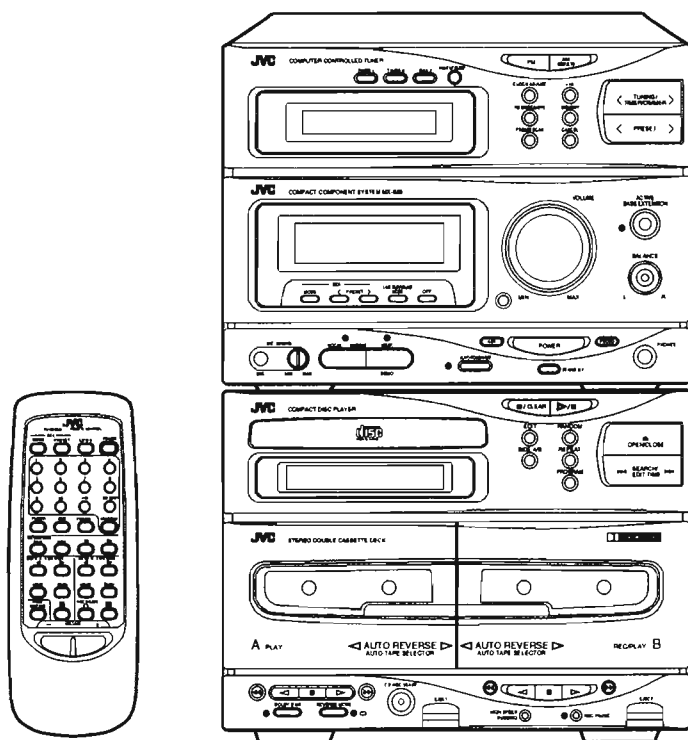


JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

CA-S50BK



Pick up	OPTIMA-6
CD signal processor	YM7121C

Area Suffix

BS	the U.K.
E	Continental Europe
VX	East Europe
US	Singapore
UT	Taiwan
UC	China
U	Other Area

COMPACT
disc
DIGITAL AUDIO

Contents

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<i>RX-S50BK</i>	2-1	<i>XT-S50BK</i>	5-1

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)
After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).

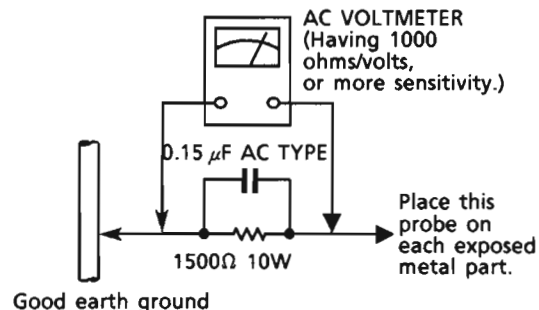
- Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10 W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor.

Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Important for Laser Products

1. **CLASS 1 LASER PRODUCT**
2. **DANGER** : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. **CAUTION** : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
4. **CAUTION** : The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. **CAUTION** : If safety switches malfunction, the laser is able to function.
6. **CAUTION** : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
7. **CAUTION** : The compact disc player provides a laser diode of wavelength 780-790nm and optical output power typical 3mW at the laser diode.

VARNING : Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

ADVARSEL : Usynlig laserstrålning ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstrålning ved åbning, når sikkerhedsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

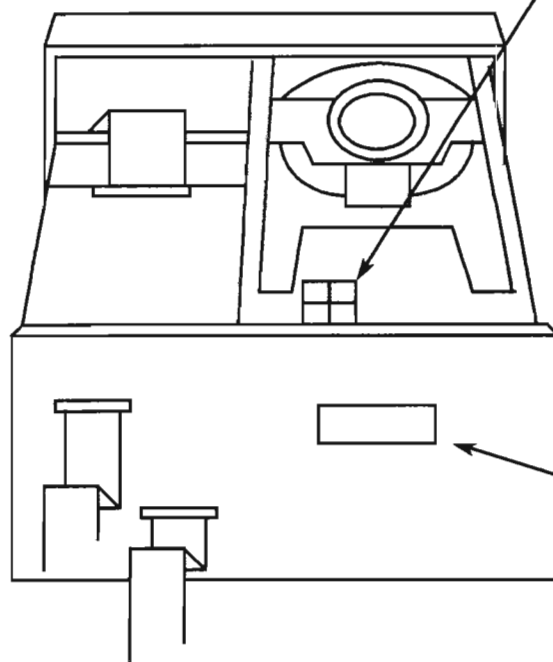
WARNING LABEL

DANGER: invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)

VARNING: Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen. (s)

ADVARSEL: Usynlig laserstrålning ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. (d)

VARO: Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)



**CLASS 1
LASER PRODUCT**


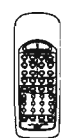
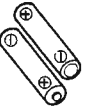

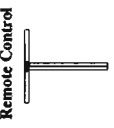

CLASSIFICATION LABEL

Instruction Book

Getting Started Right

Inside the packing box...

Check to be sure you have all of the following things, which are supplied with the CA-S50BK:

-  AM (MW/LW) Antenna
-  Remote Control
-  Batteries
-  FM Wire Antenna (only for Germany)
-  FM Feeder Antenna (except for Germany)
-  Antenna Adaptor (except for Germany)

If any are missing, contact your dealer immediately.

Where can you put it?

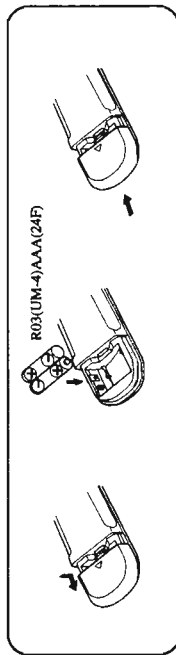
Location
You can place the CA-S50BK in many different kinds of locations to suit your needs; just observe the cautions on page 2, keep away from moisture and heat; leave some space between the Unit and its surroundings, more than 1 cm at the sides of the console and 10 cm at the back. (See page G.3.)
Never place the CD/Cassette Deck Section on the Tuner/Amplifier Section. If you do, the ventilation holes of the Tuner/Amplifier Section will not work.
Never place the CD/Cassette Deck Section to the left of the Tuner/Amplifier Section, either. If you do, noise may occur when playing back or recording tapes.

Very little assembly required

You will need to do the following 4 things to get your CA-S50BK ready to use.

1. Put Batteries In the Remote Control

Match the polarity (+ and -) on the batteries with the + and - markings on the battery compartment.

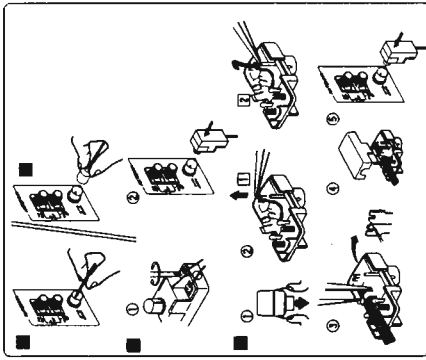


CAUTION: Observe Proper Handling of Batteries.

- To avoid battery leakage or explosion:
- Remove batteries when the Remote will not be used for a long time.
- When you need to replace the batteries, replace both batteries at the same time with new ones.
- Don't use an old battery together with a new one.
- Don't use different types of batteries together.
- Don't expose batteries to heat or flame.

2. Connect the AM (MW/LW) and FM Antennas

FM Antenna Connections



- For Germany**
- Using the Supplied Wire Antenna
The FM wire antenna provided can be connected to a FM 75-ohm COAXIAL as a temporary measure.
 - Using the Coaxial Type Connector (Not Supplied)
A 75-ohm antenna with coaxial type connector (DIN 43532) should be connected to the FM 75-ohm COAXIAL terminal.
- For Other Countries**
- Using the Supplied Feeder Antenna
 - ① Attach the feeder antenna to the Antenna Adaptor as shown in the figure.
 - ② Connect the Antenna Adaptor to the FM 75-ohm COAXIAL terminal.
 - Using FM 75-ohm Antenna Cable (Not Supplied)
 - ① Open the claws at both sides and remove the cover.
 - ② Move the conductor wire from [] to [] using tweezers or similar tool (only when using coaxial cable).
 - ③ Fix the coaxial cable and its core.
 - ④ Put on the cover.
 - ⑤ Connect the Antenna Adaptor on the FM 75-ohm COAXIAL terminal.

Note:
Make sure the antenna conductors do not touch any other terminals, connecting cords and power cord on the system.
This could cause poor reception.

- For Germany**
Extend the supplied wire antenna horizontally.
- For Other Countries**
Unfold the loops of the supplied dipole FM feeder antenna and extend them as above. Fasten them up in the position which gives you the best FM reception.



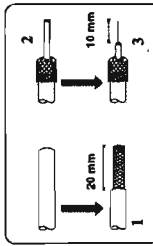
Before attaching a 75 ohm coaxial line (the kind of round wire going to an outside antenna), disconnect the supplied dipole indoor antenna.

If reception is poor, connect the outside antenna.

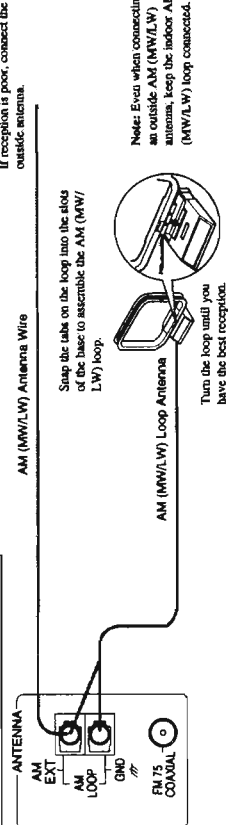
How to Strip the 75-ohm Coaxial Cable

1. Strip back the outside covering of the 75 ohm coaxial cable to expose the braided metallic mesh.
2. Pull the mesh back and twist into a single conductor as shown.
3. Strip the insulation about 10 mm back from the central wire.
4. Attach to the supplied Antenna Adaptor, as shown in the diagram above.

CAUTION: To avoid noise, keep antennas away from metallic parts of the CA-S50BK, connecting cords and the AC power cord.



AM (MW/LW) Antenna Connections



Common Operations

Here are the things that apply to all the functions of your CA-S50BK. If something in a procedure is unclear to you, check back here.

COMPUPLAY

COMPUPLAY is JVC's new feature that lets you control the most used functions of the CA-S50BK with a single touch. This One Touch Operation starts playing a CD, turns on the radio or plays a tape with a single press of the function button for that function. What One Touch Operation does for you is to turn the power on, then start the function you have called for. If the Unit is not ready, such as no CD or tape in place, the Unit still comes on and then pauses so you can put in a CD or tape.

How One Touch Operation works in each case is explained in the section about that function.

Turning the CA-S50BK On

Press **POWER**; the **STANDBY** indicator goes out.

- The CA-S50BK comes on ready to do whatever it was doing when the power was last shut off. So if the last thing you were doing was listening to a tape in deck B, you now are ready to listen to a tape again in deck B, or you can change to another source.
- If you were listening to the radio last, the radio comes on playing that last station.

Turning the CA-S50BK Off

Press **POWER** again, the **STANDBY** indicator lights up and the display blanks, except for the clock display.

- The small amount of the power (1.3 watts) is always consumed even in the stand-by mode.
- To switch off the Unit completely, unplug the AC power cord from the AC outlet. When you unplug the AC power cord, the clock will be reset in one minute and the preset stations of the Tuner will be erased in about a couple of days.

Controlling the Sound

The same set of buttons and knobs control the sound, no matter which function is producing it.

Volume Control

Rotate clockwise to increase loudness, counter-clockwise to reduce loudness.

CAUTION: Always set the **VOLUME** control to **MIN** before turning on a connected source such as a VCR or Record Player, or starting any other of the sound sources such as the radio, tape, or CD player. Otherwise, if the **VOLUME** control is turned up, the sudden blast of sound energy can permanently damage your hearing and/or ruin your speakers.

Speaker Balance Control

If the sounds you hear from the right and left speakers are not well-balanced, you can adjust the speaker output balance with the **BALANCE** control.

Special Effects Control

The CA-S50BK has some preset sound effects that give you control of the way your music sounds, so you can tailor it for your room and for the quality of the source.

Preset SEA effects

You can select a sound effect by pressing **SEA MODE** to cycle through the following effects until the effect you want is pointed with the cursor (▶) in the display:

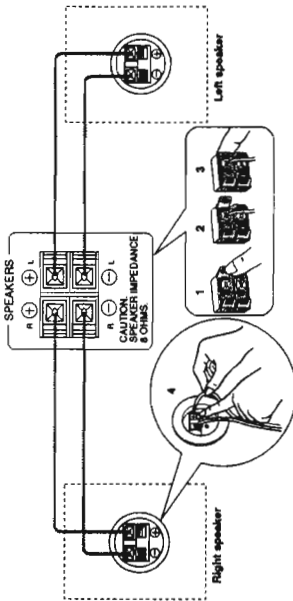
- **POPS** Adds a pleasing quality to pop music.
- **JAZZ** Gives a feeling of a live atmosphere. Good for acoustic music.
- **ROCK** Boosts low and high frequencies.
- **CLASSIC** Set for wide and dynamic sound stereo systems.
- **MOVIE** Adds breadth to sounds so you feel like you're in a movie theater.

Moreover, each preset sound effect has 10 different SEA patterns. After selecting your desired sound effect mode, press **PRESET >** or **<** (or **PRESET** on the Remote). For example, when you have selected **POPS**, pressing **PRESET >** gives you the following settings:

▶ **POPS1** → **POPS2** → **POPS3** → ... → **POPS10** ▶

When you select **FLAT** with **SEA MODE** or when you press **OFF**, the sound effect will be cancelled.

3. Connect the Speakers

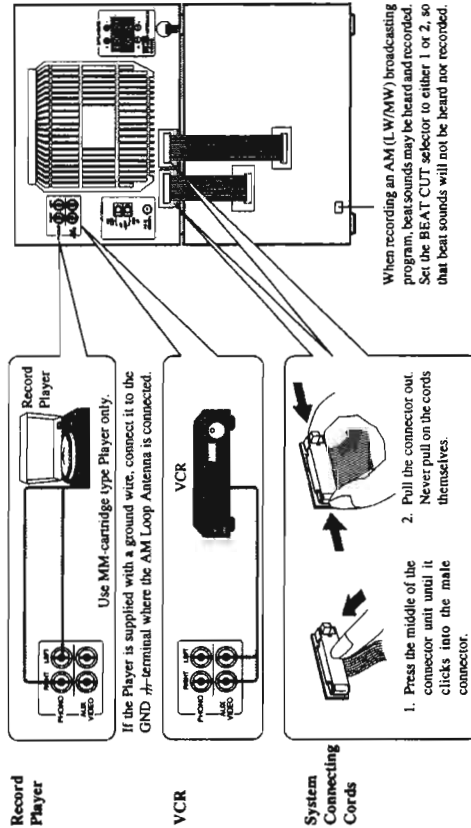


For each speaker connect one end of the speaker wire to the speaker terminals on the back of the CA-S50BK, and one end to the speaker. On the back panel:

1. Open each terminal.
2. Insert the end of the speaker wire as shown (be sure to remove the insulation at the end of each wire first).
3. Close the terminals to clamp the speaker wires firmly in place.
4. Connect the red (+) and black (-) terminals of the right side speaker to the red (+) and black (-) terminals of the left side speaker to the red (+) and black (-) terminals of the left side speaker to the red (+) and black (-) terminals of the left side speaker.

IMPORTANT: • Match the polarity of the speaker terminals with the polarity of the terminals on the CA-S50BK, red (+) to red (+) and black (-) to black (-). Check your speakers for correct impedance. Speakers 8 ohms only.
• If the TV is installed near speakers, irregular colors may result. In this case, set the TV away from the speakers.

4. Connect the System Connecting Cords and Auxiliary Equipment



Record Player

VCR

System Connecting Cords

When recording an AM (L/W/MW) broadcasting program, beat sounds may be heard and recorded. Set the **BEAT CUT** selector to either 1 or 2, so that beat sounds will not be heard nor recorded.

1. Press the middle of the connector unit until it clicks into the male connector.
2. Pull the connector out. Never pull on the cords themselves.

CAUTION: First, make all connections before plugging the Unit into any AC power outlet.

Now you can plug the AC power cord into the wall socket, and your CA-S50BK is at your command!

**•STADIUM
•D.CLUB
•HALL**

LIVE SURROUND effect
You select a Live Surround effect by pressing LIVE SURROUND MODE to cycle through the following effects until the effect you want is pointed with the cursor (▶) in the display:

- STADIUM** Adds clarity and spreads the sound, like the sound in an outdoor stadium.
- D.CLUB** Increases resonance and bass.
- HALL** Adds depth and brilliance to the sound, like in a concert hall.

When you press OFF, the Live Surround mode will be cancelled, and at the same time the SEA effect will be cancelled.

**SOUND EFFECT
DEMONSTRATION**

Sound Effect Demo Mode

Since there so many preset sound effects, you may be sometimes unable to decide which sound effect to select. In this case, you can use a very useful function – Sound Effect Demo Mode.

- While playing a CD, a tape, etc., keep pressing DEMO for a few seconds. The Unit starts demonstrating 10 preset patterns of each sound effect (POPS, JAZZ, ROCK, CLASSIC, and MOVIE) for a few seconds. When you find the desired sound effect, press DEMO again to cancel the demo mode, and select the sound effect.

Things to remember about using special effects:

- Experiment with and set your special effects before you start recording with Auto Edit or Programmed Edit, because once recording starts, the special effects cannot be changed without stopping recording, and often having to start over. If you need different sound effects for each selection, use the standard recording features described on page 13, rather than Auto Edit or Programmed Edit.
- Each of the special effects changes the sound in a different way by changing which parts of the sound are increased or reduced. To see how each part of the sound will be changed, watch the display just as you press an effect button when music is playing. You will see a graphical display showing the effect's pattern for just a short time before the effect starts.

**ACTIVE BASS
EXTENSION**

Active Bass Extension

This feature is designed and incorporated to reinforce the bass sound, depending on the volume level to maintain the richness and fullness of the bass. You cannot control it manually.

VOCAL MASKING

Using the Vocal Masking Function

Pressing VOCAL MASKING cancels the voice part of a song so you can broadcast your own voice through a microphone in place of the lead singer. Now it sounds as if you are singing directly with the band. See page 20 for a more complete discussion of this function.

**MSEC
(Multi Source-Related
Effect Control)**

Memorizing the Sound Effect for Each Sound Source

- The MSEC so that the indicator lights.
- The learning function of the CA-S50BK memorizes one sound effect for each sound source, so once you set your desired sound effect for each sound source, you don't have to repeat the many setting procedures each time you play the sound source.
- While the indicator is lit, each time you change the sound source, the preset sound effect for that sound source will be recalled.

To cancel the MSEC function, press MSEC again so that the indicator goes off.



Listening with Headphones

A standard pair of headphones can be connected at the PHONES jack on the front panel. No sound can be heard from the speakers. Be sure to turn down the volume before connecting or putting on headphones, as high volume can damage both the headphones and your hearing.

**The Display
and
The LEDs**

The Display and the LEDs

- A few of the controls have a small light, called an LED, next to or even right on the function button or knob itself. The light comes on when the function is on, and goes out when it is not in use.
- In the stand-by mode, you can adjust the brightness of the clock display. Pressing TUNING/TIMER DIMMER > makes the display brighter. Pressing TUNING/TIMER DIMMER < makes the display dimmer.

Listening to the Radio

The controls for the radio are located in the Tuner section, just above the large volume control. With these controls you can browse through all the stations or use the preset function to go immediately to a particular station.

- To record from the radio, see "Recording any Sound Source to Tape," page 14.

First we'll explain how to tune in stations, and then how to preset the ones you listen to often.

One Touch Radio

Just press AM (MW/LW) to turn on the Unit and start playing the most recent AM (MW/LW) station tuned in, or press FM to start the most recent FM station playing. If you press TUNER on the Remote instead, you can start playing the most recent station tuned in.

- You can switch from any other sound source to the radio by pressing either AM (MW/LW) or FM.

Tuning in a Station

Press AM (MW/LW) or FM to turn on the radio. The display shows the frequency of the station tuned to.

You have 3 ways to select a station:

- Press and release TUNING/TIMER/DIMMER < or > to move from station to station until you find the one you want.
- OR
Hold down TUNING/TIMER/DIMMER < or >, and the display cycles through all the stations one after the other. Release the button when you see the one you want.
- OR
Press once and release PRESET > to go to the next preset station, or hold PRESET < to cycle through the preset stations; release the button when the preset station you want shows on the display. (This method is possible after presetting stations by yourself.)

You can also use the Remote to tune in stations and preset channels:

- To tune pre-selected stations with the Remote:

 - Press TUNER so that you can receive the most recent station tuned in.
 - Select the station by entering the preset channel number in the 10 Key pad of the Remote. The Display shows the new channel number and frequency.

Presetting Stations

Once a station is assigned to a channel number, the station can be quickly tuned either from the Remote using the 10 Key pad or the CA-S50BK itself using PRESET <, > or +10 to call up the channel number.

- You can preset a total of 40 stations, either AM (MW/LW), FM, or a mixture of both, at random.
- Preset stations may be erased when power is cut off to the Unit, as when it is unplugged from the AC outlet or a power failure occurs. If the preset stations are lost, simply set the stations again using the following procedure.

To preset radio stations:

- Tune in the station you want to set.
- Press MEMORY.
- On the display, MEMORY lights up and "----" will blink for 5 seconds. During these 5 seconds while "----" is blinking you can assign a channel number to the station and enter it into the memory. Select a channel number by pressing PRESET <, > or +10 until you find the channel number you want. When you press +10, the ten's digit will increase. For example, to select 21, press +10 twice and PRESET > twice. To select 19, press +10 twice and PRESET <.
- Press MEMORY and the station will be assigned to the channel number showing on the display.

To cancel the preset stations:

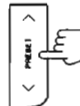
- Press CANCEL.
- On the display, CANCEL and "----" will blink for 5 seconds. During these 5 seconds while CANCEL and "----" are blinking you can cancel preset stations.
- Select a channel number by pressing PRESET <, > or +10 until you find the channel number of the station you want to cancel. When you press +10, the ten's digit will increase.
- Press CANCEL and the station will be erased.



Three ways to tune in a station



How to preset AM (MW/LW) and FM radio stations



Using the Remote to find a track

1. Press CD 10 KEY.
2. Enter the number of the track you want using the 10 key pad.
 - Example: for track 5, press 5. For track 15, press +10 then 5. For track 20, press +10, then 10.
3. As long as a CD is loaded and the Unit is on, as soon as you enter the number of the track you want, it will start to play.

Programming the Playing Order of the Tracks

In addition to the high quality sound which makes the CD such a good way to listen to music, you can change the order in which the tracks play.

Random Play

- Before starting a CD, press RANDOM on the CD player.
- The tracks will play in no special order.
- When all of the tracks have been played, the CD shuts off.
- Press REPEAT before or during random play to instruct the CA-S50BK to continue with a different random track selection after the last selection is played.
- To cancel random play, press CLEAR.

Programmed Play

You can arrange the tracks to play in any order you like with the Program function. The Remote is very useful for this because you can select tracks by number with the key pad. See "How to Use the Remote Control," page 22, if you need more information about its use. You can also use the main Unit.

To program the CD track order from the Remote, follow this procedure:

1. Press PROGRAM.
2. Press CD 10 KEY.
3. Press the number of the first track you want to hear, then the number of the second track, and so on until you have entered all the track numbers you want to play.
 - Refer to the section "How to Use the Remote Control" on page 22 if you have questions about how to enter numbers above 10.
 - Your program can include up to 32 tracks, and you can repeat tracks if you wish.
4. Press Play/Pause >|II to start the program—the first track you programmed will start to play, followed by the next one you entered, until all the selected tracks are played.
5. To stop the CD during Programmed Play, press Stop ■. To cancel the program, press PROGRAM on the Remote or CLEAR on the main Unit.

To program the CD from the main Unit, follow this procedure

1. Press PROGRAM.
2. Press SEARCH/EDIT TIME <<< or >>> to locate the track you want to start with.
3. Press PROGRAM to store the selected track.
4. Repeat steps 2 and 3 until you have entered all the tracks you want to program.
5. Press Play/Pause >|II and the Unit will begin playing the tracks in the order you programmed them.
6. To stop the CD during Programmed Play, press ■/CLEAR. To cancel the program, press CLEAR again.

A Few Hints to Make Programming Easier

- If you want to change the entire program, press CLEAR on the main Unit, and then you can start over.
- To view the order of the tracks in your program when it's playing, press Stop ■ on the Remote, then press <<< or >>> on the Remote to display the order of the tracks. Each time you press >>> the next selection in your program is displayed. (Press <<< for the previous selection.)
- To add a track to your program, just press the number you want to add.

Repeating a Selection or the Entire Disc

- You can have either the program or the individual selection currently playing repeat as many times as you like by pressing REPEAT. Each time you press REPEAT, it cycles from OFF, which turns the REPEAT indication out on the display, to REPEAT which will repeat all tracks in order or according to the program you have set, and REPEAT 1 which will repeat the currently playing track. To cancel Repeat, just press REPEAT until the REPEAT indication on the display goes off.

Scanning through Preset Stations

You can scan through your preset radio stations, stopping at any station you want to listen to.

1. Press PRESET SCAN.
 - The Unit scans your preset stations, starting with the frequency being received, and moving upward.
 - Each preset station is received for a few seconds with the channel number blinking.
2. If you want to listen to one of the preset stations, press PRESET SCAN again while the channel number is blinking.

If you do not stop at any station, the Unit will scan through the preset stations once, then return to the station tuned before scanning started.

Receiving in Stereo or Mono

When an FM stereo broadcast is hard to receive or noisy:

- Press FM MODE/MUTE and reception will improve, although you will lose the stereo effect. In this state, you will hear some noise while tuning into a station.
- To restore stereo effect, press FM MODE/MUTE again so that AUTO appears in the display. In this state, when a program is broadcast in stereo, you will hear stereo sound, when in monaural, you will hear monaural sound. Furthermore, in this state, you won't hear noise while tuning into stations.

Listening to a Compact Disc

Here are the basic things you need to know to play a CD and locate the different selections on it. Each selection is called a track, so when we are talking about locating a track, we are also talking about how you find a certain song or performance.

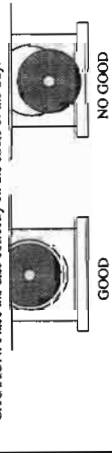
Basics of Using the CD Player

- The quickest way to start a CD is with One Touch Operation.
- Press Play/Pause >|II on the CD player or Play ► in CD CONTROL on the Remote.
- If a CD is already loaded, the Unit automatically turns on and starts to play it from track 1.
- If no CD is loaded, the CD tray opens, and you can put in a CD, printed side up, press Play/Pause >|II and the tray closes and the CD starts playing.
- If you press OPEN/CLOSE, the Unit automatically turns on and the CD tray comes out.

To Load, Play, and Stop a CD

1. Press OPEN/CLOSE.
2. Put a CD, printed side up, into the tray.
 - When using an 8 cm CD, place it on the inner circle of the tray.

CAUTION: Place the disc correctly on the circle of the tray.



3. If you want to listen to the CD now, press >|II and adjust the volume.
 - The CD tray closes automatically.
 - The display shows the track being played and the length of time since it started.
4. To stop the CD, press CLEAR. When you start again, the CD begins with track 1.
5. To pause the play, press Play/Pause >|II while the CD is playing so when you press Play/Pause >|II again the CD starts just where you left off.
6. To remove a CD, press OPEN/CLOSE, take the CD out, and press OPEN/CLOSE again to close the tray. Keep the tray closed except during loading and unloading to protect the mechanism from dust and damage.

How to Find the Track or a Particular Point You Want

- Each time you press briefly and release SEARCH/EDIT TIME <<< or >>> the track changes by one.
- Press and release SEARCH/EDIT TIME >>> to go ahead one track at a time.
- Press and release SEARCH/EDIT TIME <<< to go back one track at a time.
- Holding down SEARCH/EDIT TIME <<< or >>> will fast forward or fast reverse the CD so you can quickly find the particular part of a track you want to listen to.
- Holding down <<< or >>> on the CD CONTROL section of the Remote allows you to change tracks continuously.



How to use the CD Player: from the most basic to advanced



PLAY/PAUSE

CD Find track

Listening to a Tape

**Listen to a tape:
How to use your tape deck**

The tape deck allows you to play, record and dub audio tapes.

- To record or dub, see Recording page 13.
- With Automatic Tape Type Detection, you can listen to type I, II, or IV tapes without changing any settings.
- To play a tape and learn about the many easy-to-use features of the dual tape deck built into your CA-S50BK, read on here!

Playing Back a Tape

You can play a tape from either deck A or deck B; but remember, only deck B can record.

One Touch Play

By pressing either Play Forward / Play Reverse < (or Play Forward / Play Reverse > for deck A and B control on the Remote) the power will come on, and if a tape is in the deck, it will start to play. If no tape is loaded, the Unit will come on and wait for further instructions.

Regular Play

When power is already on, you can use this basic procedure:

- Press EJECT, which is located just to the right of the deck, for the deck you want to use.
- When the cassette carrier opens, put the cassette in, with the exposed part of the tape down toward the base of the CA-S50BK.
- If the cassette carrier does not open, turn the Unit off, then back on again and press EJECT.
- Close the carrier gently.
- Turn the volume down.
- Press Play Forward > to play the front side, or Play Reverse < to play the reverse side.
- To stop playing, press Stop ■. To remove the tape, press EJECT.

Fast Left and Fast Right

- While the tape is stopped, press Fast Left ◀ and the tape will wind rapidly onto the left side of the cassette without playing.
- While the tape is stopped, press Fast Right ▶ and the tape will wind rapidly onto the right side of the cassette without playing.

Music Scan

To use the Scan function, you need to understand one basic idea, which might just make you a Master of Tape Control!

- Look at the Play Forward and Play Reverse Controls:



- When the power is on, the glowing LED shows the direction the tape was last moving. When the LED is blinking slowly, the tape is playing in the direction of the arrow. Now comes the tricky part: when the LED is blinking rapidly, the tape can be moving either the direction the arrow points, or the opposite direction, depending on whether you pushed Fast Right ▶ or Fast Left ◀. The tape will be going at high speed in the direction of the arrows of the button you pushed. The direction of the arrow with the rapidly blinking LED shows which way the tape will start playing when the fast search is done. Put in a tape and try it out.

- The Scan function works by detecting a 4 second blank at the beginning of each selection, so it won't work well if your tape has:
 - No blank at the beginning of a track.
 - Noise (often caused by much use or poor quality dubbing) which fills the blank with.
 - Long very soft passages or pauses in a selection. The scan will detect these instead of the 4 second blanks. If this happens, just go ahead and scan again until you reach the selection you want.
- Music scan only works on one tape at a time.
- If you use Music scan on deck A while recording on deck B, recording will stop.

Scan Forward....

Scan Forward

With the tape playing, to find the beginning of the next selection, press Fast Right ▶ or Fast Left ◀ whichever one points in the same direction as the arrow with the slowly blinking LED.

- The tape will fast forward to the next selection and begin playing it.

....Scan Back

Scan Back

With the tape playing, to find the beginning of the selection now playing, press the Fast Right ▶ or Fast Left ◀ button pointing the opposite direction from the arrow with the slowly blinking LED.

- The tape will fast reverse to the beginning of the piece and start playing it again.

More Useful Things to Know:

- Continuous Play
- Reverse Mode
- Dolby NR

Useful hints and features to know about when using your tape deck

- Continuous Play: When a tape finishes playing with the REVERSE MODE indicator on, the Unit always checks to see if a tape is in the other deck. If one is there, it automatically starts playing it. This Continuous Play happens regardless of which deck starts first.
- Use Reverse Mode to make the tape automatically reverse at the end of a side and start playing the other side. Press REVERSE MODE to change from Reverse Mode on (the LED is lit) to Reverse Mode off, or from off, to on.
- If there is a tape in the other deck, it will start playing when both sides of the first tape have been played. As long as the Reverse Mode LED is lit, the tapes will continue to play in the above sequence.
- Press DOLBY B NR to switch DOLBY B NR, playing it back with Dolby on will reduce tape noise and improve the clarity of the sound.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Listening to a VCR or Record Player through your CA-S50BK

By playing the sound from a VCR or Record Player through the CA-S50BK, you can often dramatically improve the quality, and gain control over how the music or program sounds. Once the connected equipment is playing through the CA-S50BK, you can apply the sound effects, make recordings, or listen with the headphones. Here are the steps to take:

- Make a connection between the VCR or Record Player as shown on page 5.
 - Since there are many different types of VCRs and Record Players, we can't tell you here just how to make the connections on the other equipment. However, the diagrams on page 5 will cover most cases, and you can also look in the instruction manual for the VCR or Record Player you have.
- Press PHONO or AUX either on the Unit or Remote.
- The Unit is turned on and PHONO or AUX lights up on the display.
- Switch on the connected equipment and start it playing.
- Set the Unit's volume to its lowest setting. Use FADE/MUTING on the Remote, or turn the VOLUME control all the way counterclockwise.
- To cancel the PHONO/AUX setting, change the source by starting any one of the CA-S50BK's built-in sound sources, such as the radio or CD player.

Advantages in Connecting a VCR or Record Player



Recording

- What can you record?**
- Tapes
 - Radio
 - CDs
 - Microphone
 - Connected Source

Recording onto cassette tape from any of the sound sources is easy and the CA-S50BK does most of the work. Just have a tape in deck B, have the source ready, make one or two settings, and you're ready to record.

For each source the procedure is a little different and now we'll explain just what to do for each one. If you forget, just come back to the section which has the specific procedures you need. But first, here are a few things to make your recordings better.

Things to Know before You Start Recording:

- It may be unlawful to record or playback copyrighted material without the consent of the copyright owner.
- Press DOLBY B NR (noise reduction)—the LED lights up—to reduce tape hiss. This Unit can use DOLBY B NR.
- The recording level, which is the volume at which the new tape is being made, is automatically set correctly, so it is not affected by the VOLUME control on the CA-S50BK. Thus, you can adjust the sound you are actually listening to without changing the recording. If you don't want to listen to the sound, you can turn the VOLUME control all the way down, or press FADE/MUTING on the Remote.
- Cassettes have a special feature so you won't accidentally record over a tape you want to save. Two small tabs on the back, one for side A and one for side B, can be removed to prevent erasure or re-recording. To record on a cassette with the tabs removed, you must cover the holes with tape first. However, when a Type II tape is used, only cover part of the hole as shown below, since the other part of the hole is used to detect the tape type.



Select Sound Effects

- When recording, you can select the sound effects with the preset sound effect buttons to condition the music as it is recorded. But when recording using Auto Edit or Programmed Edit, once recording has started, these settings cannot be changed. When recording from tape Deck A to Deck B, the sound effects cannot be used, because the signal doesn't go through the amplifier first. This method gives you the highest quality dubbed tapes.
- Type I and type II tapes can be used for recording. While type IV tapes can be played, type IV tapes cannot be used for recording on the CA-S50BK.

If recordings you make have excessive noise or static, the Unit may be too close to a TV which was on during the recording. Either turn off the TV or increase the distance between the TV and the CA-S50BK.

Standard Recording: Any Source to Tape

This is the basic method for recording any source. The CA-S50BK also has special ways for recording CD to tape, and tape to tape, which save you time and effort, as well as give you some special effects. However, when you need to add a selection to a tape you have made, or are combining selections from several sources on one tape, use the method we describe here; just substitute the source you want, such as a tape in deck A, or CD, or radio in this procedure. You can also record from the microphone or an auxiliary source with this procedure.

Source to Tape: Step by Step

Recording any Sound Source to Tape

- Follow these steps to record from any sound source onto a tape in deck B.
1. Press POWER so the LED on the VOLUME control glows.
 - When you want to record on both sides of the tape, press REVERSE MODE to on and be sure to start recording from the front side (A). If you start recording from the reverse side (B), the deck stops after recording the reverse side (B) without going to the front side (A), even if the Reverse Mode is on.
 2. Load the tape you are making into Deck B.
 3. Press REC PAUSE. The LED lights up.
 4. Prepare the source, for example, tuning in a radio station, loading a CD, turning on a connected Record Player or VCR, etc.
 - If the source is already playing, just press REC PAUSE, then press either Play Forward > to record on the front side (A), or Play Reverse < to record on the reverse side (B).
 5. When you want to start recording, press either Play Forward > to record on the front side (A), or Play Reverse < to record on the reverse side (B) of the tape.
 - To pause recording any time during the process, press REC PAUSE again, then press Play Forward > or Play Reverse < to start recording again.
 - To stop recording any time during the process, press Stop ■ on deck B.

CD to Tape, Introduction

CD to Tape Recording

- There are four ways to record from CD to tape:
- The standard method described above.
 - CD Direct—Everything on the CD goes onto the tape in the order it is on the CD or according to an order you have set in a program.
 - Auto Edit—Your CA-S50BK figures out which selections to put on which side of the tape, so a selection isn't cut off before it's finished when the tape runs out.
 - Programmed Edit—You can decide the selections to be recorded in your desired order.

CD Direct Recording, Step by Step

CD Direct Recording

- This is the easiest way of recording a CD. Everything on the CD goes onto the tape in the order it is on the CD or according to an order you have set in a program. To make a program, see page 10.
1. Put the cassette in deck B.
 - Press REVERSE MODE if you want to record on both sides of the cassette.
 2. Load the CD into the CD Player.
 - If the CD is already loaded, be sure the power is on.
 3. Set the sound effects you want now, since the sound environment cannot be changed once recording starts.
 4. Now press CD REC START on the tape deck. The FADE indicator lights up on the display.
 - Deck B begins to record, and soon the CD begins to play. At the end of the tape, the CA-S50BK automatically goes back to the beginning of the last selection and re-records it, this time gently fading out at the end. If you select the Reverse Mode, the reverse side (B) starts with the last selection beginning of the reverse side (B).
 - To stop recording any time during the process, press either Stop ■ on deck B or CLEAR on the CD Player (when you press CLEAR, you can make a 4 second blank at the end of the recording). Pressing OPEN/CLOSE will also stop recording.



Auto Edit, CD to tape, Introduction

Recording a CD onto a Tape Using Auto Edit

Using Auto Edit, you can arrange the CD tracks to fit the tape, so a selection isn't cut off when the tape runs out first. Auto Edit is one of the best ways to copy all of a CD onto a tape.

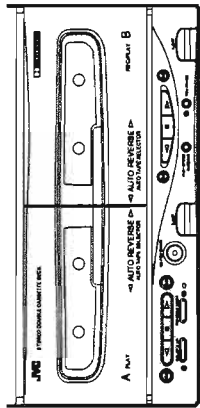
The selection or which tracks go on which side is based on the lengths of the tracks and the length of the tape. The CA-S50BK can figure out most of what it needs to know, but you will have to tell it the tape size you are using if your tape is a different size than the one picked by the program. Follow this procedure to record a CD using Auto Edit.

Auto Edit, CD to tape, Step by Step

1. Put the cassette in deck B.
 - Press REVERSE MODE if you want to record on both sides of the cassette.
2. Load the CD into the CD Player.
 - If the CD is already loaded, be sure the power is on and the source is CD. If the last selected source is tuner, the Unit will not recognize the loaded CD when turning on the Unit by pressing POWER.
3. Set the sound effects you want now, since the sound environment cannot be changed once recording starts.
 - Press CLEAR.
4. This cancels the previous edit or program setting.



Tape to Tape Dubbing, Introduction



Recording from one tape to another is called dubbing. You can dub at regular speed for highest quality, or at high speed with a slight loss in sound quality. With high speed it takes only about one-half the time to copy a tape.

- To dub both sides of a tape, start from side A for both deck A and B, and press REVERSE MODE so that the LED next to it lights up.

How to Copy a Tape With Regular Speed Dubbing

- Put the cassette you want to copy from into deck A for playback.
- Put the cassette you want to copy onto into deck B for recording.
 - Anything already on the cassette in Deck B will be erased as the new sound from deck A is copied onto it.
- Press REC PAUSE on deck B.
- Press the Play Forward \triangleright (or Play Reverse \triangleleft) on deck A.
- Deck A starts playing and you are set to start recording deck A to deck B.
- Press the Play Forward \triangleright (or Play Reverse \triangleleft) on deck B.
 - Recording starts, deck A playing and deck B recording.

Important Dubbing Information

- It is preferable that the tape type (Type I or II) you record from be the same as the tape type you record onto.
- When the tape you are recording from in deck A is a METAL (Type IV) tape, use a CrO₂ (Type I) tape for recording in deck B.
 - Dolby NR is inactive in dubbing mode regardless of the setting of the DOLBY B NR switch. The dubbed tape automatically contains the same processing as the source tape. The DOLBY B NR LED goes off automatically.
 - During regular speed dubbing you only listen to the source tape. If you don't want to hear it, turn down the VOLUME control or press FADE/MUTING on the Remote. Only the sound you hear will be affected; the recording level is controlled automatically.
 - You cannot dub using sound effects such as POPS, STADIUM, etc.

High Speed Dubbing

Although the quality of the dubbed tape is a little less, high speed dubbing is a very convenient way to record from one tape to another.

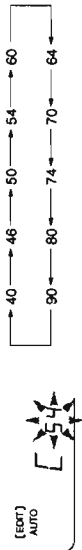
- Put the cassette you want to copy from into deck A, and the cassette to be copied onto in deck B.
- Press HIGH SPEED DUBBING on the tape deck.
 - Both decks start, deck A playing and deck B recording.
 - The sound you hear is strange because it is much faster than usual, and you may not want to listen to it. Turn it down with the VOLUME control, or press FADE/MUTING on the Remote.
 - When using high speed dubbing, you can also listen to another source such as the radio or the CD player, just as if you weren't dubbing.
 - During high speed dubbing, if you listen to a CD with Auto Power Off turned on, the whole Unit, including the tape decks, may turn off when the CD ends.

Recording selections from several different tapes

When you want to make selections from several different tapes and combine them on one tape during high speed dubbing, follow these steps:

- Press Stop \blacksquare on deck A.
 - This causes deck A to stop, so you can change tapes, and deck B makes a 4 second blank and pauses.
- Change the tape in deck A.
- Press HIGH SPEED DUBBING to start deck A playing and deck B recording again.

- Press EDIT on the CD player so that "EDIT/AUTO" appears in the display. The system tells you the minimum standard tape length to use.
 - You can select a different length of tape, depending on the actual size of the tape you are using, from ten possibilities programmed into the CA-S50BK: 40, 54, 60, 64, 70, 74, 80, 90. Cycle through these choices using the SEARCH/EDIT TIME \leftarrow or \rightarrow until you find the length closest to your tape's actual length.



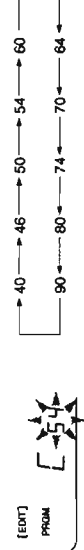
- You can use the CD (OK) and the numeric buttons on the Remote to set the tape length as you wish. In this case, it is not necessary to press SIDE A/B in step 6 below.
- Press SIDE A/B and the display shows which tracks will go on side A and which on side B. Each time you press SIDE A/B the display switches between A and B.
- Now press CD REC START on the tape deck. The FADE indicator lights up on the display.
 - The tape automatically rewinds to the beginning of the front side (A); a 10 second blank is created, and the CD begins to play and be recorded. (A 10 second blank is also created on the beginning of the reverse side (B)).
 - If you use a tape shorter than the total playing time of the CD, the last recorded selection will be fading out at the both ends of the tape.
 - To stop recording any time during the process, press either Stop \blacksquare on deck B or \blacksquare /CLEAR on the CD player (when you press \blacksquare /CLEAR you can make a 4 second blank at the end of the recording). But remember: after you stop, if you restart, the tape will rewind and start recording the CD from the beginning. Pressing \blacktriangle OPEN/CLOSE will also stop recording.

Recording a CD onto a Tape Using Programmed Edit

Using Programmed Edit, you can decide for yourself the selections to be recorded in your desired order. First, you will have to tell the Unit the tape size you are using if your tape is a different size than the one picked by the Unit. Then, you can make your program as you wish.

Follow this procedure to record a CD using Programmed Edit.

- Put the cassette in deck B.
- Press REVERSE MODE if you want to record on both sides of the cassette.
 - If the CD is already loaded, be sure the power is on, and the source is CD. If the last selected source is tuner, the Unit will not recognize the loaded CD when turning on the Unit by pressing POWER.
- Set the sound effects you want now, since the sound environment cannot be changed once recording starts.
- Press \blacksquare /CLEAR.
- This cancels the previous edit or program setting.
- Press EDIT on the CD player so that "EDIT/PRGM" appears in the display. The system tells you the minimum standard tape length to use.
 - You can select a different length of tape, depending on the actual size of the tape you are using, from ten possibilities programmed into the CA-S50BK: 40, 54, 60, 64, 70, 74, 80, 90. Cycle through these choices using the SEARCH/EDIT TIME \leftarrow or \rightarrow until you find the length closest to your tape's actual length.



- You can use the CD (OK) and the numeric buttons on the Remote to set the tape length as you wish. In this case, it is not necessary to press SIDE A/B in step 6 below.
- Press SIDE A/B.
- Now the tape size is determined and you can make a program for side A. (See page 10.)
- After making a program for side A, press SIDE A/B again so you can make another program for side B.
- Now press CD REC START on the tape deck. The FADE indicator lights up on the display.
 - The tape automatically rewinds to the beginning of the front side (A); a 10 second blank is created, and the CD begins to play and be recorded. (A 10 second blank is also created on the beginning of the reverse side (B)).
 - If the playing time of the program for one side is longer than the length of one tape side, the last recorded selection will be fading out at the end of the tape side.
 - To stop recording any time during the process, press either Stop \blacksquare on deck B or \blacksquare /CLEAR on the CD player (when you press \blacksquare /CLEAR you can make a 4 second blank at the end of the recording). But remember: after you stop, if you restart, the tape will rewind and start recording the CD from the beginning. Pressing \blacktriangle OPEN/CLOSE will also stop recording.

- Using Auto Edit and Program Edit, you can program up to 16 tracks for each side of the tape, and cannot program a track the number of which on the disc is greater than 31.



Tape to Tape Dubbing, Introduction

How to Use the Timers and Set the Clock

- Five Timers:**
- Timer 1, Timer 2
 - Daily
 - Wake up
 - Sleep
 - Auto Power Off

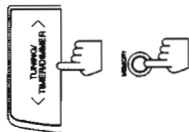
The timers let you control recording and playing functions automatically. With the CA-S50BK they are particularly easy to set and use. Five types of timers are available:

- **Timer 1, Timer 2**—unattended recording of radio broadcasts.
- **Daily**—recording of a radio broadcast that occurs at the same time every day.
- **Wake up Timer**—Wake up to music from any source.
- **Sleep Timer**—Fall asleep and have your CA-S50BK turn off automatically after a certain length of time.
- **Auto Power Off**—Automatically turns off the Unit when the CD or tape finishes.

IMPORTANT!

set your clock!

CLOCK ADJUST



Clock Setting
The timers depend on the clock. If the clock is right, the timers will work like you expect, but if the time is incorrect on the clock, then the timers will also be incorrect.

Special Notice: The clock must be set, or the timers cannot be set! So, let's set the clock first.

1. Press **CLOCK ADJUST**.
2. Set the hour by pressing **TUNING/TIMER/DIMMER < or >**. Pressing **>** increases the hour, and pressing **<** decreases it.
3. Press **MEMORY**.
4. Set the minutes by pressing **TUNING/TIMER/DIMMER < or >**. Pressing **>** increases the minute, and pressing **<** decreases it.
5. Press **MEMORY** again and the clock is set and starts from zero second.

- If there is a power failure, the clock loses its setting, the display shows "0:00," and it must be reset.

Recording when you're not there



Setting Timer 1, Timer 2, and the Daily Timers

With these timers you can make a tape of a radio broadcast (or other sound sources) automatically whether or not you are there to start the CA-S50BK. You can also set the sound source at the specified time without recording them. For the timer to work correctly, you need to make sure of two things in addition to setting the time for the sound source and tape recorder to come on:

- The tape you want to record onto must be in deck B when you want to record.
- The radio station whose program you want to tape must be the last one played before timer comes on.

Follow this procedure to set Timer 1, Timer 2, and the Daily Timer:

1. Press **TIMER 1**, **TIMER 2**, or **DAILY** to tell the Unit which timer you are going to set. The corresponding indication (**TIMER 1**, **TIMER 2**, or **DAILY**) flashes in the display. As long as it is flashing, you can continue with the setting process. If you wait too long, and it stops before you are done, just press the button twice and start over.
2. Set the time you want the sound source to come on and the tape in deck B to start recording.
 - Use **TUNING/TIMER/DIMMER < or >** just like setting the clock. See instructions above.
 - Set the time you want the sound source to shut off and the tape in deck B to stop recording.
3. Use **TUNING/TIMER/DIMMER < or >** just like setting the clock. See instructions above.
4. Select the sound source with **TUNING/TIMER/DIMMER < or >** and press **MEMORY** to store it.
 - Each time you press **TUNING/TIMER/DIMMER < or >**, the Unit gives you one of the following settings:

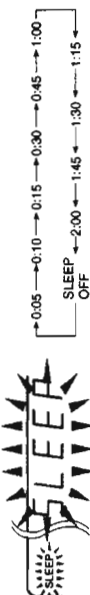
Display

SOURCE --- -- -- --	What it means
SOURCE TUNER	Plays from whichever source was used just before turning off the Unit
SOURCE REC	Plays an FM or AM broadcast
SOURCE TUNER	Records an FM or AM broadcast
SOURCE -- -- -- CD	Plays a CD
SOURCE TAPE	Plays a tape
TIMER REC SOURCE --- -- -- --	Records from whichever source was used just before turning off the Unit

Sleep Timer: turns the Unit off automatically after a set time

Use the sleep timer to turn the Unit off after a certain number of minutes when it is playing. Using this timer, you can fall asleep to music and know your CA-S50BK will turn off by itself rather than play all night.

- You can only set the Sleep Timer when the CA-S50BK is on and a source is playing.
 - To cancel the Sleep Timer, press **POWER** to turn off the Unit.
- To set the Sleep Timer, follow this procedure:
1. With the CA-S50BK on and a source playing, press **WAKE UP/SLEEP**. The **SLEEP** indicator on the display will start blinking.
 2. Set the length of time you want the source to play before shutting off.
 - Each time you press **WAKE UP/SLEEP** while the **SLEEP** indication is blinking, it changes the number of minutes shown on the display in this sequence:



- The actual time when the CA-S50BK will shut off shows in the right hand corner of the display where the clock time is usually displayed.
- When the number of minutes you want shows on the display, just wait 5 seconds until the indicator stops blinking, but remains lighted.

The Unit is now set to turn off after the number of minutes you set.

Timer Priority

Since each timer can be set independently, you may have wondered what happens if the settings overlap. Here are the priorities for each timer.

- The **Wake Up Timer** has priority over **TIMER 1**, **TIMER 2**, or **DAILY** timer. This means that if the start-time for one of the timers occurs before the wake-up time, the Unit will wait until the wake-up time turns on.
- The **Sleep Timer** has priority over **TIMER 1**, **TIMER 2**, or **DAILY** timer. This means that if the stop-time for one of the timers occurs before the sleep time, the Unit will wait until the sleep time before turning itself off.

Checking the Remaining Time

After setting the **Wake Up** or **Sleep Timer**, you can check the time remaining until the Unit turns on (**Wake Up Timer**) or shuts off (**Sleep Timer**).

Pressing **WAKE UP/SLEEP** shows you the remaining time on the display for 5 seconds. Then the display returns to the clock time display (**Wake Up Timer**) or the radio frequency display (**Sleep Timer**).

Auto Power Off: turns off your CA-S50BK automatically



When playing either a tape or a CD, **Auto Power Off** will shut the Unit off when the tape or CD comes to the end. Although **Auto Power Off** is very useful for shutting off the CA-S50BK at night, you can also use it if you think you might forget to turn the Unit off when leaving the house or your room at other times of day. Turning on or off the **Auto Power Off** is easy, but there are a few things to know about it if a tape is playing. To use **Auto Power Off**:

- Press **AUTO POWER OFF**.
- If the LED is on, **Auto Power Off** is on, and the source will automatically turn off when the tape or CD finishes.
- If the LED is off, **Auto Power Off** is also off.
- Even if both tape decks are loaded, the Unit turns off when the currently playing deck finishes; however, in reverse play mode, the Unit plays the side currently playing, reverses and plays the other side, then shuts off.

Important information on using Auto Power Off

- CD repeat mode cannot be used with **Auto Power Off**. If you do so, the repeat mode will be canceled so that **Auto Power Off** will be able to work.
- If you press **AUTO POWER OFF** while the tape is playing:

 - If **Reverse Mode** is off (the **Reverse Mode LED** is not lit), the Unit turns off when the currently playing side finishes.
 - If **Reverse Mode** is on (the **Reverse Mode LED** is lit), the Unit plays the side currently playing, reverses and plays the other side, then shuts off.

- If the **Sleep Timer** and **Auto Power Off** have been set within the same time range, the timer operation with the carrier ending tone will have priority.
- If a timer operation begins during **Auto Power Off**, the timer operation will have priority.
- If **Auto Power Off** is used during a timer operation, **Auto Power Off** will have priority.

Singing Along

What is Vocal Masking?

When you press VOCAL MASKING, the lead vocal is reduced, and you can replace it by singing into the microphone as the music plays. No microphone is supplied with the CA-S50BK, so you can select your own from the many kinds available.

Singing-Along Procedure

How to Sing Along with Vocal Masking:

1. Turn the MIC LEVEL control all the way counterclockwise to the MIN position.
2. Attach the microphone (not supplied) by plugging it into the MIC jack in the amplifier section.
3. Start the source—CD, Tape, connected VCR, Record Player.
4. Press VOCAL MASKING—the LED will light up.
5. Now adjust the volume of the source with the main VOLUME control, and the volume of your voice with the MIC LEVEL control as you sing into the microphone.

Recording a Singing-Along Session

Recording Your Singing-Along

You can record a singing-along session under certain conditions.

- You cannot record your singing-along when the main source is a tape in deck A. Here's the procedure for recording your singing-along:
 1. Put the cassette you want to record onto in deck B.
 2. Press REC PAUSE—see Recording, page 13 if you need more information about tape recording.
 3. Follow the above procedure "How to Sing Along with Vocal Masking."
 4. Press Play Forward (or Play Reverse ◀) on deck B, and deck B will start recording the source together with your voice in place of the lead vocal.

Important Information about Vocal Masking

- Since the radio signal is not as reliable as signals coming from a tape or CD, you may not always get satisfactory results using the radio as a source for Vocal Masking.
- Some tapes and CDs are better sources for singing along than others.
- Monaural sources are not suitable for Vocal Masking.
- On sources with duets, strong echoes, a chorus, or with only a few instruments, the singer's voice may not be completely intelligible.
- Poorly dubbed tapes may not work well for Vocal Masking.

Recording from the Microphone

You can use the microphone for two kinds of recording:

- **Mixing**—Sound going into the microphone is mixed with sound sent to the tape in deck B from some other source, such as the CD, or radio.
- **Regular recording**—Only sound picked up by the microphone is recorded.

Mixing

1. Put the cassette you want to record onto in deck B.
2. Connect the microphone to the MIC Jack.
3. Set deck B to recording pause mode by pressing REC PAUSE.
4. Start the source (radio, CD, and PHONO/AUX) and set the VOLUME control.
5. Adjust the microphone volume with the MIC LEVEL control.
6. When you are ready to record, press Play Forward (or Play Reverse ◀) on deck B, and both sound from the microphone and from the playing source will be recorded.

Regular Microphone Recording

1. Put the cassette you want to record onto in deck B.
2. Connect the microphone to the MIC Jack.
3. Set deck B to recording pause mode by pressing REC PAUSE.
4. Adjust the volume of the microphone with the MIC LEVEL control.
5. Now when you press Play Forward (or Play Reverse ◀) on deck B, whatever sounds the microphone picks up will be recorded.

Important Information for using the microphone

- You may have to experiment some to see just where to set the MIC LEVEL control to get the best recorded sound.
- To prevent howling and squealing when using the microphone, adjust the MIC LEVEL control and the VOLUME control, and try not to point the microphone at the speakers.
- When you are not using the microphone, keep the MIC LEVEL control set to MIN. It is best to disconnect the microphone when you will not be using it for a while.

Two ways of recording with the Microphone

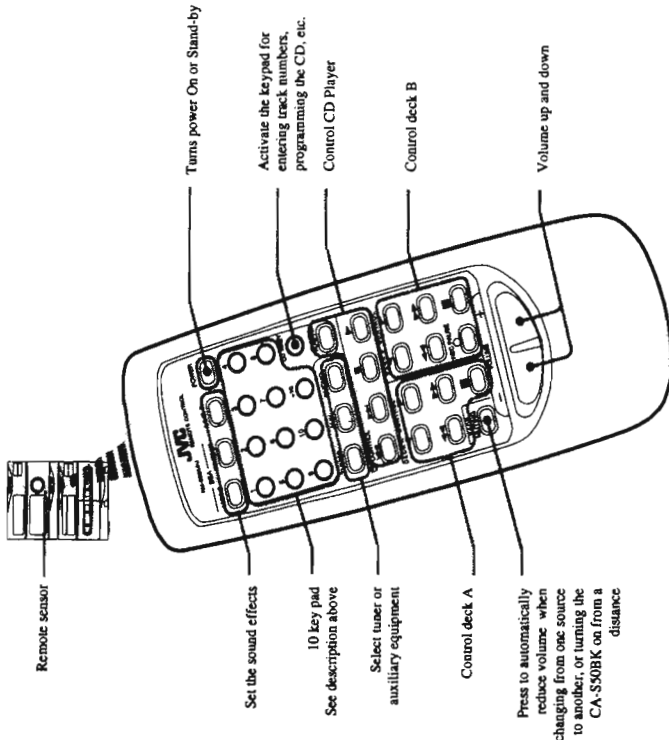
Special Techniques for using the microphone

How to Use the Remote Control

The Remote Control makes it easy to control many of the functions of the CA-S50BK from a distance of up to 7 meters away. You do need to point the remote sensor at the CA-S50BK console. Most of the buttons on the Remote Control do just what the ones on the front of the CA-S50BK do, and they are explained in the manual. A few functions are available only by using the Remote Control, and those are described below.

Using the 10 Keypad

- The Keypad is used to specify a CD track or the number you have assigned to a preset radio station. To enter a number using the keypad follow these steps:
- For numbers between 1 and 10, just press the button with the number you want.
 - For numbers from 11 to 20, first press the +10 key, then the one's digit of the number you want—to get 15, first press +10, then 5. For 20 press +10 and 10.
 - For numbers from 21 to 30, press the +10 key twice; then press the one's digit—to get 25, press +10 and 5.
 - For 30, press +10 +10 and 10.
 - For numbers from 31 and 40, follow the same procedure, only press the +10 key three times, then the one's digit—to get 32, press +10 +10 +10 and 2.



Troubleshooting

- If you are having a problem with your CA-S50BK, check this list for a possible solution before calling for service.
- If you cannot solve the problem from the hints given here, or the Unit has been physically damaged, call a qualified person, such as your dealer, for service.

Symptom	Possible Cause	Action
No sound is heard.	Connections are incorrect, or loose.	Check all connections and make corrections. (See pages 4 and 5.)
Impossible to record.	Cassette record protect tabs are removed.	Cover holes on back edge of cassette with tape.
Hard to listen to broadcast because of noise.	The antenna is disconnected. The loop antenna is too close to the system. The feeder/wire antenna is not properly extended and positioned.	Re-connect the antenna securely. Change the position and direction of the loop antenna. Extend feeder/wire antenna at the best reception position.
The CD sound is discontinuous. Unable to operate the Remote.	The CD is scratched or dirty. The path between the Remote and the sensor on the Unit is blocked. The batteries are discharged.	Clean or replace the CD. Remove the obstruction. Replace the batteries.
The CD tray cannot be operated.	The main AC power cord is not plugged in.	Plug in the AC power plug.
The CD does not play.	The CD is upside down.	Put the CD in with the label side up.
Operations are disabled.	The built-in microprocessor may malfunction due to external electrical interference.	Unplug the system then plug it back in.
The cassette carrier cannot be opened.	The system was turned off because the timer was operated while the tape was running.	Turn on the system.

Specifications

Tuner/Amplifier Section	CD/Tape Deck Section
Amplifier	Tape deck
Output Power (IEC 268-3/DIN)	Frequency / response
35 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz with no more than 0.5% total harmonic distortion.	30 - 16,000 Hz
	30 - 15,000 Hz
	0.09% (W/RMS) 2% (DIN)
	Wow and Flutter
	Normal: 96 dB
	Compact Disc Player
Input Sensitivity/Impedance (1 kHz)	Dynamic Range (1 kHz)
PHONO 3 mV/47 kohms	Signal-to-Noise Ratio
AUX/VIDEO 320mV/47 kohms	Wow and Flutter
MIC 3.5 mV/10 kohms	Unmeasurable
	Dimensions (Approx.)
Speaker terminals 8 ohms	245 x 183 x 295 mm (w/h/d)
Speakers	(9 1/4 x 7 1/4 x 11 3/4 in.)
	(Maximum depth 394 mm (15 7/16 in.) with the CD tray open)
	4.2 kg (9.3 lbs)
Tuner	Weight (Approx.)
FM Tuner	AC 230 V _A , 50 Hz
Tuning Range	112 Watts
87.5 - 108.0 MHz	Power specifications
Useable Sensitivity	Power Requirements
0.95 μV/75 ohms (10.8 dBf)	Power Consumption
Signal-to-Noise Ratio (BIF-A weighted)	Supplied Accessories
MONO (at 85 dBf) 80 dB	FM wire antenna (only for Germany) (1)
STEREO (at 85 dBf) 73 dB	FM feeder antenna (except for Germany) (1)
MONO 72 dB	AM loop antenna (1)
STEREO 64 dB	Remote control (RM-SES50U) (1)
AM (M/W/L W) Tuner	Batteries R03(UIM-4)/AAA(24F) (2)
MW-Tuning Range	Antenna adaptor (except for Germany) (1)
LW-Tuning Range	Design and specifications subject to change without notice.
522 - 1,629 kHz	
144 - 353 kHz	
144 - 290 kHz (only for Italy)	
Dimensions (Approx.)	
245 x 183 x 142.5 mm (w/h/d)	
(9 1/4 x 7 1/4 x 13 1/4 in.)	
Weight (Approx.)	
4.5 kg (9.9 lbs)	

RX-S50BK

– Contents –

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Description of ICs

■ MN171202JHF (IC901) : System controller

1. Terminal Layout

VDD	1	64	OSC1
S1	2	63	OSC2
S2	3	62	GND
S3	4	61	NC
S4	5	60	GND
S5	6	59	DEMO/KARA
S6	7	58	S4/M3
S7	8	57	KEYI1
S8	9	56	KEYI0
S9	10	55	ACO
S10	11	54	SPK RELAY
S11	12	53	TU RESET
S12	13	52	TU INH
S13	14	51	SURROUND ON/OFF
S14	15	50	S.MUTE
S16	16	49	POWER ON/OFF
MSEC	17	48	DCS.OUT
-BP	18	47	DCS.IN
VOL UP	19	46	INH
VOL DOWN	20	45	REMOCON IN
10G	21	44	PROTECT IN
9G	22	43	RESET
8G	23	42	SPI CK
7G	24	41	SPI CS
6G/KEYO5	25	40	SPI DATA
5G/KEYO4	26	39	NC
4G/KEYO3	27	38	S.OUT
3G/KEYO2	28	37	S.STB
2G/KEYO1	29	36	SCK
1G/KEYO0	30	35	ABX ON/OFF
STAND BY	31	34	DEMO/KARA
VR IND.	32	33	AUTO POWER OFF

2. Key Matrix

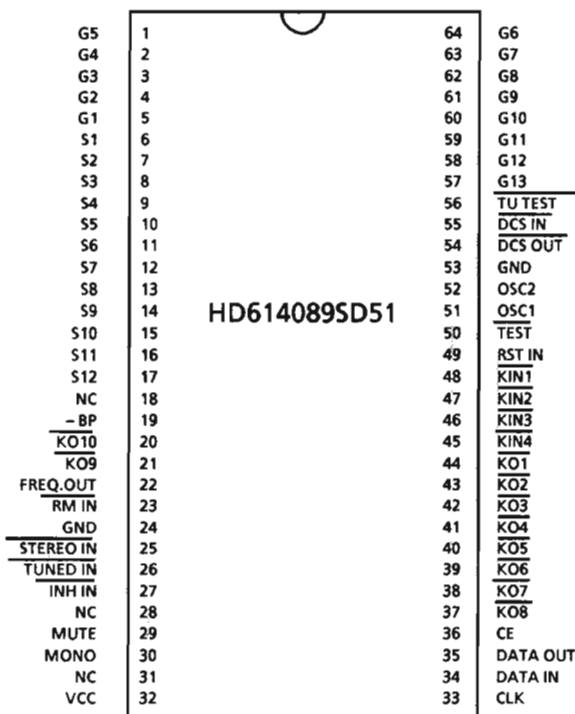
	KEY IN 0 (PIN56)	KEY IN 1 (PIN57)
KEY OUT 0 (PIN30)	POWER (S901)	AUTO POWER OFF (S902)
KEY OUT 1 (PIN29)	AUX (S903)	PHONO (S904)
KEY OUT 2 (PIN28)	ACTIVE BASS EXTENTION (S905)	OFF (S906)
KEY OUT 3 (PIN27)	PRESET ◀ (S907)	PRESET ▶ (S908)
KEY OUT 4 (PIN26)	MODE (S909)	LIVE SURROUND (S910)
KEY OUT 5 (PIN25)	MSEC/DEMO (MSEC) (S911)	VOCAL MASKING (DEMO) (S912)

3. Terminal Description

Pin NO.	Symbol	I/O	Function and Operations	Pin NO.	Symbol	I/O	Function and Operations
1	VDD	--	Power supply	33	A.P.OFF	O	Indication control for 'AUTO POWER OFF'
2	S1	O	Segment control signal	34	DEMO/KARA	O	Indication control for 'DEMO'
3	S2	O	Segment control signal	35	ABX on/off	O	'ABX' control signal
4	S3	O	Segment control signal	36	SCK	O	Clock output for IC501 and IC512
5	S4	O	Segment control signal	37	S.STB	O	Strobe signal for IC501 and IC512
6	S5	O	Segment control signal	38	S.OUT	O	Data for IC501 and IC512
7	S6	O	Segment control signal	39	--	--	Non connection
8	S7	O	Segment control signal	40	SPI DATA	I/O	Peak level data / Control data for IC001
9	S8	O	Segment control signal	41	SPI CS	O	Chip select signal for IC001
10	S9	O	Segment control signal	42	SPI CK	O	Clock output for IC001
11	S10	O	Segment control signal	43	RESET	I	Reset signal input
12	S11	O	Segment control signal	44	PRT. IN	I	Detection for protector
13	S12	O	Segment control signal	45	RM. IN	I	Remote control signal input
14	S13	O	Segment control signal	46	INH	I	Inhibit signal input
15	S14	O	Segment control signal	47	DCS IN	I	Compulink signal input
16	S16	O	Segment control signal	48	DCS OUT	O	Compulink signal output
17	MSEC	O	Indication control for 'MSEC'	49	P.CONT	O	Power control signal to deck controller
18	-BP	--	Power supply for fl display	50	S.MUTE	O	Muting signal when changing the source
19	VOL UP	O	Volume control signal	51	SURR	O	'SURROUND' control signal
20	VOL DOWN	O	Volume control signal	52	T.INH	O	Inhibit signal for tuner
21	10G	O	Grid control signal	53	T.RST	O	Reset signal for tuner
22	9G	O	Grid control signal	54	SPK	O	Speaker relay control signal
23	8G	O	Grid control signal	55	ACO	O	Regulator control signal
24	7G	O	Grid control signal	56	KEYI0	I	Key martrix input
25	6G/KEYO5	O	Grid control signal (Key matrix out)	57	KEYI1	I	Key martrix input
26	5G/KEYO4	O	Grid control signal (Key matrix out)	58	S4/M3	I	Chip select
27	4G/KEYO3	O	Grid control signal (Key matrix out)	59	DEMO/KARA	I	Chip select
28	3G/KEYO2	O	Grid control signal (Key matrix out)	60	--	--	Connected to GND
29	2G/KEYO1	O	Grid control signal (Key matrix out)	61	--	--	Non connection
30	1G/KEYO0	O	Grid control signal (Key matrix out)	62	GND	--	GND
31	STAND BY	O	Indication control signal	63	OSC2	--	Oscillation terminal
32	VR IND.	O	Indication control signal	64	OSC1	--	Oscillation terminal

■ HD614089SD51 (IC201) : Tuner controller

1.Terminal Layout



2.Key Matrix

	KEY IN 1 (PIN48)	KEY IN 2 (PIN47)	KEY IN3 (PIN46)	KEY IN4 (PIN45)
KEY OUT 1 (PIN44)	---	TIMER1 (S202)	TIMER2 (S203)	DAILY (S204)
KEY OUT 2 (PIN43)	WAKE-UP/ SLEEP (S201)	CLOCK ADJ (S205)	CANCEL (S206)	MEMORY (S207)
KEY OUT 3 (PIN42)	TUNING /TIMER /DIMMER UP (S208)	TUNING /TIMER /DIMMER DOWN (S209)	PRESET UP (S210)	PRESET DOWN (S211)
KEY OUT 4 (PIN41)	FM (S212)	AM (S213)	FM MODE /MUTE (S214)	PRESET SCAN (S215)
KEY OUT 7 (PIN38)	---	---	+ 10 (S216)	---

3.Terminal Description

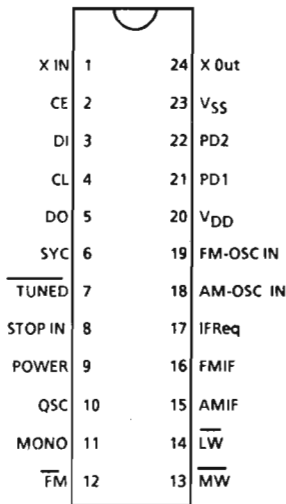
Pin NO.	Symbol	I/O	Function and Operations	Pin NO.	Symbol	I/O	Function and Operations
1	G5	O	Grid control signal	33	CLK	O	Clock for data transmission
2	G4	O	Grid control signal	34	DATA IN	I	Data from PLL synthesizer
3	G3	O	Grid control signal	35	DATA OUT	O	Data for PLL synthesizer
4	G2	O	Grid control signal	36	CE	O	Chip enable signal output
5	G1	O	Grid control signal	37	KO8	O	Key matrix output
6	S1	O	Segment control signal	38	KO7	O	Key matrix output
7	S2	O	Segment control signal	39	KO6	--	Non connection
8	S3	O	Segment control signal	40	KO5	--	Non connection
9	S4	O	Segment control signal	41	KO4	O	Key matrix output
10	S5	O	Segment control signal	42	KO3	O	Key matrix output
11	S6	O	Segment control signal	43	KO2	O	Key matrix output
12	S7	O	Segment control signal	44	KO1	O	Key matrix output
13	S8	O	Segment control signal	45	KIN4	I	Key matrix input
14	S9	O	Segment control signal	46	KIN3	I	Key matrix input
15	S10	O	Segment control signal	47	KIN2	I	Key matrix input
16	S11	O	Segment control signal	48	KIN1	I	Key matrix input
17	S12	O	Segment control signal	49	RST IN	I	Reset signal input
18	---	--	Non connection	50	TEST	I	Test mode terminal
19	-BP	--	Power supply for FL display	51	OSC1	--	Oscillation terminal
20	KO10	--	Non connection	52	OSC2	--	Oscillation terminal
21	KO9	--	Non connection	53	GND	--	GND
22	FREQ.OUT	O	Frequency for clock output	54	DCS OUT	O	Compulink signal output
23	RM IN	I	Not used	55	DCS IN	I	Compulink signal input
24	---	--	Connected to GND	56	TU TEST	I	Test mode terminal
25	STEREO IN	I	Indication control signal	57	G13	O	Grid control signal
26	TUNED IN	I	Indication control signal	58	G12	O	Grid control signal
27	INH IN	I	Inhibit signal input	59	G11	O	Grid control signal
28	---	--	Non connection	60	G10	O	Grid control signal
29	MUTE	O	Muting signal output	61	G9	O	Grid control signal
30	MONO	--	Non connection	62	G8	O	Grid control signal
31	---	--	Non connection	63	G7	O	Grid control signal
32	VCC	--	Power supply	64	G6	O	Grid control signal

■ LC7218 (IC102) : PLL Synthesizer

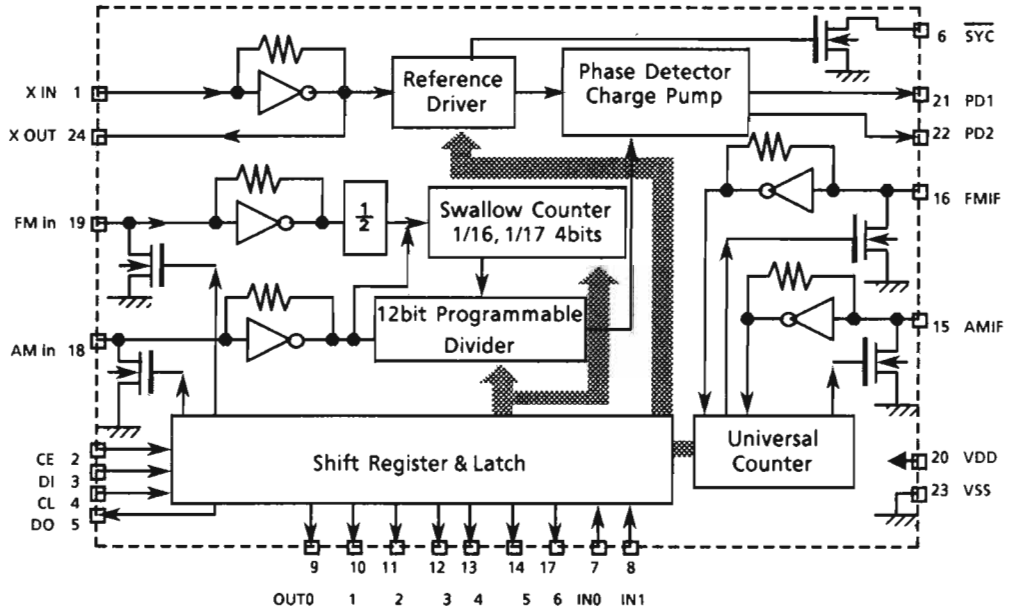
1. The main function descriptions

- (1) It makes the local oscillation frequency by the control data from IC201.
- (2) Decode the control signal and transmit the signal for receiving conditions.
- (3) For the best tuning, count the internal-frequency and transmit the data to IC201.

2. Terminal Layout



3. Block Diagram



4. Terminal Description

Pin No.	Symbol	I/O	Functions and Operations
1,24	X in , X out	I/O	Crystal oscillator (7.2MHz).
2	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.
3	DI	I	Receive the control data from the controller (IC201).
4	CL	I	This clock is used to synchronize data when transmitting the data of DI and DO.
5	DO	O	Transmit the data from LC7218 to the controller which is synchronized with CL.
6	SYC	—	Not used.
7	Tuned	I	Receive the tuned signal from IC104 (LA1266A).
8	Stop in	I	Not used.
9	POWER	O	Not used.
10	QSC	O	ON mode with "H" and OFF mode with "L".
11	MONO	O	It is "H" on FM-monaural, "L" on FM-Stereo.
12	FM	O	It is "L" on FM mode.
13	MW	O	It is "L" on MW mode.
14	LW	—	It is "L" on LW mode.
15	AM-IF	I	Universal counter input for AM-IF from IC104 (LA1266A).
16	FM-IF	I	Universal counter input for FM-IF from IC104(LA1266A).
17	IF REQ	O	Output the "IF-signal request" to IC104 when the pin-7 (tuned in) goes to "H".
18	AM OSC	I	Input the local oscillator signal of AM.
19	FM OSC	I	Input the local oscillator signal of FM.
20	V _{DD}	—	This is a terminal of power supply.
21	PD1	O	PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
22	PD2	O	Not used.
23	V _{SS}	—	Power supply.

■ LA1266A (IC104) : FM AM IF AMP & detector

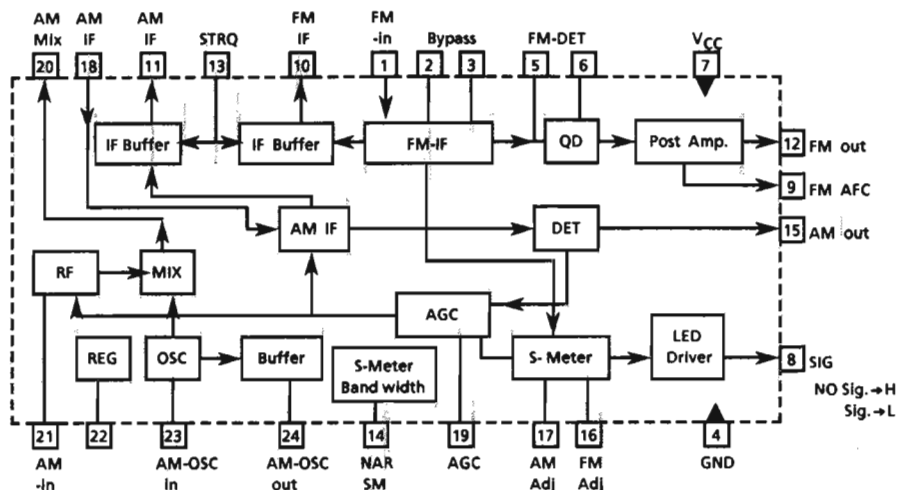
1. The main function descriptions

- (1) Amplify and detect of FM intermodulation frequencies.
- (2) It has local oscillator and mixer for AM, and amplify the AM-IF signal.

2. Terminal Layout

FM-in	1	24	AM-OSC out
Bypass	2	23	AM-OSC
Bypass	3	22	V.ref
GND	4	21	AM-In
FM-DET	5	20	AM-Mix
FM-DET	6	19	AM-AGC
V _{cc}	7	18	AM-IF
SIG	8	17	AM Adj.
FM-AFC	9	16	FM Adj
FM-IF	10	15	AM out
AM-IF	11	14	NAR SM
FM-out	12	13	STRQ

3. Block Diagram



4. Terminal Description

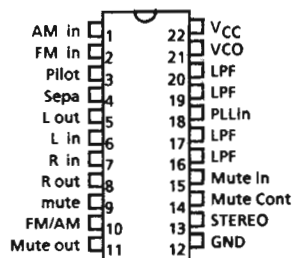
Pin No.	Symbol	I/O	Functions and Operations
1	FM in	I	This is an input terminal of FM IF Signal.
2,3	Bypass	-	Bypass of FM IF Amp.
4	GND	-	This is the device ground terminal.
5,6	FM DET	-	FM detect transformer.
7	V _{cc}	-	This is the power supply terminal.
8	SIG	O	When the machine is tuning, this terminal becomes "L".
9	FM AFC	O	This is an output terminal of voltage for FM - AFC (Auto frequency control).
10	FM IF	O	When the signal of IF REQ of IC102 (LC7218) appear, the signal of FM IF output.
11	AM IF	O	When the signal of IF REQ of IC102 (LC7218) appear, the signal of AM IF output.
12	FM out	O	FM composite signal output.
13	STRQ	I	The IF-signals come out from pin10 (FM-IF) or pin11 (AM-IF) while this terminal going to "High".
14	NAR SM	-	Control the Band-width of signal meter.
15	AM out	O	AM detection output.
16	FM Adj	-	For adjust the stop level (or mute level) of FM.
17	AM Adj	-	For adjust the stop level (or mute level) of AM.
18	AM-IF	I	Input of AM IF Signal.
19	AM-AGC	I	This is an AGC voltage Input terminal for AM.
20	AM-MIX	O	This is an output terminal for AM mixer.
21	AM-IN	I	This is an input terminal for AM RF Signal.
22	V.REF	-	Register value between pin9 and pin22 desides the frequency width of the input signal.
23	AM-OSC	-	This is a terminal of AM Local oscillation circuit.
24	AM-OSC out	O	AM Local Oscillation Signal output.

■ LA3401 (IC105) : FM MPX Detector

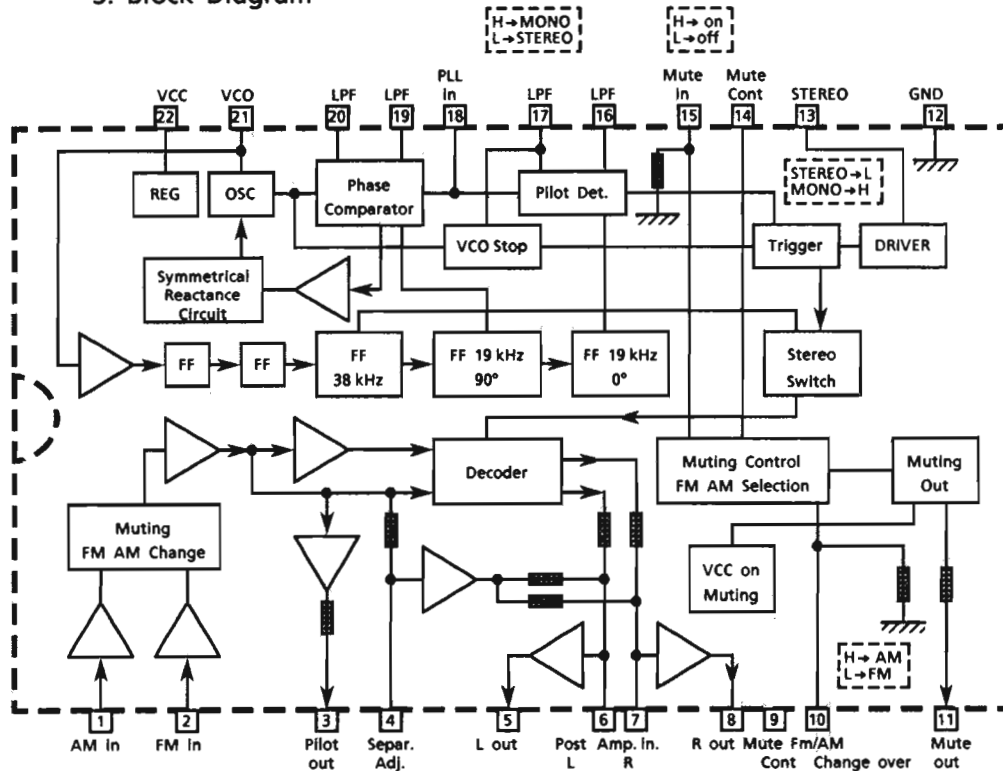
1. The main function descriptions

- (1) Detect the FM multiplex signal (Stereo signal).
- (2) When receiving FM stereo signal, it outputs the signal for indication.
- (3) AM/FM audio amplifier.

2. Terminal Layout



3. Block Diagram

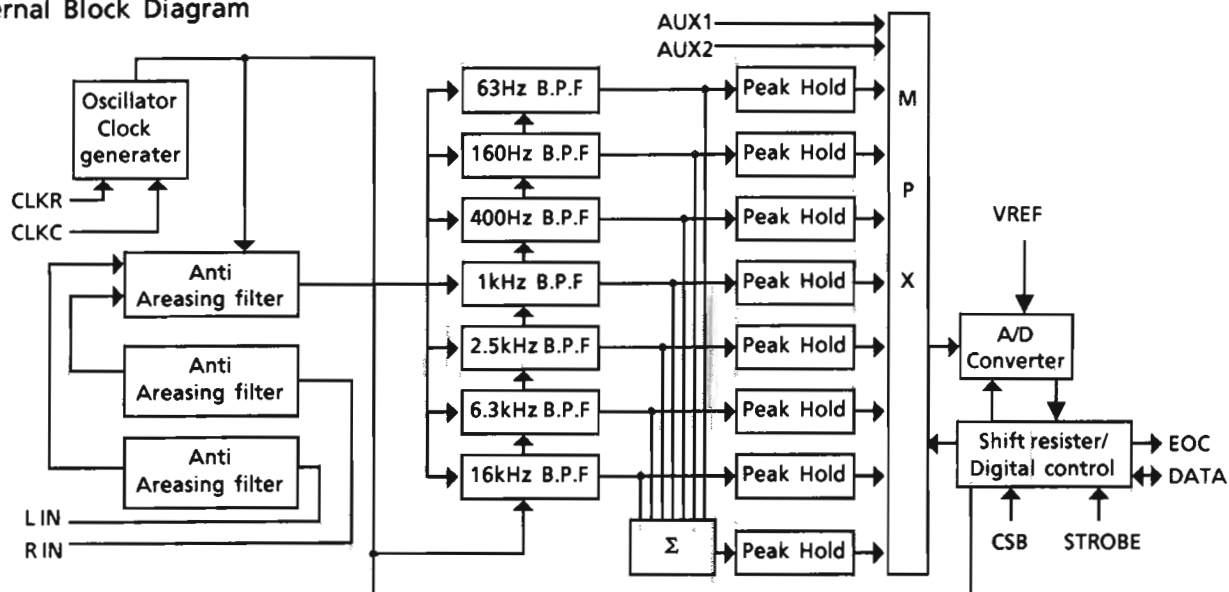


4. Terminal Description

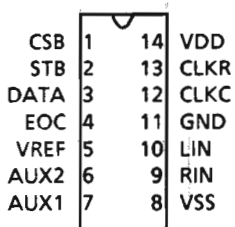
Pin No.	Symbol	I/O	Functions and Operations
1	AM in	I	This is an input terminal for AM detection signal.
2	FM in	I	This is an input terminal for FM detection signal.
3	Composite out	O	Output of the composite signal (Connect to Pin18).
4	Sepa. Adj.	--	Separation adjustment.
5	L. out	O	Left channel signal output.
6	L	I	Input terminal of the left channel post-amplifier
7	R	I	Input terminal of the right channel post-amplifier
8	R out	O	Right channel signal output
9	Mute Cont	--	The mute time is controlled by the connected capacitor when turning the power switch on.
10	FM /AM	I	Change over the FM /AM input. "H" : AM, "L" : FM
11	Mute out	---	Not used
12	GND	--	Ground terminal.
13	Stereo	O	Stereo indicator output. Stereo : "L", Mono : "H"
14	Mute Cont	--	The mute time is controlled by the connected capacitor when changing over the FM /AM .
15	Mute in	I	Mute signal input. "H" : Mute on, "L" : Mute off.
16	LPF	--	Low pass filter of pilot detector.
17	LPF	--	While this terminal goes to "H", the VCO stops.
18	PLL in	I	Composite signal input
19	LPF	--	Low-pass filter of PLL.
20	LPF	--	Low-pass filter of PLL.
21	VCO	I	Voltage controlled oscillator terminal.
22	Vcc	--	Power supply.

■ XR1097CP(IC001) : 7-channel graphic equalizer filter with A/D converter

1. Internal Block Diagram



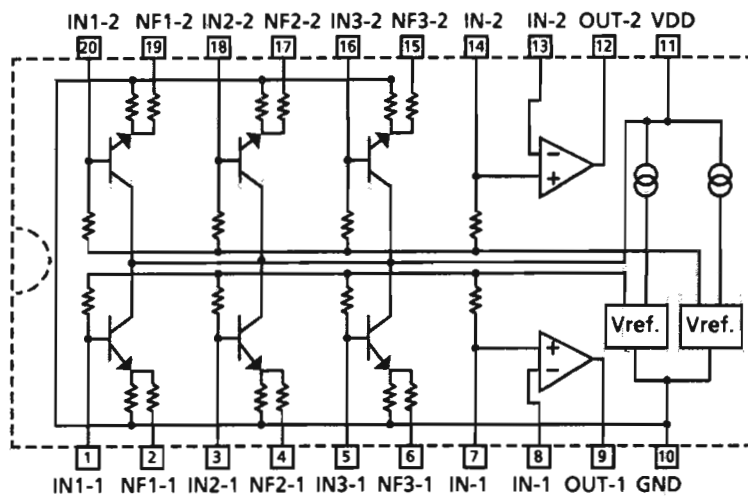
2. Terminal Layout



3. Terminal Description

Pin No	Symbol	I/O	Function	Pin No	Symbol	I/O	Function
1	CSB	I	Chip select	8	VSS	--	-5V
2	STB	I	Strobe signal	19	RIN	I	Sound signal input
3	DATA	I/O	Data input / output	10	LIN	I	Connected to GND
4	EOC	--	Non connection	11	GND	--	GND
5	VREF	I	A/D converter reference voltage	12	CLKC	--	A capacitor is connected
6	AUX2	I	Non connection	13	CLKR	--	A resistor is connected
7	AUX1	I	Non connection	14	VDD	--	+5V

■ M5243P (IC511) : S.E.A. Graphic Equalizer

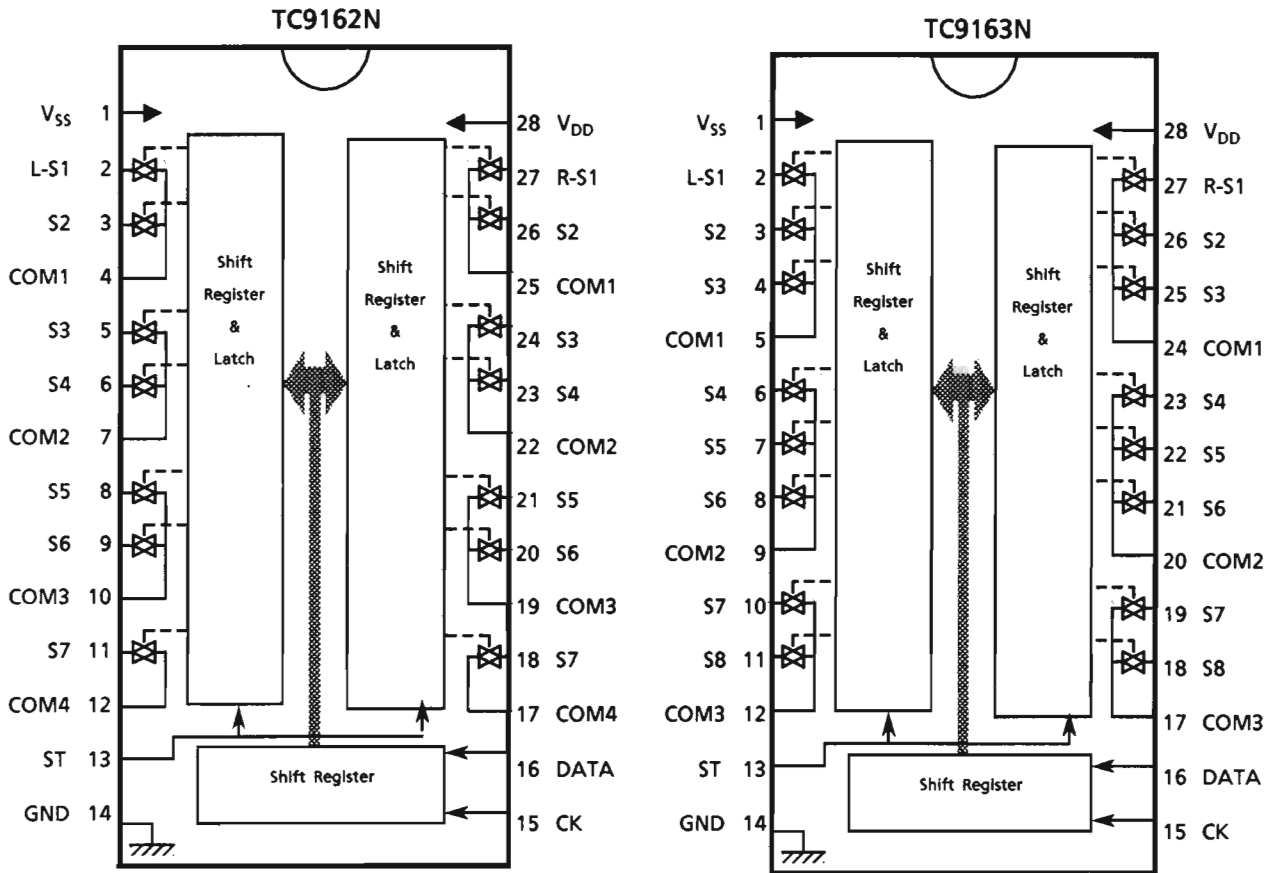


■ TC9162N (IC501) , TC9163N (IC512) : Analog Switch

1. Functions

These analog switches are controlled by 14 bit serial data from computer for selecting the source.

2. Terminal Layout & Block Diagram

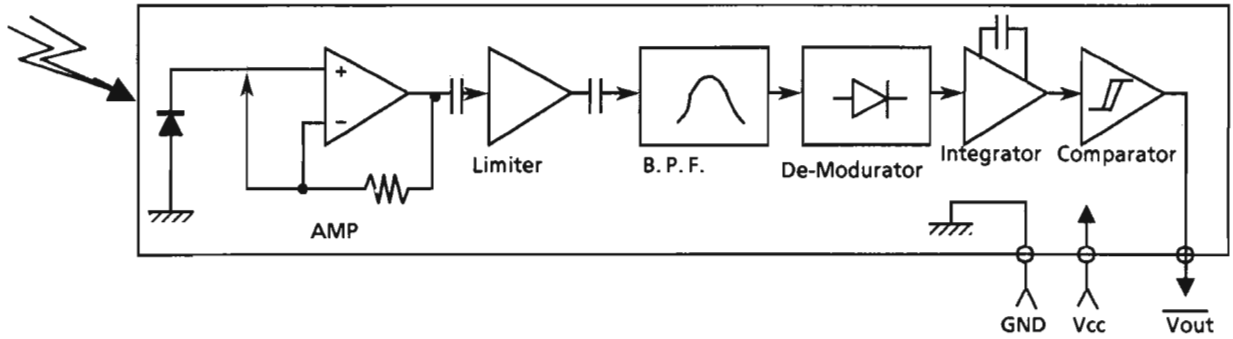


First 10bits are used to source select. Last 4bits are chip select. The switches (S1~S8) are connected to common terminals (COM1~COM3) according to the DATA from computer.

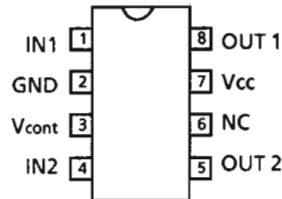
	Chip Select Bit			
	S11	S12	S13	S14
TC9162N	0	0	0	0
TC9163N	1	0	0	0

Internal Block Diagram of Other ICs

■ SPS-420-1 (IC910) : Receiver for Remote Controller

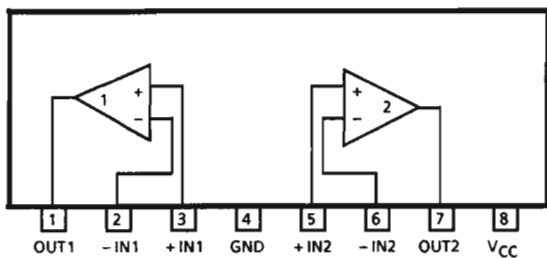


■ LB1639-CV (IC671) : Motor Driver



IN 1	IN 2	OUT 1	OUT 2	MOTOR
H	L	H	L	clockwise
L	H	L	H	counter - clockwise
H	H	OFF	OFF	waiting
L	L	OFF	OFF	waiting

■ BA15218N or XRA15218N (IC504,514,781) : Dual OP Amp.
 VC4580L (IC502,515)
 VC4580LD (IC503)



■ M50197P (IC050) : Digital Delay IC (Only for universal and Taiwan versions)

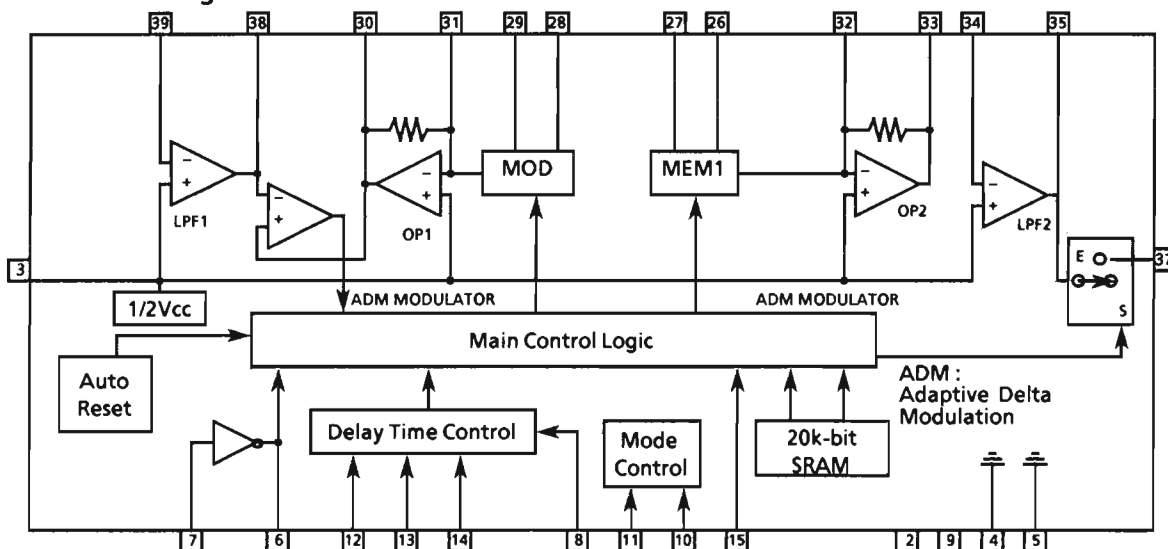
1. Terminal Layout

NC	1	40	NC
AVCC	2	39	LPF1 IN
REF	3	38	LPF1 OUT
A.GND	4	37	ECHO FB
D.GND	5	36	NC
X.OUT	6	35	LPF2 OUT
X.IN	7	34	LPF2 IN
EASY	8	33	OP2 OUT
DVCC	9	32	OP2 IN
TEST	10	31	OP1 IN
MODE	11	30	OP1 OUT
DEL1	12	29	CURRENT CONT0
DEL2	13	28	GAIN CONT0
DEL3	14	27	CURRENT CONT1
MUTE	15	26	GAIN CONT1
NC	16	25	NC
NC	17	24	NC
NC	18	23	NC
NC	19	22	NC
NC	20	21	NC

2. Terminal Functions

Pin No	Symbol	Function	Pin No	Symbol	Function
1,40	NC	Non connection	16~25	NC	Non connection
2	AVCC	Power Supply	26	GAIN CONT1	Gain control
3	REF	Reference voltage	27	CURR. CONT1	ADM control
4	AGND	Ground	28	GAIN CONT0	Gain control
5	DGND	Digital ground	29	CURR. CONT0	ADM control
6	xout	Oscillation terminal	30	OP1 OUT	OP amp output
7	XIN	Oscillation terminal	31	OP1 IN	OP amp input
8	EASY	Interface select	32	OP2 IN	OP amp input
9	VDD	Power supply	33	OP2 OUT	OP amp output
10	TEST	Connected to GND	34	LPF2 IN	Filter input
11	MODE	Connected to 5V	35	LPF2 OUT	Filter output
12	DEL1	Connected to 5V	36	NC	Non connection
13	DEL2	Connected to 5V	37	ECHO FB	Echo feedback
14	DEL3	Connected to 5V	38	LPF1 OUT	Filter output
15	MUTE	Connected to GND	39	LPF1 IN	Filter input

3. Internal Block Diagram



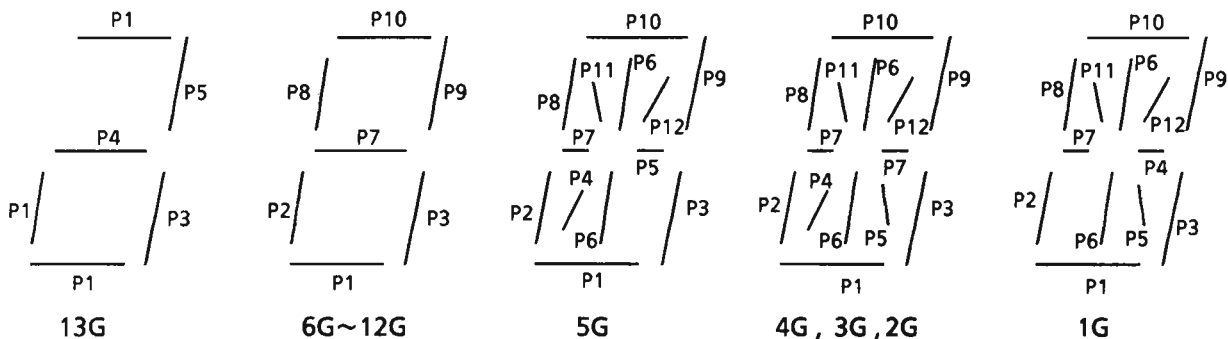
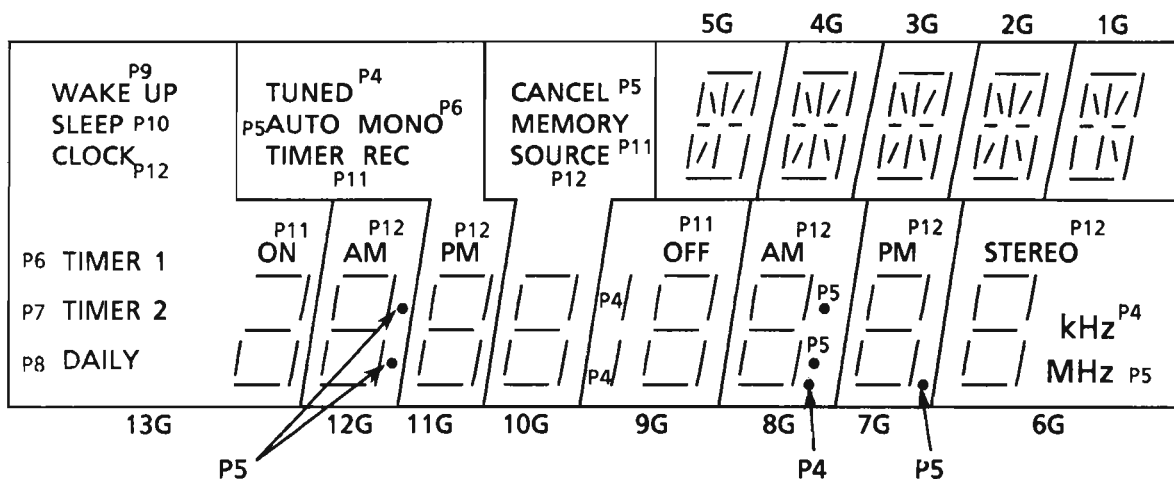
4. Operation

- 1) This ic has 2 modes, one of which is echo mode and the other is surround mode. Following table shows the differences between the two modes.
- 2) When EASY is 'H', DEL1, DEL2 and DEL3 are used as REQ, SECK and SEDATA. In this case, SEDATA which is used to set the mode and delay time previously mentioned, is read at the falling edge of SECK while REQ is 'L'.

DEL1 Pin12	DEL2 Pin13	DEL3 Pin14	Surround mode (Pin11 = L)		Echo mode (Pin11 = H)	
			Sampling frequency	Delay time (mSEC)	Sampling frequency	Delay time (mSEC)
L	L	L	500kHz	4.1	250kHz	20.5
H	H	L	500kHz	10.2	250kHz	41.0
H	L	L	500kHz	14.3	250kHz	61.4
L	H	L	500kHz	20.5	250kHz	81.9
H	L	H	500kHz	24.6	125kHz	98.3
L	L	H	500kHz	30.7	125kHz	122.9
L	H	H	500kHz	34.8	125kHz	139.3
H	H	H	500kHz	41.0	125kHz	163.8

Internal Connections of FL Display

■ ELU0001-150 (FL201)

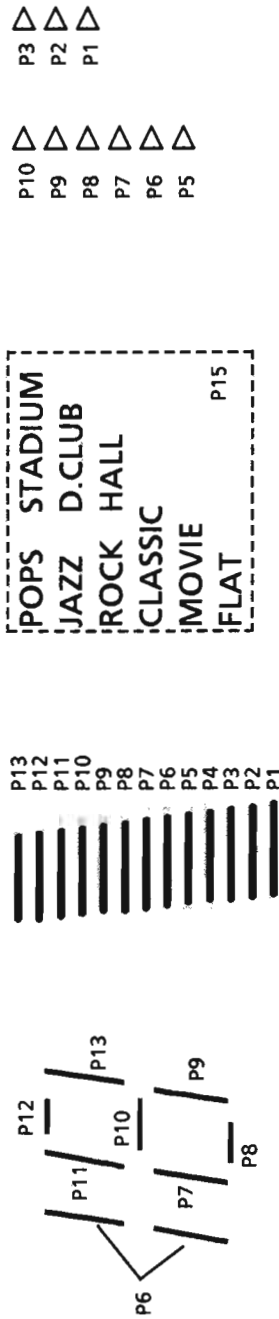
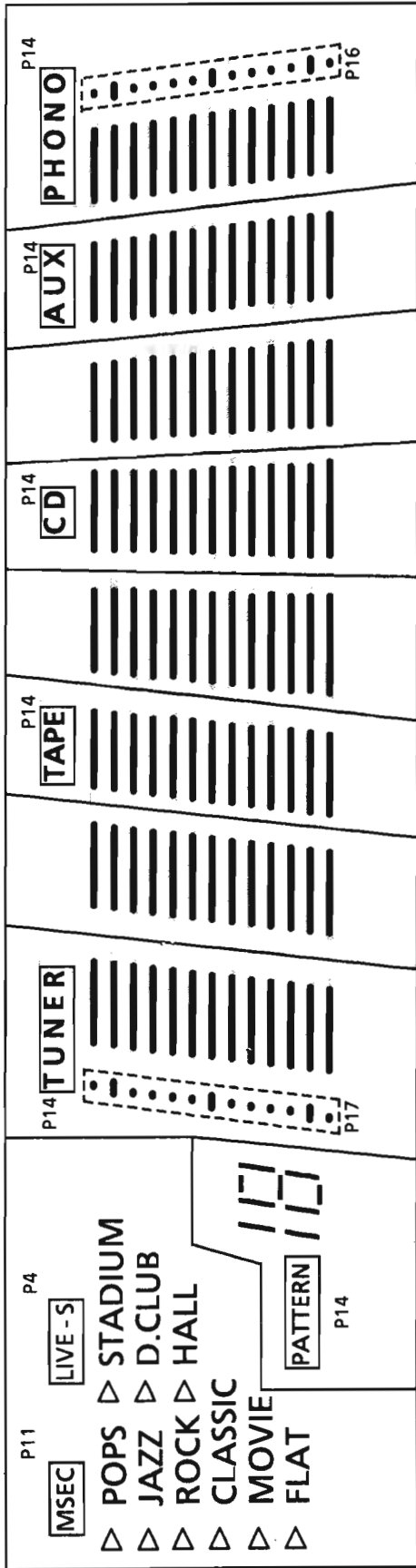


PIN CONNECTION

TERMINAL NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
ELECTRODE	F1	F1	NP	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G				
TERMINAL NO						17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
ELECTRODE						P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	NP	F2	F2

F : Filament G : Grid P : Anode NP : No Pin

ELU0001-152



Pin Connection

Terminal No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
ELECTRODE	F1	F1	NP	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16
Terminal No	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
ELECTRODE	P17	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

Note : F: Filament NP: No Pin G: Grid P: Anode

Disassembly Procedures

■ Removing the metal cover

1. Remove the 6 screws (A) fastening the both sides and back of the metal cover to remove the cover.

■ Removing the front panel assembly

1. Remove the metal cover.
2. Disconnect the connectors J702, P701, JA901 and P671.
3. Remove the 2 screws (B).
4. Release the 3 hooks to remove the assembly.

■ Removing the rear panel

1. Remove the 2 screws (D) in the broken line to remove the heat sink cover (Figure 3).
2. Remove the other screws (D).
3. Release the 2 hooks to remove the rear panel.

■ Removing the main circuit board

1. Remove the metal cover.
2. Remove the rear panel.
3. Remove the source selector & sea circuit board.
4. Remove the 3 screws (C) fixing the main circuit board to remove the circuit board.
(If necessary, remove the circuit boards on the main circuit board.)

■ Removing the display circuit board

1. Remove the front panel assembly.
2. Remove the mic mixing knob.
3. Remove the 1 screw (E) fixing the mic mixing circuit board to remove the mic mixing circuit board.
4. Remove the other screws (E) to remove the circuit board.

(Take care not to damage the pins of JA902 when disconnecting it.)

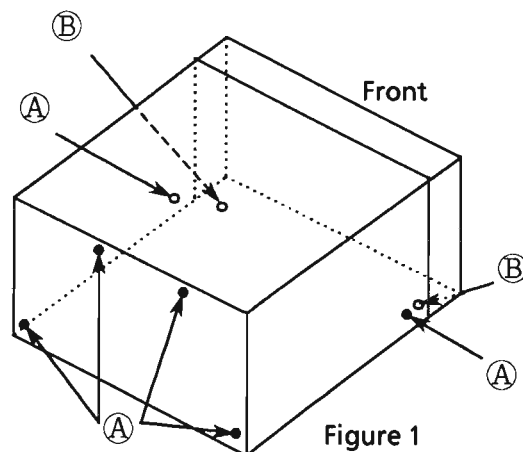


Figure 1

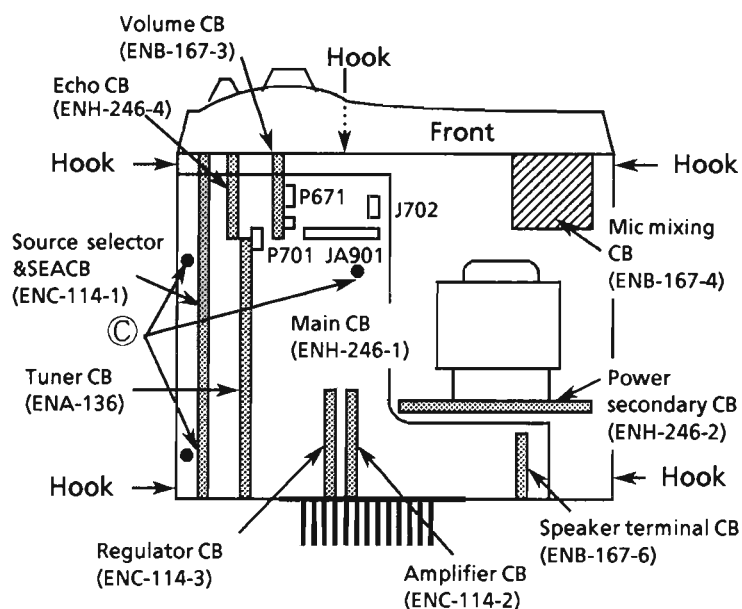


Figure 2 Top view

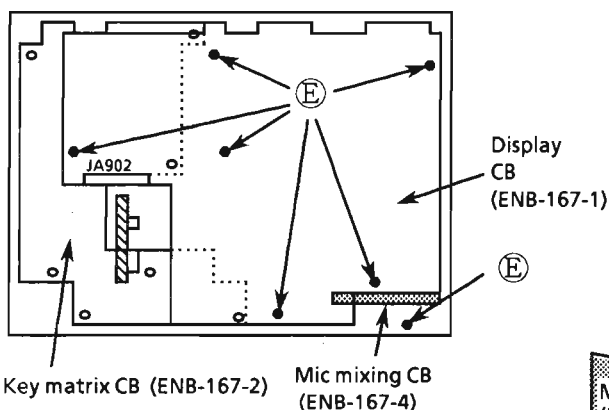


Figure 4 Behind the front panel assembly

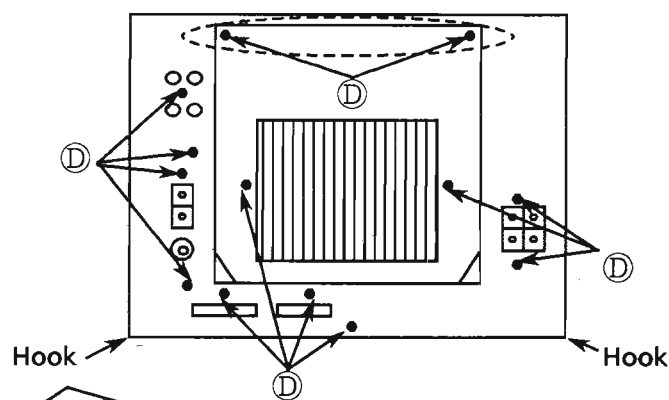


Figure 3 Rear view

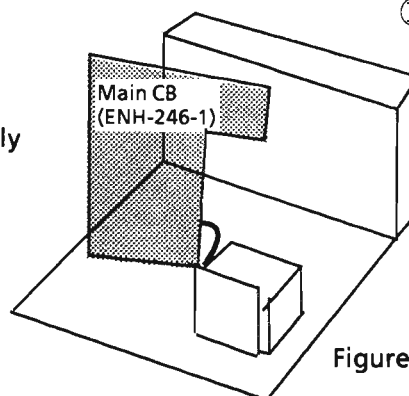
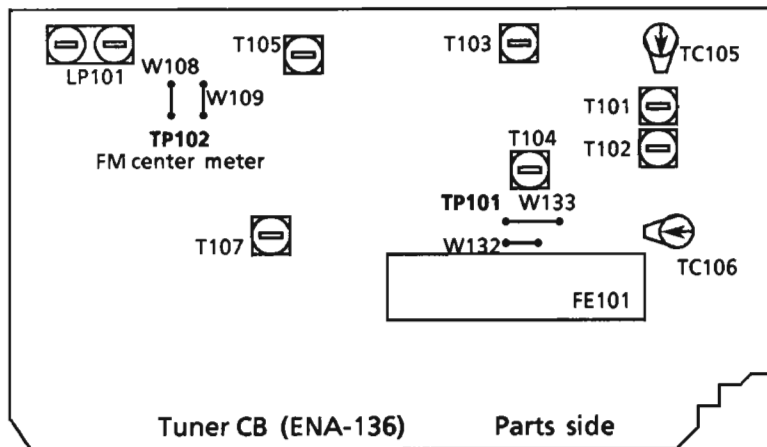
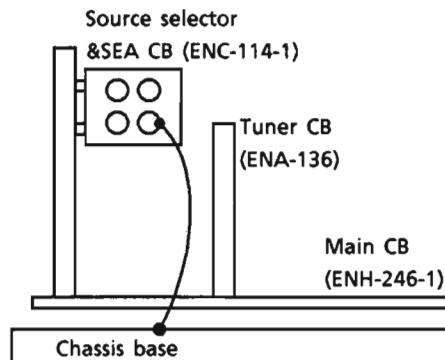


Figure 5 When checking

Adjustment Procedures

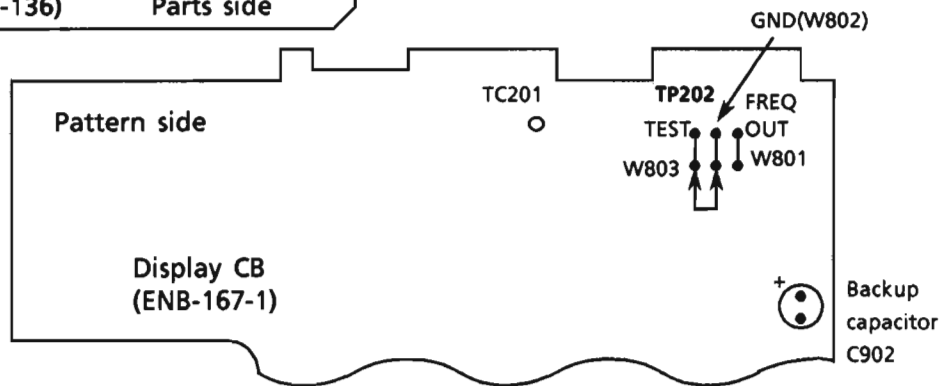
Note :

The ground of the tuner circuit board is connected to the main circuit board through the chassis base and the rear panel. When servicing the tuner circuit board without the rear panel, connect the chassis base and the ground of the AUX input terminal.



Clock Adjustment

1. After connecting W803 and W802 with some wire as shown in the figure below, connect ac power cord into ac outlet.
2. Confirm that the display is off and remove the wire.
3. Connect a frequency counter to W801 and W802.
4. Adjust TC201 so that the frequency becomes $34952.5 \pm 0.15\text{Hz}$.



(1) Tuning voltage

Confirm the voltages at TP101 is within the standard values shown in the table below. If the voltages are not satisfied, replace FE101 for FM, adjust T103 for MW and adjust T104 for LW.

FM Tuning voltage (Unit : V)

Area	Frequency			
	64.0MHz	74.0MHz	87.5MHz	108MHz
East Europe	$1.7 \pm 0.7 (V)$	—	—	$10.0 \pm 0.5 (V)$
the U.K., Continental Europe, U.S.A., Canada, Australia, Universal	—	—	$1.6 \pm 1.0 (V)$	$8.0 \pm 2.0 (V)$

AM Tuning voltage (Unit : V)

Area	Frequency (MW)							Frequency (LW)		
	522KHz	530KHz	531KHz	1600KHz	1602KHz	1629KHz	1710KHz	144kHz	290kHz	353kHz
Italy	0.9±0.2	—	—	—	—	7.5±0.8	—	0.8±0.4	5.7±0.6	—
the U.K., Continental Europe & East Europe	0.9±0.2	—	—	—	—	7.5±0.8	—	0.8±0.4	—	8.0±0.9
U.S.A., Canada	—	0.9±0.2	—	—	—	—	8.0±0.8	—	—	—
Australia	0.9±0.2	—	—	—	—	7.5±0.8	—	—	—	—
Universal (Channel space9kHz)	—	—	1.0±0.2	—	7.2±0.7	—	—	—	—	—
Universal (Channel space10kHz)	—	0.9±0.2	—	7.2±0.7	—	—	—	—	—	—

(2) FM center meter

Receive a broadcast by using the function of 'AUTO STOP'.

Adjust T105 (detector coil) so that the voltage at TP102 becomes $0 \pm 1.5\text{mV}$.

(3) MW Tracking

Adjust T101 (antenna coil) to obtain the best receiving sensitivity on 600kHz or 603kHz.

Adjust TC105 (antenna trimmer) to obtain the best receiving sensitivity on 1400kHz or 1404kHz.

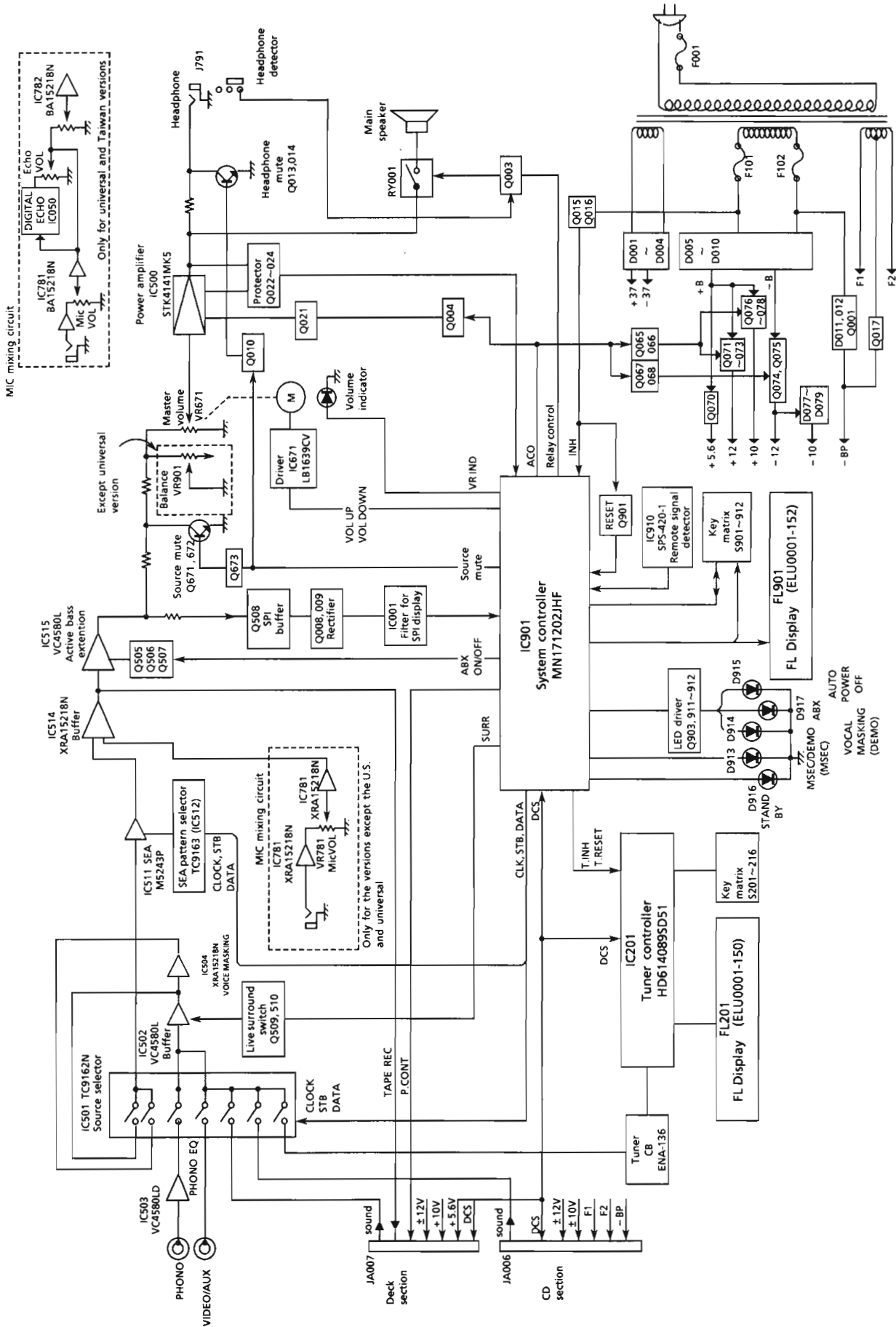
(4) LW Tracking

Adjust T102 (antenna coil) to obtain the best receiving sensitivity on 164kHz.

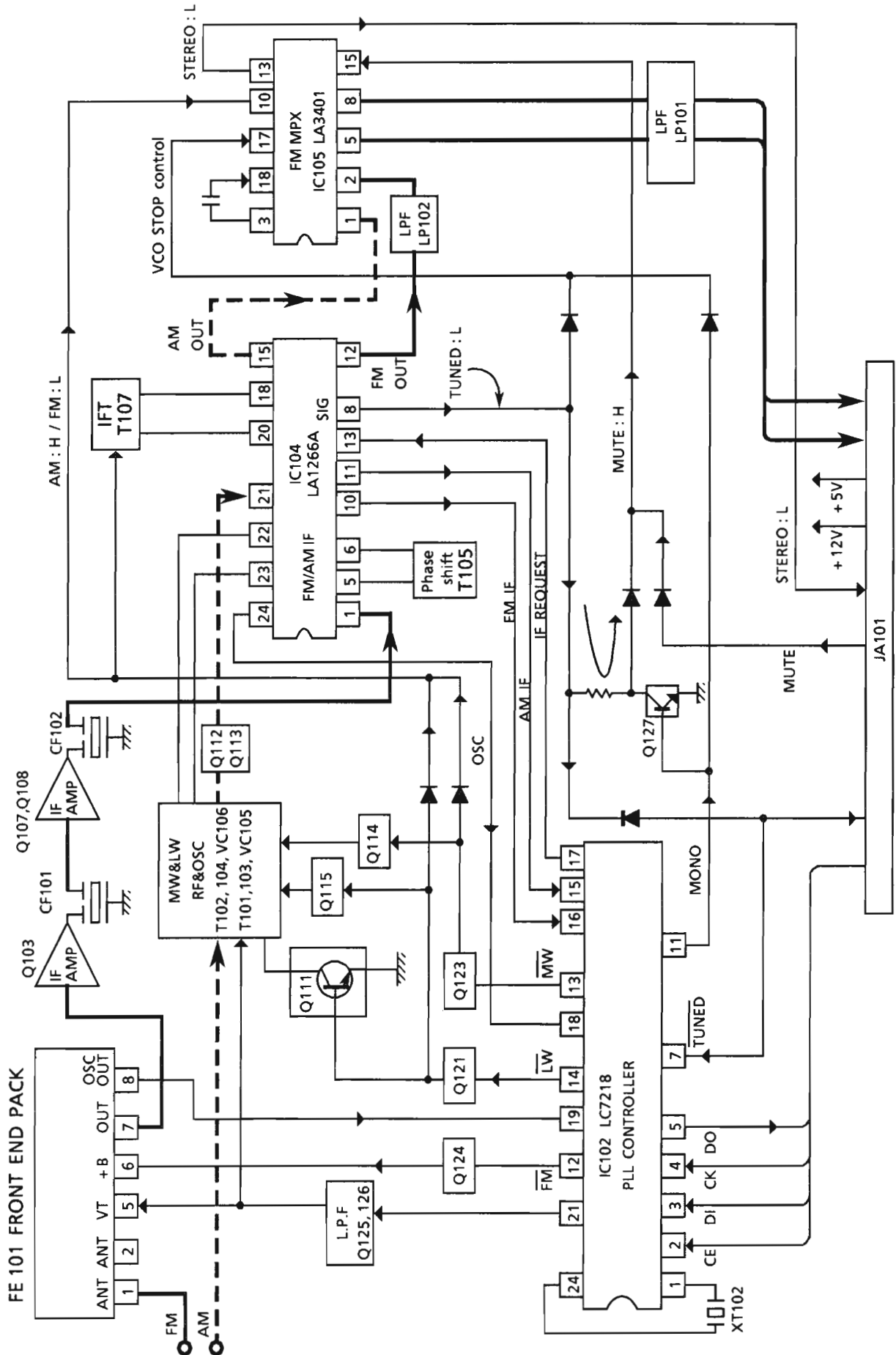
Adjust TC106 (antenna trimmer) to obtain the best receiving sensitivity on 353kHz or 245kHz

Block Diagrams

System Section

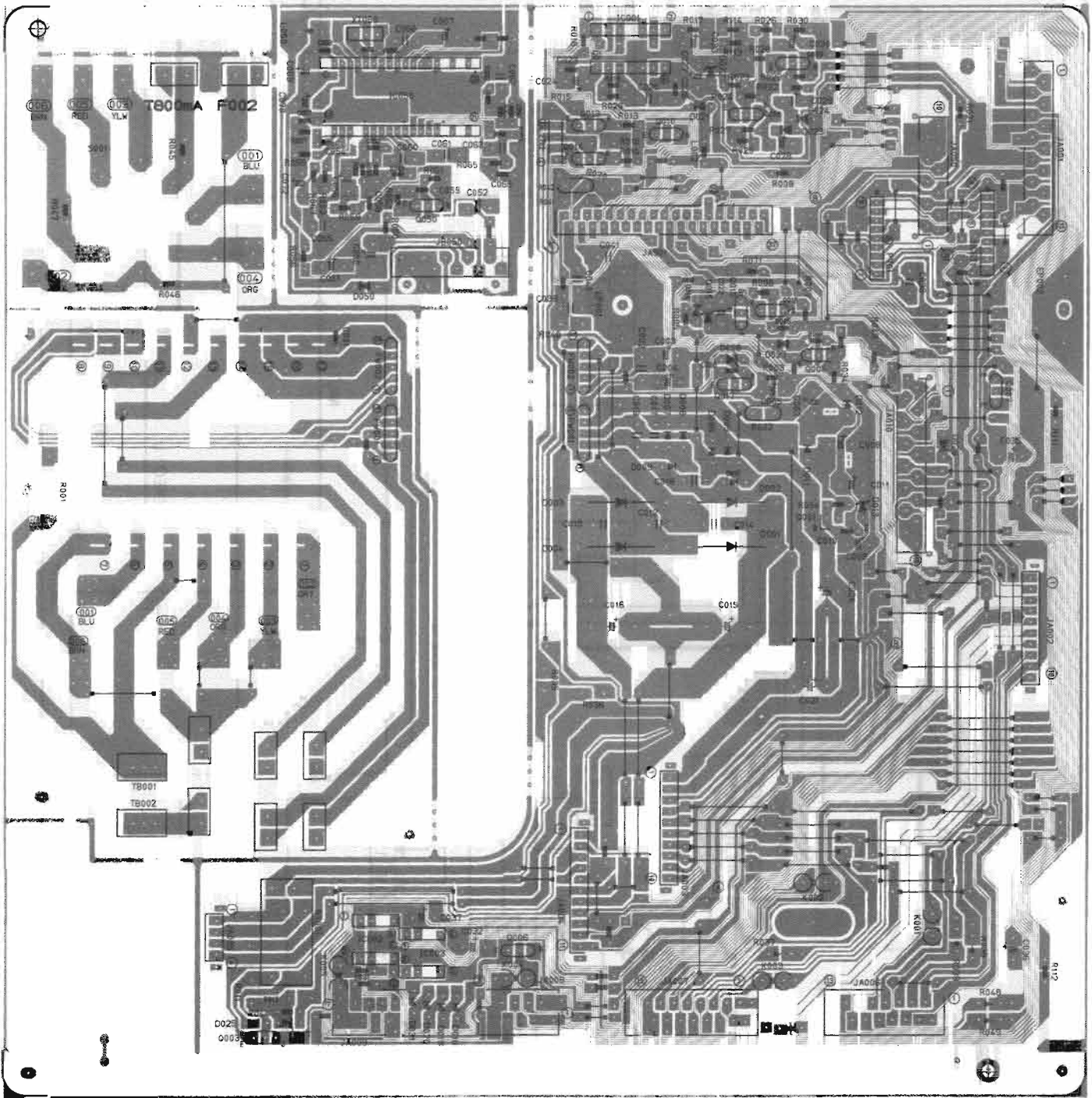


■ Tuner Section

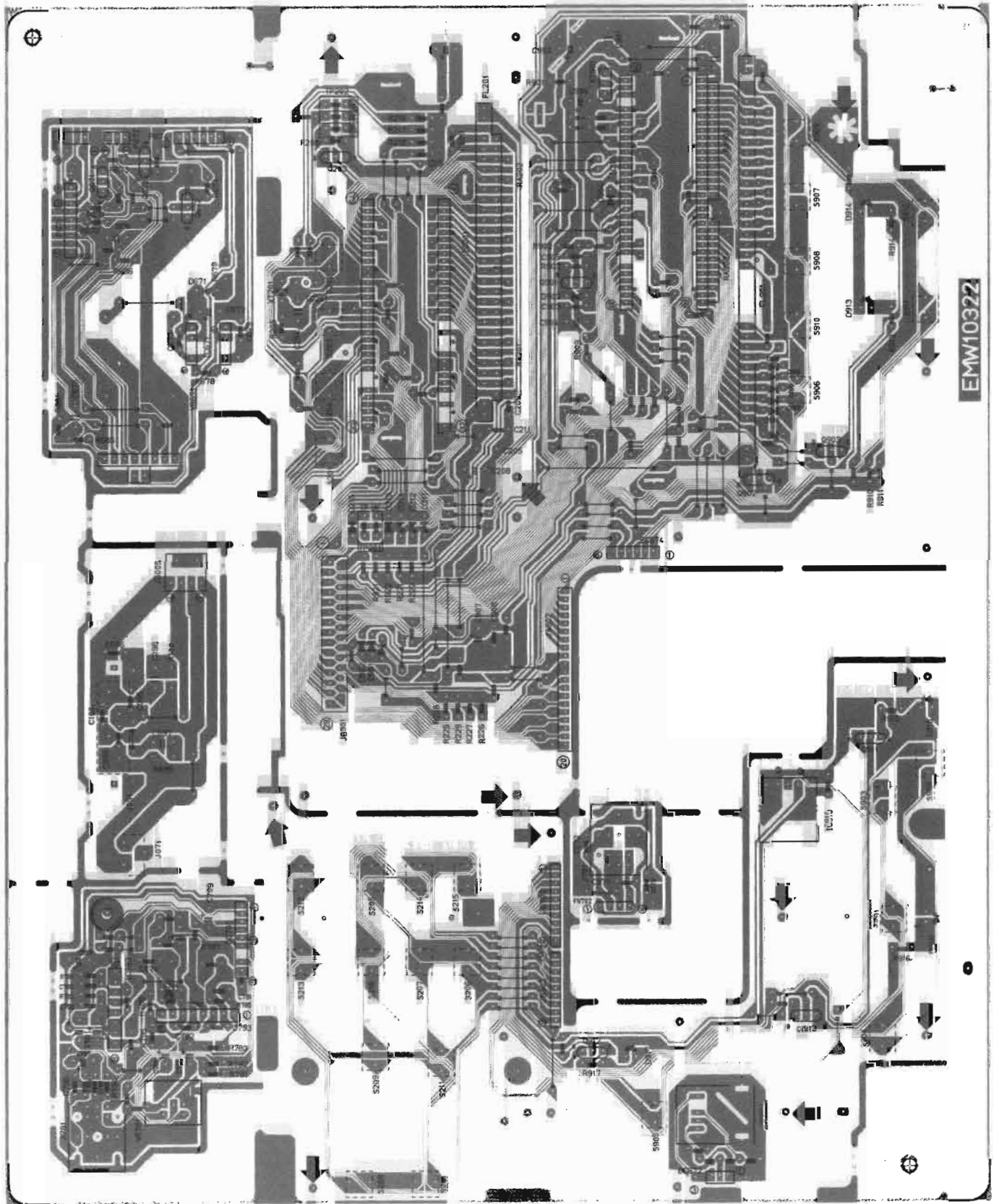


Printed Circuit Boards

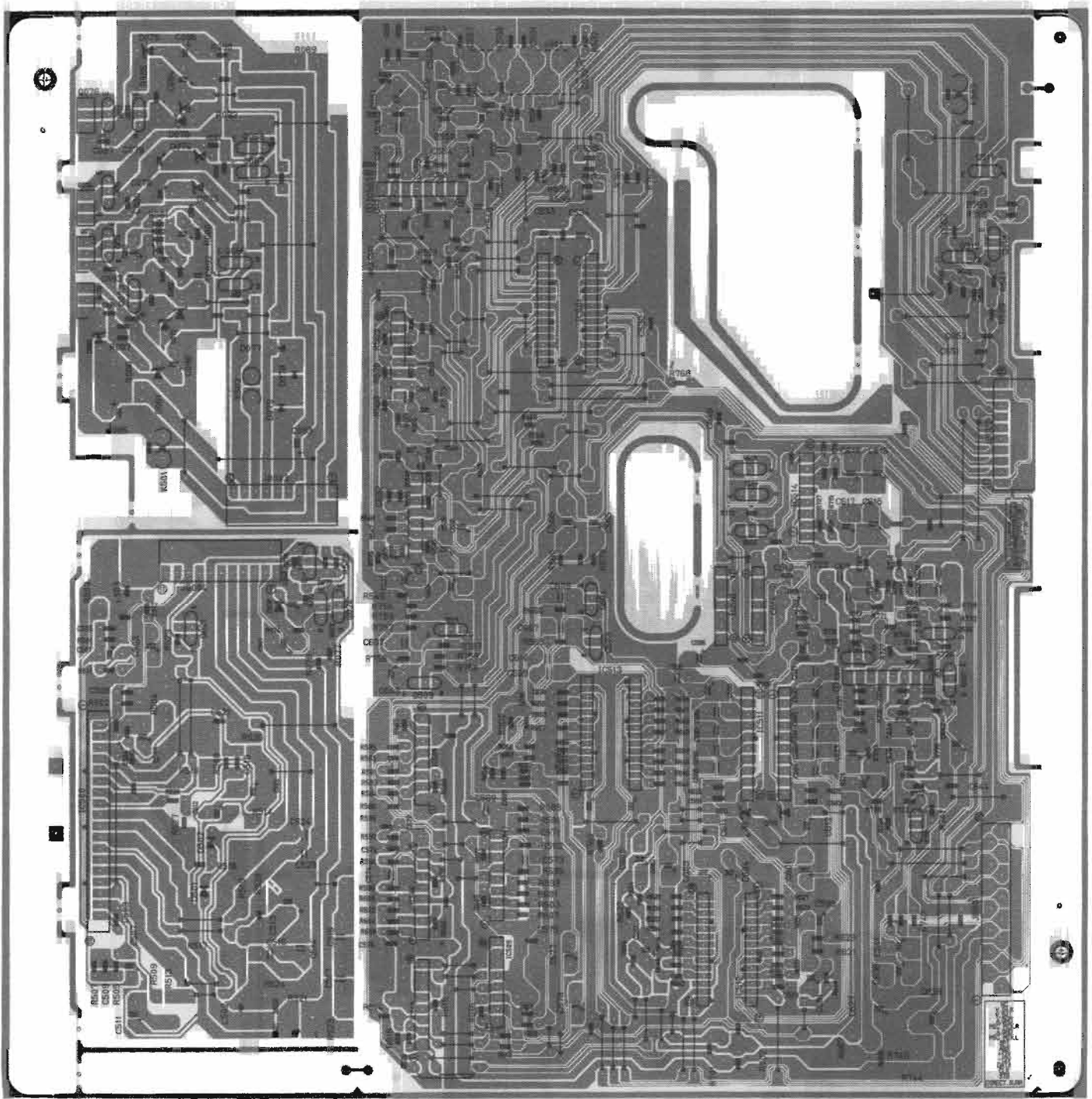
■ Main & Power Primary P.C.Board (ENH-223)
(USE FOR VER. E, G, GI, BS, VX ONLY)



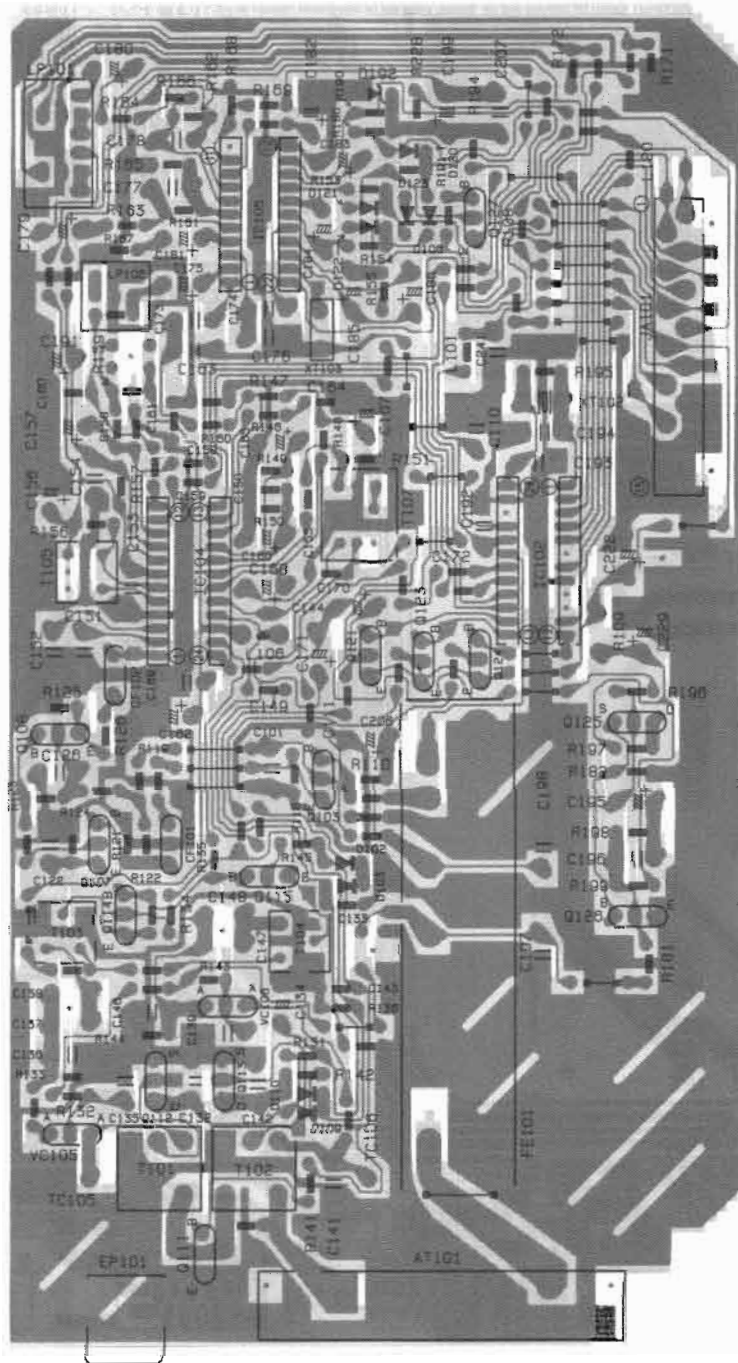
■ Display & Mic Mixing P.C.Board (ENB-167)



■ Selector, Amplifier & Regulator P.C.Board (ENC-114)

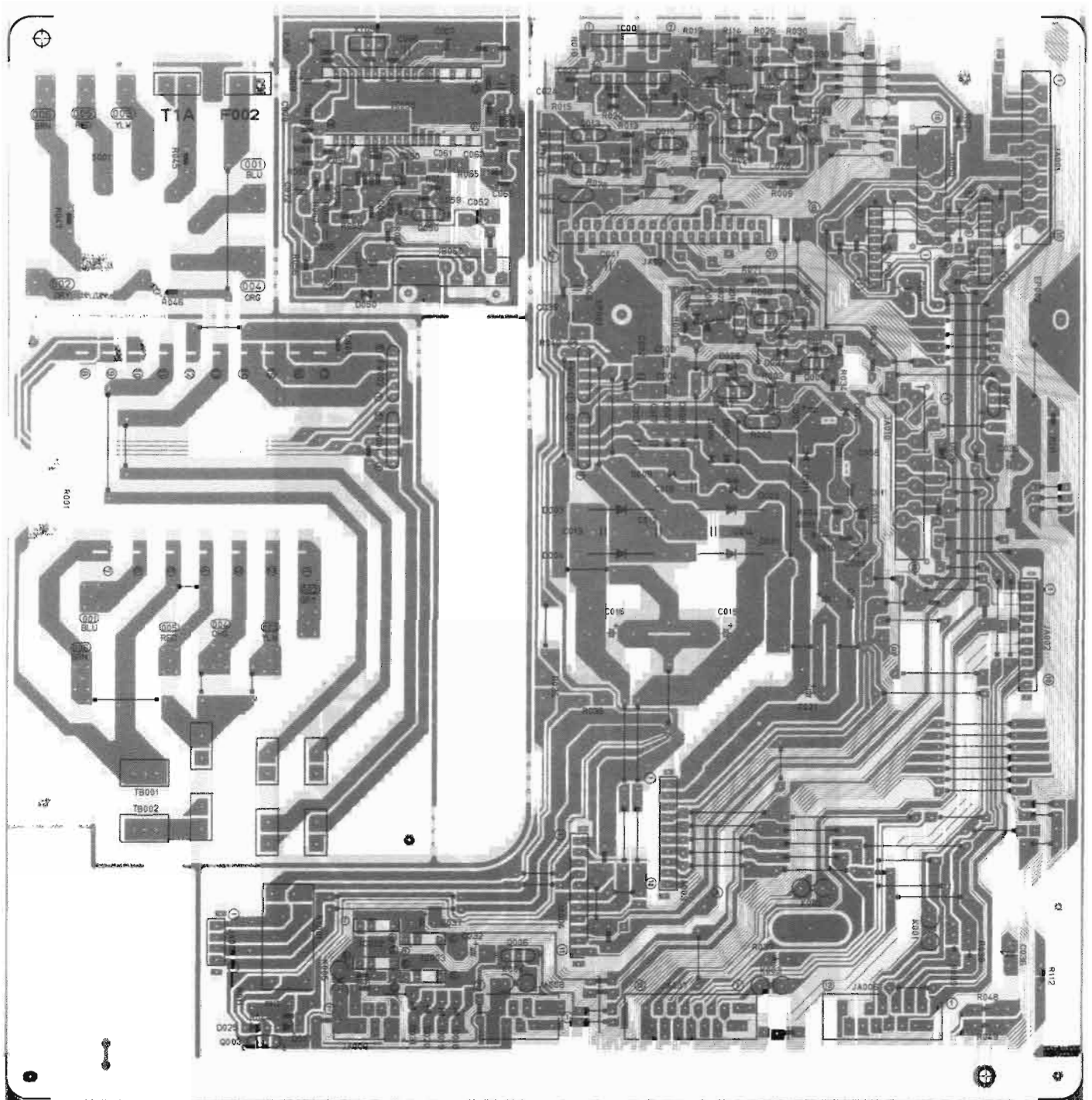


■ Tuner P.C.Board (ENA-136)



Printed Circuit Boards

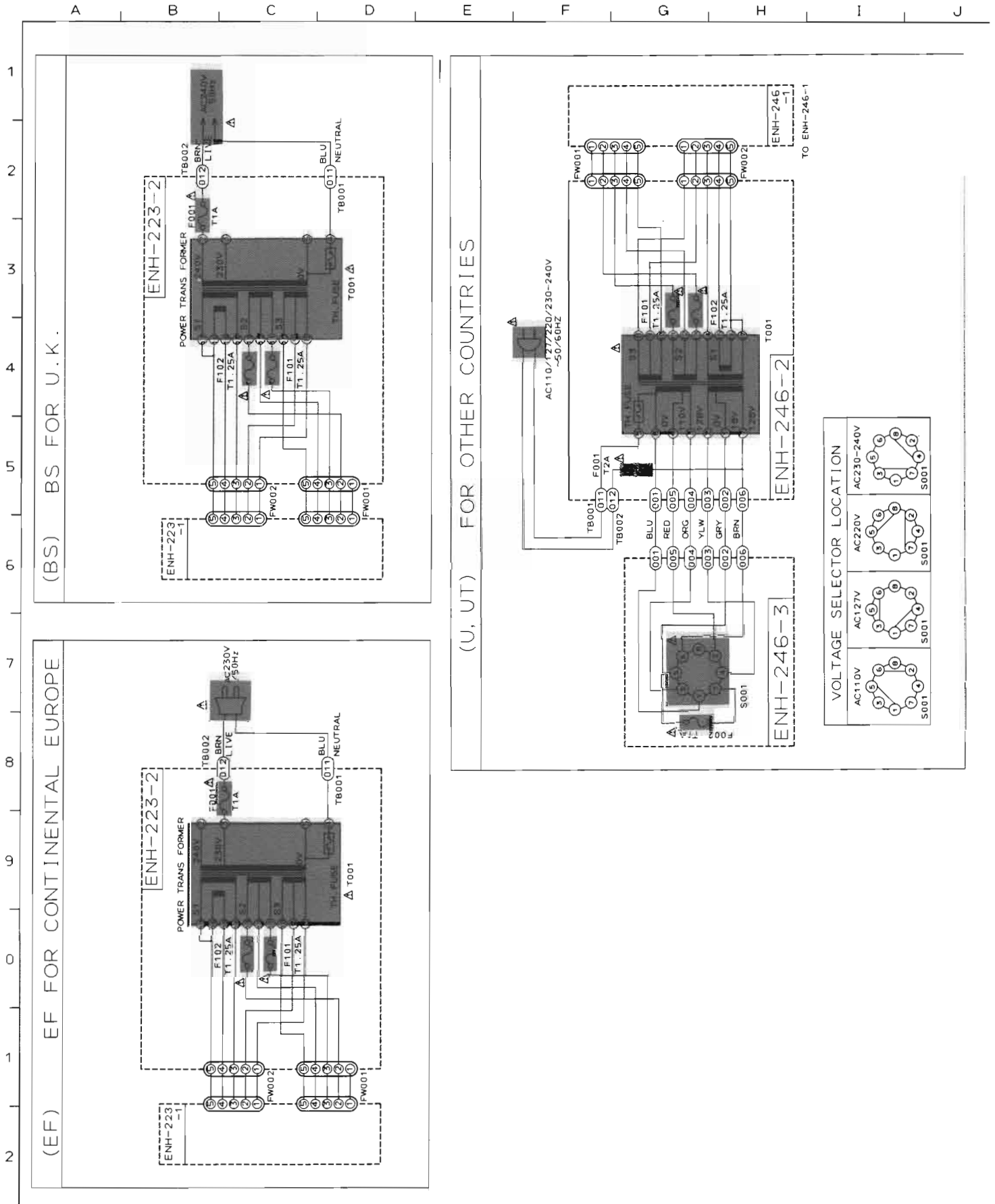
■ Main & Power Primary P.C.Board (ENH-246)
(USE FOR VER. U,UT ONLY)

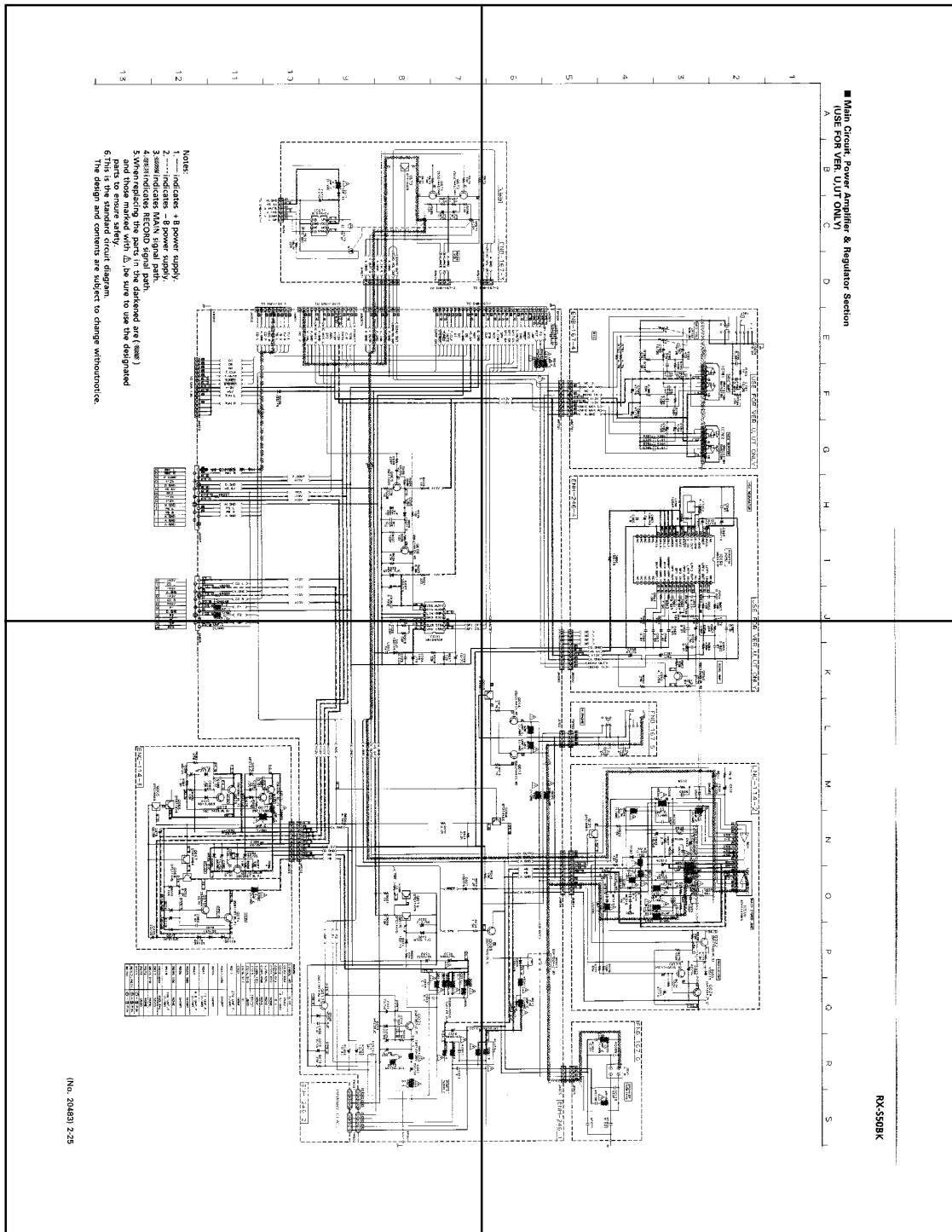


- MEMO -

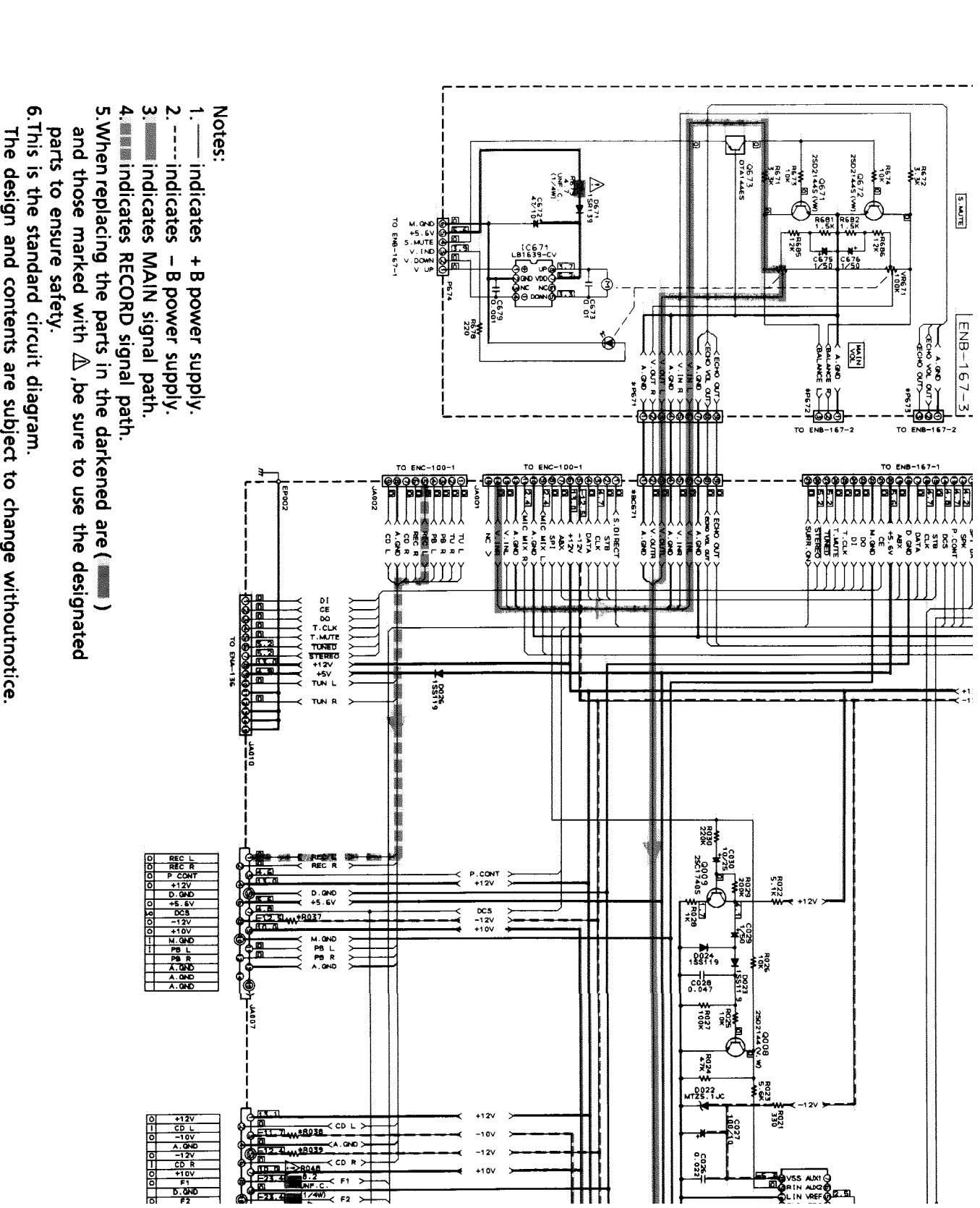
Schematic Diagrams

Power Primary Section



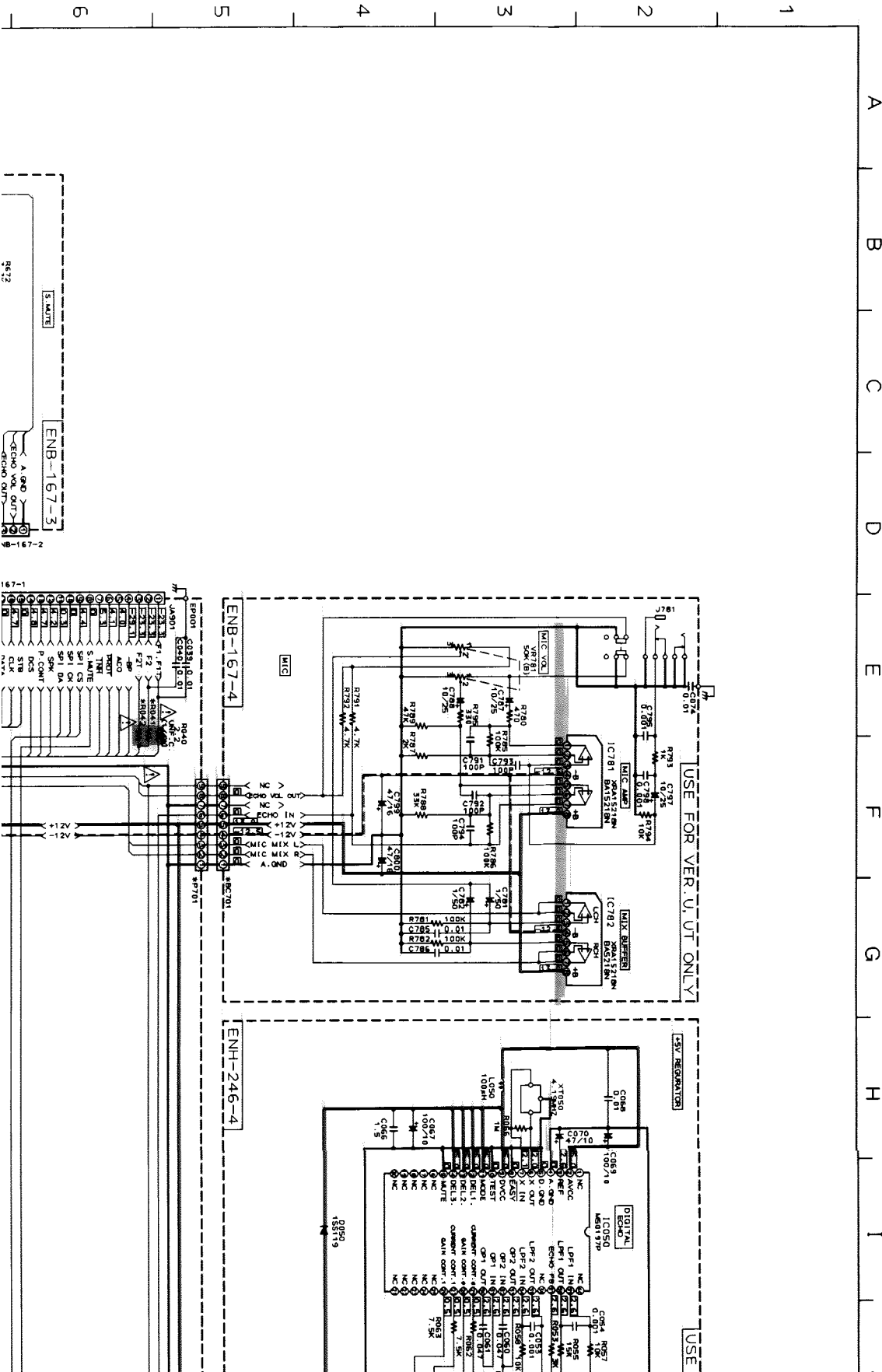


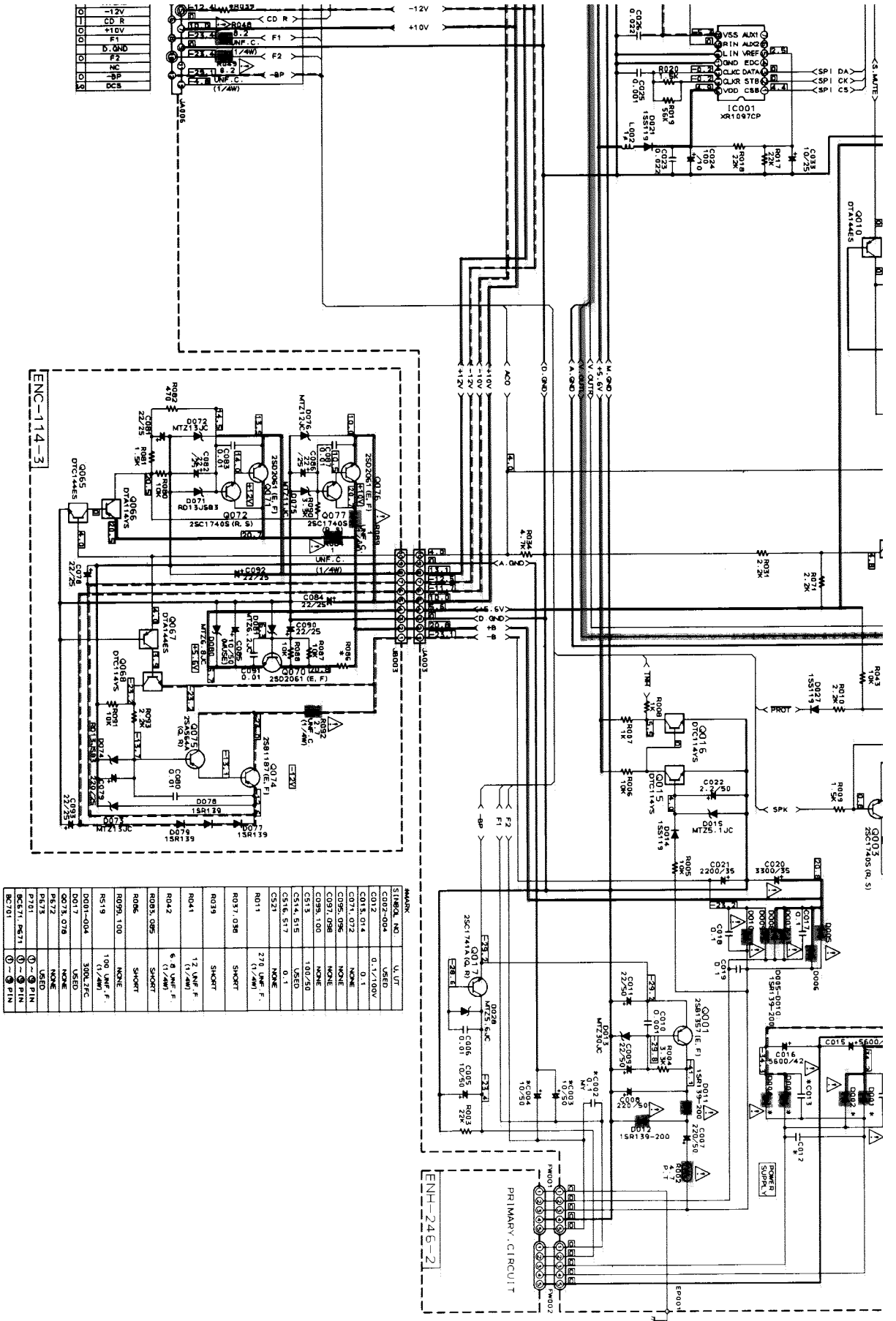
7
8
9
10
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13



- Notes:
1. — indicates + B power supply.
 2. - - - - indicates - B power supply.
 3. ■■■ indicates MAIN signal path.
 4. ■■■ indicates RECORD signal path.
 5. When replacing the parts in the darkened are (■■■■) and those marked with Δ , be sure to use the designated parts to ensure safety.
 6. This is the standard circuit diagram. The design and contents are subject to change without notice.

**■ Main Circuit, Power Amplifier & Regulator Section
(USE FOR VER. U, UT ONLY)**



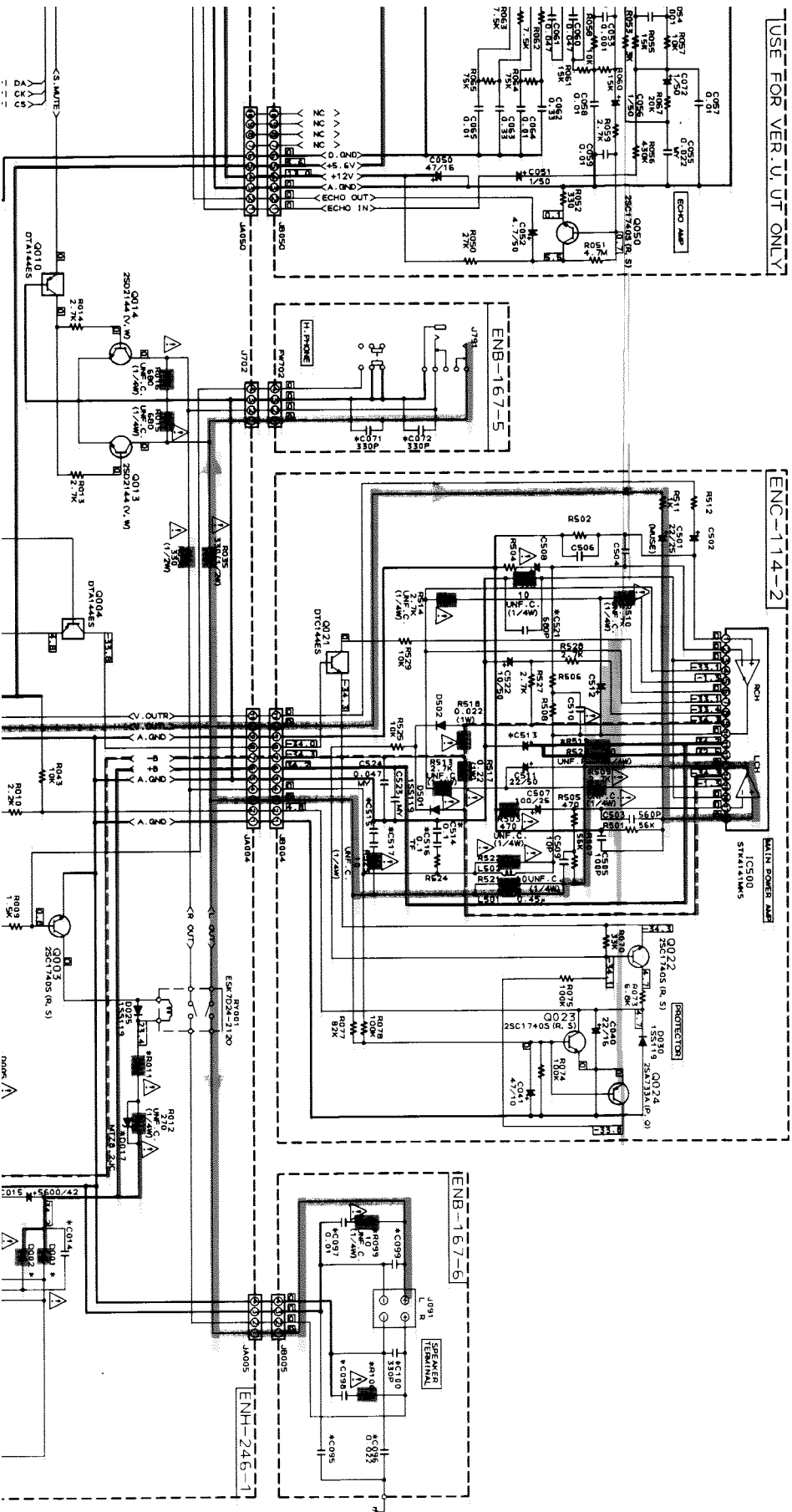


(No. 20483) 2-25

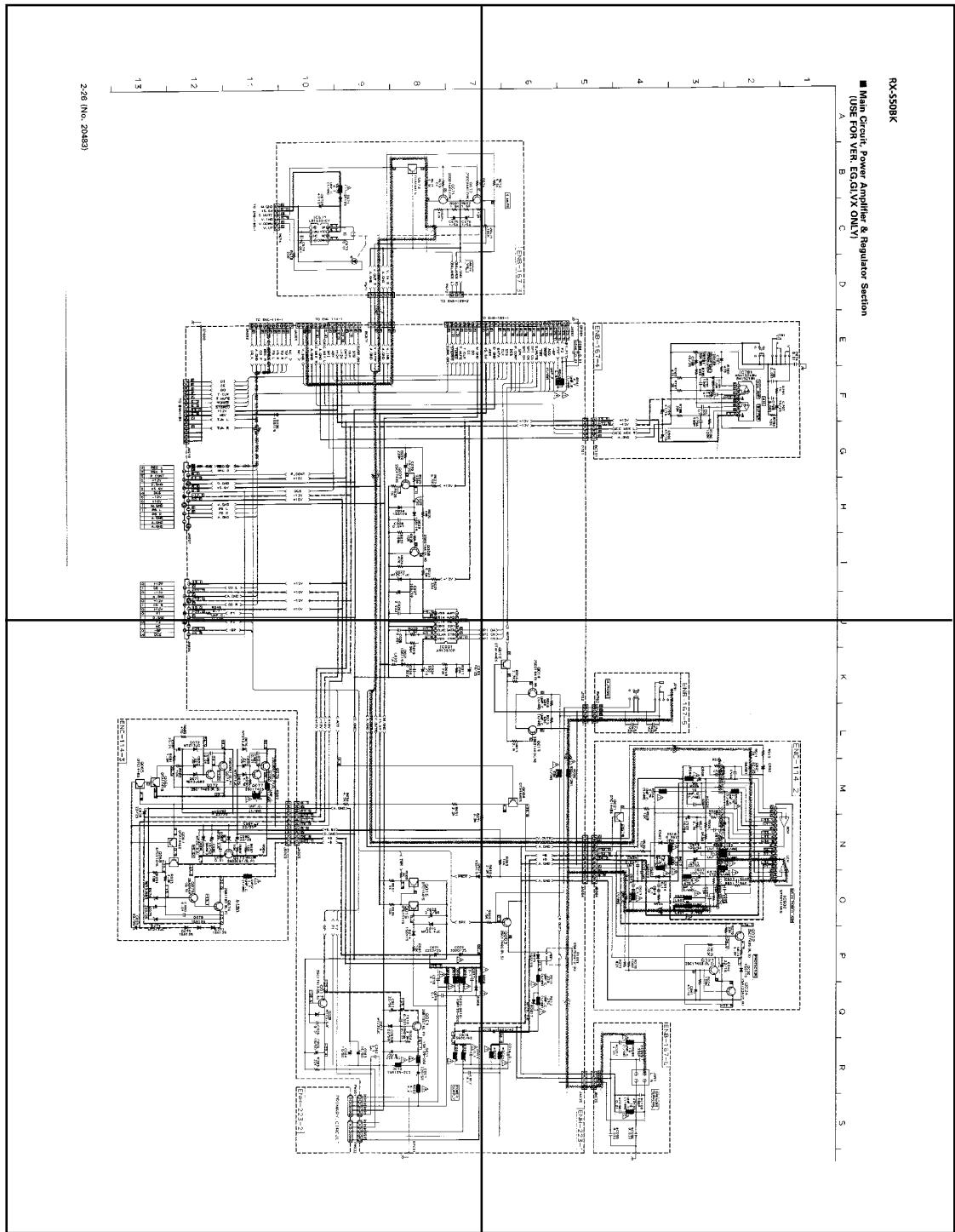
RX-S50BK

J K L M N O P Q R S

USE FOR VER. U, UT ONLY



P2-26-a



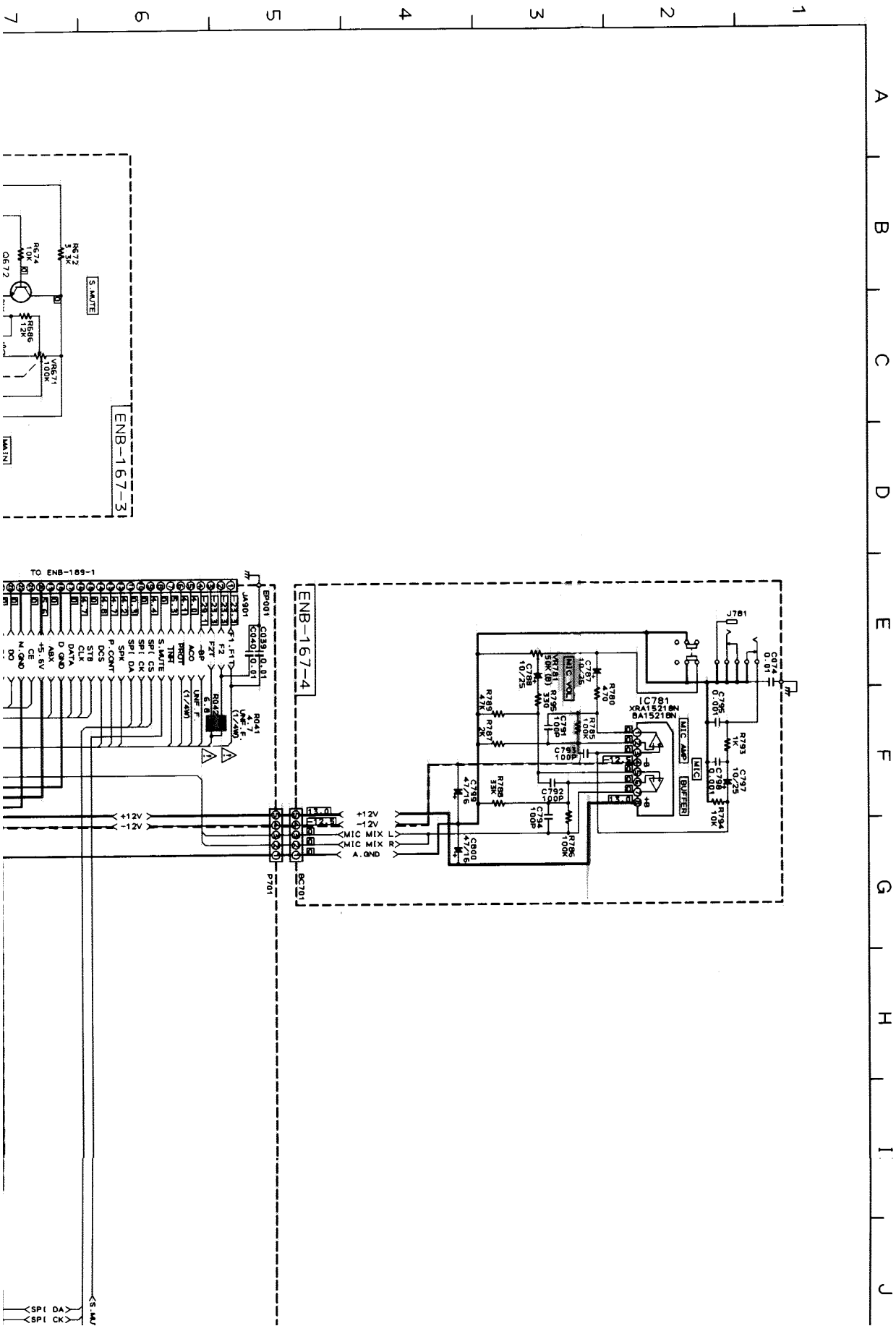
P2-26-b

P2-26-c

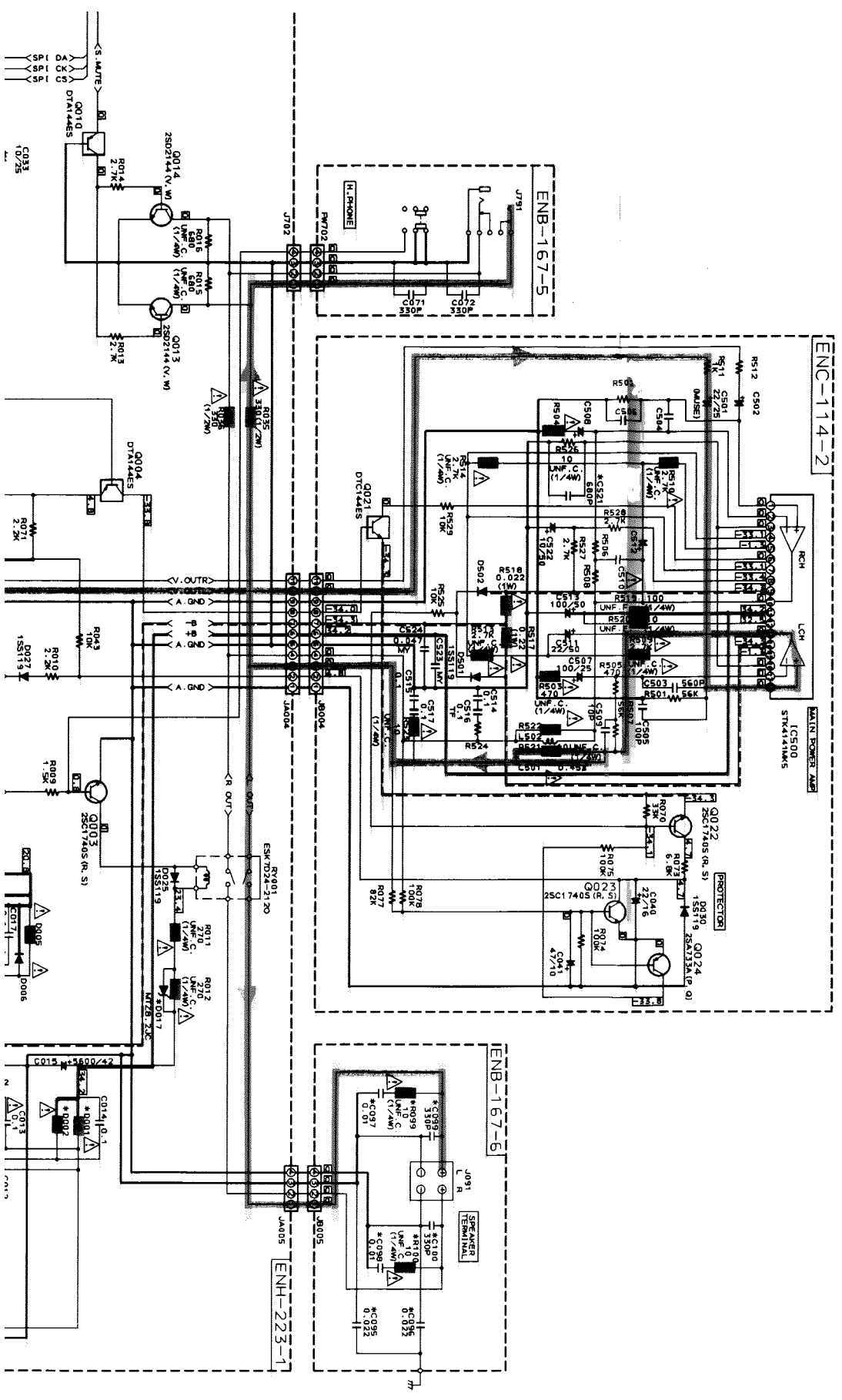
P2-26-d

RX-S50BK

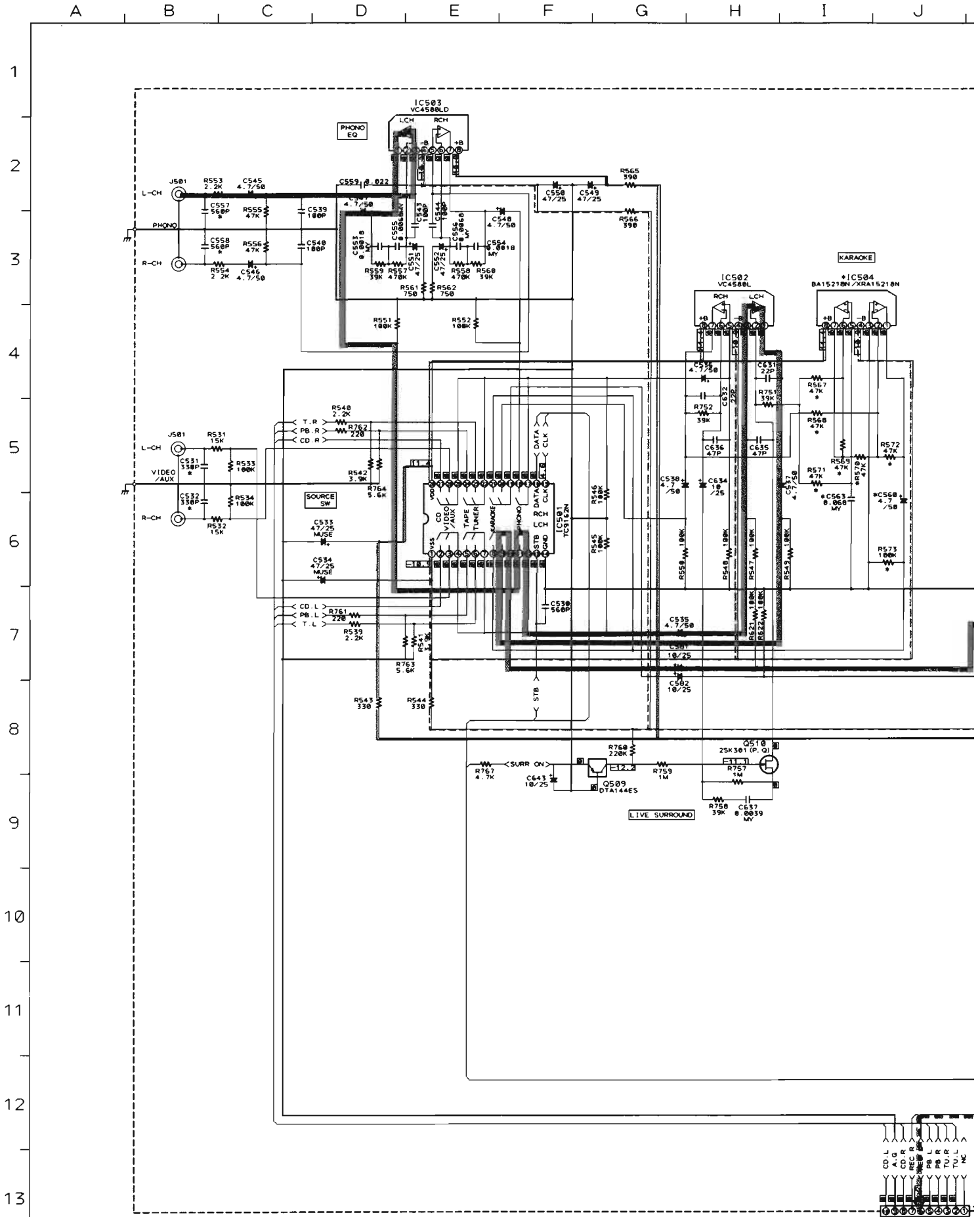
**■ Main Circuit, Power Amplifier & Regulator Section
(USE FOR VER. EG,GI,VX ONLY)**



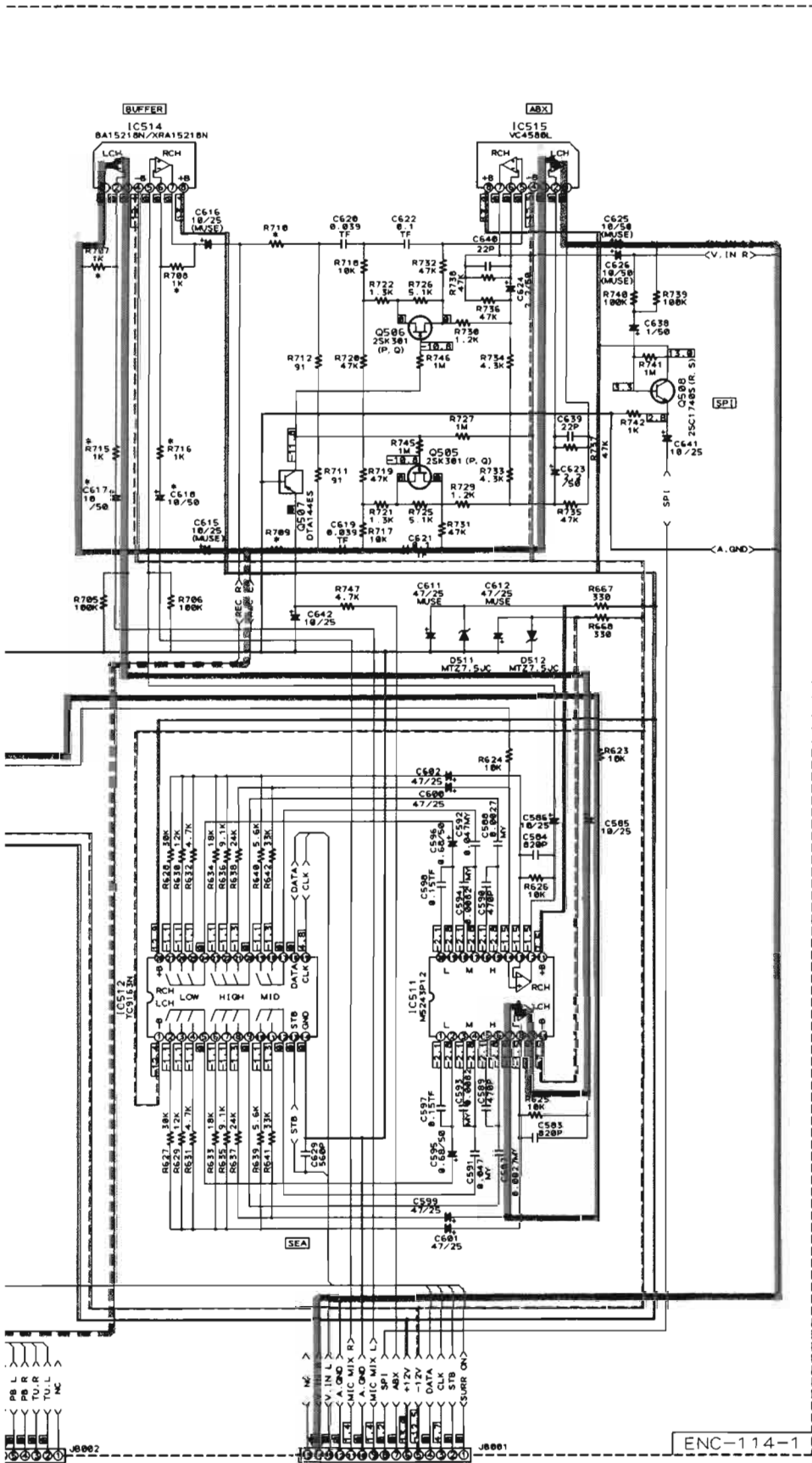
J K L M N O P Q R S



Source Selector & SEA Section



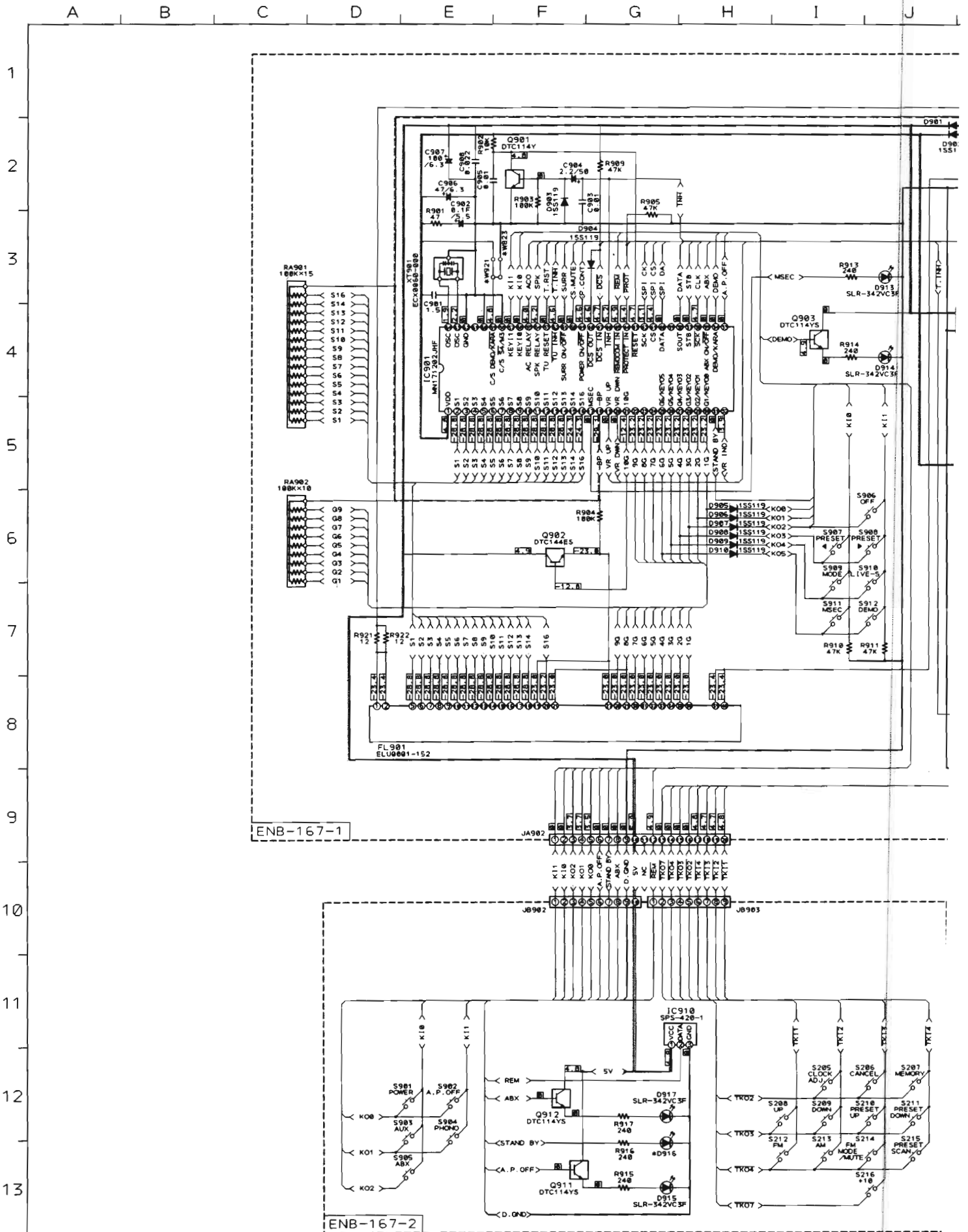
K L M N O P Q R S T



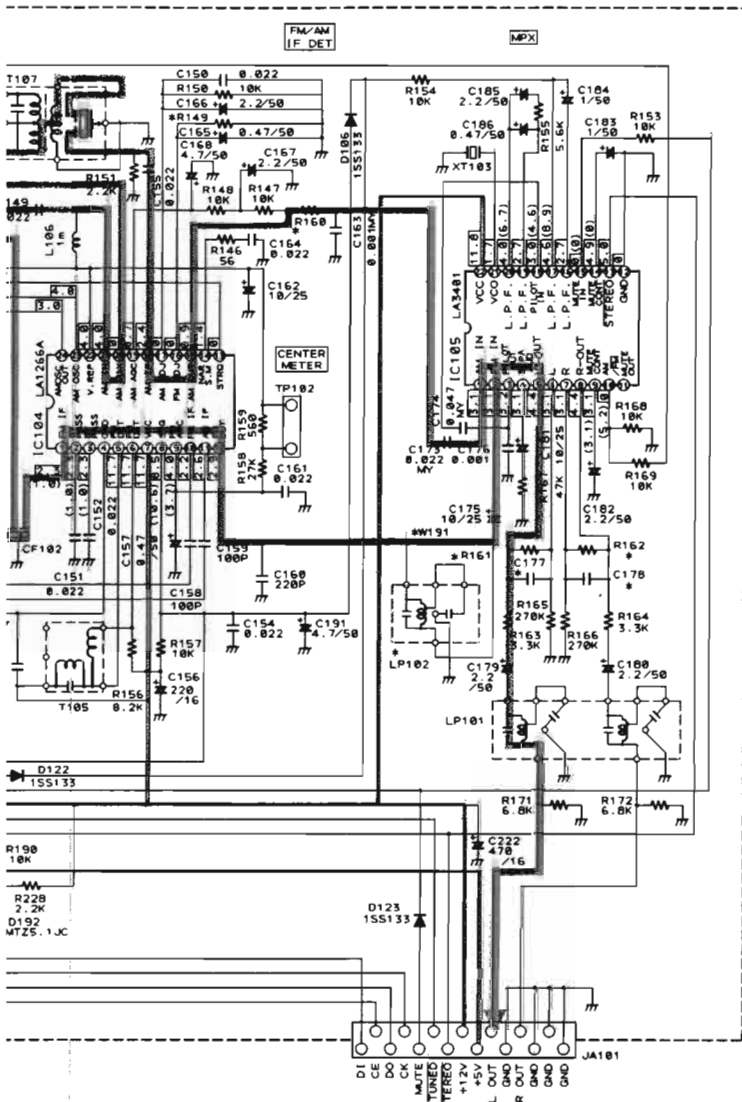
* MARK

SYMBOL NO	U. UT	EN EF. 05	G. GI
C531, 532	NONE	NONE	USED
C557, 558	NONE	NONE	USED
C559	NONE	NONE	USED
C560	USED	USED	USED
C563	USED	USED	USED
C617	USED	USED	USED
C618	USED	USED	USED
R567	USED	USED	USED
R568	USED	USED	USED
R569	USED	USED	USED
R570	USED	USED	USED
R571	USED	USED	USED
R572	USED	USED	USED
R573	USED	USED	USED
R707	USED	USED	USED
R708	USED	USED	USED
R709, 710	1.3K	1.3K	1.3K
R715	USED	USED	USED
R716	USED	USED	USED
IC584	USED	USED	USED

■ Display & Key Matrix Section



J K L M N O P Q R S T

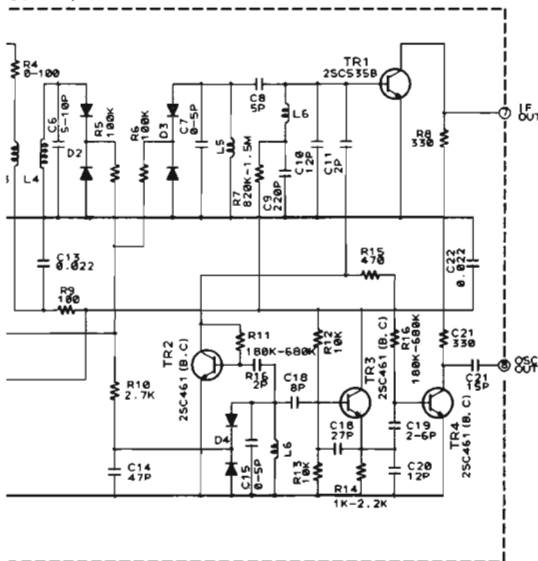


* MARK

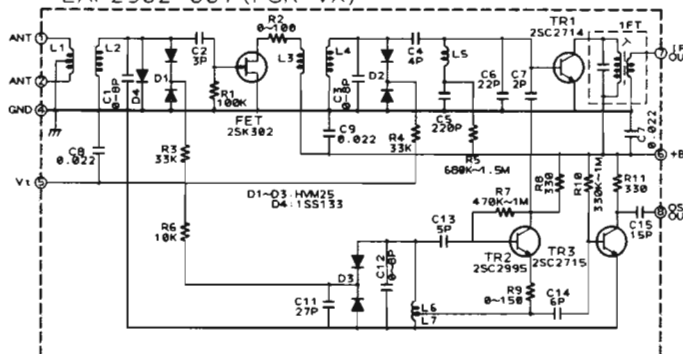
	EN, EF	G, GI	BS	VX
R168	10K	10K	1K	10K
R161, 162	100K	100K	60K	100K
C177, 178	560P	560P	820P	560P
FE101	EAF2203-001	EAF2203-003	EAF2203-001	EAF2302-001
LP102	NONE	USED	NONE	NONE
W191	USED	NONE	USED	USED
R149	22K	27K	22K	15K
R110	NONE	NONE	NONE	47K
C111	NONE	NONE	NONE	0.01
W151	USED	USED	USED	NONE
C107	NONE	47/50	NONE	NONE

□ FM AUTO NO SIGNAL
 () MW NO SIGNAL
 [] LW NO SIGNAL

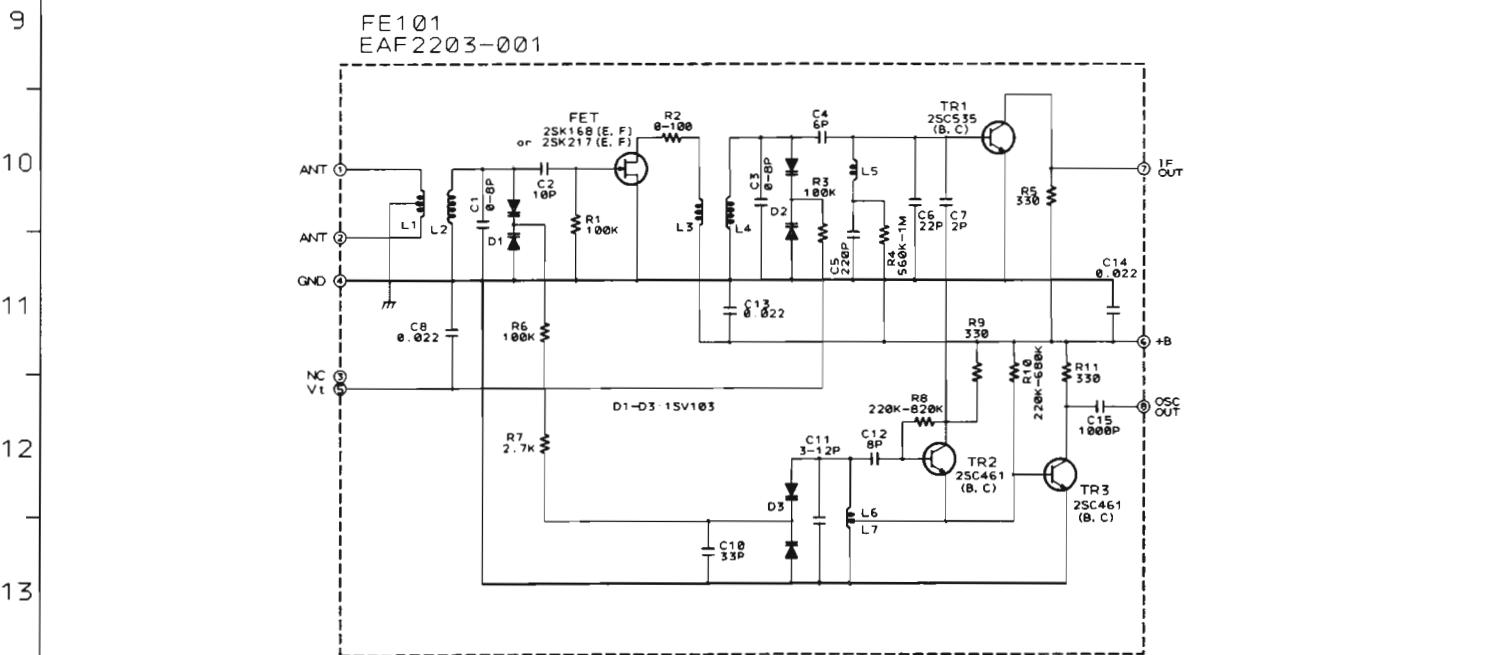
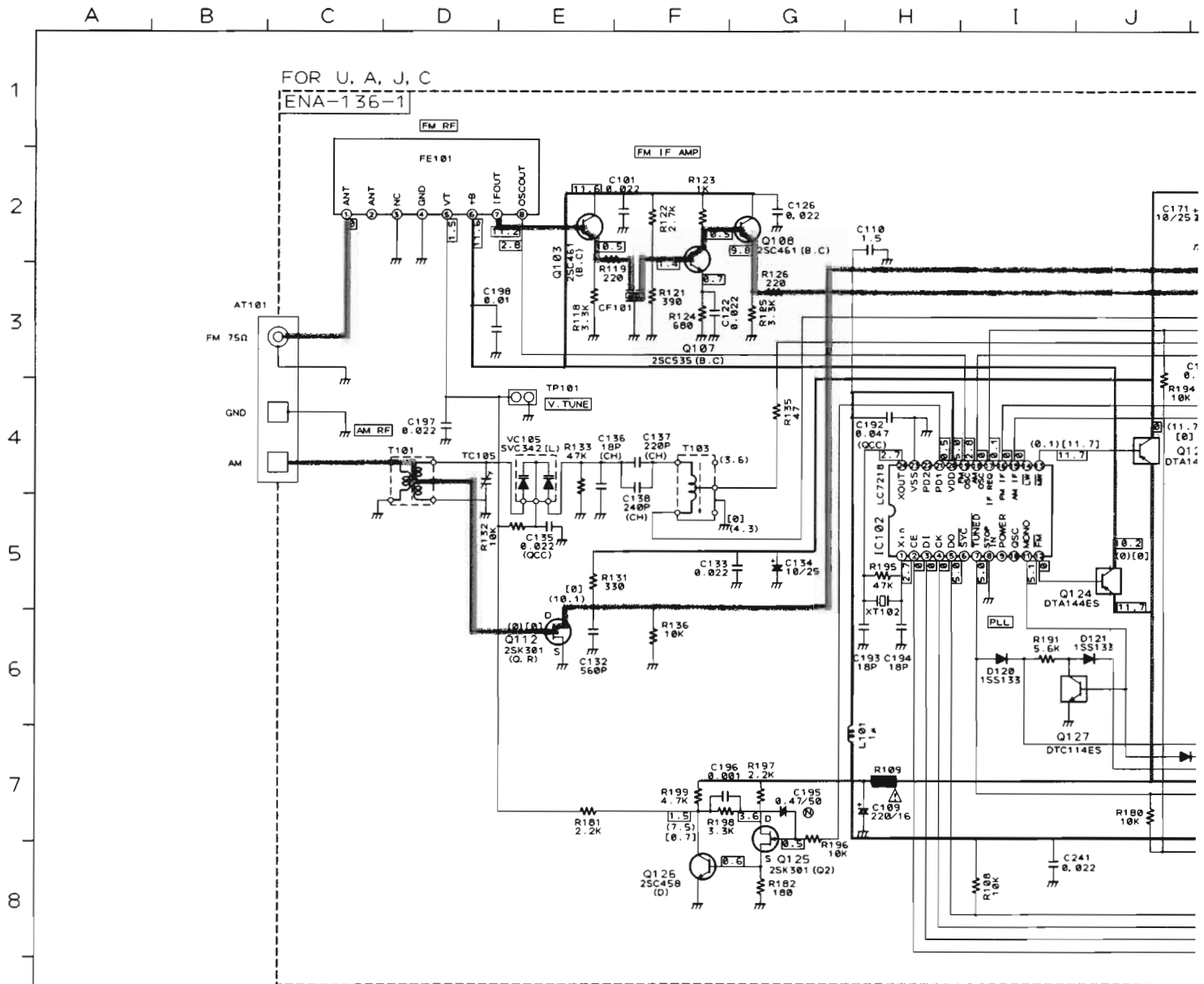
G, GI)

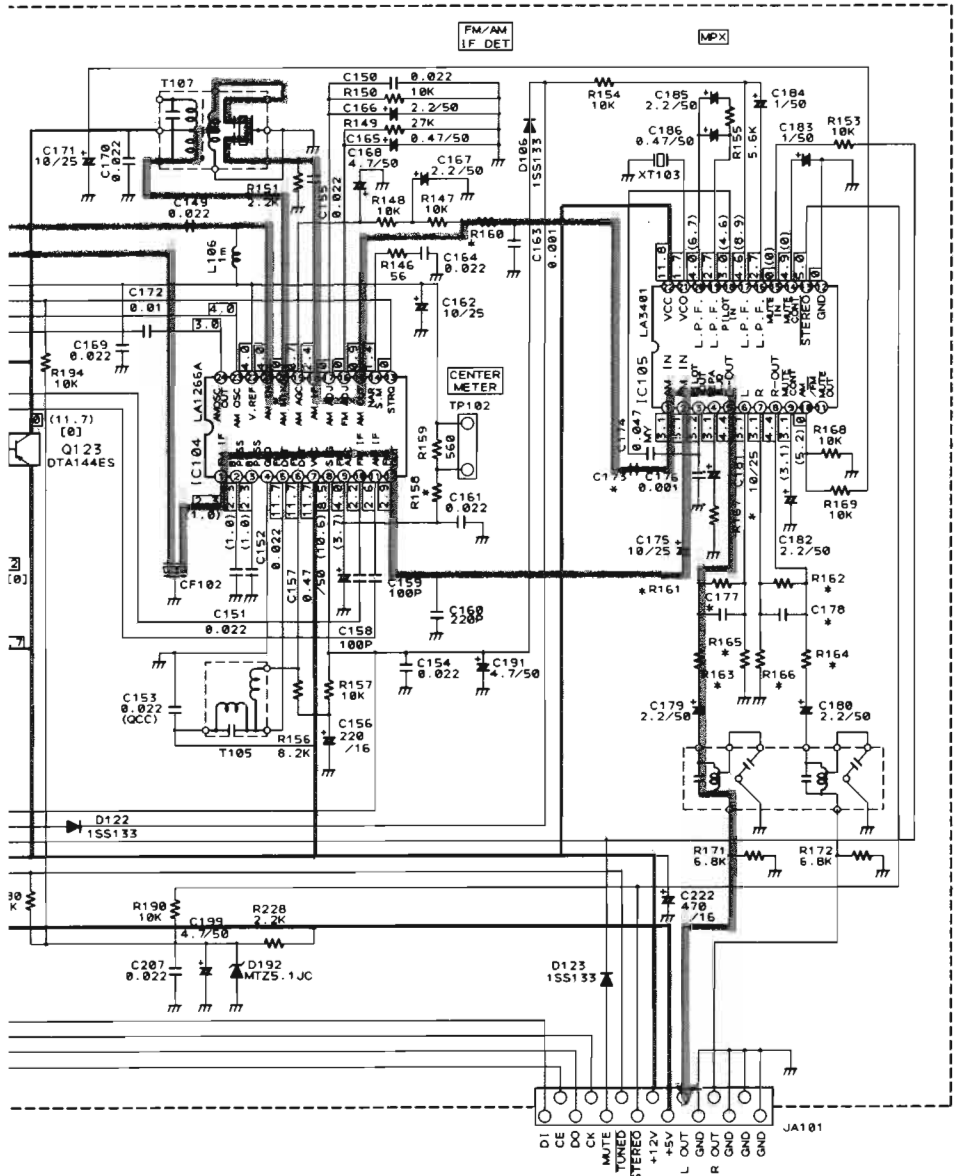


FE101
EAF2302-001 (FOR VX)



■ Tuner Section (Without LW)





* MARK

MARK	U
R109	68 UNF.F. (1/4W)
R167	39K
R160	5.6K
R161, 162	0.2K
R163, 164	4.7K
R165, 166	180K
C177, 178	820P
R158	27K
C173	0.039

□ FM AUTO NO SIGNAL
 () MW NO SIGNAL
 [] LW NO SIGNAL

XT-S50BK

– Contents –

Description of Major LSIs	3-2
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Description of Major LSIs

■ HD614081SD53 (IC491) : Deck System Controller

1. Terminal Layout

NR LED	1	HD614081SD53	64	A FWD LED
NR LED(C)	2		63	A REW LED
A.SPEED UP	3		62	B FWD LED
B.SPEED UP	4		61	B REV LED
MUSIC IN	5		60	REC LED
B FWD REEL MOTOR	6		59	REV. MODE
B REV REEL MOTOR	7		58	BIAS
B REV CAM MOTOR	8		57	NR OFF
B FWD CAM MOTOR	9		56	REC MUTE
A CAM SW 2	10		55	DCS IN
A CAM SW 1	11		54	DCS OUT
A CAM SW 0	12		53	GND
A PULSE IN	13		52	4.19MHz OSC IN
B CAM SW 2	14		51	4.19MHz OSC IN
B CAM SW 1	15		50	To VCC
B CAM SW 0	16		49	RESET IN
B PULSE IN	17		48	KEY&SW IN4
POWER OFF IN	18		47	KEY&SW IN3
GND	19		46	KEY&SW IN2
A FWD REEL MOTOR	20		45	KEY&SW IN1
A REV REEL MOTOR	21		44	KEY OUT 4
A REV CAM MOTOR	22		43	KEY OUT 3
A FWD CAM MOTOR	23		42	KEY OUT 2
NR REC	24		41	KEY OUT 1
A MUTE	25		40	SW OUT 2
B MUTE	26		39	SW OUT 1
PLAY MUTE	27		38	HI-SPEED DUB BING
CAP MOTOR ON	28		37	H.S CrO2
REC	29		36	H.S METAL
FADE CTRL	30		35	H.S NORM
BEQ	31		34	CrO2
+5V	32		33	METAL

2. Table of key matrix

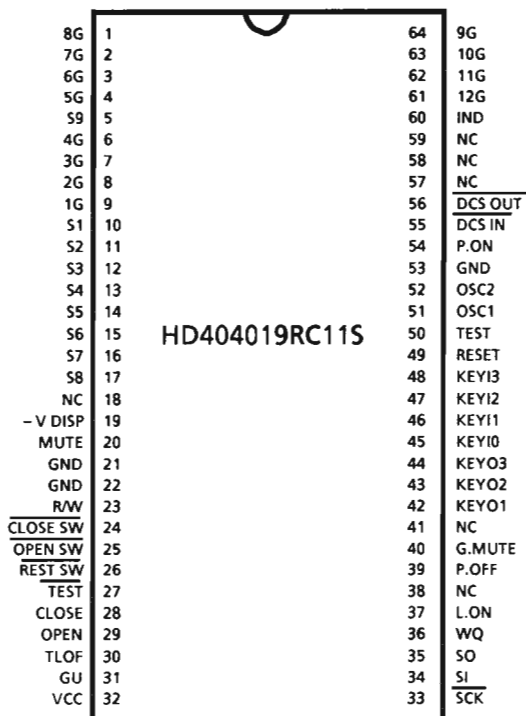
	KEY IN 1 (PIN45)	KEY IN 2 (PIN46)	KEY IN 3 (PIN47)	KEY IN 4 (PIN48)
KEY OUT 1 (PIN41)	A ◀ (S300)	A ◀◀ (S301)	A ▶▶ (S302)	A ▶ (S303)
KEY OUT 2 (PIN42)	B ◀ (S310)	B ◀◀ (S311)	B ▶▶ (S312)	B ▶ (S313)
KEY OUT 3 (PIN43)	A ■ (S320)	B ■ (S321)	B REC PAUSE (S322)	
KEY OUT 4 (PIN44)	A ▶▶ B (S330)	DOLBY (S331)	REV. MODE (S332)	CD. REC (S333)

3. Pin Functions

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	NR LED	O	DOLBY B indicator signal output	33	METAL	O	METAL Recording Equalizer control
2	NR LED (C)	O	DOLBY C indicator signal output	34	CrO2	O	CrO2 Recording Equalizer control
3	A SPEED UP	O	A deck Reel motor speed control output	35	H.S NORM	O	Hign speed Normal Recording Equalizer control
4	B SPEED UP	O	B deck Reel motor speed control output	36	H.S METAL	O	Hign speed METAL Recording Equalizer control
5	MUSIC IN	I	Music scan signal input	37	H.S CrO2	O	Hign speed CrO2 Recording Equalizer control
6	B FWD REEL MOTOR	O	FWD direction control for B reel motor	38	HI SPEED DUB BING	O	Recording Equalizer control
7	B REV REEL MOTOR	O	REV direction control for B reel motor	39	SW OUT1	O	Leaf switch output
8	B REV CAM MOTOR	O	REV direction control for B cam motor	40	SW OUT2	O	Leaf switch output
9	B FWD CAM MOTOR	O	FWD direction control for B cam motor	41	KEY OUT 1	O	Key matrix output
10	A CAM SW2	I	A CAM SW Input	42	KEY OUT 2	O	Key matrix output
11	A CAM SW1	I	A CAM SW input	43	KEY OUT 3	O	Key matrix output
12	A CAM SW0	I	A CAM SW Input	44	KEY OUT 4	O	Key matrix output
13	A PULSE IN	I	A deck reel pulse input	45	KEY&SW IN1	I	Key matrix and Leaf switch input
14	B CAM SW2	I	B CAM SW input	46	KEY&SW IN2	I	Key matrix and Leaf switch input
15	B CAM SW1	I	B CAM SW input	47	KEY&SW IN3	I	Key matrix and Leaf switch input
16	B CAM SW0	I	B CAM SW input	48	KEY&SW IN4	I	Key matrix and Leaf switch input
17	B PULSE IN	I	B deck reel pulse input	49	RESET IN	I	Reset signal input
18	POWER OFF IN	I	Power ON / OFF signal Input	50	TO VCC	-	Connect to VCC
19	GND	-	Ground	51	OSC IN	I	Clock oscilator input
20	A FWD REEL MOTOR	O	FWD direction control for A reel motor	52	OSC IN	I	Clock oscilator Input
21	A REV REEL MOTOR	O	REV direction control for A reel motor	53	GND	-	Ground
22	A REV CAM MOTOR	O	REV direction control for A cam motor	54	DCS OUT	O	DCS signal output
23	A FWD CAM MOTOR	O	FWD direction control for A cam motor	55	DCS IN	I	DCS signal input
24	NR REC	O	NR Rec control signal output to IC351	56	REC MUTE	O	Recording mute control signal output
25	A MUTE	O	A Deck play back mute signal output	57	NR OFF	O	NR ON/OFF control signal output to IC351
26	B MUTE	O	B Deck play back mute signal output	58	BIAS	O	BIAS control signal output
27	PLAY MUTE	O	Play back mute signal output	59	REV MODE	O	REV Mode indicator signal output
28	CAPSTAN ON	O	Capstan motor ON/OFF control	60	REC LED	O	Recording indicator signal output
29	REC	O	PB / REC control signal output to IC331	61	B REV LED	O	B REV indicator signal output
30	FADE CTRL	O	Fade control signal output	62	B FWD LED	O	B FWD Indicator signal output
31	BEQ	O	Equalizer switching signal	63	A REW LED	O	A REW Indicator signal output
32	+5V	-	Power supply	64	A FWD LED	O	A FWD Indicator signal output

■ HD404019RC115 (IC951) : CD System Controller

1. Terminal Layout



2. Key matrix

	KEY IN 0 (PIN45)	KEY IN 1 (PIN46)	KEY IN 2 (PIN47)	KEY IN 3 (PIN48)
KEY OUT 1 (PIN42)	—	PROGRAM (S981)	—	▶/ (S982)
KEY OUT 2 (PIN43)	⏮ (S983)	REPEAT (S984)	RANDOM (S985)	▲ (S986)
KEY OUT 3 (PIN44)	■/CLEAR (S987)	SIDE A/B (S988)	EDIT (S989)	⏭ (S990)

3. Pin Functions

Pin No.	Symbol	I/O	Functions and Operations	Pin No.	Symbol	I/O	Functions and Operations
1~4	8G~5G	O	FL grid control output	34	(D IN) SI	I	Serial data input from IC841
5	S9	O	FL segment control output	35	(D OUT) SO	O	Serial data output for IC841
6~9	4G~1G	O	FL grid control output	36	WQ	I	Write request signal input
10~17	S1~S8	O	FL segment control output	37	L.ON	O	Laser on signal output
18	NC	--	Non connection	38,40 41	NC	--	Not used
19	-V DISP	I	FL Power supply	39	P.OFF	O	LSI power off signal output
20~22	NC	--	Not used	42~44	KEY OUT0 ~ KEY OUT3	O	Key matrix output
23	R/W	O	Read / Write signal output	45~48	KEY IN0 ~ KEY IN3	I	Key matrix input
24	CLOSE SW	I	Close switch : active low	49	RESET	I	Reset signal input
25	OPEN SW	I	Open switch : active low	50	TEST	I	Test mode input : connected to +5V
26	RESET SW	I	Reset switch : active low at the inmost position of pickup	51	OSC 1	I	Clock Oscillation input
27	TEST	I	Test mode input	52	OSC 2	O	Clock Oscillation output
28	CLOSE	O	Close signal output	53	GND	--	Ground
29	OPEN	O	Open signal output	54	P.ON	I	Power on signal input
30	TLOF	O	Tracking servo off signal output	55	DCS IN	I	Compu-link signal input
31	GU	O	Tracking gain up signal output	56	DCS OUT	O	Compu-link signal output
32	VCC	--	+ 5V	57~59	NC	--	Non connection
33	SCK	O	Clock output for IC841	60	IND	O	Auto power off indicator signal
				61~64	11G~9G	O	FL grid control output

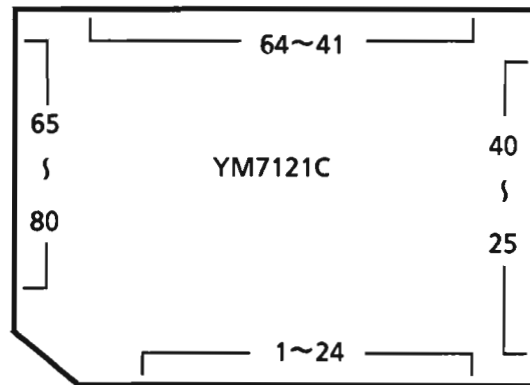
■ YM7121C (IC841) : Signal Processing and Servo Control

1. Outline

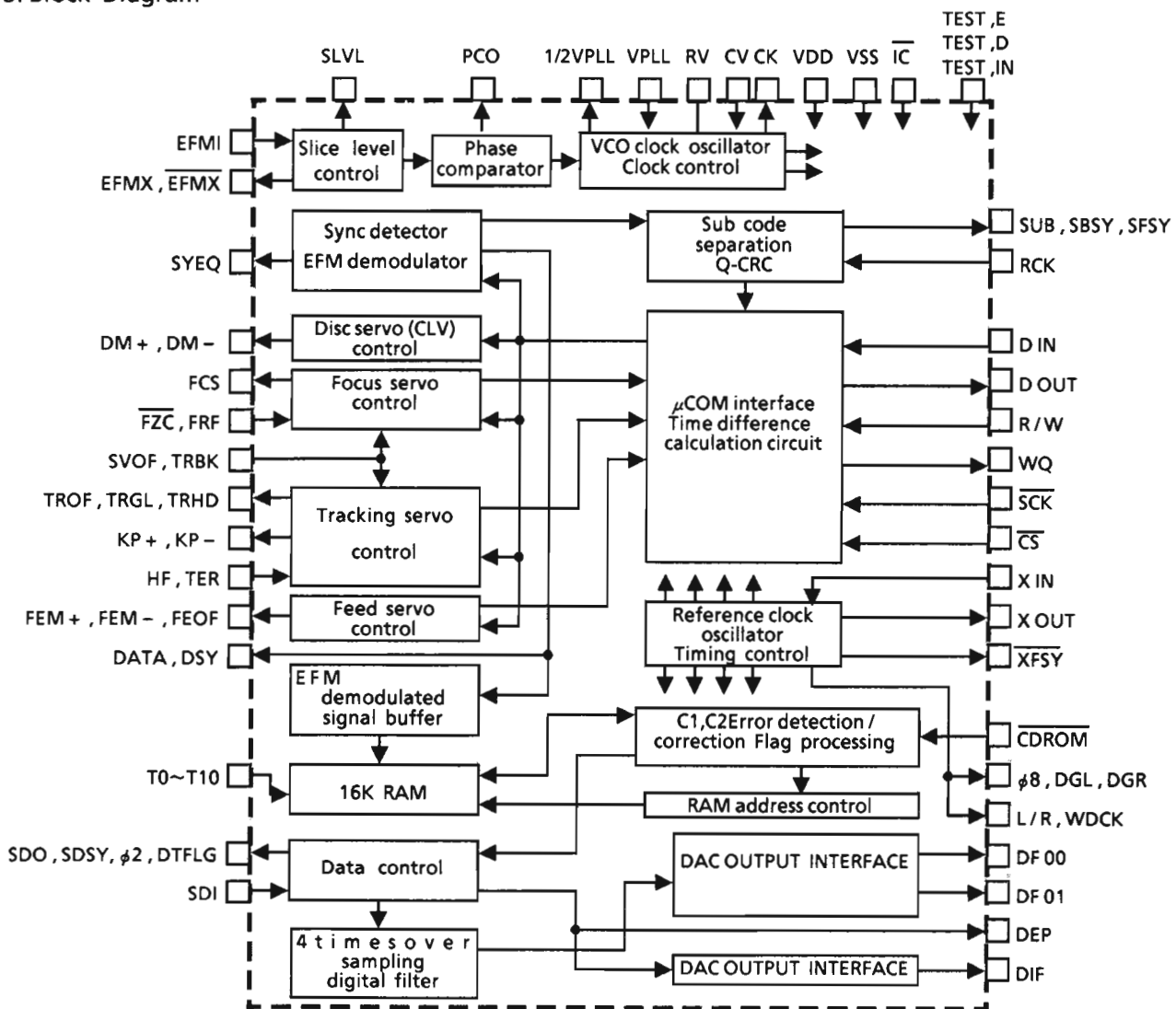
YM7121 is a C-MOS LSI for signal processing and servo control (SVC) in a CD player. It is used for the demodulation of the EFM signal from the laser pick up , detection / correction of the error signal , signal processing in digital filtering , etc. and for various servo controls (focusing , disc , tracking and feed servos).

And it contains digital interface which output the audio digital signals in S-RAM and CD-player. This digital interface matches EIAJ standards.

2. Top View



3. Block Diagram



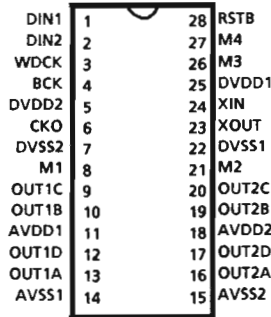
4. Pin Functions

Pin No.	Symbol	I/O	Function and Operation
1	CV	I	Adequate time constant is added to this terminal and input the PCO output. This makes the structure of clock reproduce circuit by inner VCO circuit.
2	RV	-	RV terminal is standard voltage terminal of inner VCO. And capacity for stabilizing is added to this terminal.
3 32 72	VDD	-	These are +5V power supply terminals.
4 5 70	TEST. IN TEST. E TEST. D	I I I	These terminals are for test.
6	SYEQ	O	This is the check output terminal, it becomes high when flame synchronizing signal detected from EFM pattern coincides frame synchronizing signal from internal counter.
7 8	DSY DATA	O O	Not used.
9	CK	O	CK has 4.3218 MHz clock.
10~19	T0~T9	I	This terminal is internal RAM test terminal, and connected GND.
22	DEP	O	De-emphasis is necessary when this terminal is high.
23	DIF	O	DIF is digital audio interface format output matched EIAJ standards.
24	SDO	O	SDO is a serial signal output of $\phi 2$ bit rate. (The MSB puts in at first.)
25	SDI	I	SDI is the input terminal of 4 times over sampling digital filter. It is usually connected with SDO.
26	SDSY	O	This terminal changes the Lch/Rch by LSB of the SDO.
27	DTFLG	O	Not used.
28	$\phi 2$	O	$\phi 2$ is 2.1168 MHz crystal clock.
29, 52, 77, 66	VSS	-	GND
30	XOUT	O	Not used.
31	XIN	I	Input from crystal clock.
33	$\overline{\text{XFSY}}$	O	Not used.
34 35 36 37	SUB SBSY RCK SFSY	O O I O	After detecting that SBSY changes from low to high by IC991, the sub-code(P~W) can be output from SUB output terminal by inputting 8 clocks to RCK terminal at every point where SFSY changes low to high.
38	CDROM	O	Not used.
39	$\phi 8$	O	$\phi 8$ is 8.4672MHz crystal clock.
40	WDCK	O	Not used.
41	L/R	O	This is synchronizing signal for data transfer and it connects with DAC.
42 43	DGL DGR	O O	Not used.
44 45	DF01 DF00	O O	Serial data output.(Right channel). Serial data output.(Left channel).
46	$\overline{\text{SCK}}$	I	This terminal is connected to μCOM . It is an input terminal that carries the clock signal for data transfers.
47	R/W	I	This connects with microcomputer and it is an output terminal for switching data transmission mode. it enables to transmit data from SVC to microcomputer when R/W is "L" and from microcomputer to SVC when R/W is "H".
48	$\overline{\text{CS}}$	I	This is a chip select terminal for YM7121.
49	DOUT	O	This terminal is the data output terminal connected to μCOM . When R/W is low, data is transferred from YM7121 to μCOM , according to the SCK clock input.

Pin No.	Symbol	I/O	Function and Operation
50	WQ	O	This terminal is connected to μ COM. It is a request signal which demands to μ COM inputting the data transfer (YM7121 to μ COM).
51	DIN	I	This is a data input terminal connected to μ COM. When R/W is high, the data is transferred from μ COM to YM7121 according to the SCK clock input.
53 54	DM + DM -	O O	These terminals output the PWM to control the speed of spindle motor. The speed of the motor goes up when DM + is high, and slows down when DM - is high: both terminals can not become high simultaneously.
55 56 60 61 62 63 64	HF TER TRHD TRGL TROF KP - KP +	I I O O O O O	When tracks are being crossed during serches, the amplitude variation of the generated HF signal is sampled at the zero - cross point of the tracking error signal TER and the TROF signal is output. The level variations of this signal turn the servo on and off, greatly facilitaing track acquisition. KP + or KP - is output to conduct tracking, and TRHD is output during tracking to cause generation of the tracking error signal. The TRGL signal is for increasing the tracking gain after tracking is completed.
57 58 59	FEM + FEM - FEOF	O O O	The FEM + and FEM - are output as high speed feed signals, and FEOF signal is output for cutting the feed servo during high speed feed.
65	TRBK	I	TRBK is input to apply tracking brake from outside. TRGL becomes low with high input and inner control signal TBKE becomes high.
67 58 59	$\overline{\text{FZC}}$ FCS FRF	I O I	These terminals are used for controlling the focus servo. The FCS is for a leading signal of Focusing; the signal, generated when the focus point is achieved, terminate the focusing operation; and FCO flag is dropped internally by FRF signal generated when reflected light is detected.
71	$\overline{\text{IC}}$	I	YM7121 needs initializing when power supply turn on. IC will be low more than 400 μ s since XIN is input clock with VDD standard.
73 74 75	SLVL EFMX $\overline{\text{EFMX}}$	O O O	Amplitude limited, mutually anti-phased signals are output from EFMX and $\overline{\text{EFMX}}$. Slice level is controlled by these signals and external amplifier. SLVL is output amplitude alteration component of both terminals. When integral circuit is connected to external. YM7121 easily can control slice level.
76	EFMI	I	This terminal is input EFM signal. (1~2 Vpp)
78	PCO	O	This terminal outputs the phase difference when the polarity of the clock and the EFM pattern changes.
79	VPLL	I	This terminal is input D.C. voltage matched VCO free run frequency. (17.2872 MHz)
80	1/2 VPLL	O	This terminal outputs a half of VPLL input, and capacity for stabilizing is added to this terminal.

■ MN35501 (IC873) : D/A Converter

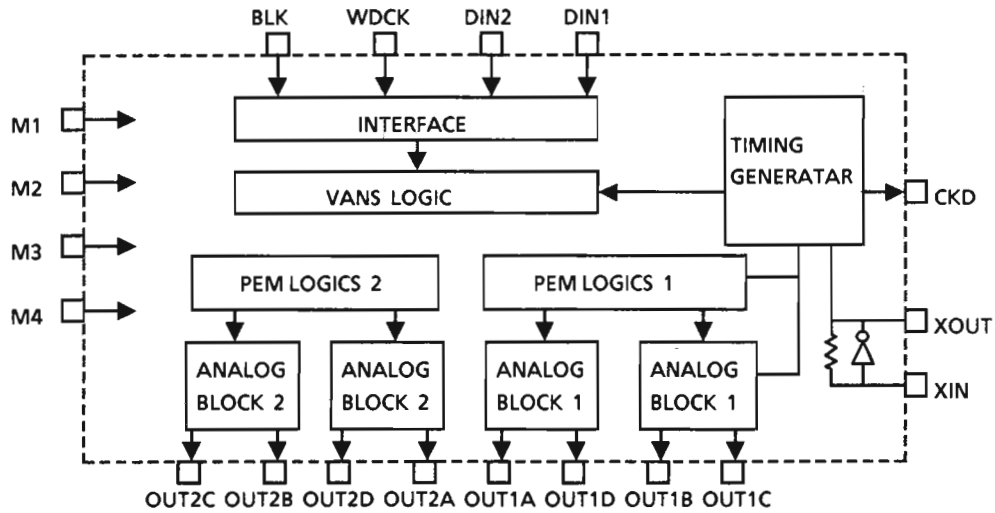
1. Terminal Layout



2. Pin Functions

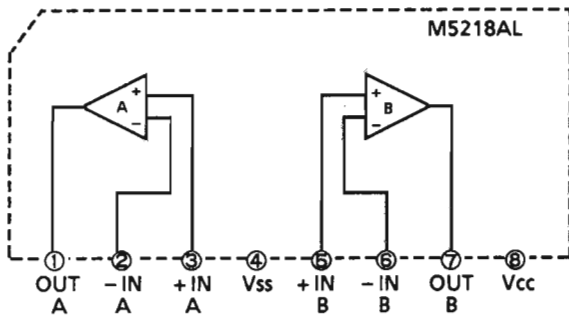
Pin No.	Symbol	I/O	Function
1,2	DIN1, DIN2	I	Serial data input
3	WDCK	I	Word clock input
4	BCK	I	Bit clock input
5	DVDD2	--	Power supply for digital circuit
6	CKO	O	Clock output
7	DVSS2	--	GND for digital circuit
8	M1	I	Input for mode select
9,10	OUT1C, OUT1B	O	PEM signal output (Channel 1)
11	AVDD1	--	Power supply for analog circuit (Channel 1)
12,13	OUT1D, OUT1A	O	PEM signal output (Channel 1)
14	AVSS1	--	GND for analog circuit (Channel 1)
15	AVSS2	--	GND for analog circuit (Channel 2)
16,17	OUT2A, OUT2D	O	PEM signal output (Channel 2)
18	AVDD2	--	Power supply for analog circuit (Channel 2)
19, 20	OUT2B, OUT2C	O	PEM signal output (Channel 2)
21	M2	I	Input for mode select
22	DVSS1	--	GND for clock circuit
23,24	XOUT, XIN	--	Oscillation terminal
25	DVDD1	--	Power supply for clock circuit
26, 27	M3, M4	I	Input for mode select
28	RSTB	I	Reset input (Low active)

3. Block Diagram

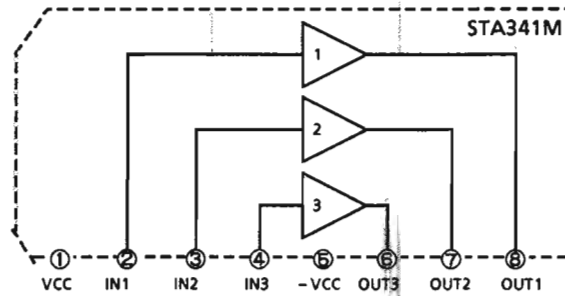


Internal Block Diagram of Other ICs

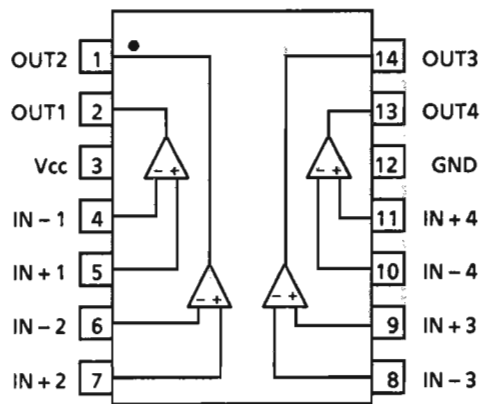
■ M5218AL (IC 762,781,803) : Dual OP Amp.



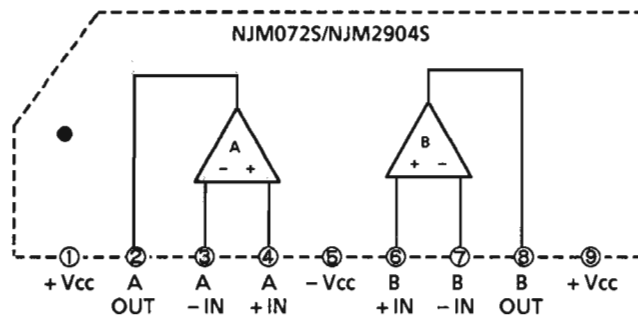
■ STA341M(A) (IC761) : Motor Driver



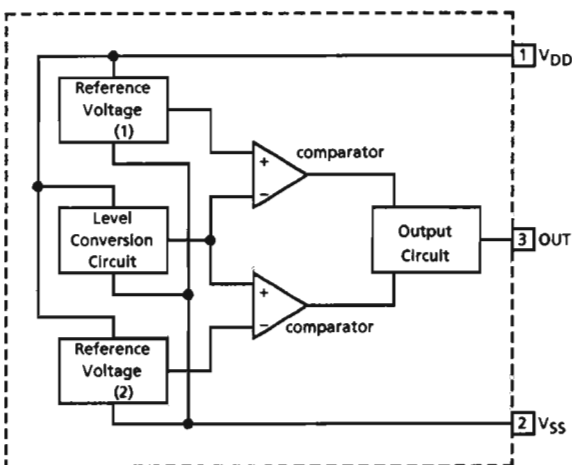
■ XRA/BA10339 (IC802) : Comparator



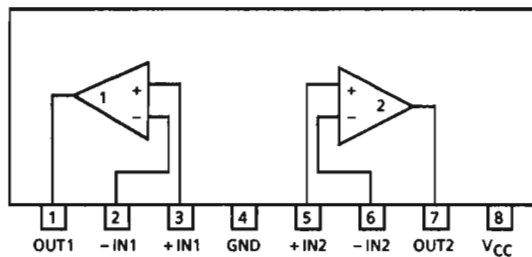
■ NJM072S/NJM2904S (IC801/971) : Dual OP Amp



■ MN1281 (P.Q) (IC952): Reset IC

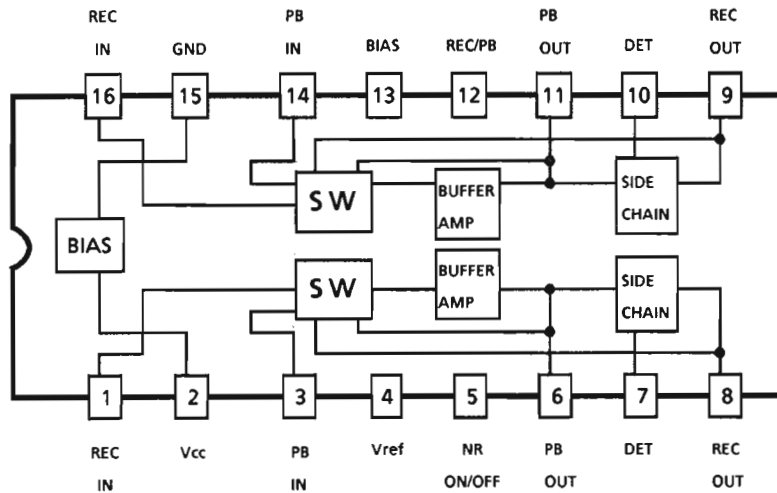


■ XRA/BA15218 (IC871) : Dual OP Amp
BA15218N (IC401)

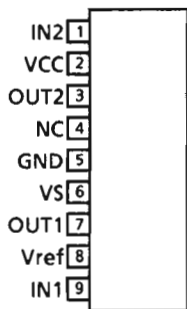


Pin No.	Pin Name	Functions
1	V _{DD}	Power supply
2	V _{SS}	Ground
3	OUT	Reset signal output : Low level is output when resetting : High level is output when cancelling the reset.

■ HA12136A (IC352) : Noise Reduction Amplifier



■ TA8409S (IC451~454) : DC Motor Driver

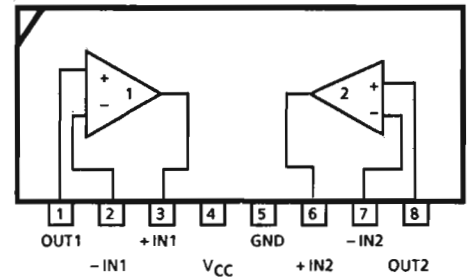


Function

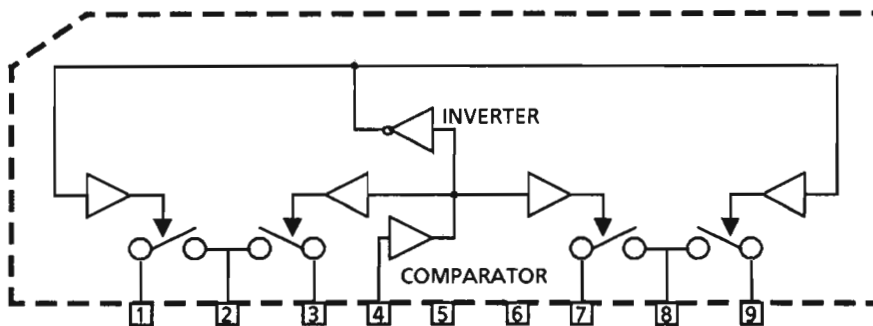
INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	OPEN
0	1	L	H	CLOSE
1	1	L	L	BRAKE

∞: High impedance

■ μPC1228HA (IC281,IC461) : Dual OP Amp.



■ μPC1330 HA (IC331) : Head Switch



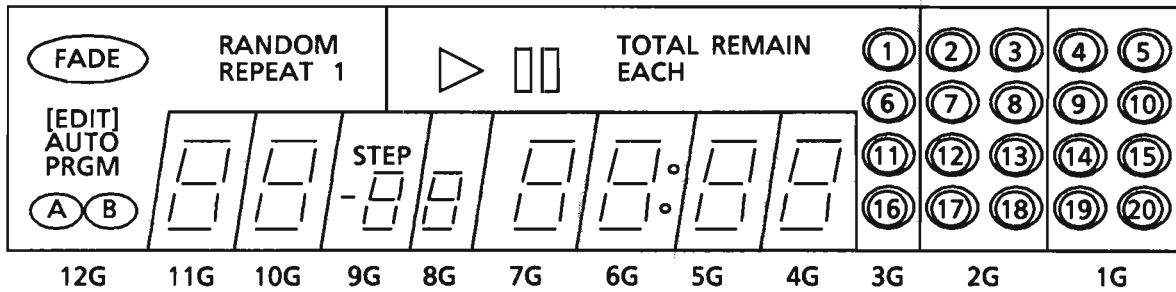
Function

	4pin
PB	L
REC	H

Internal Connections for the FL Display Tube

■ ELU0001-151:(FL991)

1. Grid Layout



2. Pin Connections

TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
ELECTRODE	F1	F1	NP	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	NP

TERMINAL NO.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
ELECTRODE	NP	NP	NP	NP	NP	NP	NP	S1	S2	S3	S4	S5	S6	S7	S8	S9	NP	F2	F2

(Note) F: Filament G: Grid NP: No Pin NC: No Connection P1~P9: Anode

3. Anode Connection Table

	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
S1	FADE	a	a	a	a	a	a	a	a	(1)	(2)	(4)
S2	[EDIT]	b	b	b	b	b	b	b	b	(6)	(7)	(9)
S3	AUTO	c	c	c	c	c	c	c	c	(11)	(12)	(14)
S4	PRGM	d	d	d	d	d	d	d	d	(16)	(17)	(19)
S5	A	e	e	e	e	e	e	e	e	▶	(3)	(5)
S6	B	f	f	f	f	f	f	f	f		(8)	(10)
S7	RANDOM	g	g	g	g	g	g	g	g	TOTAL	(13)	(15)
S8	REPEAT	---	---	STEP	---	---	◦	---	---	EACH	(18)	(20)
S9	1	---	---	(-)	---	---	---	---	---	REMAIN	---	---

Disassembly Procedures

Top cover removal

1. Remove the screws fastening both sides of the Top cover and rear side.
2. Remove the Top cover spreading both sides and lifting the rear up.

Front panel block removal

1. Remove the Top cover.
2. Remove the 2 screws (A).
3. Disconnect the connectors (P331,P333,P490,P491,P492,P493,P901,FW496).
4. Remove the 2 screws (C) fixing the front panel.
5. Remove the screw (D) on the bottom.
6. Release the 3 hooks (E) and remove the front panel block.
7. Disconnect the connectors FW495.

CD mechanism assembly removal

1. Remove the Top cover.
2. Remove the 3 screws of the rear side.
3. Remove the 2 screws (A) fixing the CD mechanism chassis.
4. Take out the CD mechanism assembly with CD PCB after unplugging the connectors (J701,J702,P901).
5. Remove the 3 screws (B) fixing the CD mechanism assembly.
6. Remove the connectors (P801,P802,P803) and the CD mechanism assembly.

Tray removal

1. Remove the CD mechanism assembly.
2. Switch on the power of RX-S50RBK .
Press the OPEN/CLOSE switch to bring the tray forward and with the tray forward,switch off the power.
3. Remove the screw (C) on the tray .
4. Pull the tray toward the front to move it.

(Note)

If the power does not come on due to break down or the insert a Philips screw driver through the hole at the bottom of the CD mechanism assembly and turn it counter-clockwise to bring the tray forward (D).

Cassette mechanism assembly removal

1. Remove the front panel assembly.
2. Remove the 8 blue colored screws (H) (I) fixing the cassette mechanism.
3. Push the cassette button and remove the cassette mechanism assembly.

(Note)

The cassette mechanism is grounded through the bottom cover, so when checking the operations with the bottom cover removed (especially when checking the signal system), be sure to ground the chassis by using an alligator clip or other suitable gadget. Also, this mechanism is designed for pack sensing, remember that it can not be operated without any tape.

Cassette lid removal

1. Open the doors and slide them in the direction of the arrows.

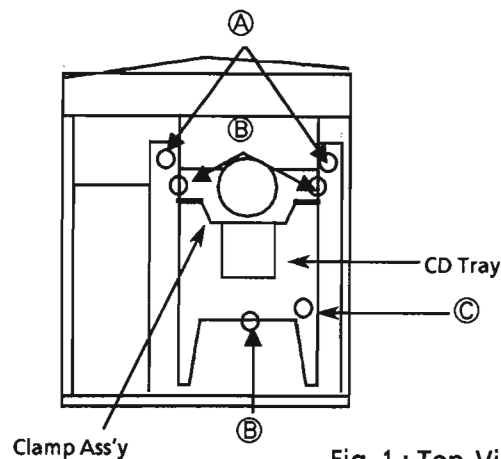


Fig. 1 : Top View

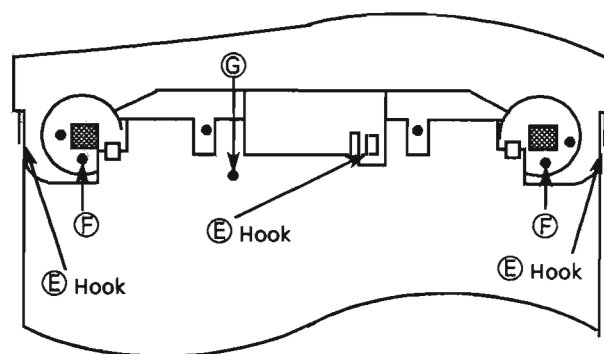


Fig. 2 : Bottom View

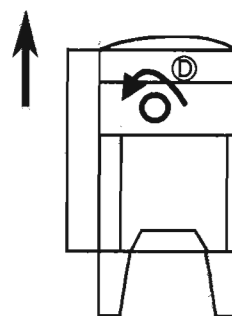


Fig. 3 : Bottom View of the CD mechanism

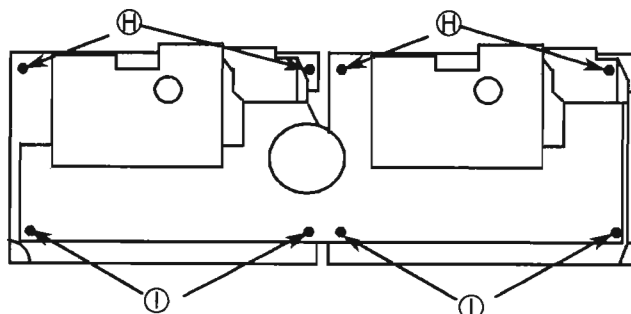


Fig. 4

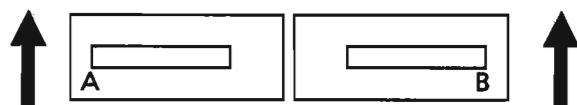


Fig. 5

Disassemble of the CD mechanism assembly

■ Pickup removal

1. Remove the cd mechanism assembly.
2. Release the shaft to remove the pickup (Fig 6).

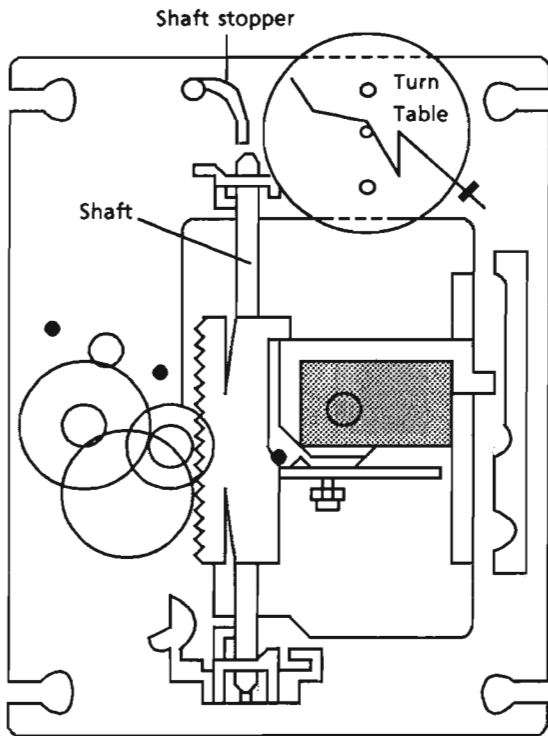


Fig. 6 : CD mechanism assembly

■ Spindle motor removal

1. Remove the CD mechanism assembly.
2. Remove the turntable, and remove the two screws retaining the spindle motor.
3. Remove the screws retaining the spindle and feed motor P.C. Board and unsolder it.

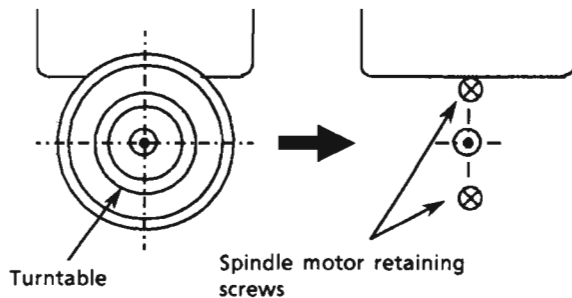


Fig. 7

■ Spindle motor installation

1. Tighten the 2 screws to the same torque.
2. Fasten the spindle and feed motor P.C. board with the screw and solder.
3. Install the turntable. When installing, press straight down at the center of the turntable until the distance from the surface of the mechanism base to the turntable is exactly $19.4 \pm 0.1\text{mm}$.

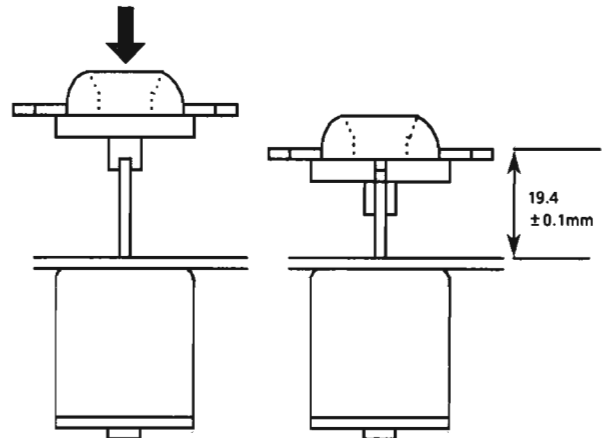


Fig. 8

4. After inserting the turntable, bond the motor shaft and turntable together (at the section marked by an arrow in fig.9 on the left below).

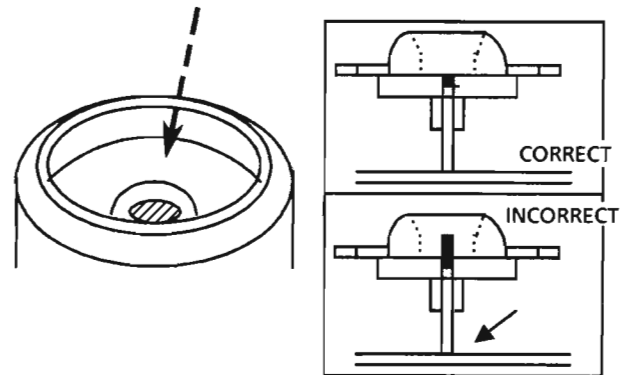


Fig. 9

5. Use "LOKTTITE" #460 bonding agent, and apply as little as possible. Take care not to allow any excess bonding agent to get onto the turntable. Be extremely careful not to allow bonding agent to adhere to the motor bearings (the section marked by an allow in fig.9 on the right).

Disassemble of the cassette mechanism

■ Cassette controller PCB (ENJ-074-2) removal

1. Remove the cassette mechanism assembly.
2. Release the 8 hooks to remove the controller PCB (Fig. 10).

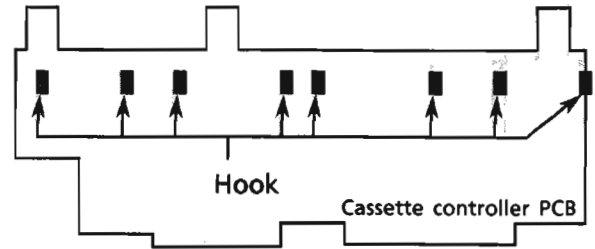


Fig. 10

■ Head assembly removal

1. Remove the cassette mechanism assembly.
2. Unsolder the flexible wire (Fig. 12).
3. Remove the 2 screws ③ fixing the head assembly (Fig. 17).

※ Note

The direction of the head is changed with the head gear. When servicing, install the head gear according to the direction of the head. Refer to fig. 11.

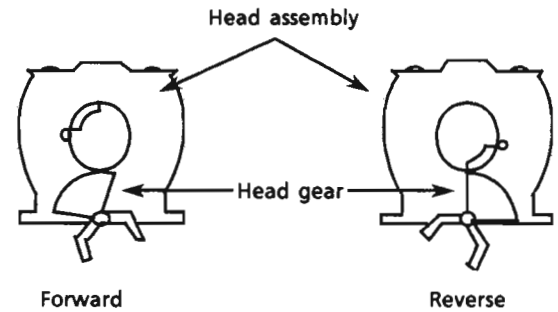


Fig. 11

■ Pinch roller arm assembly removal

1. Release the return spring (Fig. 17).
2. Release the hook holding the pinch roller arm assembly to remove the assembly (Fig. 12).

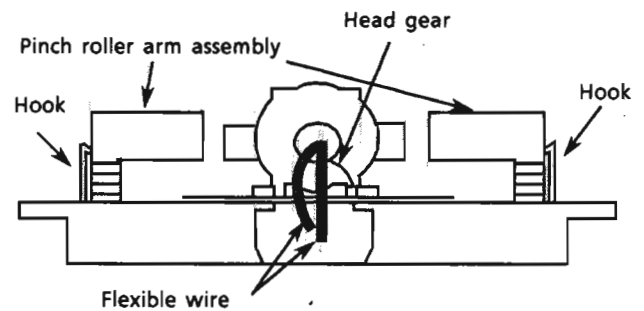


Fig. 12

■ Reel motor PCB removal

1. Remove the cassette mechanism assembly.
2. Remove the cassette controller PCB.
3. Remove the screw ④ fixing the reel motor PCB.
4. Unsolder the reel motor PCB.
5. Remove the PCB.
Be careful so that stress is not added to the terminals of the motor.

■ Capstan motor removal

1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCBs.
3. Remove the 4 screws ⑤ fixing the bracket (Fig. 13).
4. Remove the motor with the bracket,
5. Remove the 2 screws fixing the motor and the bracket.

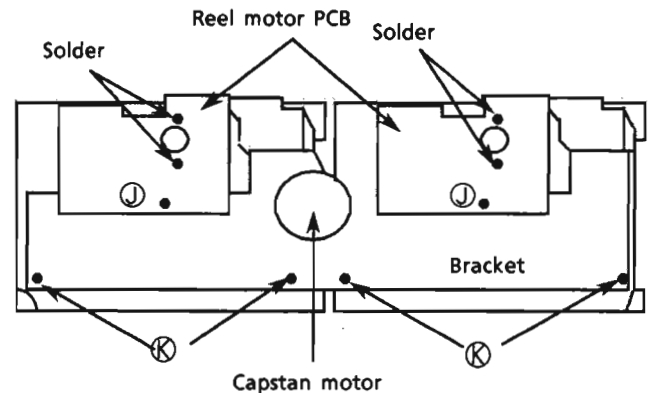


Fig. 13

■ Reel motor removal

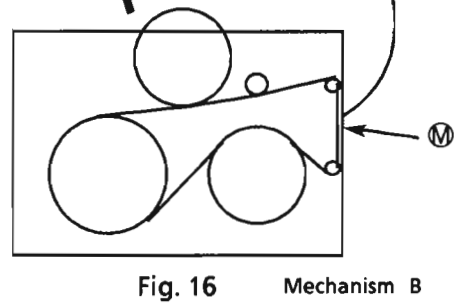
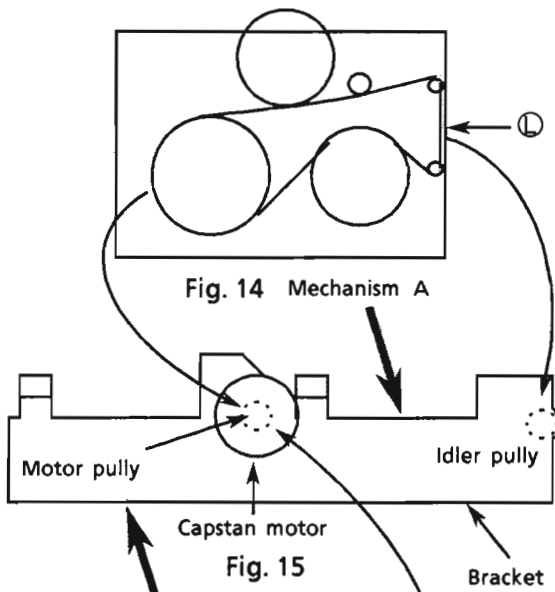
1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCB.
3. Remove the FR arm assembly (Fig. 17).
4. Remove the screw ⑥ fixing the motor (Fig. 17).
5. Remove the hooks fixing the motor to remove the motor.

■ Fly wheel removal

1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCB.
3. Remove the screws ⊗ and the bracket (Fig. 13).

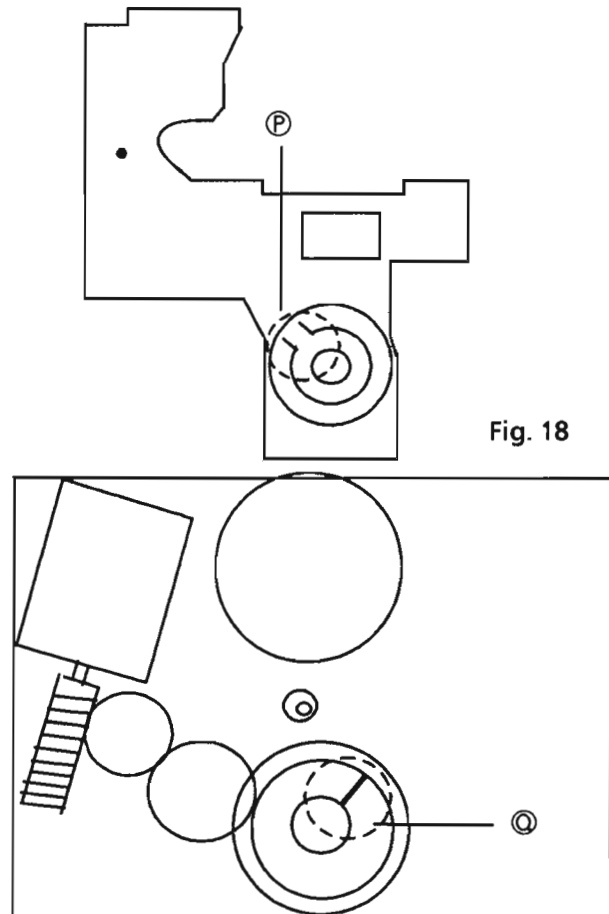
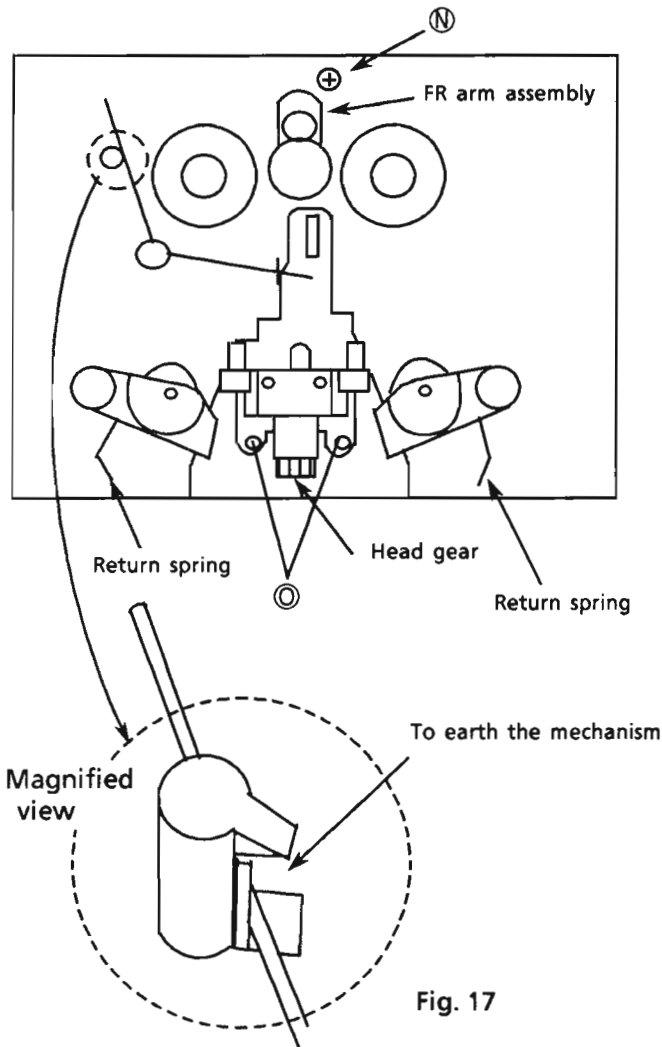
※ To install the bracket

1. Install the belt of mechanism A as shown in fig. 14.
2. Assemble the mechanism A and the bracket with the capstan motor.
3. Hang the belt of the mechanism A to the motor pulley using a tweezers and the like.
4. Hang the part ⊙ to the idler pulley.
5. Install the mechanism B installed the belt as shown in fig. 16 to the bracket which is assembled with the mechanism A.
6. Hang the part ⊕ to the motor pulley using a tweezers and the like.



■ Cam switch PCB removal

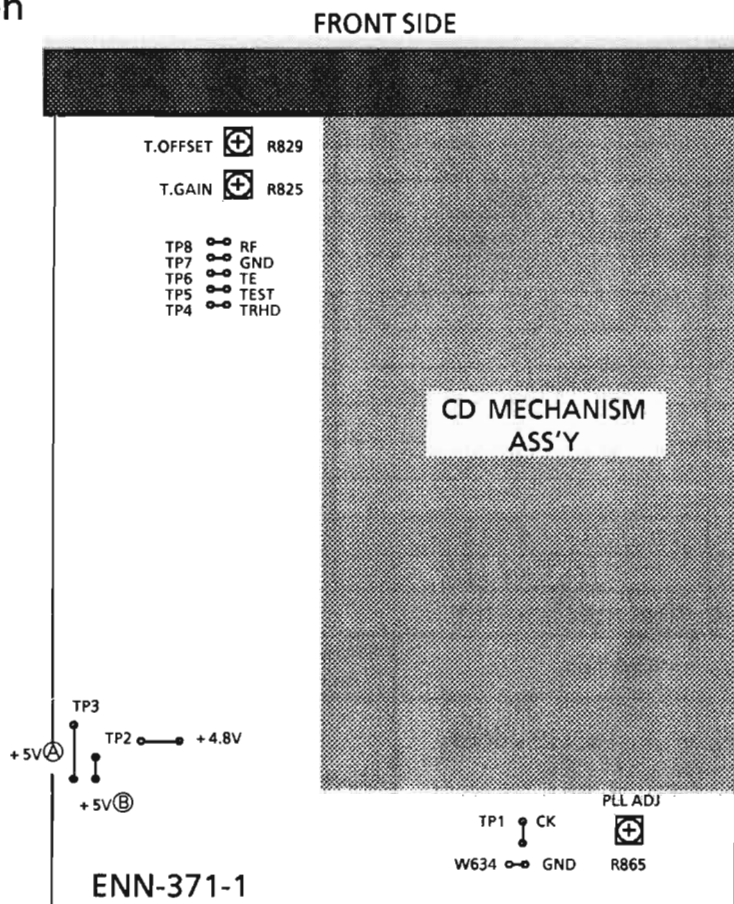
1. Remove the fly wheel.
2. Remove the hooks fixing the PCB to remove the cam switch. When assembling the cam switch, install it so that the part ⊕ meets the part ⊙ (Fig. 18).



Adjustment Procedures

* Use RX-S50RBK when adjusting.

■ CD section



1. PLL free-running adjustment

- 1) Measuring instrument : Frequency counter
- 2) Adjusting procedure
 - (1) Connect a frequency counter with TP1 (CK) and W634 (GND) on the main PC board.
 - (2) Adjust R865 for setting the frequency counter's value becomes $4.295 \pm 0.02\text{MHz}$.

2. Tracking gain adjustment

- 1) Measuring instruments : Oscilloscope, Normal disc
- 2) Adjusting procedure
 - (1) Connect an oscilloscope with TP6 (TE) and TP7 (GND) on the main PC board.
 - (2) Play a disc.
 - (3) Short circuit TP5 (TEST) to TP7 (GND).
 - (4) Adjust R825 for setting tracking error signal becomes $2.0 V_{p.p.}$.

3. Tracking offset adjustment

- 1) Measuring instruments : Oscilloscope, Normal disc
- 2) Adjusting procedure
 - (1) Connect an oscilloscope with TP6 (TE) and TP7 (GND) on the main PC board.
 - (2) Play a disc.
 - (3) Short circuit TP5 (TEST) to TP7 (GND).
 - (4) Adjust R829 for setting the DC level of the tracking error (offset) becomes 0.

Note : Adjust R829 for setting the waveform becomes symmetrical around the 0 level.

■ Cassette Deck section

1. Measuring instruments

- Audio frequency signal generator (0dbs output at the 600 ohm output terminal from 50Hz to 20KHz)
- Electronic voltmeter
- Frequency counter
- Wow & Flutter meter
- Distortion Meter with band pass filter
- Attenuator (600 ohm impedance)
- A resistor with 600Ω

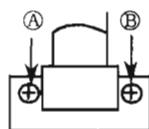
Standard Tape

0dBs = 0.775V

Tape No.	Frequency	Level (Wow & Fkutter)	Purpose
VTT-703L	10kHz	- 10dBs	Head azimuth , Frequency Response
VTT-712	3000Hz	0dBs 0.025%WRMS	Tape Speed , Wow & Flutter
VTT-724	1kHz	- 4dBs	Standard Level
TMT-6447	-	-	Blunk Skip
TMT-6247 , TMT-6237	-	-	Music Scan
TMT-7088S	-	-	Recording standard Normal : UR
AC-712	-	-	Recording standard METAL :MA
AC-513	-	-	Recording standard CrO ₂ : SA
TW-2111, TW-2121	-	-	Forward /reverse play torque measuring
TW-2231	-	-	Feed forward /rewind torque measuring
C-120 Tape	-	-	Comfirming the tape running

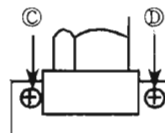
2. Adjustment and repairing the mechanism

Item	Adjustment method	Standard value	Remarks
Head azimuth	<p>Deck A</p> <ol style="list-style-type: none"> 1. Connect an electronic voltmeter to the DOLBY TP (figure 3) to playback VTT-703L. 2. Adjust screw Ⓐ so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed. 3. Adjust screw Ⓑ so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed. <p>Deck B</p> <ol style="list-style-type: none"> 4. Adjust screw Ⓒ so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed. 5. Adjust screw Ⓓ so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed. 6. After making the adjustment, apply screw lock to prevent screws Ⓐ, Ⓑ, Ⓒ and Ⓓ coming loose. 	Maximum	<ol style="list-style-type: none"> 1. Refer to figure 1. 2. When the specified characteristic cannot be obtained because of head wear, excessive magnetization, etc., replace the head assembly and adjust the head azimuth. Also, perform the electric adjustment. 3. When there is the difference of more than 3 ~ 4 dB between left and right output levels, replace the head assembly to avoid complaints.
Playback torque	1. Measure the torque in the playback mode by the torque meter.	26 ~ 62 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Fast forward torque	1. Measure the torque in the fast forward mode by the torque meter.	80 ~ 200 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Rewind torque	1. Measure the torque in the rewind mode by the torque meter.	80 ~ 200 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Wow & flutter	<ol style="list-style-type: none"> 1. Connect the wow & flutter meter to the DOLBY TP (figure 3) and play back VTT-712. 2. Its reading should be within 0.2% (WTD). 	Less than 0.2%	As a complaint may occur if the wow & flutter fluctuates by 0.1% even though it is allowed in the standard, repairing is required.



Deck A

Figure 1



Deck B

3. Electrical Adjustments (Make the following adjustments after adjusting the head azimuth.)

In principle, the adjustments should be made in the following sequence.

Set the NR switch to OFF and the BEAT CUT switch to "1".

Adjustments marked with an asterisk (*) should always be made after the head is replaced

0dBs = 0.775V.

Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
Tape Speed	1. Connect a frequency counter to the DOLBY TP (figure 3) and play back VTT-712. 2. Adjust the semi-fixed resistor VR481 on ENJ-074-1.	VR481	3,000 Hz ± 10Hz	Connect a wow & flutter meter with a built-in frequency counter to the speaker terminals.
Standard level (Playback Level)	1. Connect an electronic voltmeter to the DOLBY TP (figure 3). Play back VTT-724 (1 kHz : -4dBs) to adjust the semi-fixed resistors.	Deck A L: VR453 R: VR454 Deck B L: VR281 R: VR282	488mV (-4dBs)	1) The playback level varies when the head is replaced so should be adjusted. Use an electronic voltmeter with an impedance of 100 kΩ or more.
Playback Frequency Response	1. Connect an electronic voltmeter to the DOLBY TP (figure 3). 2. Play VTT-703L (10kHz : -10dBs) and adjust semi-fixed resistors to obtain the standard values.	Deck A L: VR451 R: VR452 Deck B L: VR283 R: VR284	245mV (-10dBs)	—
Recording Bias Frequency	1. Connect a frequency counter to the BIAS TP (figure 3), and perform a recording to adjust bias frequency.	L331	100 kHz ± 5 kHz	Set the BEAT CUT SWITCH to "1".
Record / Play Frequency Response (Bias current)	1. Supply 1kHz and 12.5kHz with 30mV signals to AUX/VIDEO terminals respectively to record them. 2. Connect an electronic voltmeter to the DOLBY TP (figure 3) to confirm the recorded values. 3. If the values are not satisfied, adjust the semi-fixed resistors and record the signal again to confirm the recorded values.	L: VR331 R: VR332	0 ± 2 dB with 1 kHz as the standard.	Refer to figure 2 below. 1) The recording and playback frequency response of a cassette deck are adjusted by adjusting the bias. 2) Perform the adjustment with normal tape and confirm that the values are within the range for metal tape.

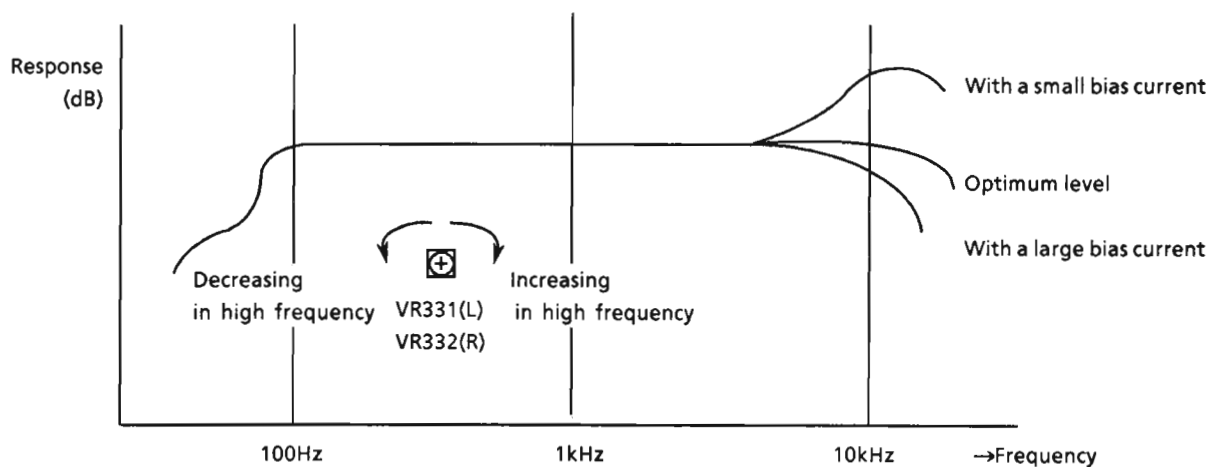


Figure 2

Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
Record / Playback Sensitivity	<ol style="list-style-type: none"> 1. Input a 1kHz (300mV) signal to AUX/VIDEO terminal and record it with a normal tape. 2. Connect an electronic voltmeter to the DOLBY TP (figure 3) to confirm the values. 3. If the values are not satisfied, adjust the semi-fixed resistors and record the signal again to confirm the values. 	L: VR311 R: VR312	- 5.5dBs (411mV)	Adjust with normal tape and make sure that the left/right level difference is 1.0dB or less
Recording / playback distortion	<ol style="list-style-type: none"> 1) Input a 1 kHz (300mV) to AUX/VIDEO terminal and record it. 2) Play it back and check the speaker out with a distortion meter to make sure it is within the criterion. 		less than 3% (Normal/ CrO ₂)	Perform after the record / play frequency response and recording / playback sensitivity adjustments.
Recording / playback S/N ratio	<ol style="list-style-type: none"> 1) Input a 1 kHz (300mV) signal to AUX/VIDEO terminal and record it. While recording, remove the input and record without the signal. 2) Connect a electronic voltmeter to the speaker terminals to measure the output levels. 3) Confirm that the output level ratio between the signals with a 1kHz and no signal is more than 40dB. 		more than 40 dB (Normal/ CrO ₂)	
Erase ratio check	<ol style="list-style-type: none"> 1. Record a music source using the Metal tape. 2. Rewind and erase the recorded section. 3. Comfirm nothing can be heard. 	—	—	—
Music Scan	<ol style="list-style-type: none"> 1. Make sure not to work the music scanning operation at the start of tape wind. 2. Make sure to work the music scanning operation at the end of tape wind. 	—	—	—

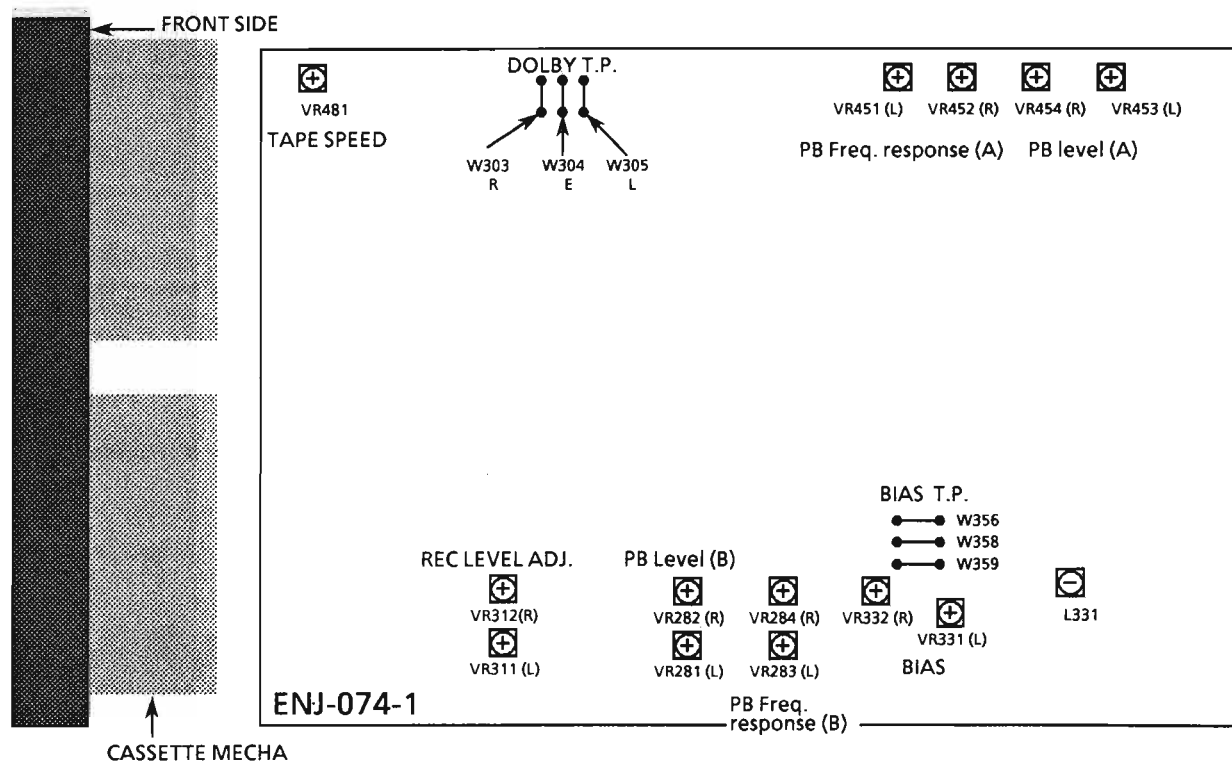


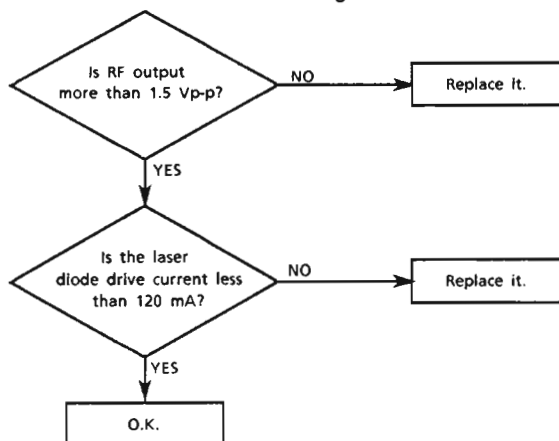
Figure 3

Maintenance of Laser Pickup

1. Life of the laser diode

When the life of the laser diode has expired, the following symptoms will appear.

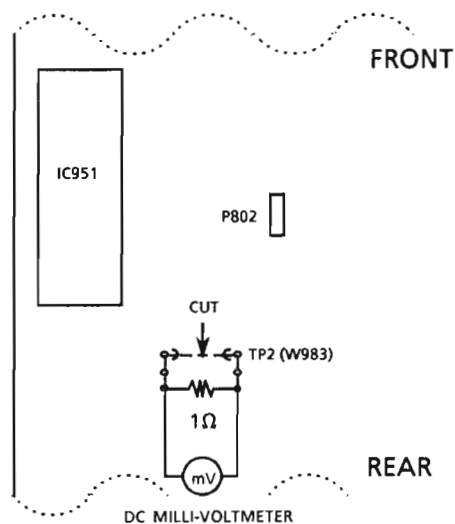
- (1) The level of RF output (EFM output: amplitude of eye pattern) will be low.
- (2) The drive current required by the laser diode be increased. In such a case, check the life of the laser diode following the flowchart below



2. Measurement of laser diode drive current

Replace the jump wire TP2(W983) shown below with the resistor (1Ω).

Measure the voltage across the resistor with a milli-voltmeter. When the voltage is more than 180mV, it shows that the life of the laser diode has expired.



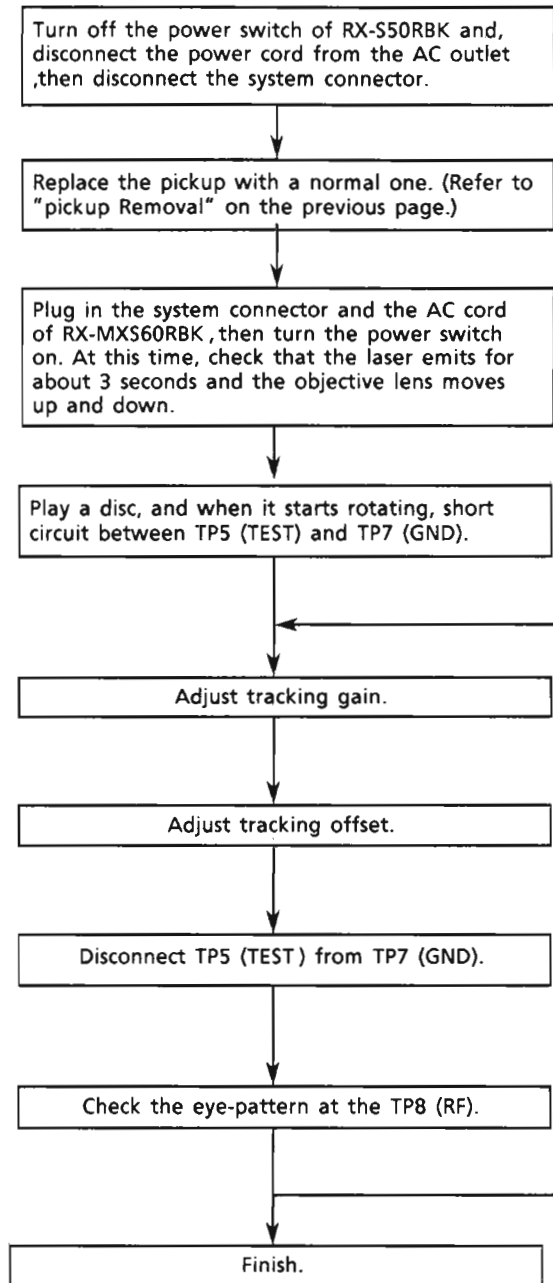
3. Semi-fixed resistor on the APC PC board

The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.

If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.

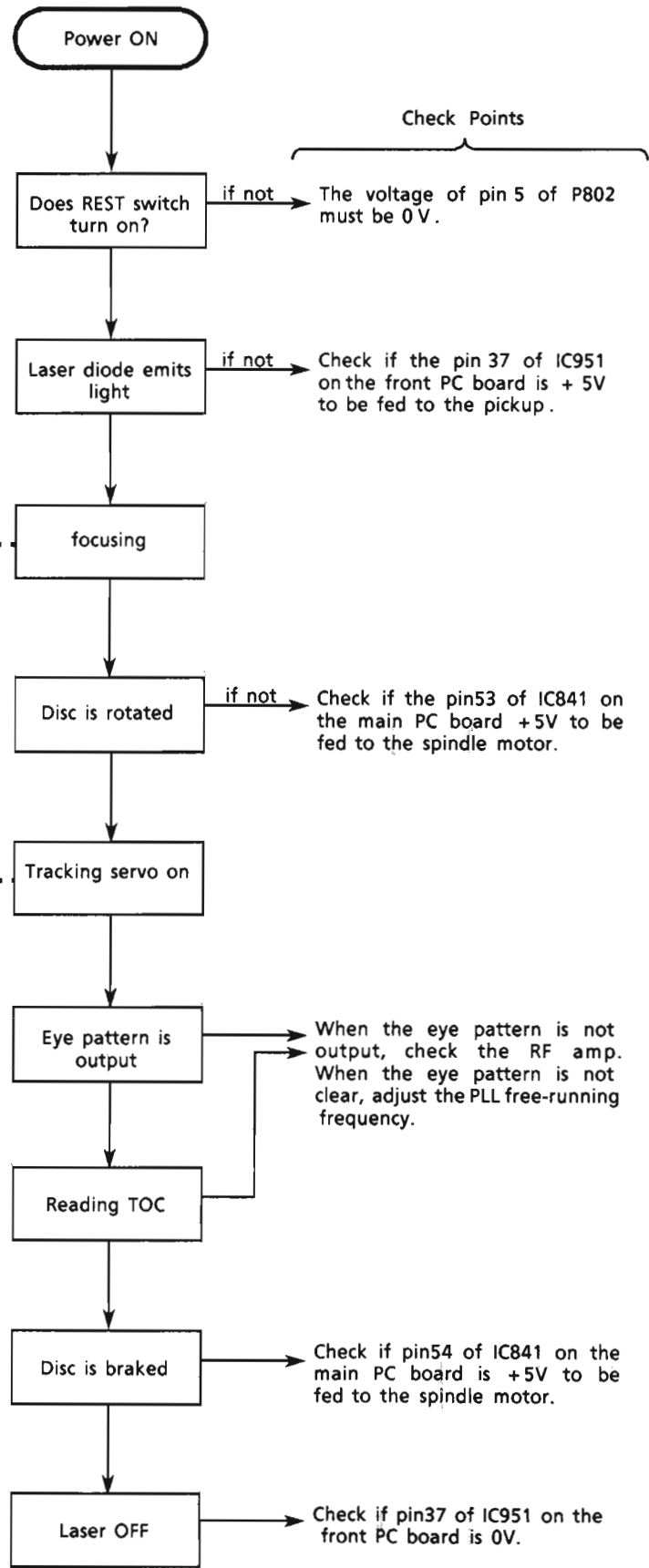
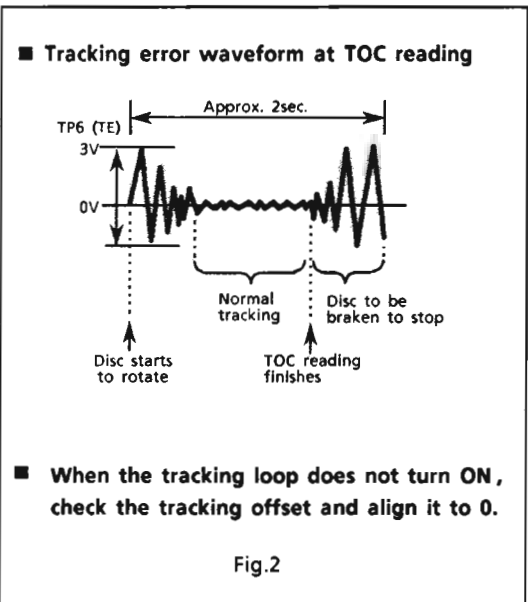
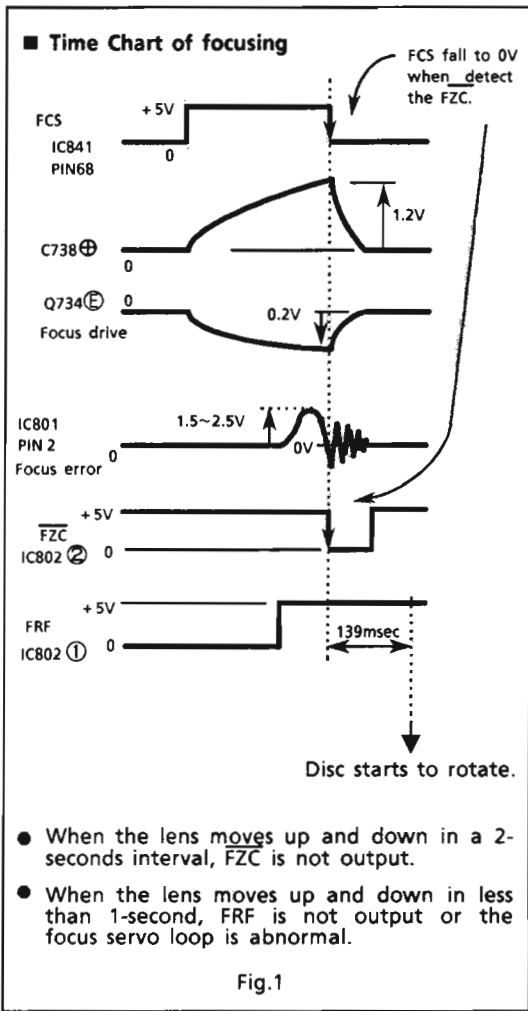
If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

Replacement of Laser Pickup



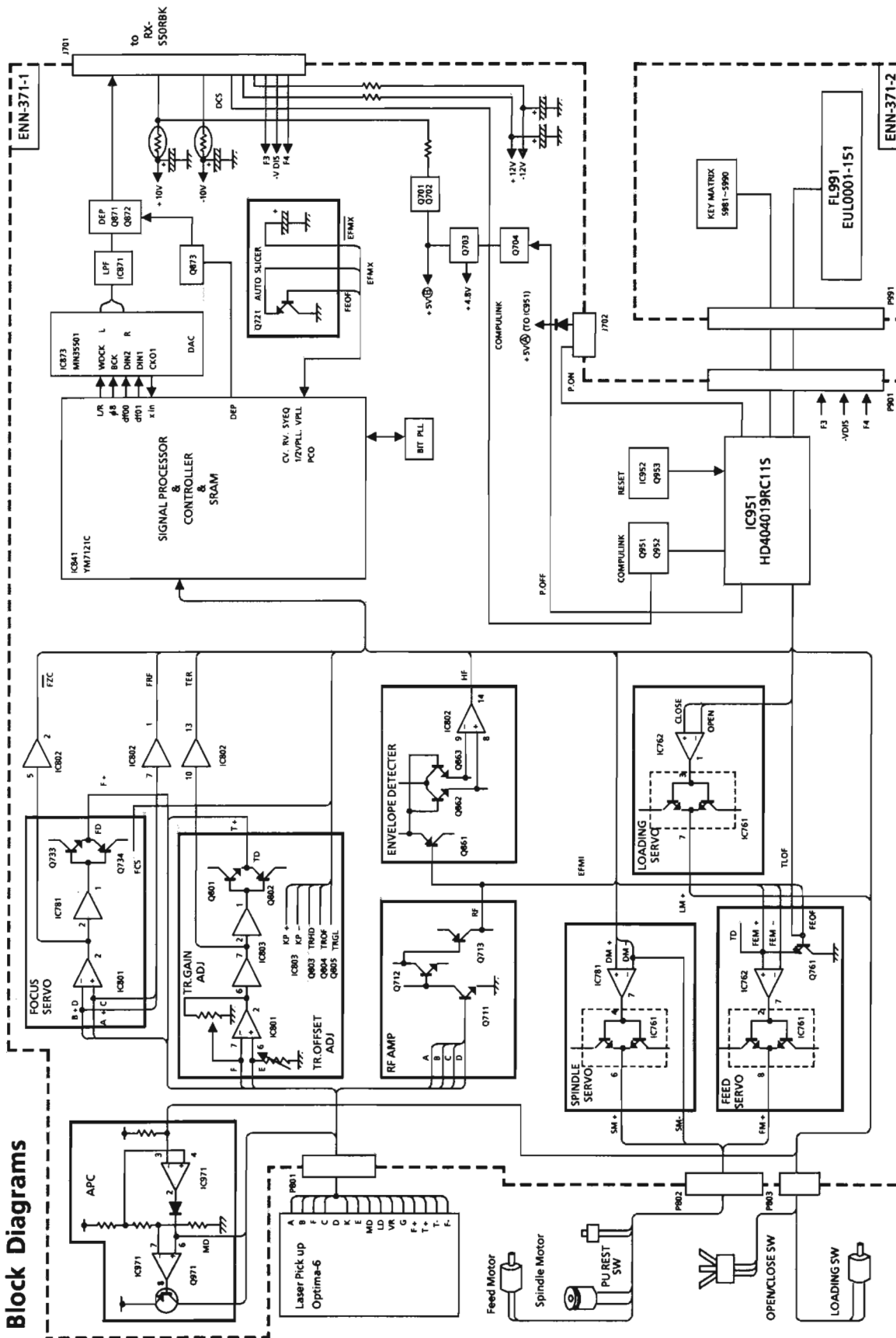
Note :Since one adjustment may affect other settings, repeat these adjustments a few times.

Flow of Functional Operation Until TOC is Read



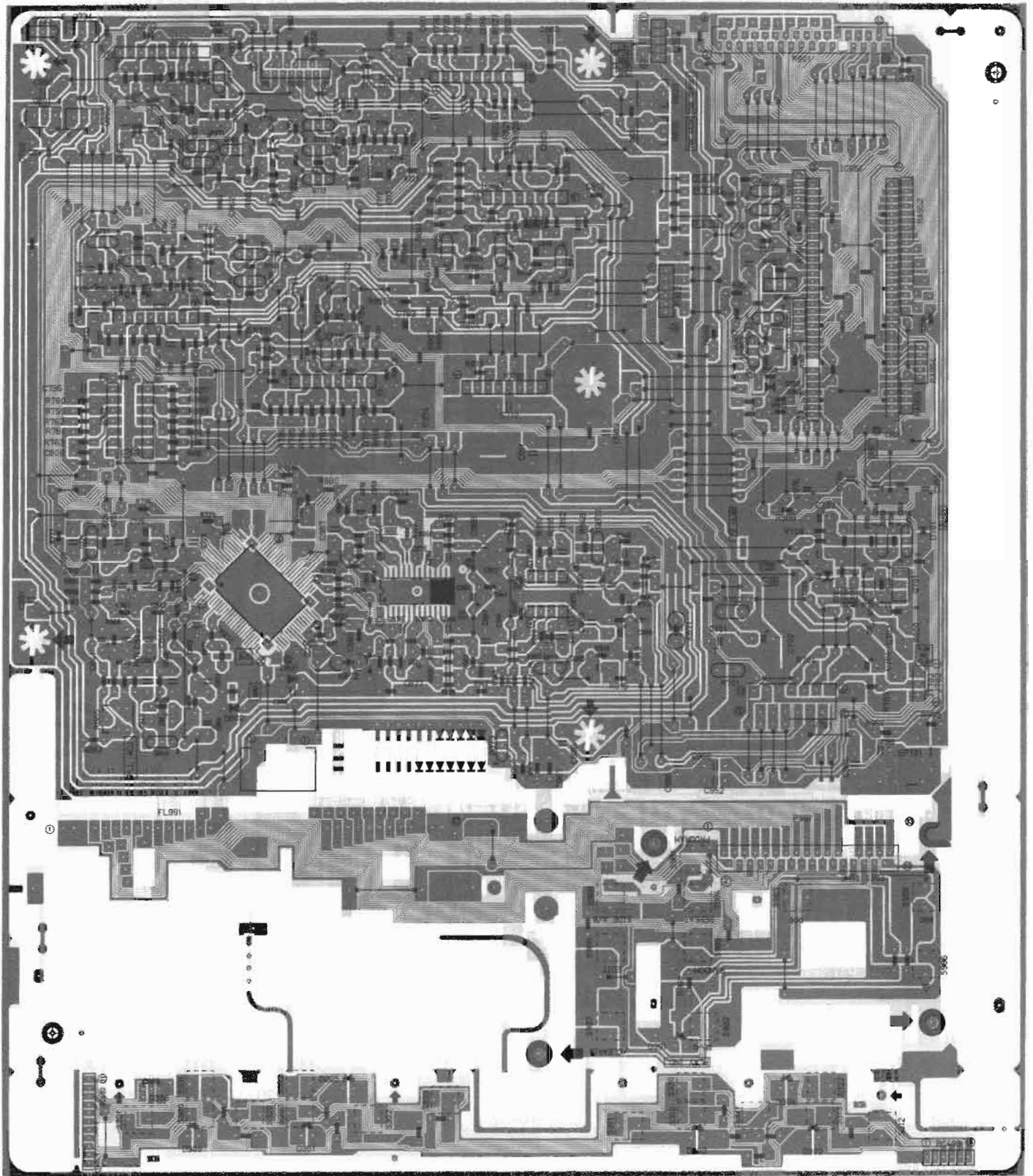
Block Diagrams

CD Section



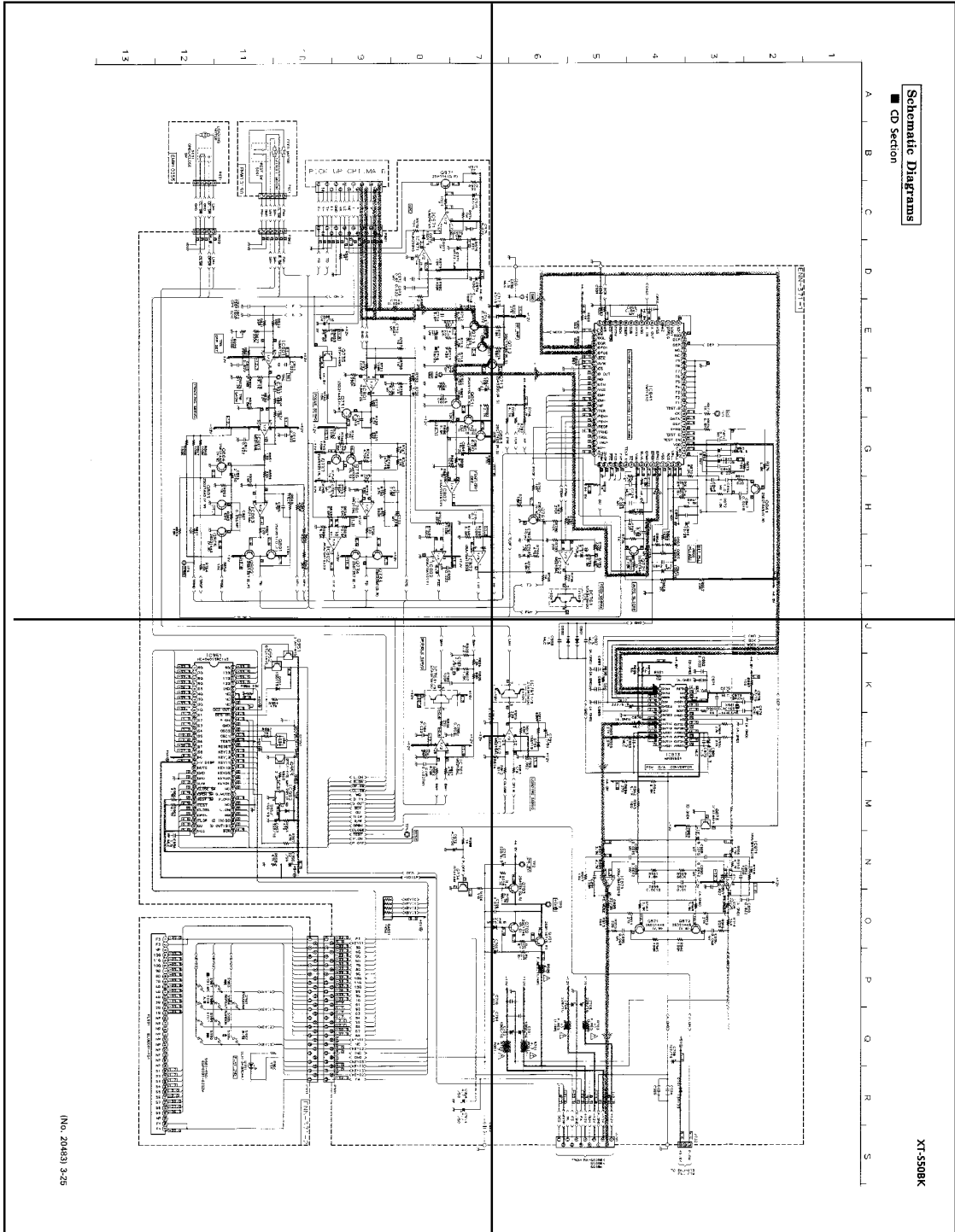
Printed Circuit Boards

■ CD P.C.Board (ENN-371)



P3-25-a

P3-25-b

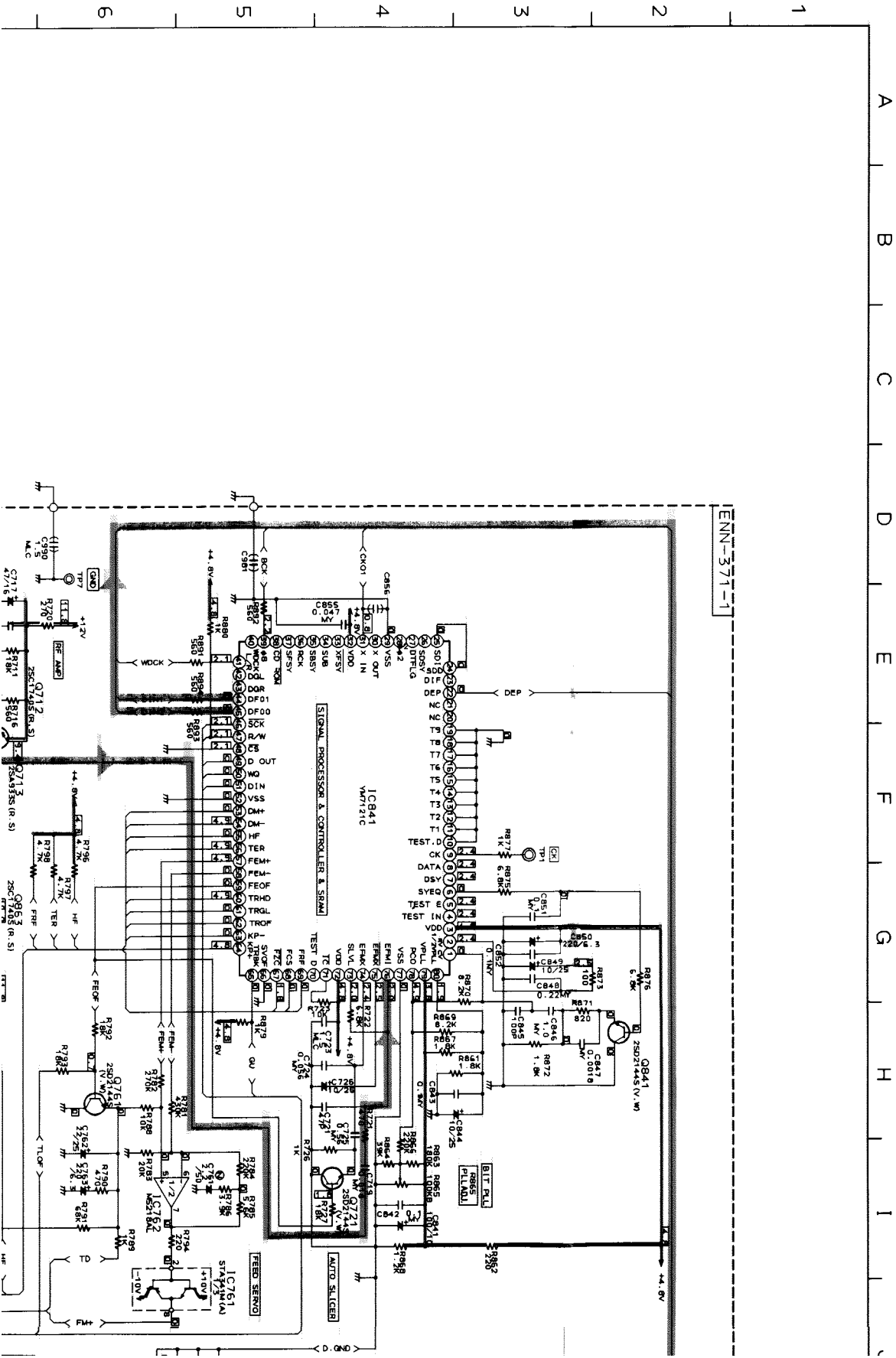


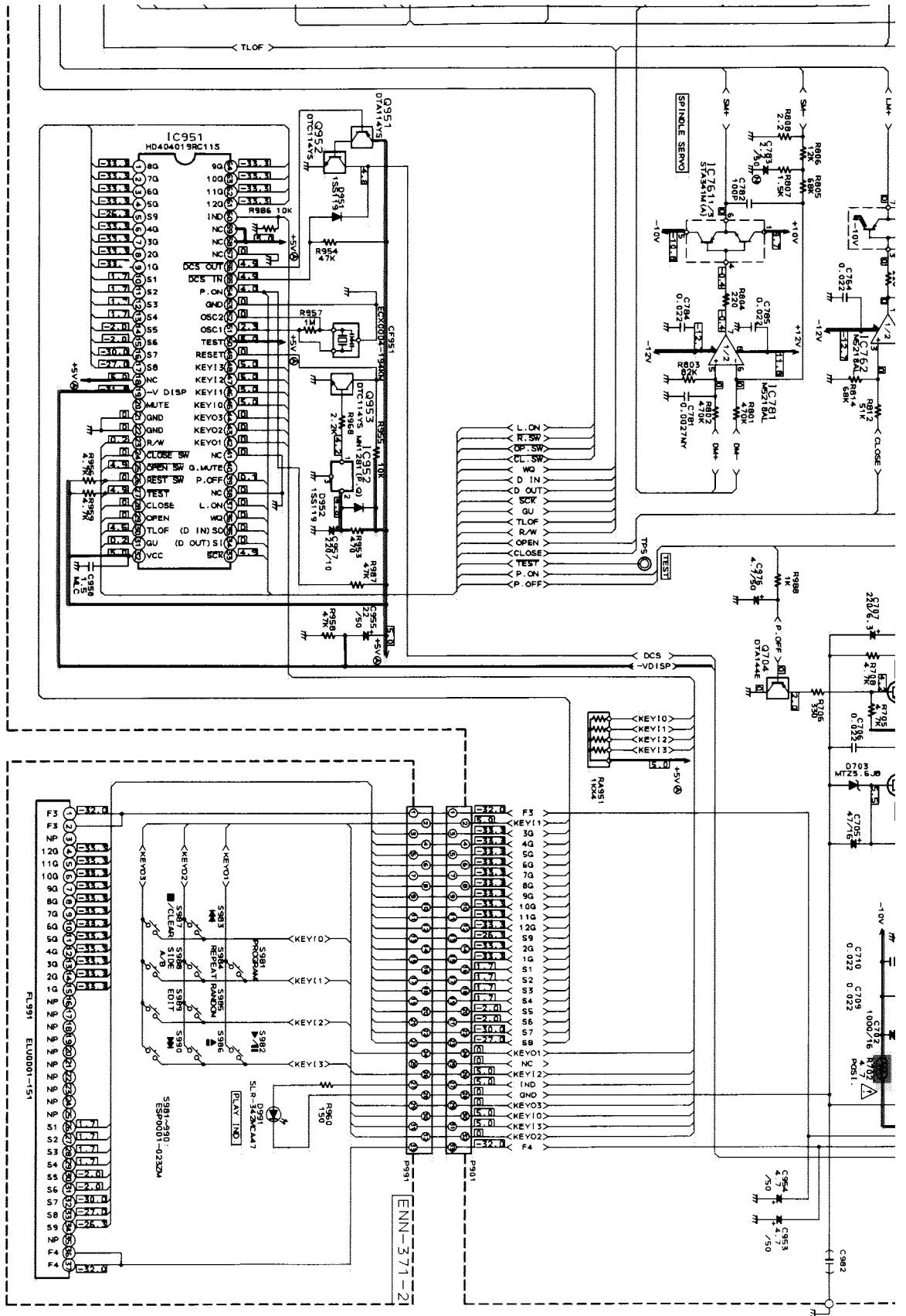
P3-25-c

P3-25-d

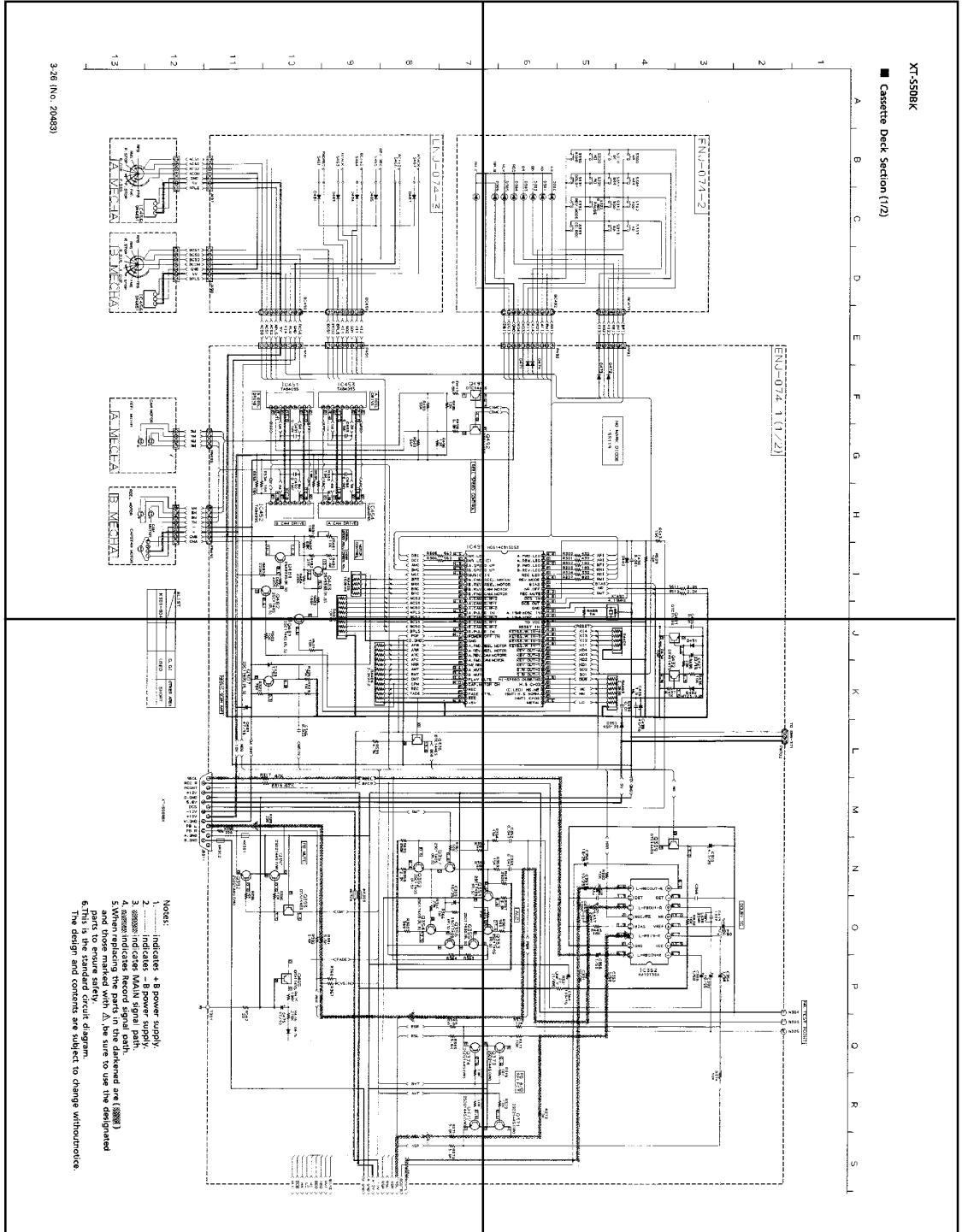
Schematic Diagrams

CD Section



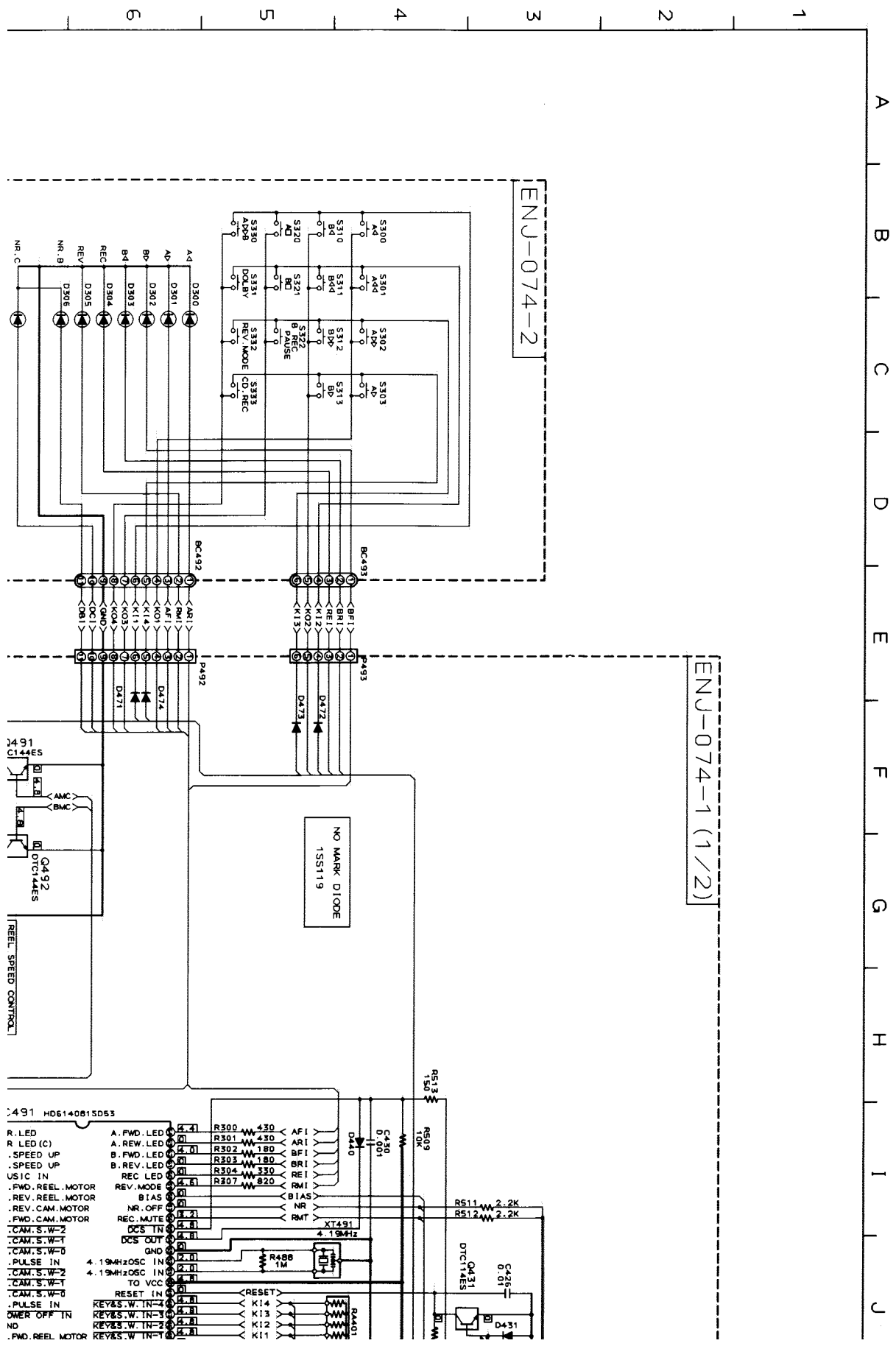


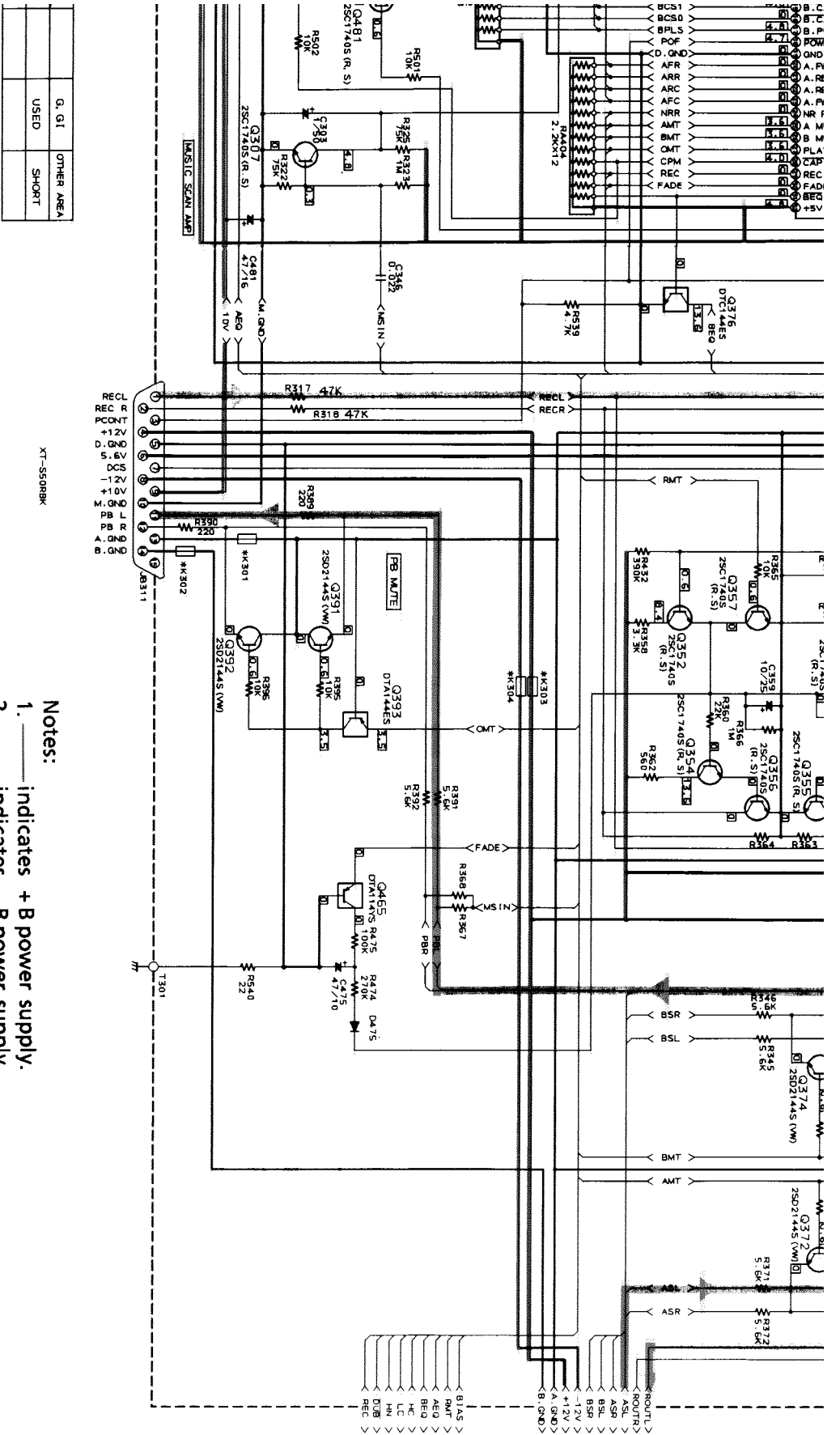
(No. 20483) 3-25



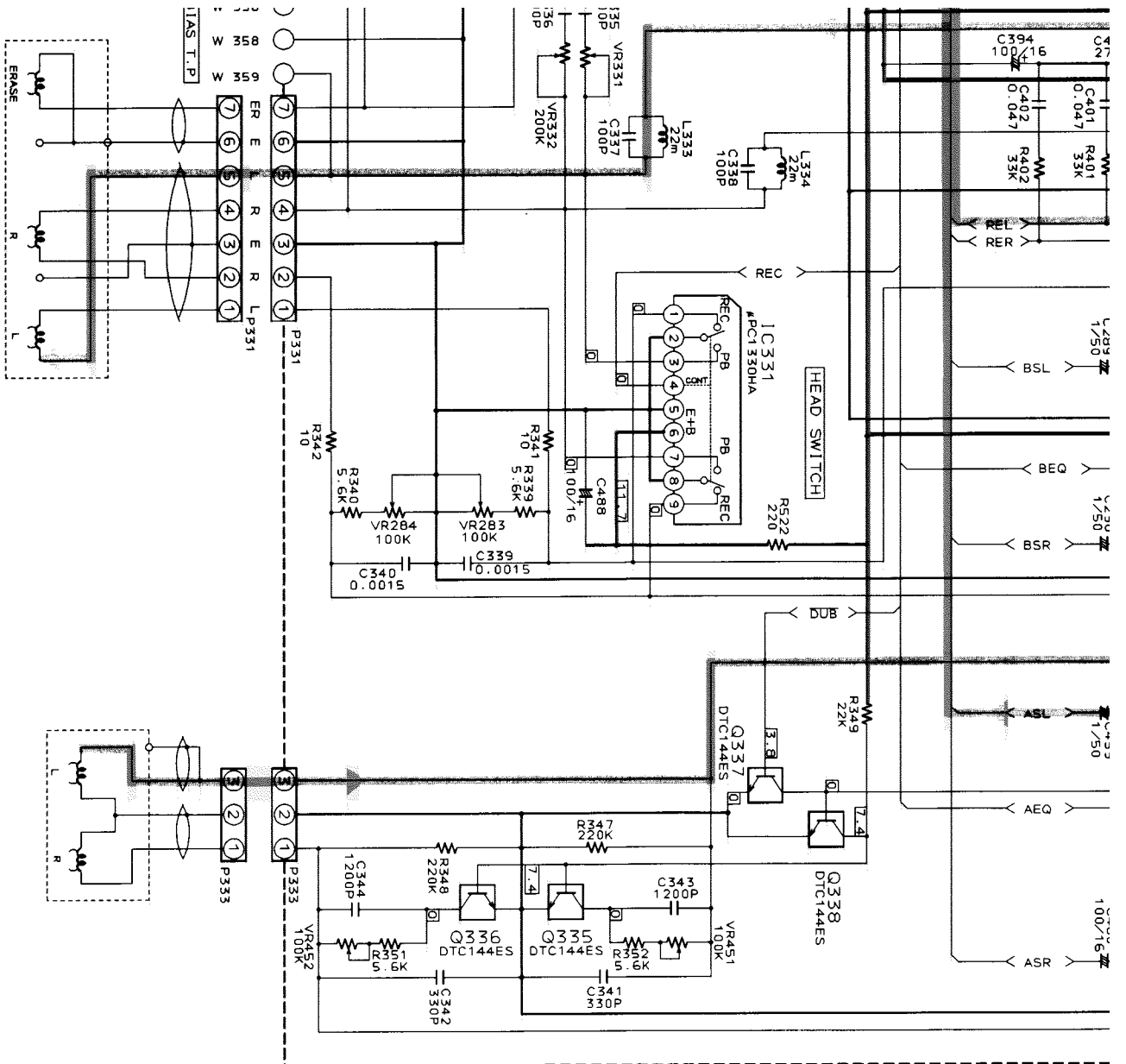
XT-S50BK

■ Cassette Deck Section (1/2)





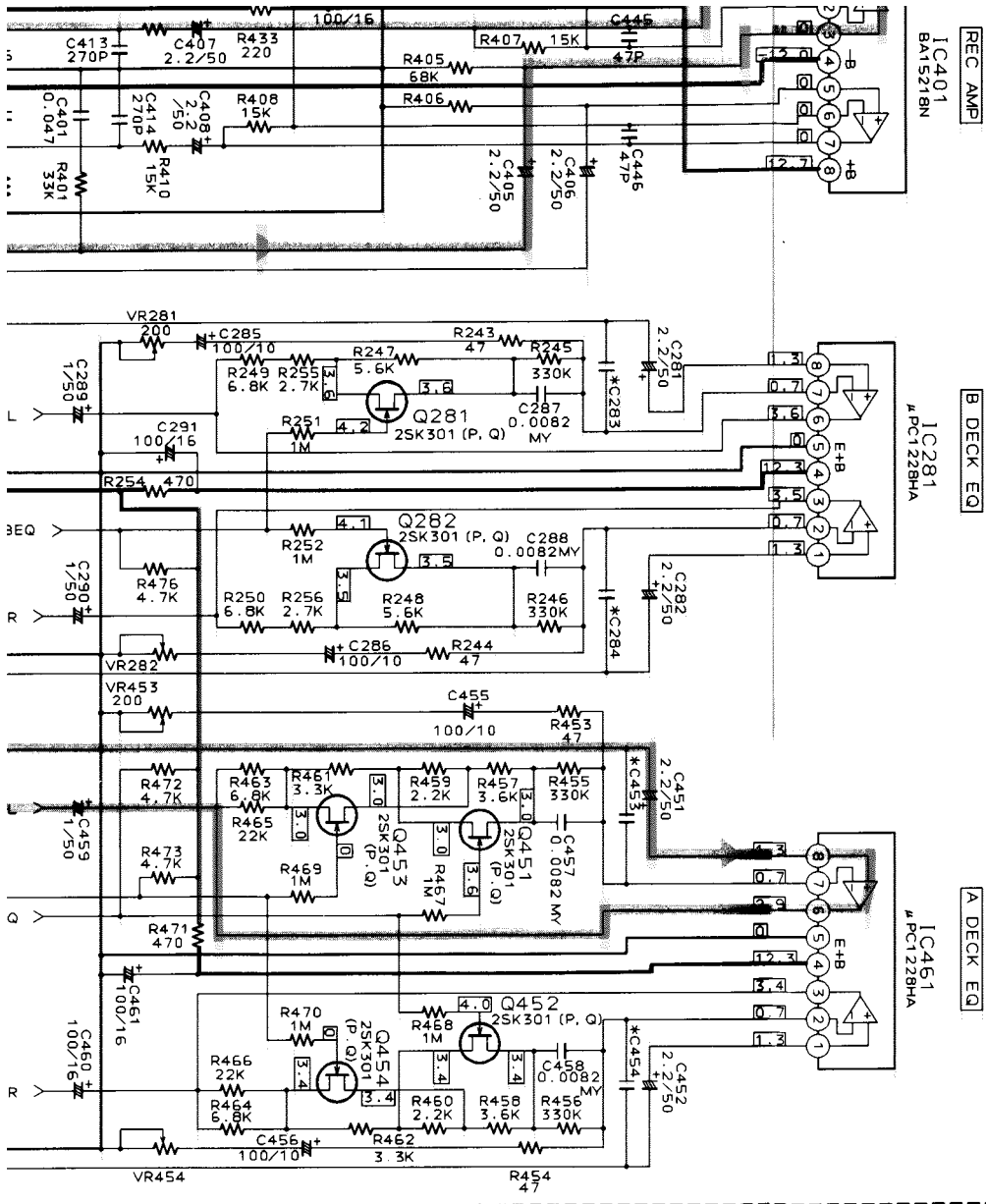
- Notes:**
1. — indicates + B power supply.
 2. — indicates - B power supply.
 3. ■ indicates MAIN signal path.
 4. ■ indicates Record signal path.
 5. When replacing the parts in the darkened are (■) and those marked with Δ, be sure to use the designated parts to ensure safety.
 6. This is the standard circuit diagram. The design and contents are subject to change without notice.



(No. 20483) 3-27

XT-S50BK

J K L M N O P Q R S



C. B. GROUP	MODEL
ENJ-074G	XT-S50RBKBS
ENJ-074H	XT-S50RBKEF
	XT-S50RBKEN
	XT-S50RBKGI

RX-S50BK

< PARTS LIST >

Note : All printed circuit boards and its assemblies are not available as service parts.

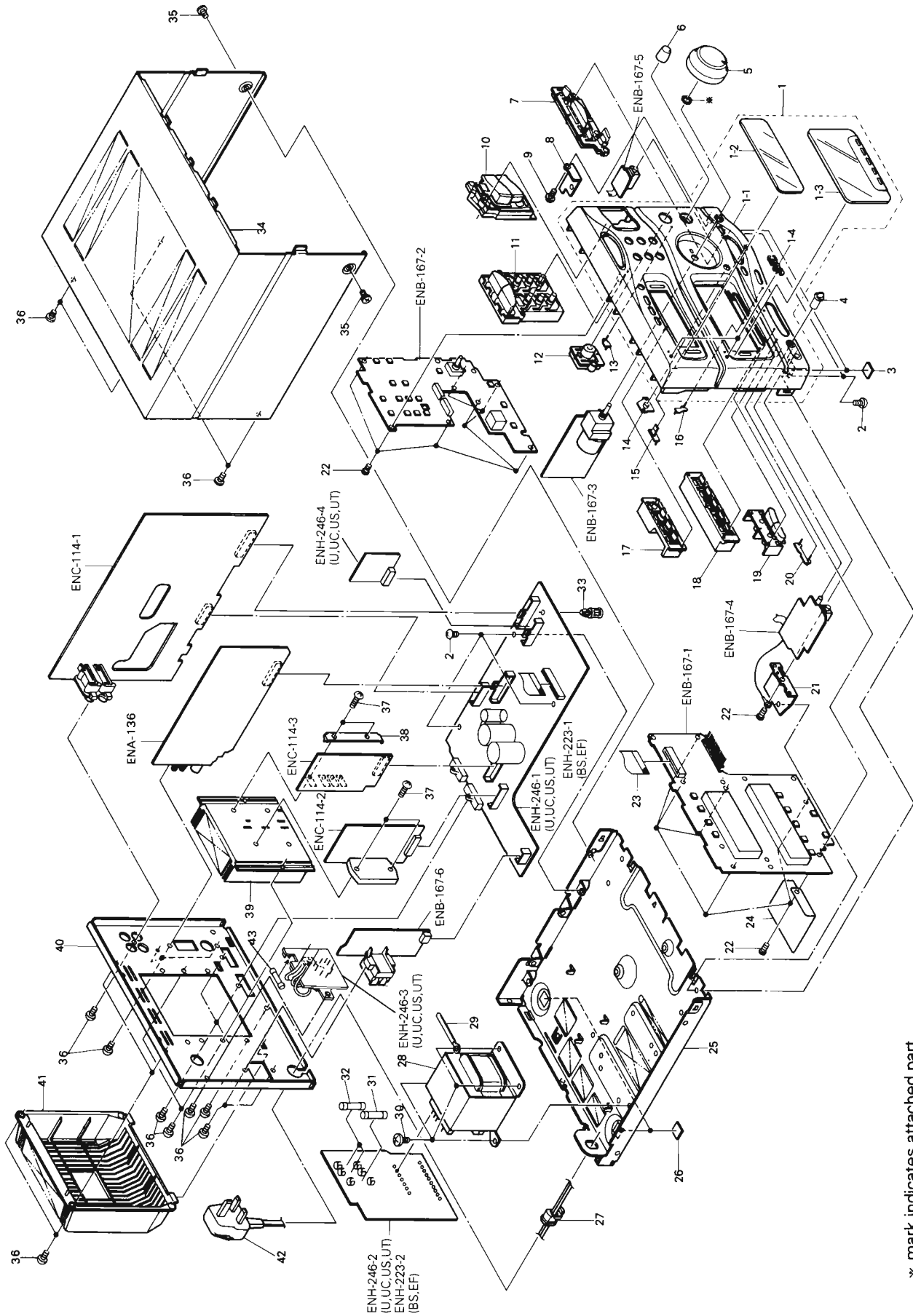
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■ ENH-246 <input checked="" type="checkbox"/> Main & Power Primary PC Board Ass'y (U , UC , US ,UT)	4-7
■ ENA-136 <input type="checkbox"/> Tuner PC Board Ass'y	4-9
■ ENB-167 <input type="checkbox"/> Display & Mic Mixing PC Board Ass'y	4-12
■ ENC-114 <input type="checkbox"/> Selector , Amplifier & Regulator PC Board Ass'y	4-15
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Packing Materials and Part Numbers	4-19

General Exploded View and Parts List

Symbol No.

M	1	M	M
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■ Parts List

Symbol No.

M	1	M	M
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△	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-RXS50BKE(S)	FRONT PANEL ASSY	1		BS
		EFP-RXS50BKE(S)	FRONT PANEL ASSY	1		EF
		EFP-RXS50BKU(S)	FRONT PANEL ASSY	1		U
		EFP-RXS50BKU(S)	FRONT PANEL ASSY	1		UC
		EFP-RXS50BKU(S)	FRONT PANEL ASSY	1		US
	1-1	EFP-RXS50BKU(S)	FRONT PANEL ASSY	1		UT
		E102684-017SM	FRONT PANEL	1		BS
		E102684-017SM	FRONT PANEL	1		EF
		E102684-018SM	FRONT PANEL	1		U
		E102684-018SM	FRONT PANEL	1		UC
		E102684-018SM	FRONT PANEL	1		US
		E102684-018SM	FRONT PANEL	1		UT
	1-2	E308421-001SM	WINDOW SCREEN	1		
	1-3	E308423-005SM	WINDOW SCREEN	1		
	1-4	E406971-221	JVC MARK	2		
	2	SBSG3008CC	SCREW	5		
	3	E75896-001	SPACER	2	FRONT FOOT	
	4	E407233-002	KNOB	1		
	5	E308414-001SS	VOLUME KNOB ASSY	1		
	6	E75737-015	KNOB	1		
	7	E207794-001SM	PUSH BUTTON	1		
	8	E408268-001	BRACKET	1		
	9	E407098-001	SPECIAL SCREW	1		
	10	E207858-001SM	PUSH BUTTON ASSY	1		
	11	E207788-001SM	PUSH BUTTON	1		U
		E207788-001SM	PUSH BUTTON	1		UC
		E207788-001SM	PUSH BUTTON	1		US
		E207788-001SM	PUSH BUTTON	1		UT
		E207788-002SM	PUSH BUTTON	1		BS
		E207788-002SM	PUSH BUTTON	1		EF
	12	E308428-001SM	PUSH BUTTON	1		
	13	E407439-001SS	INDICATOR	1		
	14	E407431-001	REMOTE LENS	1		
	15	E407437-001SS	INDICATOR	1		
	16	E407440-001SS	INDICATOR	1		
	17	E308425-001SM	PUSH BUTTON	1		
	18	E308426-001SM	PUSH BUTTON	1		
	19	E308427-001SM	PUSH BUTTON	1		
	20	E407438-001SS	INDICATOR	1		
	21	E407580-001SM	BRACKET	1		
	22	SDSF2608Z	SCREW	14		
	23	EWR629K-22TTJ3	FLAT WIRE ASSY	1	FC901	
	24	E308547-002	SHIELD PLATE ASSY	1		
	25	E102616-004SS	CHASSIS BASE	1		
	26	E75896-006	FELT SPACER	2	REAR FOOT	
△	27	QHS3876-162BS	CORD STOPPER	1		BS
△		QHS3876-162	CORD STOPPER	1		EF
△		QHS3876-162	CORD STOPPER	1		U
△		QHS3876-162	CORD STOPPER	1		UC
△		QHS3876-162	CORD STOPPER	1		US
△	28	QHS3876-162	CORD STOPPER	1		UT
△		ETP1100-46EJBS	POWER TRANSFORMER	1	T001	BS
△		ETP1100-46EJ	POWER TRANSFORMER	1	T001	EF
△		ETP1100-46FAJ	POWER TRANSFORMER	1	T001	U
△		ETP1100-46FAJ	POWER TRANSFORMER	1	T001	UC

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
⚠		ETP1100-46FAJ	POWER TRANSFORMER	1	T001	US
⚠		ETP1100-46FAJ	POWER TRANSFORMER	1	T001	UT
	29	E407469-001SS	WIRE CLAMP	1		
	30	E65389-004	SPECIAL SCREW	4		
⚠	31	QMF51E2-1R0J1BS	FUSE	1	F001 (T1.0A/250V)	BS
⚠		QMF51E2-1R0J1	FUSE	1	F001 (T1.0A/250V)	EF
⚠		QMF51E2-2R0	FUSE	1	F001 (T2.0A/250V)	U
⚠		QMF51E2-2R0	FUSE	1	F001 (T2.0A/250V)	UC
⚠		QMF51E2-2R0	FUSE	1	F001 (T2.0A/250V)	US
⚠		QMF51E2-2R0	FUSE	1	F001 (T2.0A/250V)	UT
⚠	32	QMF51E2-1R2J1BS	FUSE	2	F101 , F102 (T1.25A/250V)	BS
⚠		QMF51E2-1R25	FUSE	2	F101 , F102 (T1.25A/250V)	EF
⚠		QMF51E2-1R25	FUSE	2	F101 , F102 (T1.25A/250V)	U
⚠		QMF51E2-1R25	FUSE	2	F101 , F102 (T1.25A/250V)	UC
⚠		QMF51E2-1R25	FUSE	2	F101 , F102 (T1.25A/250V)	US
⚠		QMF51E2-1R25	FUSE	2	F101 , F102 (T1.25A/250V)	UT
	33	E308544-001	FASTENER	1		
	34	E207787-221	METAL COVER	1		
	35	SDSG3006M	SCREW	2		
	36	E73273-003	SPECIAL SCREW	17		
		E73273-003	SPECIAL SCREW	2		U
		E73273-003	SPECIAL SCREW	2		UC
		E73273-003	SPECIAL SCREW	2		US
		E73273-003	SPECIAL SCREW	2		UT
	37	SBSG3014CC	SCREW	4		
	38	E407434-001SM	LEAF SPRING	1		
	39	E308420-002SM	HEAT SINK	1		
	40	E207785-027SM	REAR PANEL	1		EF
		E207785-028SM	REAR PANEL	1		BS
		E207785-029SM	REAR PANEL	1		U
		E207785-029SM	REAR PANEL	1		US
		E207785-029SM	REAR PANEL	1		UT
		E207785-030SM	REAR PANEL	1		UC
⚠	41	E207356-001SM	REAR COVER	1		
⚠	42	QMP5530-0085BS	POWER CORD	1		BS
⚠		QMP3900-200	POWER CORD	1		EF
⚠		QMP3900-200	POWER CORD	1		US
⚠		QMP7520-200	POWER CORD	1		U
⚠		QMP7520-200	POWER CORD	1		UC
⚠		QMP7520-200	POWER CORD	1		UT
⚠	43	QMF51E2-1R0J1	FUSE	1	F002 (T1.0A/250V)	U
⚠		QMF51E2-1R0J1	FUSE	1	F002 (T1.0A/250V)	UC
⚠		QMF51E2-1R0J1	FUSE	1	F002 (T1.0A/250V)	US
⚠		QMF51E2-1R0J1	FUSE	1	F002 (T1.0A/250V)	UT
	-	QZL1031-101	SEV LABEL	1		EF
	-	E308522-040	RATING LABEL	1		UT

⚠ SAFETY PARTS

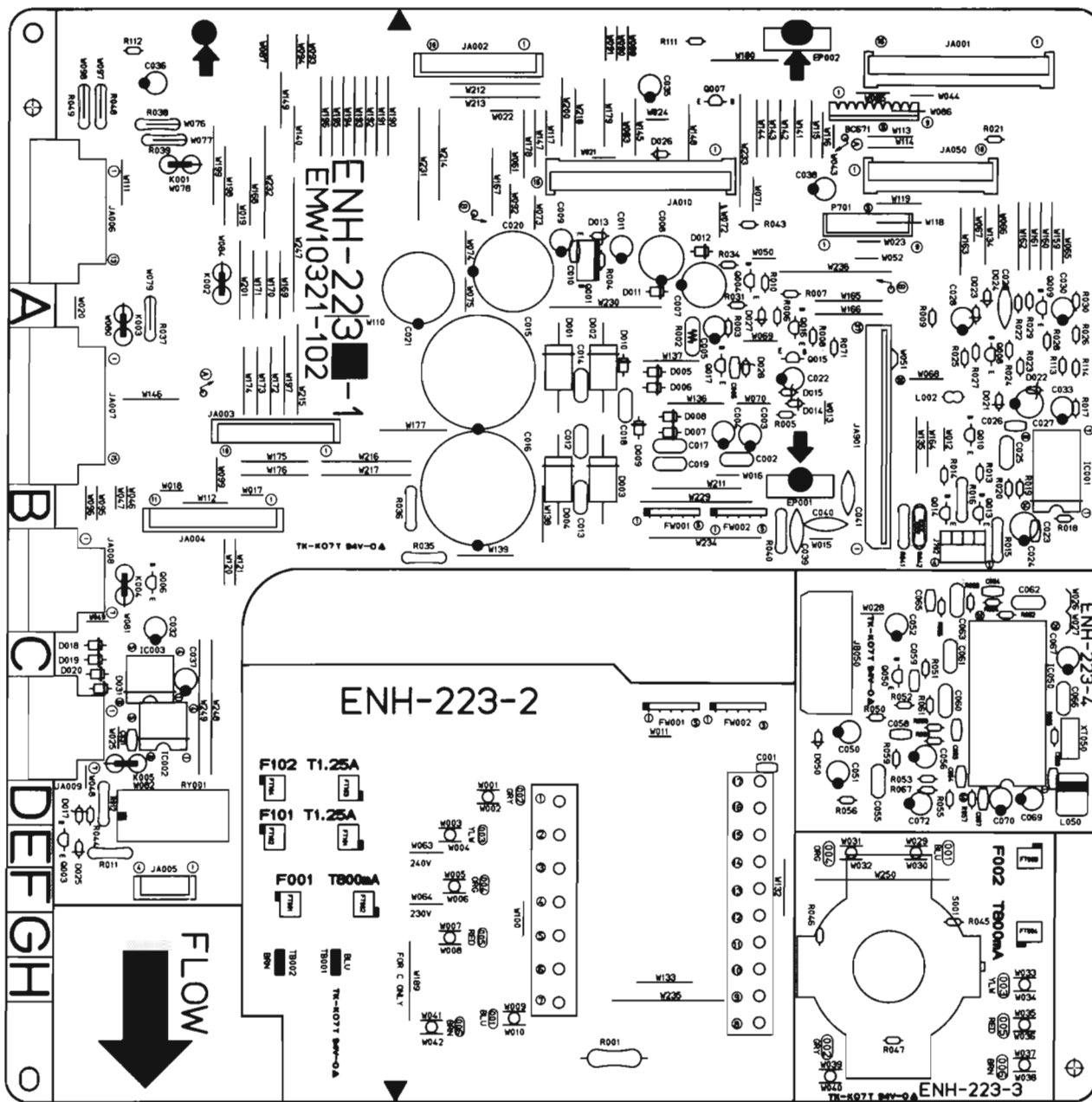
The Marks for Designated Areas

BS the U.K. EF Continental Europe UC China
 US Singapore UT Taiwan U Universal Type
 No mark indicates all areas.

Printed Circuit Board Ass'y and Parts List

■ ENH-223 □ Main & Power Primary PC Board Ass'y (BS , EF)

Note : ENH-223 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Designated Areas
ENH-223 [1]	EF	Continental Europe
ENH-223 [] BS	BS	the U.K.

Transistors

Δ ITEM	PART NUMBER	DESCRIPTION	AREA
Q001	2SB1357(E,F)	SI.TRANSIST ROHM	
Q003	2SC1740S(R,S)	SI.TRANSIST ROHM	
Q004	DTA144ES	DIGITAL TRA ROHM	
Q008	2SD2144S(VW)	SI.TRANSIST ROHM	
Q009	2SC1740S(R,S)	SI.TRANSIST ROHM	

Δ (SIA/FETY) PARTS

Transistors

Δ ITEM	PART NUMBER	DESCRIPTION	AREA
Q010	DTA144ES	DIGITAL TRA ROHM	
Q013	2SD2144S(VW)	SI.TRANSIST ROHM	
Q014	2SD2144S(VW)	SI.TRANSIST ROHM	
Q015	DTC114YS	DIGITAL TRA ROHM	
Q016	DTC114YS	DIGITAL TRA ROHM	
Q017	2SC1741AS(QR)	SI.TRANSIST ROHM	

Δ (SIA/FETY) PARTS

I.C.s

Δ ITEM	PART NUMBER	DESCRIPTION	AREA
IC001	XR1097CP	I.C(MOND-AN EXAR JAPAN)	

Δ (SIA/FETY) PARTS

Diodes

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
Δ	D001	30DL2FC	SI.DIODE NIHONINTER	
Δ	D002	30DL2FC	SI.DIODE NIHONINTER	
Δ	D003	30DL2FC	SI.DIODE NIHONINTER	
Δ	D004	30DL2FC	SI.DIODE NIHONINTER	
	D005	1SR139-200	SI.DIODE ROHM	
	D006	1SR139-200	SI.DIODE ROHM	
	D007	1SR139-200	SI.DIODE ROHM	
	D008	1SR139-200	SI.DIODE ROHM	
	D009	1SR139-200	SI.DIODE ROHM	
	D010	1SR139-200	SI.DIODE ROHM	
	D011	1SR139-200	SI.DIODE ROHM	
	D012	1SR139-200	SI.DIODE ROHM	
	D013	MTZ30JC	ZENER DIODE ROHM	
	D014	1SS119	SI.DIODE	
	D015	MTZ5.1JC	ZENER DIODE ROHM	
	D017	MTZ8.2JC	ZENER DIODE ROHM	
	D021	1SS119	SI.DIODE	
	D022	MTZ5.1JC	ZENER DIODE ROHM	
	D023	1SS119	SI.DIODE	
	D025	1SS119	SI.DIODE	
	D026	1SS119	SI.DIODE	
	D027	1SS119	SI.DIODE	
	D028	MTZ5.6JC	ZENER DIODE ROHM	

Δ ISIAFETY PARTS

Capacitors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	C002	QFVB1HJ-104	0.1MF 50V THIN FILM	
	C003	QETB1HM-106	10MF 50V E.CAPACITO	
	C004	QETB1HM-106	10MF 50V E.CAPACITO	
	C005	QETB1HM-106	10MF 50V E.CAPACITO	
	C006	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C007	QETB1HM-227	220MF 50V E.CAPACITO	
	C008	QETB1HM-227	220MF 50V E.CAPACITO	
	C009	QETB1HM-226E	22MF 50V E.CAPACITO	
	C010	QCBB1HK-102Y	1000PF 50V CER.CAPACI	BS
	C010	QCBB1HK-102Y	1000PF 50V CER.CAPACI	EF
	C011	QETB1HM-226E	22MF 50V E.CAPACITO	
	C012	QFVB2AJ-104	0.1MF 100V THIN FILM	
	C013	QFN81HJ-104	0.1MF 50V METAL.MYLA	
	C014	QFN81HJ-104	0.1MF 50V METAL.MYLA	
	C015	EEW4208-568E	5600MF E.CAPACITO	
	C016	EEW4208-568E	5600MF E.CAPACITO	
	C017	QFVB1HJ-104	0.1MF 50V THIN FILM	
	C018	QFVB1HJ-104	0.1MF 50V THIN FILM	
	C019	QFVB1HJ-104	0.1MF 50V THIN FILM	
	C020	QETB1VM-338	3300MF 35V AL E.CAPAC	
	C021	QETB1VM-228N	2200MF 35V E.CAPACITO	
	C022	QETB1HM-225	2.2MF 50V E.CAPACITO	
	C023	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C024	QETB1AM-107	100MF 10V AL E.CAPAC	
	C025	QFLB1HJ-102	1000PF 50V MYLAR CAPA	
	C026	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C027	QETB1AM-107	100MF 10V AL E.CAPAC	
	C028	QCF21HP-473A	0.047MF 50V CER.CAPACI	
	C029	QETB1HM-105	1MF 50V AL E.CAPAC	
	C030	QETB1EM-106	10MF 25V AL E.CAPAC	
	C033	QETB1EM-106	10MF 25V AL E.CAPAC	
	C039	QCY31HK-103Z	0.01MF 50V CER.CAPACI	BS
	C039	QCY31HK-103Z	0.01MF 50V CER.CAPACI	EF
	C042	QCY31HK-103Z	0.01MF 50V CER.CAPACI	BS
	C042	QCY31HK-103Z	0.01MF 50V CER.CAPACI	EF

Δ ISIAFETY PARTS

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
Δ	R002	PTH61G25AR4R7M	POSITIVE T	
	R003	QRD167J-223	22K 1/6W CARBON RES	
	R004	QRD167J-332	3.3K 1/6W CARBON RES	
	R005	QRD161J-103	10K 1/6W CARBON RES	
	R006	QRD161J-103	10K 1/6W CARBON RES	
	R007	QRD167J-102	1K 1/6W CARBON RES	
	R008	QRD167J-102	1K 1/6W CARBON RES	
	R009	QRD167J-152	1.5K 1/6W CARBON RES	
	R010	QRD161J-222	2.2K 1/6W CARBON RES	
Δ	R011	QRZ0077-271	270 1/4W FUSIBLE RE	
Δ	R012	QRD14CJ-271S	270 1/4W UNF.CARBON	
	R013	QRD167J-272	2.7K 1/6W CARBON RES	
	R014	QRD167J-272	2.7K 1/6W CARBON RES	
Δ	R015	QRD14CJ-681SX	680 1/4W UNF.CARBON	
Δ	R016	QRD14CJ-681SX	680 1/4W UNF.CARBON	
	R017	QRD167J-223	22K 1/6W CARBON RES	
	R018	QRD167J-223	22K 1/6W CARBON RES	
	R019	QRD161J-563	56K 1/6W CARBON RES	
	R020	QRD167J-152	1.5K 1/6W CARBON RES	
	R021	QRD161J-331	330 1/6W CARBON RES	

Δ ISIAFETY PARTS

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	R022	QRD161J-512	5.1K 1/6W CARBON RES	
	R023	QRD167J-562	5.6K 1/6W CARBON RES	
	R024	QRD161J-473	47K 1/6W CARBON RES	
	R025	QRD161J-103	10K 1/6W CARBON RES	
	R026	QRD161J-273	27K 1/6W CARBON RES	
	R027	QRD161J-104	100K 1/6W CARBON RES	
	R028	QRD167J-102	1K 1/6W CARBON RES	
	R029	QRD161J-204	200K 1/6W CARBON RES	
	R030	QRD161J-224	220K 1/6W CARBON RES	
	R031	QRD161J-222	2.2K 1/6W CARBON RES	
	R034	QRD161J-472	4.7K 1/6W CARBON RES	
	R035	QRD12CJ-331SX	330 1/2W UNF.CARBON	
	R036	QRD12CJ-331SX	330 1/2W UNF.CARBON	
Δ	R041	QRZ0077-4R7	4.7 1/4W FUSE RESIS	
	R042	QRD14CJ-6R8SX	6.8 1/4W UNF.CARBON	
	R043	QRD161J-103	10K 1/6W CARBON RES	
Δ	R048	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	
	R071	QRD161J-222	2.2K 1/6W CARBON RES	

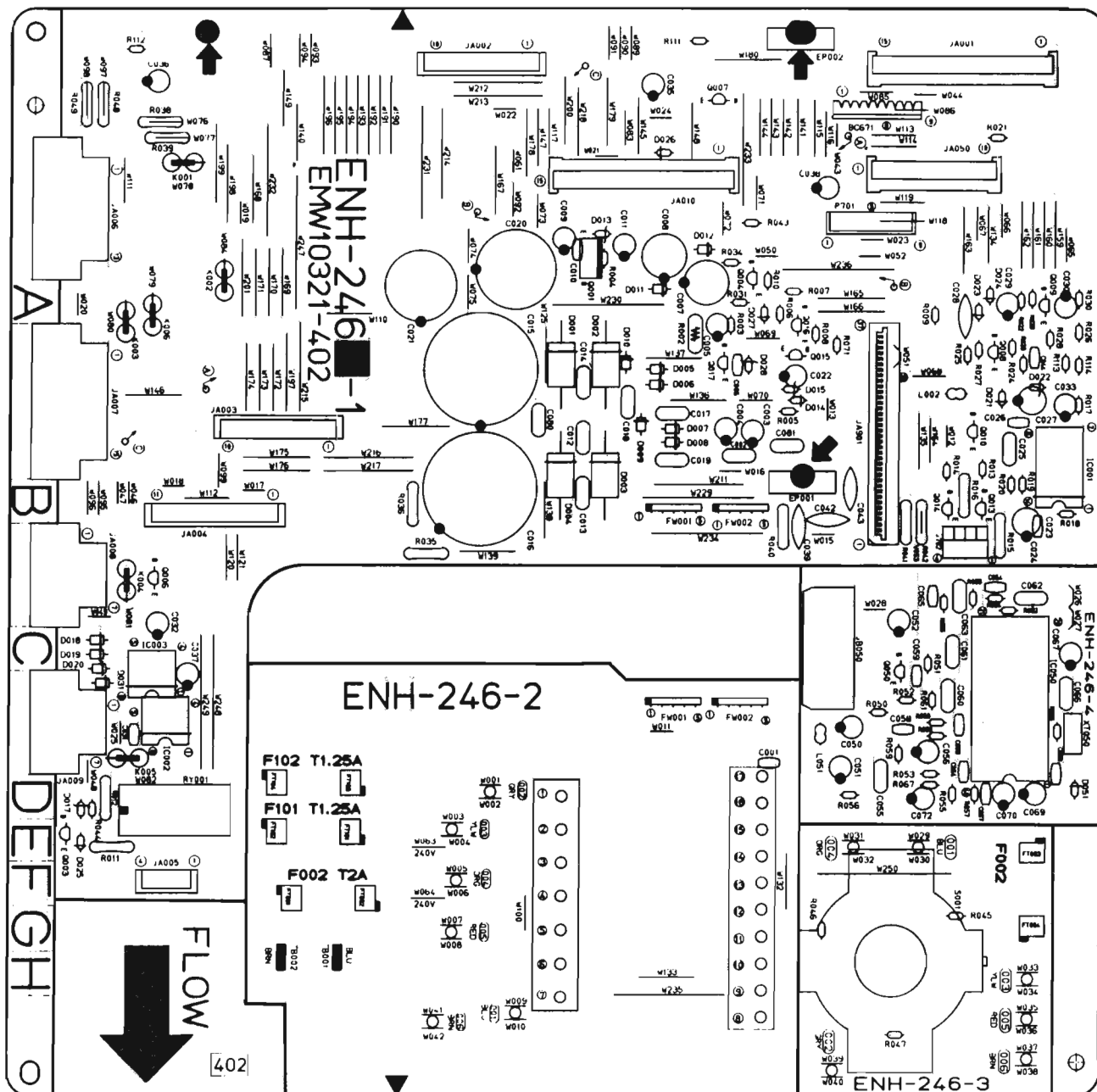
Δ ISIAFETY PARTS

Others

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
		QHX2075-001	TIE BAND	
		E67132-T1R0	FUSE LABEL	
		QWE350-14RR	VINYL WIRE	
		QWE351-18RR	VINYL WIRE	
	J702	EMV7122-004	CONNECT TER 4PIN	
	L002	EQL4007-1R0T	INDUCTOR	
	P701	EMV5142-905	CONNECT TER 5PIN	
	BC671	EWS296-0118	SOCKET WIRE 6PIN	
	EP001	E65396-003	EARTH PLATE	BS
	EP001	E65396-003	EARTH PLATE	EF
	EP002	E65396-003	EARTH PLATE	
	FT001	VMZ0087-001Z	FUSE HOLDER	
	FT002	VMZ0087-001Z	FUSE HOLDER	
	FT101	VMZ0087-001Z	FUSE HOLDER	
	FT102	VMZ0087-001Z	FUSE HOLDER	
	FT103	VMZ0087-001Z	FUSE HOLDER	
	FT104	VMZ0087-001Z	FUSE HOLDER	
	FW001	EWR35B-16SST	FLAT WIRE A 5PIN	
	FW002	EWR35B-16SST	FLAT WIRE A 5PIN	
	JA001	EMV5140-015	CONNECT TER 15PIN	
	JA002	EMV5125-010	MALE CONN 10PIN	
	JA003	EMV5125-010	MALE CONN 10PIN	
	JA004	EMV5125-011	MALE CONN 11PIN	
	JA005	EMV5125-004	CONNECT TER 4PIN	
	JA006	EMV7127-013	CONNECT TER 13PIN	
	JA007	EMV7127-015	FEMALE CONN 15PIN	
	JA010	EMV5140-015	CONNECT TER 15PIN	
	JA901	EMV7123-029	MALE CONN 29PIN	
	RY001	ESK7D24-212J1	RELAY	BS
	RY001	ESK7D24-212J1	RELAY	EF
	TB001	EMZ4001-001	TAB	
	TB002	EMZ4001-001	TAB	

Δ ISIAFETY PARTS

■ ENH-246 [B] Main & Power Primary PC Board Ass'y (U , UC , US , UT)



Transistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q001	2SB1357(E,F)	SI.TRANSIST ROHM	
	Q003	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q004	DTA144ES	DIGITAL TRA ROHM	
	Q008	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q009	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q010	DTA144ES	DIGITAL TRA ROHM	
	Q013	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q014	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q015	DTC114YS	DIGITAL TRA ROHM	
	Q016	DTC114YS	DIGITAL TRA ROHM	
	Q017	2SC1741AS(QR)	SI.TRANSIST ROHM	
	Q050	2SC1740S(R,S)	SI.TRANSIST ROHM	

▲ FIFTY PARTS

I.C.s

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC001	XR1097CP	I.C(MONO-AN EXAR JAPAN	
	IC050	M50197P	I.C(DIGI-MO MITSUBISHI	

▲ FIFTY PARTS

Diodes

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	D001	30DL2FC	SI.DIODE NIHONINTER	
	D002	30DL2FC	SI.DIODE NIHONINTER	
	D003	30DL2FC	SI.DIODE NIHONINTER	
	D004	30DL2FC	SI.DIODE NIHONINTER	
	D005	1SR139-200	SI.DIODE ROHM	
	D006	1SR139-200	SI.DIODE ROHM	
	D007	1SR139-200	SI.DIODE ROHM	
	D008	1SR139-200	SI.DIODE ROHM	
	D009	1SR139-200	SI.DIODE ROHM	
	D010	1SR139-200	SI.DIODE ROHM	

▲ FIFTY PARTS

Diodes

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	D011	1SR139-200	SI.DIODE ROHM	
	D012	1SR139-200	SI.DIODE ROHM	
	D013	MTZ30JC	ZENER DIODE ROHM	
	D014	1SS119	SI.DIODE	
	D015	MTZ5.1JC	ZENER DIODE ROHM	
	D017	MTZ7.5JC	ZENER DIODE ROHM	
	D021	1SS119	SI.DIODE	
	D022	MTZ5.1JC	ZENER DIODE ROHM	
	D023	1SS119	SI.DIODE	
	D025	1SS119	SI.DIODE	
	D026	1SS119	SI.DIODE	
	D027	1SS119	SI.DIODE	
	D028	MTZ5.6JC	ZENER DIODE ROHM	
	D051	1SS119	SI.DIODE	

Δ IS SAFETY PARTS

Capacitors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	C002	QFV31HJ-104AZM	0.1MF 50V THIN FILM	
	C003	QETB1HM-106	10MF 50V E.CAPACITO	
	C004	QETB1HM-106	10MF 50V E.CAPACITO	
	C005	QETB1HM-106	10MF 50V E.CAPACITO	
	C006	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C007	QETB1HM-227	220MF 50V E.CAPACITO	
	C008	QETB1HM-227	220MF 50V E.CAPACITO	
	C009	QETB1HM-226E	22MF 50V E.CAPACITO	
	C010	QCBB1HK-102Y	1000PF 50V CER.CAPACI	U
	C010	QCBB1HK-102Y	1000PF 50V CER.CAPACI	UC
	C010	QCBB1HK-102Y	1000PF 50V CER.CAPACI	US
	C010	QCBB1HK-102Y	1000PF 50V CER.CAPACI	UT
	C011	QETB1HM-226E	22MF 50V E.CAPACITO	
	C012	QFV82AJ-104	0.1MF 100V THIN FILM	
	C013	QFV31HJ-104AZM	0.1MF 50V THIN FILM	
	C014	QFV31HJ-104AZM	0.1MF 50V THIN FILM	
	C015	EEW420B-568E	5600MF E.CAPACITO	
	C016	EEW420B-568E	5600MF E.CAPACITO	
	C017	QFV31HJ-104AZM	0.1MF 50V THIN FILM	
	C018	QFV31HJ-104AZM	0.1MF 50V THIN FILM	
	C019	QFV31HJ-104AZM	0.1MF 50V THIN FILM	
	C020	QETB1VM-338	3300MF 35V AL E.CAPAC	
	C021	QETB1VM-228N	2200MF 35V E.CAPACITO	
	C022	QETB1HM-225	2.2MF 50V E.CAPACITO	
	C023	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C024	QETB1AM-107	100MF 10V AL E.CAPAC	
	C025	QFLB1HJ-102	1000PF 50V MYLAR CAPA	
	C026	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C027	QETB1AM-107	100MF 10V AL E.CAPAC	
	C028	QCF21HP-473A	0.047MF 50V CER.CAPACI	
	C029	QETB1HM-105	1MF 50V AL E.CAPAC	
	C030	QETB1EM-106	10MF 25V AL E.CAPAC	
	C031	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C033	QETB1EM-106	10MF 25V AL E.CAPAC	
	C036	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C038	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C039	QCY31HK-103Z	0.01MF 50V CER.CAPACI	
	C042	QCY31HK-103Z	0.01MF 50V CER.CAPACI	
	C050	QETB1CM-476	47MF 16V AL E.CAPAC	
	C051	QETB1HM-105	1MF 50V AL E.CAPAC	
	C052	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C053	QCGB1HK-102	1000PF 50V CER.CAPACI	
	C054	QCGB1HK-102	1000PF 50V CER.CAPACI	
	C055	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	
	C056	QETB1HM-105	1MF 50V AL E.CAPAC	
	C057	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C058	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C059	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C060	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
	C061	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
	C062	QFV31HJ-334AZM	0.33MF 50V THIN FILM	
	C063	QFV31HJ-334AZM	0.33MF 50V THIN FILM	
	C064	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C065	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C066	QCZ0202-155	1.5MF 25V CER.RESIST	
	C067	QETB1AM-107	100MF 10V AL E.CAPAC	
	C068	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C069	QETB1AM-107	100MF 10V AL E.CAPAC	
	C070	QETB1AM-476	47MF 10V E.CAPACITO	
	C072	QETB1HM-105	1MF 50V AL E.CAPAC	

Δ IS SAFETY PARTS

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	R002	PTH61G25AR47M	POSITIVE T	
	R003	QRD167J-223	22K 1/6W CARBON RES	
	R004	QRD167J-332	3.3K 1/6W CARBON RES	
	R005	QRD161J-103	10K 1/6W CARBON RES	
	R006	QRD161J-103	10K 1/6W CARBON RES	

Δ IS SAFETY PARTS

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	R007	QRD167J-102	1K 1/6W CARBON RES	
	R008	QRD167J-102	1K 1/6W CARBON RES	
	R009	QRD167J-152	1.5K 1/6W CARBON RES	
	R010	QRD161J-222	2.2K 1/6W CARBON RES	
	R011	QRZ0077-271	270 1/4W FUSIBLE RE	
	R012	QRD14CJ-331SX	330 1/4W UNF.CARBON	
	R013	QRD167J-272	2.7K 1/6W CARBON RES	
	R014	QRD167J-272	2.7K 1/6W CARBON RES	
	R015	QRD14CJ-681SX	680 1/4W UNF.CARBON	
	R016	QRD14CJ-681SX	680 1/4W UNF.CARBON	
	R017	QRD167J-223	22K 1/6W CARBON RES	
	R018	QRD167J-223	22K 1/6W CARBON RES	
	R019	QRD161J-563	56K 1/6W CARBON RES	
	R020	QRD167J-152	1.5K 1/6W CARBON RES	
	R021	QRD161J-331	330 1/6W CARBON RES	
	R022	QRD161J-512	5.1K 1/6W CARBON RES	
	R023	QRD167J-562	5.6K 1/6W CARBON RES	
	R024	QRD161J-104	100K 1/6W CARBON RES	
	R025	QRD161J-103	10K 1/6W CARBON RES	
	R026	QRD161J-133Y	13K 1/6W CARBON RES	
	R027	QRD161J-104	100K 1/6W CARBON RES	
	R028	QRD167J-102	1K 1/6W CARBON RES	
	R029	QRD161J-204	200K 1/6W CARBON RES	
	R030	QRD161J-224	220K 1/6W CARBON RES	
	R031	QRD161J-222	2.2K 1/6W CARBON RES	
	R034	QRD161J-472	4.7K 1/6W CARBON RES	
	R035	QRD12CJ-331SX	330 1/2W UNF.CARBON	
	R036	QRD12CJ-331SX	330 1/2W UNF.CARBON	
	R041	QRZ0077-100	10 1/4W FUSIBLE RE	
	R042	QRZ0077-4R7	4.7 1/4W FUSE RESIS	U
	R042	QRZ0077-4R7	4.7 1/4W FUSE RESIS	UC
	R042	QRZ0077-4R7	4.7 1/4W FUSE RESIS	US
	R042	QRZ0077-4R7	4.7 1/4W FUSE RESIS	UT
	R043	QRD161J-103	10K 1/6W CARBON RES	
	R045	QRD167J-102	1K 1/6W CARBON RES	
	R046	QRD167J-102	1K 1/6W CARBON RES	
	R047	QRD167J-102	1K 1/6W CARBON RES	
	R048	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	
	R050	QRD161J-273	27K 1/6W CARBON RES	
	R051	QRD161J-475	4.7M 1/6W CARBON RES	
	R052	QRD161J-331	330 1/6W CARBON RES	
	R053	QRD161J-302	3K 1/6W CARBON RES	
	R055	QRD167J-153	15K 1/6W CARBON RES	
	R056	QRD167J-434	430K 1/6W CARBON RES	
	R057	QRD161J-103	10K 1/6W CARBON RES	
	R058	QRD161J-103	10K 1/6W CARBON RES	
	R059	QRD167J-272	2.7K 1/6W CARBON RES	
	R060	QRD167J-153	15K 1/6W CARBON RES	
	R061	QRD167J-153	15K 1/6W CARBON RES	
	R062	QRD161J-752	7.5K 1/6W CARBON RES	
	R063	QRD161J-752	7.5K 1/6W CARBON RES	
	R064	QRD161J-753	75K 1/6W CARBON RES	
	R065	QRD161J-753	75K 1/6W CARBON RES	
	R066	QRD161J-105	1M 1/6W CARBON RES	
	R067	QRD161J-203	20K 1/6W CARBON RES	
	R071	QRD161J-222	2.2K 1/6W CARBON RES	
	R111	QRD161J-563	56K 1/6W CARBON RES	
	R112	QRD161J-563	56K 1/6W CARBON RES	
	R113	QRD161J-513	51K 1/6W CARBON RES	
	R114	QRD161J-513	51K 1/6W CARBON RES	

Δ IS SAFETY PARTS

Others

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
		QHX2075-001	TIE BAND	
		QWE886-20RR	VINYL WIRE	
		QWE888-24RR	VINYL WIRE	
		QWE881-20RR	VINYL WIRE	
		QWE884-20RR	VINYL WIRE	
		QWE883-20RR	VINYL WIRE	
		QWE882-20RR	VINYL WIRE	
		QWE350-14RR	VINYL WIRE	
		QWE351-18RR	VINYL WIRE	
	J702	EMV7122-004	CONNECT TER 4PIN	
	L002	EQL4007-1R0T	INDUCTOR	
	L051	EQL4007-100T	INDUCTOR	
	P701	EMV5109-009A	PIN PLUG	
	S001	QSR8001-E01U	ROTARY SWIT	
	BC671	EWS299-0118	SOCKET WIRE 9PIN	
	EP001	E65396-003	EARTH PLATE	
	EP002	E65396-003	EARTH PLATE	
	FT001	VMZ0087-001Z	FUSE HOLDER	
	FT002	VMZ0087-001Z	FUSE HOLDER	
	FT003	VMZ0087-001Z	FUSE HOLDER	
	FT004	VMZ0087-001Z	FUSE HOLDER	
	FT101	VMZ0087-001Z	FUSE HOLDER	
	FT102	VMZ0087-001Z	FUSE HOLDER	
	FT103	VMZ0087-001Z	FUSE HOLDER	
	FT104	VMZ0087-001Z	FUSE HOLDER	

Δ IS SAFETY PARTS

Others

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	FW001	EWR358-16SS	FLAT WIRE A5PIN	
	FW002	EWR358-16SS	FLAT WIRE A5PIN	
	JA001	EMV5140-015	CONNECT TER 15PIN	
	JA002	EMV5125-010	MALE CONNec 10PIN	
	JA003	EMV5125-010	MALE CONNec 10PIN	
	JA004	EMV5125-011	MALE CONNec 11PIN	
	JA005	EMV5125-004	CONNECT TER 4PIN	
	JA006	EMV7127-013	CONNECT TER 13PIN	
	JA007	EMV7127-015	FEMALE CONN 15PIN	
	JA010	EMV5140-015	CONNECT TER 15PIN	

Δ ISIA-FIETY PARTS

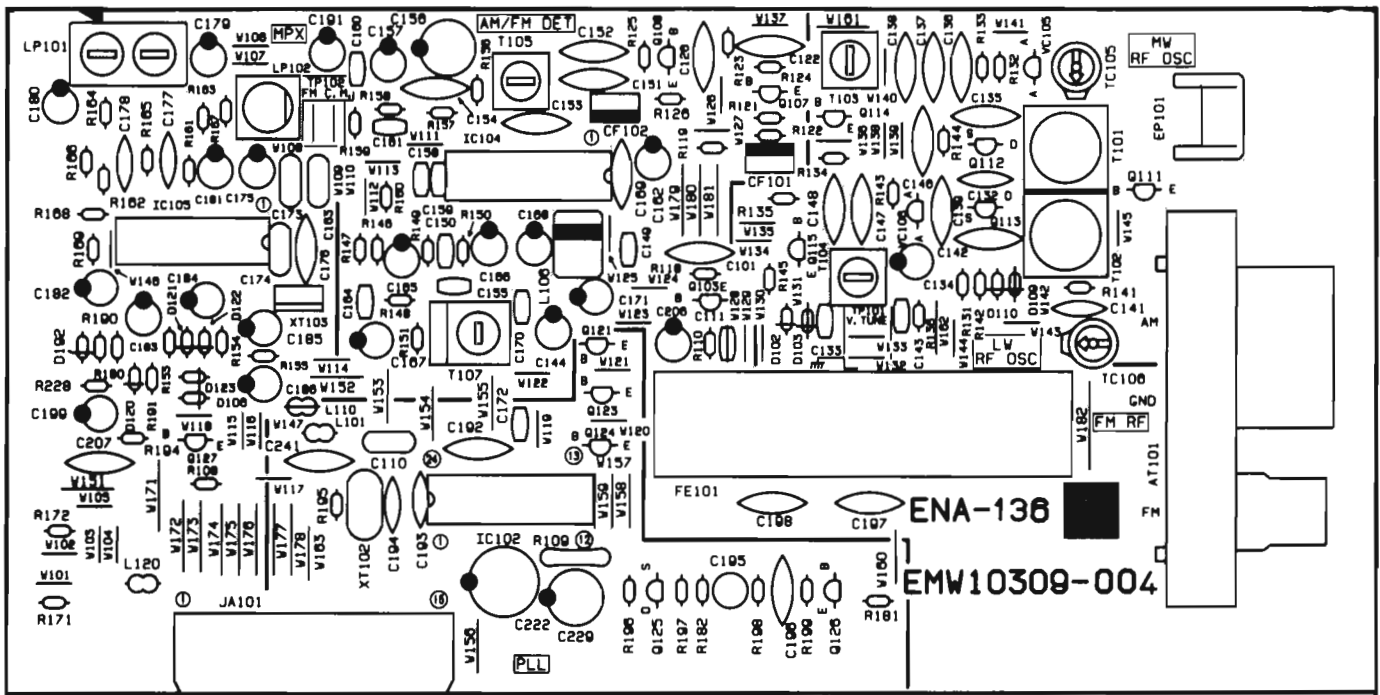
Others

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	JA050	EMV5140-010	VOLUME SOCK 10PIN	
	JA901	EMV7123-029	MALE CONNec 29PIN	U
	JA901	EMV7123-029	MALE CONNec 29PIN	UC
	JA901	EMV7123-029	MALE CONNec 29PIN	US
	JA901	EMV7123-029	MALE CONNec 29PIN	UT
	JB050	EMV7140-L10R	PIN CONNec	
	RY001	ESK7D24-212J1	RELAY	U
	RY001	ESK7D24-212J1	RELAY	UC
	RY001	ESK7D24-212J1	RELAY	US
	RY001	ESK7D24-212J1	RELAY	UT
	TB001	EMZ4001-001	TAB	
	TB002	EMZ4001-001	TAB	
	XT050	ECX0004-194KM	CERAMIC RES	

Δ ISIA-FIETY PARTS

■ ENA-136 □ Tuner PC Board Ass'y

Note : ENA-136 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Designated Areas
ENA-136 □	UC US UT U	China Singapore Taiwan Universal Type
ENA-136 J	EF	Continental Europe
ENA-136 K	BS	the U.K.

Transistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q103	2SC461(B,C)	SI. TRANSIST HITACHI	
	Q107	2SC535(B,C)	SI. TRANSIST	
	Q108	2SC461(B,C)	SI. TRANSIST HITACHI	
	Q111	2SD2144S(VW)	SI. TRANSIST ROHM	BS
	Q111	2SD2144S(VW)	SI. TRANSIST ROHM	EF
	Q112	2SK301(Q,R)	F.E.T.	
	Q113	2SK301(Q,R)	F.E.T.	BS
	Q113	2SK301(Q,R)	F.E.T.	EF
	Q114	2SK301(P,Q)	F.E.T.	BS
	Q114	2SK301(P,Q)	F.E.T. MATSUSHITA	EF
	Q115	2SK301(P,Q)	F.E.T. MATSUSHITA	BS
	Q115	2SK301(P,Q)	F.E.T. MATSUSHITA	EF
	Q121	DTA144ES	DIGITAL TRA ROHM	BS
	Q121	DTA144ES	DIGITAL TRA ROHM	EF
	Q123	DTA144ES	DIGITAL TRA ROHM	
	Q124	DTA144ES	DIGITAL TRA ROHM	
	Q125	2SK301(Q2)	F.E.T.	
	Q126	2SC458(D)	SI. TRANSIST	
	Q127	DTC144ES	DIGITAL TRA ROHM	

Δ ISIA-FIETY PARTS

I.C.s

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC102	LC7218	I.C(DIGI-MO	
	IC104	LA1266A	I.C(MONO-AN SANYO	
	IC105	LA3401	I.C(MONO-AN SANYO	

Δ THIS SAFETY PARTS

Diodes

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	D102	1SS119	SI.DIODE	BS
	D102	1SS119	SI.DIODE	EF
	D103	1SS119	SI.DIODE	BS
	D103	1SS119	SI.DIODE	EF
	D106	1SS119	SI.DIODE	
	D109	1SS119	SI.DIODE	BS
	D109	1SS119	SI.DIODE	EF
	D110	1SS119	SI.DIODE	BS
	D110	1SS119	SI.DIODE	EF
	D120	1SS119	SI.DIODE	
	D121	1SS119	SI.DIODE	
	D122	1SS119	SI.DIODE	
	D123	1SS119	SI.DIODE	
	D192	MTZ5.1JC	ZENER DIODE ROHM	
	VC105	SVC342(L)	VARI-CAPA D SANYO	
	VC106	SVC342(L)	VARI-CAPA D SANYO	BS
	VC106	SVC342(L)	VARI-CAPA D SANYO	EF

Δ THIS SAFETY PARTS

Capacitors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	C101	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C110	QCZ0202-155	1.5MF 25V CER.RESIST	
	C122	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C126	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C132	QCS21HJ-561	560PF 50V CER.CAPACI	
	C133	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C134	QETB1EM-106	10MF 25V AL E.CAPAC	
	C135	QCC21EM-223	0.022MF 25V CER.CAPACI	
	C136	QCT26CH-180	18PF 50V CER.CAPACI	
	C137	QCT26CH-221	220PF 50V CER.CAPACI	
	C138	QCT26CH-241	240PF 50V CER.CAPACI	
	C139	QCC21EM-223	0.022MF 25V CER.CAPACI	BS
	C139	QCC21EM-223	0.022MF 25V CER.CAPACI	EF
	C141	QCS21HJ-270	27PF 50V CER.CAPACI	BS
	C141	QCS21HJ-270	27PF 50V CER.CAPACI	EF
	C142	QCY21HK-272	2700PF 50V CER.CAPACI	BS
	C142	QCY21HK-272	2700PF 50V CER.CAPACI	EF
	C143	QCHB1EZ-223	0.022MF 25V CER.CAPACI	BS
	C143	QCHB1EZ-223	0.022MF 25V CER.CAPACI	EF
	C144	QETB1EM-106	10MF 25V AL E.CAPAC	BS
	C144	QETB1EM-106	10MF 25V AL E.CAPAC	EF
	C146	QCT26CH-680	68PF 50V CER.CAPACI	BS
	C146	QCT26CH-680	68PF 50V CER.CAPACI	EF
	C147	QCT26CH-220	22PF 50V CER.CAPACI	BS
	C147	QCT26CH-220	22PF 50V CER.CAPACI	EF
	C148	QCT26CH-121	120PF 50V CER.CAPACI	BS
	C148	QCT26CH-121	120PF 50V CER.CAPACI	EF
	C149	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C150	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C151	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C152	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C153	QCC21EM-223	0.022MF 25V CER.CAPACI	
	C154	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C155	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C156	QETB1CM-227	220MF 16V AL E.CAPAC	
	C157	QETB1HM-474	0.47MF 50V ELECTRO	
	C158	QCB1HK-101Y	100PF 50V CER.CAPACI	
	C159	QCB1HK-101Y	100PF 50V CER.CAPACI	
	C160	QCB1HK-221Y	220PF 50V CER.CAPACI	
	C161	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C162	QETB1EM-106	10MF 25V AL E.CAPAC	
	C163	QFLB1HJ-102	1000PF 50V MYLAR CAPA	
	C164	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C165	QETB1HM-474	0.47MF 50V ELECTRO	
	C166	QETB1HM-225	2.2MF 50V E.CAPACITO	
	C167	QETB1HM-225	2.2MF 50V E.CAPACITO	
	C168	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C169	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C170	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C171	QETB1EM-106	10MF 25V AL E.CAPAC	
	C172	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C173	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	BS
	C173	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	EF
	C173	QFLB1HJ-393	0.039MF 50V MYLAR CAPA	U
	C173	QFLB1HJ-393	0.039MF 50V MYLAR CAPA	UC
	C173	QFLB1HJ-393	0.039MF 50V MYLAR CAPA	US
	C173	QFLB1HJ-393	0.039MF 50V MYLAR CAPA	UT
	C174	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
	C175	QETB1EM-106	10MF 25V AL E.CAPAC	
	C176	QCY21HK-102	1000PF 50V CER.CAPACI	

Δ THIS SAFETY PARTS

Capacitors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	C177	QCS21HJ-821	820PF 50V CER.CAPACI	BS
	C177	QCS21HJ-561	560PF 50V CER.CAPACI	EF
	C177	QCS21HJ-821	820PF 50V CER.CAPACI	U
	C177	QCS21HJ-821	820PF 50V CER.CAPACI	UC
	C177	QCS21HJ-821	820PF 50V CER.CAPACI	US
	C177	QCS21HJ-821	820PF 50V CER.CAPACI	UT
	C178	QCS21HJ-821	820PF 50V CER.CAPACI	BS
	C178	QCS21HJ-561	560PF 50V CER.CAPACI	EF
	C178	QCS21HJ-821	820PF 50V CER.CAPACI	U
	C178	QCS21HJ-821	820PF 50V CER.CAPACI	UC
	C178	QCS21HJ-821	820PF 50V CER.CAPACI	US
	C178	QCS21HJ-821	820PF 50V CER.CAPACI	UT
	C179	QETB1HM-225	2.2MF 50V E.CAPACITO	
	C180	QETB1HM-225	2.2MF 50V E.CAPACITO	
	C181	QETB1EM-106	10MF 25V AL E.CAPAC	
	C182	QETB1HM-225	2.2MF 50V E.CAPACITO	
	C183	QETB1HM-105	1MF 50V AL E.CAPAC	
	C184	QETB1HM-105	1MF 50V AL E.CAPAC	
	C185	QETB1HM-225	2.2MF 50V E.CAPACITO	
	C186	QETB1HM-474	0.47MF 50V ELECTRO	
	C191	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C192	QCC21EM-473	0.047MF 25V CER.CAPACI	
	C193	QCS21HJ-180A	18PF 50V CER.CAPACI	
	C194	QCS21HJ-180A	18PF 50V CER.CAPACI	
	C195	QENB1HM-474	0.47MF 50V NP E.CAPAC	
	C196	QCY21HK-102	1000PF 50V CER.CAPACI	
	C197	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C198	QCF21HP-103A	0.01MF 50V CER.CAPACI	
	C199	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C207	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C222	QETB1CM-477M	470MF 16V E.CAPACITO	
	C229	QETB1CM-227	220MF 16V AL E.CAPAC	
	C241	QCF21HP-223A	0.022MF 50V CER.CAPACI	

Δ THIS SAFETY PARTS

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	R108	QRD161J-103	10K 1/6W CARBON RES	
	R109	QRZ0077-680	68 1/4W FUSIBLE RE	
	R118	QRD167J-332	3.3K 1/6W CARBON RES	
	R119	QRD161J-221	220 1/6W CARBON RES	
	R121	QRD161J-391	390 1/6W CARBON RES	
	R122	QRD167J-272	2.7K 1/6W CARBON RES	
	R123	QRD167J-102	1K 1/6W CARBON RES	
	R124	QRD161J-681	680 1/6W CARBON RES	
	R125	QRD167J-332	3.3K 1/6W CARBON RES	
	R126	QRD161J-221	220 1/6W CARBON RES	
	R131	QRD161J-331	330 1/6W CARBON RES	
	R132	QRD161J-103	10K 1/6W CARBON RES	
	R133	QRD161J-473	47K 1/6W CARBON RES	
	R134	QRD161J-103	10K 1/6W CARBON RES	BS
	R134	QRD161J-103	10K 1/6W CARBON RES	EF
	R135	QRD161J-470	47 1/6W CARBON RES	
	R136	QRD161J-103	10K 1/6W CARBON RES	
	R141	QRD161J-472	4.7K 1/6W CARBON RES	BS
	R141	QRD161J-472	4.7K 1/6W CARBON RES	EF
	R142	QRD161J-331	330 1/6W CARBON RES	BS
	R142	QRD161J-331	330 1/6W CARBON RES	EF
	R143	QRD161J-103	10K 1/6W CARBON RES	BS
	R143	QRD161J-103	10K 1/6W CARBON RES	EF
	R144	QRD161J-473	47K 1/6W CARBON RES	BS
	R144	QRD161J-473	47K 1/6W CARBON RES	EF
	R145	QRD161J-103	10K 1/6W CARBON RES	BS
	R145	QRD161J-103	10K 1/6W CARBON RES	EF
	R146	QRD167J-560	56 1/6W CARBON RES	
	R147	QRD161J-103	10K 1/6W CARBON RES	
	R148	QRD161J-103	10K 1/6W CARBON RES	
	R149	QRD167J-223	22K 1/6W CARBON RES	
	R150	QRD161J-103	10K 1/6W CARBON RES	
	R151	QRD161J-222	2.2K 1/6W CARBON RES	
	R153	QRD161J-103	10K 1/6W CARBON RES	
	R154	QRD161J-103	10K 1/6W CARBON RES	
	R155	QRD167J-562	5.6K 1/6W CARBON RES	
	R156	QRD167J-822	8.2K 1/6W CARBON RES	
	R157	QRD161J-103	10K 1/6W CARBON RES	
	R158	QRD161J-273	27K 1/6W CARBON RES	
	R159	QRD161J-561	560 1/6W CARBON RES	
	R160	QRD167J-102	1K 1/6W CARBON RES	BS
	R160	QRD161J-103	10K 1/6W CARBON RES	EF
	R160	QRD167J-562	5.6K 1/6W CARBON RES	U
	R160	QRD167J-562	5.6K 1/6W CARBON RES	UC
	R160	QRD167J-562	5.6K 1/6W CARBON RES	US
	R160	QRD167J-562	5.6K 1/6W CARBON RES	UT
	R161	QRD161J-683	68K 1/6W CARBON RES	BS
	R161	QRD161J-104	100K 1/6W CARBON RES	EF
	R161	QRD161J-823	82K 1/6W CARBON RES	U
	R161	QRD161J-823	82K 1/6W CARBON RES	UC
	R161	QRD161J-823	82K 1/6W CARBON RES	US
	R161	QRD161J-823	82K 1/6W CARBON RES	UT
	R162	QRD161J-683	68K 1/6W CARBON RES	BS
	R162	QRD161J-104	100K 1/6W CARBON RES	EF
	R162	QRD161J-823	82K 1/6W CARBON RES	U

Δ THIS SAFETY PARTS

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION			AREA
	R162	QRD161J-823	82K	1/6W	CARBON RES	UC
	R162	QRD161J-823	82K	1/6W	CARBON RES	US
	R162	QRD161J-823	82K	1/6W	CARBON RES	UT
	R163	QRD167J-332	3.3K	1/6W	CARBON RES	BS
	R163	QRD167J-332	3.3K	1/6W	CARBON RES	EF
	R163	QRD161J-472	4.7K	1/6W	CARBON RES	U
	R163	QRD161J-472	4.7K	1/6W	CARBON RES	UC
	R163	QRD161J-472	4.7K	1/6W	CARBON RES	US
	R163	QRD161J-472	4.7K	1/6W	CARBON RES	UT
	R164	QRD167J-332	3.3K	1/6W	CARBON RES	BS
	R164	QRD167J-332	3.3K	1/6W	CARBON RES	EF
	R164	QRD161J-472	4.7K	1/6W	CARBON RES	U
	R164	QRD161J-472	4.7K	1/6W	CARBON RES	UC
	R164	QRD161J-472	4.7K	1/6W	CARBON RES	US
	R164	QRD161J-472	4.7K	1/6W	CARBON RES	UT
	R165	QRD161J-274	270K	1/6W	CARBON RES	BS
	R165	QRD161J-274	270K	1/6W	CARBON RES	EF
	R165	QRD161J-184	180K	1/6W	CARBON RES	U
	R165	QRD161J-184	180K	1/6W	CARBON RES	UC
	R165	QRD161J-184	180K	1/6W	CARBON RES	US
	R165	QRD161J-184	180K	1/6W	CARBON RES	UT
	R166	QRD161J-274	270K	1/6W	CARBON RES	BS
	R166	QRD161J-274	270K	1/6W	CARBON RES	EF
	R166	QRD161J-184	180K	1/6W	CARBON RES	U
	R166	QRD161J-184	180K	1/6W	CARBON RES	UC
	R166	QRD161J-184	180K	1/6W	CARBON RES	US
	R166	QRD161J-184	180K	1/6W	CARBON RES	UT
	R167	QRD161J-473	47K	1/6W	CARBON RES	BS
	R167	QRD161J-473	47K	1/6W	CARBON RES	EF
	R167	QRD161J-393	39K	1/6W	CARBON RES	U
	R167	QRD161J-393	39K	1/6W	CARBON RES	UC
	R167	QRD161J-393	39K	1/6W	CARBON RES	US
	R167	QRD161J-393	39K	1/6W	CARBON RES	UT
	R168	QRD161J-103	10K	1/6W	CARBON RES	
	R169	QRD161J-103	10K	1/6W	CARBON RES	
	R171	QRD167J-682	6.8K	1/6W	CARBON RES	
	R172	QRD167J-682	6.8K	1/6W	CARBON RES	
	R180	QRD161J-103	10K	1/6W	CARBON RES	
	R181	QRD161J-222	2.2K	1/6W	CARBON RES	
	R182	QRD161J-181	180	1/6W	CARBON RES	
	R190	QRD161J-103	10K	1/6W	CARBON RES	
	R191	QRD167J-562	5.6K	1/6W	CARBON RES	
	R194	QRD161J-103	10K	1/6W	CARBON RES	
	R195	QRD161J-473	47K	1/6W	CARBON RES	
	R196	QRD161J-222	2.2K	1/6W	CARBON RES	BS
	R196	QRD161J-222	2.2K	1/6W	CARBON RES	EF
	R196	QRD161J-103	10K	1/6W	CARBON RES	U
	R196	QRD161J-103	10K	1/6W	CARBON RES	UC
	R196	QRD161J-103	10K	1/6W	CARBON RES	US
	R196	QRD161J-103	10K	1/6W	CARBON RES	UT
	R197	QRD161J-222	2.2K	1/6W	CARBON RES	
	R198	QRD167J-822	8.2K	1/6W	CARBON RES	BS
	R198	QRD167J-822	8.2K	1/6W	CARBON RES	EF
	R198	QRD167J-332	3.3K	1/6W	CARBON RES	U
	R198	QRD167J-332	3.3K	1/6W	CARBON RES	UC
	R198	QRD167J-332	3.3K	1/6W	CARBON RES	US
	R198	QRD167J-332	3.3K	1/6W	CARBON RES	UT
	R199	QRD161J-472	4.7K	1/6W	CARBON RES	
	R228	QRD161J-222	2.2K	1/6W	CARBON RES	

Δ IS A FIELDY PARTS

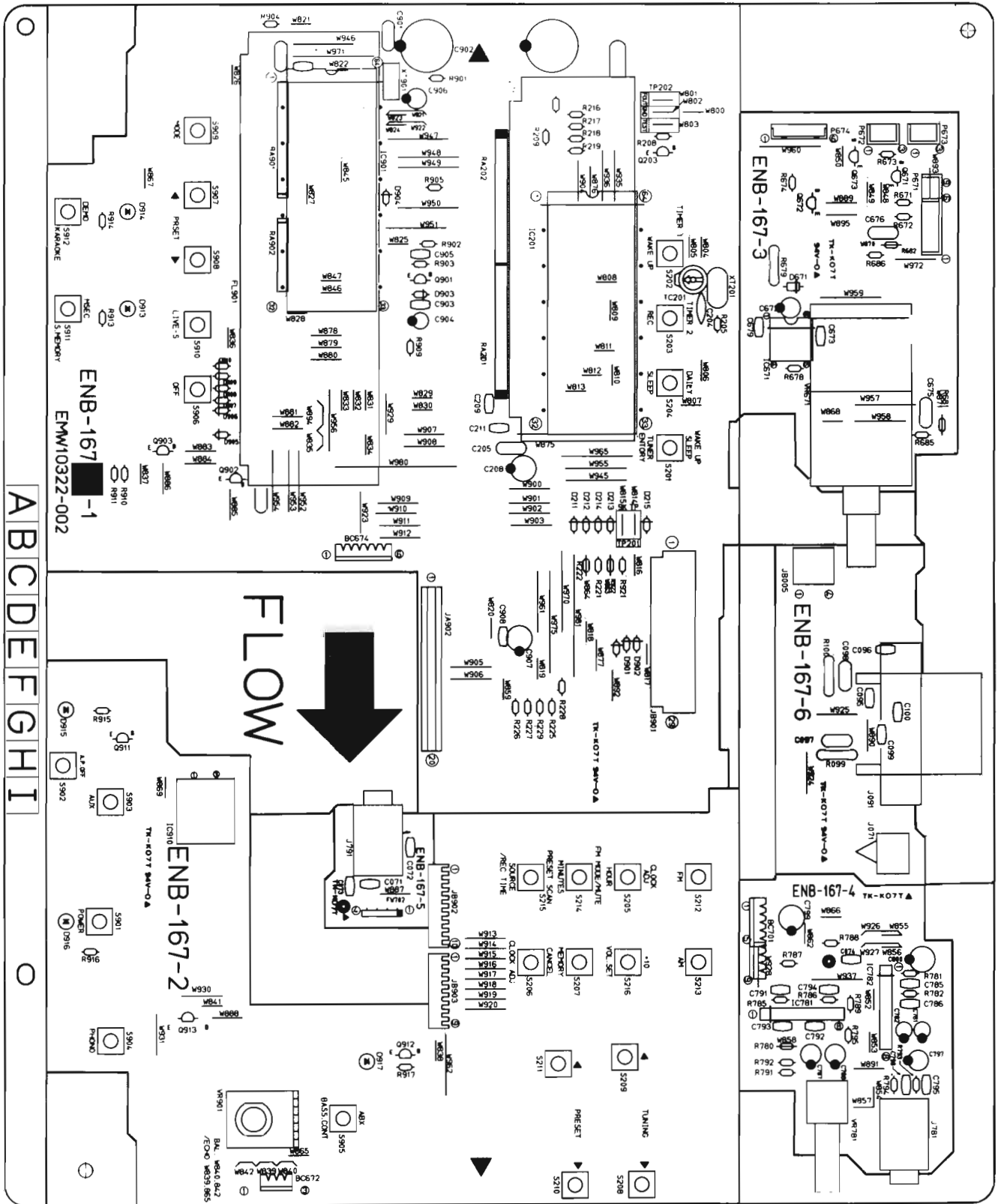
Others

Δ	ITEM	PART NUMBER	DESCRIPTION		AREA
	L101	EGL4007-1R0T	INDUCTOR		
	L106	EGL3001-102K	INDUCTOR		
	L120	EGL4007-1R0T	INDUCTOR		
	T101	EQR1111-014	RF COIL		
	T102	EQR1111-005	RF COIL		BS
	T102	EQR1111-005	RF COIL		EF
	T103	EQR1207-017	RF COIL		
	T104	EQR1307-010	RF COIL		BS
	T104	EQR1307-010	RF COIL		EF
	T105	EQT2140-017	I.F. TRANSFO		
	T107	ECB1560-010	CERAMIC FIL		
	AT101	EMBO1YV-305K	ANTENNA TER		
	CF101	ECB2118-007R	CERAMIC FIL		BS
	CF101	ECB2118-007R	CERAMIC FIL		EF
	CF101	ECB2123-006R	CERAMIC FIL		U
	CF101	ECB2123-006R	CERAMIC FIL		UC
	CF101	ECB2123-006R	CERAMIC FIL		US
	CF101	ECB2123-006R	CERAMIC FIL		UT
	CF102	ECB2118-007R	CERAMIC FIL		BS
	CF102	ECB2118-007R	CERAMIC FIL		EF
	CF102	ECB2123-006R	CERAMIC FIL		U
	CF102	ECB2123-006R	CERAMIC FIL		UC
	CF102	ECB2123-006R	CERAMIC FIL		US
	CF102	ECB2123-006R	CERAMIC FIL		UT
	EP101	E70225-001	EARTH PLATE		
	FE101	EAF2203-001	FRONT END		
	JA101	EMV7140-L15R	CONNECT TER 15PIN		
	LP101	EQF0101-002	LOWPASS FIL		
	TC105	ENZ1003-006	TRIMMER CAP		
	TC106	ENZ1003-006	TRIMMER CAP		BS
	TC106	ENZ1003-006	TRIMMER CAP		EF
	XT102	ECX0007-200KWJ1	CRYSTAL		
	XT103	ECX0000-456KR	CERAMIC RES		

Δ IS A FIELDY PARTS

■ ENB-167 □ Display & Mic Mixing PC Board Ass'y

Note : ENB-167 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Designated Areas
ENB-167 J	EF	Continental Europe
ENB-167 K	UC US UT U	China Singapore Taiwan Universal Type
ENB-167 L	BS	the U.K.

Transistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q203	DTA114YS	DIGITAL TRA ROHM	
	Q671	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q672	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q673	DTA114ES	DIGITAL TRA ROHM	
	Q901	DTC114YS	DIGITAL TRA ROHM	
	Q902	DTC114ES	DIGITAL TRA ROHM	
	Q903	DTC114YS	DIGITAL TRA ROHM	
	Q911	DTC114YS	DIGITAL TRA ROHM	
	Q912	DTC114YS	DIGITAL TRA ROHM	

Δ IS SAFETY PARTS

I.C.s

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC201	HD614089SD51	I.C(MICRO-C HITACHI	
	IC671	LB1639-CV	I.C(DIGI-OT SANYO	
	IC781	BA15218N	I.C(MONO-AN ROHM	
	IC782	BA15218N	I.C(MONO-AN ROHM	U
	IC782	BA15218N	I.C(MONO-AN ROHM	UC
	IC782	BA15218N	I.C(MONO-AN ROHM	US
	IC782	BA15218N	I.C(MONO-AN ROHM	UT
	IC901	MN171202JHF1	I.C(MICRO-C MATSUSHITA	
	IC910	SPS-420-1	INFRARED DE SANYO	

Δ IS SAFETY PARTS

Diodes

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	D211	1SS119	SI.DIODE	U
	D211	1SS119	SI.DIODE	UC
	D211	1SS119	SI.DIODE	US
	D211	1SS119	SI.DIODE	UT
	D213	1SS119	SI.DIODE	U
	D213	1SS119	SI.DIODE	UC
	D213	1SS119	SI.DIODE	US
	D213	1SS119	SI.DIODE	UT
	D671	1SR139-200	SI.DIODE ROHM	
	D901	1SS119	SI.DIODE	
	D902	1SS119	SI.DIODE	
	D903	1SS119	SI.DIODE	
	D904	1SS119	SI.DIODE	
	D905	1SS119	SI.DIODE	
	D906	1SS119	SI.DIODE	
	D907	1SS119	SI.DIODE	
	D908	1SS119	SI.DIODE	
	D909	1SS119	SI.DIODE	
	D910	1SS119	SI.DIODE	
	D913	SLR-342VC3F	L.E.D. ROHM	
	D914	SLR-342VC3F	L.E.D. ROHM	
	D915	SLR-342VC3F	L.E.D. ROHM	
	D916	SLA-580LT3F	L.E.D. ROHM	BS
	D916	SLR-342VC3F	L.E.D. ROHM	EF
	D916	SLR-342VC3F	L.E.D. ROHM	U
	D916	SLR-342VC3F	L.E.D. ROHM	UC
	D916	SLR-342VC3F	L.E.D. ROHM	US
	D916	SLR-342VC3F	L.E.D. ROHM	UT

Δ IS SAFETY PARTS

Capacitors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	C071	QCBB1HK-102Y	1000PF 50V CER.CAPACI	
	C072	QCBB1HK-102Y	1000PF 50V CER.CAPACI	
	C074	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C203	QETB1AM-474	0.47MF 50V ELECTRO	
	C204	QC126CH-120	12PF 50V CER.CAPACI	
	C205	QC20202-155	1.5MF 25V CER.RESIST	
	C207	QC20202-155	1.5MF 25V CER.RESIST	
	C208	QETB1AM-227	220MF 10V E.CAPACITO	
	C209	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C211	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	

Δ IS SAFETY PARTS

Capacitors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	C672	QETB1AM-476	47MF 10V E.CAPACITO	
	C673	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C675	QETB1HM-474	0.47MF 50V ELECTRO	
	C676	QETB1HM-474	0.47MF 50V ELECTRO	
	C679	QCBB1HK-102Y	1000PF 50V CER.CAPACI	
	C781	QEK51HM-105G	1MF 50V AL E.CAPAC	U
	C781	QEK51HM-105G	1MF 50V AL E.CAPAC	UC
	C781	QEK51HM-105G	1MF 50V AL E.CAPAC	US
	C781	QEK51HM-105G	1MF 50V AL E.CAPAC	UT
	C782	QEK51HM-105G	1MF 50V AL E.CAPAC	U
	C782	QEK51HM-105G	1MF 50V AL E.CAPAC	UC
	C782	QEK51HM-105G	1MF 50V AL E.CAPAC	US
	C782	QEK51HM-105G	1MF 50V AL E.CAPAC	UT
	C785	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	U
	C785	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	UC
	C785	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	US
	C785	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	UT
	C786	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	U
	C786	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	UC
	C786	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	US
	C786	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	UT
	C787	QEK51EM-106	10MF 25V AL E.CAPAC	
	C788	QEK51EM-106	10MF 25V AL E.CAPAC	
	C791	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C792	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C793	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C794	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C795	QCBB1HK-102Y	1000PF 50V CER.CAPACI	
	C797	QEK51EM-106	10MF 25V AL E.CAPAC	
	C798	QCBB1HK-102Y	1000PF 50V CER.CAPACI	
	C799	QER51CM-476	47MF 16V AL E.CAPAC	
	C800	QER51CM-476	47MF 16V AL E.CAPAC	
	C901	QCZ0205-155	1.5MF 25V C.CAPACITO	
	C902	QEA40HZ-10AB	E.CAPACITO	
	C903	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C904	QEK51HM-225G	2.2MF 50V AL E.CAPAC	
	C905	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C906	QEK50JM-476	47MF 6.3V AL E.CAPAC	
	C907	QER50JM-107	100MF 6.3V AL E.CAPAC	
	C908	QCHB1EZ-223	0.022MF 25V CER.CAPACI	

Δ IS SAFETY PARTS

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	R205	QRD161J-473	47K 1/6W CARBON RES	
	R208	QRD161J-473	47K 1/6W CARBON RES	
	R209	QRD161J-104	100K 1/6W CARBON RES	
	R228	QRD161J-473	47K 1/6W CARBON RES	
	R671	QRD167J-332	3.3K 1/6W CARBON RES	
	R672	QRD167J-332	3.3K 1/6W CARBON RES	
	R673	QRD161J-103	10K 1/6W CARBON RES	
	R674	QRD161J-103	10K 1/6W CARBON RES	
	R678	QRD161J-221	220 1/6W CARBON RES	
	R679	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	
	R681	QRD167J-272	2.7K 1/6W CARBON RES	
	R682	QRD167J-272	2.7K 1/6W CARBON RES	
	R685	QRD161J-123	12K 1/6W CARBON RES	
	R686	QRD161J-123	12K 1/6W CARBON RES	
	R780	QRD167J-471	470 1/6W CARBON RES	
	R781	QRD161J-104	100K 1/6W CARBON RES	U
	R781	QRD161J-104	100K 1/6W CARBON RES	UC
	R781	QRD161J-104	100K 1/6W CARBON RES	US
	R781	QRD161J-104	100K 1/6W CARBON RES	UT
	R782	QRD161J-104	100K 1/6W CARBON RES	U
	R782	QRD161J-104	100K 1/6W CARBON RES	UC
	R782	QRD161J-104	100K 1/6W CARBON RES	US
	R782	QRD161J-104	100K 1/6W CARBON RES	UT
	R785	QRD161J-104	100K 1/6W CARBON RES	
	R786	QRD161J-104	100K 1/6W CARBON RES	
	R787	QRD161J-202	2K 1/6W CARBON RES	
	R788	QRD161J-913	91K 1/6W CARBON RES	BS
	R788	QRD161J-913	91K 1/6W CARBON RES	EF
	R788	QRD161J-623	62K 1/6W CARBON RES	U
	R788	QRD161J-623	62K 1/6W CARBON RES	UC
	R788	QRD161J-623	62K 1/6W CARBON RES	US
	R788	QRD161J-623	62K 1/6W CARBON RES	UT
	R789	QRD161J-473	47K 1/6W CARBON RES	
	R791	QRD161J-472	4.7K 1/6W CARBON RES	U
	R791	QRD161J-472	4.7K 1/6W CARBON RES	UC
	R791	QRD161J-472	4.7K 1/6W CARBON RES	US
	R791	QRD161J-472	4.7K 1/6W CARBON RES	UT
	R792	QRD161J-472	4.7K 1/6W CARBON RES	U
	R792	QRD161J-472	4.7K 1/6W CARBON RES	UC
	R792	QRD161J-472	4.7K 1/6W CARBON RES	US
	R792	QRD161J-472	4.7K 1/6W CARBON RES	UT
	R793	QRD167J-102	1K 1/6W CARBON RES	
	R794	QRD161J-103	10K 1/6W CARBON RES	
	R795	QRD161J-331	330 1/6W CARBON RES	
	R901	QRD161J-470	47 1/6W CARBON RES	

Δ IS SAFETY PARTS

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	R902	QRD161J-103	10K 1/6W CARBON RES	
	R903	QRD161J-104	100K 1/6W CARBON RES	
	R904	QRD161J-104	100K 1/6W CARBON RES	
	R905	QRD161J-473	47K 1/6W CARBON RES	
	R909	QRD161J-473	47K 1/6W CARBON RES	
	R910	QRD161J-473	47K 1/6W CARBON RES	
	R911	QRD161J-473	47K 1/6W CARBON RES	
	R913	QRD161J-241	240 1/6W CARBON RES	
	R914	QRD161J-241	240 1/6W CARBON RES	
	R915	QRD161J-241	240 1/6W CARBON RES	
	R916	QRD161J-241	240 1/6W CARBON RES	
	R917	QRD161J-241	240 1/6W CARBON RES	
	VR671	QVDB94B-E15C	100K VARIABLE R	BS
	VR781	QVAB80B-E54D	50K VARIABLE R	EF
	VR901	QVJB84W-E15C	100K VARIABLE R	U
	VR901	QVJB84W-E15C	100K VARIABLE R	EF
	VR901	QVJB84B-E54DJ3	50K VARIABLE	U
	VR901	QVJB84B-E54DJ3	50K VARIABLE	UC
	VR901	QVJB84B-E54DJ3	50K VARIABLE	US
	VR901	QVJB84B-E54DJ3	50K VARIABLE	UT

Δ SAFETY PARTS

Others

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	TC201	ENZ1003-015	TRIMMER CAP	
	XT201	ECX4194-304CF	CRYSTAL	
	XT901	ECX0060-000EM	CERAMIC RES	

Δ SAFETY PARTS

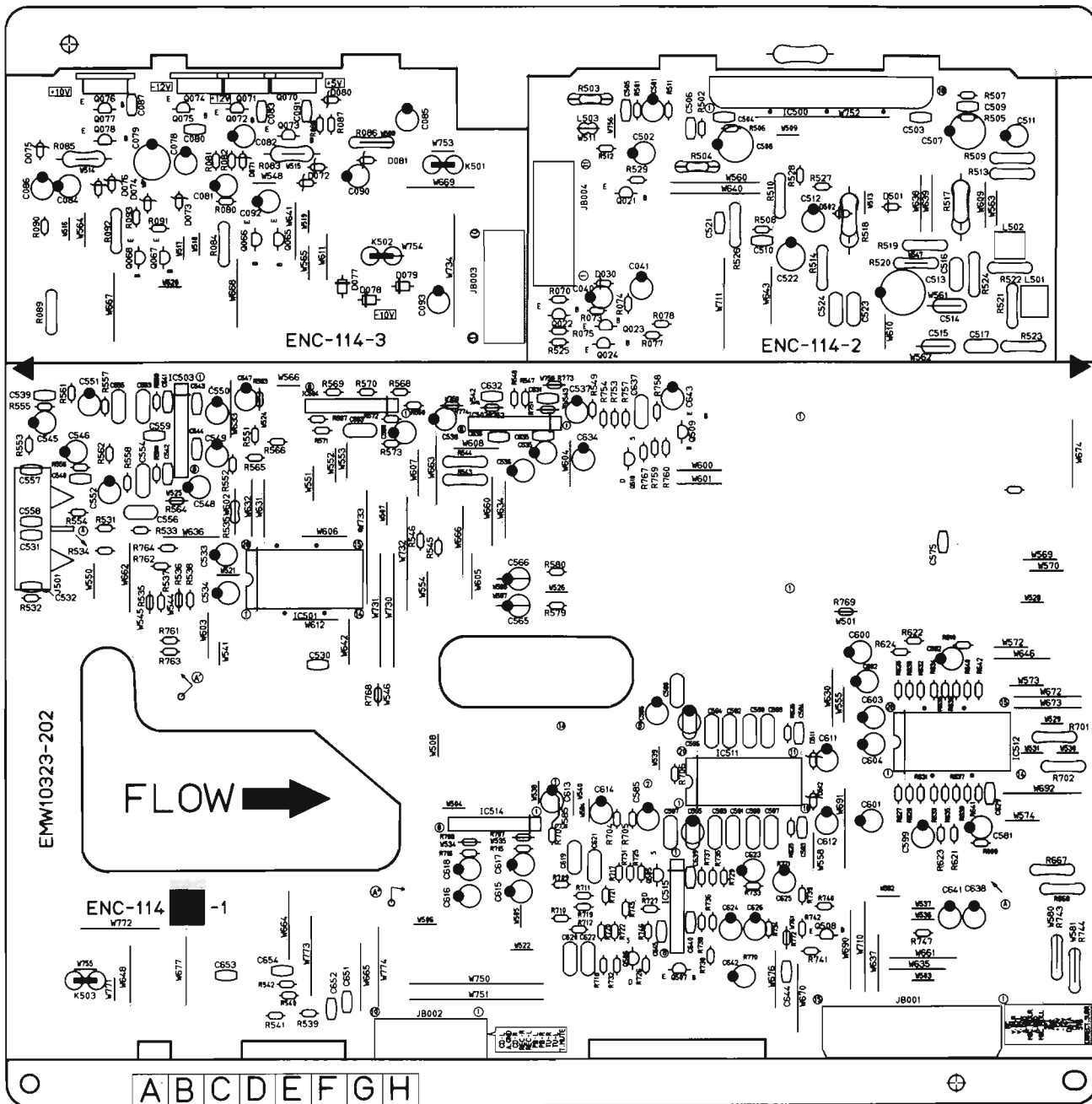
Others

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
		EWT011-158	TERMINAL WI	
	J091	EMB90TV-404A	SPEAKER TER	
	J781	QMS3L10-ED0H	MICROPHONE	
	J791	QMS3L10-ED0H	MICROPHONE	
	P671	EMV5109-006A	CONNECT TER 6PIN	BS
	P671	EMV5109-006A	CONNECT TER 6PIN	EF
	P671	EMV5109-009A	PIN PLUG 9PIN	U
	P671	EMV5109-009A	PIN PLUG 9PIN	UC
	P671	EMV5109-009A	PIN PLUG 9PIN	US
	P671	EMV5109-009A	PIN PLUG 9PIN	UT
	P672	EMV5109-003A	MALE CONNec 3PIN	BS
	P672	EMV5109-003A	MALE CONNec 3PIN	EF
	P673	EMV5109-003A	MALE CONNec 3PIN	U
	P673	EMV5109-003A	MALE CONNec 3PIN	UC
	P673	EMV5109-003A	MALE CONNec 3PIN	US
	P673	EMV5109-003A	MALE CONNec 3PIN	UT
	P674	EMV5142-906	CONNECT TER 6PIN	
	S201	ESP0001-023M	TACT SWITCH TUNER ENTORY	
	S202	ESP0001-023M	TACT SWITCH WAKE-UP TIMER	
	S203	ESP0001-023M	TACT SWITCH RECTIMER	
	S204	ESP0001-023M	TACT SWITCH SLEEP TIMER	
	S205	ESP0001-023M	TACT SWITCH HOUR	
	S206	ESP0001-023M	TACT SWITCH CLOCK ADJ	
	S207	ESP0001-023M	TACT SWITCH MEMORY	
	S208	ESP0001-023M	TACT SWITCH UP	
	S209	ESP0001-023M	TACT SWITCH DOWN	
	S210	ESP0001-023M	TACT SWITCH PRESET UP	
	S211	ESP0001-023M	TACT SWITCH PRESET DOWN	
	S212	ESP0001-023M	TACT SWITCH FM	
	S213	ESP0001-023M	TACT SWITCH AM	
	S214	ESP0001-023M	TACT SWITCH MINUTES	
	S215	ESP0001-023M	TACT SWITCH SOURCE/RECTIME	
	S216	ESP0001-023M	TACT SWITCH VOL SET	
	S901	ESP0001-023M	TACT SWITCH POWER	
	S902	ESP0001-023M	TACT SWITCH AISLEEP	
	S903	ESP0001-023M	TACT SWITCH AUX	
	S904	ESP0001-023M	TACT SWITCH PHONO	
	S905	ESP0001-023M	TACT SWITCH AISUPER BASS	
	S906	ESP0001-023M	TACT SWITCH OFF	
	S907	ESP0001-023M	TACT SWITCH PRESET DOWN : SET	
	S908	ESP0001-023M	TACT SWITCH PRESET UP : SET	
	S909	ESP0001-023M	TACT SWITCH MODE	
	S910	ESP0001-023M	TACT SWITCH LIVE-S	
	S911	ESP0001-023M	TACT SWITCH SOUND MEMORY	
	S912	ESP0001-023M	TACT SWITCH KARAOKE	
	BC672	EWS293-0116	SOCKET WIRE 3PIN	
	BC674	EWS326-A913	SOCKET WIRE 6PIN	
	BC701	EWS325-A920	SOCKET WIRE 5PIN	BS
	BC701	EWS325-A920	SOCKET WIRE 5PIN	EF
	BC701	EWS299-0120	SOCKET WIRE 9PIN	U
	BC701	EWS299-0120	SOCKET WIRE 9PIN	UC
	BC701	EWS299-0120	SOCKET WIRE 9PIN	US
	BC701	EWS299-0120	SOCKET WIRE 9PIN	UT
	BK201	E308192-001	FL HOLDER	
	BK901	E308419-001	FL HOLDER	
	FL201	ELU0001-150	FLUORESCENT	
	FL901	ELU0001-152	FLUORESCENT	
	FS201	E306805-014	FELT SPACER	
	FS901	E306805-014	FELT SPACER	
	FW702	EW34D-16LS	FLAT WIRE A 4PIN	
	JA902	EMV5123-L070	CONNECT TER 20PIN	
	JB005	EMV7125-004R	CONNECT TER 4PIN	
	JB901	EMV7123-029R	PIN CONNECT 29PIN	
	JB902	EMV7124-010	CONNECT TER 10PIN	
	JB903	EMV7124-009	CONNECT TER 9PIN	

Δ SAFETY PARTS

■ ENC-114 □ Selector, Amplifier & Regulator PC Board Ass'y

Note : ENC-114 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Designated Areas
ENC-114 A	BS EF	the U.K. Continental Europe
ENC-114 B	UC US UT U	China Singapore Taiwan Universal Type

Transistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q021	DTC144ES	DIGITAL TRA ROHM	
	Q022	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q023	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q024	2SA733A(P,K)	SI.TRANSIST	
	Q065	DTC144ES	DIGITAL TRA ROHM	
	Q066	DTA114YS	DIGITAL TRA ROHM	
	Q067	DTA144ES	DIGITAL TRA ROHM	
	Q068	DTC114YS	DIGITAL TRA ROHM	
	Q070	2SD2061(E,F)	SI.TRANSIST	
	Q071	2SD2061(E,F)	SI.TRANSIST	
	Q072	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q074	2SB1187(E,F)	SI.TRANSIST	
	Q075	2SA564A(Q,R)	SI.TRANSIST	
	Q076	2SD2061(E,F)	SI.TRANSIST	
	Q077	2SC1740S(R,S)	SI.TRANSIST ROHM	

Δ FIFTY PARTS

Transistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q505	2SK301(P,Q)	F.E.T. MATSUSHITA	
	Q506	2SK301(P,Q)	F.E.T. MATSUSHITA	
	Q507	DTA144ES	DIGITAL TRA ROHM	
	Q508	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q509	DTA144ES	DIGITAL TRA ROHM	
	Q510	2SK301(P,Q)	F.E.T. MATSUSHITA	

Δ : SAFETY PARTS.

I.C.s

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC500	STK4141MK5	I.C.(HYBRID) SANYO	
	IC501	TC9162N	I.C.(DIGI-MO) TOSHIBA	
	IC502	VC4580L	I.C.(MONO-AN) DAINICHI	
	IC503	VC4580LD	I.C.(MONO-AN) DAINICHI	
	IC504	BA15218N	I.C.(MONO-AN) ROHM	
	IC511	M5243P12	I.C.(MONO-AN) MITSUBISHI	
	IC512	TC9163N	I.C.(DIGI-MO) TOSHIBA	
	IC514	BA15218N	I.C.(MONO-AN) ROHM	
	IC515	VC4580L	I.C.(MONO-AN) DAINICHI	

Δ : SAFETY PARTS.

Diodes

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	D030	1SS119	SI.DIODE	
	D071	RD13JSB3	ZENER DIODE NEC	
	D072	MT213JC	ZENER DIODE ROHM	
	D073	MT213JC	ZENER DIODE ROHM	
	D074	RD13JSB3	ZENER DIODE NEC	
	D075	MT211JC	ZENER DIODE ROHM	
	D076	MT212JC	ZENER DIODE ROHM	
	D077	1SR139-200	SI.DIODE ROHM	
	D078	1SR139-200	SI.DIODE ROHM	
	D079	1SR139-200	SI.DIODE ROHM	
	D080	MTZ6.8JC	ZENER DIODE ROHM	
	D081	MTZ6.2JC	ZENER DIODE ROHM	
	D501	1SS119	SI.DIODE	
	D502	1SS119	SI.DIODE	
	D511	MTZ6.2JC	ZENER DIODE ROHM	
	D512	MTZ6.2JC	ZENER DIODE ROHM	

Δ : SAFETY PARTS.

Capacitors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	C040	QETB1CM-226	22MF 16V E.CAPACITO	
	C041	QETB1AM-476	47MF 10V E.CAPACITO	
	C078	QETB1EM-226	22MF 25V E.CAPACITO	
	C079	QETB1EM-227	220MF 25V AL E.CAPAC	
	C080	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C081	QETB1EM-226	22MF 25V E.CAPACITO	
	C082	QETB1EM-226	22MF 25V E.CAPACITO	
	C083	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C084	QETB1EM-226	22MF 25V E.CAPACITO	
	C085	EEZ5009-106	10MF AL E.CAPAC	
	C086	QETB1EM-226	22MF 25V E.CAPACITO	
	C087	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C090	QETB1EM-226	22MF 25V E.CAPACITO	
	C091	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C092	QETB1EM-226	22MF 25V E.CAPACITO	
	C093	QETB1EM-226	22MF 25V E.CAPACITO	
	C501	EEZ2505-226	22MF AL E.CAPAC	
	C502	EEZ2505-226	22MF AL E.CAPAC	
	C503	QCBB1HK-561Y	560PF 50V CER.CAPACI	
	C504	QCBB1HK-561Y	560PF 50V CER.CAPACI	
	C505	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C506	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C507	EET2501-107E	100MF AL E.CAPAC	
	C508	EET2501-107E	100MF AL E.CAPAC	
	C509	QCT30CH-100Y	10PF 50V CER.CAPACI	
	C510	QCT30CH-100Y	10PF 50V CER.CAPACI	
	C511	QETB1HM-226E	22MF 50V E.CAPACITO	
	C512	QETB1HM-226E	22MF 50V E.CAPACITO	
	C513	QETB1HM-107	100MF 50V E.CAPACITO	
	C514	QFVB1HJ-104	0.1MF 50V THIN FILM	
	C515	QFVB1HJ-104	0.1MF 50V THIN FILM	
	C516	QFVB1HJ-104	0.1MF 50V THIN FILM	
	C517	QFVB1HJ-104	0.1MF 50V THIN FILM	
	C522	QETB1HM-106	10MF 50V E.CAPACITO	
	C523	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
	C524	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
	C530	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C533	EEZ2505-476	47MF AL E.CAPAC	
	C534	EEZ2505-476	47MF AL E.CAPAC	
	C535	QETB1HM-475E	4.7MF 50V E.CAPACITO	

Δ : SAFETY PARTS.

Capacitors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	C536	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C537	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C538	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C539	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C540	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C543	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C544	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C545	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C546	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C547	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C548	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C549	QETB1EM-476	47MF 25V AL E.CAPAC	
	C550	QETB1EM-476	47MF 25V AL E.CAPAC	
	C551	QETB1EM-476	47MF 25V AL E.CAPAC	
	C552	QETB1EM-476	47MF 25V AL E.CAPAC	
	C553	QFLB1HJ-182	1800PF 50V MYLAR CAPA	
	C554	QFLB1HJ-182	1800PF 50V MYLAR CAPA	
	C555	QFLB1HJ-682	6800PF 50V MYLAR CAPA	
	C556	QFLB1HJ-682	6800PF 50V MYLAR CAPA	
	C560	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C563	QFLB1HJ-683	0.068MF 50V MYLAR CAPA	
	C581	QETB1EM-106	10MF 25V AL E.CAPAC	
	C582	QETB1EM-106	10MF 25V AL E.CAPAC	
	C583	QCBB1HK-821Y	820PF 50V CER.CAPACI	
	C584	QCBB1HK-821Y	820PF 50V CER.CAPACI	
	C585	QETB1EM-106	10MF 25V AL E.CAPAC	
	C586	QETB1EM-106	10MF 25V AL E.CAPAC	
	C587	QFLB1HJ-272	2700PF 50V MYLAR CAPA	
	C588	QFLB1HJ-272	2700PF 50V MYLAR CAPA	
	C589	QFLB1HJ-471	470PF 50V MYLAR CAPA	
	C590	QFLB1HJ-471	470PF 50V MYLAR CAPA	
	C591	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
	C592	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
	C593	QFLB1HJ-822	8200PF 50V MYLAR CAPA	
	C594	QFLB1HJ-822	8200PF 50V MYLAR CAPA	
	C595	QER51HM-684	0.68MF 50V AL E.CAPAC	
	C596	QER51HM-684	0.68MF 50V AL E.CAPAC	
	C597	QFVB1HJ-154	0.15MF 50V THIN FILM	
	C598	QFVB1HJ-154	0.15MF 50V THIN FILM	
	C599	QETB1EM-476	47MF 25V AL E.CAPAC	
	C600	QETB1EM-476	47MF 25V AL E.CAPAC	
	C601	QETB1EM-476	47MF 25V AL E.CAPAC	
	C602	QETB1EM-476	47MF 25V AL E.CAPAC	
	C611	EEZ2505-476	47MF AL E.CAPAC	
	C612	EEZ2505-476	47MF AL E.CAPAC	
	C615	EEZ5009-106	10MF AL E.CAPAC	
	C616	EEZ5009-106	10MF AL E.CAPAC	
	C617	QETB1HM-106	10MF 50V E.CAPACITO	
	C618	QETB1HM-106	10MF 50V E.CAPACITO	
	C619	QFV71HJ-393ZM	0.039MF 50V THIN FILM	
	C620	QFV71HJ-393ZM	0.039MF 50V THIN FILM	
	C621	QFVB1HJ-104	0.1MF 50V THIN FILM	
	C622	QFVB1HJ-104	0.1MF 50V THIN FILM	
	C623	QER51HM-225G	2.2MF 50V AL E.CAPAC	
	C624	QER51HM-225G	2.2MF 50V AL E.CAPAC	
	C625	EEZ5009-106	10MF AL E.CAPAC	
	C626	EEZ5009-106	10MF AL E.CAPAC	
	C629	QCBB1HK-561Y	560PF 50V CER.CAPACI	
	C631	QCSB1HJ-220	22PF 50V CER.CAPACI	
	C632	QCSB1HJ-220	22PF 50V CER.CAPACI	
	C634	QETB1EM-106	10MF 25V AL E.CAPAC	
	C635	QCSB1HJ-470	47PF 50V CER.CAPACI	
	C636	QCSB1HJ-470	47PF 50V CER.CAPACI	
	C637	QFLB1HJ-392	3900PF 50V MYLAR CAPA	
	C638	QER51HM-105G	1MF 50V AL E.CAPAC	
	C639	QCSB1HJ-220	22PF 50V CER.CAPACI	
	C640	QCSB1HJ-220	22PF 50V CER.CAPACI	
	C641	QETB1EM-106	10MF 25V AL E.CAPAC	
	C642	QETB1EM-106	10MF 25V AL E.CAPAC	
	C643	QETB1EM-106	10MF 25V AL E.CAPAC	

Δ : SAFETY PARTS.

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	R070	QRD161J-333	33K 1/6W CARBON RES	
	R073	QRD167J-682	6.8K 1/6W CARBON RES	
	R074	QRD161J-104	100K 1/6W CARBON RES	
	R075	QRD161J-104	100K 1/6W CARBON RES	
	R077	QRD161J-823	82K 1/6W CARBON RES	
	R078	QRD161J-104	100K 1/6W CARBON RES	
	R080	QRD161J-103	10K 1/6W CARBON RES	
	R081	QRD167J-152	1.5K 1/6W CARBON RES	
	R082	QRD167J-471	470 1/6W CARBON RES	
	R084	QRD14CJ-1R0SX	1 1/4W UNF.CARBON	
	R087	QRD161J-103	10K 1/6W CARBON RES	
	R088	QRD161J-103	10K 1/6W CARBON RES	
	R089	QRD14CJ-1R0SX	1 1/4W UNF.CARBON	
	R090	QRD167J-332	3.3K 1/6W CARBON RES	
	R091	QRD161J-103	10K 1/6W CARBON RES	

Δ : SAFETY PARTS.

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION		AREA
Δ	R092	QRD14CJ-2R7S	2.7	1/4W UNF. CARBON	
	R093	QRD161J-222	2.2K	1/6W CARBON RES	
	R501	QRD161J-563	56K	1/6W CARBON RES	
	R502	QRD161J-563	56K	1/6W CARBON RES	
Δ	R503	QRD14CJ-471SX	470	1/4W UNF. CARBON	
Δ	R504	QRD14CJ-471SX	470	1/4W UNF. CARBON	
	R505	QRD167J-471	470	1/6W CARBON RES	
	R506	QRD167J-471	470	1/6W CARBON RES	
	R507	QRD161J-563	56K	1/6W CARBON RES	
	R508	QRD161J-563	56K	1/6W CARBON RES	
Δ	R509	QRD14CJ-272S	2.7K	1/4W UNF. CARBON	
Δ	R510	QRD14CJ-272S	2.7K	1/4W UNF. CARBON	
	R511	QRD167J-102	1K	1/6W CARBON RES	
	R512	QRD167J-102	1K	1/6W CARBON RES	
Δ	R513	QRD14CJ-272S	2.7K	1/4W UNF. CARBON	
Δ	R514	QRD14CJ-272S	2.7K	1/4W UNF. CARBON	
Δ	R517	QRX012J-R22AM	0.22	1W METAL FILM	
Δ	R518	QRX012J-R22AM	0.22	1W METAL FILM	
Δ	R519	QRZ0077-101	100	1/4W FUSIBLE RE	
Δ	R520	QRZ0077-100	10	1/4W FUSIBLE RE	
Δ	R521	QRD14CJ-100SX	10	1/4W UNF. CARBON	
Δ	R522	QRD14CJ-100SX	10	1/4W UNF. CARBON	
Δ	R523	QRD14CJ-100SX	10	1/4W UNF. CARBON	
Δ	R524	QRD14CJ-100SX	10	1/4W UNF. CARBON	
	R525	QRD167J-332	3.3K	1/6W CARBON RES	
Δ	R526	QRD14CJ-100SX	10	1/4W UNF. CARBON	
	R527	QRD167J-272	2.7K	1/6W CARBON RES	
	R528	QRD167J-272	2.7K	1/6W CARBON RES	
	R529	QRD161J-103	10K	1/6W CARBON RES	
	R531	QRD167J-153	15K	1/6W CARBON RES	
	R532	QRD167J-153	15K	1/6W CARBON RES	
	R533	QRD161J-104	100K	1/6W CARBON RES	
	R534	QRD161J-104	100K	1/6W CARBON RES	
	R539	QRD161J-222	2.2K	1/6W CARBON RES	
	R540	QRD161J-222	2.2K	1/6W CARBON RES	
	R541	QRD161J-392	3.9K	1/6W CARBON RES	
	R542	QRD161J-392	3.9K	1/6W CARBON RES	
	R543	QRD161J-331	330	1/6W CARBON RES	
	R544	QRD161J-331	330	1/6W CARBON RES	
	R545	QRD161J-104	100K	1/6W CARBON RES	
	R546	QRD161J-104	100K	1/6W CARBON RES	
	R547	QRD161J-104	100K	1/6W CARBON RES	
	R548	QRD161J-104	100K	1/6W CARBON RES	
	R549	QRD161J-104	100K	1/6W CARBON RES	
	R550	QRD161J-104	100K	1/6W CARBON RES	
	R551	QRD161J-104	100K	1/6W CARBON RES	
	R552	QRD161J-104	100K	1/6W CARBON RES	
	R553	QRD161J-222	2.2K	1/6W CARBON RES	
	R554	QRD161J-222	2.2K	1/6W CARBON RES	
	R555	QRD161J-473	47K	1/6W CARBON RES	
	R556	QRD161J-473	47K	1/6W CARBON RES	
	R557	QRD161J-474	470K	1/6W CARBON RES	
	R558	QRD161J-474	470K	1/6W CARBON RES	
	R559	QRD161J-393	39K	1/6W CARBON RES	
	R560	QRD161J-393	39K	1/6W CARBON RES	
	R561	QRD167J-751	750	1/6W CARBON RES	
	R562	QRD167J-751	750	1/6W CARBON RES	
	R565	QRD161J-391	390	1/6W CARBON RES	
	R566	QRD161J-391	390	1/6W CARBON RES	
	R567	QRD161J-473	47K	1/6W CARBON RES	
	R568	QRD161J-473	47K	1/6W CARBON RES	
	R569	QRD161J-473	47K	1/6W CARBON RES	
	R570	QRD161J-473	47K	1/6W CARBON RES	
	R571	QRD161J-473	47K	1/6W CARBON RES	
	R572	QRD161J-473	47K	1/6W CARBON RES	
	R573	QRD161J-104	100K	1/6W CARBON RES	
	R609	QRD161J-362	3.6K	1/6W CARBON RES	
	R610	QRD161J-362	3.6K	1/6W CARBON RES	
	R621	QRD161J-752	7.5K	1/6W CARBON RES	
	R622	QRD161J-752	7.5K	1/6W CARBON RES	
	R623	QRD167J-562	5.6K	1/6W CARBON RES	
	R624	QRD167J-562	5.6K	1/6W CARBON RES	
	R625	QRD161J-103	10K	1/6W CARBON RES	
	R626	QRD161J-103	10K	1/6W CARBON RES	
	R627	QRD161J-303Y	30K	1/6W CARBON RES	
	R628	QRD161J-303Y	30K	1/6W CARBON RES	
	R629	QRD161J-123	12K	1/6W CARBON RES	
	R630	QRD161J-123	12K	1/6W CARBON RES	
	R631	QRD161J-472	4.7K	1/6W CARBON RES	
	R632	QRD161J-472	4.7K	1/6W CARBON RES	
	R633	QRD161J-183	18K	1/6W CARBON RES	
	R634	QRD161J-183	18K	1/6W CARBON RES	
	R635	QRD161J-912	9.1K	1/6W CARBON RES	
	R636	QRD161J-912	9.1K	1/6W CARBON RES	
	R637	QRD161J-243	24K	1/6W CARBON RES	
	R638	QRD161J-243	24K	1/6W CARBON RES	
	R639	QRD167J-562	5.6K	1/6W CARBON RES	
	R640	QRD167J-562	5.6K	1/6W CARBON RES	
	R641	QRD161J-333	33K	1/6W CARBON RES	
	R642	QRD161J-333	33K	1/6W CARBON RES	
	R667	QRD161J-331	330	1/6W CARBON RES	
	R668	QRD161J-331	330	1/6W CARBON RES	
	R705	QRD161J-104	100K	1/6W CARBON RES	
	R706	QRD161J-104	100K	1/6W CARBON RES	
	R707	QRD161J-202	2K	1/6W CARBON RES	

Δ : ISAFETY PARTS

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION		AREA
	R708	QRD161J-202	2K	1/6W CARBON RES	
	R709	QRD161J-132	1.3K	1/6W CARBON RES	
	R710	QRD161J-132	1.3K	1/6W CARBON RES	
	R711	QRD161J-910Y	91	1/6W CARBON RES	
	R712	QRD161J-910Y	91	1/6W CARBON RES	
	R715	QRD167J-102	1K	1/6W CARBON RES	
	R716	QRD167J-102	1K	1/6W CARBON RES	
	R717	QRD161J-103	10K	1/6W CARBON RES	
	R718	QRD161J-103	10K	1/6W CARBON RES	
	R719	QRD161J-473	47K	1/6W CARBON RES	
	R720	QRD161J-473	47K	1/6W CARBON RES	
	R721	QRD161J-132	1.3K	1/6W CARBON RES	
	R722	QRD161J-132	1.3K	1/6W CARBON RES	
	R725	QRD161J-512	5.1K	1/6W CARBON RES	
	R726	QRD161J-512	5.1K	1/6W CARBON RES	
	R727	QRD161J-105	1M	1/6W CARBON RES	
	R729	QRD161J-122	1.2K	1/6W CARBON RES	
	R730	QRD161J-122	1.2K	1/6W CARBON RES	
	R731	QRD161J-473	47K	1/6W CARBON RES	
	R732	QRD161J-473	47K	1/6W CARBON RES	
	R733	QRD161J-432	4.3K	1/6W CARBON RES	
	R734	QRD161J-432	4.3K	1/6W CARBON RES	
	R735	QRD161J-473	47K	1/6W CARBON RES	
	R736	QRD161J-473	47K	1/6W CARBON RES	
	R737	QRD161J-473	47K	1/6W CARBON RES	
	R738	QRD161J-473	47K	1/6W CARBON RES	
	R739	QRD161J-104	100K	1/6W CARBON RES	
	R740	QRD161J-104	100K	1/6W CARBON RES	
	R741	QRD161J-105	1M	1/6W CARBON RES	
	R742	QRD167J-102	1K	1/6W CARBON RES	
	R745	QRD161J-105	1M	1/6W CARBON RES	
	R746	QRD161J-105	1M	1/6W CARBON RES	
	R747	QRD161J-472	4.7K	1/6W CARBON RES	
	R751	QRD161J-393	39K	1/6W CARBON RES	
	R752	QRD161J-393	39K	1/6W CARBON RES	
	R757	QRD161J-105	1M	1/6W CARBON RES	
	R758	QRD161J-393	39K	1/6W CARBON RES	
	R759	QRD161J-105	1M	1/6W CARBON RES	
	R760	QRD161J-224	220K	1/6W CARBON RES	
	R761	QRD161J-221	220	1/6W CARBON RES	
	R762	QRD161J-221	220	1/6W CARBON RES	
	R763	QRD167J-562	5.6K	1/6W CARBON RES	
	R764	QRD167J-562	5.6K	1/6W CARBON RES	
	R767	QRD161J-472	4.7K	1/6W CARBON RES	
	R768	QRD167J-102	1K	1/6W CARBON RES	

Δ : ISAFETY PARTS

Others

Δ	ITEM	PART NUMBER	DESCRIPTION		AREA
		QWE350-08RR	VINYL WIRE		
		QWE351-17RR	VINYL WIRE		
	J501	EMN00TV-412B	PIN JACK		
	L501	EQL0011-R45	INDUCTOR		
	L502	EQL0011-R45	INDUCTOR		
	JB001	EMV7140-L15R	CONNECT TER15PIN		
	JB002	EMV7125-010R	MALE CONNCT10PIN		
	JB003	EMV7125-010R	MALE CONNCT10PIN		
	JB004	EMV7125-011R	MALE CONNCT11PIN		

Δ : ISAFETY PARTS

Accessories List

 Symbol No.

M	2	M	M
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△	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	E30580-2125A	INSTRUCTION BOOK	1		U
		E30580-2125A	INSTRUCTION BOOK	1		UC
		E30580-2125A	INSTRUCTION BOOK	1		US
		E30580-2125A	INSTRUCTION BOOK	1		UT
		E30580-2126A	INSTRUCTION BOOK	1		EF
		E30580-2158ABS	INSTRUCTION BOOK	1		BS
	2	BT20060	WARRANTY CARD	1		BS
	3	BT-20066A	EEC AGENCY	1		BS
	4	E43486-340A	SAFETY SHEET	1		BS
	5	E03614-004	BILT-IN ANTENNA	1		
	6	EQB4001-015	LOOP ANTENNA	1		
△	7	V04062-001	SIEMENS PLUG	1		U
△		V04062-001	SIEMENS PLUG	1		UC
△		V04062-001	SIEMENS PLUG	1		UT
△		ENZ2202-001	SIEMENS PLUG	1		US
	8	EMZ2001-014	ADAPTOR PLUG	1		
	9	RM-SES50U	REMOTE CONTROLLER	1		
	10	UM-3(DJ)-2PSA	BATTERY	2		
	11	QPGA010-01505	ENVELOPE	1		BS
	12	QPGA025-03505B	ENVELOPE	1		

△ SAFETY PARTS

The Marks for Designated Areas

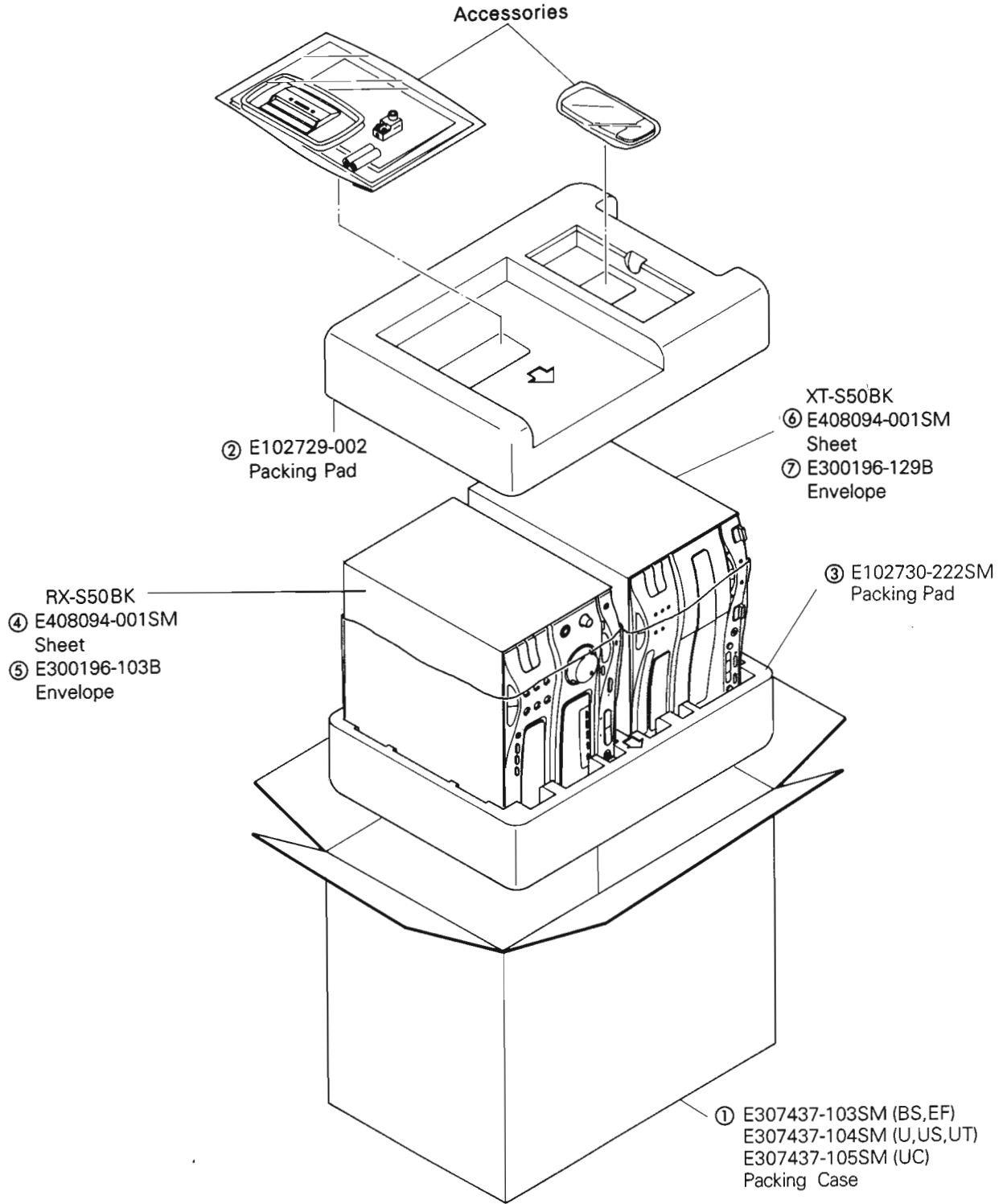
 BS the U.K. EF Continental Europe UC China
 US Singapore UT Taiwan U Universal Type

No mark indicates all areas.

Packing Materials and Part Numbers

Symbol No.

M	3	M	M
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The Marks for Designated Areas					
BS	the U.K.	EF	Continental Europe
UC	China	US	Singapore
UT	Taiwan	U	Universal Type
No mark indicates all areas.					

— MEMO —

XT-S50BK

Note : All printed circuit boards and its assemblies are not available as service parts.

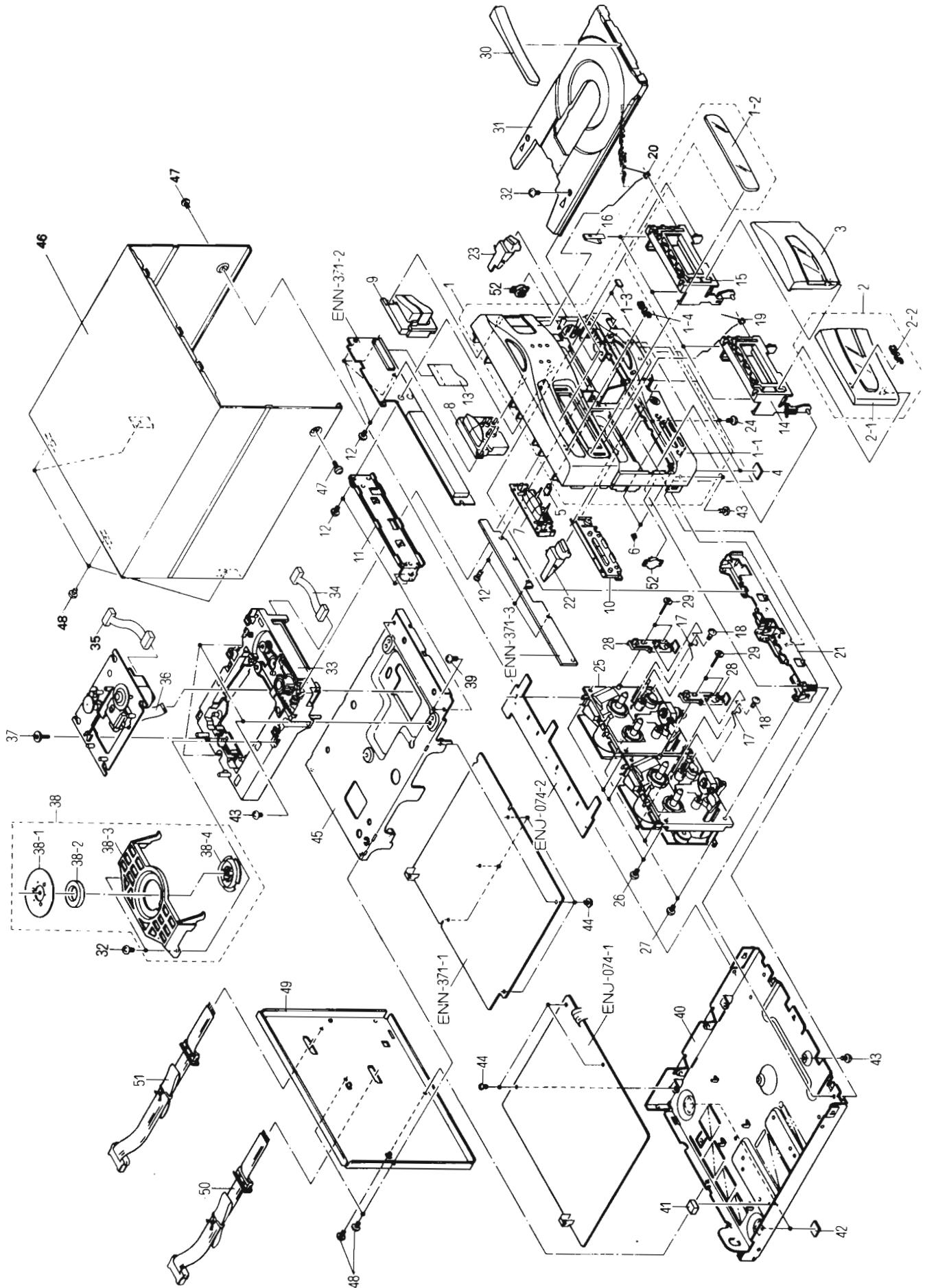
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General Exploded View and Parts List

Symbol No.

M	4	M	M
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Parts List

Item	Part Number	Part Name	Q'ty	Description	Area
1	EFP-XTS50BKE(S)	FRONT PANEL ASSY	1		
1-1	E102686-004SM	FRONT PANEL	1		
1-2	E308430-003SM	WINDOW SCREEN	1		
1-3	E69777-003	REFLECTION PLATE	2		
1-4	E406971-221	JVC MARK	1		
2	E207803-005SA	CASSETTE LID ASSY	1	DECK A	
2-1	E207803-005SM	CASSETTE LID	1	DECK A	
2-2	E406971-221	JVC MARK	1	DECK A	
3	E207806-005SM	CASSETTE LID	1	DECK B	
4	E75896-001	SPACER	2	FRONT FOOT	
5	E407446-001SS	INDICATOR LENS	1		
6	E407445-002SS	INDICATOR LENS	2		
7	E207545-003SS	PUSH BUTTON ASSY	1		
8	E207796-001SM	PUSH BUTTON	1		
9	E207859-004SM	PUSH BUTTON ASSY	1		
10	E308151-003SS	PUSH BUTTON ASSY	1		
11	E308437-003SM	STAY BRACKET	1		
12	SDSF2608Z	SCREW	10		
13	EWR633K-14PPJ3	FFC CABLE	1		
14	E207560-003SS	CASSETTE HOLDER	1	DECK A	
15	E207561-003SS	CASSETTE HOLDER	1	DECK B	
16	E406713-001	CASS SPRING	4		
17	E407304-001	SPRING	2		
18	GBSF3006Z	TAPPING SCREW	2		
19	E407447-007SM	EJECT SPRING	1	DECK A	
20	E407447-008SM	EJECT SPRING	1	DECK B	
21	E207567-001	HOLDER BKT	1		
22	E308160-001SS	EJECT BUTTON	1	DECK A	
23	E308161-001SS	EJECT BUTTON	1	DECK B	
24	SBST3006M	TAPPING SCREW	4		
25	-----	CASSETTE MECHANISM ASSY	1	SEE PAGE 5-5	
26	SBSF3010C	TAPPING SCREW	4		
27	SBST3008C	TAPPING SCREW	4		
28	E308162-002	EJECT LEVER	2		
29	E407214-001	SPECIAL SCREW	4		
30	E207534-003SS	CD FITTING	1		
31	E102358-332SS	CD TRAY	1		
32	SBSF3008M	TAPPING SCREW	3		
33	-----	CD MECHANISM ASSY	1	SEE PAGE 5-8	
34	EWS265-B410	SOCKET WIRE ASSY	1	5PIN	
35	EWS266-B412	SOCKET WIRE ASSY	1	6PIN	
36	EWR615M-11BBJ2	FFC CABLE	1	15PIN	
37	E406293-002	SPECIAL SCREW	1		
38	E306837-005	CLAMPER BASE ASSY	1		
38-1	E306836-223SS	YOKE PLATE	1		
38-2	E74897-002	MAGNET	1		
38-3	E26756-002	CLAMPER BASE	1		
38-4	E306835-001	CD CLAMPER	1		
39	SBST3006Z	TAPPING SCREW	2		
40	E102616-004SS	CHASSIS BASE	1		
41	EXO008008R40S	SPACER	1		
42	E75896-006	FELT SPACER	2	REAR FOOT	
43	SBST3008Z	TAPPING SCREW	6		
44	SBSG3008N	TAPPING SCREW	8		
45	E102688-003SM	CHASSIS BASE	1		
46	E207787-223	METAL COVER	1		

1 M

a	⚠	Item	Part Number	Part Name	Q'ty	Description	Area
		47	SDSG3006M	SCREW	2		
		48	E73273-003	SPECIAL SCREW	9		
		49	E207809-019SM	REAR PANEL	1		BS
			E207809-019SM	REAR PANEL	1		EF
			E207809-020SM	REAR PANEL	1		U
			E207809-021SM	REAR PANEL	1		UC
			E207809-020SM	REAR PANEL	1		US
			E207809-020SM	REAR PANEL	1		UT
		50	EWP907-013	FLAT WRE	1		
		51	EWP907-015	FLAT WIRE	1		
		52	E304434-005	DAMPER ASSY	2		
		-	E406507-001	CAUTION LABEL	1		
		-	E70891-001	CLASS 1 LABEL	1		

⚠ : Safety Parts

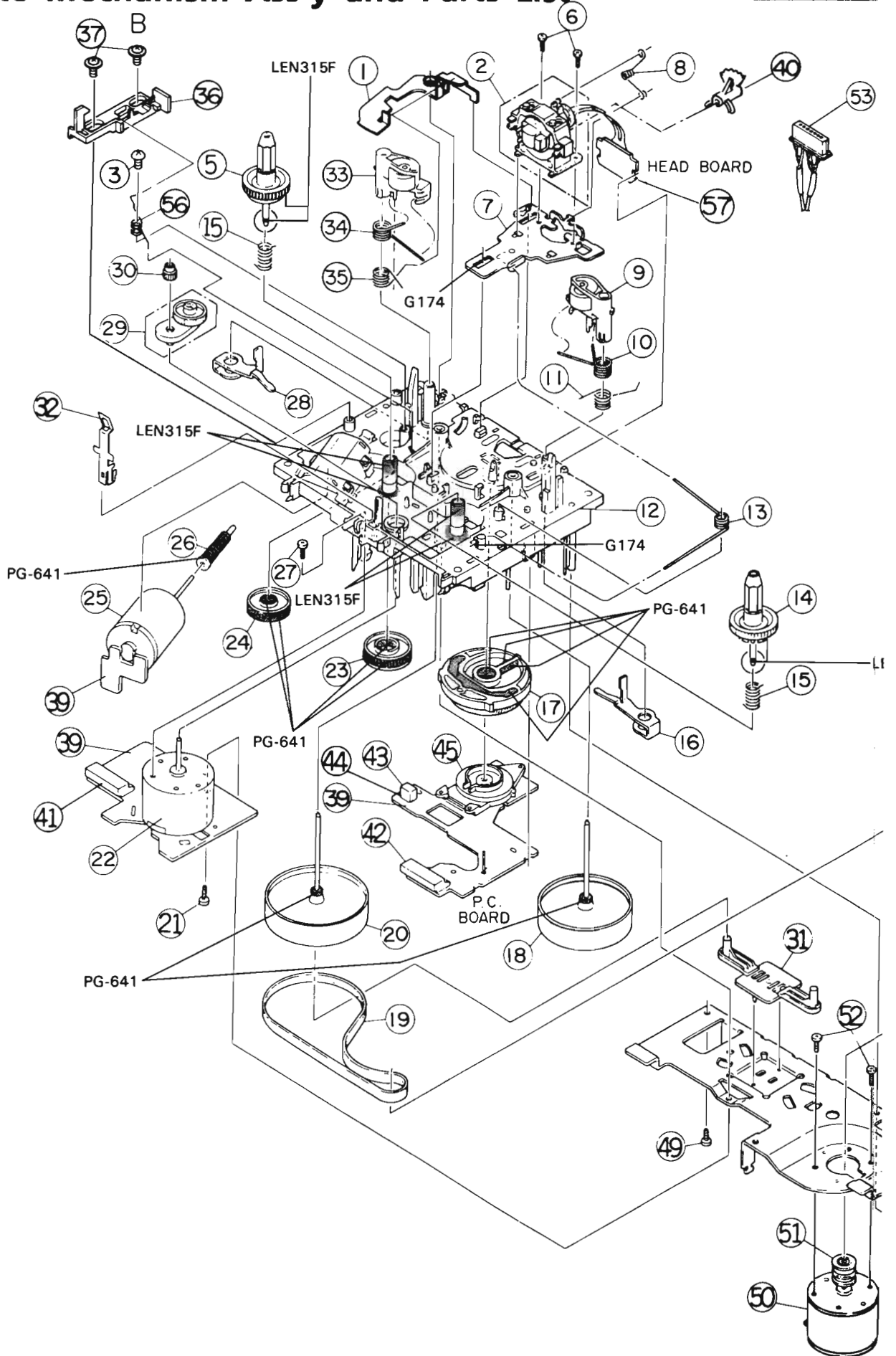
The Marks for Designated Areas

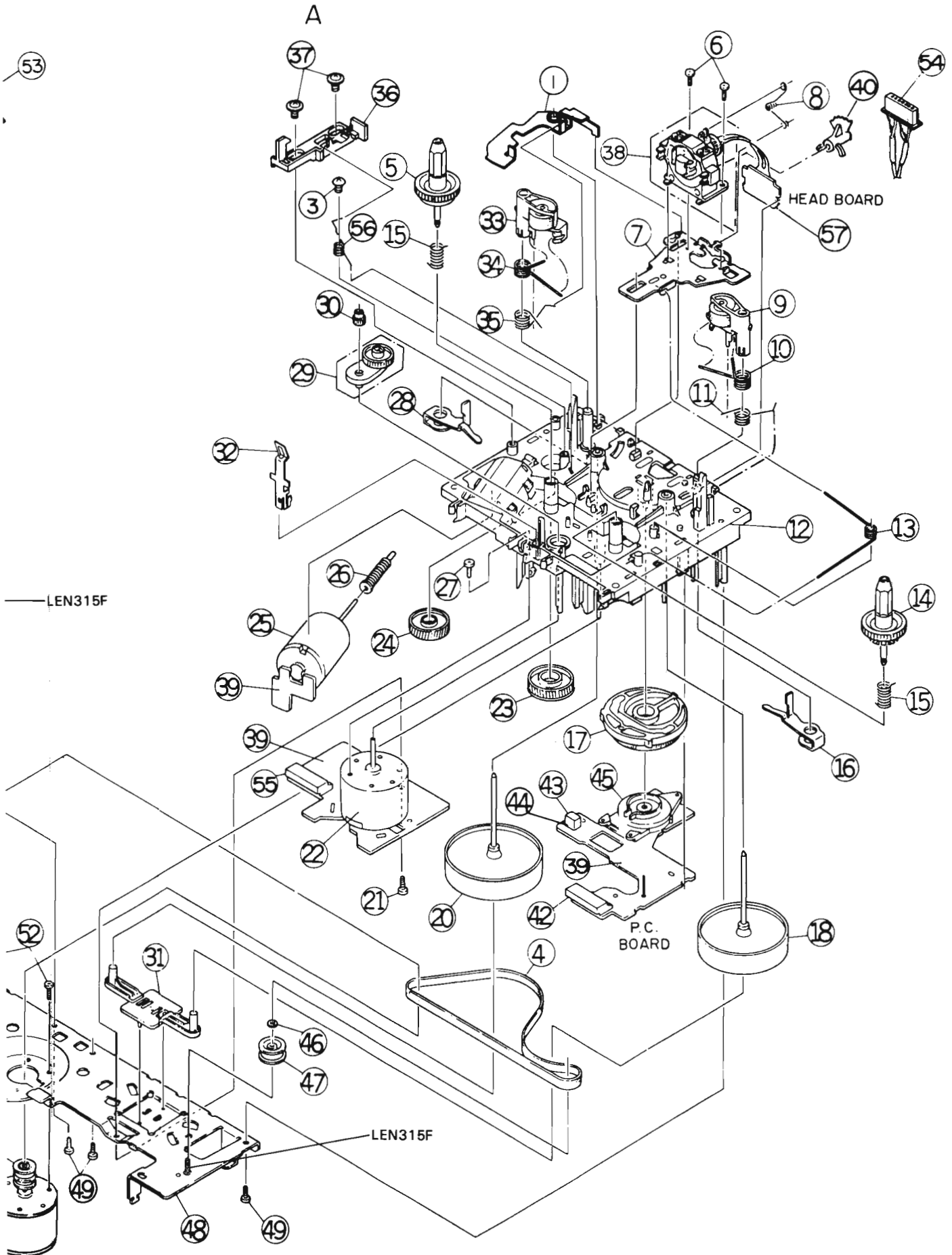
BS the U.K. EF Continental Europe UC China U Universal Type
 US Singapore UT Taiwan No mark indicates all area.

Cassette Mechanism Ass'y and Parts List

Symbol No.

M	5	M	M
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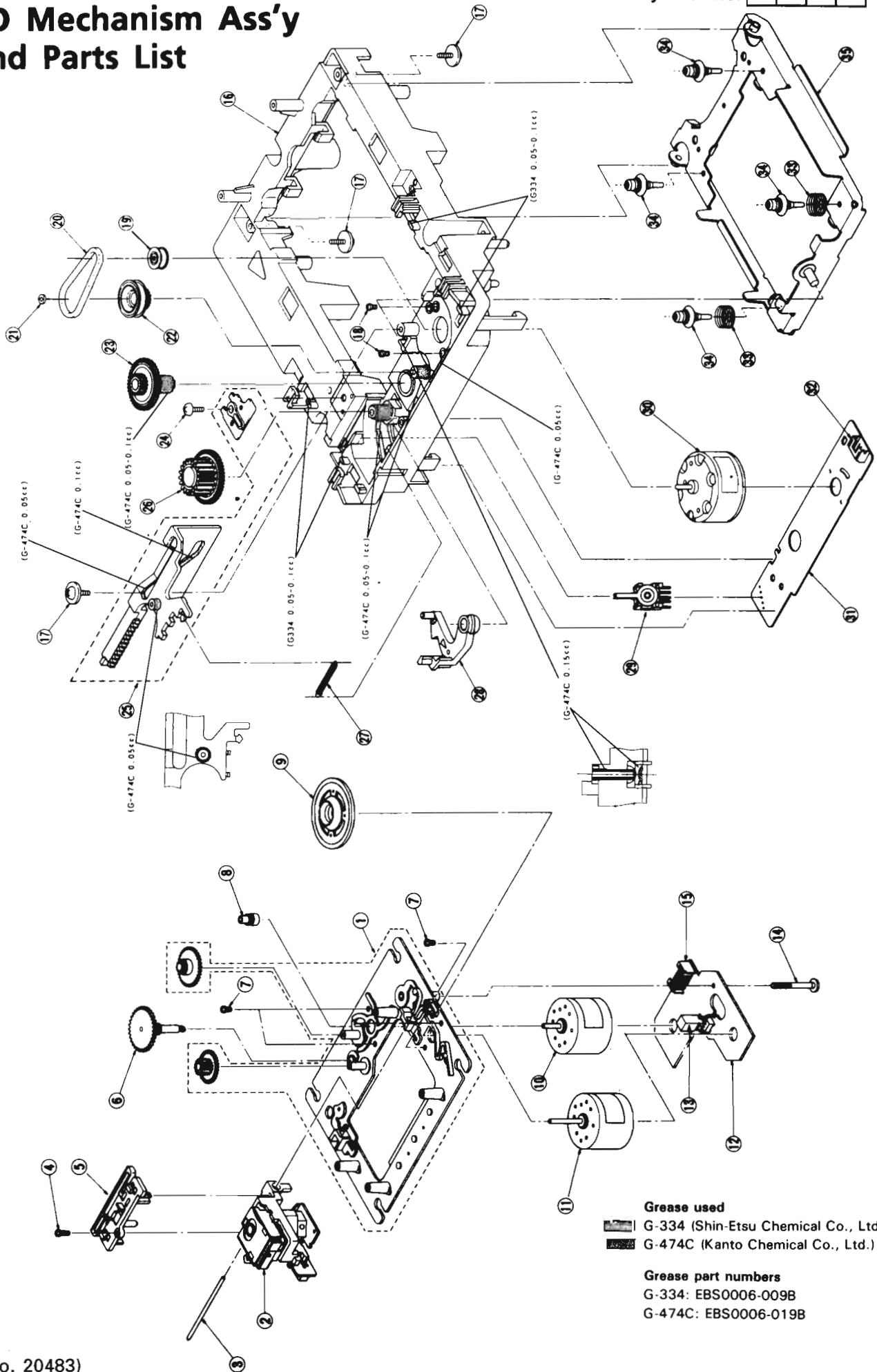
Symbol No.

M	5	M	M
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■ Parts List (Cassete Mechanism Ass'y)

Item	Part Number	Part Name	Q'ty	Description	Areas
1	VKL7246-001	EJECT BRACKET	2		
2	VKS3551-00B	HEAD MOUNT ASSY	1	(B)	
3	GBSF3008Z	SCREW	2		
4	VKB3001-054	CAPSTAN BELT	1	(A)	
5	VKS5321-00D	TAKE-UP REEL DISK	2	RIGHT	
6	SDST2004Z	SCREW	4	FOR HEAD MOUNT ASSY	
7	VKL6942-00E	HEAD BASE	2		
8	VKW4994-001	HEAD SPRING	2		
9	VKP4221-00C	PINCH ROLLER	2	LEFT	
10	VKW4982-001	PINCH ROLLER SPRING	2	LEFT	
11	VKW4933-005	TORSION SPRING	2	LEFT	
12	VKS1125-00A	CHASSIS BASE	2		
13	VKW4930-002	SPRING	2		
14	VKS3480-005	SUPPLY REEL DISK	2	LEFT	
15	VKW4928-003	SPRING	4	FOR REEL ASSY	
16	VKL6940-002	PINCH ROLLER LEVER	2	LEFT	
17	VKS2209-005	CONTROL CAM	2		
18	VKF3186-00C	FLYWHEEL	2	LEFT	
19	VKB3001-055	CAPSTAN BELT	1	(B)	
20	VKF3184-00C	FLYWHEEL	2	RIGHT	
21	SDSF2608Z	SCREW	2	PCB - FM BRACKET	
22	MMN-6F4RA38	DC MOTOR	2	REEL	
23	VKS5331-002	ACTUATER GEAR	2		
24	VKS5330-004	DRIVE GEAR	2		
25	MXN-13FB12F	DC MOTOR	2	CAM	
26	VKS5329-002	PINION GEAR	2		
27	SDSP2605Z	SCREW	2	CHASSIS BASE - MOTOR	
28	VKL6939-002	PINCH ROLLER LEVER	2	RIGHT	
29	VKS5325-00F	F.F./REW.ARM	2		
30	VKS5328-002	REEL GEAR	2		
31	VKS5327-003	MECHA PLATE	2		
32	VKY4628-002	SPRING	2		
33	VKP4219-00C	PINCH ROLLER	2	RIGHT	
34	VKW4981-001	TORSION SPRING	2	RIGHT	
35	VKW4932-005	TORSION SPRING	2	RIGHT	
36	E308162-001	EJECT LEVER	2		
37	E407214-001	SPECIAL SCREW	4		
38	VKS3550-00B	HEAD MOUNT	1	(A)	
39	VMW2362-001	PRINTED BOARD	2		
40	VKS3485-002	TIMING GEAR	2		
41	VMC0249-R08N	CONNECT TERMINAL	1	(B)	
42	VMC0234-R07	CONNECT TERMINAL	2		
43	DN6851A	I.C(DIGI-OTHER)	2		
44	VKS3487-002	IC HOLDER	2		
45	VKS3587-00A	CAM SWITCH	2		
46	WDL163525-4	WASHER	1		
47	VKR4631-003	IDLER PULLEY	1		
48	VKM3618-00A	FLYWHEEL BRACKET	1		
49	SDSF2605Z	SCREW	4	CHASSIS BASE - FM BRACKET	
50	MMI-6H2LW5K	DC MOTOR	1	CAPSTAN	
51	VKR4632-002	MOTOR PULLEY	1		
52	SPSP2603Z	SCREW	2		
53	VDM007P-024I	CONNECTOR WIRE ASSY	1	(B)	
54	VDM003P-040I	CONNECTOR WIRE ASSY	1	(A)	
55	VMC0249-R04N	CONNECT TERMINAL	1	(A)	
56	E407304-001	SPRING	2		
57	EMW4816-001	CIRCUIT BOARD	2		

CD Mechanism Ass'y and Parts List



Grease used
 G-334 (Shin-Etsu Chemical Co., Ltd.)
 G-474C (Kanto Chemical Co., Ltd.)

Grease part numbers
 G-334: EBS0006-009B
 G-474C: EBS0006-019B

■ Parts List (CD Mechanism Ass'y)

Symbol No.

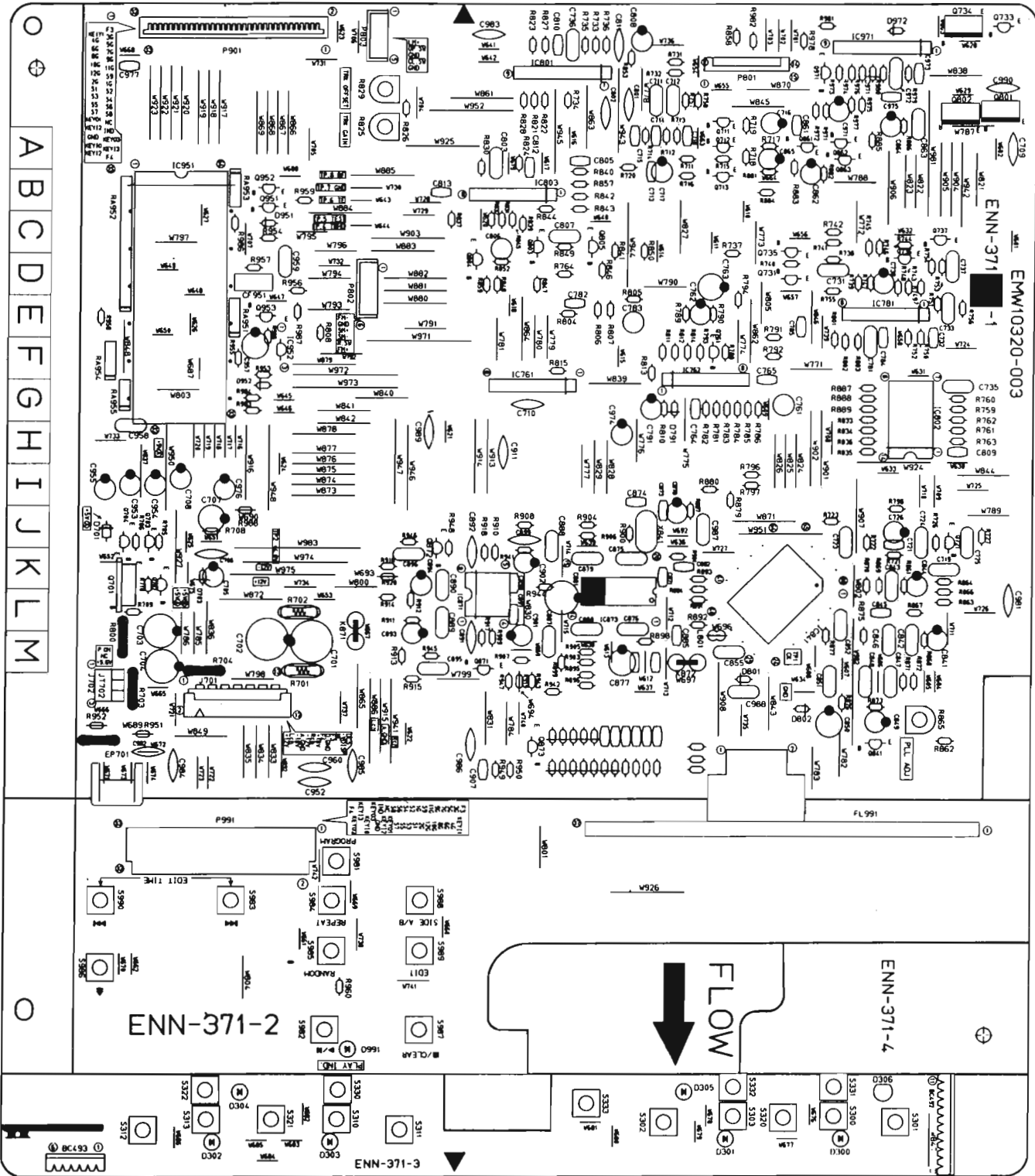
M	6	M	M
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Item	Part Number	Part Name	Q'ty	Description	Area
1	EPB-002A	MECHANISM BASE ASSY	1		
2	OPTIMA-6S	PICK UP ASS'Y	1		
3	E406777-001	SHAFT	1		
4	SDSF2006Z	SCREW	1		
5	E307746-001	CD RACK	1		
6	EPB-003A	MECHANISM BASE ASSY	1		
7	SDSP2003N	SCREW	4		
8	E406750-001	PINION GEAR	1		
9	EPB-001C	TURNTABLE	1		
10	E406784-001	DC MOTOR	1		
11	E406783-001	DC MOTOR	1		
12	EMW10190-001(S)	CIRCUIT BOARD	1		
13	ESB1100-005	LEAF SWITCH	1		
14	E75832-001	SPECIAL SCREW	1		
15	EMV5109-006B	PLUG ASSY	1	6PIN	
16	E102357-221	LOADING BASE	1		
17	E65923-003	SCREW	3		
18	SPSK2640Z	SCREW	2		
19	E75984-001	MOTOR PULLEY	1		
20	E75950-002	BELT	1		
21	E72024-001	SPEED NUT	1		
22	E75985-001	GEAR	1		
23	E75986-002	GEAR	1		
24	SBSF3008Z	SCREW	1		
25	E307252-221	CAM - PLATE	1		
26	E75987-001	REEL GEAR	1		
27	E75989-001	SPRING	1		
28	E307162-221	LEVER	1		
29	ESS1200-002	SLIDE SWITCH	1		
30	RF-500TB-12560	MOTOR	1		
31	EMW10255-002(S)	CIRCUIT BOARD	1		
32	EMV5109-005B	PLUG ASSY	1	5PIN	
33	E406871-001	SPRING	2		
34	E406294-002	INSULATOR	4		
35	E307179-221	ELEVATOR BASE ASSY	1		



Printed Circuit Board Ass'y and Parts List

■ ENN-371 □ CD PC Board Ass'y

Note : ENN-371 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Designated Areas
ENN-371 	BS EF	the U.K. Continental Europe
ENN-371 	UC U US UT	China Universal Type Singapore Taiwan

Transistors

Δ ITEM	PART NUMBER	DESCRIPTION	AREA
Q701	2SB1187(E,F)	SI.TRANSIST	
Q702	2SC1740S(R,S)	SI.TRANSIST ROHM	
Q703	2SA934(Q,R)	SI.TRANSIST ROHM	
Q704	DTA144ES	DIGITAL TRA ROHM	
Q711	2SC535(B,C)	SI.TRANSIST	
Q712	2SC1740S(R,S)	SI.TRANSIST ROHM	
Q713	2SA933S(RS)	SI.TRANSIST	
Q721	2SD2144S(VW)	SI.TRANSIST ROHM	
Q731	2SD2144S(VW)	SI.TRANSIST ROHM	
Q733	2SC2060(Q,R)	SI.TRANSIST ROHM	
Q734	2SB1357(E,F)	SI.TRANSIST ROHM	
Q735	DTA144WS	DIGITAL TRA ROHM	
Q736	2SA933S(RS)	SI.TRANSIST	
Q737	2SA933S(RS)	SI.TRANSIST	
Q761	2SD2144S(VW)	SI.TRANSIST ROHM	
Q801	2SD2037(E,F)	SI.TRANSIST ROHM	
Q802	2SB1357(E,F)	SI.TRANSIST ROHM	
Q803	2SD2144S(VW)	SI.TRANSIST ROHM	
Q804	2SD2144S(VW)	SI.TRANSIST ROHM	
Q805	2SD2144S(VW)	SI.TRANSIST ROHM	
Q841	2SD2144S(VW)	SI.TRANSIST ROHM	
Q861	2SA933S(RS)	SI.TRANSIST	
Q862	2SC1740S(R,S)	SI.TRANSIST ROHM	
Q863	2SC1740S(R,S)	SI.TRANSIST ROHM	
Q871	2SD2144S(VW)	SI.TRANSIST ROHM	
Q872	2SD2144S(VW)	SI.TRANSIST ROHM	
Q873	DTA144ES	DIGITAL TRA ROHM	
Q951	DTA114YS	DIGITAL TRA ROHM	
Q952	DTC114YS	DIGITAL TRA ROHM	
Q953	DTC114YS	DIGITAL TRA ROHM	
Q971	2SA934(Q,R)	SI.TRANSIST ROHM	

Δ HISA/FETY/ PARTS

I.C.s

Δ ITEM	PART NUMBER	DESCRIPTION	AREA
IC761	STA341M(A)	TRANSISTOR	
IC762	M5218AL	I.C(MONO-AN MITSUBISHI	
IC781	M5218AL	I.C(MONO-AN MITSUBISHI	
IC801	NJM072S	I.C(MONO-AN DAINICHI	
IC802	BA10339	I.C(MONO-AN ROHM	
IC803	M5218AL	I.C(MONO-AN MITSUBISHI	
IC841	YM7121C	I.C(DIGI-MO YAMAHA	
IC871	BA15218	I.C(MONO-AN ROHM	
IC873	MN35501	I.C(DIGI-MO MATSUSHITA	
IC951	HD404019RC11S	I.C(MICRO-C HITACHI	
IC952	MN1281(P,Q)	I.C(DIGI-MO MATSUSHITA	
IC971	NJM2904S	I.C(MONO-AN DAINICHI	

Δ HISA/FETY/ PARTS

Diodes

Δ ITEM	PART NUMBER	DESCRIPTION	AREA
D300	SLR-342MCA47	L.E.D. ROHM	
D301	SLR-342MCA47	L.E.D. ROHM	
D302	SLR-342MCA47	L.E.D. ROHM	
D303	SLR-342MCA47	L.E.D. ROHM	
D304	SLR-342VC3F	L.E.D. ROHM	
D305	SLR-342VC3F	L.E.D. ROHM	
D306	SPR-39MVWF	L.E.D. ROHM	
D701	1SR139-200	SI.DIODE ROHM	
D703	MTZ5.6JB	ZENER DIODE ROHM	
D791	1SS119	SI.DIODE	
D951	1SS119	SI.DIODE	
D952	1SS119	SI.DIODE	
D971	MTZ2.4JB	ZENER DIODE ROHM	
D972	1SS119	SI.DIODE	
D991	SLR-342MCA47	L.E.D. ROHM	

Δ HISA/FETY/ PARTS

Capacitors

Δ ITEM	PART NUMBER	DESCRIPTION	AREA
C701	QETB1CM-108	1000MF 16V AL E.CAPAC	
C702	QETB1CM-108	1000MF 16V AL E.CAPAC	
C703	QETB1CM-227	220MF 16V AL E.CAPAC	
C704	QETB1CM-227	220MF 16V AL E.CAPAC	
C705	QETB1CM-476	47MF 16V AL E.CAPAC	
C706	QCF21HP-223A	0.022MF 50V CER.CAPACI	
C707	QETBOJM-227	220MF 6.3V E.CAPACITO	
C708	QETB1AM-107	100MF 10V AL E.CAPAC	
C709	QCF21HP-223A	0.022MF 50V CER.CAPACI	
C710	QCF21HP-223A	0.022MF 50V CER.CAPACI	
C711	QFLB1HJ-472	4700PF 50V MYLAR CAPA	
C712	QFLB1HJ-472	4700PF 50V MYLAR CAPA	
C713	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C714	QCSB1HK-3R9	3.9PF 50V CER.CAPACI	
C715	QCSB1HK-471Y	470PF 50V CER.CAPACI	
C716	QETB1EM-106	10MF 25V AL E.CAPAC	
C717	QETB1CM-476	47MF 16V AL E.CAPAC	
C718	QCSB1HK-101Y	100PF 50V CER.CAPACI	
C719	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	
C721	QCSB1HJ-470	47PF 50V CER.CAPACI	
C723	QCZ0202-155	1.5MF 25V CER.RESIST	
C724	QFLB1HJ-563	0.056MF 50V MYLAR CAPA	
C725	QFV81HJ-564	0.56MF 50V THIN FILM	
C726	QETB1EM-106	10MF 25V AL E.CAPAC	
C731	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	
C732	QCSB1HK-271Y	270PF 50V CER.CAPACI	
C733	QFLB1HJ-393	0.039MF 50V MYLAR CAPA	
C735	QFV81HJ-104	0.1MF 50V THIN FILM	
C736	QFV71HJ-224ZM	0.22MF 50V THIN FILM	
C737	QFV81HJ-104	0.1MF 50V THIN FILM	
C738	QETB1CM-476	47MF 16V AL E.CAPAC	
C761	QENS1HM-225	2.2MF 50V NP E.CAPAC	
C762	QETB1EM-226	22MF 25V E.CAPACITO	
C763	QETBOJM-227	220MF 6.3V E.CAPACITO	
C764	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C765	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C781	QFLB1HJ-272	2700PF 50V MYLAR CAPA	
C782	QCSB1HK-101Y	100PF 50V CER.CAPACI	
C783	QENS1HM-225	2.2MF 50V NP E.CAPAC	
C784	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C785	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C791	QETB1HM-475E	4.7MF 50V E.CAPACITO	
C801	QCT26CH-151	150PF 50V CER.CAPACI	
C802	QCT26CH-101	100PF 50V CER.CAPACI	
C803	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	
C805	QCSB1HJ-470	47PF 50V CER.CAPACI	
C806	QENS1HM-225	2.2MF 50V NP E.CAPAC	
C807	QFLB1HJ-563	0.056MF 50V MYLAR CAPA	
C808	QETB1CM-476	47MF 16V AL E.CAPAC	
C809	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C810	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C811	QCF21HP-223A	0.022MF 50V CER.CAPACI	
C812	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C813	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C841	QETB1AM-107	100MF 10V AL E.CAPAC	
C842	QFV81HJ-104	0.1MF 50V THIN FILM	
C843	QFV81HJ-104	0.1MF 50V THIN FILM	
C844	QETB1EM-106	10MF 25V AL E.CAPAC	
C845	QCSB1HK-101Y	100PF 50V CER.CAPACI	
C846	QFV81HJ-105	1MF 50V THIN FILM	
C847	QFLB1HJ-182	1800PF 50V MYLAR CAPA	
C848	QFV71HJ-224ZM	0.22MF 50V THIN FILM	
C849	QETB1EM-106	10MF 25V AL E.CAPAC	
C850	QETBOJM-227	220MF 6.3V E.CAPACITO	
C851	QFV81HJ-104	0.1MF 50V THIN FILM	
C852	QFV81HJ-104	0.1MF 50V THIN FILM	
C855	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
C861	QCSB1HK-101Y	100PF 50V CER.CAPACI	
C862	QETB1CM-107	100MF 16V AL E.CAPAC	
C863	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
C864	QETB1EM-106	10MF 25V AL E.CAPAC	
C865	QETB1HM-105	1MF 50V AL E.CAPAC	
C873	QCT30CH-120Y	12PF 50V CER.CAPACI	
C874	QCT30CH-3R9Y	3.9PF 50V CER.CAPACI	
C875	QCZ0202-155	1.5MF 25V CER.RESIST	
C876	QCZ0202-155	1.5MF 25V CER.RESIST	
C877	QETBOJM-227	220MF 6.3V E.CAPACITO	
C879	QCZ0202-155	1.5MF 25V CER.RESIST	
C880	QCZ0202-155	1.5MF 25V CER.RESIST	
C881	QETBOJM-477	470MF 6.3V AL E.CAPAC	
C882	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C887	QFLB1HJ-152	1500PF 50V MYLAR CAPA	
C888	QFLB1HJ-152	1500PF 50V MYLAR CAPA	
C889	QFLB1HJ-122	1200PF 50V MYLAR CAPA	
C890	QFLB1HJ-122	1200PF 50V MYLAR CAPA	
C891	QCS21HJ-121	120PF 50V CER.CAPACI	
C892	QCS21HJ-121	120PF 50V CER.CAPACI	
C893	EEZ2505-226	22MF AL E.CAPAC	
C894	EEZ2505-226	22MF AL E.CAPAC	
C895	QFLB1HJ-683	0.068MF 50V MYLAR CAPA	
C896	QFLB1HJ-683	0.068MF 50V MYLAR CAPA	
C897	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C898	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
C899	QCY31HK-122Z	1200PF 50V CER.CAPACI	
C907	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	

Δ HISA/FETY/ PARTS

Capacitors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	C953	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C954	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C955	QETB1HM-226E	22MF 50V E.CAPACITO	
	C957	QETB1AM-227	220MF 10V E.CAPACITO	
	C958	QCZ0202-155	1.5MF 25V CER.RESIST	
	C959	QFV81HJ-104	0.1MF 50V THIN FILM	BS
	C959	QFV81HJ-104	0.1MF 50V THIN FILM	EF
	C959	QFV81HJ-104	0.1MF 50V THIN FILM	U
	C959	QFV81HJ-104	0.1MF 50V THIN FILM	UC
	C959	QFV81HJ-104	0.1MF 50V THIN FILM	US
	C959	QFV81HJ-104	0.1MF 50V THIN FILM	UT
	C971	QETB1CM-476	47MF 16V AL E.CAPAC	
	C972	QFLB1HJ-103	0.01MF 50V MYLAR CAPA	
	C973	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C974	QETB1AM-107	100MF 10V AL E.CAPAC	
	C975	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C976	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C987	QCZ0202-155	1.5MF 25V CER.RESIST	
	C988	QCZ0202-155	1.5MF 25V CER.RESIST	

Δ : ISIAFETY PARTS

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	R794	QRD161J-221	220 1/6W CARBON RES	
	R796	QRD161J-472	4.7K 1/6W CARBON RES	
	R797	QRD161J-472	4.7K 1/6W CARBON RES	
	R798	QRD161J-472	4.7K 1/6W CARBON RES	
Δ	R800	QRZ0077-4R7	4.7 1/4W FUSE RESIS	
	R801	QRD161J-474	470K 1/6W CARBON RES	
	R802	QRD161J-474	470K 1/6W CARBON RES	
	R803	QRD161J-823	82K 1/6W CARBON RES	
	R804	QRD161J-221	220 1/6W CARBON RES	
	R805	QRD161J-683	68K 1/6W CARBON RES	
	R806	QRD161J-123	12K 1/6W CARBON RES	
	R807	QRD167J-152	1.5K 1/6W CARBON RES	
	R808	QRD161J-2R2	2.2 1/6W CARBON RES	
	R810	QRD161J-684	680K 1/6W CARBON RES	
	R811	QRD161J-513	51K 1/6W CARBON RES	
	R812	QRD161J-513	51K 1/6W CARBON RES	
	R813	QRD161J-683	68K 1/6W CARBON RES	
	R814	QRD161J-683	68K 1/6W CARBON RES	
	R815	QRD161J-221	220 1/6W CARBON RES	
	R821	QRD161J-563	56K 1/6W CARBON RES	
	R822	QRD161J-563	56K 1/6W CARBON RES	
	R823	QRD161J-394	390K 1/6W CARBON RES	
	R824	QRD161J-681	680 1/6W CARBON RES	
	R825	QVPA601-202A	2K TRIMMER RE	
	R826	QRD161J-122	1.2K 1/6W CARBON RES	
	R827	QRD167J-334	330K 1/6W CARBON RES	
	R828	QRD161J-512	5.1K 1/6W CARBON RES	
	R829	QVPA601-154A	150K TRIMMER RE	
	R830	QRD167J-223	22K 1/6W CARBON RES	
	R831	QRD167J-682	6.8K 1/6W CARBON RES	
	R832	QRD161J-103	10K 1/6W CARBON RES	
	R833	QRD167J-562	5.6K 1/6W CARBON RES	
	R834	QRD167J-562	5.6K 1/6W CARBON RES	
	R835	QRD167J-562	5.6K 1/6W CARBON RES	
	R836	QRD167J-562	5.6K 1/6W CARBON RES	
	R837	QRD161J-183	18K 1/6W CARBON RES	
	R839	QRD161J-103	10K 1/6W CARBON RES	
	R840	QRD167J-154	150K 1/6W CARBON RES	
	R841	QRD161J-103	10K 1/6W CARBON RES	
	R842	QRD161J-303Y	30K 1/6W CARBON RES	
	R843	QRD167J-434	430K 1/6W CARBON RES	
	R844	QRD167J-434	430K 1/6W CARBON RES	
	R845	QRD161J-103	10K 1/6W CARBON RES	
	R846	QRD161J-184	180K 1/6W CARBON RES	
	R847	QRD161J-104	100K 1/6W CARBON RES	
	R848	QRD161J-104	100K 1/6W CARBON RES	
	R849	QRD161J-681	680 1/6W CARBON RES	
	R850	QRD161J-183	18K 1/6W CARBON RES	
	R852	QRD167J-102	1K 1/6W CARBON RES	
	R853	QRD167J-562	5.6K 1/6W CARBON RES	
	R857	QRD161J-221	220 1/6W CARBON RES	
	R858	QRD167J-562	5.6K 1/6W CARBON RES	
	R859	QRD161J-183	18K 1/6W CARBON RES	
	R861	QRD161J-182	1.8K 1/6W CARBON RES	
	R862	QRD161J-221	220 1/6W CARBON RES	
	R863	QRD161J-184	180K 1/6W CARBON RES	
	R864	QRD161J-393	39K 1/6W CARBON RES	
	R865	QVPA601-104A	100K TRIMMER RE	
	R866	QRD161J-224	220K 1/6W CARBON RES	
	R867	QRD161J-182	1.8K 1/6W CARBON RES	
	R868	QRD161J-122	1.2K 1/6W CARBON RES	
	R869	QRD167J-822	8.2K 1/6W CARBON RES	
	R870	QRD167J-822	8.2K 1/6W CARBON RES	
	R871	QRD161J-821	820 1/6W CARBON RES	
	R872	QRD161J-182	1.8K 1/6W CARBON RES	
	R873	QRD161J-101	100 1/6W CARBON RES	
	R875	QRD167J-682	6.8K 1/6W CARBON RES	
	R876	QRD167J-682	6.8K 1/6W CARBON RES	
	R877	QRD167J-102	1K 1/6W CARBON RES	
	R879	QRD167J-102	1K 1/6W CARBON RES	
	R880	QRD167J-102	1K 1/6W CARBON RES	
	R881	QRD161J-103	10K 1/6W CARBON RES	
	R882	QRD167J-272	2.7K 1/6W CARBON RES	
	R883	QRD167J-102	1K 1/6W CARBON RES	
	R884	QRD161J-271	270 1/6W CARBON RES	
	R885	QRD161J-103	10K 1/6W CARBON RES	
	R886	QRD167J-562	5.6K 1/6W CARBON RES	
	R887	QRD161J-472	4.7K 1/6W CARBON RES	
	R888	QRD167J-822	8.2K 1/6W CARBON RES	
	R889	QRD161J-103	10K 1/6W CARBON RES	
	R891	QRD161J-561	560 1/6W CARBON RES	
	R892	QRD161J-561	560 1/6W CARBON RES	
	R893	QRD161J-561	560 1/6W CARBON RES	
	R894	QRD161J-561	560 1/6W CARBON RES	
	R895	QRD167J-560	56 1/6W CARBON RES	
	R896	QRD167J-560	56 1/6W CARBON RES	
	R897	QRD161J-101	100 1/6W CARBON RES	
	R898	QRD161J-561	560 1/6W CARBON RES	
	R899	QRD161J-271	270 1/6W CARBON RES	
	R900	QRD161J-330	33 1/6W CARBON RES	
	R901	QRD161J-105	1M 1/6W CARBON RES	
	R903	QRD161J-273	27K 1/6W CARBON RES	
	R904	QRD161J-273	27K 1/6W CARBON RES	
	R905	QRD161J-273	27K 1/6W CARBON RES	
	R906	QRD161J-273	27K 1/6W CARBON RES	

Δ : ISIAFETY PARTS

Δ : ISIAFETY PARTS

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION		AREA
	R907	QRD161J-392	3.9K	1/6W CARBON RES	
	R908	QRD161J-392	3.9K	1/6W CARBON RES	
	R909	QRD161J-472	4.7K	1/6W CARBON RES	
	R910	QRD161J-472	4.7K	1/6W CARBON RES	
	R911	QRD161J-273	27K	1/6W CARBON RES	
	R912	QRD161J-273	27K	1/6W CARBON RES	
	R913	QRD161J-561	560	1/6W CARBON RES	
	R914	QRD161J-561	560	1/6W CARBON RES	
	R915	QRD161J-221	220	1/6W CARBON RES	
	R916	QRD161J-221	220	1/6W CARBON RES	
	R917	QRD161J-183	18K	1/6W CARBON RES	
	R918	QRD161J-183	18K	1/6W CARBON RES	
	R941	QRD161J-182	1.8K	1/6W CARBON RES	
	R942	QRD161J-512	5.1K	1/6W CARBON RES	
	R943	QRD161J-181	180	1/6W CARBON RES	
	R944	QRD167J-682	6.8K	1/6W CARBON RES	
	R945	QRD161J-104	100K	1/6W CARBON RES	
	R946	QRD161J-104	100K	1/6W CARBON RES	
	R947	QRD161J-392	3.9K	1/6W CARBON RES	
	R948	QRD161J-392	3.9K	1/6W CARBON RES	
	R949	QRD161J-684	680K	1/6W CARBON RES	
	R950	QRD167J-154	150K	1/6W CARBON RES	
	R953	QRD167J-471	470	1/6W CARBON RES	
	R954	QRD161J-473	47K	1/6W CARBON RES	
	R955	QRD161J-103	10K	1/6W CARBON RES	
	R956	QRD161J-472	4.7K	1/6W CARBON RES	
	R957	QRD161J-105	1M	1/6W CARBON RES	
	R958	QRD161J-473	47K	1/6W CARBON RES	
	R959	QRD161J-472	4.7K	1/6W CARBON RES	
	R960	QRD167J-151	150	1/6W CARBON RES	
	R968	QRD161J-222	2.2K	1/6W CARBON RES	
	R971	QRD161J-220	22	1/6W CARBON RES	
	R972	QRD161J-220	22	1/6W CARBON RES	
	R973	QRD167J-102	1K	1/6W CARBON RES	
	R974	QRD161J-105	1M	1/6W CARBON RES	
	R975	QRD161J-331	330	1/6W CARBON RES	
	R976	QRD161J-183	18K	1/6W CARBON RES	
	R977	QRD167J-102	1K	1/6W CARBON RES	
	R978	QRD161J-103	10K	1/6W CARBON RES	
	R979	QRD161J-103	10K	1/6W CARBON RES	
	R980	QRD161J-104	100K	1/6W CARBON RES	
	R981	QRD161J-222	2.2K	1/6W CARBON RES	
	R982	QRD161J-910Y	91	1/6W CARBON RES	
	R986	QRD161J-103	10K	1/6W CARBON RES	
	R987	QRD161J-473	47K	1/6W CARBON RES	
	R988	QRD167J-102	1K	1/6W CARBON RES	
	RA951	QRB049J-102	1K	1/10W NETWORK RE	

Δ TISIA:RETYI IPIARTS

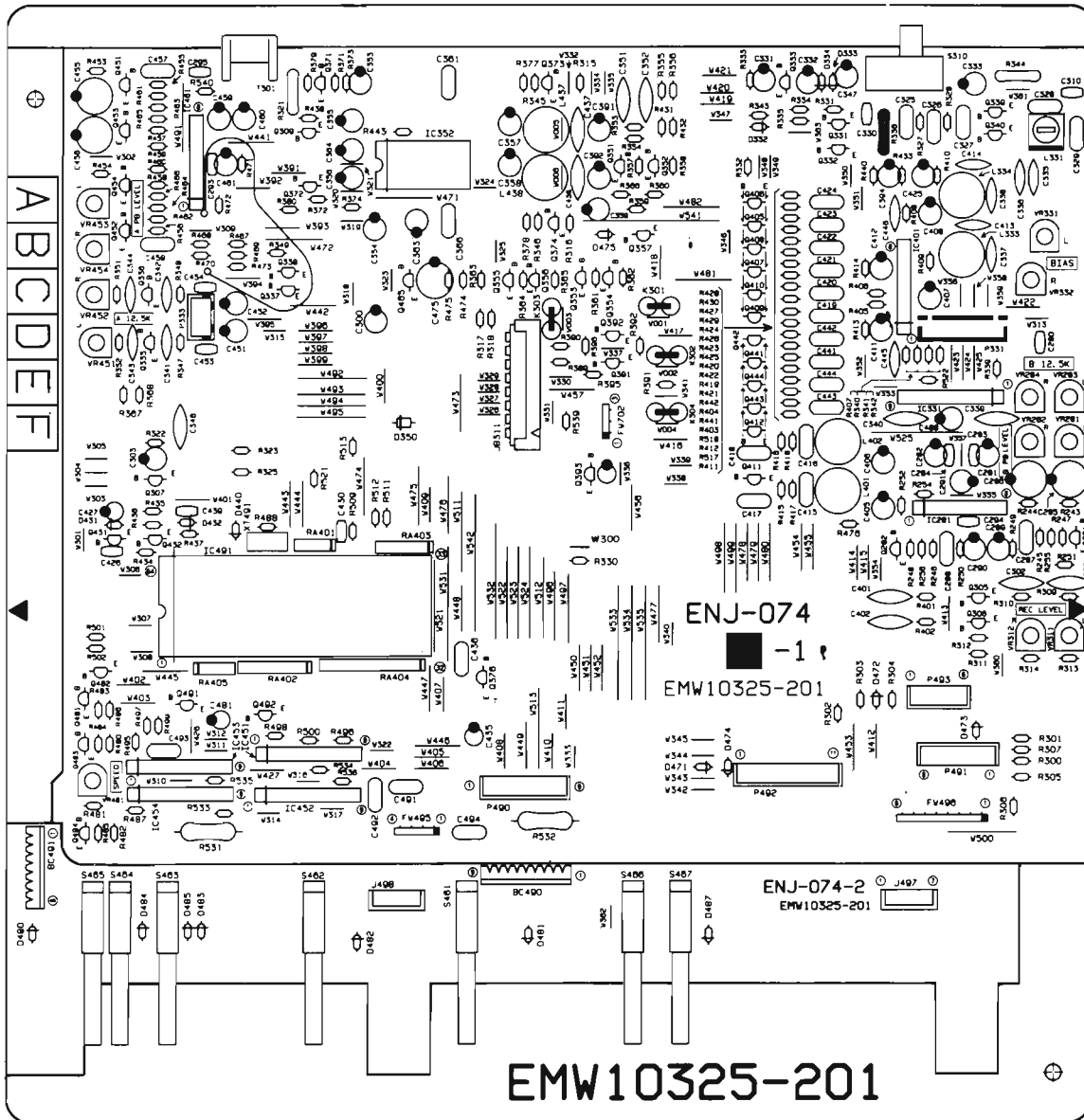
Others

Δ	ITEM	PART NUMBER	DESCRIPTION		AREA
		VYH7653-005	I.C.PROTECT		
		VYH7653-002	I.C.SOCKET		
		E407620-001	SPACER		
		E306805-075	FELT SPACER		
		E308432-001	FL.HOLDER		
	J701	EMV7141-013M	CONNECT TER(13PIN)		
	P801	EMV7144-015	F.P.C.PLUG(15PIN)		
	P802	EMV5109-006A	CONNECT TER(6PIN)		
	P803	EMV5109-005A	MALE CONNec(5PIN)		
	P901	EMV7123-033	FEMALE CONN(33PIN)		
	P991	EMV7123-033R	FEMALE CONN(33PIN)		
	S300	ESP0001-0232J5	TACT SWITCH(B.W PLAY) A Mecha		
	S301	ESP0001-0232J5	TACT SWITCH(REW) A Mecha		
	S302	ESP0001-0232J5	TACT SWITCH(FF) A Mecha		
	S303	ESP0001-0232J5	TACT SWITCH(F.W PLAY) A Mecha		
	S310	ESP0001-0232J5	TACT SWITCH(B.W PLAY) B Mecha		
	S311	ESP0001-0232J5	TACT SWITCH(REW) B Mecha		
	S312	ESP0001-0232J5	TACT SWITCH(FF) B Mecha		
	S313	ESP0001-0232J5	TACT SWITCH(F.W PLAY) B Mecha		
	S320	ESP0001-0232J5	TACT SWITCH(STOP) A Mecha		
	S321	ESP0001-0232J5	TACT SWITCH(STOP) B Mecha		
	S322	ESP0001-0232J5	TACT SWITCH(REC. PAUSE) B Mecha		
	S330	ESP0001-0232J5	TACT SWITCH(HIGH SPEED DUBBING)		
	S331	ESP0001-0232J5	TACT SWITCH(DOLBY)		
	S332	ESP0001-0232J5	TACT SWITCH(REV. MODE)		
	S333	ESP0001-0232J5	TACT SWITCH(CD REC)		
	S981	ESP0001-0232J5	TACT SWITCH(PROGRAM)		
	S982	ESP0001-0232J5	TACT SWITCH(PLAY/PAUSE)		
	S983	ESP0001-0232J5	TACT SWITCH(BACK AUTO SEARCH)		
	S984	ESP0001-0232J5	TACT SWITCH(REPEAT)		
	S985	ESP0001-0232J5	TACT SWITCH(RANDOM)		
	S986	ESP0001-0232J5	TACT SWITCH(OPEN/CLOSE)		
	S987	ESP0001-0232J5	TACT SWITCH(STOP/CLEAR)		
	S988	ESP0001-0232J5	TACT SWITCH(SIDE A/B)		
	S989	ESP0001-0232J5	TACT SWITCH(EDIT)		
	S990	ESP0001-0232J5	TACT SWITCH(POW AUTO SEARCH)		
	X841	ECX0169-344KL	CRYSTAL		
	BC492	EWS32B-A930	SOCKET WIRE(11PIN)		
	BC493	EWS326-A920	SOCKET WIRE(6PIN)		
	CF951	ECX0004-194KM	CERAMIC RES		
	EP701	E70225-001	EARTH PLATE		
	FL991	ELU0001-151	FLUORESCENT		
	JT702	EMV7122-103	CONNECT TER(3PIN)		

Δ TISIA:RETYI IPIARTS

■ ENJ-074 □ Deck PC Board Ass'y

Note : ENJ-074 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Designated Areas
ENJ-074 □	BS EF	the U.K. Continental Europe
ENJ-074 □	UC U US UT	China Universal Type Singapore Taiwan

Transistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q281	2SK301(P,Q)	F.E.T. MATSUSHITA	
	Q282	2SK301(P,Q)	F.E.T. MATSUSHITA	
	Q305	2SD2144S(VW)	SI. TRANSIST ROHM	
	Q306	2SD2144S(VW)	SI. TRANSIST ROHM	
	Q307	2SC1740S(R,S)	SI. TRANSIST ROHM	
	Q309	DTC144ES	DIGITAL TRA ROHM	
	Q332	2SC1740S(R,S)	SI. TRANSIST ROHM	
	Q333	2SC1740S(R,S)	SI. TRANSIST ROHM	
	Q335	DTC144ES	DIGITAL TRA ROHM	
	Q336	DTC144ES	DIGITAL TRA ROHM	
	Q337	DTC144ES	DIGITAL TRA ROHM	
	Q338	DTC144ES	DIGITAL TRA ROHM	
	Q339	2SC1740S(R,S)	SI. TRANSIST ROHM	
	Q340	2SC1740S(R,S)	SI. TRANSIST ROHM	
	Q351	2SC1740S(R,S)	SI. TRANSIST ROHM	
	Q352	2SC1740S(R,S)	SI. TRANSIST ROHM	
	Q353	2SC1740S(R,S)	SI. TRANSIST ROHM	
	Q354	2SC1740S(R,S)	SI. TRANSIST ROHM	
	Q355	2SC1740S(R,S)	SI. TRANSIST ROHM	
	Q356	2SC1740S(R,S)	SI. TRANSIST ROHM	

Δ SAFETY PARTS

Transistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q357	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q371	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q372	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q373	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q374	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q376	DTC144ES	DIGITAL TRA ROHM	
	Q391	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q392	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q393	DTA144ES	DIGITAL TRA ROHM	
	Q405	DTC144TS	DIGITAL TRA ROHM	
	Q406	DTC144TS	DIGITAL TRA ROHM	
	Q407	DTC144TS	DIGITAL TRA ROHM	
	Q408	DTC144TS	DIGITAL TRA ROHM	
	Q409	DTC144TS	DIGITAL TRA ROHM	
	Q410	DTC144TS	DIGITAL TRA ROHM	
	Q411	DTC144TS	DIGITAL TRA ROHM	
	Q412	DTC144TS	DIGITAL TRA ROHM	
	Q431	DTC114ES	DIGITAL TRA ROHM	
	Q432	DTA114TS	DIGITAL TRA ROHM	
	Q451	2SK301(P,Q)	F.E.T. MATSUSHITA	
	Q452	2SK301(P,Q)	F.E.T. MATSUSHITA	
	Q453	2SK301(P,Q)	F.E.T. MATSUSHITA	
	Q454	2SK301(P,Q)	F.E.T. MATSUSHITA	
	Q465	DTA114YS	DIGITAL TRA ROHM	
	Q481	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q482	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q483	2SA933S(RS)	SI.TRANSIST	
	Q484	2SA933S(RS)	SI.TRANSIST	
	Q491	DTC144ES	DIGITAL TRA ROHM	
	Q492	DTC144ES	DIGITAL TRA ROHM	

Δ : SAFETY PARTS

I.C.s

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC281	UPC1228HA	I.C(MONO-AN NEC	
	IC331	UPC1330HA	I.C(MONO-AN NEC	
	IC352	HA12136A	I.C(MONO-AN HITACHI	
	IC401	BA1521BN	I.C(MONO-AN ROHM	
	IC451	TAB409S	I.C(MONO-AN TOSHIBA	
	IC452	TAB409S	I.C(MONO-AN TOSHIBA	
	IC453	TAB409S	I.C(MONO-AN TOSHIBA	
	IC454	TAB409S	I.C(MONO-AN TOSHIBA	
	IC461	UPC1228HA	I.C(MONO-AN NEC	
	IC491	HD614081SD53	I.C(MICRO-C HITACHI	

Δ : SAFETY PARTS

Diodes

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	D332	1SS119	SI.DIODE	
	D350	1SR139-200	SI.DIODE ROHM	
	D431	1SS119	SI.DIODE	
	D432	MTZ3.9JB	ZENER DIODE ROHM	
	D440	1SS119	SI.DIODE	
	D471	1SS119	SI.DIODE	
	D472	1SS119	SI.DIODE	
	D473	1SS119	SI.DIODE	
	D474	1SS119	SI.DIODE	
	D475	1SS119	SI.DIODE	
	D481	1SS119	SI.DIODE	
	D483	1SS119	SI.DIODE	
	D484	1SS119	SI.DIODE	
	D485	1SS119	SI.DIODE	
	D487	1SS119	SI.DIODE	

Δ : SAFETY PARTS

Capacitors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	C281	QEK51HM-225G	2.2MF 50V AL E.CAPAC	
	C282	QEK51HM-225G	2.2MF 50V AL E.CAPAC	
	C283	QCB1HK-101Y	100PF 50V CER.CAPACI	BS
	C283	QCB1HK-101Y	100PF 50V CER.CAPACI	EF
	C283	QCB1HK-101Y	100PF 50V CER.CAPACI	U
	C283	QCB1HK-101Y	100PF 50V CER.CAPACI	UC
	C283	QCB1HK-101Y	100PF 50V CER.CAPACI	US
	C283	QCB1HK-101Y	100PF 50V CER.CAPACI	UT
	C284	QCB1HK-101Y	100PF 50V CER.CAPACI	BS
	C284	QCB1HK-101Y	100PF 50V CER.CAPACI	EF
	C284	QCB1HK-101Y	100PF 50V CER.CAPACI	U
	C284	QCB1HK-101Y	100PF 50V CER.CAPACI	UC
	C284	QCB1HK-101Y	100PF 50V CER.CAPACI	US
	C284	QCB1HK-101Y	100PF 50V CER.CAPACI	UT
	C285	QETB1AM-107	100MF 10V AL E.CAPAC	
	C286	QETB1AM-107	100MF 10V AL E.CAPAC	
	C287	QFLB1HJ-822	8200PF 50V MYLAR CAPA	
	C288	QFLB1HJ-822	8200PF 50V MYLAR CAPA	
	C289	QERS1HM-105G	1MF 50V AL E.CAPAC	
	C290	QERS1HM-105G	1MF 50V AL E.CAPAC	

Δ : SAFETY PARTS

Capacitors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	C291	QEK51CM-107	100MF 16V E.CAPACITO	
	C301	QCY31HK-122Z	1200PF 50V CER.CAPACI	
	C302	QCY31HK-122Z	1200PF 50V CER.CAPACI	
	C303	QEK51HM-105G	1MF 50V AL E.CAPAC	
	C310	QCB1HK-471Y	470PF 50V CER.CAPACI	BS
	C310	QCB1HK-471Y	470PF 50V CER.CAPACI	EF
	C325	QFLB1HJ-222	2200PF 50V MYLAR CAPA	
	C326	QFLB1HJ-222	2200PF 50V MYLAR CAPA	
	C327	QFLB1HJ-682	6800PF 50V MYLAR CAPA	
	C328	QFLB1HJ-275	0.027MF 50V MYLAR CAPA	
	C329	QFPB1HG-822	8200PF 50V POLYPROPY.	
	C331	QETB1HM-105	1MF 50V AL E.CAPAC	
	C332	QETB1HM-105	1MF 50V AL E.CAPAC	
	C333	QETB1EM-106	10MF 25V AL E.CAPAC	
	C335	QCS21HJ-101A	100PF 50V CER.CAPACI	
	C336	QCS21HJ-101A	100PF 50V CER.CAPACI	
	C337	QCS21HJ-101A	100PF 50V CER.CAPACI	
	C338	QCS21HJ-101A	100PF 50V CER.CAPACI	
	C339	QCY31HK-152Z	1500PF 50V CER.CAPACI	
	C340	QCY31HK-152Z	1500PF 50V CER.CAPACI	
	C341	QCS21HJ-331	330PF 50V CER.CAPACI	
	C342	QCS21HJ-331	330PF 50V CER.CAPACI	
	C343	QCY31HK-122Z	1200PF 50V CER.CAPACI	
	C344	QCY31HK-122Z	1200PF 50V CER.CAPACI	
	C346	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C347	QETB1CM-107	100MF 16V AL E.CAPAC	
	C351	QCF21HP-473A	0.047MF 50V CER.CAPACI	
	C352	QCF21HP-473A	0.047MF 50V CER.CAPACI	
	C353	QEK51HM-105G	1MF 50V AL E.CAPAC	
	C354	QEK51HM-105G	1MF 50V AL E.CAPAC	
	C355	QEK51HM-105G	1MF 50V AL E.CAPAC	
	C356	QEK51HM-105G	1MF 50V AL E.CAPAC	
	C357	QETB1EM-106	10MF 25V AL E.CAPAC	
	C358	QETB1EM-106	10MF 25V AL E.CAPAC	
	C359	QETB1CM-476	47MF 16V AL E.CAPAC	
	C361	QFV71HJ-224ZM	0.22MF 50V THIN FILM	
	C363	QEK51HM-475	4.7MF 50V AL E.CAPAC	
	C364	QEK51CM-107	100MF 16V E.CAPACITO	
	C366	QFV71HJ-224ZM	0.22MF 50V THIN FILM	
	C371	QCB1HK-331Y	330PF 50V CER.CAPACI	
	C372	QCB1HK-331Y	330PF 50V CER.CAPACI	
	C373	QCB1HK-331Y	330PF 50V CER.CAPACI	
	C374	QCB1HK-331Y	330PF 50V CER.CAPACI	
	C391	QEK51EM-106	10MF 25V AL E.CAPAC	
	C392	QEK51EM-106	10MF 25V AL E.CAPAC	
	C394	QETB1CM-107	100MF 16V AL E.CAPAC	
	C401	QCF21HP-473A	0.047MF 50V CER.CAPACI	
	C402	QCF21HP-473A	0.047MF 50V CER.CAPACI	
	C405	QETB1HM-225	2.2MF 50V E.CAPACITO	
	C406	QETB1HM-225	2.2MF 50V E.CAPACITO	
	C407	QERS1HM-225G	2.2MF 50V AL E.CAPAC	
	C408	QERS1HM-225G	2.2MF 50V AL E.CAPAC	
	C411	QERS1EM-106	10MF 25V E.CAPACITO	
	C412	QERS1EM-106	10MF 25V E.CAPACITO	
	C413	QCS21HJ-271A	270PF 50V CER.CAPACI	
	C414	QCS21HJ-271A	270PF 50V CER.CAPACI	
	C415	QFLB1HJ-822	8200PF 50V MYLAR CAPA	
	C416	QFLB1HJ-822	8200PF 50V MYLAR CAPA	
	C417	QFLB1HJ-562	5600PF 50V MYLAR CAPA	
	C418	QFLB1HJ-562	5600PF 50V MYLAR CAPA	
	C419	QFLB1HJ-123	0.012MF 50V MYLAR CAPA	
	C420	QFLB1HJ-123	0.012MF 50V MYLAR CAPA	
	C421	QFLB1HJ-102	1000PF 50V MYLAR CAPA	
	C422	QFLB1HJ-102	1000PF 50V MYLAR CAPA	
	C423	QFLB1HJ-103	0.01MF 50V MYLAR CAPA	
	C424	QFLB1HJ-103	0.01MF 50V MYLAR CAPA	
	C425	QETB1CM-107	100MF 16V AL E.CAPAC	
	C426	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C427	QEK51CM-226	22MF 16V AL E.CAPAC	
	C430	QCB1HK-102Y	1000PF 50V CER.CAPACI	BS
	C430	QCB1HK-102Y	1000PF 50V CER.CAPACI	EF
	C430	QCB1HK-102Y	1000PF 50V CER.CAPACI	U
	C430	QCB1HK-102Y	1000PF 50V CER.CAPACI	UC
	C430	QCB1HK-102Y	1000PF 50V CER.CAPACI	US
	C430	QCB1HK-102Y	1000PF 50V CER.CAPACI	UT
	C435	QETB1CM-476	47MF 16V AL E.CAPAC	
	C436	QZ0202-155	1.5MF 25V CER.RESIST	
	C437	QCS21HJ-101A	100PF 50V CER.CAPACI	
	C438	QCS21HJ-101A	100PF 50V CER.CAPACI	
	C439	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C445	QCS21HJ-470	47PF 50V CER.CAPACI	
	C446	QCS21HJ-470	47PF 50V CER.CAPACI	
	C451	QEK51HM-225G	2.2MF 50V AL E.CAPAC	
	C452	QEK51HM-225G	2.2MF 50V AL E.CAPAC	
	C453	QCB1HK-101Y	100PF 50V CER.CAPACI	BS
	C453	QCB1HK-101Y	100PF 50V CER.CAPACI	EF
	C453	QCB1HK-101Y	100PF 50V CER.CAPACI	U
	C453	QCB1HK-101Y	100PF 50V CER.CAPACI	UC
	C453	QCB1HK-101Y	100PF 50V CER.CAPACI	US
	C453	QCB1HK-101Y	100PF 50V CER.CAPACI	UT
	C454	QCB1HK-101Y	100PF 50V CER.CAPACI	BS
	C454	QCB1HK-101Y	100PF 50V CER.CAPACI	EF
	C454	QCB1HK-101Y	100PF 50V CER.CAPACI	U
	C454	QCB1HK-101Y	100PF 50V CER.CAPACI	UC
	C454	QCB1HK-101Y	100PF 50V CER.CAPACI	US

Δ : SAFETY PARTS

Capacitors

Δ	ITEM	PART NUMBER	DESCRIPTION		AREA
	C454	QCBB1HK-101Y	100PF	50V CER.CAPACI	UT
	C455	QETB1AM-107	100MF	10V AL E.CAPAC	
	C456	QETB1AM-107	100MF	10V AL E.CAPAC	
	C457	QFLB1HJ-822	8200PF	50V MYLAR CAPA	
	C458	QFLB1HJ-822	8200PF	50V MYLAR CAPA	
	C459	QEK51HM-105G	1MF	50V AL E.CAPAC	
	C460	QEK51HM-105G	1MF	50V AL E.CAPAC	
	C461	QETB1CM-107	100MF	16V AL E.CAPAC	
	C475	QETB1AM-476	47MF	10V E.CAPACITO	
	C481	QETB1CM-476	47MF	16V AL E.CAPAC	
	C488	QEK51CM-107	100MF	16V E.CAPACITO	
	C491	QFLB1HJ-104	0.1MF	50V MYLAR CAPA	
	C492	QFLB1HJ-104	0.1MF	50V MYLAR CAPA	
	C493	QFLB1HJ-104	0.1MF	50V MYLAR CAPA	
	C494	QFLB1HJ-104	0.1MF	50V MYLAR CAPA	

Δ ISIAPIETY IPIARTS

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION		AREA
	R243	QRD161J-470	47	1/6W CARBON RES	
	R244	QRD161J-470	47	1/6W CARBON RES	
	R245	QRD167J-334	330K	1/6W CARBON RES	
	R246	QRD167J-334	330K	1/6W CARBON RES	
	R247	QRD167J-562	5.6K	1/6W CARBON RES	
	R248	QRD167J-562	5.6K	1/6W CARBON RES	
	R249	QRD167J-682	6.8K	1/6W CARBON RES	
	R250	QRD167J-682	6.8K	1/6W CARBON RES	
	R251	QRD161J-105	1M	1/6W CARBON RES	
	R252	QRD161J-105	1M	1/6W CARBON RES	
	R254	QRD167J-471	470	1/6W CARBON RES	
	R255	QRD167J-272	2.7K	1/6W CARBON RES	
	R256	QRD167J-272	2.7K	1/6W CARBON RES	
	R300	QRD167J-431	430	1/6W CARBON RES	
	R301	QRD167J-431	430	1/6W CARBON RES	
	R302	QRD161J-181	180	1/6W CARBON RES	
	R303	QRD161J-181	180	1/6W CARBON RES	
	R304	QRD161J-331	330	1/6W CARBON RES	
	R305	QRD161J-561	560	1/6W CARBON RES	
	R306	QRD161J-561	560	1/6W CARBON RES	
	R307	QRD161J-821	820	1/6W CARBON RES	
	R309	QRD161J-473	47K	1/6W CARBON RES	
	R310	QRD161J-473	47K	1/6W CARBON RES	
	R311	QRD161J-103	10K	1/6W CARBON RES	
	R312	QRD161J-103	10K	1/6W CARBON RES	
	R313	QRD167J-153	15K	1/6W CARBON RES	
	R314	QRD167J-153	15K	1/6W CARBON RES	
	R315	QRD161J-103	10K	1/6W CARBON RES	
	R316	QRD161J-103	10K	1/6W CARBON RES	
	R317	QRD161J-473	47K	1/6W CARBON RES	
	R318	QRD161J-473	47K	1/6W CARBON RES	
Δ	R321	QR20077-220	22	1/4W FUSIBLE RE	
	R322	QRD161J-913	91K	1/6W CARBON RES	
	R323	QRD161J-105	1M	1/6W CARBON RES	
	R325	QRD161J-104	100K	1/6W CARBON RES	
	R327	QRD161J-473	47K	1/6W CARBON RES	
	R328	QRD161J-473	47K	1/6W CARBON RES	
	R330	QRD161J-103	10K	1/6W CARBON RES	
	R332	QRD167J-332	3.3K	1/6W CARBON RES	
	R333	QRD161J-104	100K	1/6W CARBON RES	
	R334	QRD161J-181	180	1/6W CARBON RES	
	R335	QRD167J-121	120	1/6W CARBON RES	
Δ	R336	QR20077-220	22	1/4W FUSIBLE RE	
	R341	QRD161J-100	10	1/6W CARBON RES	
	R342	QRD161J-100	10	1/6W CARBON RES	
	R343	QRD161J-222	2.2K	1/6W CARBON RES	
Δ	R344	QRD14CJ-220S	22	1/4W UNF. CARBON	
	R345	QRD167J-562	5.6K	1/6W CARBON RES	
	R346	QRD167J-562	5.6K	1/6W CARBON RES	
	R347	QRD161J-224	220K	1/6W CARBON RES	
	R348	QRD161J-224	220K	1/6W CARBON RES	
	R349	QRD167J-223	22K	1/6W CARBON RES	
	R353	QRD167J-153	15K	1/6W CARBON RES	
	R354	QRD167J-153	15K	1/6W CARBON RES	
	R355	QRD161J-243	24K	1/6W CARBON RES	
	R356	QRD161J-243	24K	1/6W CARBON RES	
	R357	QRD167J-332	3.3K	1/6W CARBON RES	
	R358	QRD167J-332	3.3K	1/6W CARBON RES	
	R359	QRD167J-223	22K	1/6W CARBON RES	
	R360	QRD167J-223	22K	1/6W CARBON RES	
	R361	QRD161J-561	560	1/6W CARBON RES	
	R362	QRD161J-561	560	1/6W CARBON RES	
	R363	QRD161J-242	2.4K	1/6W CARBON RES	
	R364	QRD161J-242	2.4K	1/6W CARBON RES	
	R365	QRD161J-103	10K	1/6W CARBON RES	
	R366	QRD161J-105	1M	1/6W CARBON RES	
	R367	QRD167J-223	22K	1/6W CARBON RES	
	R368	QRD167J-223	22K	1/6W CARBON RES	
	R371	QRD167J-562	5.6K	1/6W CARBON RES	
	R372	QRD167J-562	5.6K	1/6W CARBON RES	
	R373	QRD161J-103	10K	1/6W CARBON RES	
	R374	QRD161J-103	10K	1/6W CARBON RES	
	R377	QRD161J-103	10K	1/6W CARBON RES	
	R378	QRD161J-103	10K	1/6W CARBON RES	
	R379	QRD161J-103	10K	1/6W CARBON RES	

Δ ISIAPIETY IPIARTS

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION		AREA
	R380	QRD161J-103	10K	1/6W CARBON RES	
	R389	QRD161J-221	220	1/6W CARBON RES	
	R390	QRD161J-221	220	1/6W CARBON RES	
	R391	QRD167J-562	5.6K	1/6W CARBON RES	
	R392	QRD167J-562	5.6K	1/6W CARBON RES	
	R395	QRD161J-103	10K	1/6W CARBON RES	
	R396	QRD161J-103	10K	1/6W CARBON RES	
	R401	QRD161J-333	33K	1/6W CARBON RES	
	R402	QRD161J-333	33K	1/6W CARBON RES	
	R405	QRD161J-683	68K	1/6W CARBON RES	
	R406	QRD161J-683	68K	1/6W CARBON RES	
	R407	QRD167J-153	15K	1/6W CARBON RES	
	R408	QRD167J-153	15K	1/6W CARBON RES	
	R409	QRD167J-153	15K	1/6W CARBON RES	
	R410	QRD167J-153	15K	1/6W CARBON RES	
	R413	QRD161J-182	1.8K	1/6W CARBON RES	
	R414	QRD161J-182	1.8K	1/6W CARBON RES	
	R415	QRD161J-221	220	1/6W CARBON RES	
	R416	QRD161J-221	220	1/6W CARBON RES	
	R417	QRD161J-221	220	1/6W CARBON RES	
	R418	QRD161J-221	220	1/6W CARBON RES	
	R419	QRD167J-471	470	1/6W CARBON RES	
	R420	QRD167J-471	470	1/6W CARBON RES	
	R421	QRD167J-332	3.3K	1/6W CARBON RES	
	R422	QRD167J-332	3.3K	1/6W CARBON RES	
	R423	QRD167J-102	1K	1/6W CARBON RES	
	R424	QRD167J-102	1K	1/6W CARBON RES	
	R427	QRD167J-471	470	1/6W CARBON RES	
	R428	QRD167J-471	470	1/6W CARBON RES	
	R429	QRD161J-392	3.9K	1/6W CARBON RES	
	R430	QRD161J-392	3.9K	1/6W CARBON RES	
	R431	QRD161J-394	390K	1/6W CARBON RES	
	R432	QRD161J-394	390K	1/6W CARBON RES	
	R433	QRD161J-221	220	1/6W CARBON RES	
	R434	QRD161J-103	10K	1/6W CARBON RES	
	R435	QRD167J-223	22K	1/6W CARBON RES	
	R436	QRD161J-103	10K	1/6W CARBON RES	
	R437	QRD167J-102	1K	1/6W CARBON RES	
	R438	QRD161J-103	10K	1/6W CARBON RES	
	R440	QRD161J-221	220	1/6W CARBON RES	
	R443	QRD161J-183	18K	1/6W CARBON RES	
	R453	QRD161J-470	47	1/6W CARBON RES	
	R454	QRD161J-470	47	1/6W CARBON RES	
	R455	QRD167J-334	330K	1/6W CARBON RES	
	R456	QRD167J-334	330K	1/6W CARBON RES	
	R457	QRD161J-362	3.6K	1/6W CARBON RES	
	R458	QRD161J-362	3.6K	1/6W CARBON RES	
	R459	QRD161J-222	2.2K	1/6W CARBON RES	
	R460	QRD161J-222	2.2K	1/6W CARBON RES	
	R461	QRD167J-332	3.3K	1/6W CARBON RES	
	R462	QRD167J-332	3.3K	1/6W CARBON RES	
	R463	QRD167J-682	6.8K	1/6W CARBON RES	
	R464	QRD167J-682	6.8K	1/6W CARBON RES	
	R465	QRD167J-223	22K	1/6W CARBON RES	
	R466	QRD167J-223	22K	1/6W CARBON RES	
	R467	QRD161J-105	1M	1/6W CARBON RES	
	R468	QRD161J-105	1M	1/6W CARBON RES	
	R469	QRD161J-105	1M	1/6W CARBON RES	
	R470	QRD161J-105	1M	1/6W CARBON RES	
	R471	QRD167J-471	470	1/6W CARBON RES	
	R472	QRD161J-472	4.7K	1/6W CARBON RES	
	R473	QRD161J-472	4.7K	1/6W CARBON RES	
	R474	QRD161J-274	270K	1/6W CARBON RES	
	R475	QRD161J-104	100K	1/6W CARBON RES	
	R476	QRD161J-472	4.7K	1/6W CARBON RES	
	R480	QRD161J-242	2.4K	1/6W CARBON RES	
	R481	QRD167J-153	15K	1/6W CARBON RES	
	R482	QRD161J-273	27K	1/6W CARBON RES	
	R483	QRD161J-184	180K	1/6W CARBON RES	
	R484	QRD161J-224	220K	1/6W CARBON RES	
	R485	QRD161J-683	68K	1/6W CARBON RES	
	R486	QRD161J-224	220K	1/6W CARBON RES	
	R487	QRD161J-224	220K	1/6W CARBON RES	
	R488	QRD161J-105	1M	1/6W CARBON RES	
	R495	QRD161J-123	12K	1/6W CARBON RES	
	R496	QRD161J-123	12K	1/6W CARBON RES	
	R497	QRD167J-682	6.8K	1/6W CARBON RES	
	R498	QRD167J-682	6.8K	1/6W CARBON RES	
	R499	QRD161J-563	56K	1/6W CARBON RES	
	R500	QRD161J-563	56K	1/6W CARBON RES	
	R501	QRD161J-103	10K	1/6W CARBON RES	
	R502	QRD161J-103	10K	1/6W CARBON RES	
	R509	QRD161J-103	10K	1/6W CARBON RES	
	R513	QRD167J-151	150	1/6W CARBON RES	
	R522	QRD161J-221	220	1/6W CARBON RES	
	R525	QRD161J-221	220	1/6W CARBON RES	
	R526	QRD161J-221	220	1/6W CARBON RES	
Δ	R531	QRG022J-470A	47	2W OXIDE META	
Δ	R532	QRG022J-470A	47	2W OXIDE META	
	R533	QRD161J-163	16K	1/6W CARBON RES	
	R534	QRD161J-163	16K	1/6W CARBON RES	
	R535	QRD161J-183	18K	1/6W CARBON RES	
	R536	QRD161J-183	18K	1/6W CARBON RES	
	R539	QRD161J-472	4.7K	1/6W CARBON RES	
	R540	QRD161J-220	22	1/6W CARBON RES	

Δ ISIAPIETY IPIARTS

BS

Resistors

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	R540	QRD161J-220	22 1/6W CARBON RES	EF
	R540	QRD161J-220	22 1/6W CARBON RES	U
	R540	QRD161J-220	22 1/6W CARBON RES	UC
	R540	QRD161J-220	22 1/6W CARBON RES	US
	R540	QRD161J-220	22 1/6W CARBON RES	UT
	RA401	QRB049J-103	10K 1/10W RESISTOR	
	RA402	QRB089J-103	10K 1/10W NETWORK RE	
	VR281	QVPA601-201A	200 TRIMMER RE	
	VR282	QVPA601-201A	200 TRIMMER RE	
	VR283	QVPA601-104A	100K TRIMMER RE	
	VR284	QVPA601-104A	100K TRIMMER RE	
	VR311	QVPA601-503A	50K TRIMMER RE	
	VR312	QVPA601-503A	50K TRIMMER RE	
	VR331	QVPA601-204A	200K TRIMMER RE	
	VR332	QVPA601-204A	200K TRIMMER RE	
	VR451	QVPA601-104A	100K TRIMMER RE	
	VR452	QVPA601-104A	100K TRIMMER RE	
	VR453	QVPA601-201A	200 TRIMMER RE	
	VR454	QVPA601-201A	200 TRIMMER RE	
	VR481	QVPA601-103A	10K TRIMMER RE	

Δ ISIA:FEITY:PIARTIS

Others

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
		QWE351-10RR	VINYL WIRE	BS
		QWE351-10RR	VINYL WIRE	EF
		QWE351-10RR	VINYL WIRE	U
		QWE351-10RR	VINYL WIRE	UC
		QWE351-10RR	VINYL WIRE	US
		QWE351-10RR	VINYL WIRE	UT
	J497	VMC0234-P07	CONNECT TER(7PIN)	
	J498	VMC0234-P07	CONNECT TER(7PIN)	
	L331	ENZ6002-010	OSCILLATOR	BS
	L331	ENZ6002-010	OSCILLATOR	EF
	L331	ENZ6002-010	OSCILLATOR	U
	L331	ENZ6002-010	OSCILLATOR	UC
	L331	ENZ6002-010	OSCILLATOR	US
	L331	ENZ6002-010	OSCILLATOR	UT
	L333	EQL2106-223	INDUCTOR	
	L334	EQL2106-223	INDUCTOR	
	L401	EQL2106-562	INDUCTOR	
	L402	EQL2106-562	INDUCTOR	
	L437	EQL2106-223	INDUCTOR	
	L438	EQL2106-223	INDUCTOR	
	P331	EMV5133-007K	PLUG(7PIN)	
	P333	EMV5133-003K	CONNECT TER(3PIN)	
	P490	EMV5109-009A	PIN PLUG(9PIN)	
	P491	EMV5109-008A	MALE CONNEC(8PIN)	
	P492	EMV5142-911	CONNECT TER(11PIN)	
	P493	EMV5142-906	CONNECT TER(6PIN)	
	S310	QSS7A12-E01	SLIDE SWITC	BS
	S310	QSS7A12-E01	SLIDE SWITC	EF
	S461	ESB1100-007	LEAF SWITCH	
	S463	ESB1100-007	LEAF SWITCH	
	S464	ESB1100-007	LEAF SWITCH	
	S465	ESB1100-007	LEAF SWITCH	
	S466	ESB1100-007	LEAF SWITCH	
	S467	ESB1100-007	LEAF SWITCH	
	T301	E70225-001	EARTH PLATE	
	BC490	EMS269-F413	SOCKET WIRE(9PIN)	
	BC491	EMS268-F413	SOCKET WIRE(8PIN)	
	FW495	EWR34D-16LS	FLAT WIRE A(4PIN)	
	FW496	EWR38D-16LS	FLAT WIRE A(8PIN)	
	FW702	EWR33D-20LS	FLAT WIRE A(3PIN)	
	JB311	EMV7141-015	PIN CONNECT(15PIN)	
	XT491	ECX0004-194KM	CERAMIC RES	

Δ ISIA:FEITY:PIARTIS



JVC

VICTOR COMPANY OF JAPAN, LIMITED

AUDIO DIVISION, YAMATO PLANT, 1644, SHIMOTSURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN

