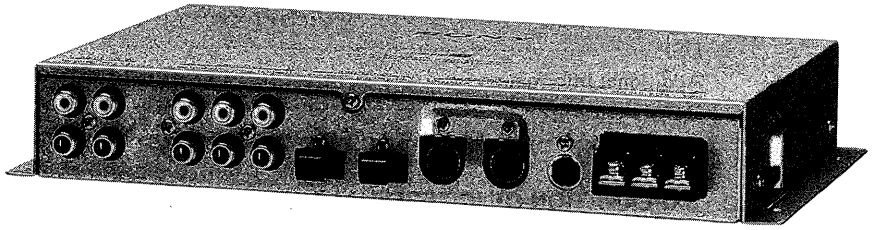
# XDP-210EQ

# SERVICE MANUAL

*US Model*



## SPECIFICATIONS

| | |
|---|---|
| Power requirements | 12 V DC car battery (negative ground) |
| Current drain | 1 A |
| Frequency response | 8 Hz — 20 kHz (FRONT) |
| Signal-to-noise ratio | 105 dB (FRONT) (JIS-A) |
| Harmonic distortion | 0.005 % (FRONT) |
| Separation | 95 dB at 1 kHz |
| Tone controls | Bass ± 10 dB at 310 Hz<br>Treble ± 10 dB at 3.1 kHz |
| Input/output terminals | BUS input (2)<br>Line input (RCA jack) (2)<br>Line output (RCA jack) (3)<br>Optical digital input (2) |
| Dimensions | Approx. 245 × 145 × 40 mm (9 3/4 × 5 3/4 × 1 5/8 in.) (w/h/d) |
| Mass | Approx. 1.2 kg (2 lb. 10 oz.) |
| Supplied accessories | BUS cable (2 m) (1)<br>Mounting screw (4) |
| Optional accessories | BUS cable (supplied with RCA pin cord) RC-61 (1 m), RC-62 (2 m)<br>RCA pin cord RC-63 (1 m), RC-64 (2 m), RC-65 (5 m)<br>Optical cable RC-97 (2 m) |

Optional equipment

Master unit (which can operate a digital preamplifier)
XR-C900, CDX-C910, CDX-C710 etc.
CD changer
CDX-91 (equipped with a digital output)
CDX-52, CDX-71, CDX-72, CDX-81, CDX-T60, CDX-T62 etc.
MD changer
MDX-60
Source selector (compatible with an analog system)
XA-C30
Source selector (compatible with a digital system)
XA-U40D
TV tuner
XT-U400V etc.
Power amplifier
XM- Series
Speakers
XS- Series

Design and specifications subject to change without notice.

## DIGITAL SIGNAL PROCESSOR

SONY®

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**NOTE**

- After having repaired or replaced the IC703 (EEPROM) always be sure to set the Master Unit (XR-C900, CDX-C910, CDX-C710 etc.) in test mode and reset (initialize) the IC703 (EEPROM).

- How to Reset (initialize)

Set in test mode with the Master Unit (XR-C900, CDX-C910, CDX-C710 etc.) . Press the Master Unit (XR-C900, CDX-C910, CDX-C710 etc.) 「MUTE」 key to reset (initialize) the IC703 (EEPROM).

**Notes on chip component replacement**

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

# SECTION 1
# GENERAL

This section is extracted from instruction manual.

## Getting Started

## Operating this unit

You can control this unit by a Sony Master unit.
Some master units have ⊕/⊖ (volume) buttons, and some have a dial.
This instructions shows as follow.
Rotate/press ⊕ or ⊖.

***Note***
*There may be a difference between the display items of this manual and the master unit.*

### Note in operation

- The unit has a digital volume control system. Do not down the volume of the master unit too much as doing so may cause the sound quality to deteriorate.
- When you connect this unit to the master unit, the loudness function will not work.
- The sound becomes unclear in some situations (such as when the BAS, TRE or EQ are excessively boosted).
- Two units can not be used at same time.

## About operation mode

This unit has three operation modes.

### Sound Control Mode

Select the item or adjust it partially.
- EQ (Graphic Equalizer): Select the equalizer curve.
- POS (Listening Position): Select the listening position.
- SUB (Subwoofer): Adjust the subwoofer volume level.

Sound control mode can adjust not only BAS, TRE, BAL, FAD but also VOL. For further details, read the master unit instructions.

### Sound Tuning Mode

Tune in the item selected in the Sound Control Mode exactly.
- EQ (Graphic Equalizer): Setting and registering the equalizer curve.
- POS (Listening Position): Adjust the listening position.
- CNW (Cross Over Network): Adjust the cut-off frequency.

### Name Edit Mode

EQ (Graphic Equalizer): Naming the equalizer curve.



## DSP

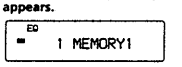
## Selecting the stored equalizer curve

**— Sound Control Mode**

You can select the stored equalizer curve (MEMORY1 to MEMORY9) or an unadjusted curve (FLAT).

**1 Press (SOURCE) to select a source (radio, tape, CD or MD etc.).**

**2 Press (SOUND) repeatedly until "EQ" appears.**




**3 Rotate/press ⊕ or ⊖ to select the stored equalizer curve.**

After three seconds, the display goes back to the normal playback mode.

***Tip***
*To adjust the stored equalizer curve further, press (SOUND) for two seconds within three seconds after following step 3 above. Then go to step 4 to 8 of "Setting and storing the equalizer curve."*

## Setting and storing the equalizer curve

**— Sound Tuning Mode**

You can adjust the 21 band frequencies to make an equalizer curve, and store up to nine curves.
**Front (18 band):**
30 Hz, 45 Hz, 62 Hz, 90 Hz, 130 Hz, 190 Hz, 270 Hz, 400 Hz, 580 Hz, 840 Hz, 1.2 kHz, 1.7 kHz, 2.5 kHz, 3.6 kHz, 5.2 kHz, 7.5 kHz, 11 kHz, 16 kHz
**Rear (3 band):**
90 Hz, 840 Hz, 7.5 kHz

**1 Press (SOURCE) to select a source (radio, tape, CD or MD etc.).**

**2 Press (SOUND) for two seconds.**

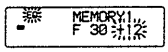
**3 Press (SOUND) repeatedly until "EQ" appears.**


**4 Rotate/press ⊕ or ⊖ to select an equalizer curve.**

**5 Adjust the equalizer curve.**

**❶ Press 4 (→) to select the desired frequency.**

**F30 → F45 → .....→ F16k → R90 → R840 → R7.5k**



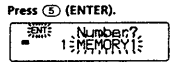

If you press 1 (←), the frequency appear in the reverse order.

**❷ Rotate/press ⊕ or ⊖ to adjust the level.**

***Note***
*If you adjust the level too high, the sound becomes distorted. In this case, lower the level until the sound becomes normal.*

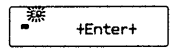
**❸ Repeat steps ❶ and ❷ to adjust the equalizer curve.**

**6 Press 5 (ENTER).**




**7 Rotate/press ⊕ or ⊖ to select the number that you want to enter into memory.**

**8 Press 5 (ENTER).**




**9 To return to the normal playback mode, press (SOUND) for two seconds.**

To cancel setting the equalizer curve, press (SOUND) for two seconds after step 7.

***Tip***
*You can label the equalizer curve by pressing (LIST) for two seconds after step 5 above. Then go to step 2 to 7 of "Labeling an equalizer curve".*

***Note***
*If the name of the equalizer curve flashes in the display window, the equalizer curve is not stored. To store the equalizer curve again, repeat steps 6 to 9 above.*

## Labeling an equalizer curve — Name Edit Mode

You can label each equalizer curve with a personalized name. You can enter up to eight characters for an equalizer curve.

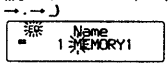
**1 Press (SOUND) for two seconds.**

**2 Select an equalizer curve and press (LIST) for two seconds.**

**3 Enter the characters.**

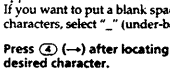
**❶ Rotate/press ⊕ to select the desired characters.**

**(A → B → C → .... Z → 0 → 1 → 2 → ... 9 → + → − → * → / → \ → > → < → . → _)**




If you rotate/press ⊖, the characters appear in the reverse order.
If you want to put a blank space between characters, select "_" (under-bar).

**❷ Press 4 (→) after locating the desired character.**
The flashing cursor moves to the next character.




If you press 1 (←), the flashing cursor moves to the left.

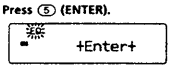
**❸ Repeat steps ❶ and ❷ to enter the entire name.**

**4 Press (LIST) for two seconds.**

**5 Press 5 (ENTER).**

**6 Rotate/press ⊕ or ⊖ to select the number that you want to enter into memory.**

**7 Press 5 (ENTER).**




**8 To return to the normal playback mode, press (SOUND) for two seconds.**

***Tip***
*To erase/correct a name, enter "_" (under-bar) for each character.*

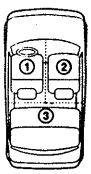
***Note***
*When the name of the equalizer curve flashes in the display window, the equalizer curve name is not stored. To store the equalizer curve again, repeat the step 5 to 7 above rightly.*





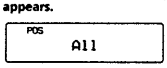
## Selecting the listening position — Sound Control Mode

You can set the time for the sound to reach the listeners from the speakers.
The unit can simulate a natural sound field so that you can feel as if you are in the center of the sound field wherever you sit in the car.




| Display window | Center of soundfield |
|---|---|
| ALL | Normal setting (① + ② + ③) |
| FRONT | Front part (① + ②) |
| FRONT R | Right front (②) |
| FRONT L | Left front (①) |
| REAR | Rear part (③) |

**1 Press (SOUND) momentarily until "POS" appears.**




**2 Rotate/press ⊕ or ⊖ to select the desired listening position.**
The listening positions appear in the order shown above.

After three seconds, the display goes back to the normal playback mode.

***Tip***
*To adjust the listening position further, press (SOUND) for two seconds within three seconds after following step 2 above. Then go to step 4 to 8 of "Adjusting the listening position."*

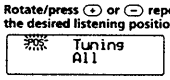
## Adjusting the listening position — Sound Tuning Mode

***Note***
*When you adjust the listening position, set the balance and fader control to the center position.*

**1 Press (SOUND) for two seconds.**

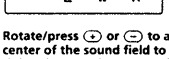
**2 Press (SOUND) repeatedly until "POS" appears.**

**3 Rotate/press ⊕ or ⊖ repeatedly until the desired listening position appears.**



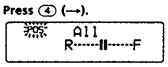



**4 Press 4 (→).**




**5 Rotate/press ⊕ or ⊖ to adjust the center of the sound field to the left or right. Then set the center of the sound field.**
**⊕: Center moves to the R (right).**
**⊖: Center moves to the L (left).**

**6 Press 4 (→).**




**7 Rotate/press ⊕ or ⊖ to adjust the center of the sound field to the front or rear.**
**⊕: Center moves to the F (Front).**
**⊖: Center moves to the R (Rear).**

**8 Press (SOUND) for two seconds.**
When the listening position setting is complete, the normal playback mode appears.

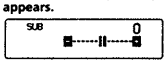
## Adjusting the level of the subwoofer(s)

**— Sound Control Mode**

You can adjust the subwoofer level independently of the speakers.

**1 Press (SOURCE) to select a source (radio, tape, CD or MD etc.).**

**2 Press (SOUND) repeatedly until "SUB" appears.**



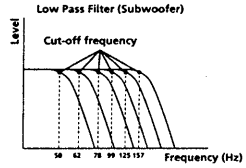

**3 Rotate/Press ⊕ or ⊖ to adjust the level.**
After three seconds, the display goes back to the normal playback mode.

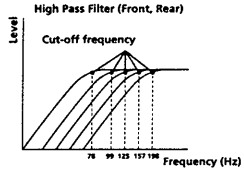
***Tip***
*To adjust the cut-off frequency of the subwoofer(s), press (SOUND) for two seconds within theree seconds after following step 3. The go to step 3 to 4 of "Adjustin the cut-off frequency."*

## Adjusting the cut-off frequency — Crossover Network (CNW)

**— Sound Tuning Mode**

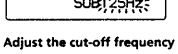
To match the characteristics of the connected speakers or subwoofer(s), you can cut the unwanted high, middle and low frequency signals entering the speakers or subwoofer(s). By setting the cut-off frequency (see the diagram below), the speakers will output only the most suitable frequency signals so that you can get a clearer sound image.




**1 Press (SOUND) for two seconds.**

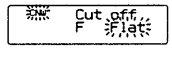
**2 Press (SOUND) repeatedly until "CNW" appears.**



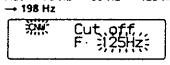

**3 Adjust the cut-off frequency**

**❶ Press 1 (←) or 4 (→) to select the line out.**

**SUB (Subwoofer) ←→ F (Front) ←→ R (Rear)**




**❷ Rotate/press ⊕ to select the desired cut-off frequency.**
**Subwoofer :**
**50 Hz → 62 Hz → 78 Hz → 99 Hz → 125 Hz → 157 Hz**
**Front, Rear:**
**Flat → 78 Hz → 99 Hz → 125 Hz → 157 Hz → 198 Hz**




If you rotate/press ⊖, the cut-off frequency appear in the reverse order.

**❸ Repeat steps ❶ and ❷ to select the cut-off frequency.**

**4 Press (SOUND) for two seconds.**
When the cut-off frequency setting is complete, the display goes back to the normal playback mode.

***Tip***
*To adjust the subwoofer level, select "SUB" by pressing 1 (←) or 3 (→) after step 3 above. Then rotate/press ⊕ or ⊖ to adjust the level. When you finish adjusting the subwoofer level, press (SOUND) for two seconds.*

## Listening to each program source in its registered equalizer curve

**— Source Sound Memory**

You can listen to the same source (CD, MD, TAPE, FM, AM, TV and AUX) always in the same equalizer curve and sound characteristics (bass, treble and subwoofer level) even after changing the program source or turning the unit on and off again.

***Note***
*"LSM" (Last Sound Memory) appears on the TV display when you have selected an equalizer curve.*

## Registering an equalizer curve onto each disc

**— Disc Sound Memory (DSM) (CD/MD changer or CD/MD player with program memory function)**

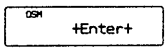
Once you have registered the desired equalizer curve and the sound characteristics (bass, treble and subwoofer level) onto the discs, you can enjoy the same equalizer curve every time you play them. You can register up to 200 discs.

**1 Play the desired disc.**

**2 Select the equalizer curve, and adjust the sound characteristics.**

**3 Press (SHIFT), then press ③ (PLAY MODE) repeatedly until "DSM SET" appears.**


**4 Press ⑤ (ENTER) momentarily.**




When the DSM setting is complete, the display will go back to the normal playback mode.

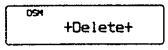
### Changing the stored equalizer curve

Play the disc whose equalizer curve you want to change, and follow the "Setting and storing the equalizer curve".

### Erasing the stored equalizer curve

**1 Press (SHIFT), then press ③ (PLAY MODE) repeatedly until "DSM SET" appears.**

**2 Press ⑤ (ENTER) for two seconds.**






# Additional Information

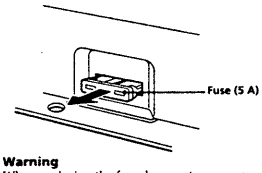
## Precautions

- If your car was parked in direct sunlight resulting in a considerable rise in temperature inside the car, allow the unit to cool off before switching on.
- If no power is being supplied to the unit, check the connections first. If everything is in order, check the fuse.
- For safety reasons, keep your car audio volume moderate so that you can still hear sounds outside your car.
- If you connect this unit to the XDP-U50D and XDP-U50DMK2, this unit will not work.

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

### Fuse replacement

If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.

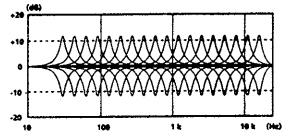



**Warning**

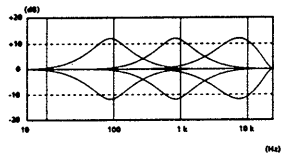
When replacing the fuse, be sure to use one matching the amperage stated above the fuse holder. Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.

### Frequency response

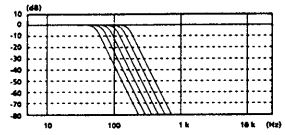
**Front Equalizer (± 12 dB)**
**$f_o$ = 30, 45, 62, 90, 130, 190, 270, 400, 580, 840, 1.2k, 1.7k, 2.5k, 3.6k, 5.2k, 7.5k, 11k, 16kHz**



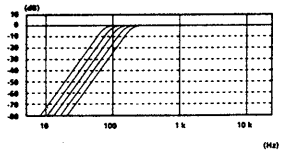

**Rear Equalizer (± 12 dB)**
**$f_o$ = 90, 840, 7.5kHz**




**Low Pass Filter (-36 dB/oct)**
**$f_o$ = 50, 62, 78, 99, 125, 157 Hz**




**High Pass Filter (-24 dB/oct)**
**$f_o$ = 78, 99, 125, 157, 198 Hz**



# Installation

## Precaution

- This unit is designed for negative ground 12 V DC operation only.
- Avoid installing the unit where:
  - — it would be subject to high temperatures such as from direct sunlight or hot air from the heater.
  - — it would be exposed to rain or moisture.
  - — it would be subject to dust or dirt.
- If the unit is placed too close to the car radio or the TV tuner, interference may occur. In this case, separate the unit from the car radio or TV tuner.
- The unit has a digital volume control system. Do not turn down the volume of the master unit too much as doing so may cause the sound quality to deteriorate.
- For safety reasons, keep your car audio volume moderate so that you can still hear sounds outside your car.

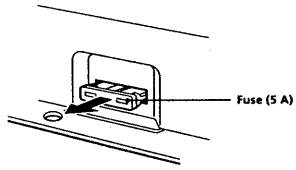
If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

### Fuse replacement

If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.

#### Warning

When replacing the fuse, be sure to use one matching the amperage stated above the fuse holder. Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.



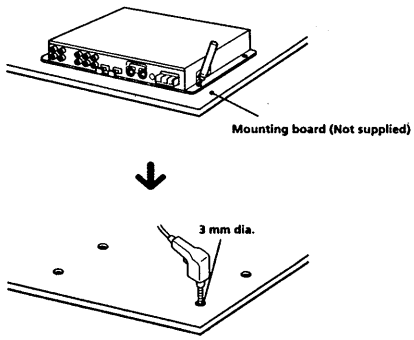

## Before installation

- Choose the mounting location carefully so that the unit will not interfere with the normal driving functions of the driver.
- Mount the unit either under a seat or inside the trunk space.

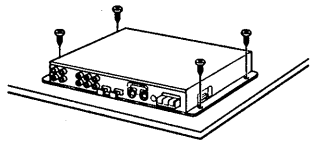
## Installing with the supplied screws

Prepare a sound mounting board with enough thickness (more than 14 mm (9/16 in.)) to install the unit securely.

**1** Place the unit directly onto the mounting board and mark the four bolt holes, then drill the holes (3 mm (1/8 in.) dia.).




**2** Secure the unit to the board with the supplied screws.

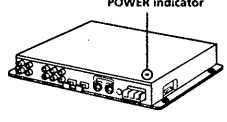


***Note***

*If you connect this unit to the XDP-U50D and XDP-U50DMK2, this unit will not work.*

## After installation and connection

Make sure that the POWER indicator of the unit lights up when you turn on the master unit.




# Connection

## Caution

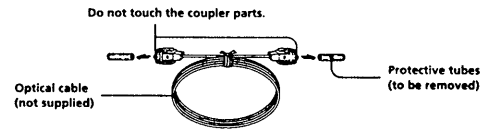
- Before making any connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the + 12 V power supply lead only after all the other leads have been connected.
- Be sure to press the reset button of the master unit after all the connections have been completed.
- If your car is equipped with a computer system for navigation or some other purpose, Do not to remove the ground wire from the car battery. If you disconnect the wire, the computer memory may be erased. To avoid short circuits when making connections, disconnect the +12 V power supply lead until all the other leads have been connected.

#### Note on the use with an extra power amplifier

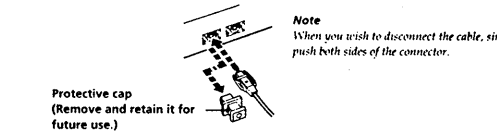
This unit has a digital volume control system. If you turn down the volume of the master unit too much, the output sound may be distorted. To prevent this from happening, turn up the volume of the master unit to a moderate level (if the power amplifier has an input level control) and turn down the input level of the power amplifier.

### Connection of the optional optical cable (RC-97 etc.)

**1**




**2**



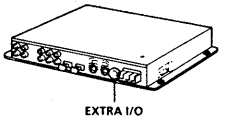

#### Notes on the optical cable

Observe the following when connecting the cable.

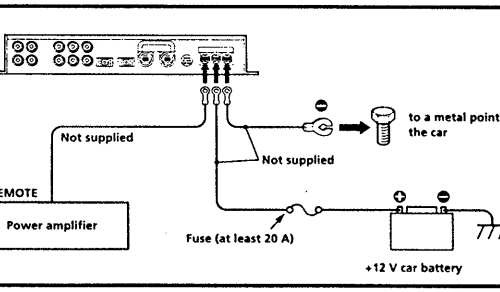
- — Make sure that the connector is plugged in firmly with the catches on either side of the connector being fully inserted into the socket.
- — Do not forcibly bend the cable too much so that the bent part (arc) becomes less than 5 cm (2 in.) in radius. If you do so, sound may not be reproduced.
- — Make sure that the cable does not get squeezed or constricted in any way by objects around it.
- — Never let the coupler parts of the connectors get scratched or become contaminated with dirt.
- — When using the optical cable, avoid routing it in places where there could be a considerable rise in temperature.

#### About EXTRA I/O jack

Do not connect any cables or code to this jack. This is a diagnostic test access jack for technicians.




## Power connection leads




***Notes on the power supply***

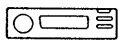
- *Connect the +12 V power supply lead only after all the other leads have been connected.*
- *When you connect the power supply lead (connected to the + 12V terminal) directly to the car battery, make sure that a fuse whose value should be at least 20 A is placed as close to the car battery as possible on the leads and that the leads must be larger than 16-Gauge (AWG-16) or with the sectional area of more than 1.25 mm².*
- *Be sure to connect the ground lead of the unit securely to a metal point of the car. A loose connection may cause a malfunction of the amplifier.*
- *Be sure to connect the remote control lead of the power amplifier to either the AMP REM OUT of the unit or the AMP REM lead of the master unit which is compatible with the Sony DSP system.*

# Connection

## Connection of the power amplifier

**Equipment used in the illustration**

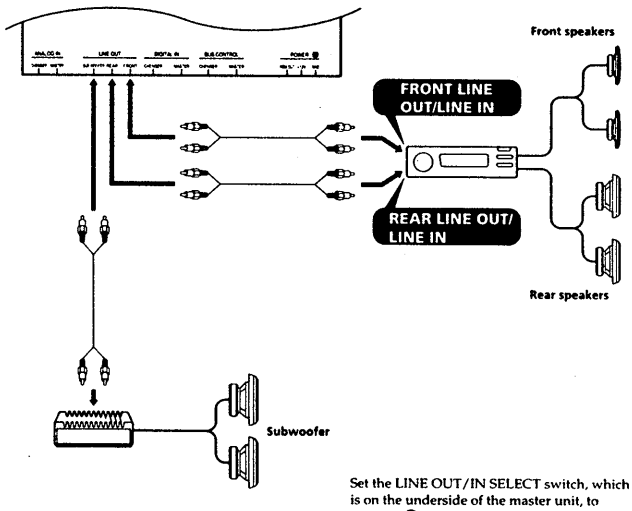

RCA pin cord


Master unit (which can operate a digital preamplifier)


Power amplifier

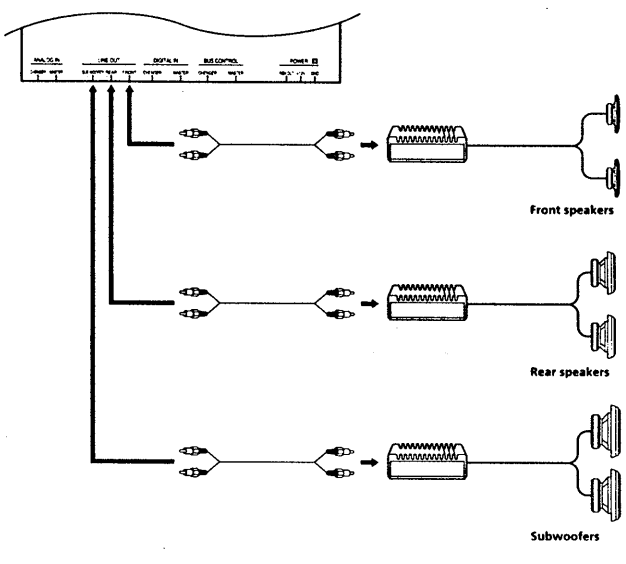
If you need some extra connecting cables or cords, you can find them in the Sony audio accessory lineup. For the equipment to be connected to the unit, refer to "Optional equipment".

**For the built-in amplifier of the master unit**



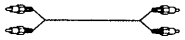

Set the LINE OUT/IN SELECT switch, which is on the underside of the master unit, to position ❷.

**For the optional power amplifier**

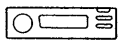



## Equipment used in the connections illustration examples


BUS cable


RCA pin cord


Optical cable

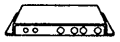

Master unit (which can operate a digital preamplifier)

CD/MD changer (equipped with an analog output)

CD changer (equipped with a digital output)

Source selector (compatible with an analog system)

Source selector (compatible with a digital system)

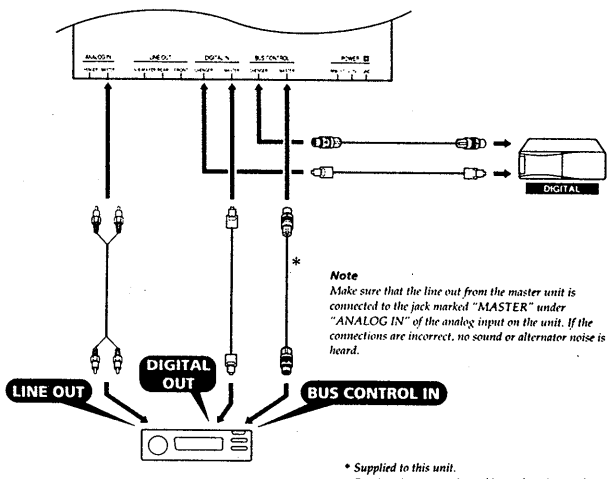

TV tuner

If you need some extra connecting cables or cords, you can find them in the Sony audio accessory lineup. For the equipment to be connected to the unit, refer to "Optional equipment".

## Expand connections (illustration example numbers)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| CD/MD changer (analog) | | ○ | | ○ | | | ○ | ○ |
| CD changer (digital) | ○ | | | | ○ | ○ | | ○ |
| TV tuner | | | ○ | ○ | ○ | | | |
| Source selector | | | | | | | ○ | ○ |
| Source selector | | | | | | ○ | | ○ |

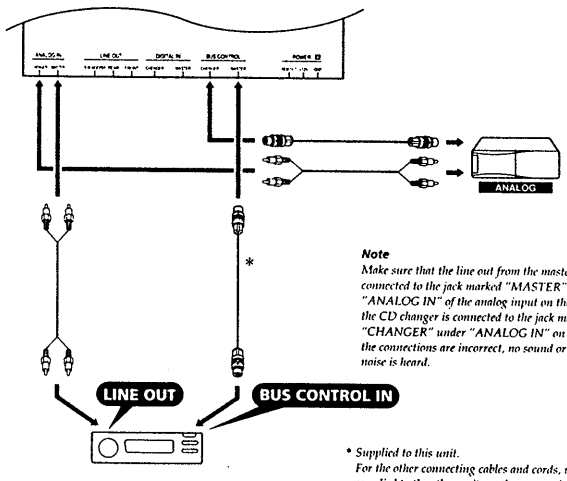
**Example 1 With a CD changer (digital)**




*Note*
*Make sure that the line out from the master unit is connected to the jack marked "MASTER" under "ANALOG IN" of the analog input on the unit. If the connections are incorrect, no sound or alternator noise is heard.*

* *Supplied to this unit.*
*For the other connecting cables and cords, use the ones supplied to the other units or the separately sold ones.*

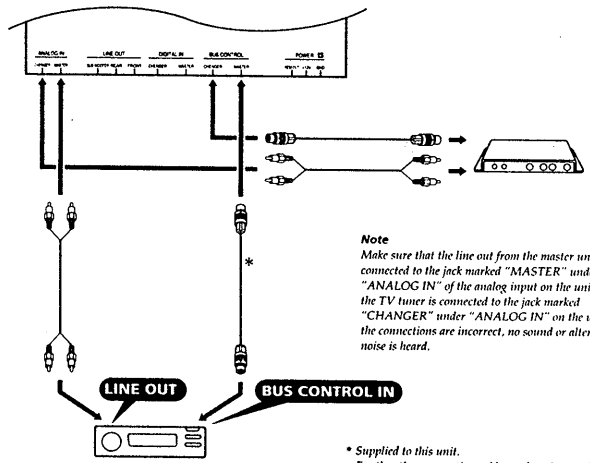
### Example 2 With a CD/MD changer (analog)




**Note**
*Make sure that the line out from the master unit is connected to the jack marked "MASTER" under "ANALOG IN" of the analog input on the unit and the CD changer is connected to the jack marked "CHANGER" under "ANALOG IN" on the unit. If the connections are incorrect, no sound or alternator noise is heard.*

* *Supplied to this unit.*
*For the other connecting cables and cords, use the ones supplied to the other units or the separately sold ones.*

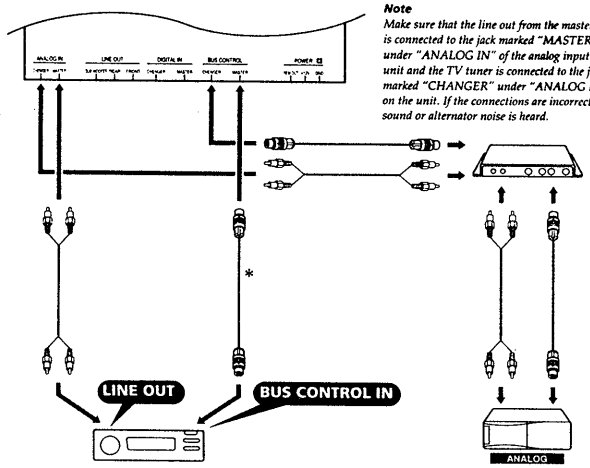
### Example 3 With a TV tuner




**Note**
*Make sure that the line out from the master unit is connected to the jack marked "MASTER" under "ANALOG IN" of the analog input on the unit and the TV tuner is connected to the jack marked "CHANGER" under "ANALOG IN" on the unit. If the connections are incorrect, no sound or alternator noise is heard.*

* *Supplied to this unit.*
*For the other connecting cables and cords, use the ones supplied to the other units or the separately sold ones.*

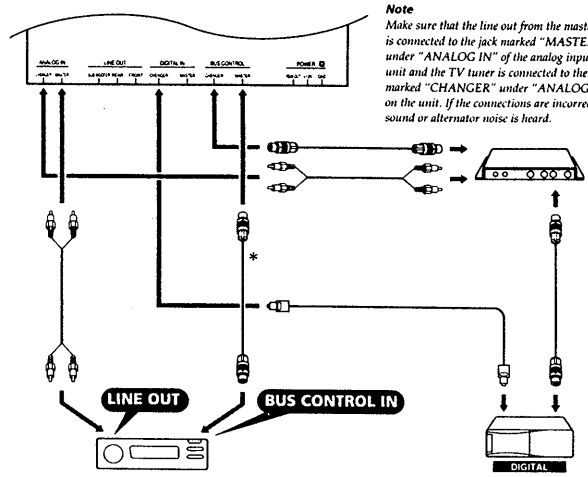
### Example 4 With a TV tuner and a CD/MD changer (analog)




**Note**
*Make sure that the line out from the master unit is connected to the jack marked "MASTER" under "ANALOG IN" of the analog input on the unit and the TV tuner is connected to the jack marked "CHANGER" under "ANALOG IN" on the unit. If the connections are incorrect, no sound or alternator noise is heard.*

* *Supplied to this unit.*
*For the other connecting cables and cords, use the ones supplied to the other units or the separately sold ones.*

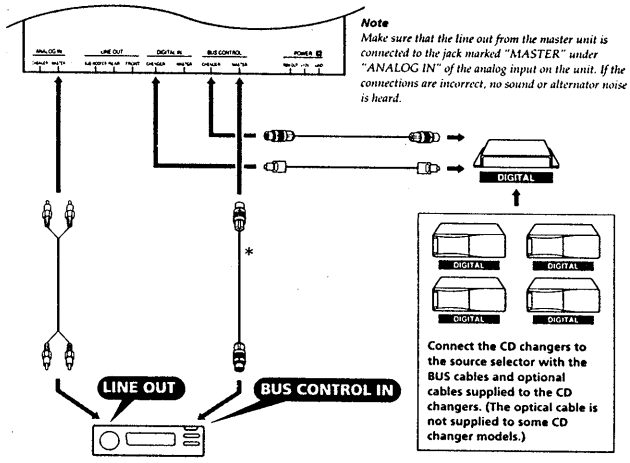
### Example 5 With a TV tuner and a CD changer (digital)




**Note**
*Make sure that the line out from the master unit is connected to the jack marked "MASTER" under "ANALOG IN" of the analog input on the unit and the TV tuner is connected to the jack marked "CHANGER" under "ANALOG IN" on the unit. If the connections are incorrect, no sound or alternator noise is heard.*

* *Supplied to this unit.*
*For the other connecting cables and cords, use the ones supplied to the other units or the separately sold ones.*

### Example 6 With several CD changers (digital)

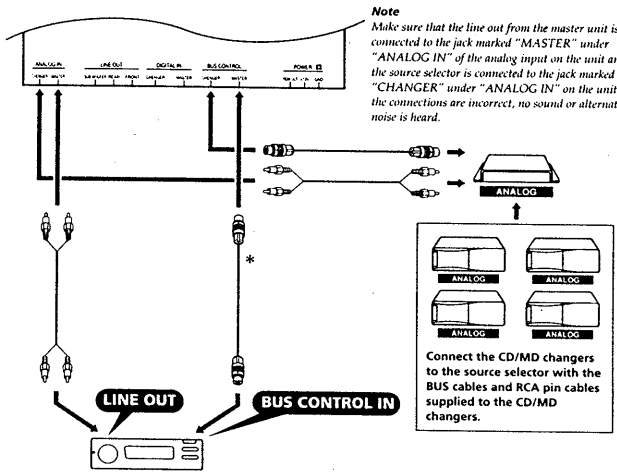



**Note**
*Make sure that the line out from the master unit is connected to the jack marked "MASTER" under "ANALOG IN" of the analog input on the unit. If the connections are incorrect, no sound or alternator noise is heard.*

**Connect the CD changers to the source selector with the BUS cables and optional cables supplied to the CD changers. (The optical cable is not supplied to some CD changer models.)**

* *Supplied to this unit.*
*For the other connecting cables and cords, use the ones supplied to the other units or the separately sold ones.*

### Example 7 With several CD/MD changers (analog)




**Note**
*Make sure that the line out from the master unit is connected to the jack marked "MASTER" under "ANALOG IN" of the analog input on the unit and the source selector is connected to the jack marked "CHANGER" under "ANALOG IN" on the unit. If the connections are incorrect, no sound or alternator noise is heard.*

**Connect the CD/MD changers to the source selector with the BUS cables and RCA pin cables supplied to the CD/MD changers.**

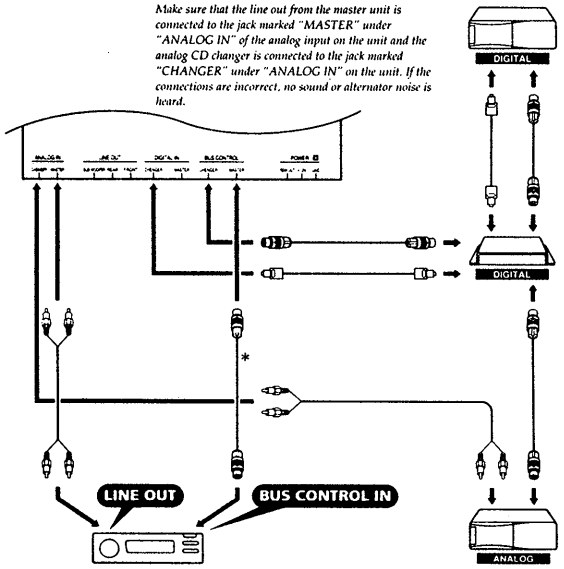
* *Supplied to this unit.*
*For the other connecting cables and cords, use the ones supplied to the other units or the separately sold ones.*

**Example 8 With two CD changers (analog and digital)**

**With a digital selector**

***Note***

*Make sure that the line out from the master unit is connected to the jack marked "MASTER" under "ANALOG IN" of the analog input on the unit and the analog CD changer is connected to the jack marked "CHANGER" under "ANALOG IN" on the unit. If the connections are incorrect, no sound or alternator noise is heard.*

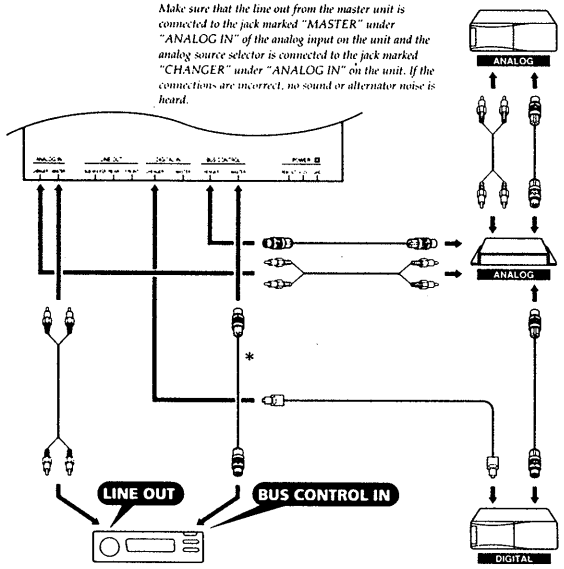



* *Supplied to this unit.*
*For the other connecting cables and cords, use the ones supplied to the other units or the separately sold ones.*

**With an analog selector**

***Note***

*Make sure that the line out from the master unit is connected to the jack marked "MASTER" under "ANALOG IN" of the analog input on the unit and the analog source selector is connected to the jack marked "CHANGER" under "ANALOG IN" on the unit. If the connections are incorrect, no sound or alternator noise is heard.*




* *Supplied to this unit.*
*For the other connecting cables and cords, use the ones supplied to the other units or the separately sold ones.*

# SECTION 2
# EXPLANATION OF IC TERMINALS

**IC502 TC9332F (Digital Signal Processor)**
**IC503 TC9332F (Digital Signal Processor)**

| Pin No. | Pin name | I/O | Description |
|---|---|---|---|
| 1 – 3 | NC | – | Not used. (Open) |
| 4 | $V_{DD}$ | – | Power supply terminal. (+5V) |
| 5 | Vss | – | Power supply terminal. (Ground) |
| 6 – 11 | NC | – | not used. (Open) |
| 12 | VSSR | – | Power terminal for internal delay RAM (DLRAM). (Ground) |
| 13 | VDDR | – | Power terminal for internal delay RAM (DLRAM). (+5V) |
| 14 | Vss | – | Power supply terminal. (Ground) |
| 15 | SD02 | O | Output terminal for serial data. |
| 16 | SD01 | O | Output terminal for serial data. |
| 17 | SDO0 | O | Output terminal for serial data. |
| 18 | SDI1 | I | Input terminal for serial data. |
| 19 | SDI0 | I | Input terminal for serial data. |
| 20 | LR | O | Output terminal for LR clock. (1fs) (Not used in this unit) |
| 21 | WCK | O | Output terminal for Word clock.( 2fs) (Not used in this unit) |
| 22 | FS32 | O | Output terminal for Bit clock. (32fs) (Not used in this unit) |
| 23 | FS64 | O | Output terminal for Bit clock. (64fs) (Not used in this unit) |
| 24 | EBC0 | I | Output terminal for Bit clock. |
| 25 | EBCI1 | I | Output terminal for Bit clock. |
| 26 | EBCI0 | I | Output terminal for Bit clock. |
| 27 | ELR0 | I | Input terminal for LR clock. |
| 28 | ELRI1 | I | Input terminal for LR clock. |
| 29 | ELRI0 | I | Input terminal for LR clock. |
| 30 | SYNC | I | Input terminal for synchronization signal. |
| 31 | $V_{DD}$ | – | Power supply terminal. (+5V) |
| 32 | X1 | I | Input terminal for crystal oscillation radiator / terminal for extemal clock. (Ground connection for this unit) |
| 33 | X0 | O | Terminal for crystal oscillation radiator. (Not used in this unit) |
| 34 | Vss | – | Power supply terminal. (Ground) |
| 35 | CKSL | I | Switching terminal for oscillation clock. "L": 384fs, "H": 512fs ($V_{DD}$ connection for this unit) |
| 36 | PLOFF | I | Switching terminal for X'tal oscillation mode/VCO oscillation mode. "L": Built-in VCO oscillation mode, "H": X'tal oscillation mode. (Ground connection for this unit) |
| 37 | PD | O | Output terminal for data with comparison phase. |
| 38 | VSSA | – | Analog power supply terminal. (Ground) |
| 39 | AMPO | O | Amplifier output terminal for low-pass filter. |
| 40 | AMPI | I | Amplifier input terminal for low-pass filter. |

| Pin No. | Pin name | I/O | Description |
|---|---|---|---|
| 41 | ADDA | – | Analog power supply terminal. (+5V) |
| 42 – 44 | NC | – | Not used. ($V_{DD}$ connection for this unit) |
| 45 | $\overline{RST}$ | I | Input terminal for reset signal. |
| 46 | $\overline{CS}$ | I | Input terminal for chip select. |
| 47 | IFCD | I | Selection terminal for command or data input mode from microcomputer.<br>"H": Command , "L": Data |
| 48 | IFDI | I | Input terminal for microcomputer data. |
| 49 | IFDO | O | Data out put terminal for data bus. |
| 50 | IFCK | I | Shift clock input terminal for microcomputer data. |
| 51 | $\overline{ACK}$ | O | Acknowledge signal output terminal for microcomputer. |
| 52 | $V_{SS}$ | – | Power supply terminal. (Ground) |
| 53 – 60 | NC | – | Not used. (Open) |

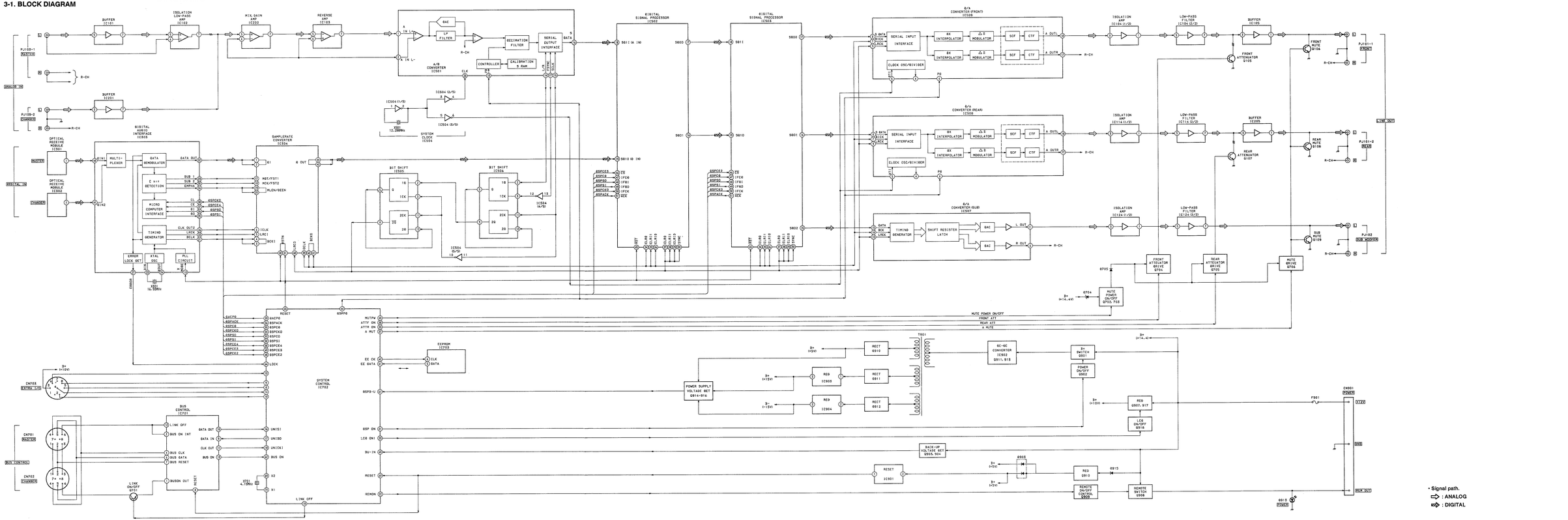
### IC702 µPD78056 (SYSTEM CONTROL)

| Pin No. | Pin name | I/O | Description |
|---|---|---|---|
| 1 – 3 | NC | – | Not used. (Open) |
| 4 | AVss | – | Power supply (Ground) |
| 5 , 6 | NC | – | Not used. (Open) |
| 7 | AVREF1 | – | Reference voltage for D/A converter. |
| 8 | SIN | I | Serial data input from commander. |
| 9 | SOUT | O | Serial data output to commander. |
| 10 | CTL1 | O | Control output for commander. |
| 11–13 | NC | – | Not used. (Open) |
| 14 | CTL2 | O | Control output for commander. |
| 15 | CTL3 | O | Control output for commander. |
| 16 | UNISI | I | Input terminal for UNI-LINK serial communication data. |
| 17 | UNISO | O | Output terminal for UNI-LINK serial communication data. |
| 18 | UNICKI | I | Input terminal for UNI-LINK serial communication clock. |
| 19 | LINK OFF | O | LINK ON/OFF control output. |
| 20 | NC | – | Not used. (Open) |
| 21 | DSPON | O | DSP IC power supply ON/OFF control output. (DC/DC converter power drive) H : ON |
| 22 | REMON | O | AMP remote control output. |
| 23 | LCDON1 | O | Commander power supply ON/OFF control output. H : ON |
| 24–32 | NC | – | Not used. (Open) |
| 33 | Vss | – | Power supply. (Ground) |
| 34–36 | NC | – | Not used. (Open) |
| 37 | A-MUT | O | Output terminal for analog muting control. |
| 38 | ATTFON | O | Output terminal for front analog attenuation control. |
| 39 | ATTRON | O | Output terminal for rear analog attenuation control. |
| 40 | MUTPW | O | Output terminal for analog muting power supply control. |
| 41 | EEDATA | I/O | Serial data input/output to EEPROM. |
| 42 | EECK | O | Serial clock output to EEPROM. |
| 43 | NC | – | Not used. (Open) |
| 44 | DSPPD | O | Output terminal for A/D converter IC reset control. |
| 45 | $\overline{\text{DSPRST}}$ | O | Output terminal for DSP converter IC reset control. |
| 46, 47 | NC | – | Not used. (Open) |
| 48 | DSPCE2 | O | Output terminal for DSP IC (IC503) communication authorization. |
| 49 | DSPCE3 | O | Output terminal for DSP IC (IC502) communication authorization. |
| 50 | DSPCE4 | O | Output terminal for digital receiver IC (IC303) communication authorization. |
| 51 | NC | – | Not used. (Open) |
| 52 | DSPSI | I | Input terminal for DSP IC serial communication data. |
| 53 | DSPSO | I | Output terminal for DSP IC serial communication data. |
| 54 | DSPCKO | I | Output terminal for DSP IC serial communication clock. |
| 55 | DSPCD | O | Output terminal for the DSP IC serial communication commands/data control. |
| 56 | DSPACK | I | Input terminal for DSP IC serial communication acknowledgment. |
| 57, 58 | NC | – | Not used. (Open) |
| 59 | DACPD | O | Output terminal for A/D converter IC reset control. |
| 60 | RESET | I | Input terminal for reset. |

| Pin No. | Pin name | I/O | Description |
|---|---|---|---|
| 61 | DSPB•U | I | Input terminal for detection of abnormal voltage in the DSP IC power supply. |
| 62 | BUSON | I | Input terminal for UNI-LINK communication authorization. |
| 63 | BU•IN | I | Input terminal for detection of abnormal voltage in the backup power supply. |
| 64 | LOCK | I | Input terminal for detection of digital audio lock. |
| 65–67 | NC | – | Not used. (Open) |
| 68 | $V_{DD}$ | – | Power supply. (+5V) |
| 69 | X2 | O | Main system clock oscillation. (4.19MHz) |
| 70 | X1 | I | Main system clock oscillation. (4.19MHz) |
| 71 | IC ($V_{PP}$) | – | Ground connection for this unit. |
| 72 | NC | – | Not used. (Open) |
| 73 | XT1 | – | Ground connection for this unit. |
| 74 | $AV_{DD}$ | – | Analog power supply terminal. (+5V) |
| 75 | AVREF | – | Input terminal for the A/D converter referance voltage. (+5V) |
| 76–80 | NC | – | Not used. (Open) |

# SECTION 3
# DIAGRAMS

## 3-1. BLOCK DIAGRAM



## 3-2. PRINTED WIRING BOARDS

### • SEMICONDUCTOR LOCATION

| Ref. No. | Location | Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|---|---|
| D100 | G-9 | IC101 | F-12 | Q105 | F-15 |
| D101 | G-9 | IC102 | E-12 | Q106 | F-14 |
| D102 | F-12 | IC103 | E-11 | Q107 | F-14 |
| D103 | F-12 | IC104 | E-15 | Q108 | F-14 |
| D104 | F-12 | IC105 | F-15 | Q109 | F-13 |
| D105 | F-12 | IC114 | E-14 | Q205 | F-15 |
| D200 | F-10 | IC124 | E-13 | Q206 | F-14 |
| D201 | G-10 | IC201 | F-11 | Q207 | F-14 |
| D202 | F-12 | IC202 | E-11 | Q208 | F-13 |
| D203 | F-12 | IC204 | E-15 | Q209 | F-13 |
| D204 | F-11 | IC205 | F-14 | Q701 | E-17 |
| D205 | F-11 | IC214 | E-14 | Q702 | C-19 |
| D701 | G-4 | IC224 | E-13 | Q703 | C-19 |
| D702 | F-16 | IC301 | G-5 | Q704 | F-15 |
| D703 | F-16 | IC302 | G-6 | Q705 | F-15 |
| D704 | D-2 | IC303 | E-16 | Q706 | F-15 |
| D705 | D-19 | IC304 | D-16 | Q901 | D-20 |
| D706 | F-16 | IC501 | C-12 | Q902 | D-19 |
| D707 | F-16 | IC502 | B-14 | Q903 | D-19 |
| D708 | F-18 | IC503 | B-15 | Q904 | D-19 |
| D901 | F-3 | IC504 | A-13 | Q907 | E-3 |
| D902 | G-2 | IC505 | A-12 | Q908 | D-19 |
| D903 | D-18 | IC506 | A-12 | Q909 | D-19 |
| D904 | D-18 | IC507 | C-13 | Q910 | D-16 |
| D906 | D-19 | IC508 | C-14 | Q911 | B-2 |
| D907 | D-19 | IC509 | C-15 | Q913 | B-20 |
| D908 | C-20 | IC701 | E-17 | Q914 | D-19 |
| D909 | C-19 | IC702 | D-17 | Q915 | C-20 |
| D910 | B-19 | IC703 | C-18 | Q916 | D-19 |
| D911 | B-3 | IC901 | D-18 | Q917 | E-18 |
| D912 | C-2 | IC902 | A-19 | Q918 | E-18 |
| D913 | F-1 | IC903 | B-4 | | |
| D914 | E-18 | IC904 | B-4 | | |
| D915 | D-19 | | | | |

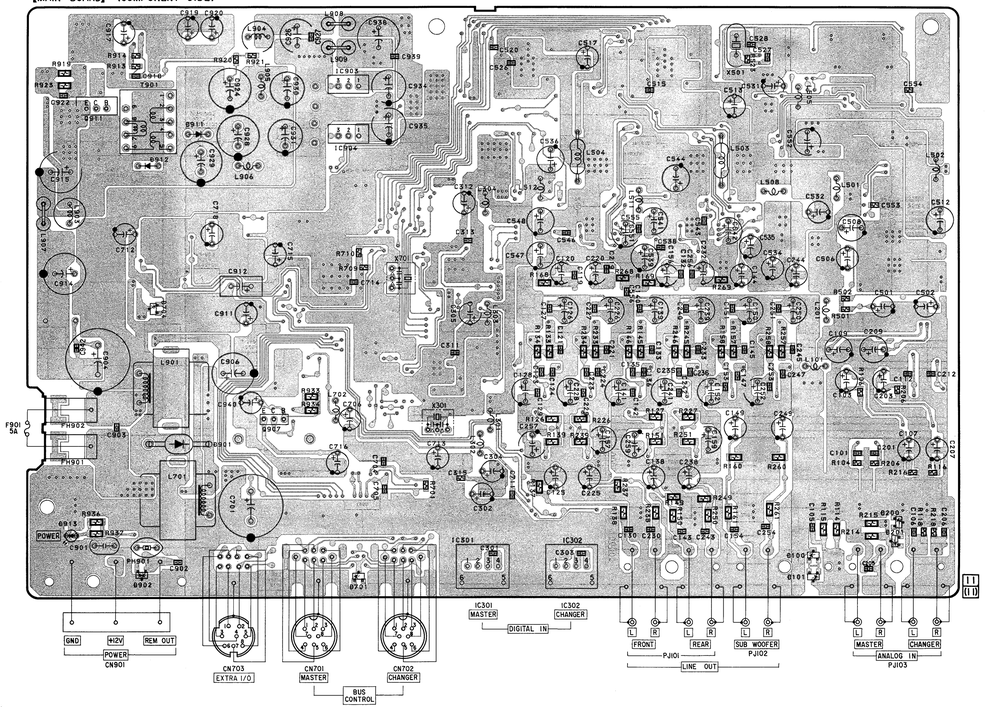
**Note:**

- ○— : parts extracted from the component side.
- ○ : Through hole.
- ▨ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated)

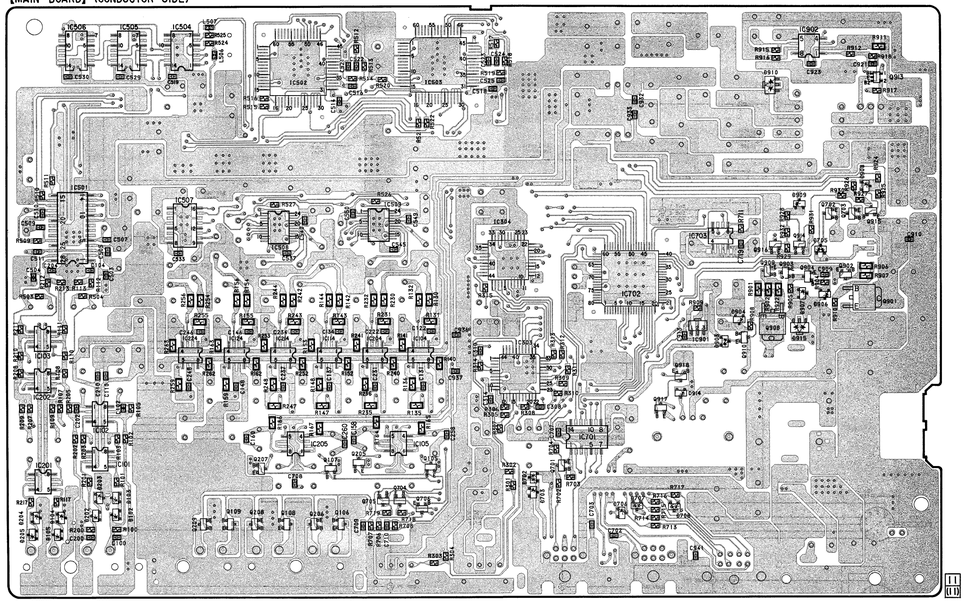
**Caution :**

Pattern face side : Parts on the pattern face side seen from (Conductor Side) the pattern face are indicated.
Parts face side : Parts on the parts face side seen from the (Component side) parts face are indicated.

【MAIN BOARD】 (COMPONENT SIDE)




【MAIN BOARD】 (CONDUCTOR SIDE)



## ● WAVEFORMS

① 4.4Vp-p, 16.93MHz — IC303 ㉘

② 4.4Vp-p, 4.19MHz — IC702 ㉚

③ 6.7Vp-p, 12.288MHz — IC504 ①

④ 19Vp-p, 11.1 μsec

**Note :**

- All capacitors are in μ F unless otherwise noted. pF: μ μ F
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : Internal component.
- B+ : B+ Line
- B− : B − Line
- Power voltage is dc14.4V and fed with regulated dc power supply from CN901 (REM OUT, +12V terminal)
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM ( Input impedance 10M Ω ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : ANALOG
  ⇨ : DIGITAL

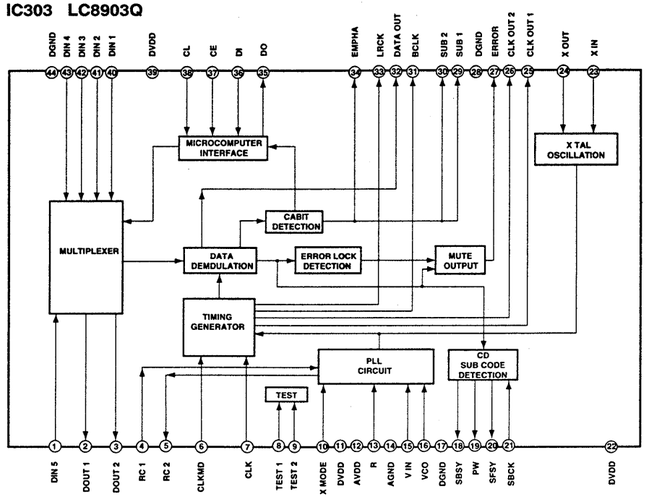
【MAIN BOARD】

IC101 BUFFER · IC102 ISOLATION LOW-PASS AMP · IC202 NJA MAIN AMP · IC103 REVERSE AMP · IC501 A/D CONVERTER · IC502 DIGITAL SIGNAL PROCESSOR · IC509 AK4320-VM-E2 · IC104 ISOLATION AMP · IC105 BUFFER · IC201 BUFFER · IC304 SAMPLERATE CONVERTER · IC503 DIGITAL SIGNAL PROCESSOR · IC508 D/A CONVERTER · IC204 ISOLATION AMP · IC114 ISOLATION AMP · IC205 BUFFER · IC214 ISOLATION AMP · IC124 ISOLATION AMP · IC224 ISOLATION AMP · IC303 ① DIGITAL AUDIO INTERFACE · IC507 D/A CONVERTER · IC504 CLOCK OSC · IC505 BIT SHIFT · IC506 BIT SHIFT · IC901 RESET · IC903 REG · IC904 REG · IC902 dc-dc CONVERTER · IC701 BUS CONTROL · IC702 SYTEM CONTROL · IC703 EEPROM

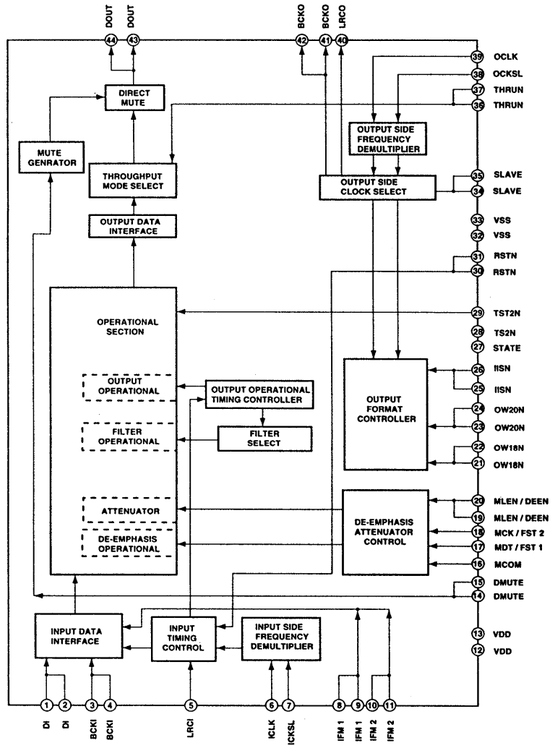
| | | |
|---|---|---|
| 1 | BUSONOUT | VCC 24 |
| 2 | BUSONINT | BUSON 23 |
| 3 | GNB | LINCOFF 22 |
| 4 | BUSCLK | CLKOUT 21 |
| 5 | BUSREF | RATADJT 10 |
| 6 | BUSDATA | BATAIN 9 |
| 7 | BUSRESET | RESET 8 |

## 3-4. IC BLOCK DIAGRAMS

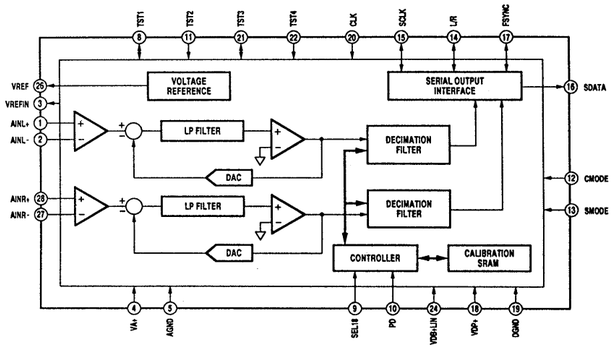
### IC303 LC8903Q



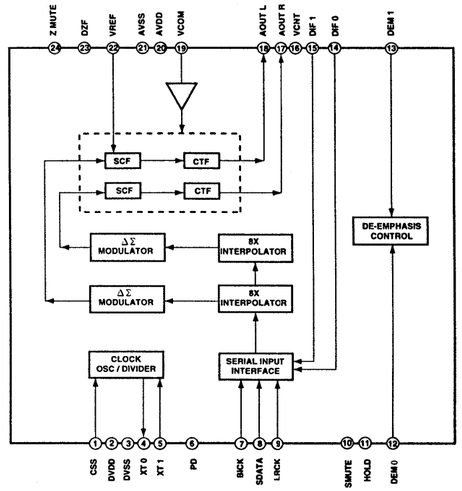

### IC304 SM5844AF



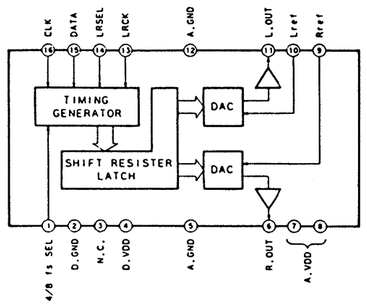

### IC501 AK5340-VS



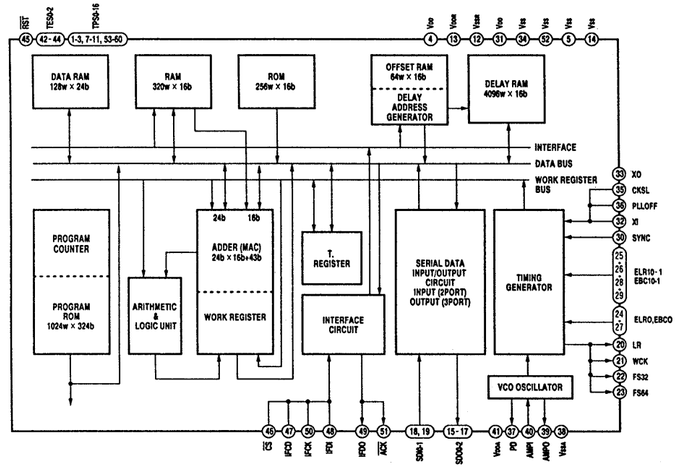

### IC508, 509 AK4320VM-E2



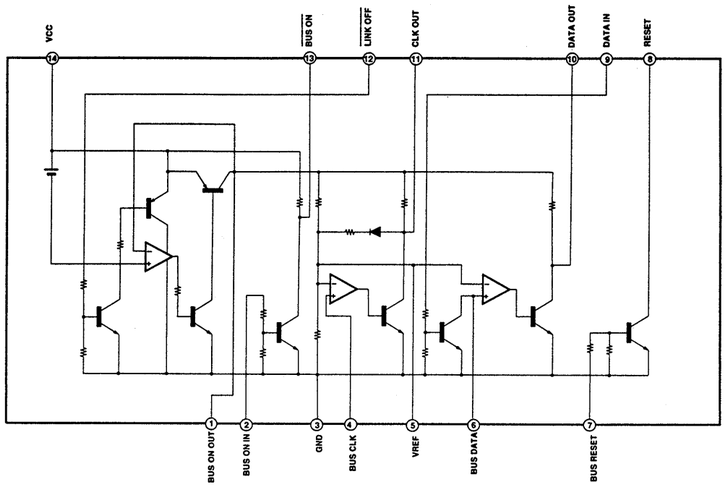

### IC507 μPD6376GS




### IC502, 503 TC9332F-016 (BS•K)



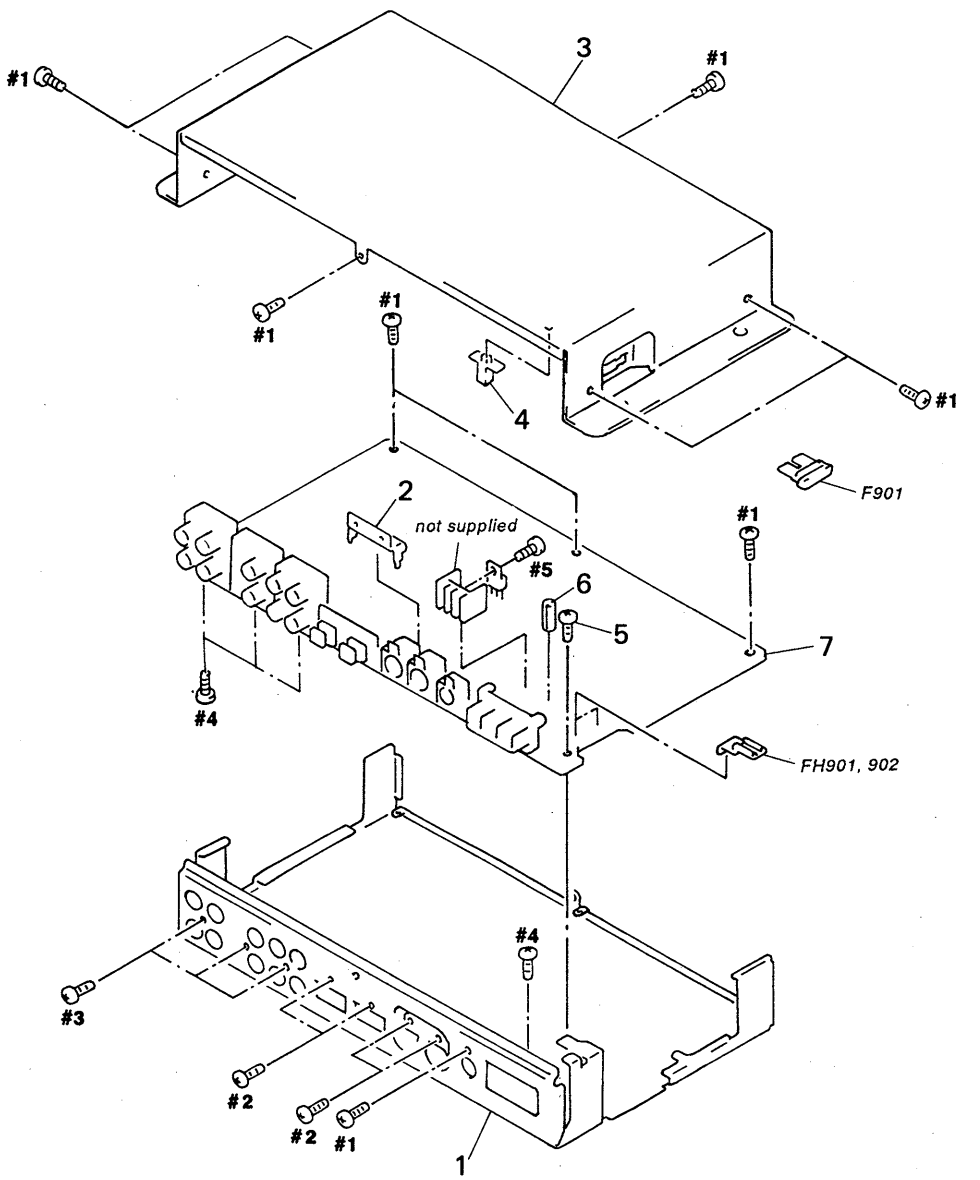

### IC701 MM1284XFFE



# SECTION 4
# EXPLODE VIEW

**NOTE :**

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 1 | 3-932-733-01 | CASE (LOWER) | |
| * 2 | 3-932-734-01 | COVER (CONNECTOR) | |
| * 3 | 3-932-732-01 | CASE (UPPER) | |
| * 4 | 3-932-735-01 | PLATE (LED), LIGHT GUIDE | |
| 5 | 3-344-501-01 | SCREW (+PTT 3X6),GROUND POINT | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 6 | 4-937-336-02 | HOLDER, LED | |
| * 7 | A-3309-096-A | MAIN BOARD, COMPLETE | |
| F901 | 1-532-796-11 | FUSE (BRADE TYPE) (AUTO FUSE) (5A) | |
| FH901 | 1-537-479-11 | TERMINAL (FUSE) | |
| FH902 | 1-537-479-11 | TERMINAL (FUSE) | |

**MAIN**

# SECTION 5
# ELECTRICAL PARTS LIST

**NOTE :**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE :Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- SEMICONDUCTORS
  In each case, u : μ , for example :
  uA.... : μ A.... , uPA.... : μ PA....
  uPB.... : μ PB.... , uPC.... : μ PC....
  uPD.... : μ PD....
- CAPACITORS
  uF : μ F
- COILS
  uH : μ H

When indicating parts by reference number, please include the board.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | A-3309-096-A | MAIN BOARD, COMPLETE | | | |
| | | ********** | | | |
| * | 3-932-734-01 | COVER (CONNECTOR) | | | |
| * | 4-937-336-02 | HOLDER, LED | | | |
| | 7-685-146-11 | SCREW +P 3X8 TYPE2 NON-SLIT | | | |
| | 7-682-548-04 | SCREW +PTT 3X8 (S) | | | |
| | | < CAPACITOR > | | | |
| C100 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C101 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C102 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C103 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C104 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C105 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C106 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C107 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C109 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C110 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C112 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C119 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C120 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C121 | 1-104-527-11 | FILM CHIP | 100PF | 5% | 50V |
| C122 | 1-104-527-11 | FILM CHIP | 100PF | 5% | 50V |
| C123 | 1-104-541-11 | FILM CHIP | 0.0015uF | 5% | 50V |
| C124 | 1-104-536-11 | FILM CHIP | 560PF | 5% | 50V |
| C125 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C126 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C127 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C128 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C129 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C130 | 1-163-275-11 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C131 | 1-104-541-11 | FILM CHIP | 0.0015uF | 5% | 50V |
| C132 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C133 | 1-104-527-11 | FILM CHIP | 100PF | 5% | 50V |
| C134 | 1-104-527-11 | FILM CHIP | 100PF | 5% | 50V |
| C135 | 1-104-541-11 | FILM CHIP | 0.0015uF | 5% | 50V |
| C136 | 1-104-536-11 | FILM CHIP | 560PF | 5% | 50V |
| C137 | 1-104-541-11 | FILM CHIP | 0.0015uF | 5% | 50V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C138 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C139 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C140 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C141 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C142 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C143 | 1-163-275-11 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C144 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C145 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C146 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C147 | 1-163-020-00 | CERAMIC CHIP | 0.0082uF | 10% | 50V |
| C148 | 1-162-587-11 | CERAMIC CHIP | 0.039uF | 10% | 25V |
| C149 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C150 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C151 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C152 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C153 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C154 | 1-163-275-11 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C156 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C157 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C158 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C159 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C160 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C200 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C201 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C202 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C203 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C204 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C205 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C206 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C207 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C209 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C210 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C212 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C219 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C220 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C221 | 1-104-527-11 | FILM CHIP | 100PF | 5% | 50V |
| C222 | 1-104-527-11 | FILM CHIP | 100PF | 5% | 50V |
| C223 | 1-104-541-11 | FILM CHIP | 0.0015uF | 5% | 50V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C224 | 1-104-536-11 | FILM CHIP | 560PF | 5% | 50V |
| C225 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C226 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C227 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C228 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C229 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C230 | 1-163-275-11 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C231 | 1-104-541-11 | FILM CHIP | 0.0015uF | 5% | 50V |
| C232 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C233 | 1-104-527-11 | FILM CHIP | 100PF | 5% | 50V |
| C234 | 1-104-527-11 | FILM CHIP | 100PF | 5% | 50V |
| C235 | 1-104-541-11 | FILM CHIP | 0.0015uF | 5% | 50V |
| C236 | 1-104-536-11 | FILM CHIP | 560PF | 5% | 50V |
| C237 | 1-104-541-11 | FILM CHIP | 0.0015uF | 5% | 50V |
| C238 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C239 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C240 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C241 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C242 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C243 | 1-163-275-11 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C244 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C245 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C246 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C247 | 1-163-020-00 | CERAMIC CHIP | 0.0082uF | 10% | 50V |
| C248 | 1-162-587-11 | CERAMIC CHIP | 0.039uF | 10% | 25V |
| C249 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C250 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C251 | 1-163-077-00 | CERAMIC CHIP | 0.1uF | 5% | 50V |
| C252 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C253 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C254 | 1-163-275-11 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C256 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C257 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C258 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C259 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C260 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C301 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C302 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C303 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C304 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C305 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C308 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C310 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C311 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C312 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C313 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C314 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C315 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C501 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C502 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C503 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C504 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C505 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C506 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C507 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C508 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C509 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C510 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C511 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C512 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C513 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C514 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C515 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C516 | 1-163-022-00 | CERAMIC CHIP | 0.012uF | 10% | 50V |
| C517 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C518 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C519 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C520 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C521 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C521 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C522 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C523 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C524 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C525 | 1-163-022-00 | CERAMIC CHIP | 0.012uF | 10% | 50V |
| C526 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C527 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C528 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C529 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C530 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C531 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C532 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C533 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C534 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C535 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C536 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C537 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C538 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C539 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C540 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C541 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C542 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C543 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C544 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C545 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C546 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C547 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C548 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C549 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C550 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C551 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C552 | 1-126-009-81 | ELECT | 100uF | 20% | 16V |
| C553 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C554 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C555 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |

# MAIN

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C556 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C701 | 1-126-768-11 | ELECT | 2200uF | 20% | 16V |
| C702 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C703 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C704 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C705 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C706 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C707 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C708 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C709 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C710 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C711 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C712 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C713 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C714 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C715 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C716 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C718 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C719 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C901 | 1-162-806-11 | CERAMIC | 0.1uF | 10% | 50V |
| C902 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C903 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C904 | 1-126-768-11 | ELECT | 2200uF | 20% | 16V |
| C906 | 1-126-139-91 | ELECT | 820uF | 20% | 16V |
| C909 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C910 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C911 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C912 | 1-125-705-11 | CAPACITOR | 0.22F | 0 | 5.5V |
| C913 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C914 | 1-110-598-91 | ELECT | 330uF | 20% | 16V |
| C915 | 1-126-139-91 | ELECT | 820uF | 20% | 16V |
| C917 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C918 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C919 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C920 | 1-126-044-11 | ELECT | 1uF | 20% | 50V |
| C921 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C922 | 1-163-006-11 | CERAMIC CHIP | 560PF | 10% | 50V |
| C923 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C924 | 1-126-139-91 | ELECT | 820uF | 20% | 16V |
| C926 | 1-111-059-11 | ELECT | 220uF | 20% | 25V |
| C927 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C928 | 1-124-600-00 | ELECT | 270uF | 20% | 25V |
| C929 | 1-124-600-00 | ELECT | 270uF | 20% | 25V |
| C930 | 1-111-059-11 | ELECT | 220uF | 20% | 25V |
| C931 | 1-111-059-11 | ELECT | 220uF | 20% | 25V |
| C932 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C933 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C934 | 1-111-059-11 | ELECT | 220uF | 20% | 25V |
| C935 | 1-111-059-11 | ELECT | 220uF | 20% | 25V |
| C936 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C937 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C938 | 1-126-373-11 | ELECT | 470uF | 20% | 10V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C939 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C940 | 1-126-048-81 | ELECT | 10uF | 20% | 50V |
| C941 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C942 | 1-136-961-11 | FILM | 0.047uF | 10% | 160V |
| | | < CONNECTOR > | | | |
| CN701 | 1-580-907-31 | PLUG, CONNECTOR (BUS CONTROL MASTER) | | | |
| CN702 | 1-580-907-31 | PLUG, CONNECTOR (BUS CONTROL CHANGER) | | | |
| CN703 | 1-580-489-11 | SOCKET, CONNECTOR 8P (COMMANDER) | | | |
| CN901 | 1-537-477-41 | TERMINAL BOARD (3P) (POWER) (GND/+12V/ REM OUT) (INCLUDING ▲) | | | |
| ▲ | 3-912-432-01 | SCREW 4X8 | | | |
| | | < DIODE > | | | |
| D100 | 8-719-403-02 | DIODE | MA3240M-TX | | |
| D101 | 8-719-403-02 | DIODE | MA3240M-TX | | |
| D102 | 8-719-403-02 | DIODE | MA3240M-TX | | |
| D103 | 8-719-403-02 | DIODE | MA3240M-TX | | |
| D104 | 8-719-403-02 | DIODE | MA3240M-TX | | |
| D105 | 8-719-403-02 | DIODE | MA3240M-TX | | |
| D200 | 8-719-403-02 | DIODE | MA3240M-TX | | |
| D201 | 8-719-403-02 | DIODE | MA3240M-TX | | |
| D202 | 8-719-403-02 | DIODE | MA3240M-TX | | |
| D203 | 8-719-403-02 | DIODE | MA3240M-TX | | |
| D204 | 8-719-403-02 | DIODE | MA3240M-TX | | |
| D205 | 8-719-403-02 | DIODE | MA3240M-TX | | |
| D701 | 8-719-106-09 | DIODE | RD6.2M-B3 | | |
| D702 | 8-719-056-17 | DIODE | RD6.2MW-T1B | | |
| D703 | 8-719-975-40 | DIODE | RB411D | | |
| D704 | 8-719-036-58 | DIODE | MA3030-H(TX) | | |
| D705 | 8-719-990-36 | DIODE | DCA010 | | |
| D706 | 8-719-106-09 | DIODE | RD6.2M-B3 | | |
| D707 | 8-719-056-17 | DIODE | RD6.2MW-T1B | | |
| D708 | 8-719-056-17 | DIODE | RD6.2MW-T1B | | |
| D901 | 8-719-052-59 | DIODE | 1N5404TU-15 | | |
| D902 | 8-719-990-36 | DIODE | DCA010 | | |
| D903 | 8-719-990-36 | DIODE | DCA010 | | |
| D904 | 8-719-106-09 | DIODE | RD6.2M-B3 | | |
| D906 | 8-719-106-89 | DIODE | RD15M-B2 | | |
| D907 | 8-719-106-09 | DIODE | RD6.2M-B3 | | |
| D908 | 8-719-106-62 | DIODE | RD11M-B2 | | |
| D909 | 8-719-036-58 | DIODE | MA3030-H(TX) | | |
| D910 | 8-719-054-27 | DIODE | SB10W05P-TC | | |
| D911 | 8-719-037-70 | DIODE | 11EFS2-TB5 | | |
| D912 | 8-719-037-70 | DIODE | 11EFS2-TB5 | | |
| D913 | 8-719-989-83 | LED | SLR34MG3FN.P (POWER) | | |
| D914 | 8-719-106-62 | DIODE | RD11M-B2 | | |
| D915 | 8-719-054-27 | DIODE | SB10W05P-TC | | |
| | | < TERMINAL > | | | |
| FH901 | 1-537-479-11 | TERMINAL | | | |
| FH902 | 1-537-479-11 | TERMINAL | | | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < IC > | |
| IC101 | 8-759-711-82 | IC NJM4580E | |
| IC102 | 8-759-711-82 | IC NJM4580E | |
| IC103 | 8-759-711-82 | IC NJM4580E | |
| IC104 | 8-759-711-82 | IC NJM4580E | |
| IC105 | 8-759-711-82 | IC NJM4580E | |
| IC114 | 8-759-711-82 | IC NJM4580E | |
| IC124 | 8-759-711-82 | IC NJM4580E | |
| IC201 | 8-759-711-82 | IC NJM4580E | |
| IC202 | 8-759-711-82 | IC NJM4580E | |
| IC204 | 8-759-711-82 | IC NJM4580E | |
| IC205 | 8-759-711-82 | IC NJM4580E | |
| IC214 | 8-759-711-82 | IC NJM4580E | |
| IC224 | 8-759-711-82 | IC NJM4580E | |
| IC301 | 8-749-923-62 | IC TORX-193 (DIGITAL IN MASTER) | |
| IC302 | 8-749-923-62 | IC TORX-193 (DIGITAL IN CHANGER) | |
| IC303 | 8-759-340-58 | IC LC8903Q | |
| IC304 | 8-759-375-46 | IC SM5844AF | |
| IC501 | 8-759-331-35 | IC AK5340-VS | |
| IC502 | 8-759-385-59 | IC TC9332F-016(BS.K) | |
| IC503 | 8-759-385-59 | IC TC9332F-016(BS.K) | |
| IC504 | 8-759-233-64 | IC TC74HCU04AF | |
| IC505 | 8-759-232-32 | IC TC74HC74AF | |
| IC506 | 8-759-232-32 | IC TC74HC74AF | |
| IC507 | 8-759-148-30 | IC uPD6376GS | |
| IC508 | 8-759-359-52 | IC AK4320VM-E2 | |
| IC509 | 8-759-359-52 | IC AK4320VM-E2 | |
| IC701 | 8-759-284-87 | IC MM1284XFFE | |
| IC702 | 8-759-389-00 | IC uPD78P058GC-SJ3117-3B9 | |
| IC703 | 8-759-363-60 | IC NM24C16EM8X | |
| IC901 | 8-759-940-45 | IC S-8054HN-CB | |
| IC902 | 8-759-983-97 | IC TL5001CPS-TL | |
| IC903 | 8-759-982-36 | IC RC78M15FA | |
| IC904 | 8-759-701-70 | IC NJM79M15FA | |
| | | < COIL > | |
| L101 | 1-410-521-11 | INDUCTOR 100uH | |
| L201 | 1-410-521-11 | INDUCTOR 100uH | |
| L301 | 1-410-513-11 | INDUCTOR 22uH | |
| L302 | 1-410-513-11 | INDUCTOR 22uH | |
| L303 | 1-410-513-11 | INDUCTOR 22uH | |
| L304 | 1-410-513-11 | INDUCTOR 22uH | |
| L501 | 1-410-513-11 | INDUCTOR 22uH | |
| L502 | 1-410-513-11 | INDUCTOR 22uH | |
| L503 | 1-408-121-00 | INDUCTOR 22uH | |
| L504 | 1-408-121-00 | INDUCTOR 22uH | |
| L505 | 1-410-513-11 | INDUCTOR 22uH | |
| L506 | 1-550-907-21 | BEAD, FERRITE (CHIP) | |
| L507 | 1-550-907-21 | BEAD, FERRITE (CHIP) | |
| L508 | 1-410-513-11 | INDUCTOR 22uH | |
| L511 | 1-410-513-11 | INDUCTOR 22uH | |
| L512 | 1-410-513-11 | INDUCTOR 22uH | |
| L701 | 1-421-359-00 | COIL, CHOKE | |
| L702 | 1-410-513-11 | INDUCTOR 22uH | |
| L901 | 1-421-359-00 | COIL, CHOKE | |
| L903 | 1-414-152-11 | COIL, CHOKE 100uH | |
| L904 | 1-414-152-11 | COIL, CHOKE 100uH | |
| L905 | 1-414-189-31 | INDUCTOR 100uH | |
| L906 | 1-414-189-31 | INDUCTOR 100uH | |
| L907 | 1-410-397-21 | FERRITE BEAD INDUCTOR | |
| L908 | 1-410-397-21 | FERRITE BEAD INDUCTOR | |
| L909 | 1-410-397-21 | FERRITE BEAD INDUCTOR | |
| | | < PHOTO INTERRUPTER > | |
| PH901 | 1-809-148-11 | THERMISTOR PTH8L07AR2R0M1B510 | |
| | | < JACK > | |
| PJ101 | 1-770-068-41 | JACK, PIN 4P (LINE OUT FRONT/REAR) | |
| PJ102 | 1-770-068-51 | JACK, PIN 2P (LINE OUT SUBWOOFER) | |
| PJ103 | 1-770-068-41 | JACK, PIN 4P (ANALOG IN MASTER/CHANGER) | |
| | | < TRANSISTOR > | |
| Q105 | 8-729-015-39 | TRANSISTOR DTC323TK | |
| Q106 | 8-729-015-39 | TRANSISTOR DTC323TK | |
| Q107 | 8-729-015-39 | TRANSISTOR DTC323TK | |
| Q108 | 8-729-015-39 | TRANSISTOR DTC323TK | |
| Q109 | 8-729-015-39 | TRANSISTOR DTC323TK | |
| Q205 | 8-729-015-39 | TRANSISTOR DTC323TK | |
| Q206 | 8-729-015-39 | TRANSISTOR DTC323TK | |
| Q207 | 8-729-015-39 | TRANSISTOR DTC323TK | |
| Q208 | 8-729-015-39 | TRANSISTOR DTC323TK | |
| Q209 | 8-729-015-39 | TRANSISTOR DTC323TK | |
| Q701 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | |
| Q702 | 8-729-027-52 | TRANSISTOR DTC124EKA-T146 | |
| Q703 | 8-729-027-52 | TRANSISTOR DTC124EKA-T146 | |
| Q704 | 8-729-923-77 | TRANSISTOR DTA114WK | |
| Q705 | 8-729-923-77 | TRANSISTOR DTA114WK | |
| Q706 | 8-729-923-77 | TRANSISTOR DTA114WK | |
| Q901 | 8-729-822-84 | TRANSISTOR 2SB1202FAST | |
| Q902 | 8-729-027-52 | TRANSISTOR DTC124EKA-T146 | |
| Q903 | 8-729-027-52 | TRANSISTOR DTC124EKA-T146 | |
| Q904 | 8-729-027-52 | TRANSISTOR DTC124EKA-T146 | |
| Q907 | 8-729-804-92 | TRANSISTOR 2SD1682-T | |
| Q908 | 8-729-822-84 | TRANSISTOR 2SB1202FAST | |
| Q909 | 8-729-027-52 | TRANSISTOR DTC124EKA-T146 | |
| Q910 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q911 | 8-729-032-70 | TRANSISTOR 2SA1289 | |
| Q913 | 8-729-032-68 | TRANSISTOR FC153-TL | |
| Q914 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q915 | 8-729-027-52 | TRANSISTOR DTC124EKA-T146 | |
| Q916 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q917 | 8-729-027-52 | TRANSISTOR DTC124EKA-T146 | |

# MAIN

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| Q918 | 8-729-027-52 | TRANSISTOR | DTC124EKA-T146 | | |
| | | < RESISTOR > | | | |
| R100 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R101 | 1-216-025-91 | METAL GLAZE | 100 | 5% | 1/10W |
| R102 | 1-208-462-61 | METAL GLAZE | 10K | 0.5% | 1/10W |
| R103 | 1-208-462-61 | METAL GLAZE | 10K | 0.5% | 1/10W |
| R104 | 1-208-462-61 | METAL GLAZE | 10K | 0.5% | 1/10W |
| R105 | 1-208-462-61 | METAL GLAZE | 10K | 0.5% | 1/10W |
| R106 | 1-216-089-91 | METAL GLAZE | 47K | 5% | 1/10W |
| R107 | 1-208-467-61 | METAL CHIP | 16K | 0.5% | 1/10W |
| R108 | 1-208-468-61 | METAL CHIP | 18K | 0.5% | 1/10W |
| R109 | 1-208-467-61 | METAL CHIP | 16K | 0.5% | 1/10W |
| R110 | 1-208-437-61 | METAL CHIP | 1K | 0.5% | 1/10W |
| R111 | 1-208-437-61 | METAL CHIP | 1K | 0.5% | 1/10W |
| R112 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R113 | 1-208-534-61 | METAL GLAZE | 100K | 5% | 1/10W |
| R114 | 1-208-782-11 | METAL GLAZE | 1K | 2% | 1/8W |
| R115 | 1-208-782-11 | METAL GLAZE | 1K | 2% | 1/8W |
| R116 | 1-216-089-91 | METAL GLAZE | 47K | 5% | 1/10W |
| R117 | 1-216-025-91 | METAL GLAZE | 100 | 5% | 1/10W |
| R118 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R126 | 1-216-206-00 | METAL GLAZE | 2.2K | 2% | 1/8W |
| R127 | 1-216-206-00 | METAL GLAZE | 2.2K | 2% | 1/8W |
| R130 | 1-208-497-11 | METAL GLAZE | 3K | 2% | 1/8W |
| R131 | 1-208-512-11 | METAL GLAZE | 12K | 2% | 1/8W |
| R132 | 1-208-497-11 | METAL GLAZE | 3K | 2% | 1/8W |
| R133 | 1-208-512-11 | METAL GLAZE | 12K | 2% | 1/8W |
| R134 | 1-208-782-11 | METAL GLAZE | 1K | 2% | 1/8W |
| R135 | 1-216-214-00 | METAL GLAZE | 4.7K | 2% | 1/8W |
| R136 | 1-216-214-00 | METAL GLAZE | 4.7K | 2% | 1/8W |
| R137 | 1-216-234-00 | METAL GLAZE | 33K | 2% | 1/8W |
| R138 | 1-208-420-41 | METAL GLAZE | 200 | 2% | 1/8W |
| R139 | 1-216-194-00 | METAL CHIP | 680 | 5% | 1/8W |
| R140 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R141 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R142 | 1-208-497-11 | METAL GLAZE | 3K | 2% | 1/8W |
| R143 | 1-208-512-11 | METAL GLAZE | 12K | 2% | 1/8W |
| R144 | 1-208-497-11 | METAL GLAZE | 3K | 2% | 1/8W |
| R145 | 1-208-512-11 | METAL GLAZE | 12K | 2% | 1/8W |
| R146 | 1-208-782-11 | METAL GLAZE | 1K | 2% | 1/8W |
| R147 | 1-216-214-00 | METAL GLAZE | 4.7K | 2% | 1/8W |
| R148 | 1-216-214-00 | METAL GLAZE | 4.7K | 2% | 1/8W |
| R149 | 1-216-234-00 | METAL GLAZE | 33K | 2% | 1/8W |
| R150 | 1-208-420-41 | METAL GLAZE | 200 | 2% | 1/8W |
| R151 | 1-216-194-00 | METAL CHIP | 680 | 5% | 1/8W |
| R152 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R153 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R154 | 1-208-492-41 | METAL GLAZE | 1.8K | 2% | 1/8W |
| R155 | 1-216-222-00 | METAL GLAZE | 10K | 2% | 1/8W |
| R156 | 1-208-492-41 | METAL GLAZE | 1.8K | 2% | 1/8W |
| R157 | 1-216-222-00 | METAL GLAZE | 10K | 2% | 1/8W |
| R158 | 1-216-222-00 | METAL GLAZE | 10K | 2% | 1/8W |
| R159 | 1-216-230-00 | METAL GLAZE | 22K | 2% | 1/8W |
| R160 | 1-216-234-00 | METAL GLAZE | 33K | 2% | 1/8W |
| R161 | 1-208-420-41 | METAL GLAZE | 200 | 2% | 1/8W |
| R162 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R163 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R164 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R165 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R166 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R167 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R168 | 1-216-214-00 | METAL GLAZE | 4.7K | 2% | 1/8W |
| R169 | 1-216-214-00 | METAL GLAZE | 4.7K | 2% | 1/8W |
| R200 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R201 | 1-216-025-91 | METAL GLAZE | 100 | 5% | 1/10W |
| R202 | 1-208-462-61 | METAL GLAZE | 10K | 0.5% | 1/10W |
| R203 | 1-208-462-61 | METAL GLAZE | 10K | 0.5% | 1/10W |
| R204 | 1-208-462-61 | METAL GLAZE | 10K | 0.5% | 1/10W |
| R205 | 1-208-462-61 | METAL GLAZE | 10K | 0.5% | 1/10W |
| R206 | 1-216-089-91 | METAL GLAZE | 47K | 5% | 1/10W |
| R207 | 1-208-467-61 | METAL CHIP | 16K | 0.5% | 1/10W |
| R208 | 1-208-468-61 | METAL CHIP | 18K | 0.5% | 1/10W |
| R209 | 1-208-467-61 | METAL CHIP | 16K | 0.5% | 1/10W |
| R210 | 1-208-437-61 | METAL CHIP | 1K | 0.5% | 1/10W |
| R211 | 1-208-437-61 | METAL CHIP | 1K | 0.5% | 1/10W |
| R212 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R213 | 1-208-534-61 | METAL GLAZE | 100K | 5% | 1/10W |
| R214 | 1-208-782-11 | METAL GLAZE | 1K | 2% | 1/8W |
| R215 | 1-208-782-11 | METAL GLAZE | 1K | 2% | 1/8W |
| R216 | 1-216-089-91 | METAL GLAZE | 47K | 5% | 1/10W |
| R217 | 1-216-025-91 | METAL GLAZE | 100 | 5% | 1/10W |
| R218 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R226 | 1-216-206-00 | METAL GLAZE | 2.2K | 2% | 1/8W |
| R227 | 1-216-206-00 | METAL GLAZE | 2.2K | 2% | 1/8W |
| R230 | 1-208-497-11 | METAL GLAZE | 3K | 2% | 1/8W |
| R231 | 1-208-512-11 | METAL GLAZE | 12K | 2% | 1/8W |
| R232 | 1-208-497-11 | METAL GLAZE | 3K | 2% | 1/8W |
| R233 | 1-208-512-11 | METAL GLAZE | 12K | 2% | 1/8W |
| R234 | 1-208-782-11 | METAL GLAZE | 1K | 2% | 1/8W |
| R235 | 1-216-214-00 | METAL GLAZE | 4.7K | 2% | 1/8W |
| R236 | 1-216-214-00 | METAL GLAZE | 4.7K | 2% | 1/8W |
| R237 | 1-216-234-00 | METAL GLAZE | 33K | 2% | 1/8W |
| R238 | 1-208-420-41 | METAL GLAZE | 200 | 2% | 1/8W |
| R239 | 1-216-194-00 | METAL CHIP | 680 | 5% | 1/8W |
| R240 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R241 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R242 | 1-208-497-11 | METAL GLAZE | 3K | 2% | 1/8W |
| R243 | 1-208-512-11 | METAL GLAZE | 12K | 2% | 1/8W |
| R244 | 1-208-497-11 | METAL GLAZE | 3K | 2% | 1/8W |
| R245 | 1-208-512-11 | METAL GLAZE | 12K | 2% | 1/8W |
| R246 | 1-208-782-11 | METAL GLAZE | 1K | 2% | 1/8W |
| R247 | 1-216-214-00 | METAL GLAZE | 4.7K | 2% | 1/8W |

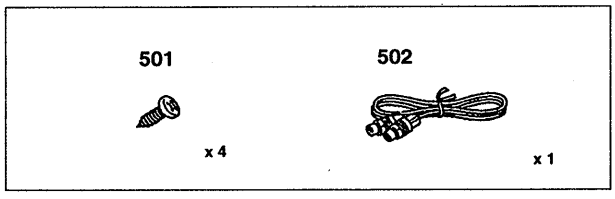
| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R248 | 1-216-214-00 | METAL GLAZE | 4.7K | 2% | 1/8W |
| R249 | 1-216-234-00 | METAL GLAZE | 33K | 2% | 1/8W |
| R250 | 1-208-420-41 | METAL GLAZE | 200 | 2% | 1/8W |
| R251 | 1-216-194-00 | METAL CHIP | 680 | 5% | 1/8W |
| R252 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R253 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R254 | 1-208-492-41 | METAL GLAZE | 1.8K | 2% | 1/8W |
| R255 | 1-216-222-00 | METAL GLAZE | 10K | 2% | 1/8W |
| R256 | 1-208-492-41 | METAL GLAZE | 1.8K | 2% | 1/8W |
| R257 | 1-216-222-00 | METAL GLAZE | 10K | 2% | 1/8W |
| R258 | 1-216-222-00 | METAL GLAZE | 10K | 2% | 1/8W |
| R259 | 1-216-230-00 | METAL GLAZE | 22K | 2% | 1/8W |
| R260 | 1-216-234-00 | METAL GLAZE | 33K | 2% | 1/8W |
| R261 | 1-208-420-41 | METAL GLAZE | 200 | 2% | 1/8W |
| R262 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R263 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R268 | 1-216-214-00 | METAL GLAZE | 4.7K | 2% | 1/8W |
| R269 | 1-216-214-00 | METAL GLAZE | 4.7K | 2% | 1/8W |
| R301 | 1-216-025-91 | METAL GLAZE | 100 | 5% | 1/10W |
| R302 | 1-216-091-00 | METAL CHIP | 56K | 5% | 1/10W |
| R303 | 1-216-025-91 | METAL GLAZE | 100 | 5% | 1/10W |
| R304 | 1-216-091-00 | METAL CHIP | 56K | 5% | 1/10W |
| R305 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R306 | 1-216-082-00 | METAL GLAZE | 24K | 5% | 1/10W |
| R307 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W |
| R308 | 1-216-029-00 | METAL CHIP | 150 | 5% | 1/10W |
| R309 | 1-216-027-00 | METAL CHIP | 120 | 5% | 1/10W |
| R310 | 1-216-121-91 | METAL GLAZE | 1M | 5% | 1/10W |
| R311 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R312 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R313 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R314 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R315 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R501 | 1-216-453-61 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R502 | 1-216-453-61 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R503 | 1-216-453-61 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R504 | 1-216-453-61 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R509 | 1-216-308-00 | METAL CHIP | 4.7 | 5% | 1/10W |
| R510 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R511 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R512 | 1-216-025-91 | METAL GLAZE | 100 | 5% | 1/10W |
| R513 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R514 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R515 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R516 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R517 | 1-216-025-91 | METAL GLAZE | 100 | 5% | 1/10W |
| R518 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R519 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R520 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R521 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R522 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R523 | 1-216-121-91 | METAL GLAZE | 1M | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R524 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R525 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R526 | 1-216-308-00 | METAL CHIP | 4.7 | 5% | 1/10W |
| R527 | 1-216-308-00 | METAL CHIP | 4.7 | 5% | 1/10W |
| R701 | 1-216-089-91 | METAL GLAZE | 47K | 5% | 1/10W |
| R702 | 1-216-025-91 | METAL GLAZE | 100 | 5% | 1/10W |
| R703 | 1-216-089-91 | METAL GLAZE | 47K | 5% | 1/10W |
| R704 | 1-216-089-91 | METAL GLAZE | 47K | 5% | 1/10W |
| R706 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R707 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R708 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R709 | 1-216-089-91 | METAL GLAZE | 47K | 5% | 1/10W |
| R710 | 1-216-089-91 | METAL GLAZE | 47K | 5% | 1/10W |
| R711 | 1-216-089-91 | METAL GLAZE | 47K | 5% | 1/10W |
| R713 | 1-216-049-91 | METAL GLAZE | 1K | 5% | 1/10W |
| R714 | 1-216-049-91 | METAL GLAZE | 1K | 5% | 1/10W |
| R715 | 1-216-049-91 | METAL GLAZE | 1K | 5% | 1/10W |
| R716 | 1-216-049-91 | METAL GLAZE | 1K | 5% | 1/10W |
| R717 | 1-216-049-91 | METAL GLAZE | 1K | 5% | 1/10W |
| R718 | 1-216-049-91 | METAL GLAZE | 1K | 5% | 1/10W |
| R719 | 1-216-049-91 | METAL GLAZE | 1K | 5% | 1/10W |
| R901 | 1-208-497-11 | METAL GLAZE | 3K | 2% | 1/8W |
| R902 | 1-208-497-11 | METAL GLAZE | 3K | 2% | 1/8W |
| R904 | 1-216-089-91 | METAL GLAZE | 47K | 5% | 1/10W |
| R905 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R906 | 1-208-488-11 | METAL GLAZE | 1.2K | 2% | 1/8W |
| R907 | 1-208-488-11 | METAL GLAZE | 1.2K | 2% | 1/8W |
| R908 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R909 | 1-216-089-91 | METAL GLAZE | 47K | 5% | 1/10W |
| R910 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R911 | 1-208-472-41 | METAL GLAZE | 270 | 2% | 1/8W |
| R912 | 1-216-049-91 | METAL GLAZE | 1K | 5% | 1/10W |
| R913 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R914 | 1-216-105-91 | METAL GLAZE | 220K | 5% | 1/10W |
| R915 | 1-216-096-00 | METAL GLAZE | 91K | 5% | 1/10W |
| R916 | 1-216-097-91 | METAL GLAZE | 100K | 5% | 1/10W |
| R917 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R918 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R919 | 1-216-186-00 | METAL GLAZE | 330 | 2% | 1/8W |
| R920 | 1-208-467-61 | METAL GLAZE | 16K | 0.5% | 1/10W |
| R921 | 1-208-451-61 | METAL CHIP | 3.9K | 0.5% | 1/10W |
| R922 | 1-208-497-11 | METAL GLAZE | 3K | 2% | 1/8W |
| R923 | 1-216-186-00 | METAL GLAZE | 330 | 2% | 1/8W |
| R924 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R925 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R926 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R927 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R928 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R929 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R930 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R931 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R932 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |

## MAIN

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R933 | 1-208-782-11 | METAL GLAZE | 1K | 2% | 1/8W |
| R934 | 1-208-782-11 | METAL GLAZE | 1K | 2% | 1/8W |
| R936 | 1-208-497-11 | METAL GLAZE | 3K | 2% | 1/8W |
| R937 | 1-208-497-11 | METAL GLAZE | 3K | 2% | 1/8W |
| | | < TRANSFORMER > | | | |
| T901 | 1-427-942-11 | TRANSFORMER, DC-DC CONVERTER | | | |
| | | < VIBRATOR > | | | |
| X301 | 1-760-307-11 | VIBRATOR, CERAMIC (16.93MHz) | | | |
| X501 | 1-567-907-11 | VIBRATOR, CRYSTAL (12.288MHz) | | | |
| X701 | 1-577-101-11 | VIBRATOR, CERAMIC (4.19MHz) | | | |
| ********** | | | | | |
| | | MISCELLANEOUS | | | |
| | | ********** | | | |
| F901 | 1-532-796-11 | FUSE (BRADE TYPE) (AUTO FUSE) (5A) | | | |
| FH901 | 1-537-479-11 | TERMINAL (FUSE) | | | |
| FH902 | 1-537-479-11 | TERMINAL (FUSE) | | | |
| ********** | | | | | |
| | | ********** | | | |
| | | **HARDWARE LIST** | | | |
| | | ********** | | | |
| #1 | 7-682-547-04 | SCREW +PTT 3X6 (S) | | | |
| #2 | 7-621-770-67 | SCREW +PTT 2.6X6 (S) | | | |
| #3 | 7-685-646-79 | SCREW +P 3X8 TYPE2 NON-SLIT | | | |
| #4 | 7-685-146-11 | SCREW +P 3X8 TYPE2 NON-SLIT | | | |
| #5 | 7-682-548-04 | SCREW +PTT 3X8 (S) | | | |
| ********** | | | | | |
| | | ACCESSORIES & PACKING MATERIALS | | | |
| | | ********** | | | |
| | 3-810-860-11 | MANUAL, INSTRUCTION, INSTALL (ENGLISH) | | | |
| | 3-856-153-11 | MANUAL, INSTRUCTION (ENGLISH) | | | |

### MOUNTING HARDWARE




| | | |
|---|---|---|
| 501 | 3-367-410-01 | SCREW (DIA. 5X15), TAPPING |
| 502 | 1-590-519-11 | CORD (WITH CONNECTOR) (BUS CONTROL) |

9-923-455-11

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Mobile Electronics Company

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