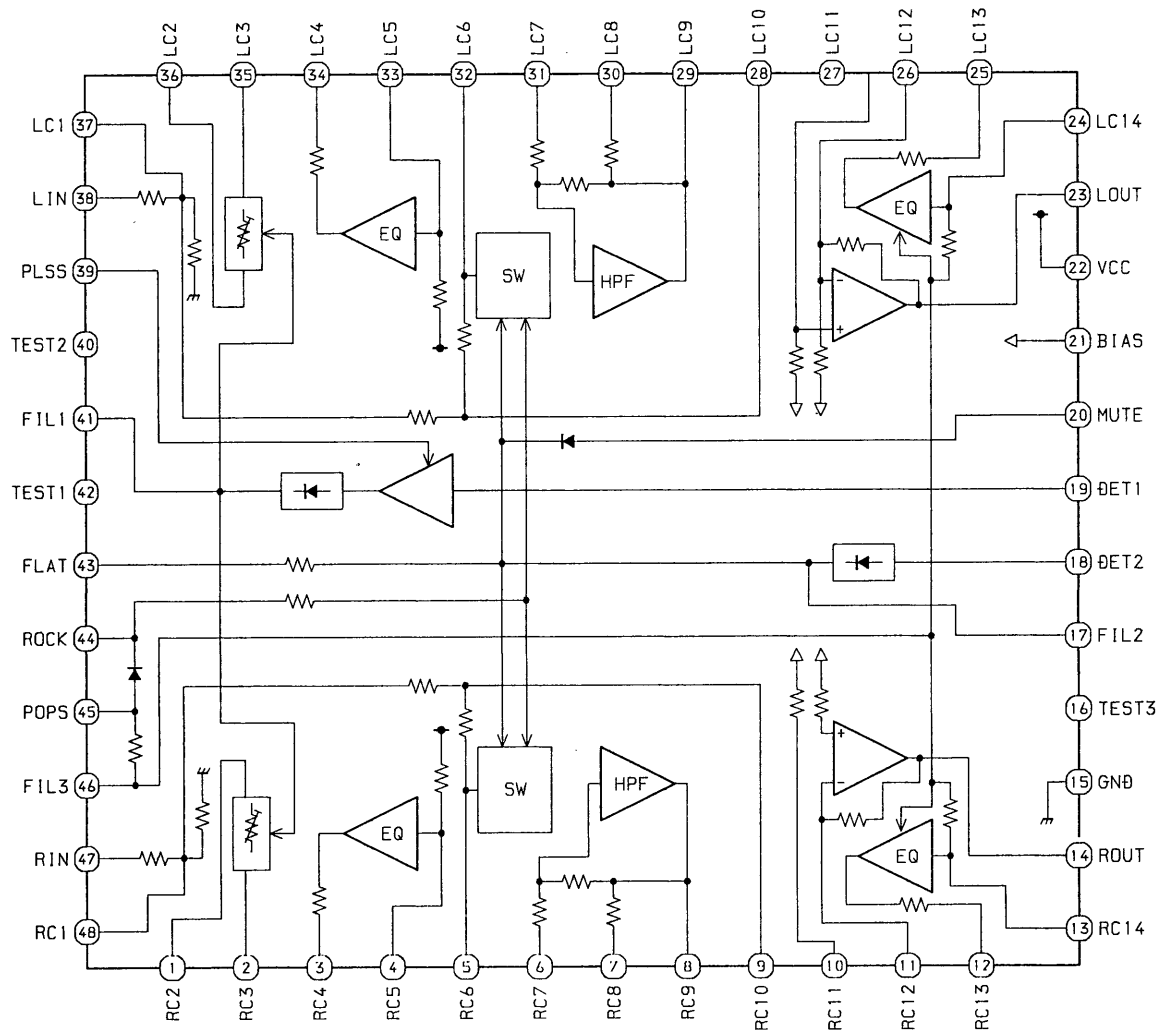
(CrO<sub>2</sub>, METAL)

## IC BLOCK DIAGRAM

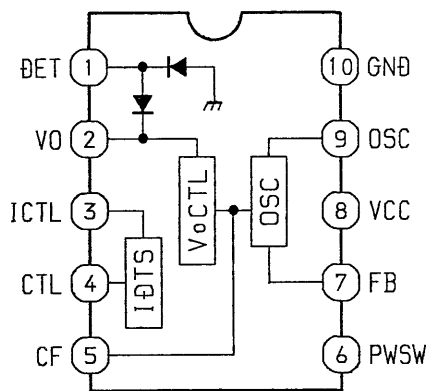
IC, TA7688F (S)



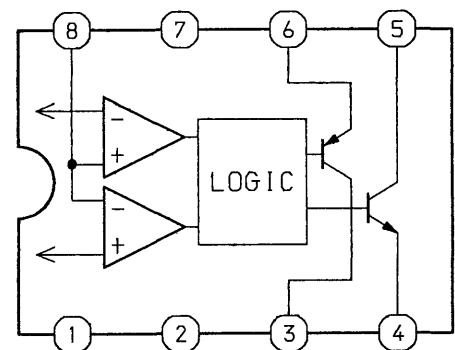
IC, BA3840KV



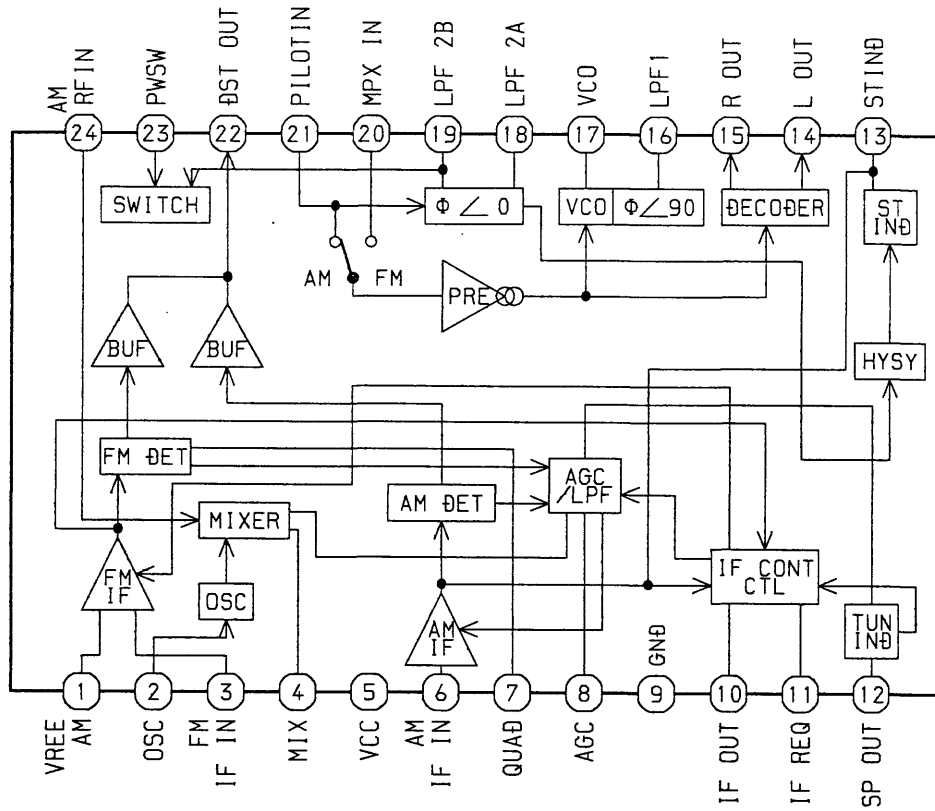
IC, TA2018FN



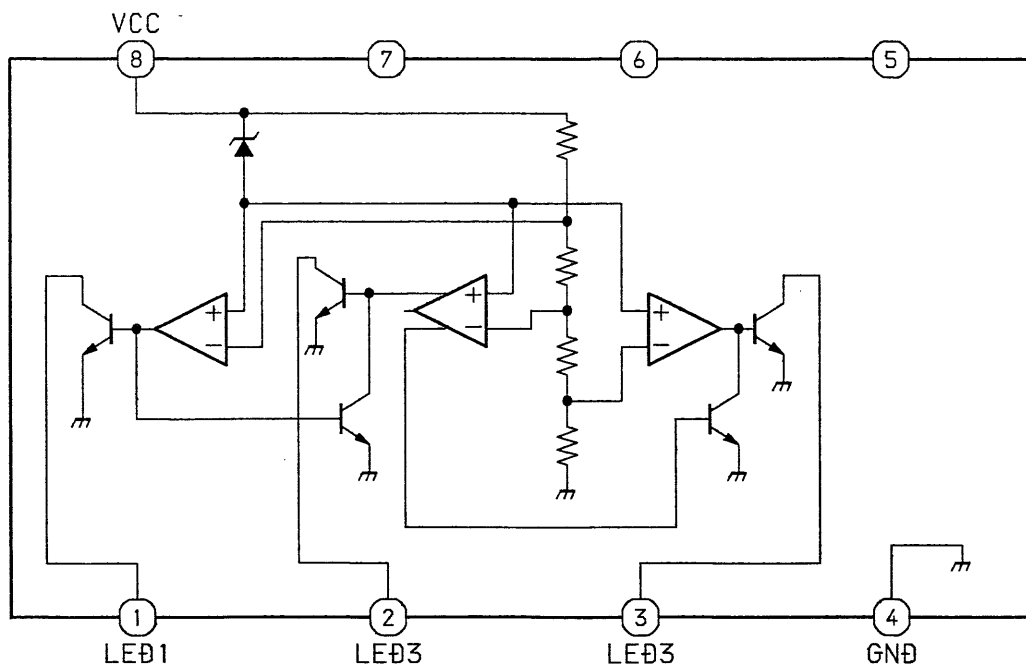
IC, BA3714AF



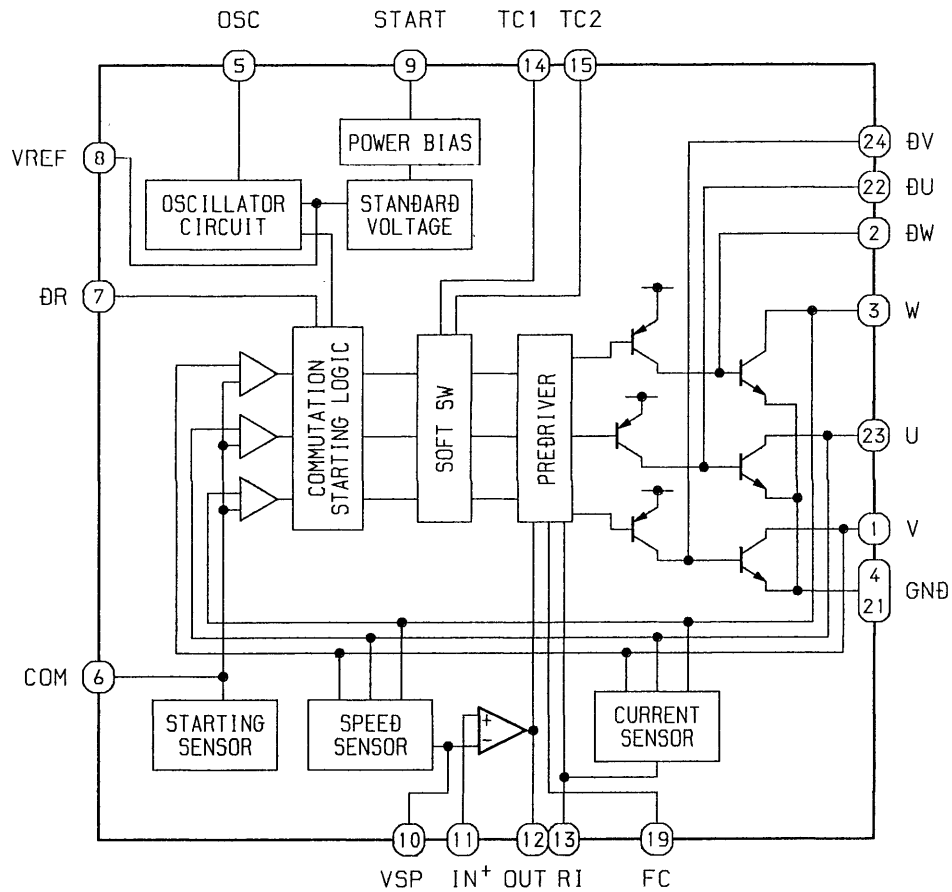
# IC, TA2022FN



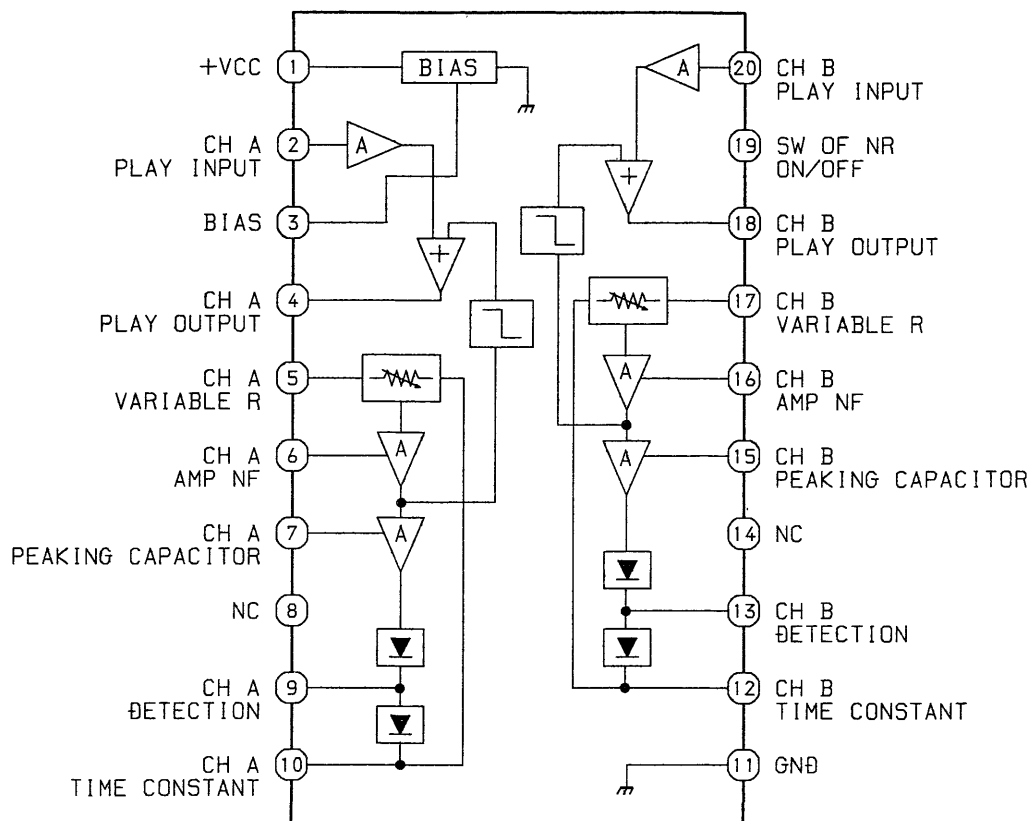
# IC, MM1085AFFE



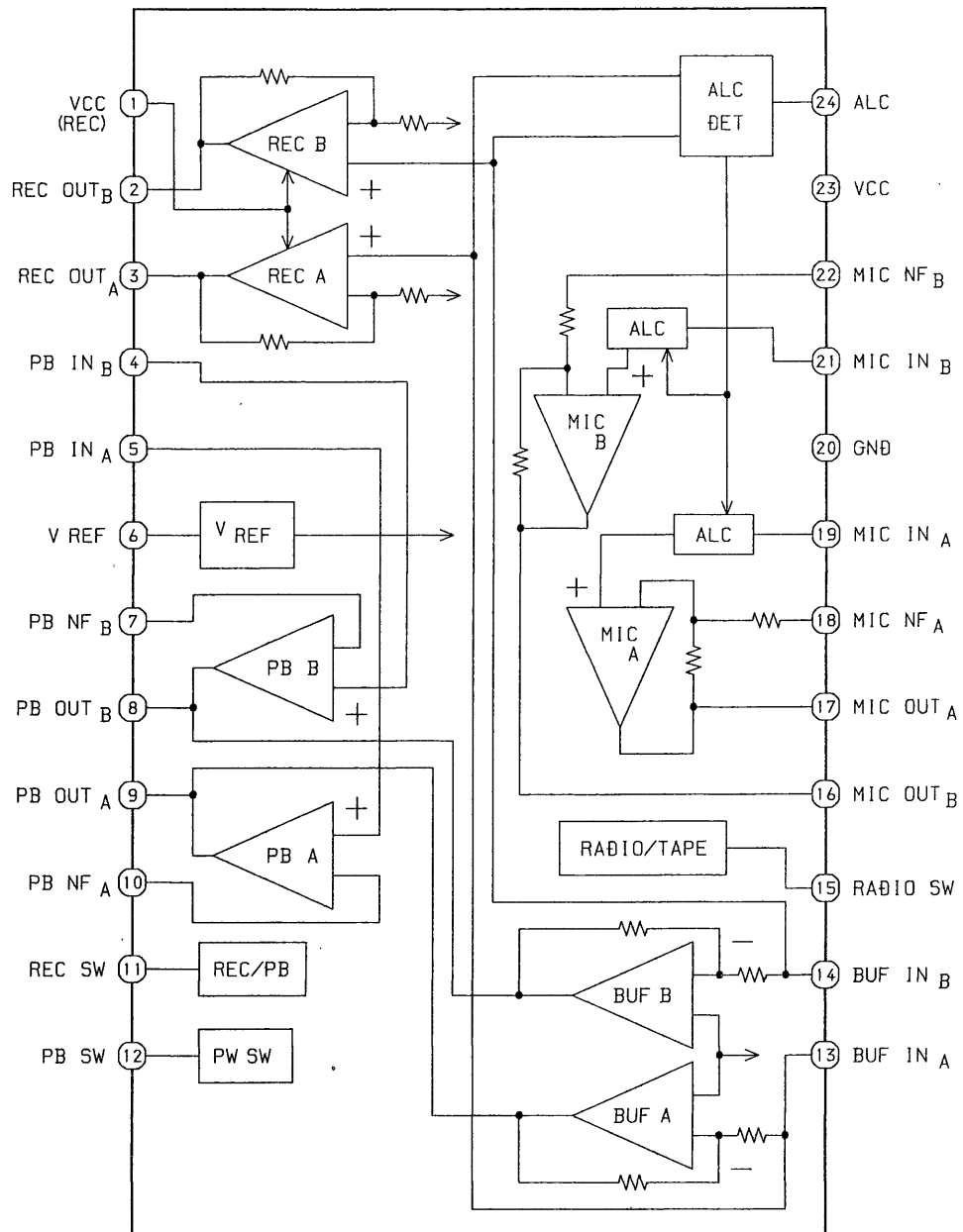
## IC, LB1674V



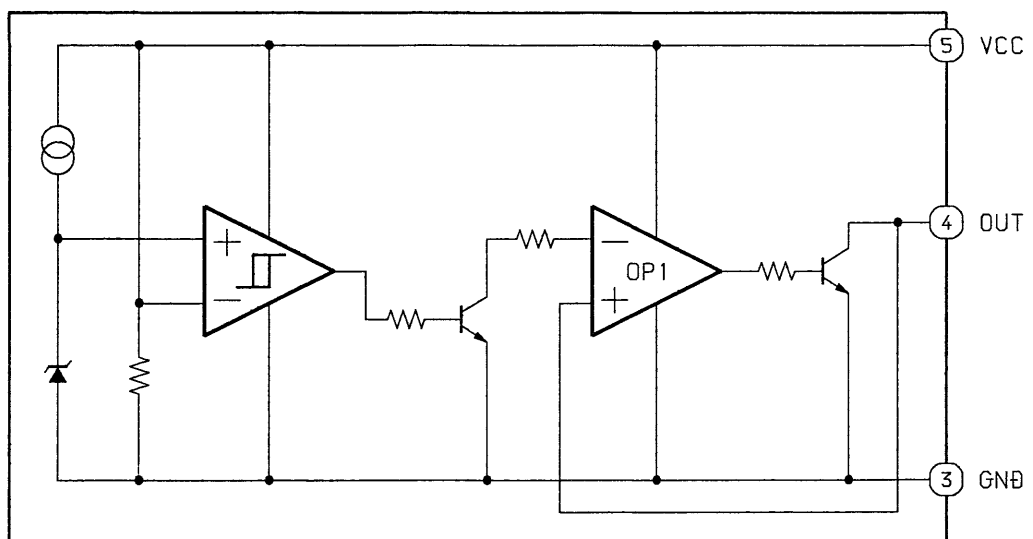
## IC, BA1106FS



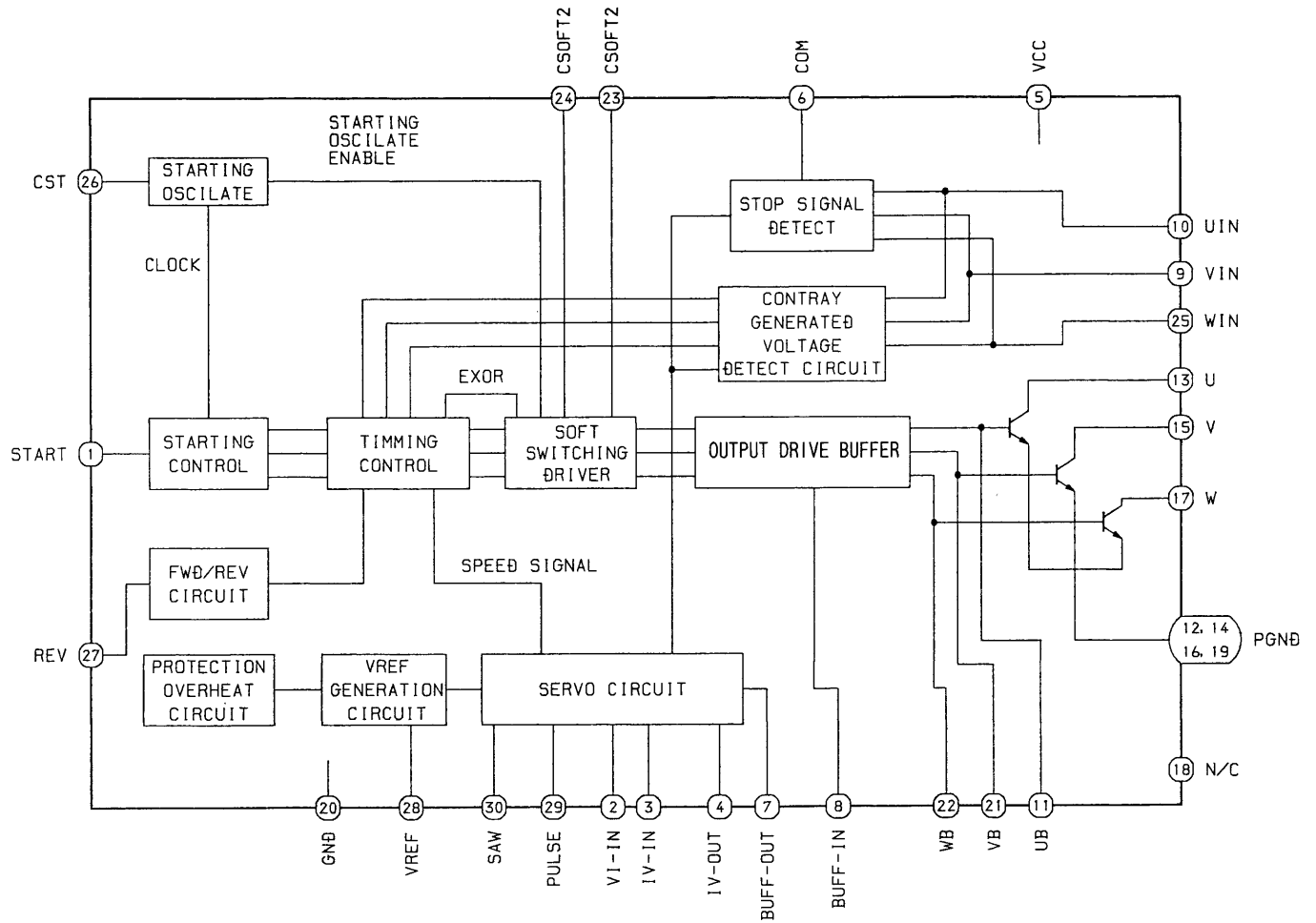
# IC, TA8155FN



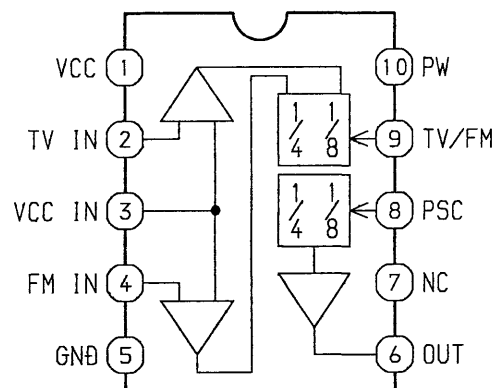
# IC, PST9015



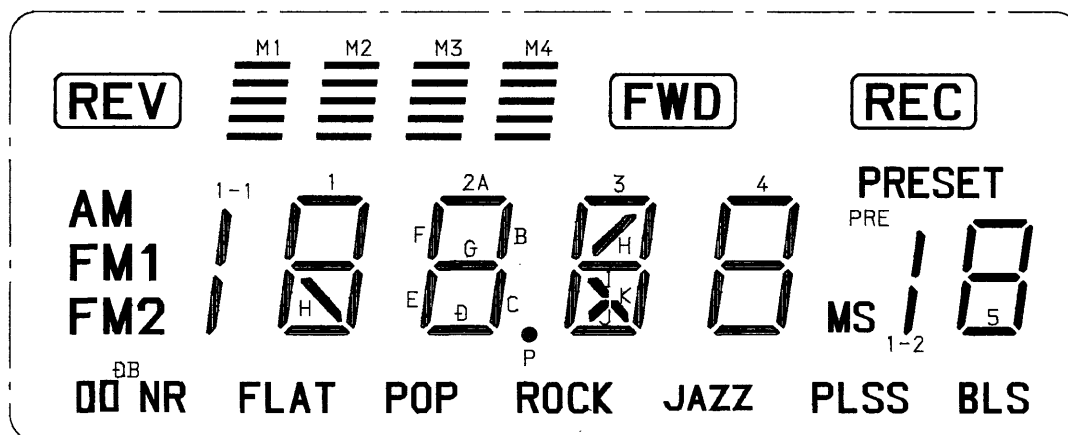
# IC, TPIC326ADB



# IC, TD7103

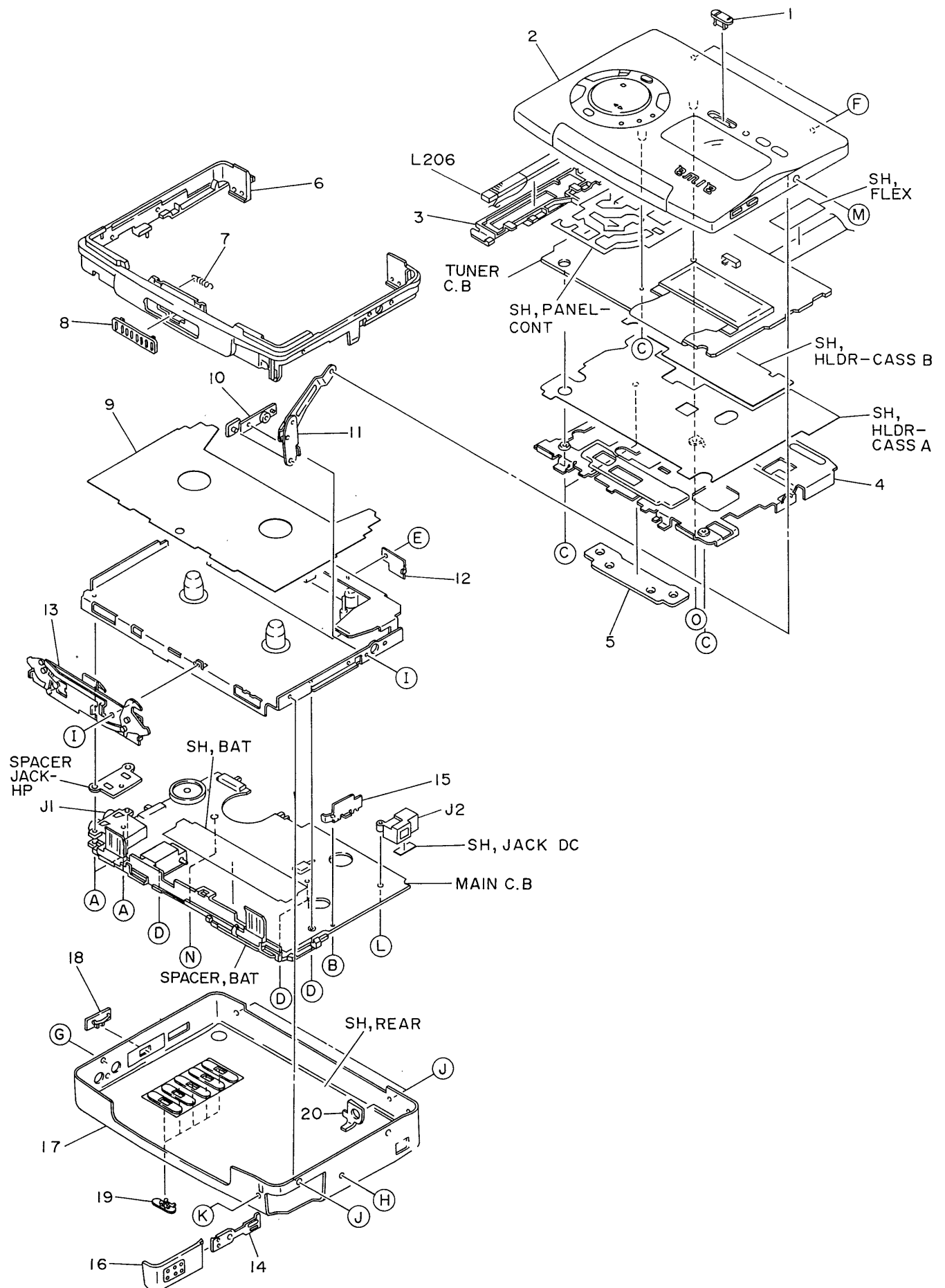


## LCD DISPLAY



| NO | COM1 | COM2 | COM3 |
|----|------|------|------|
| 1  | COM1 | —    | —    |
| 2  | —    | COM2 | —    |
| 3  | —    | —    | COM3 |
| 4  | DB   | —    | REV  |
| 5  | FM2  | FM1  | M1   |
| 6  | FLAT | 1-1  | AM   |
| 7  | 1E   | 1F   | M2   |
| 8  | 1H   | 1G   | 1A   |
| 9  | 1D   | 1C   | 1B   |
| 10 | POP  | 2F   | M3   |
| 11 | 2E   | 2G   | 2A   |
| 12 | 2D   | 2C   | 2B   |
| 13 | 3E   | 3F   | M4   |
| 14 | FWD  | 3H   | 3A   |
| 15 | 3I   | 3G   | 3B   |
| 16 | 3J   | 3K   | 3C   |
| 17 | P    | 3D   | REC  |
| 18 | ROCK | 4E   | 4F   |
| 19 | 4C.D | 4G   | 4A   |
| 20 | JAZZ | 4B   | —    |
| 21 | MS   | 1-2  | PRE  |
| 22 | PLSS | 5E   | 5F   |
| 23 | 5D   | 5G   | 5A   |
| 24 | BLS  | 5C   | 5B   |

# MECHANICAL EXPLODED VIEW 1/1

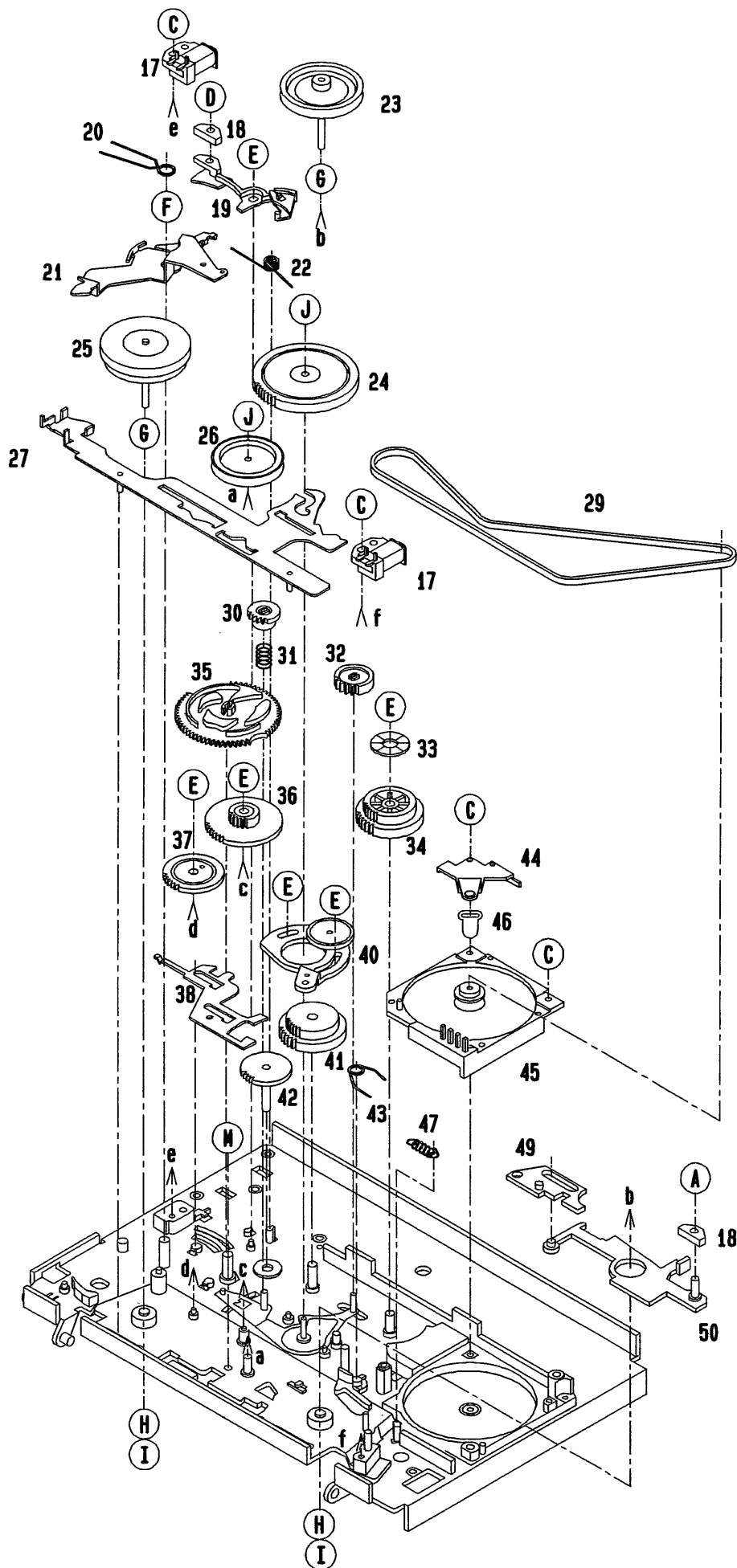


# MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。  
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

| REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION        | REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION             |
|---------|----------------|------------|--------------------|---------|----------------|------------|-------------------------|
| 1       | 84-HJ2-013-010 |            | KNOB, SL LID       | A       | 87-078-164-010 |            | V+1. 4-4. 2(3)BLK       |
| 2       | 09-028-192-010 |            | LID, CASS ASSY     | B       | 87-067-501-010 |            | S-SCRW, +1. 4-1. 4(BLK) |
| 3       | 84-HJ2-202-010 |            | HLDR, ANT          | C       | 87-067-385-010 |            | VT1. 4-2. 5HL           |
| 4       | 84-HJ2-201-110 |            | HLDR, CASS         | D       | 87-067-384-010 |            | VT1. 4-3. 5HL           |
| 5       | 84-HJ2-018-010 |            | PLATE, AMTS        | E       | 87-067-592-010 |            | Q+1. 4-2 CR NLOCK       |
| 6       | 84-HJ2-005-110 |            | FRAME, CENTER      | F       | 87-078-137-010 |            | S-SCRW, +1. 4-0. 8-1 NL |
| 7       | 84-HK3-214-010 |            | E-SP, LOCK         | G       | 87-078-109-010 |            | S-SCRW, 1. 4-1. 8 B NL  |
| 8       | 84-HK3-011-210 |            | KNOB, SL OPEN(BLK) | H       | 87-067-891-010 |            | S-SCRW 1. 4-S1. 6 B     |
| 9       | 84-HK3-086-010 |            | PANEL, CHAS EX     | I       | 87-067-736-010 |            | 1. 4-2 BLK NLOCK        |
| 10      | 84-HK3-205-110 |            | NUT, B-BOX         | J       | 87-078-116-010 |            | SCRW, M1. 4-2. 5 B NL   |
| 11      | 84-HJ2-206-010 |            | ARM ASSY, HINGE    | K       | 87-078-105-010 |            | S-SCRW, 1. 4-4. 0 B NL  |
| 12      | 84-HJ2-216-010 |            | PLATE, HEAD        | L       | 87-067-733-010 |            | 1. 4-4(B)               |
| 13      | 84-HR4-211-110 |            | T-LOCK ASSY B      | M       | 87-067-865-010 |            | S-SCRW, HJ(BLK)         |
| 14      | 84-HJ2-209-010 |            | HINGE, BAT         | N       | 87-067-437-010 |            | M1. 4-2                 |
| 15      | 84-HJ2-217-010 |            | PLATE, BAT         | O       | 87-067-732-010 |            | VT1. 4-3HL              |
| 16      | 84-HJ2-040-010 |            | LID, BAT EX(BLK)   |         |                |            |                         |
| 17      | 84-HJ2-038-010 |            | CAB, REAR EX(BLK)  |         |                |            |                         |
| 18      | 84-HK3-013-010 |            | KNOB, SL B(BLK)    |         |                |            |                         |
| 19      | 84-HJ2-014-010 |            | KNOB, SL REAR      |         |                |            |                         |
| 20      | 84-HJ2-019-010 |            | FLANGE, JACK-DC    |         |                |            |                         |



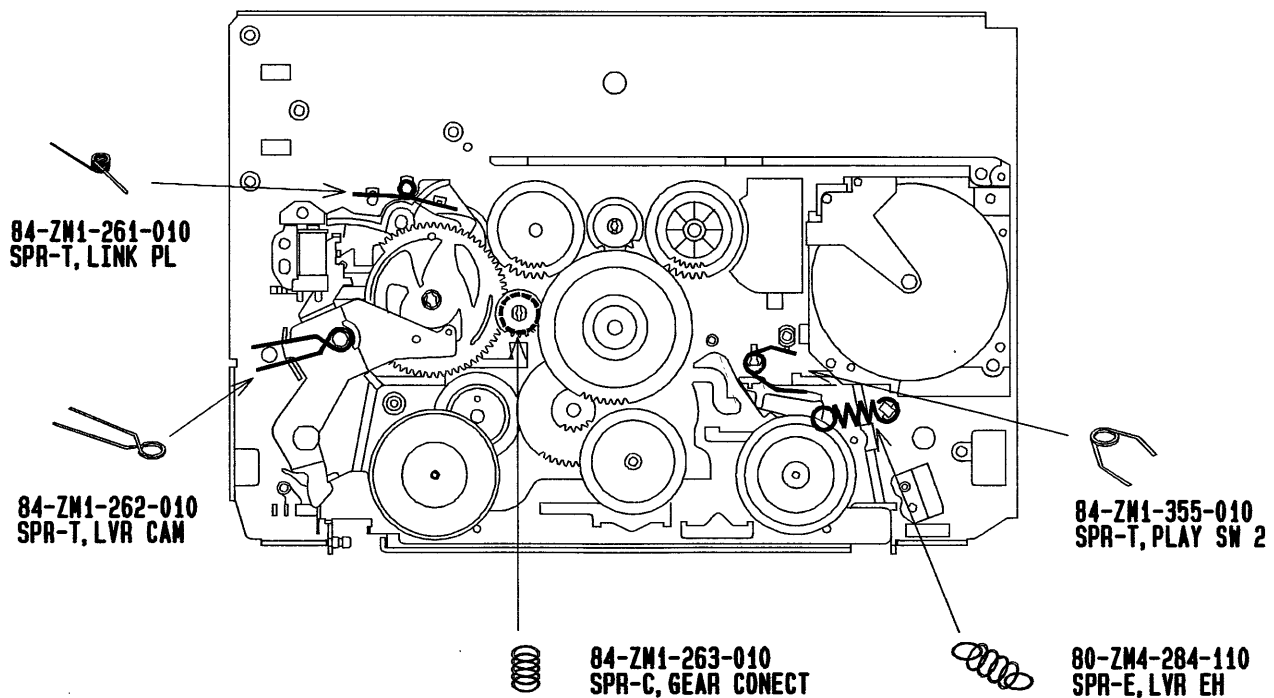
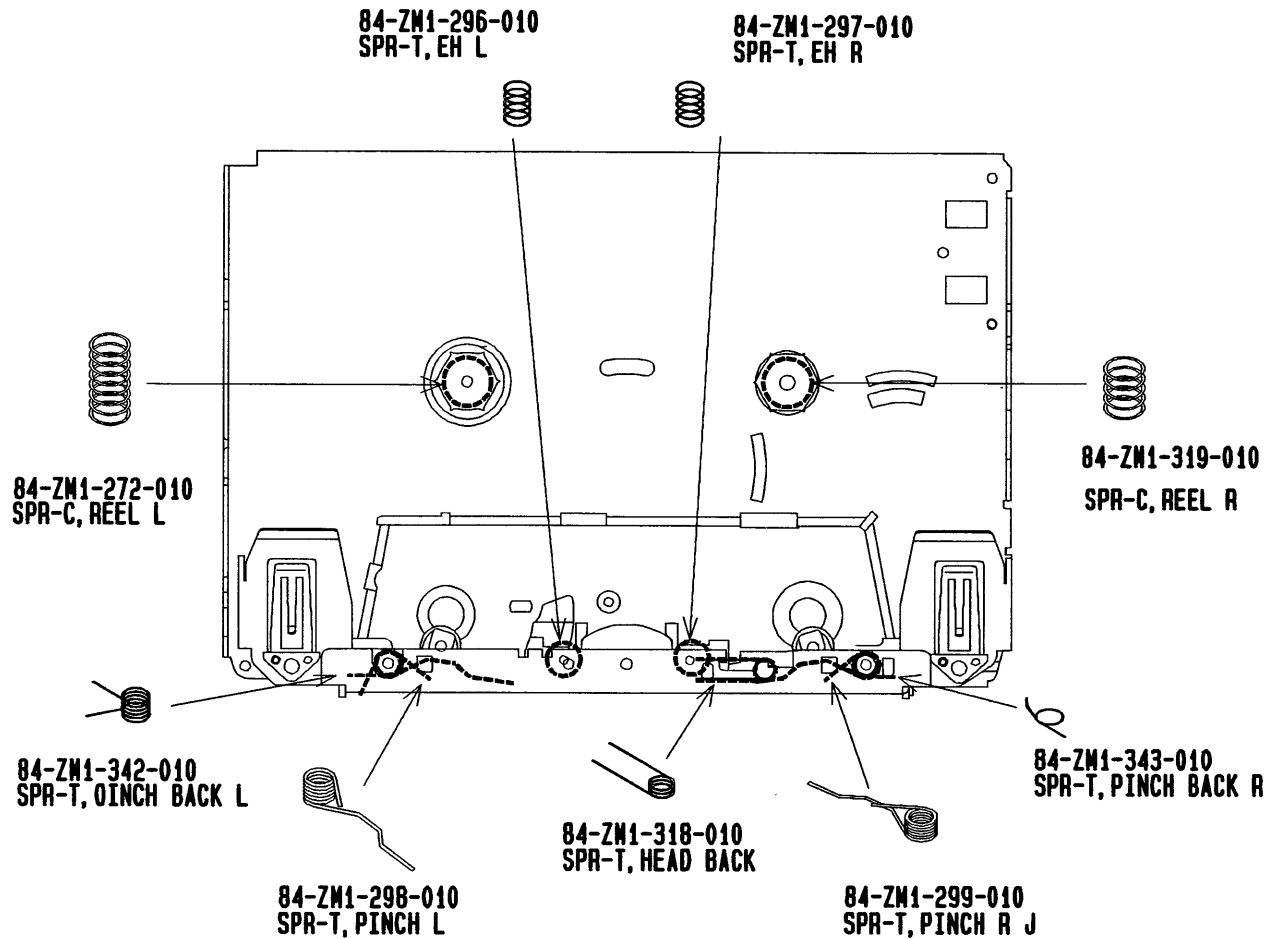


# TAPE MECHANISM PARTS LIST 1/1

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If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

| REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION        | REF. NO | PART NO.       | カンリ<br>NO. | DESCRIPTION              |
|---------|----------------|------------|--------------------|---------|----------------|------------|--------------------------|
| 1       | 84-ZM1-301-010 |            | OUT-SERT ASSY      | 40      | 84-ZM1-210-010 |            | LVR ASSY, T-UP           |
| 2       | 84-ZM1-292-010 |            | HOLDER CASSET ASSY | 41      | 84-ZM1-224-010 |            | GEAR IDLE A              |
| 3       | 84-ZM1-318-010 |            | SPR-T, HEAD BACK   | 42      | 84-ZM1-228-010 |            | GEAR REEL R              |
| 5       | 84-ZM1-270-010 |            | ARM HEAD SN        | 43      | 84-ZM1-355-010 |            | SPR-T PLAY SW2           |
| 6       | 84-ZM1-342-010 |            | SPR-T PINCH BACK L | 44      | 84-ZM1-379-010 |            | SPR-P, MOT               |
| 7       | 84-ZM1-258-010 |            | ARM ASSY, PINCH L2 | 45      | 84-ZM1-357-010 |            | MOT, ASSY 7P             |
| 8       | 84-ZM1-298-010 |            | SPR-T, PINCH L     | 46      | 84-ZM1-383-010 |            | THRUST PLATE             |
| 9       | 84-ZM1-256-010 |            | ARM ASSY, PINCH R2 | 47      | 80-ZM4-284-110 |            | SPT-E, LVR EH            |
| 10      | 84-ZM1-343-010 |            | SPR-T PINCH BACK R | 48      | 84-ZM1-281-010 |            | LVR ASSY, EH             |
| 11      | 84-ZM1-299-010 |            | SPR-T, PINCH R J   | 49      | 84-ZM1-285-110 |            | LINK REC                 |
| 12      | 84-ZM1-227-110 |            | GEAR REEL L        | 50      | 84-ZM1-287-010 |            | LVR ASSY, REC PL         |
| 13      | 84-ZM1-272-010 |            | SPR-C, REEL L      | 51      | 84-ZM1-297-010 |            | SPR-T, EH R              |
| 14      | 84-ZM1-220-110 |            | REEL CAP, R        | 52      | 84-ZM1-295-110 |            | EH R                     |
| 15      | 84-ZM1-319-010 |            | SPR-C, REEL R      | 53      | 84-ZM1-296-010 |            | SPR-T, EH L              |
| 17      | 84-ZM1-605-010 |            | SOL, MD REC        | 54      | 84-ZM1-294-110 |            | EH L                     |
| 18      | 84-ZM1-602-010 |            | CHIP, SOL          | A       | 87-067-569-010 |            | PW0. 83-2. 5-0. 25       |
| 19      | 84-ZM1-309-110 |            | LINK PLR           | B       | 87-078-088-010 |            | S-SCREW, V+1. 4-3. 5     |
| 20      | 84-ZM1-262-010 |            | SPR-T, LVR CAM     | C       | 87-067-384-010 |            | VT1. 4-3. 5HL            |
| 21      | 84-ZM1-204-010 |            | LVR ASSY, CAM      | D       | 87-067-367-010 |            | PW. 0. 95-2. 6-0. 25 C   |
| 22      | 84-ZM1-261-010 |            | SPR-T, LINK PL     | E       | 87-067-860-010 |            | PW. 3-0. 95-0. 4         |
| 23      | 84-ZM1-316-010 |            | FW ASSY L SM       | F       | 87-078-018-010 |            | PW. 1. 55-3. 5-0. 25 C60 |
| 24      | 84-ZM1-231-210 |            | SLIP ASSY          | G       | 87-078-071-110 |            | SW. 1. 2-3-0. 25         |
| 25      | 84-ZM1-348-010 |            | FW ASSY R OH       | H       | 87-078-101-010 |            | RW. 1. 21-2. 4-0. 25     |
| 26      | 84-ZM1-280-010 |            | PULLY PM           | I       | 87-078-065-010 |            | SH. 0. 9-2. 25-0. 25 SLT |
| 27      | 84-ZM1-306-010 |            | LVR ASSY HEAD R    | J       | 87-067-693-010 |            | PW. 3-0. 8-0. 25 SLT     |
| 29      | 84-ZM1-315-010 |            | BELT 2             | L       | 87-078-087-010 |            | PW. 1-3-0. 4 C60         |
| 30      | 84-ZM1-226-010 |            | GEAR CAM C         | M       | 87-078-125-010 |            | SCREW, V+1. 4-0. 9       |
| 31      | 84-ZM1-263-010 |            | SPR-C, GEAR CONECT |         |                |            |                          |
| 32      | 84-ZM1-225-010 |            | GEAR FR            |         |                |            |                          |
| 33      | 84-ZM1-271-010 |            | SH AUTO            |         |                |            |                          |
| 34      | 84-ZM1-240-010 |            | GEAR IDLE B        |         |                |            |                          |
| 35      | 84-ZM1-221-110 |            | GEAR CAM           |         |                |            |                          |
| 36      | 84-ZM1-223-210 |            | GEAR LINK B        |         |                |            |                          |
| 37      | 84-ZM1-222-010 |            | GEAR LINK A        |         |                |            |                          |
| 38      | 84-ZM1-217-010 |            | L, FR LOCK         |         |                |            |                          |

## SPRING APPLICATION POSITION



# REFERENCE NAME LIST

## ELECTRICAL SECTION

| DESCRIPTION | REFERENCE NAME     |
|-------------|--------------------|
| ANT         | ANTENNAS           |
| C-          | CHIP               |
| C-CAP       | CAP, CHIP          |
| C-CAP TN    | CAP, CHIP TANTALUM |
| C-COIL      | COIL, CHIP         |
| C-DI        | DIODE, CHIP        |
| C-DIODE     | DIODE, CHIP        |
| C-FET       | FET, CHIP          |
| C-FOTR      | FILTER, CHIP       |
| C-JACK      | JACK, CHIP         |
| C-LED       | LED, CHIP          |
| C-RES       | RES, CHIP          |
| C-SFR       | SFR, CHIP          |
| C-SLIDE SW  | SLIDE SWITCH, CHIP |
| C-SW        | SWITCH, CHIP       |
| C-TR        | TRANSISTOR, CHIP   |
| C-VR        | VOLUME, CHIP       |
| C-ZENER     | ZENER, CHIP        |
| CAP, CER    | CAP, CERA-SOL      |
| CAP, E      | CAP, TANTALUM      |
| CAP, M/F    | CAP, FILM          |
| CAP, TC     | CAP, CERA-SOL      |
| CAP, TC-U   | CAP, CERA-SOL SS   |
| CAP, TN     | CAP, TANTALUM      |
| CERA FIL    | FILTER, CERAMIC    |
| CF          | FILTER, CERAMIC    |
| DL          | DELAY LINE         |
| E/CAP       | CAP, ELECT         |
| FILT        | FILTER             |
| FLTR        | FILTER             |
| FUSE RES    | RES, FUSE          |
| MOT         | MOTOR              |
| P-DIODE     | PHOTO DIODE        |
| P-SNSR      | PHOTO SENSER       |
| P-TR        | PHOTO TRANSISTOR   |
| POLY VARI   | VARIABLE CAPACITOR |
| PPCAP       | CAP, PP            |
| PT          | POWER TRANSFORMER  |
| PTR, RES    | PTR, MELF          |
| RC          | REMOTE CONTROLLER  |
| RES NF      | RES, NON-FLAMMABLE |
| RESO        | RESONATOR          |
| SHLD        | SHIELD             |
| SOL         | SOLENOID           |
| SPKR        | SPEAKER            |
| SW, LVR     | SWITCH, LEVER      |
| SW, RTRY    | SWITCH, ROTARY     |
| SW, SL      | SWITCH, SLIDE      |
| TC CAP      | CAP, CERA-SOL      |
| THMS        | THERMISTOR         |
| TR          | TRANSISTOR         |
| TRIMMER     | CAP, TRIMMER       |
| TUN-CAP     | VARIABLE CAPACITOR |
| VIB, CER    | RESONATOR, CERAMIC |
| VIB, XTAL   | RESONATOR, CRYSTAL |
| VR          | VOLUME             |
| ZENER       | DIODE, ZENER       |
| サージサプレッサ    | SERGESUPPRESSOR    |
| セラコン        | CAP,CERA           |

## MECHANICAL SECTION

| DESCRIPTION    | REFERENCE NAME      |
|----------------|---------------------|
| ADHESHIVE      | SHEET ADHESHIVE     |
| AZ             | AZIMUTH             |
| BAR-ANT        | BAR-ANTENNA         |
| BAT            | BATTERY             |
| BATT           | BATTERY             |
| BRG            | BEARING             |
| BTN            | BUTTON              |
| CAB            | CABINET             |
| CASS           | CASSETTE            |
| CHAS           | CHASSIS             |
| CLR            | COLLAR              |
| CONT           | CONTROL             |
| CRSR           | CURSOR              |
| CU             | CUSHION             |
| CUSH           | CUSHION             |
| DIR            | DIRECTION           |
| DUBB           | DUBBING             |
| FL             | FRONT LOADING       |
| FLY-WHL        | FLYWHEEL            |
| FR             | FRONT               |
| FUN            | FUNCTION            |
| G-CU           | G-CUSHION           |
| HDL            | HANDOL              |
| HIMERON        | CLOTH               |
| HINGE, BAT     | HINGE, BATTERY      |
| HLDR           | HOLDER              |
| HT-SINK        | HEAT SINK           |
| IB             | INSTRUCTION BOOKLET |
| IDLE           | IDLER               |
| IND, L-R       | INDICATOR, L-R      |
| KEY, CONT      | KEY, CONTROL        |
| KEY, PRGM      | KEY, PROGRAM        |
| KNOB, SL       | KNOB, SLIDE         |
| LBL            | LABEL               |
| LID, BATT      | LID, BATTERY        |
| LID, CASS      | LID, CASSETTE       |
| LVR            | LEVER               |
| P-SP           | P-SPRING            |
| PANEL, CONT    | PANEL, CONTROL      |
| PANEL, FR      | PANEL, FRONT        |
| PRGM           | PROGRAM             |
| PULLY, LOAD MO | PULLY, LOAD MOTOR   |
| RBN            | RIBBON              |
| S-             | SPECIAL             |
| SEG            | SEGMENT             |
| SH             | SHEET               |
| SHLD-SH        | SHIELD-SHEET        |
| SL             | SLIDE               |
| SP             | SPRING              |
| SP-SCREW       | SPECIAL-SCREW       |
| SPACER, BAT    | SPACER, BATTERY     |
| SPR            | SPRING              |
| SPR-P          | P-SPRING            |
| SPR-PC-PUSH    | P-SPRING, C-PUSH    |
| T-SP           | T-SPRING            |
| TERM           | TERMINAL            |
| TRIG           | TRIGGER             |
| TUN            | TUNING              |
| VOL            | VOLUME              |
| W              | WASHER              |
| WHL            | WHEEL               |
| WORM-WHL       | WORM-WHEEL          |
| ジグアーム          | ARM,SHAFT           |
| ジグガイド          | GUIDE,SHAFT         |
| ストラップ          | STRAP               |
| トクナベ           | S-SCREW             |
| ヒンジ            | HINGE               |
| ヒンジビス          | S-SCREW             |
| ビスセレート         | SCREW,SERRART       |

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