JVC

SERVICE MANUAL

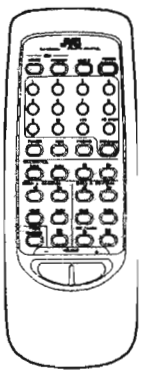
COMPACT COMPONENT SYSTEM

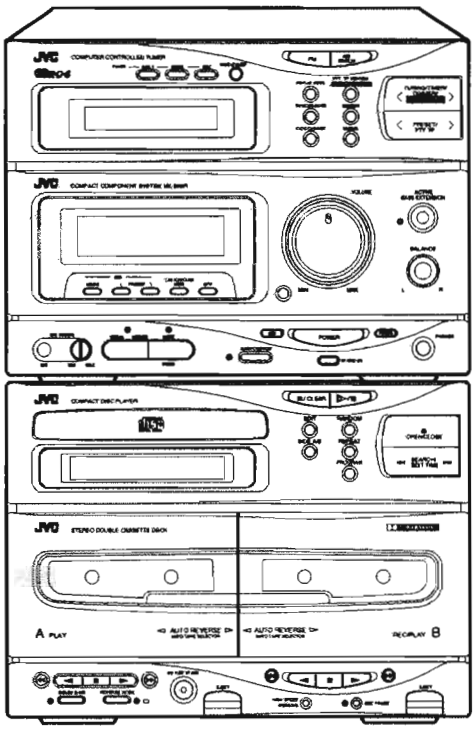
CA-S50RBK

Pick up	OPTIMA-6
CD signal processor	YM7121B

Area Suffix

BS .... the U.K.
E ..... Continental Europe
G ..... Germany





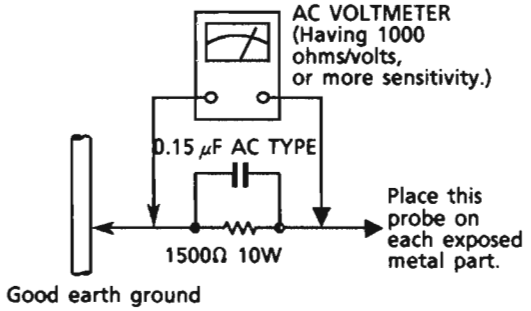
COMPACT disc DIGITAL AUDIO

Contents

No. 20476
Feb. 1994

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 (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement 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 currnet 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, contorl 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 1,500Ω 10 W resistor paralleled by a 0.15 μF 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 meausre 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.

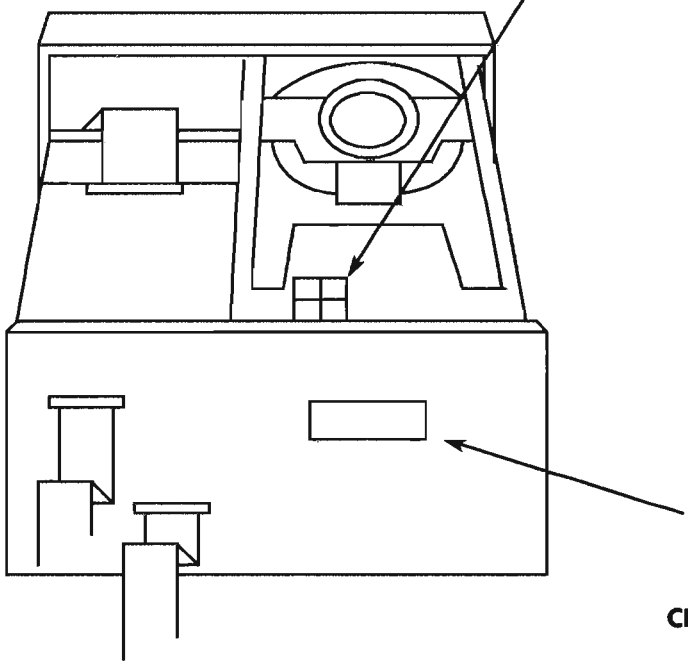
ADVARSEL : Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstråling ved åpning, når sikkerhetsbryteren 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 laserstråling när denna del å öppnad och spärren är urkoppled. Betrakta ej stålen. (s)
ADVARSEL: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude at funktion. Undgåudsættelse for stråling. (d)	VARO: Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)



CLASS 1
LASER PRODUCT

CLASSIFICATION LABEL

Getting Started Right

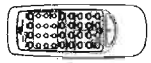
Inside the packing box....

Unpacking

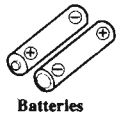
Of course you have already opened your CA-S50RBK carton, since you are reading this manual. Although the Unit is quite sturdy, you may want to save the packing to re-pack your CA-S50RBK in case you are moving it some distance.

Check to be sure you have all of the following things, which are supplied with the CA-S50RBK:

AM (MW/LW) Loop 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-S50RBK 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.

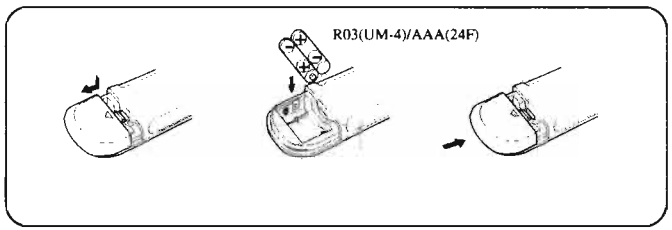
Very little assembly required

Set Up

You will need to do the following 4 things to get your CA-S50RBK 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.

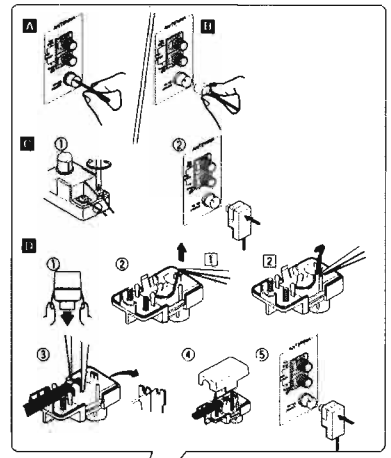


CAUTION: Observe Proper Handling of Batteries.
To avoid battery leakage or explosion:
- Remove batteries when the Remote will not be used for a long time.
- When you need to replace the batteries, replace both batteries at the same time with new ones.
- Don't use an old battery together with a new one.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

Please look at the diagrams on pages 4 and 5 to do some more things.

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

FM Antenna Connections



For Germany

A Using the Supplied Wire Antenna
The FM wire antenna provided can be connected to the FM 75-ohm COAXIAL as a temporary measure.

B Using the Coaxial Type Connector (Not Supplied)
A 75-ohm antenna with coaxial type connector (DIN 45332) should be connected to the FM 75-ohm COAXIAL terminal.

For Other Countries

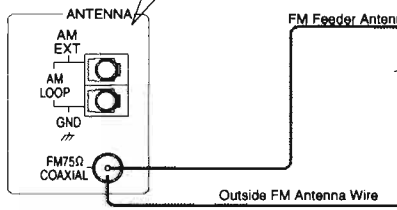
C Using the Supplied Feeder Antenna
① Attach the feeder antenna to the Antenna Adaptor as shown in the figure.
② Connect the Antenna Adaptor to the FM 75-ohm COAXIAL terminal.

D 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 1 to 2 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.

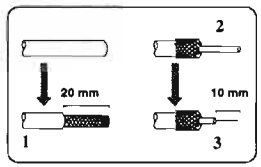
For Germany
Extend the supplied wire antenna horizontally.

For Other Countries
Unfold the loops of the supplied dipole FM feeder antenna and extend them as shown.
Fasten them up in the position which gives you the best FM reception.



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

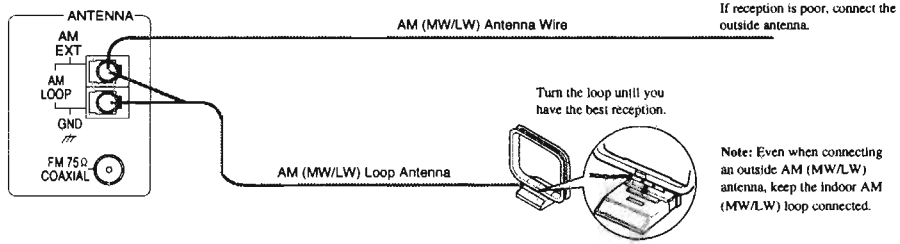
If reception is poor, connect the outside antenna.



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 over the cable 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-S50RBK, connecting cords and the AC power cord.

AM (MW/LW) Antenna Connections

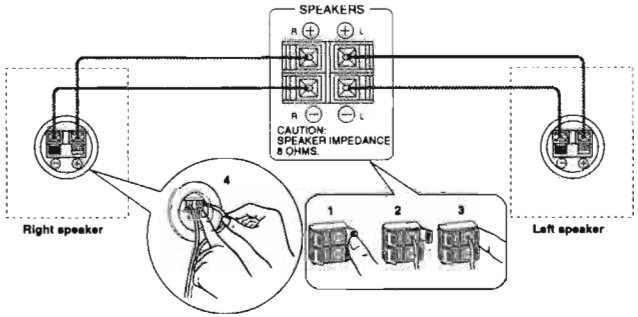


If reception is poor, connect the outside antenna.

Note: Even when connecting an outside AM (MW/LW) antenna, keep the indoor AM (MW/LW) loop connected.

Snap the tabs on the loop into the slots of the base to assemble the AM (MW/LW) loop.

3. Connect the Speakers



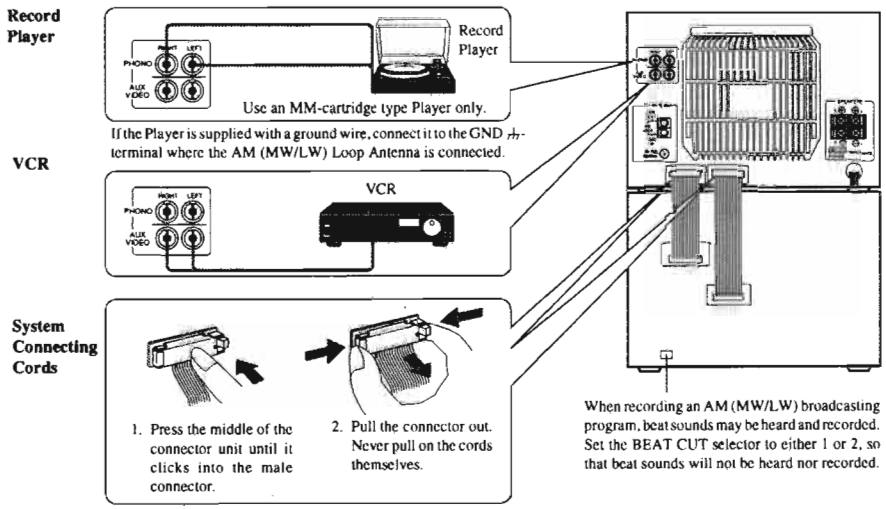
For each speaker connect one end of the speaker signal cable to the speaker terminals on the back of the CA-S50RBK and one end to the speaker.
On the back panel:

1. Open each terminal.
2. Insert the end of the speaker signal cable as shown (be sure to remove the insulation at the end of each wire first).
3. Close the terminals to clamp the speaker signal cable firmly in place.
4. Connect the red (+) and black (–) terminals of the right side speaker to the red (+) and black (–) terminals marked R on the CA-S50RBK. Connect the red (+) and black (–) terminals of the left side speaker to the red (+) and black (–) terminals marked L on the CA-S50RBK.

IMPORTANT: Check your speakers for correct impedance: Speakers 8 ohms only.

CAUTION: 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



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 outlet, and your CA-S50RBK is at your command!

Common Operations

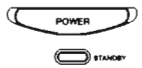
Here are the things that apply to all the functions of your CA-S50RBK. If something in a later procedure is unclear to you, check back here.

COMPUPLAY

The Magic of COMPUPLAY

COMPUPLAY is JVC's feature that lets you control the most used functions of the CA-S50RBK 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 play 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-S50RBK On



Press POWER; the STANDBY indicator goes out.

- The CA-S50RBK 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-S50RBK Off

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

- The small amount of the power (17 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 preset stations of the Tuner will be erased in a couple of days.

Controlling the Sound

Making it sound the way *You* want it to:

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

Volume Control

•Volume

Caution: Too LOUD!

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

•Balance

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-S50RBK 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 (Sound Effect Amplifier) 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 (►) on the display:

•POPS
•JAZZ
•ROCK
•CLASSIC
•MOVIE

POPS	Adds a pleasing quality to pop music.
JAZZ	Gives a feeling of a live atmosphere. Good for acoustic music.
ROCK	Boosted 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.

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LIVE SURROUND effects

•STADIUM
•D.CLUB
•HALL

You can select a Live Surround effect by pressing LIVE SURROUND MODE (or LIVE.S on the Remote) to cycle through the following effects until the effect you want is pointed with the cursor (►) on 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 are 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 (the same button as MSEC) for a few seconds. The Unit starts demonstrating 10 preset patterns of each SEA 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 15, 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.
Press ACTIVE BASS EXTENSION to use this effect so that the LED lights up. To cancel it, press the button again.

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. To cancel it, press the button again. See page 22 for a more complete discussion of this function.

MSEC (Multi Source-Related Effect Control)

Memorizing the Sound Effect for Each Sound Source

Press MSEC so that the indicator lights.

- ❑ The learning function of the CA-S50RBK 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 — Two Very Useful Hints

- ❑ The Display Panel tells you many useful things about what your Unit is doing. Watch it as you give instructions to the CA-S50RBK by pressing buttons.
- ❑ A few of the control 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.

Adjusting the Brightness of the Display

In the stand-by mode (while the Unit is off), you can adjust the brightness of the clock display.
Pressing TUNING/TIMER/DIMMER/CHARACTER > makes the display brighter.
Pressing TUNING/TIMER/DIMMER/CHARACTER < 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 16.

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

Radio

One Touch Radio

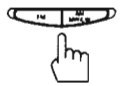
Just press AM (MW/LW) to turn on the Unit and start playing the most recent AM (MW/LW) station tuned in, or press FM to start the most recent FM station playing. If you press TUNER on the Remote instead, you can start playing the most recent station tuned in.

- ❑ 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.

Three ways to tune in a station



You have three ways to select a station:

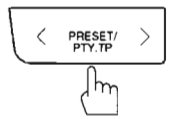
1. Press and release TUNING/TIMER/DIMMER/CHARACTER < or > to move from station to station until you find the one you want.
   OR
2. Hold down TUNING/TIMER/DIMMER/CHARACTER < or >, the frequency starts changing on the display. When a station is tuned in, the TUNED indicator lights up on the display and the frequency stops changing.
   OR
3. Press once and release PRESET/PTY.TP < or > to go to the next preset station, or hold PRESET/PTY.TP < or > 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 preselected stations with the Remote:

1. Press TUNER so that you can receive the most recent station tuned in.
2. 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.

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



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-S50RBK itself using PRESET/PTY.TP < or > to call up the channel number.

- ❑ You can preset a total of 40 stations, either AM (MW/LW) or FM.
- ❑ 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:

1. Tune in the station you want to set.
2. Press MEMORY.
   - ❑ On the display, MEMORY lights up and "— —" will blink for 4 seconds. During these 4 seconds while "— —" is blinking you can assign a channel number to the station and enter it into the memory.
3. Select a channel number by pressing PRESET/PTY.TP < or > until you find the channel number you want.
4. Press MEMORY and the station will be assigned to the channel number showing on the display.

To cancel the preset stations:

1. Press CANCEL.
   - ❑ On the display, CANCEL and "— —" will blink for 4 seconds. During these 4 seconds while CANCEL and "— —" are blinking you can cancel preset stations.
2. Select a channel number by pressing PRESET/PTY.TP < or > until you find the channel number of the station you want to cancel.
3. Press CANCEL and the station will be erased.

Receiving in Stereo or Monaural

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

- Press FM MODE/MUTE and reception will improve, although you will loose 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 on 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.

RDS (Radio Data System)

Receiving FM Stations with RDS (Radio Data System)

RDS is a broadcasting service which a growing number of FM stations are now providing. It allows these FM stations to send additional signals along with their regular program signals. For example, the stations send their station names, and information about what type of program they broadcast, such as sports or music, etc.
When tuned to an FM station which provide the RDS service, the RDS indicator lights up, the station frequency (and then the station name if sent) is displayed.
The TP (Traffic Program) indicator lights up on the display when the received broadcast carries traffic announcements, and the TA (Traffic Announcement) indicator lights up while a traffic announcement is being received.

What Information Can RDS Provide

With the CA-S50RBK, you can watch three types of RDS service as well as two other indications on the display. To show them on the display, press DISPLAY MODE.
Each time you press the button, the display changes to show the following information:

PS (Program Service):	While searching, "PS" appears and then station names commonly known will be displayed. "NO PS" appears if no signal is sent.
PTY (Program Type):	While searching, "PTY" appears and then types of broadcast programs. "NO PTY" appears if no signal is sent.
RT (Radio Text):	While searching, "RT" appears and then text messages the station sends. "NO RT" appears if no signal is sent.
Character Mode:	8 characters you have set yourself. (See page 10.) "NO CHARA" appears if you have not used this function or if you have tuned to preset number over 10.
Station Frequency:	Station frequencies.

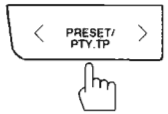
These are the three RDS services

If you press DISPLAY MODE while tuning to an AM (MW/LW) station, the display alternates between station frequency and character mode since RDS is not available in AM (MW/LW) broadcasts.

PTY (Program Type) codes

Descriptions of the PTY codes and TP
With the CA-S50RBK, you can receive the following PTY and TP signals

NEWS:	News
AFFAIRS:	Topical program expanding on the current news or affairs
INFO:	Programs on medical service, weather forecast, etc.
SPORT:	Sports events
EDUCATE:	Educational programs
DRAMA:	Radio plays
CULTURE:	Programs on national or regional culture
SCIENCE:	Programs on natural sciences and technology
VARIED:	Other programs like comedies or ceremonies
POP M:	Pop music
ROCK M:	Rock music
M.O.R. M:	Middle-of-the-road music (usually called "easy listening")
LIGHT M:	Light music
CLASSICS:	Classics
OTHER M:	Other music
ALARM:	Emergency broadcasts
NONE:	Undefined
TP:	Broadcasts which carry traffic announcements



Searching the Program by PTY codes and TP

One of the advantages in the RDS service is that you can locate a particular kind of program by specifying the PTY codes.

To search a program using the PTY codes, follow this procedure:

1. Press PTY.TP SEARCH/CHARACTER SET.
   The display alternates between "PTY TP" and "SELECT."
2. Select the PTY code with PRESET/PTY.TP < or > within 4 seconds and show the PTY (or TP) code on the display.
   - Each time you press the button, the display gives you the following:
     NEWS⟷AFFAIRS⟷INFO⟷SPORT⟷EDUCATE⟷DRAMA⟷CULTURE⟷SCIENCE⟷VARIED⟷POP M⟷ROCK M⟷M.O.R. M⟷LIGHT M⟷CLASSICS⟷OTHER M⟷ALARM⟷TP⟷NEWS
3. Press PTY.TP SEARCH/CHARACTER SET within 4 seconds again.
   - While searching, the display alternates between "SEARCH" and the selected PTY code.
   - The Unit searches 40 preset channels and stops when it finds the one you have selected. To continue searching after the first stop, press PTY. TP SEARCH/CHARACTER SET again while the indications on the display blink. If no program is found, "NOT FOUND" appears on the display.
     - If you select TP, the Unit will stop searching when it finds a broadcast carrying traffic announcements. However, this does not necessarily mean that you can listen to the traffic announcements at that time. Rather it means that you will get them when they are broadcast.

Giving names to stations: Character Mode

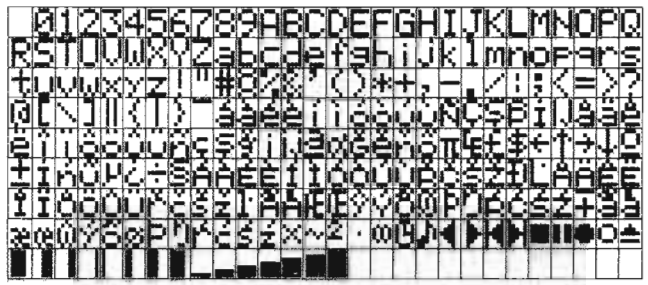
Character Mode

You can give names (8 characters) to any station (FM and AM (MW/LW)) regardless of the RDS service availability, and show them on the display by pressing DISPLAY MODE repeatedly. To do this, you need to preset the stations you want to name into the first ten preset numbers.

To give a name, follow this procedure:

1. Press PRESET/PTY.TP < or > and select a preset number from 1 to 10 on the display.
2. Press PTY.TP SEARCH/CHARACTER SET within 4 seconds.
3. Press TUNING/TIMER/DIMMER/CHARACTER < or > within 10 seconds to select the first character.
   - Each time you press the button, the character changes. The available characters are listed below.
4. Press PTY.TP SEARCH/CHARACTER SET to move the character insertion position on the display.
5. Repeat steps 3 and 4.
6. Press MEMORY within 10 seconds.
   - The Unit memorizes the name you have given. Once you have given the name to a preset channel, this name appears first whenever you tune to this preset channel. (If RDS sends the PS signal, it will appear after the name you have given.)
   - It is not necessary to input all the 8 characters. When you finish, press MEMORY.

Available characters



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

COMPU PLAY

Compact Disc Play

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.

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

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.

⊳/II

Play/Pause

3. If you want to listen to the CD now, press Play/Pause ⊳/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.

CD Find track

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.

Using the Remote to find a track

Locating a Track with the Remote Directly

Using the 10 key pad on the Remote allows you to go directly to the beginning of any track.

1. Press CD 10KEY.
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.

With programming, you can play back tracks in any order

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

Random Play

Press RANDOM on the CD player.

- ❑ The tracks will play in no special order.
- ❑ When all of the tracks have been played, the CD stops.
- ❑ Press REPEAT before or during random play to instruct the CA-S50RBK 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 23, if you need more information about its use. You can also use the main Unit.

Program with the Remote

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

1. Press PROGRAM.
2. Press CD 10KEY.
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 23 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.

How to program: just 5 easy steps

Programming from the front panel

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.

Programming Hints

A few hints to make programming easier

- ❑ If you want to change the entire program, press ■/CLEAR on the main Unit or PROGRAM on the Remote, 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 selections.)
- ❑ To add a track to your program, just press CD 10KEY and the number you want to add using the Remote.

Repeat a selection or the whole CD

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 or REPEAT 1 indication on the display goes off.

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 15.
- ❑ With Automatic Tape Type Detection, you can listen to type I, II, or IV tapes without changing any settings.

COMPU PLAY

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.

Playback Procedure

Regular Play

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

1. Press EJECT, which is located just to the right of the deck, for the deck you want to use.
2. When the cassette carrier opens, put the cassette in, with the exposed part of the tape down toward the base of the CA-S50RBK.
   - ❑ If the cassette carrier does not open, turn the Unit off, then back on again and press EJECT.
3. Close the carrier gently.
4. Turn the volume down.
5. Press Play Forward ⊳ to play the front side, or Play Reverse ◁ to play the reverse side.
6. 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.

Finding the place you want: Music Scan

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:

Deck A *Deck B*

- ❑ 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 to 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:
•Reverse Mode
•Continuous Play
•Dolby NR

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

- ❑ 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.
- ❑ **Continuous Play:** When a tape finishes playing with the Reverse Mode LED 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.
- ❑ Press DOLBY B NR to switch the **Dolby Noise Reduction** on (the LED lights up) or off (the LED goes off). If a tape is recorded with Dolby B NR, playing it back with Dolby NR on will reduce tape noise and improve the clarity of the sound.

Listening to a VCR or Record Player through your CA-S50RBK

Advantages in Connecting a VCR or Record Player

By playing the sound from a VCR or Record Player through the CA-S50RBK, 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-S50RBK, you can apply the sound effects, make recordings, or listen with the headphones. Here are the steps to take:

1. Make a connection between the VCR or Record Player as shown on page 5.
2. Press PHONO or AUX either on the Unit or Remote.
   - ❑ The Unit is turned on and PHONO or AUX lights up on the display.
3. Switch on the connected equipment and start it playing.
4. Set the Unit's volume to its lowest setting. Use FADE MUTING on the Remote, or turn the VOLUME control all the way counterclockwise.
5. To cancel the PHONO/AUX setting, change the source by starting any one of the CA-S50RBK's built-in sound sources, such as the radio or CD 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-S50RBK 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

Copyright

- **It may be unlawful to record or playback copyrighted material without the consent of the copyright owner.**

Reduce Hiss—Dolby NR

- Press DOLBY B NR (noise reduction) to reduce tape hiss.

Recording Level

- 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-S50RBK. 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.

Erasure Protection

- 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 use the sound effects 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-S50RBK.

☞ 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-S50RBK.

Standard Recording: Any Source to Tape

Standard Recording

This is the basic method for recording any source. The CA-S50RBK 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).
   - ❑ 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-S50RBK 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 12.

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-S50RBK 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 on the front side (A) and will be faded out at the end again. (A 10 second blank is created on the beginning of the reverse side (B).)
   - ❑ To stop recording any time during the process, press either Stop ■ on deck B or ■/CLEAR (when you press ■/CLEAR you can make a 4 second blank at the end of the recording). Pressing ⏏ OPEN/CLOSE will also stop recording.

☞ SEARCH/EDIT TIME ⏮◀◀ or ▶▶⏭, REPAET and RANDOM will work during CD Direct Recording.

Auto Edit, CD to tape, Introduction

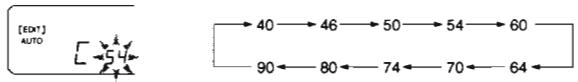
Recording a CD onto a Tape Using Auto Edit

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 of which tracks go on which side is based on the lengths of the tracks and the length of the tape. The CA-S50RBK 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 presssing POWER.
3. Set the sound effects you want now, since the sound environment cannot be changed once recording starts.
4. Press ■/CLEAR.
   - ❑ This cancels the previous edit or program setting.

5. 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-S50RBK: 40, 46, 50, 54, 60, 64, 70, 74, 80, 90. Cycle through these choices using the SEARCH/EDIT TIME ⏮◀◀ or ▶▶⏭ until you find the length closest to your tape's actual length.



   - ❑ You can use the CD 10KEY 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.
6. 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.
7. 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 ■ on deck B or ■/CLEAR (when you press ■/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 ⏏ OPEN/CLOSE will also stop recording.

Programmed Edit, CD to tape, Introduction

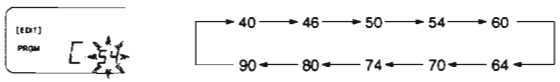
Recording a CD onto a Tape Using Programmed Edit

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.

Programmed Edit, CD to tape, Step by Step

Follow this procedure to record a CD using Programmed Edit.

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.
4. Press ■/CLEAR.
   - ❑ This cancels the previous edit or program setting.
5. 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-S50RBK: 40, 46, 50, 54, 60, 64, 70, 74, 80, 90. Cycle through these choices using the SEARCH/EDIT TIME ⏮◀◀ or ▶▶⏭ until you find the length closest to your tape's actual length.



   - ❑ You can use the CD10KEY 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.
6. Press SIDE A/B.
   Now the tape size is determined and you can make a program for side A. (See page 12.)
7. After making a program for side A, press SIDE A/B again so you can make another program for side B. (See page 12.)

8. 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 ■ on deck B or ■/CLEAR (when you press ■/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 ⏏ 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

Tape to Tape Recording (Dubbing)

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.

Regular Speed Dubbing, Step by Step

How to Copy a Tape With Regular Speed Dubbing

1. Put the cassette you want to copy *from* into deck A for playback.
2. 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.
3. Press REC PAUSE on deck B.
4. Press the Play Forward ▷ (or Play Reverse ◁) on deck A.
   - ❑ Deck A starts playing and you are set to start recording deck A to deck B.
5. Press the Play Forward ▷ (or Play Reverse ◁) on deck B.
   - ❑ Recording starts, deck A playing and deck B recording.

High Speed Dubbing, Step by Step

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.

1. Put the cassette you want to copy *from* into deck A, and the cassette to be copied *onto* in deck B.
2. 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 down 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 take selections from several different tapes and combine them on one tape during high speed dubbing, follow these steps:

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

Important dubbing information

- ❑ 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 indicator goes off automatically.
- ❑ 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 CrO_2 (type II) tape for recording in deck B.
- ❑ During regular speed dubbing you can 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 the sound effects such as POPS, STADIUM, etc.

(No.20476) 1-11

How to Use the Timers and Set the Clock

Five Timers:
•Recording
•Once/Daily
•Wake up
•Sleep
•Auto Power Off

The timers let you control recording and playing functions automatically. Five types of timers are available:

- **Recording Timer** —Unattended recording of radio broadcasts.
- **Once/Daily Timer**—The Unit comes on playing a source at a particular time.
- **Wake up Timer**—Wake up to music from any source.
- **Sleep Timer**—Fall asleep and have your CA-S50RBK 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 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 hours by pressing TUNING/TIMER/DIMMER/CHARACTER < or >.
   Pressing > increases the hour, and pressing < decreases it.
3. Press MEMORY.
4. Set the minutes by pressing TUNING/TIMER/DIMMER/CHARACTER < 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 the Recording Timer

With the Recording Timer you can make a tape of a radio broadcast automatically whether or not you are there to start the CA-S50RBK. For the timer to work correctly, you need to make sure that the tape you want to record onto must be in deck B when you want to record.

1. Press REC to tell the Unit which timer you are going to set.
   The REC indicator flashes in the display.
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/CHARACTER < or > and MEMORY just like setting the clock. See instructions above.
3. Set the time you want the sound source to shut off and the tape in deck B to stop recording.
   - Use TUNING/TIMER/DIMMER/CHARACTER < or > and MEMORY just like setting the clock. See instructions above.
4. Select the station with PRESET/PTY.TP < or >.
5. Press REC again, and the Unit will memorize the setting.
   Now the CA-S50RBK is set to turn on and record the selected station.
   - The volume level during timer recording will be automatically set to minimum.
   - Notice that the REC indicator is lighted up on the display whenever the Timer is set.
6. To cancel the Timer setting, press REC again; the REC indicator on the display goes off.
   To check the timer contents, press REC so that the REC indicator flashes, and then press REC again.

☞ You will see "VOLUME-0" on the display after setting is complete or while checking the timer contents. This indication means that the volume level during timer recording is set to minimum.
☞ If you use the Sleep Timer during timer recording, the setting will be canceled though recording continues. In this case, recording will stop when the tape comes to its end or when the Sleep Timer shuts off the Unit.

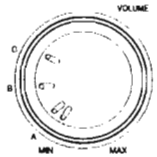
Setting the Once/Daily Timers

With these timers you can play the sound source at the specified time without recording them. The Once Timer works only once, while the Daily Timer executes the timer operation at the specified time every day.

1. Press ONCE or DAILY to tell the Unit which timer you are going to set.
   The corresponding indicator (ONCE or DAILY) flashes in the display.
2. Set the time you want the sound source to come on.
   - Use TUNING/TIMER/DIMMER/CHARACTER < or > and MEMORY just like setting the clock.
3. Set the time you want the sound source to shut off.
   - Use TUNING/TIMER/DIMMER/CHARACTER < or > and MEMORY just like setting the clock.
4. Select the sound source with TUNING/TIMER/DIMMER/CHARACTER < or > and MEMORY to store it.
   - Each time you press TUNING/TIMER/DIMMER/CHARACTER < or >, the Unit gives you one of the following settings:

Display	What it means
TUNER	Plays the last received station
CD - - -	Plays a CD
TAPE	Plays a tape
- - - -	Plays from whichever source was used just before turning off the Unit

   - When you select CD as the source, you can designate the first track to play from the first 20 tracks on the disk by pressing PRESET/PTY.TP < or >.
5. Set the volume level with TUNING/TIMER/DIMMER/CHARACTER < or >.
   - Each time you press TUNING/TIMER/DIMMER/CHARACTER < or >, the Unit gives you one of the following settings:



Display	What it means
VOLUME - -	Volume set to the level used before shut the power off.
VOLUME-A	Volume barely on.
VOLUME-B	Volume at about a 1/4 turn of the volume control
VOLUME-C	Volume at about a 3/8 turn of the volume control

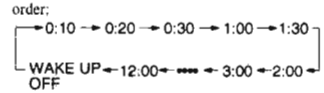
6. Press ONCE or DAILY again, and the Unit will memorize the setting.
   - Notice that the ONCE or DAILY indicator is lighted up on the display whenever the Timer is set.
7. To cancel the Timer setting, press ONCE or DAILY again; the corresponding indicator on the display goes off.
   To check the timer contents, press ONCE or DAILY so that the ONCE or DAILY indicator flashes, and then press ONCE or DAILY again.

Wake up to music with the Wake Up Timer

Wake Up Timer

With this timer you can wake up to music from a CD, tape or your favourite radio program.

1. Press POWER to shut the Unit off.
2. Press WAKE UP/SLEEP—The WAKE UP indicator will light up in the display.
3. Set the time you want the Unit to turn on.
   - Each time you press WAKE UP/SLEEP, the wake up time lapse changes in the following order:



   - The WAKE UP indicator remains lit in the display to let you know that the wake-up time is set.
4. To cancel the Wake Up Timer setting, press POWER to turn on the Unit.

Hints for using your Wake Up Timer:

- If you select AM (MW/LW) or FM as the source, the last played station is the one which comes on at the wake-up time set.
- The volume when the timer turns on the source is the volume last set when the CA-S50RBK was turned off. This can be quite a surprise first thing in the morning, so you might want to reset it before going to sleep.
- If the CD is the source, it starts playing from the first track.

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

Sleep Timer

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-S50RBK will turn off by itself rather than play all night.

- ❑ You can only set the Sleep Timer when the CA-S50RBK 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-S50RBK 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:

     0:10 → 0:20 → 0:30 → 1:00 → SLEEP → 2:00 → 1:30 → OFF
   - ❑ When the number of minutes you want is shown 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.

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-S50RBK automatically

Turning off the CA-S50RBK 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. Auto Power Off is very useful for shutting off the CA-S50RBK at night.

To use Auto Power Off, press AUTO POWER OFF.

- ❑ If the AUTO OFF indicator in the display is on, Auto Power Off is on, and the source will automatically turn off when the tape or CD finishes.
- ❑ If the AUTO OFF indicator is off, Auto Power Off is also 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.

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 will have priority over any other timers.
- ❑ If the Recording, Once, and Daily Timers have the same starting time, the timer will work for only one of the three settings according to the following priority:
  Recording Timer > Once Timer > Daily Timer
- ❑ If the Recording, Once, and Daily Timers are set within the same time range, each timer will come on at the time you have set. If another timer is already on, that timer will be shut off when the second timer starts.
- ❑ If the Sleep Timer has been set within the same time range as another timer, the other timer operation will be executed until the Sleep Timer shuts off the Unit. In this case, the setting for the other timer will be canceled.
- ❑ Timer operations with the starting time while the Sleep Timer is operating will not be executed. When the set time comes, the REC or ONCE indication goes off. (The DAILY indication does not goes off.)
- ❑ If the Sleep Timer and Auto Power Off have been set within the same time range, the timer operation with the earlier ending time 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-S50RBK, 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 MIXING 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 MIXING control as you sing into the microphone.

Recording a Singing-Along Session

Recording Your Singing-Along

- ❑ You cannot record your singing-along when the main source is a tape in deck A.

1. Put the cassette you want to record onto in deck B.
2. Press REC PAUSE—see Recording, page 15 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 reduced.
  - Poorly dubbed tapes may not work well for Vocal Masking.

Recording from the Microphone

Two ways of recording with 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.

Special techniques for using the microphone

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 MIXING control.
6. When you are ready to record, press Play Forward ▷ (or Play Reverse ◁) on deck B, and both sounds 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 MIXING 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 MIXING control to get the best recorded sound.
- ❑ To prevent howling and squealing when using the microphone, adjust the MIC MIXING 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 MIXING control set to MIN. It is best to disconnect the microphone when you will not be using it for a while.

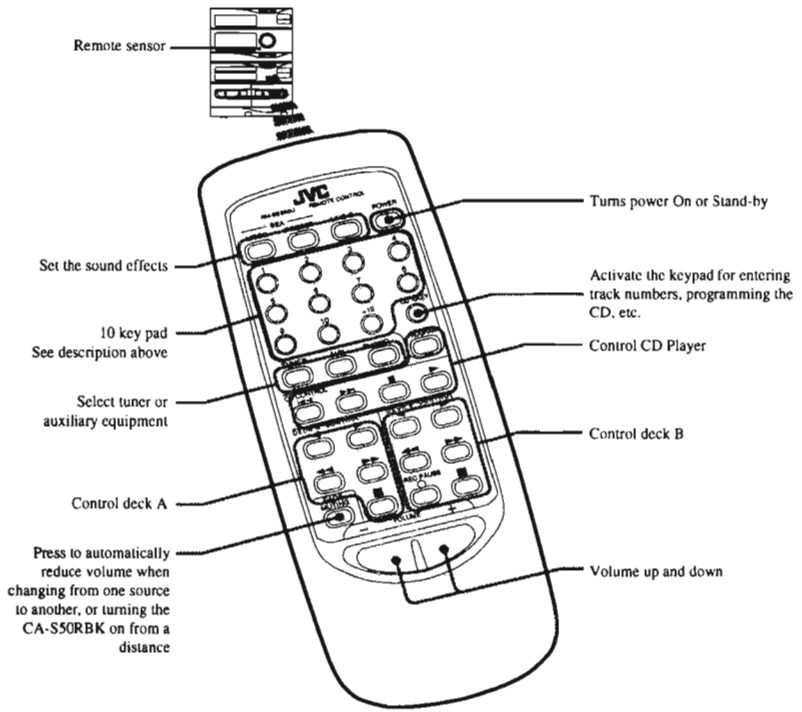
How to Use the Remote Control

The Remote Control makes it easy to control many of the functions of the CA-S50RBK from a distance of up to 7 m away.
Most of the buttons on the Remote Control do just what the ones on the front of the CA-S50RBK 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 Key Pad

The 10 key pad is used to specify a CD track, the number you have assigned to a preset radio station, or a sound effect. To enter a number using the 10 key pad follow these steps:

- Before using 10 key pad, check to see whether the 10 key pad is functioning to operate the CD player or tuner. This depends on which button on the Remote you have pressed before using 10 key pad.
  To select preset stations, press TUNER first.
  To select CD tracks, press CD 10KEY first.
- 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 +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.



Specifications

Tuner/Amplifier Section

Amplifier
Output Power (IEC 268-3/DIN)
35 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz with no more than 0.9% total harmonic distortion.

Input Sensitivity/Impedance (1 kHz)	
PHONO	3 mV/47 kohms
AUX/VIDEO	300 mV/47 kohms
MIC	2 mV/10 kohms
Speaker terminals	
Speakers	8 ohms

Tuner
FM Tuner

Tuning Range	87.5 – 108.0 MHz
Usable Sensitivity	0.95 µV/75 ohms (10.8 dBf)
Signal-to-Noise Ratio	
(IHF-A weighted)	MONO (at 85 dBf) 80 dB STEREO (at 85 dBf) 73 dB
(DIN)	MONO 72 dB STEREO 64 dB

AM (MW/LW) Tuner

MW-Tuning Range	522 – 1,629 kHz
LW-Tuning Range	144 – 288 kHz
Dimensions (Approx.)	245 x 183 x 343 mm (w/h/d) ($9^{11}/_{16}$ x $7^{1}/_{4}$ x $13^{9}/_{16}$ in.)
Weight (Approx.)	5.0 kg (11.1 lbs)

CD/Tape Deck Section

Tape deck

Frequency response	
CrO_2 (Type II):	30 – 16,000 Hz
Normal (Type I):	30 – 15,000 Hz
Wow and Flutter	0.09% (WRMS)/0.2% (DIN)

Compact Disc Player

Dynamic Range (1 kHz)	96 dB
Signal-to-Noise Ratio	102 dB
Wow and Flutter	Unmeasurable
Dimensions (Approx.)	245 x 183 x 295 mm (w/h/d) ($9^{11}/_{16}$ x $7^{1}/_{4}$ x $11^{5}/_{8}$ in.) (Maximum depth 394 mm ($15^{9}/_{16}$ in.) with the CD tray open)
Weight (Approx.)	4.2 kg (9.3 lbs)

Power specifications

Power Requirements	AC 230 V ∿, 50 Hz
Power Consumption	112 watts

Supplied Accessories
FM wire antenna (only for Germany) (1)
FM feeder antenna (except for Germany) (1)
AM (MW/LW) loop antenna (1)
Remote control (RM-SES50U) (1)
Batteries R03(UM-4)/AAA(24F) (2)
Antenna adaptor (except for Germany) (1)

Design and specifications are subject to change without notice.

Technical Explanation

1. Outline

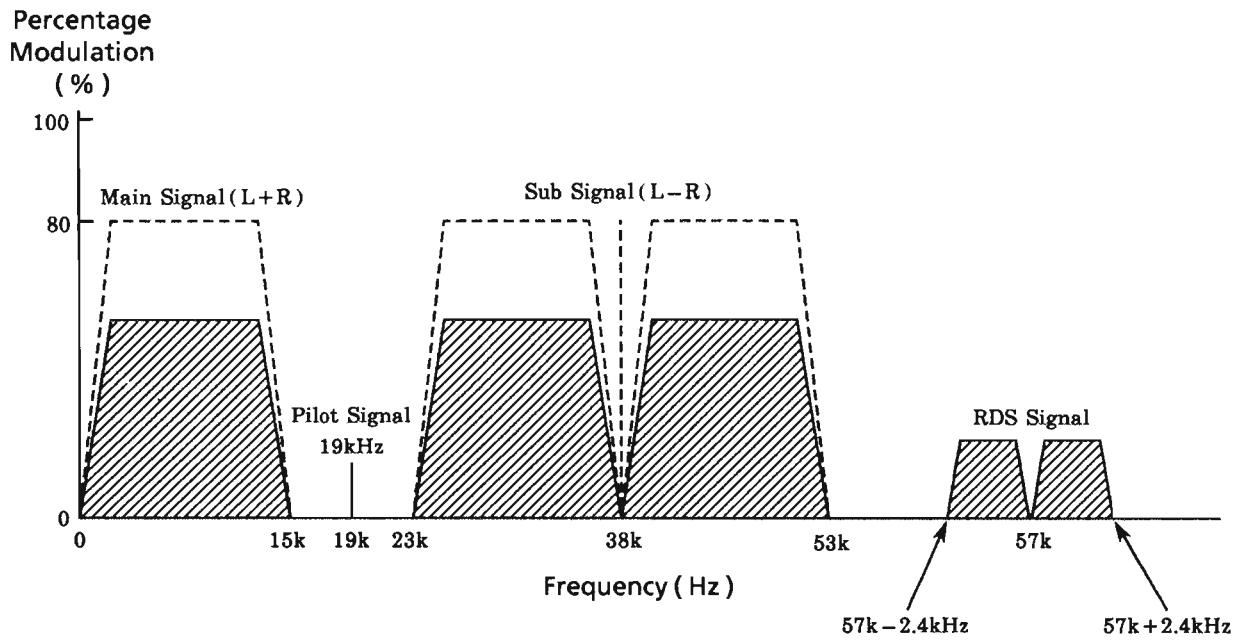
RDS (Radio Data System) means the system to transmit control signal such as frequency information for tuning, traffic information and so on.
RDS signal which is DSB modulated at sub carrier frequency of 57kHz is FM modulated into main carrier signal.

Table-1 shows the details for RDS signal.

Figure 1 shows the frequency spectrum at RDS signal and stereo modulated (composite) signal.

[Table-1] RDS signal's Specification

	Item	Specification
Modulation Form	Sub Carrier Frequency	57kHz
	Sub Carrier Modulation Form	Duble Sideband Carrier Suppression Amplitude Modulation
	Frequency Deviation	RDS only : ±2kHz TRI: ±1.2kHz
	Data Modulation Form	Two Phase PSK (Phase Shift Keying)
	Data Coding Form	Differential Coding
	Occupied Bandwidth	57kHz±2.4kHz(√100%cosine roll off Characteristic
Data Form	Bit late	1,187.5bit/s
	Error correcting	(26,16) Reduction Cyclic Code
	1 Block	26bit
	1 Group	104bit (4 block)
	Synchronism Form	Offset ward



[Fig. 1] Frequency Spectrum at RDS signal & Stereo modulated Signal

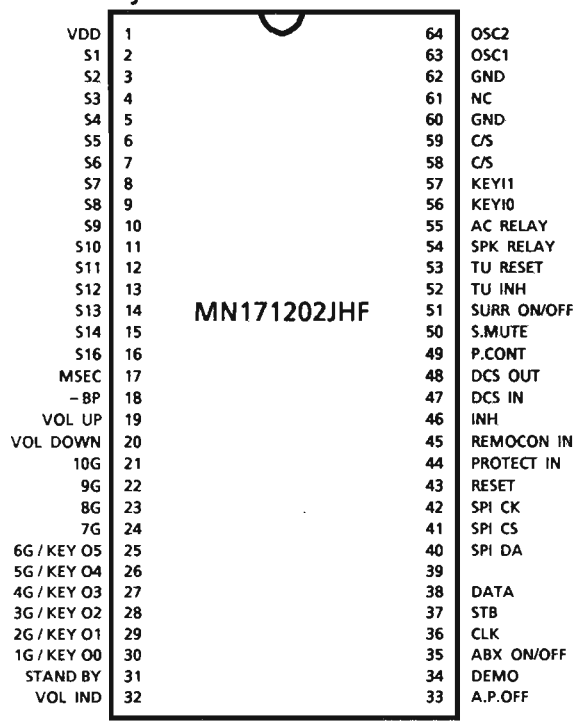
RX-S50RBK

– Contents –

Description of Major LSIs

■ MN171202JHF (IC901) : System Controller

1. Terminal Layout



2. Key Matrix

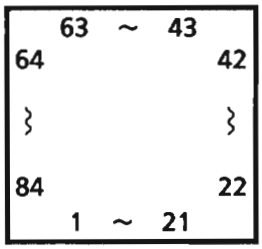
	KEY IN 0 (PIN56)	KEY IN 1 (PIN57)
KEY OUT 0 (PIN30)	POWER	AUTO POWER OFF
KEY OUT 1 (PIN29)	AUX	PHONO
KEY OUT 2 (PIN28)	ACTIVE BASS EXTENSION	OFF
KEY OUT 3 (PIN27)	PRESET ◀	PRESET ▶
KEY OUT 4 (PIN26)	MODE	LIVE-S
KEY OUT 5 (PIN25)	MSEC	DEMO

3. Pin Functions

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	Auto power off indication control
2	S1	O	Segment control signal	34	DEMO	O	DEMO indication control
3	S2	O	Segment control signal	35	ABX ON/OFF	O	ABX control signal
4	S3	O	Segment control signal	36	CLK	O	Clock output for 501 and 512
5	S4	O	Segment control signal	37	STB	O	Strobe signal for IC501 and 512
6	S5	O	Segment control signal	38	DATA	O	Data for IC501 and 512
7	S6	O	Segment control signal	39	NC	–	Non connection
8	S7	O	Segment control signal	40	SPI DA	O	Control data for IC001
9	S8	O	Segment control signal	41	SPI CS	O	Strobe 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	PROTECT IN	I	Detection for protector
13	S12	O	Segment control signal	45	REMOCON 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	MSEC indication control	49	P.CONT	O	Power control for the deck / Indicate the 'Stand-by'
18	-BP	–	Power supply for FL display	50	S.MUTE	O	Muting signal when changing the source
19	VOL UP	O	Volume up control signal	51	SURR.ON/OFF	O	Live surround control signal
20	VOL DOWN	O	Volume down control signal	52	TU. INH	O	Inhibit signal for tuner controller
21	10G	O	Grid control signal	53	TU RESET	O	Reset signal for tuner controller
22	9G	O	Grid control signal	54	SPK RELAY	O	Speaker relay control signal
23	8G	O	Grid control signal	55	AC RELAY	O	AC relay control signal
24	7G	O	Grid control signal	56	KEYI0	O	Key matrix input
25	6G/KO5	O	Grid control signal (Key matrix out)	57	KEYI1	O	Key matrix input
26	5G/KO4	O	Grid control signal (Key matrix out)	58	CS	I	Chip select signal for IC901
27	4G/KO3	O	Grid control signal (Key matrix out)	59	CS	I	Chip select signal for IC901
28	3G/KO2	O	Grid control signal (Key matrix out)	60	GND	–	Connected to GND
29	2G/KO1	O	Grid control signal (Key matrix out)	61	NC	–	Non connection
30	1G/KO0	O	Grid control signal (Key matrix out)	62	GND	–	GND
31	STAND BY	O	Stand by indication control	63	OSC1	–	Oscillation terminal
32	VOL IND.	O	Volume indication control	64	OSC2	–	Oscillation terminal

■ MN172412JYC1 (IC201) : Tuner Controller

1. Terminal Layout



2. Key Matrix

	KEY IN 0 (PIN56)	KEY IN 1 (PIN57)	KEY IN2 (PIN58)	KEY IN3 (PIN59)
KEY OUT 0 (PIN60)	WAKE-UP / SLEEP	ONCE TIMER	DAILY TIMER	REC TIMER
KEY OUT 1 (PIN61)	DISPLAY MODE	CLOCK ADJ	CANCEL	MEMORY
KEY OUT 2 (PIN62)	UP	DOWN	PRESET UP	PRESET DOWN
KEY OUT 3 (PIN63)	—	—	—	—
KEY OUT 6 (PIN66)	PRESET SCAN	FM MODE	FM	AM
KEY OUT 7 (PIN67)	BAND0	BAND1	LW 9K/10K	LW2 12/24H

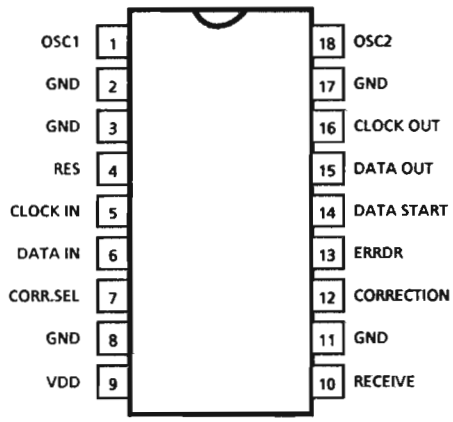
3. Pin Functions

Pin No.	Symbol	I/O	Function
1,2	G2,G1	O	Grid control signal
3	NC	–	Non connection
4~22	35S~17S	O	Segment control signal
23	– BP	–	Power supply for FL display
24~39	16S~1S	O	Segment control signal
40	CE	O	Chip enable signal output
41	CLK	O	Clock for data transmission
42	DATA IN	I/O	Data from PLL synthesizer
43	DATA OUT	O	Data for PLL synthesizer
44	fout	O	Frequency for the clock
45	RCK	I	Clock for RDS
46	RDATA	I	Data for RDS
47	R-RST	O	Reset for RDS
48	INH	I	Inhibit signal input
49	D-ST	I	RDS data start
50	TUNED	I	Indication control signal
51	STEREO	I	Indication control signal

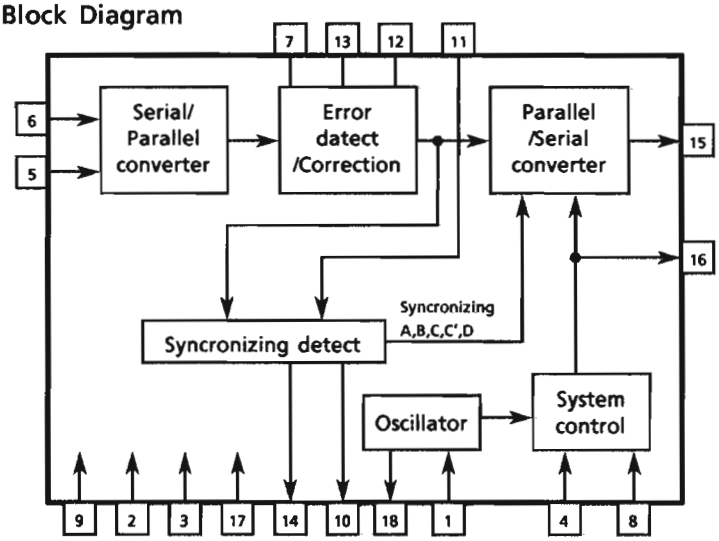
Pin No.	Symbol	I/O	Function
52	MUTE	O	
53	NC	–	Non connection
54,55	DCS OUT/IN	I/O	Compulink signal
56~59	KIN0~KIN3	I	Key matrix input
60~67	KOUT0 ~KOUT7	O	Key matrix output
68	RST	I	Reset signal input
69	X1	–	Connected to GND
70	X2	–	Non connection
71	VSS	–	GND
72,73	OSC2/OSC1	–	Oscillation terminal
74	VDD	–	Power supply
75	S60R/G70R	–	Connected to GND
76	TEST	I	Test mode terminal
77	G10(NC)	–	Non connection
78~84	G3~G9	O	Grid control signal

■ LC7073M (IC191) : Radio Data System

1. Terminal Layout



2. Block Diagram



3. Pin Functions

Pin No.	Symbol	I/O	Function
1,18	OSC1,OSC2	I/O	Oscillation terminal
2,3,8, 11,17	GND	–	GND
4	RES	I	Reset input
5	CLOCK IN	I	RDS clock input
6	DATA IN	I	RDS data input
7	CORR.SEL	I	Non connection
9	VDD	–	Power supply

Pin No.	Symbol	I/O	Function
10	RECEIVE	–	Non connection
12	CORRECTION	–	Non connection
13	ERRDR	–	Non connection
14	DATA START	O	Data start signal for block data to output serial data.
15	DATA OUT	O	Serial data output
16	CLOCK OUT	O	Data output of serial data output

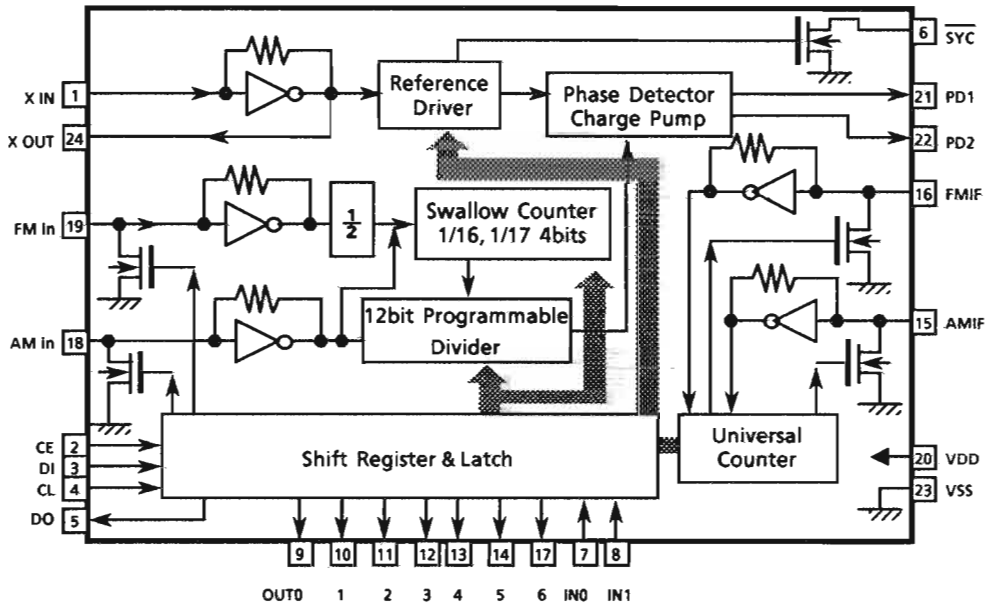
■ LC7218 (IC121) : PLL Synthesizer

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

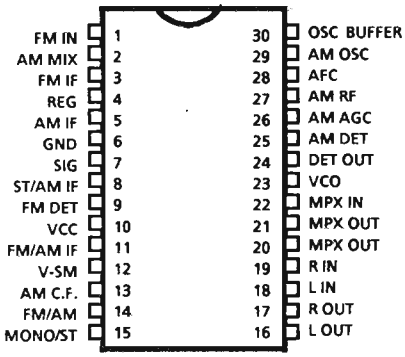


4. Pin Functions

Pin No.	Symbol	I/O	Functions
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 IC102 (LA1836).
8	STOP IN	—	Connected to GND
9	POWER	—	Not used.
10	QSC	—	Not used.
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	O	It is "L" on LW mode.
15	AM-IF	I	Universal counter input for AM-IF from IC102 (LA1836).
16	FM-IF	I	Universal counter input for FM-IF from IC102(LA1836).
17	IF REQ	O	Output the "IF-signal request" to IC102 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	—	Not used.
23	Vss	—	Connected to GND

■ LA1836M (IC102) : FM / AM IF Amp. & Detector

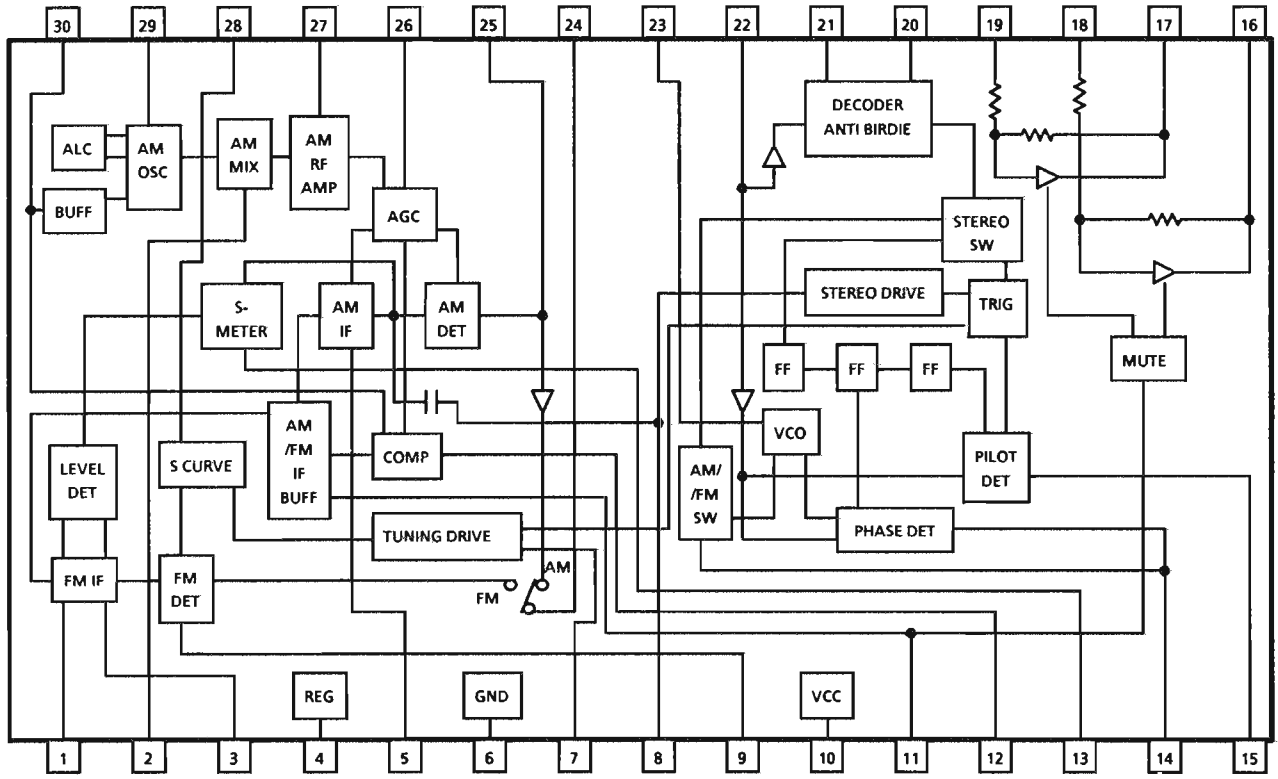
1. Terminal Layout



2. Pin Functions

Pin No.	Symbol	I/O	Function
1	FM IN	I	This is an input terminal of FM IF Signal.
2	AM MIX	O	This is an output terminal for AM mixer.
3	FM IF	I	Bypass of FM IF
4	REG	—	Register value between pin4 and pin28 desides the frequency width of the input signal.
5	AM IF	I	Input of AM IF Signal.
6	GND	—	This is the device ground terminal.
7	SIG	O	When the set is tunning, this terminal becomes "L".
8	ST/AM IF	O	Stereo indicator output. Stereo : "L", Mono : "H"
9	FM DET	—	FM detect transformer.
10	VCC	—	This is the power supply terminal.
11	FM/AM IF	O	When the signal of IF REQ of IC121(LC7218) appear, the signal of FM/AM IF output.
12	VSM	O	S Meter output and adjust AM SD sensitivity.
13	AM C.F.	I	This is a terminal of AM ceramic filter.
14	FM/AM	I	Change over the FM / AM input. "H" : FM, "L" : AM
15	MONO/ST	O	Stereo : "H", Mono : "L"
16	L OUT	O	Left channel signal output.
17	R OUT	O	Right channel signal output
18	L IN	I	Input terminal of the Left channel post AMP.
19	R IN	I	Input terminal of the Right channel post AMP.
20	MPX L OUT	O	Mpx Left channel signal output.
21	MPX R OUT	O	Mpx Right channel signal output.
22	MPX IN	I	Mpx input terminal.
23	VCO	I	Voltage controlled oscillator terminal.
24	DET OUT	O	AM/FM detection output.
25	AM DET	—	AM low cut adjustment.
26	AM AGC	I	This is an AGC voltage input terminal for AM.
27	AM RF	I	This is an input terminal for AM RF signal.
28	AFC	—	This is an output terminal of voltage for FM-AFC.
29	AM OSC	—	This is a terminal of AM Local oscillation circuit.
30	OSC BUFFER	O	AM Local oscillation Signal output.

3. Block Diagram

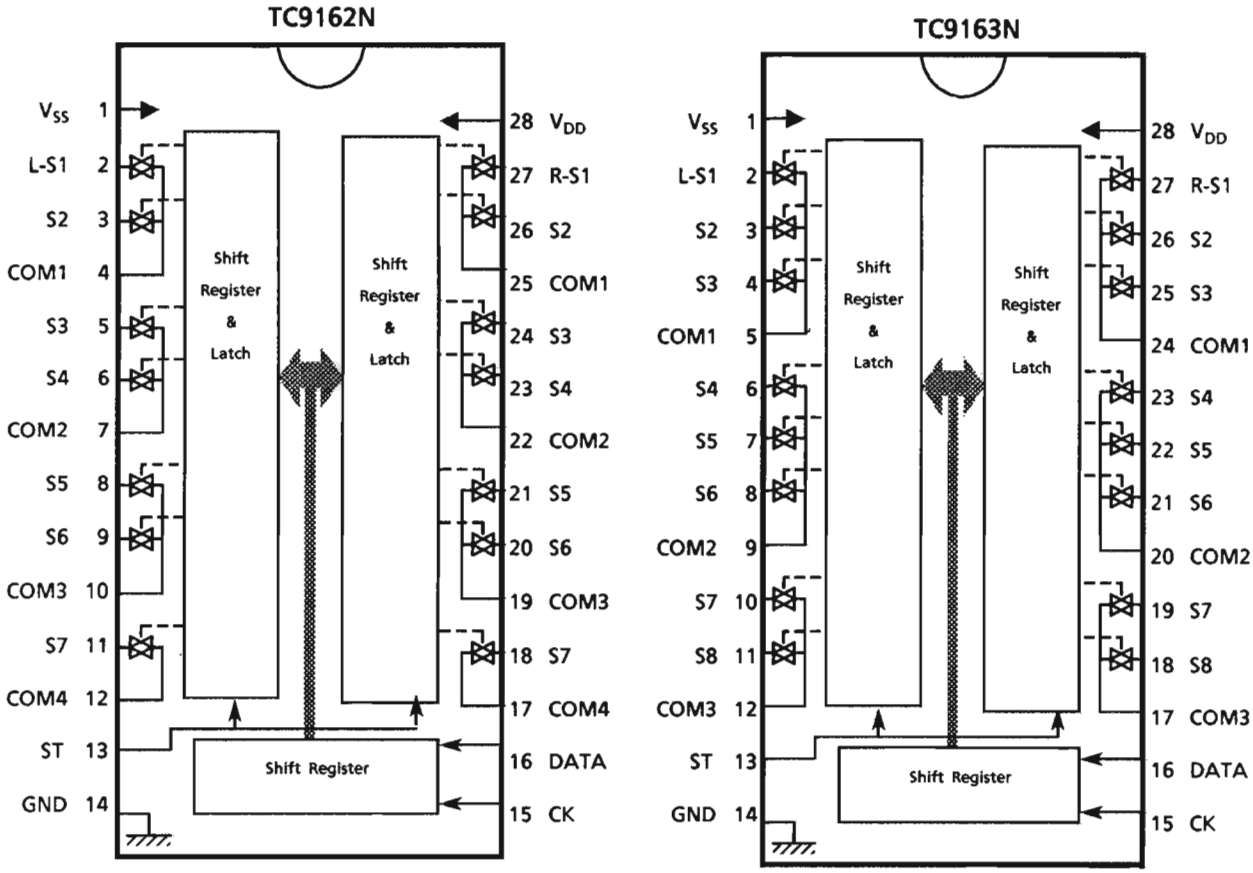


■ TC9162N (IC501) ,TC9163N (IC512) : Analog Switch

1. Functions

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

2. Terminal Layout & Block Diagram

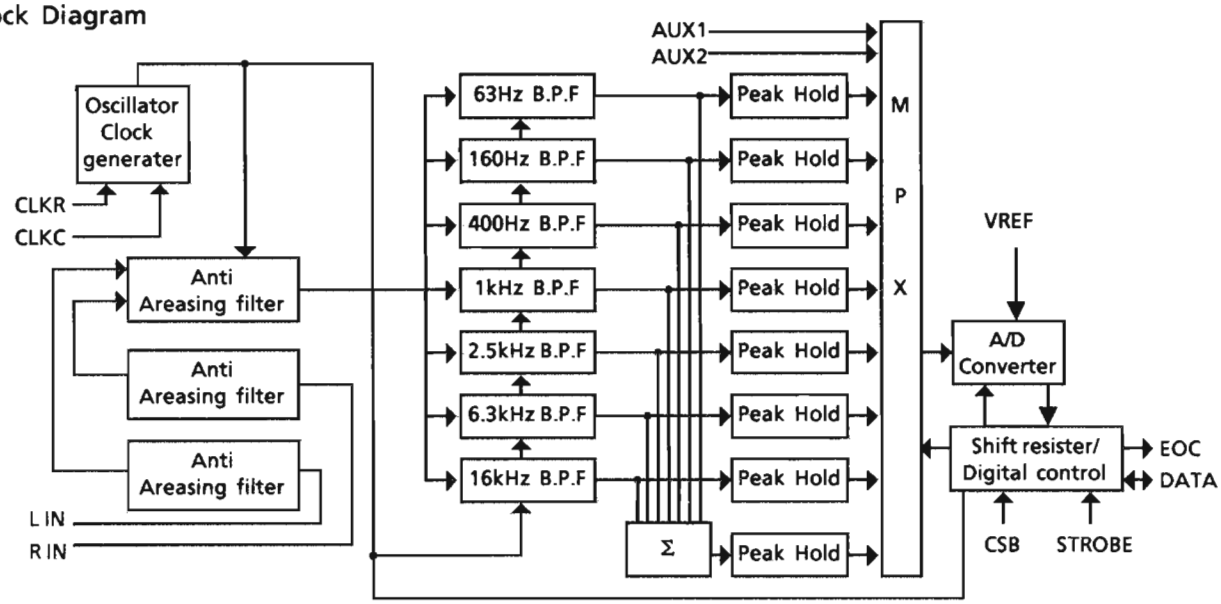


First 10bits are used to source select. Last 4bits are chip select. The switches (S1~S8) are connected to common terminals (COM1~COM3) according to the DATA from computer.

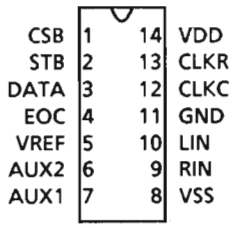
	Chip Select Bit			
	S11	S12	S13	S14
TC9162N	0	0	0	0
TC9163N	1	0	0	0

■ XR1097CP(IC001) : 7-channel Graphic Equalizer Filter with A / D Converter

1. Block Diagram



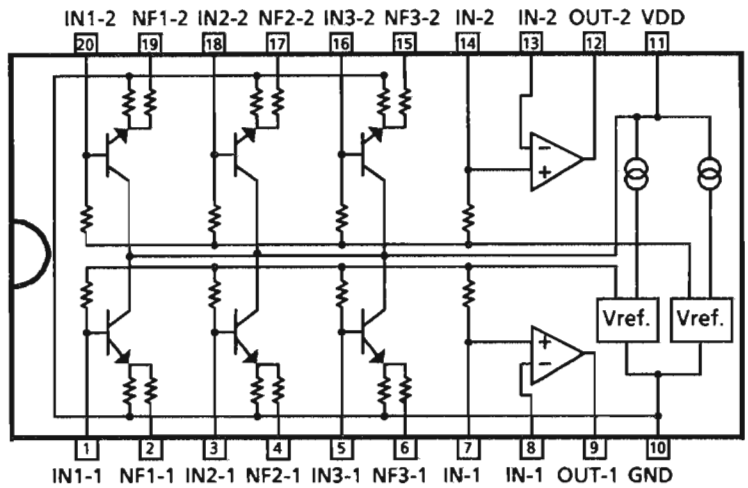
2. Terminal Layout



3. Pin Functions

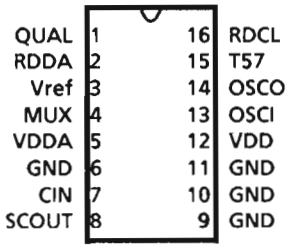
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	CSB	I	Chip select	8	VSS	–	– 5V
2	STB	I	Strobe signal	19	RIN	I	Sound signal input
3	DATA	I/O	Data input / output	10	LIN	I	Connected to GND
4	EOC	–	Non connection	11	GND	–	GND
5	VREF	I	A/D converter reference voltage	12	CLKC	–	A capacitor is connected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

■ M5243P12 (IC511) : S.E.A. Graphic Equalizer



■ SAA6579T (IC192) : Radio Data System Demodulator

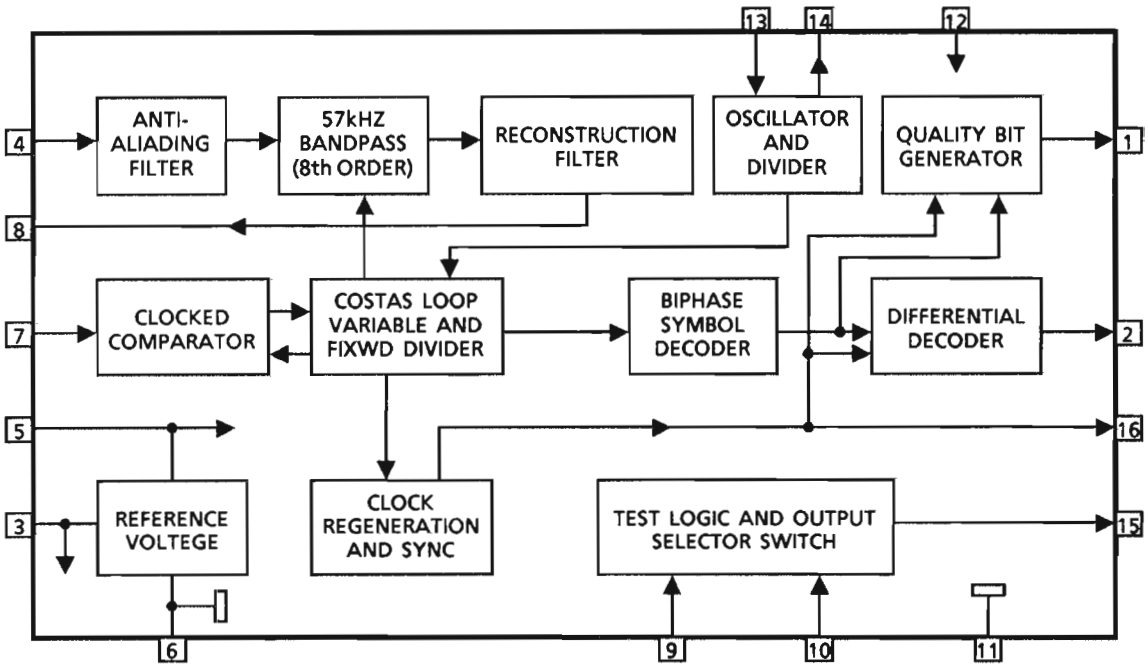
1. Terminal Layout



2. Pin Functions

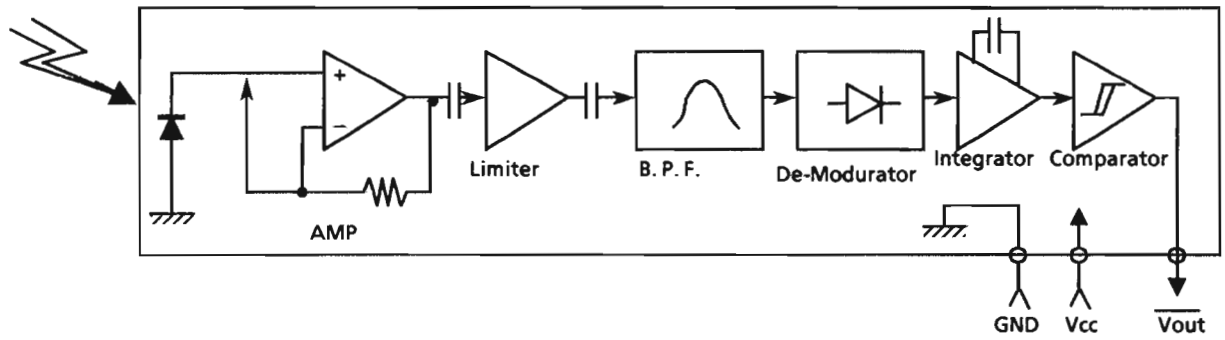
Pin No.	Symbol	I/O	Function
1	QUAL	—	Non connection
2	RDDA	O	RDS data output
3	Vref	O	Reference voltage output
4	MUX	I	Multiplex signal input
5	VDDA	—	+5V supply voltage for analog part
6	GND	—	Ground for analog part (0V)
7	CIN	I	Subcarrier input to comparator
8	SCOUT	O	Subcarrier output of reconstruction filter
9	GND	—	Ground for digital part (0V)
10	GND	—	Ground for digital part (0V)
11	GND	—	Ground for digital part (0V)
12	VDD	—	+5V supply voltage for digital part
13	OSCI	I	Oscillator input
14	OSCO	O	Oscillator output
15	T57	—	Non connection
16	RDCL	O	RDS clock output

3. Block Diagram

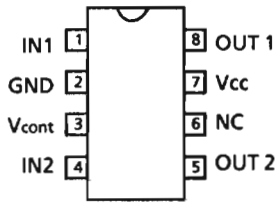


Internal Block Diagram of Other ICs

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

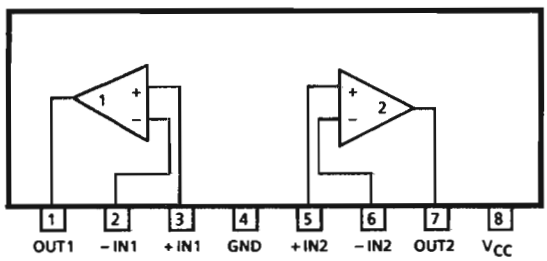


■ LB1639-CV (IC671) : Motor Driver



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

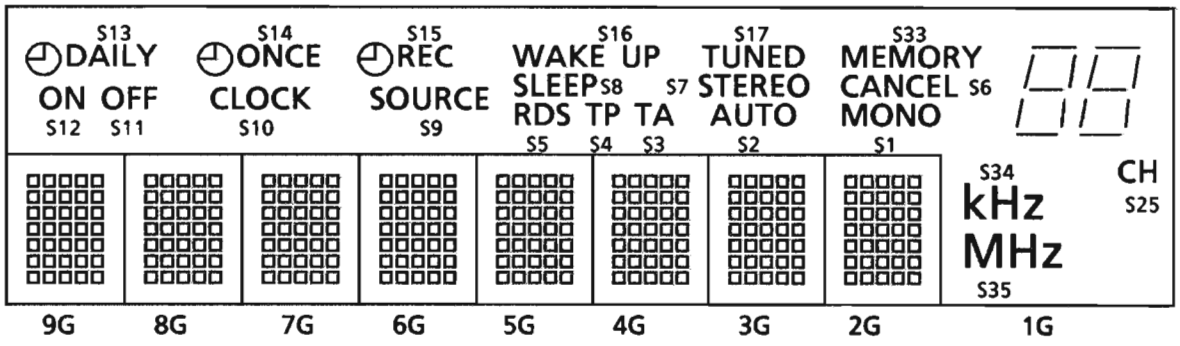
■ BA15218N or XRA15218N (IC504,514,781) : Dual OP Amp.
VC4580L (IC502,515)
VC4580LD (IC503)

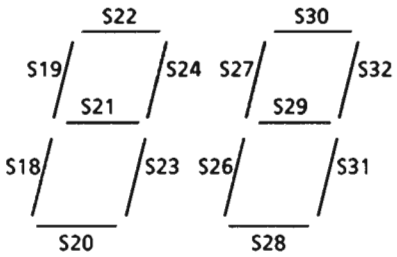


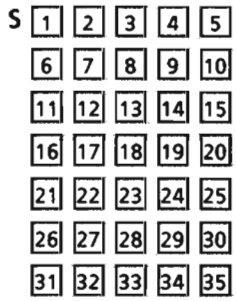
Internal Connections of FL Display

■ ELU0001-174 : (FL201)

1. Grid Layout







2. Pin Connections

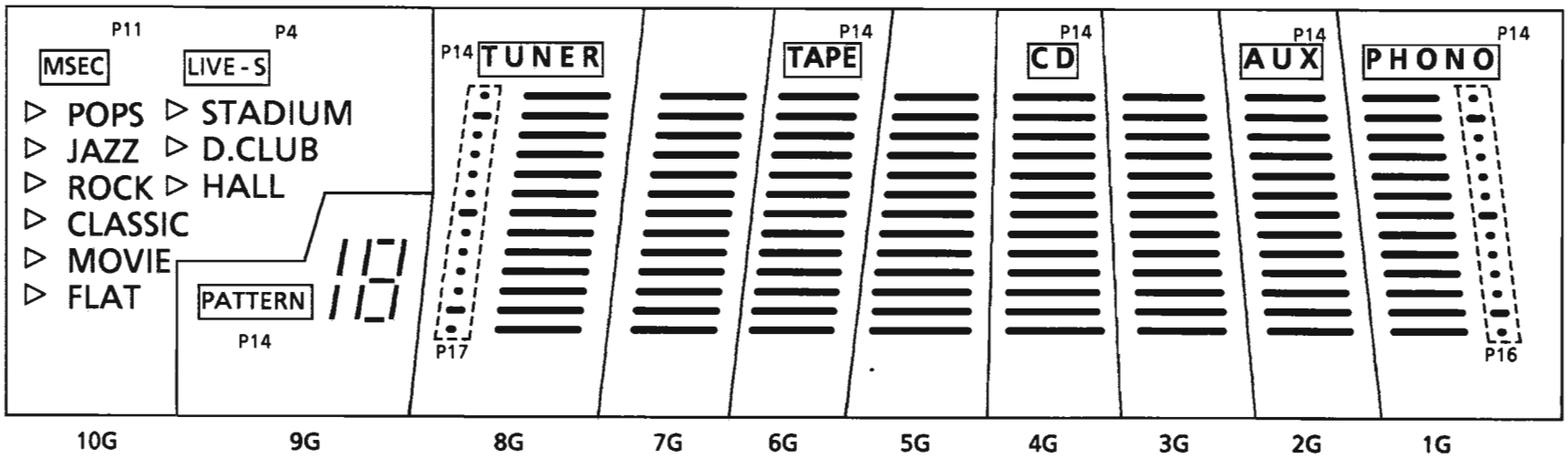
LOWER

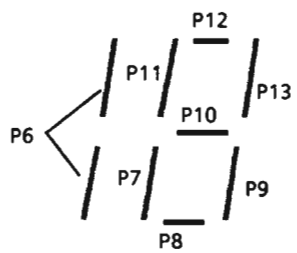
TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ELECTRODE	F1	F1	F1	NP	P S1	P S2	P S3	P S4	P S5	P S6	P S7	P S8	P S9	P S10	P S11	P S12
TERMINAL NO.		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
ELECTRODE		P S13	P S14	P S15	P S16	NP	P S17	P S18	P S19	P S20	P S21	P S22	NP	F2	F2	F2

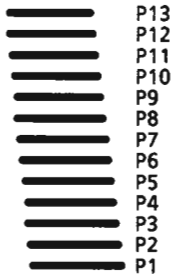
UPPER

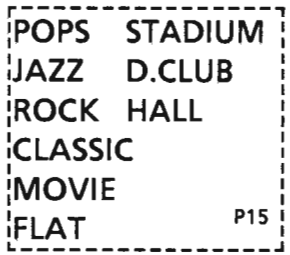
TERMINAL NO.	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
ELECTRODE	F2	F2	F2	NP	P S23	P S24	P S25	P S26	P S27	P S28	P S29	P S30	P S31	P S32	P S33	P S34
TERMINAL NO.		48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
ELECTRODE		P S35	1G	2G	3G	4G	5G	6G	7G	8G	9G	NP	NP	F1	F1	F1

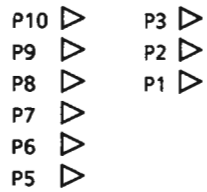
(Notes) F : Filament G : Grid P : Anode NP : No Pin











Pin Connections

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	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F2	F2

(Notes) F:Filament NP:No Pin G: Grid P: Anode

Disassembly Procedures

■ Removing the metal cover

1. Remove the 6 screws Ⓐ 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, J101 and P671.
3. Remove the 3 screws Ⓑ.
4. Release the 3 hooks to remove the assembly.

■ Removing the rear panel

1. Remove the 2 screws Ⓓ in the broken line to remove the heat sink cover (Figure 3).
2. Remove the other screws Ⓓ.
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 Ⓒ 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 Ⓔ fixing the mic mixing circuit board to remove the mic mixing circuit board.
4. Remove the other screws Ⓔ to remove the circuit board.
   (Take care not to damage the pins of JA902 when disconnecting it.)

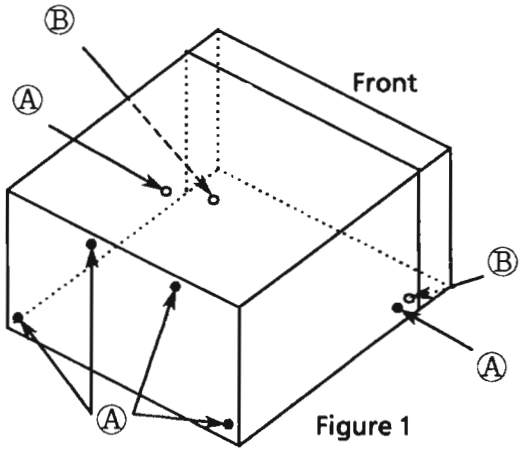


Figure 1

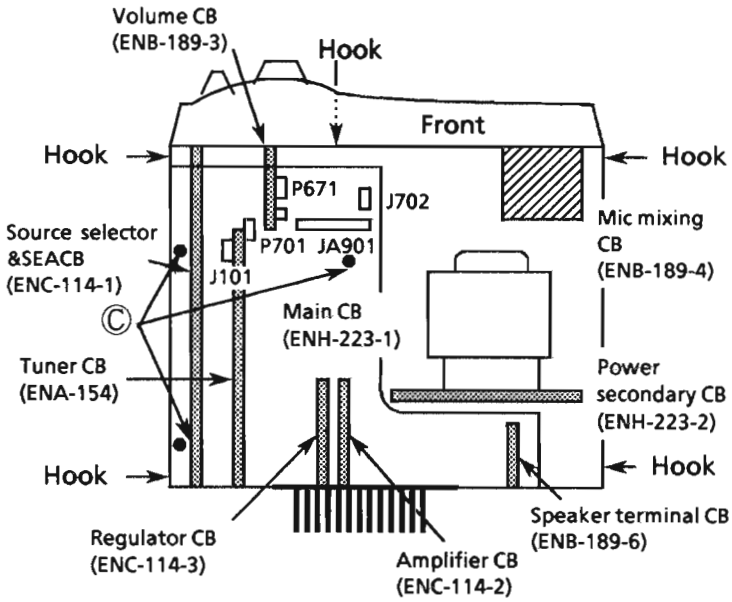


Figure 2 Top view

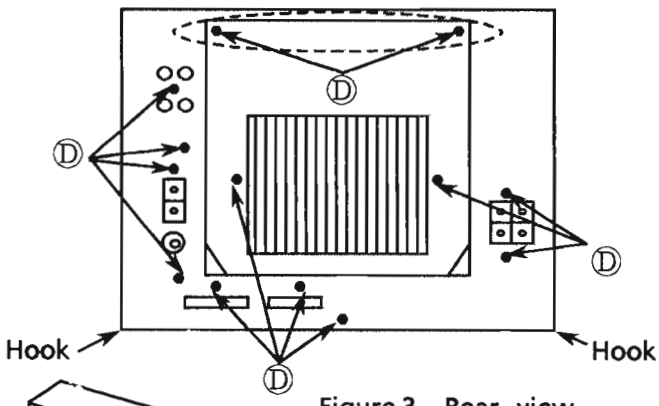


Figure 3 Rear view

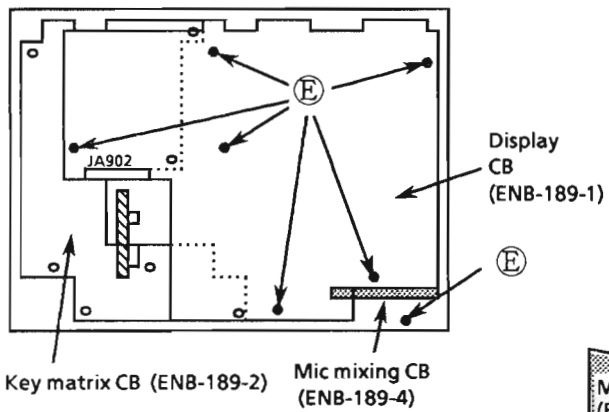


Figure 4 Behind the front panel assembly

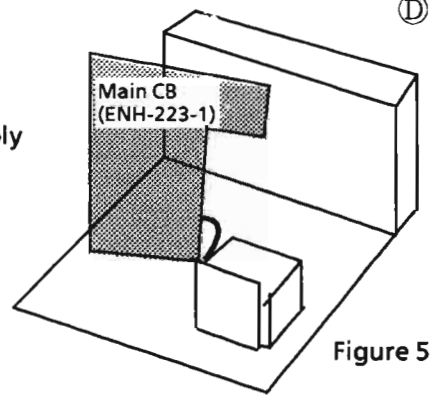
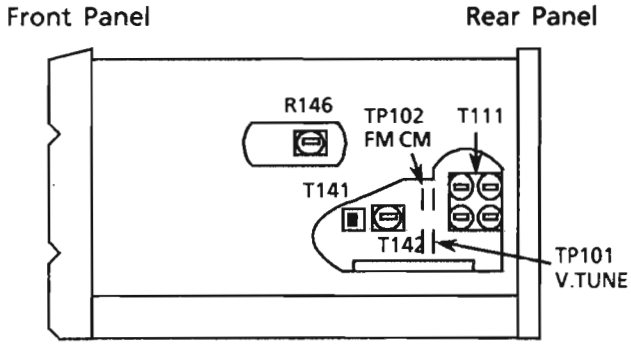


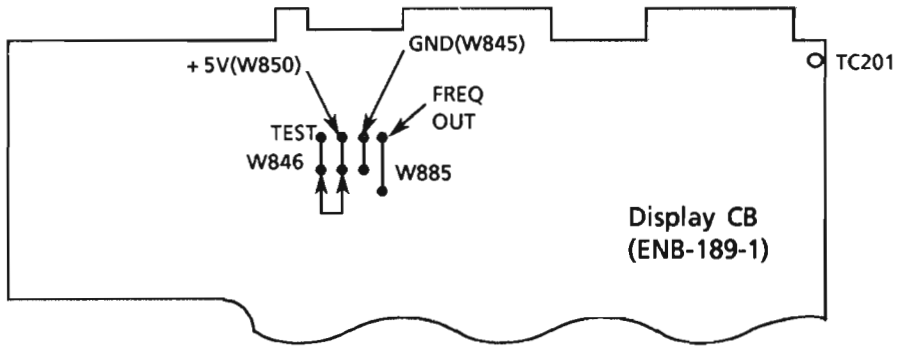
Figure 5 When checking

Adjustment Procedures



Clock Adjustment

1. After connecting W846 and W850 with some wire as shown in the figure below, connect the AC power cord into an AC outlet.
2. Confirm that the display is off and remove the wire.
3. Connect a frequency counter to W885 and W845.
4. Adjust TC201 so that the frequency becomes 50000±0.29Hz.



(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 T111 for MW and for LW or FE101 for FM.

FM Tuning voltage (Unit : V)

Area	Frequency	
	87.5MHz	108MHz
the U.K., Continental Europe	1.6±1.0 (V)	8.0±2.0 (V)

AM Tuning voltage (Unit : V)

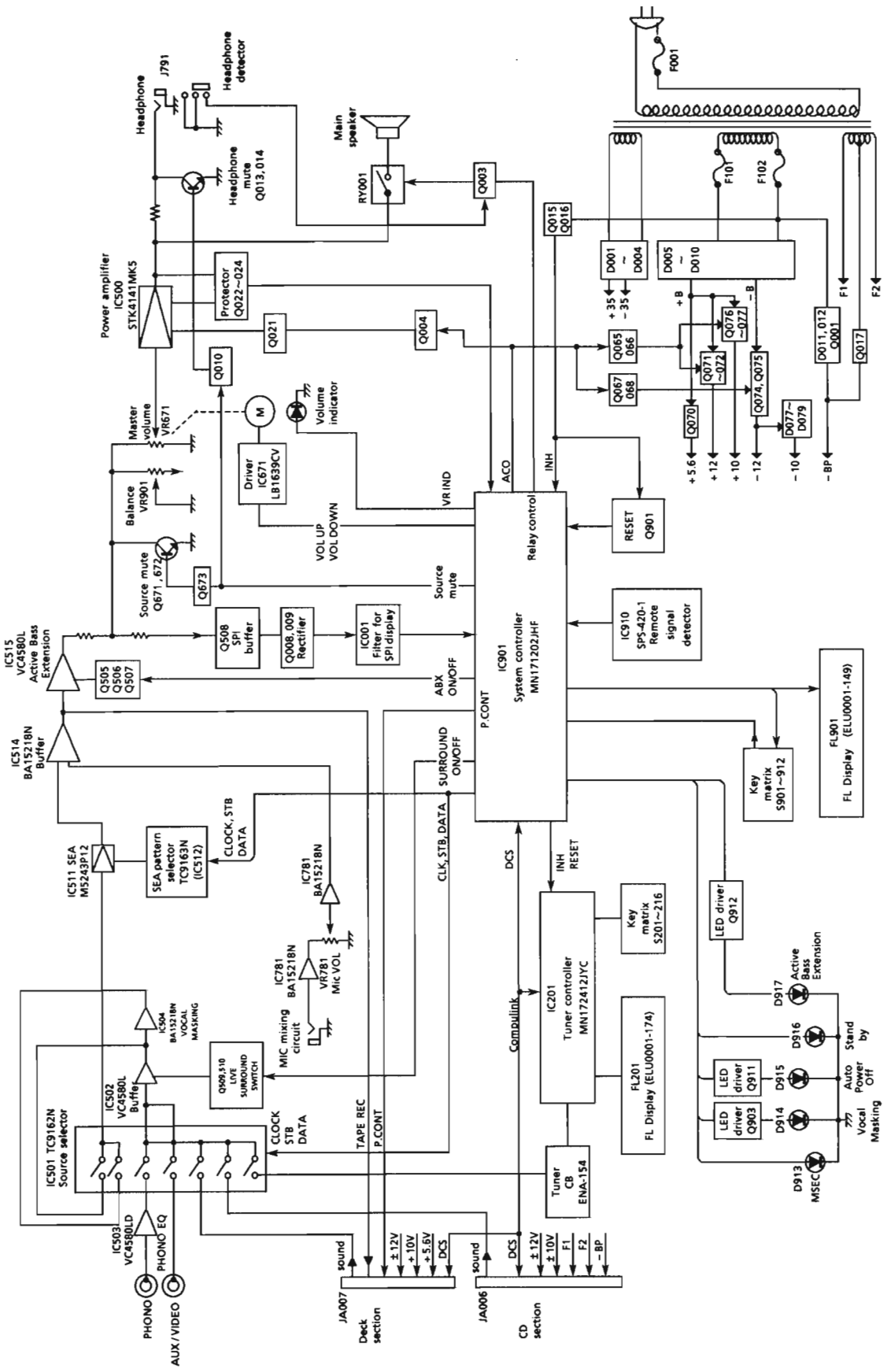
Area	Frequency (MW)							Frequency (LW)	
	522KHz	530KHz	531KHz	1600KHz	1602KHz	1629KHz	1710KHz	144kHz	288kHz
Italy	1.0 〉 0.5	—	—	—	—	7.5 〈 8.5	—	1.0 〉 0.5	5.0 〈 7.5
the U.K., Continental Europe	1.0 〉 0.5	—	—	—	—	7.5 〈 8.5	—	1.0 〉 0.5	5.0 〈 7.5

(2) FM center meter

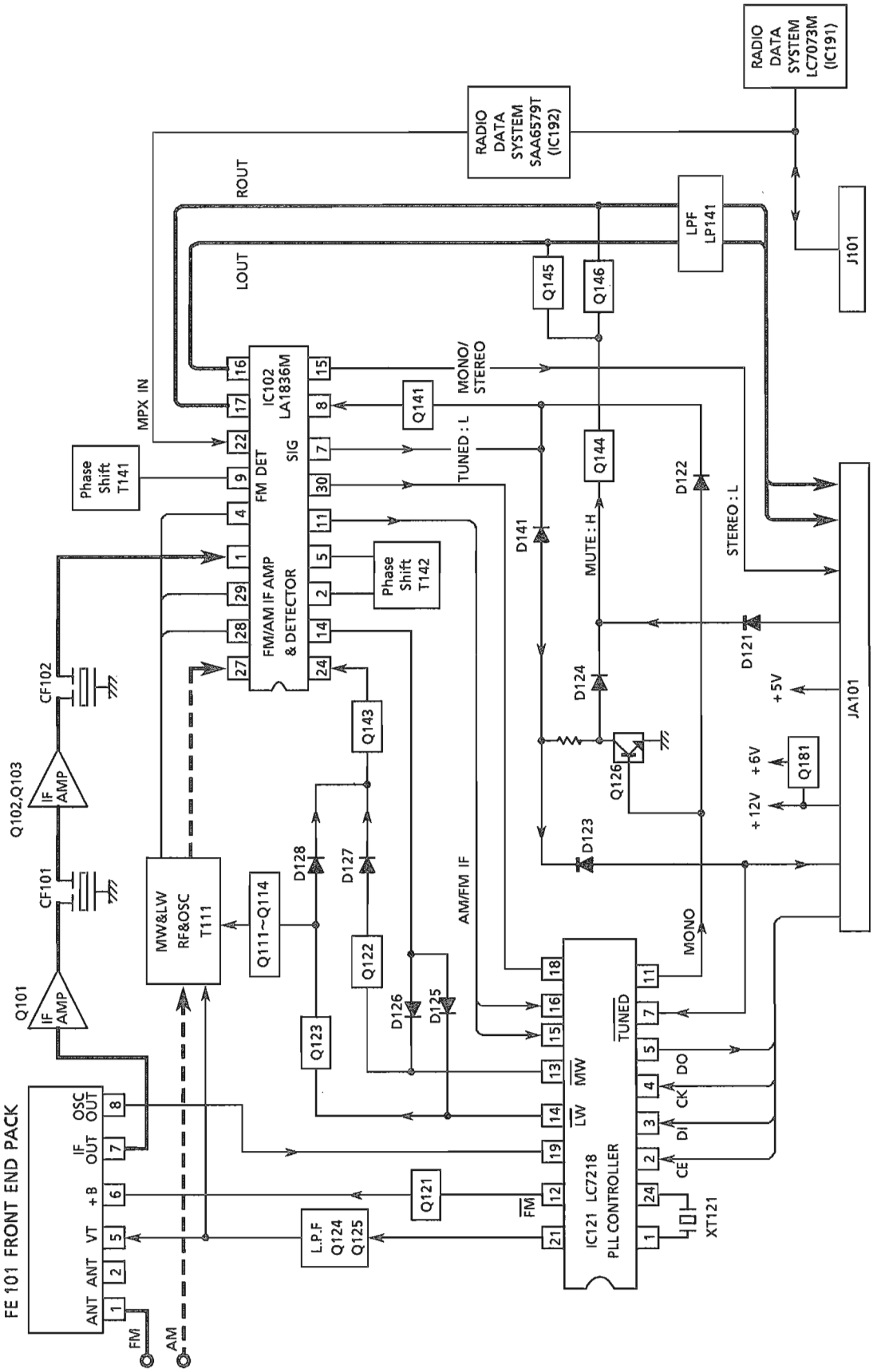
Receive a broadcast by using the function of 'AUTO STOP'.
Adjust T141 (detector coil) so that the voltage at TP102 becomes 0±1.5mV.

Block Diagrams

■ System Section

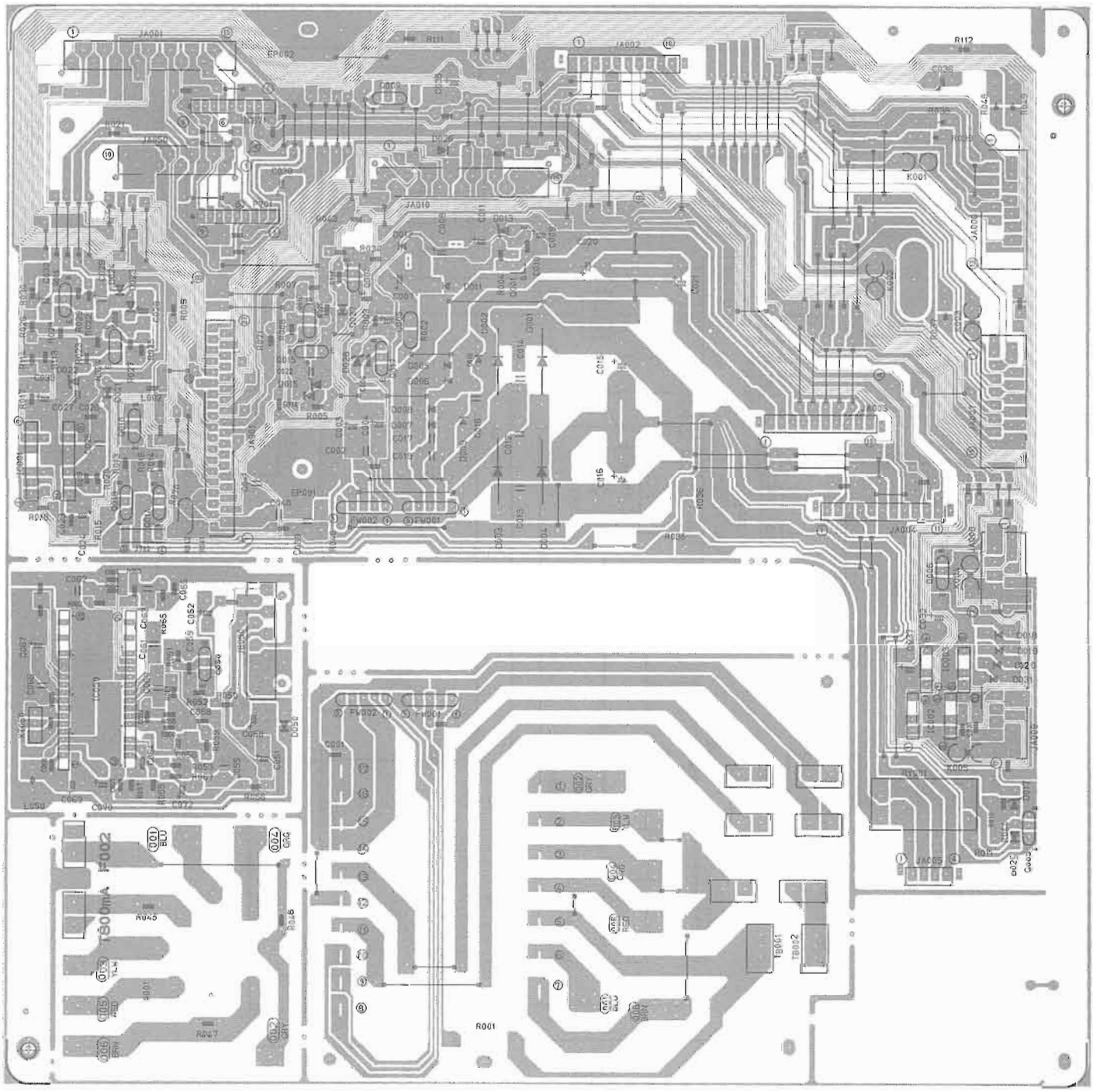


Tuner Section

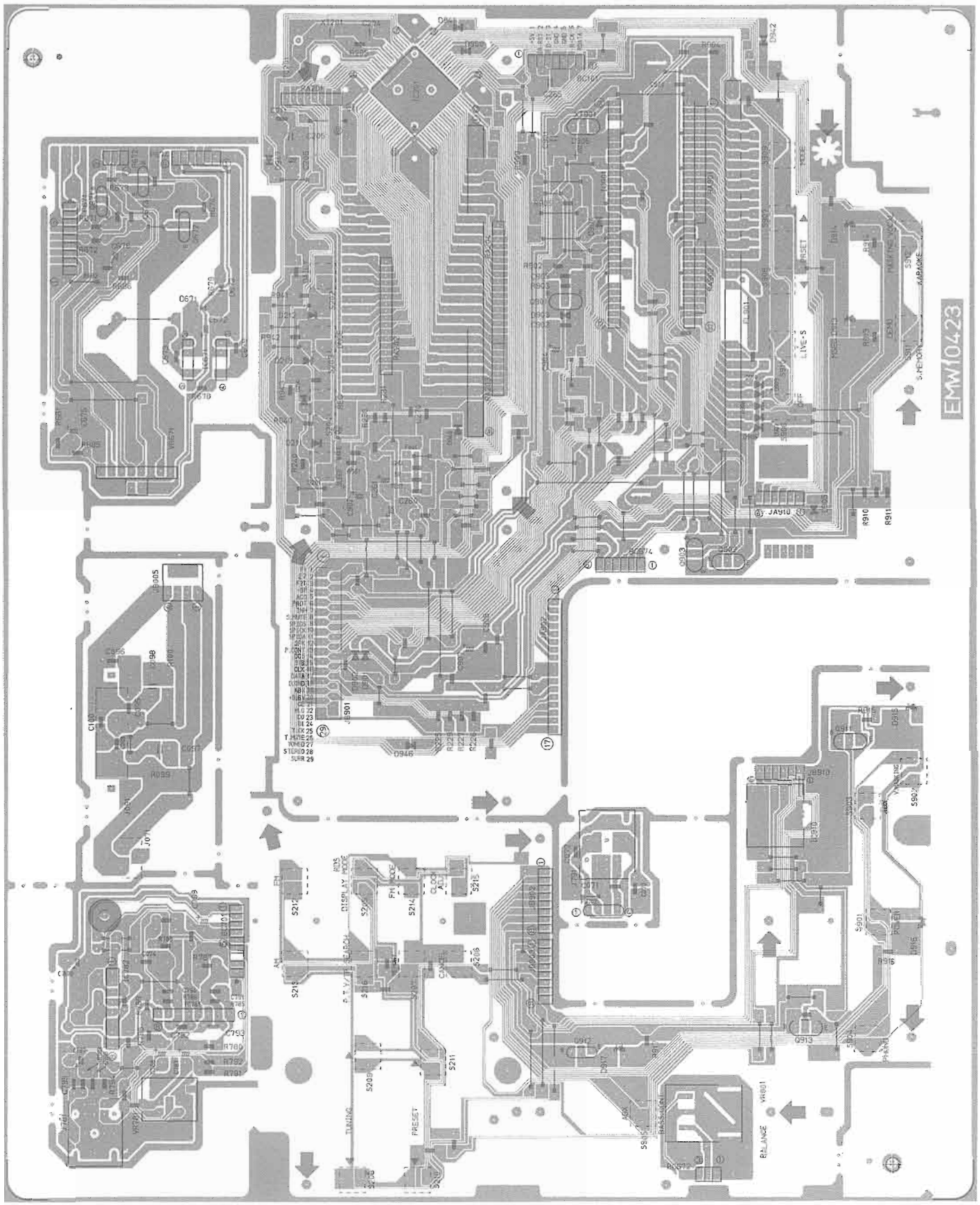


Printed Circuit Boards

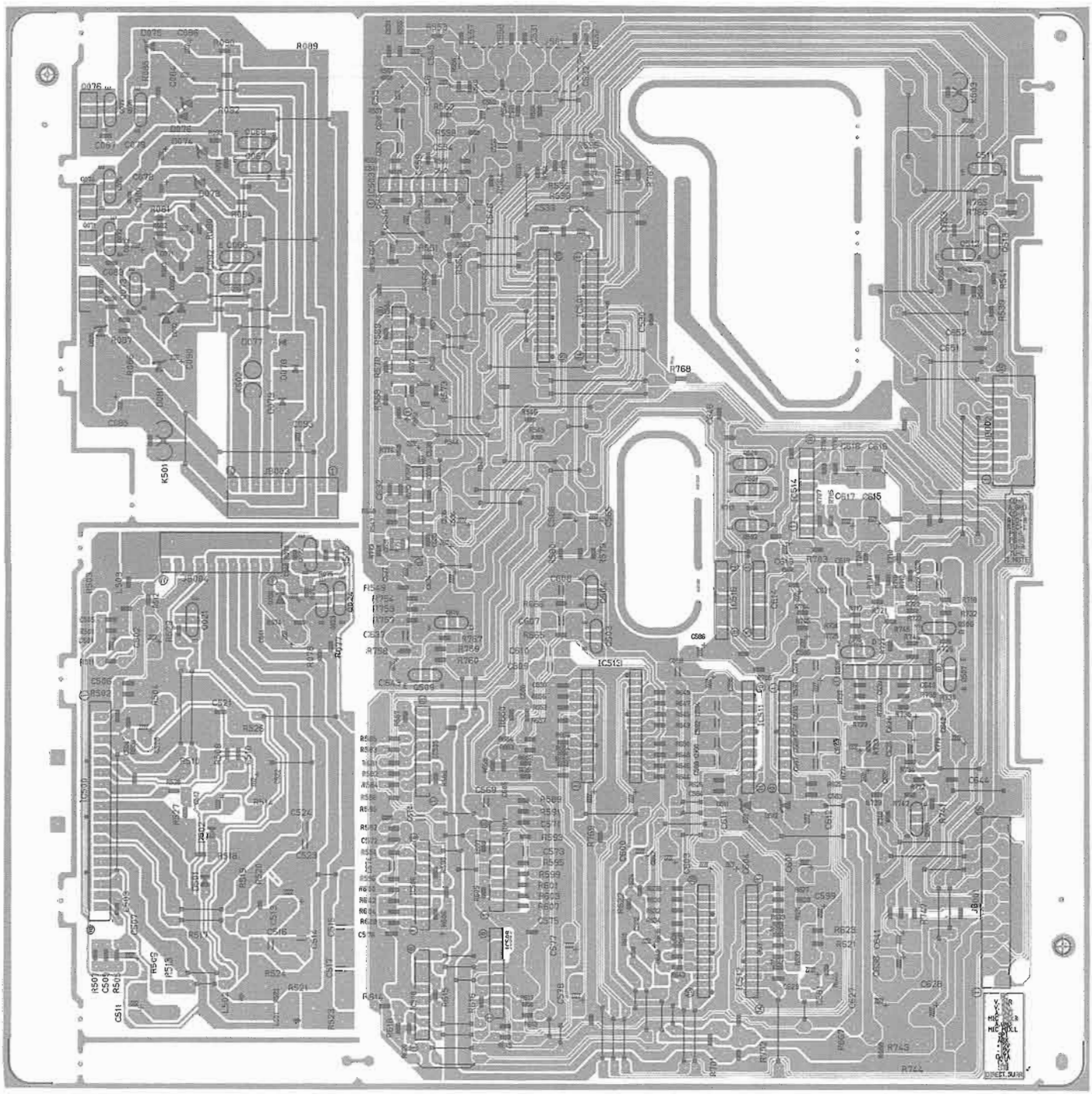
Main & Power Primary P.C.Board (ENH-223)



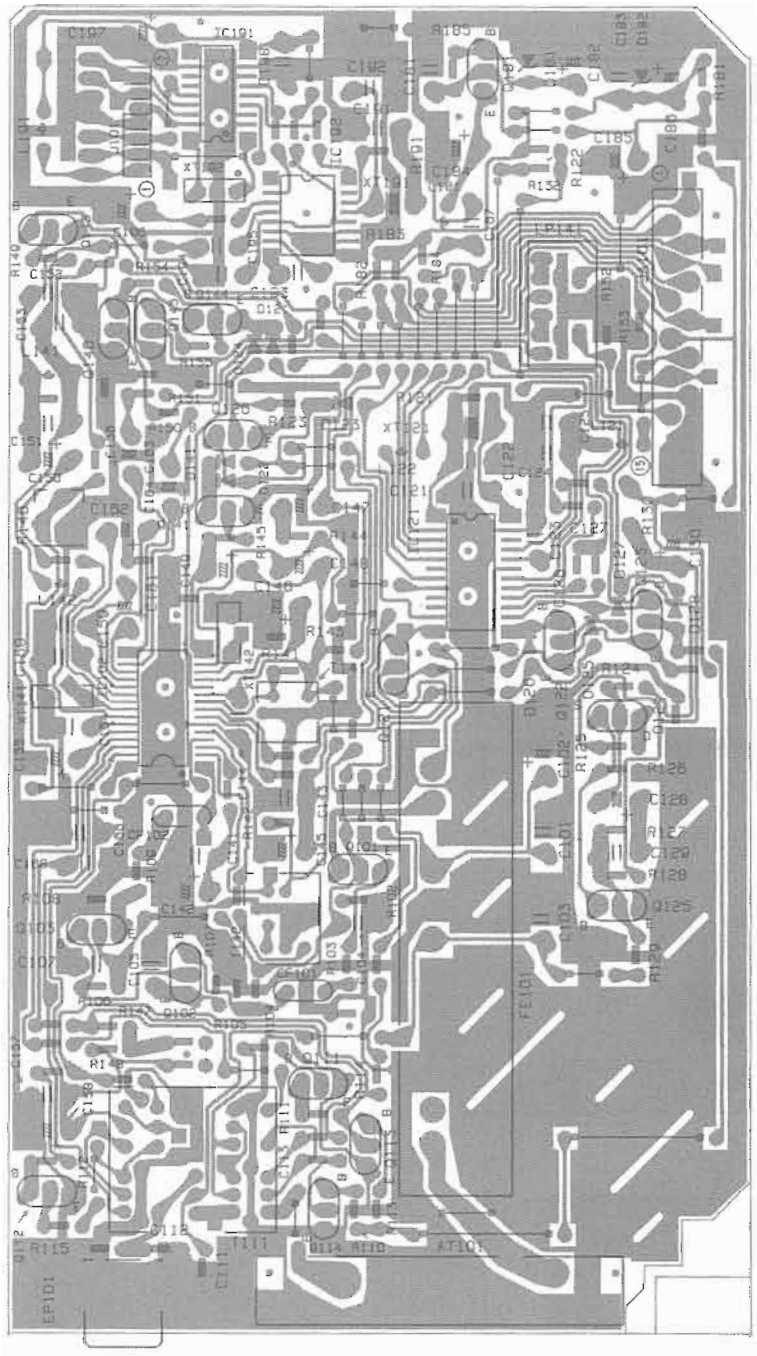
Display & Mic Mixing P.C.Board (ENB-189)



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

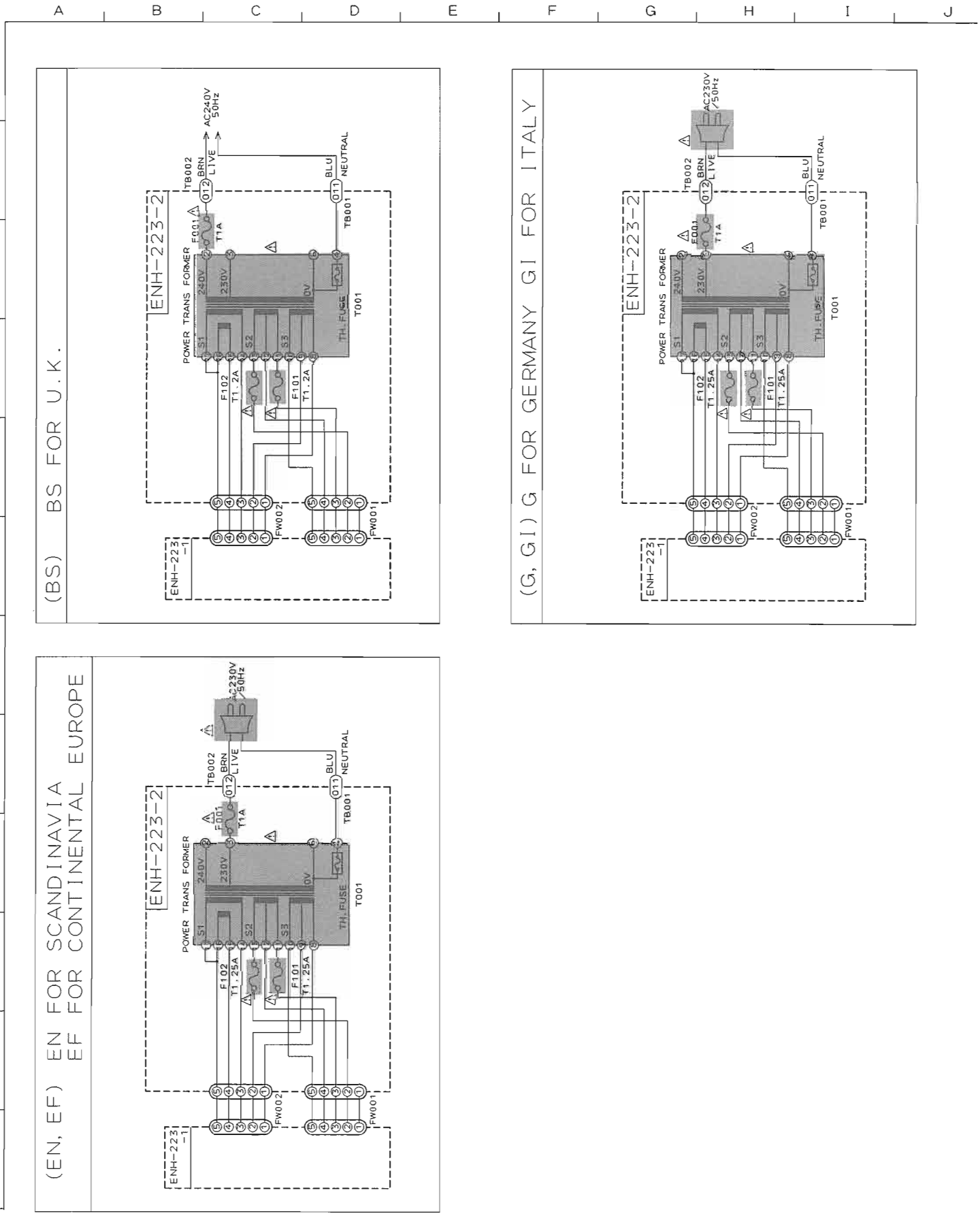


Tuner P.C.Board (ENA-154)

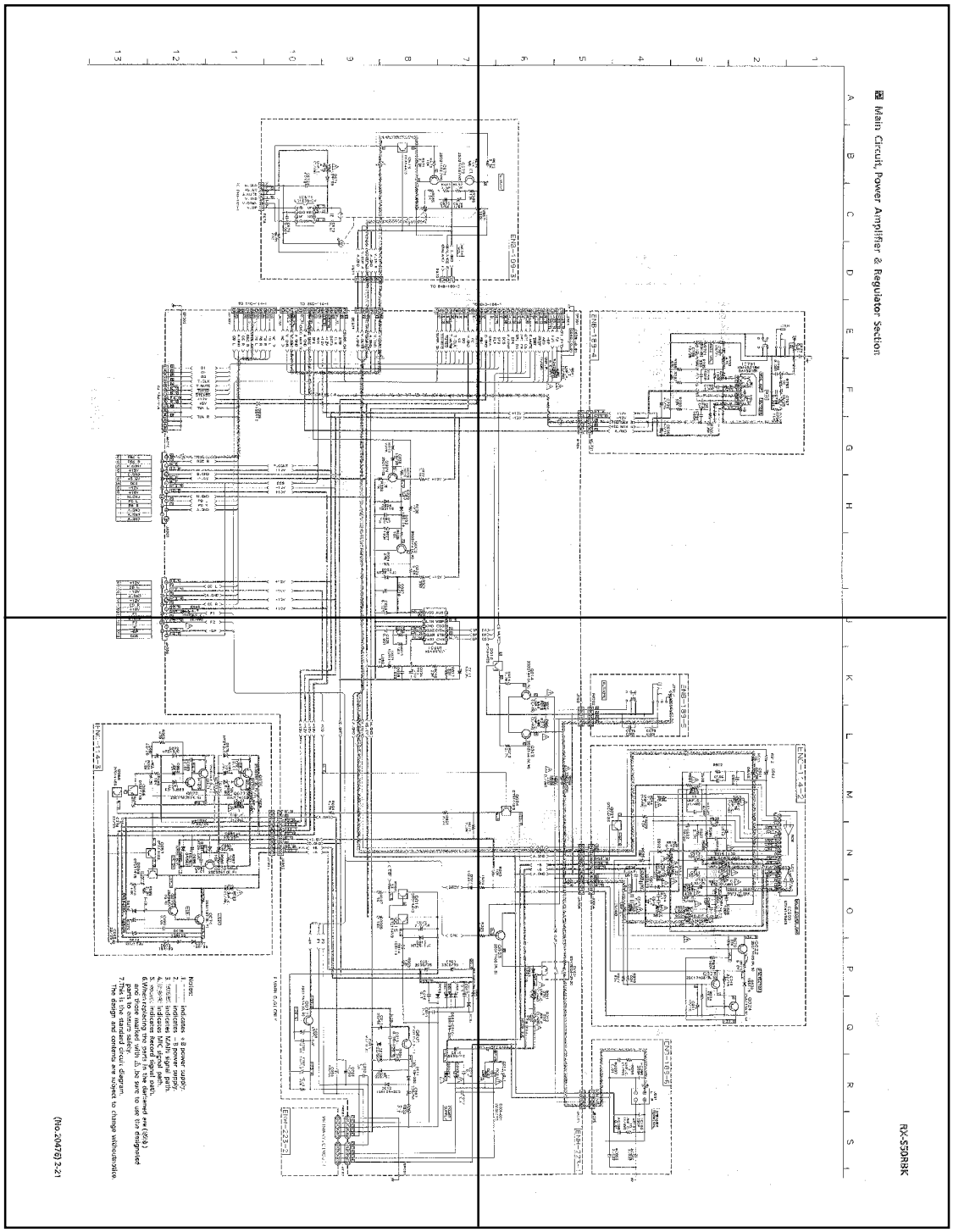


Schematic Diagrams

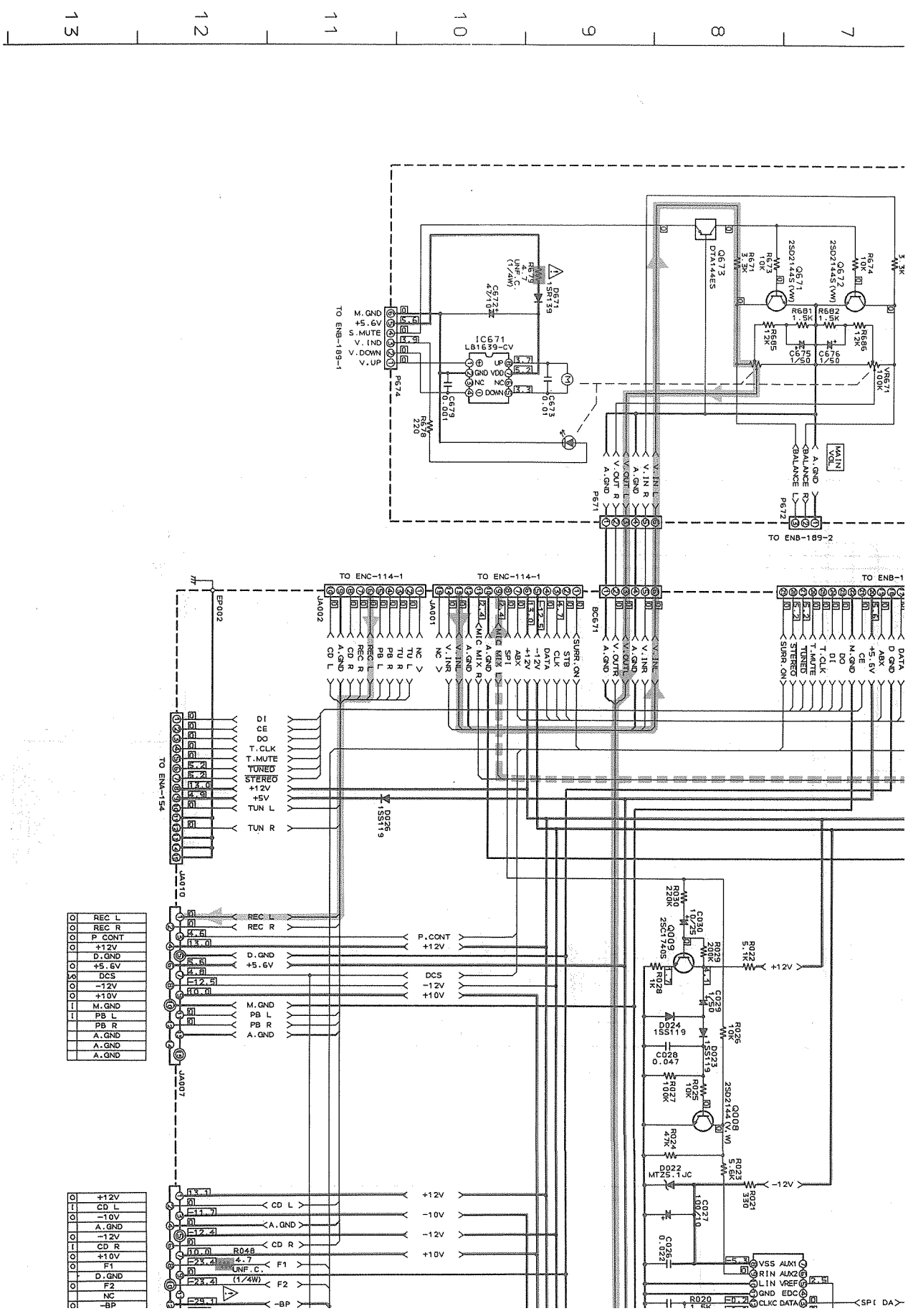
Power Primary Section



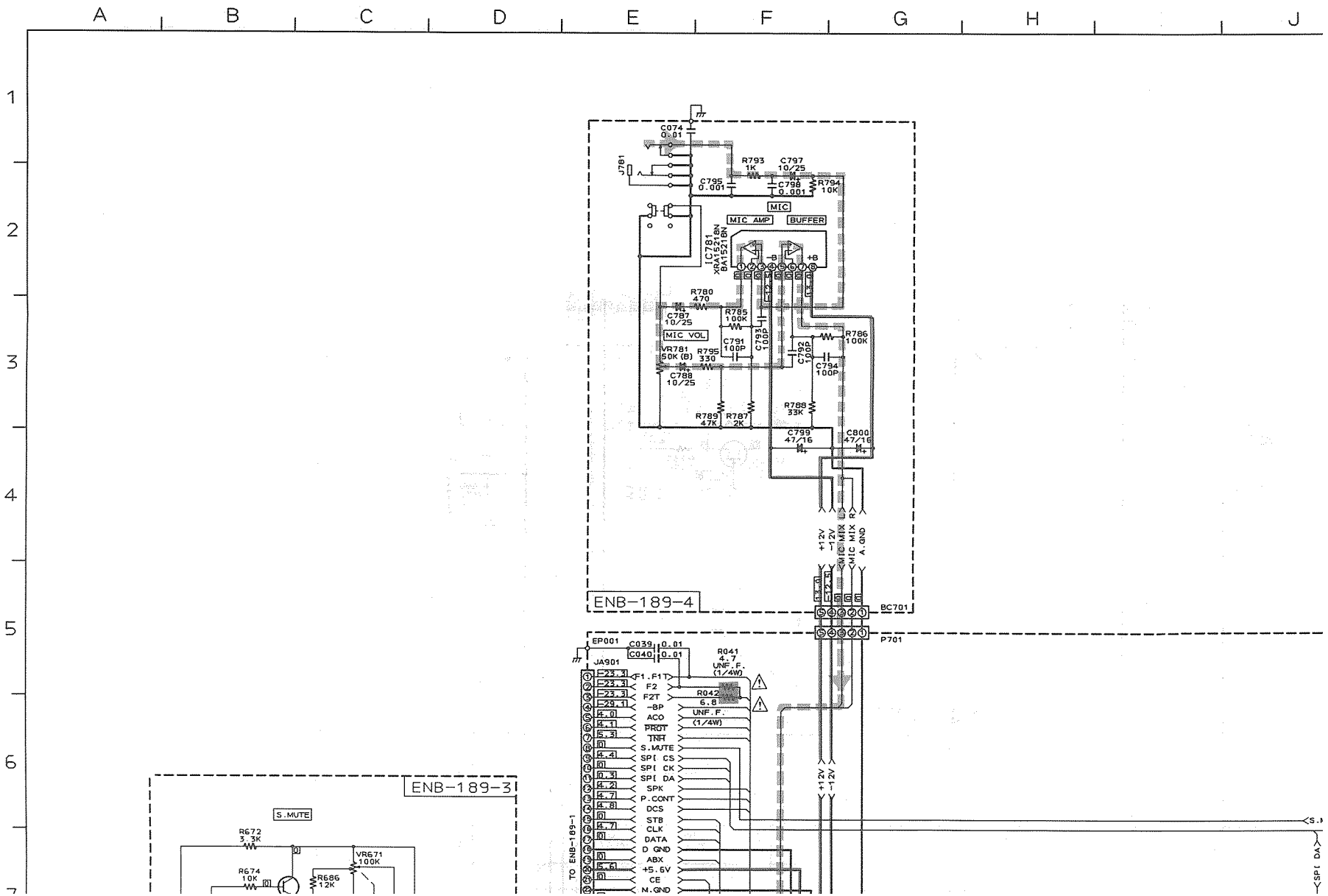
P2-21-a P2-21-b

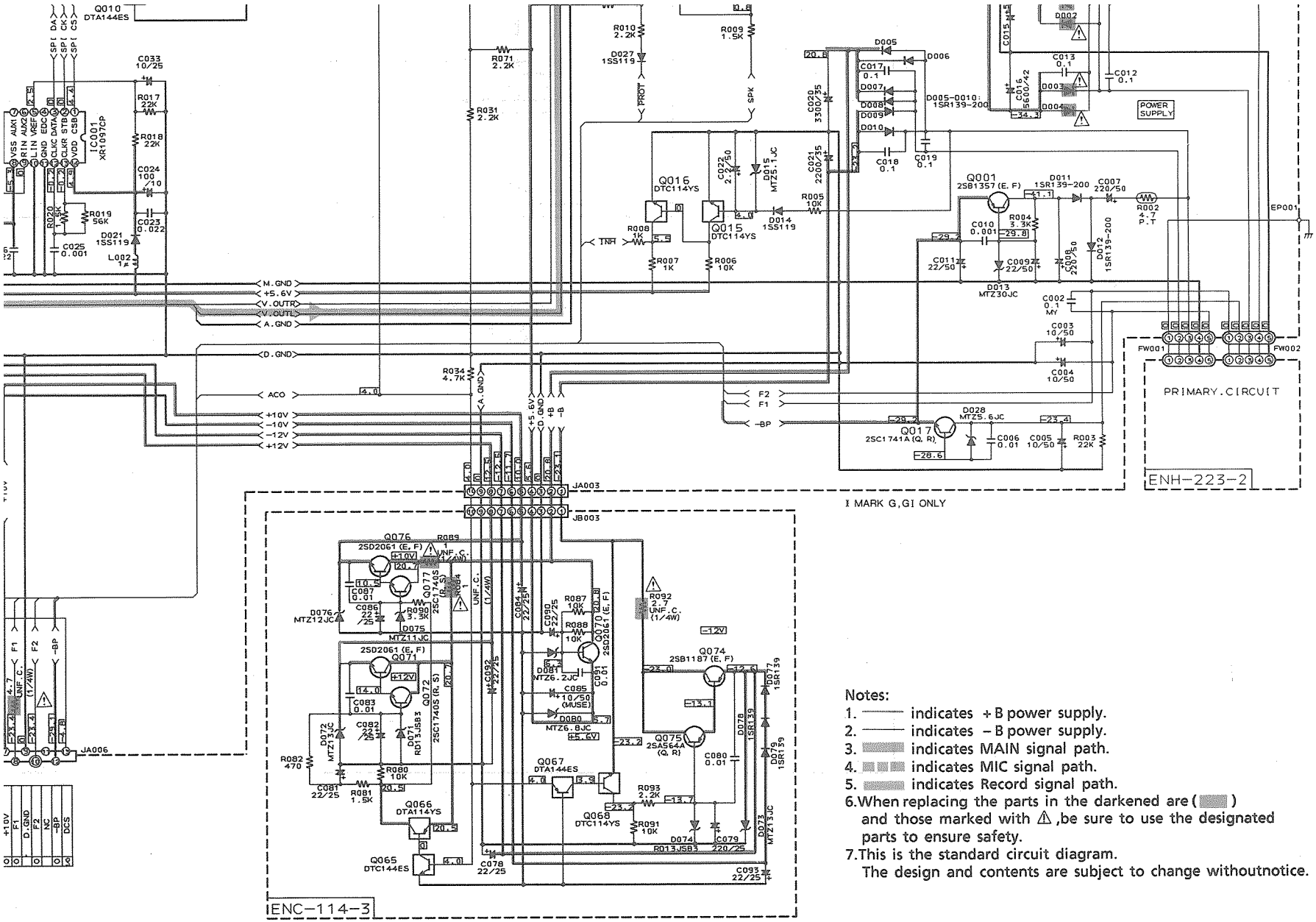


P2-21-c P2-21-d


13
12
11
10
9
8
7
TO ENB-189-1
M.GND
+5.6V
S.MUTE
V.IND
V.DOWN
V.UP
P674
IC671
LB1639-CV
D671
SR739
C672
47/10
C679
0.001
C673
0.01
R678
220
Q673
DTA144ES
Q671
2SD2144S(VW)
Q672
2SD2144S(VW)
R671
3.3K
R672
10K
R673
10K
R674
10K
3.3K
R681
1.5K
R682
1.5K
R685
1.2K
R686
1.2K
C675
1/50
C676
1/50
VR671
100K
MAIN VOL
A.GND
V.OUT R
V.OUT L
V.IN R
V.IN L
P671
BALANCE L
BALANCE R
A.GND
P672
TO ENB-189-2
TO ENC-114-1
TO ENC-114-1
TO ENB-1
JA002
JA001
BC671
CD L
A.GND
CD R
REC L
REC R
PB L
PB R
TU R
TU L
NC
NC
V.INR
CMIC
A.GND
A.GND
MUTE
SBX
+12V
-12V
DATA
CLK
STB
SURR.ON
A.GND
V.OUTR
V.OUTL
A.GND
V.INR
V.INL
SURR.ON
TUNED
T.MUTE
T.CLK
DI
DO
M.GND
CE
+5.6V
ABX
D.GND
DATA
EP002
TO ENA-154
DI
CE
DO
T.CLK
T.MUTE
TUNED
STEREO
+12V
+5V
TUN L
TUN R
D025
1SS119
JA010
JA007
REC L
REC R
P.CONT
+12V
D.GND
+5.6V
DCS
+12V
+10V
M.GND
PB L
PB R
A.GND
REC L
REC R
P CONT
+12V
D.GND
+5.6V
DCS
-12V
+10V
M.GND
PB L
PB R
A.GND
A.GND
A.GND
+12V
CD L
-10V
A.GND
-12V
CD R
+10V
F1
D.GND
F2
NC
-BP
+12V
CD L
-10V
A.GND
-12V
CD R
+10V
R048
4.7
UNF.C.
(1/4W)
F1
F2
-BP
R030
220K
C030
10/25
Q009
2SC1740S
R028
1K
R029
20K
R022
5.1K
+12V
C029
1/50
D024
1SS119
D023
1SS119
R026
10K
C028
0.047
R027
100K
R025
10K
Q008
2SD2144S(V,W)
R024
47K
R023
5.6K
D022
MTZ5.1JC
-12V
R021
330
C027
100/10
C026
0.022
VSS AUX1
RIN AUX2
LIN VREF
GND EDC
CLKC DATA
R020
SPI DA

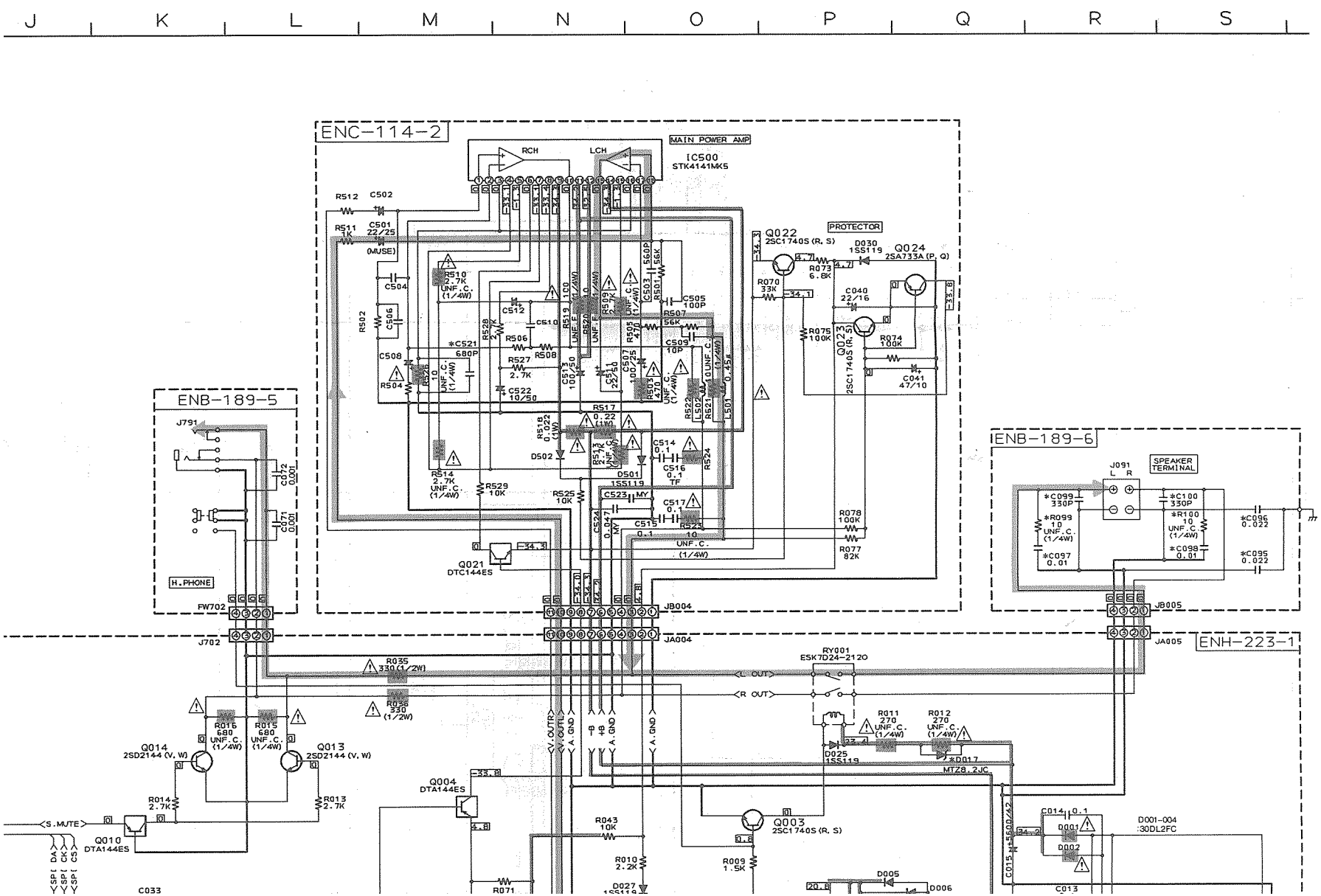
Main Circuit, Power Amplifier & Regulator Section



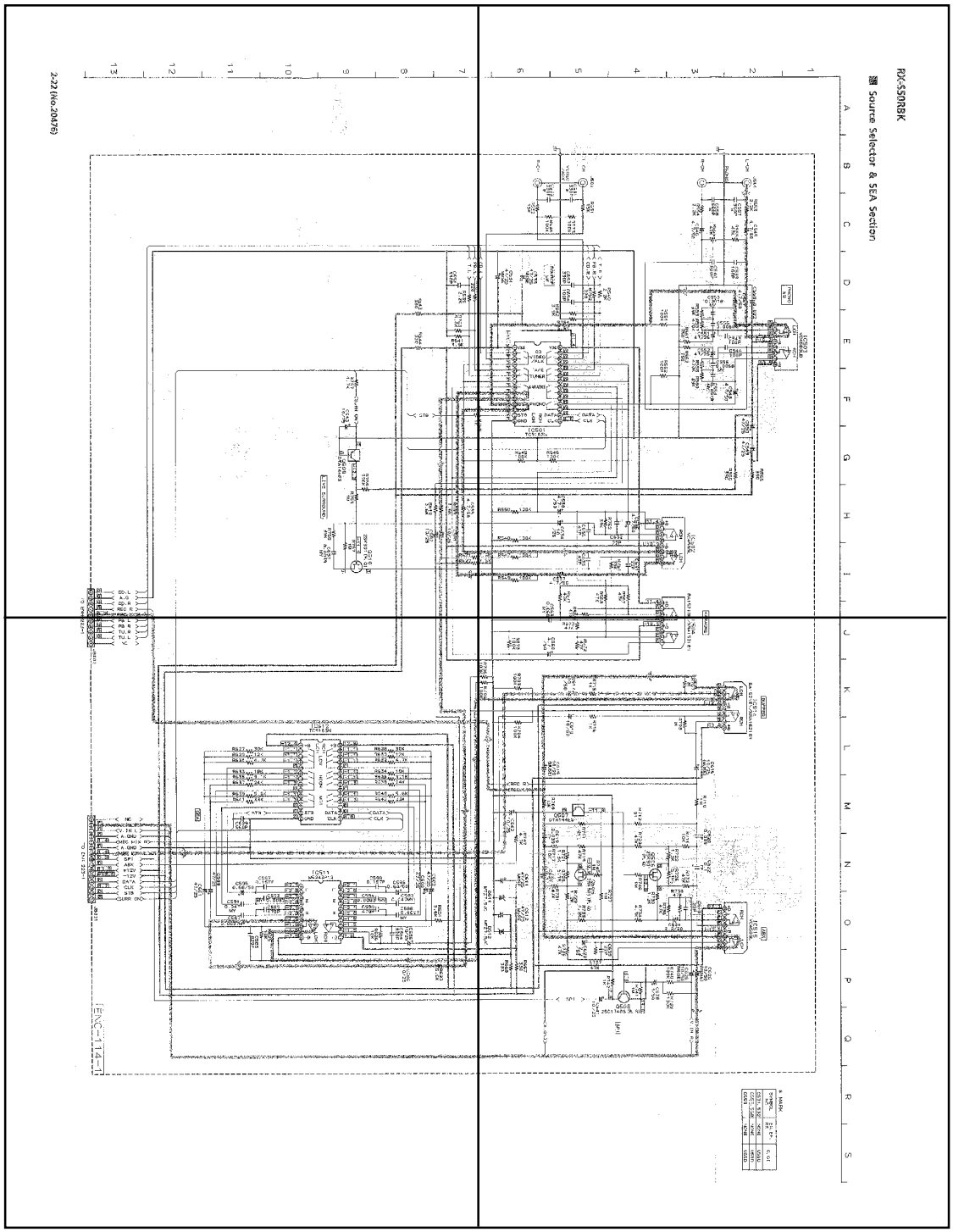


Notes:

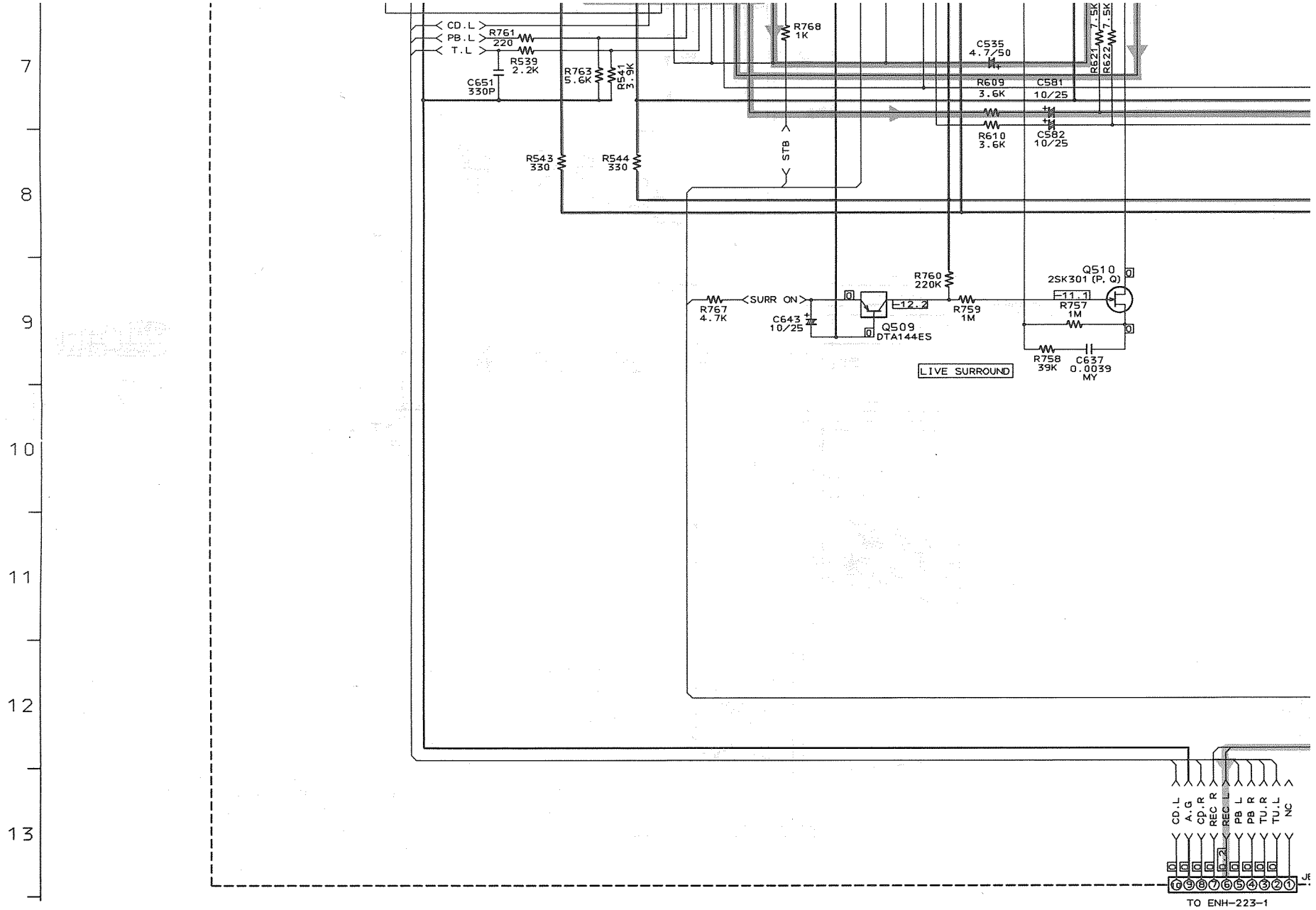
1. ——— indicates +B power supply.
2. ——— indicates −B power supply.
3. ▒▒▒ indicates MAIN signal path.
4. ▒▒▒ indicates MIC signal path.
5. ▒▒▒ indicates Record signal path.
6. When replacing the parts in the darkened are (▒▒▒) and those marked with ⚠, be sure to use the designated parts to ensure safety.
7. This is the standard circuit diagram. The design and contents are subject to change withoutnotice.


J K L M N O P Q R S
ENC-114-2
MAIN POWER AMP
RCH
LCH
IC500
STK4141MK5
PROTECTOR
Q022
2SC1740S (R, S)
Q024
2SA733A (P, Q)
D030
1SS119
Q023
2SC1740S (R, S)
ENB-189-5
H.PHONE
J791
FW702
J702
ENB-189-6
SPEAKER TERMINAL
J091
JB004
JB005
JA004
JA005
ENH-223-1
RY001
E5K7D24-2120
Q021
DTC144ES
Q014
2SD2144 (V, W)
Q013
2SD2144 (V, W)
Q010
DTA144ES
Q004
DTA144ES
Q003
2SC1740S (R, S)
D025
1SS119
D001-004
:30DL2FC
D005
D006
D027
1SS119
C033
S.MUTE
DATA
CK
CS
VSPI
L OUT
R OUT
V.OUT
V.GND
A.GND
+B
A.GND
A.GND

P2-22-a P2-22-b



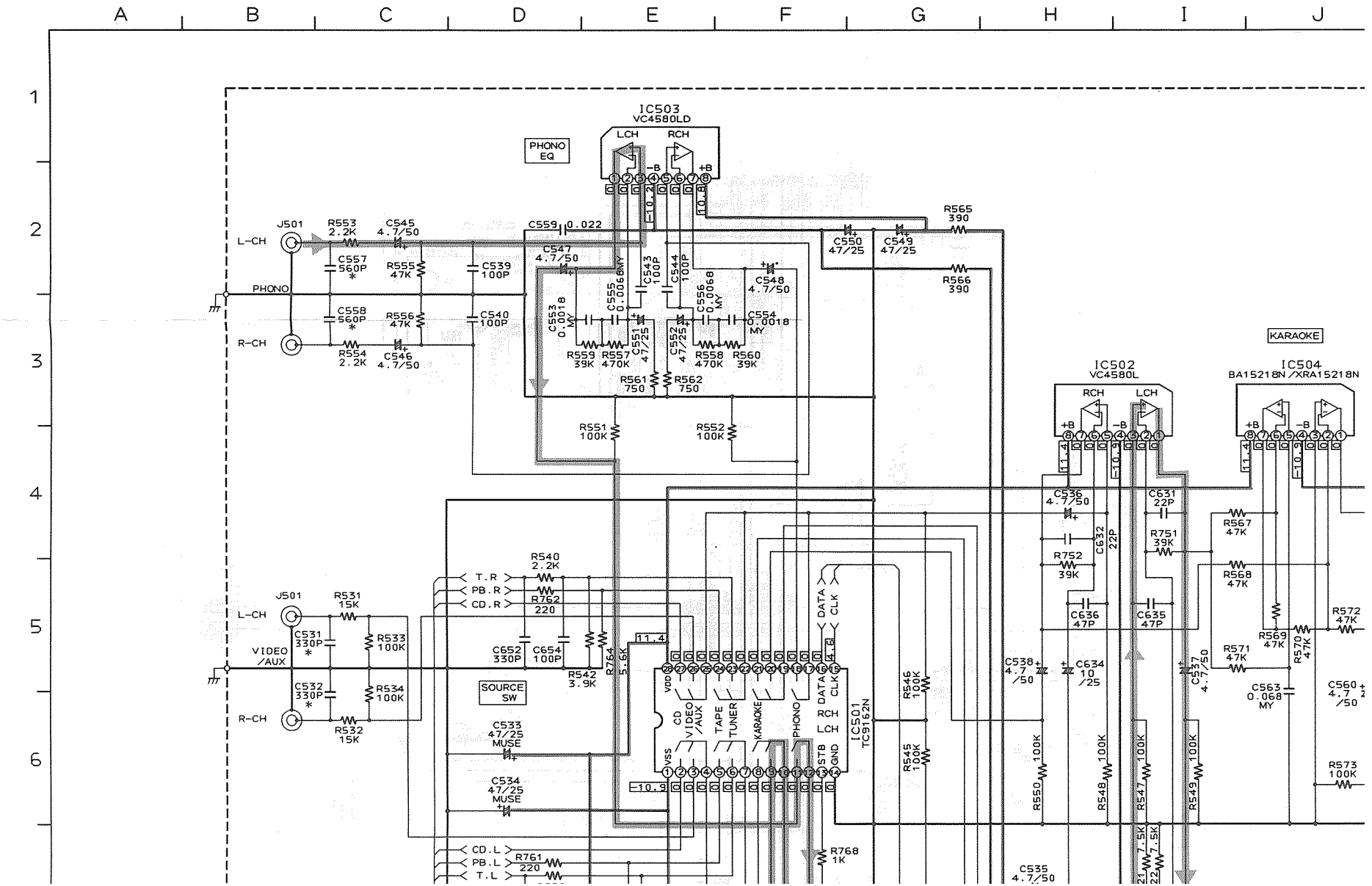
P2-22-c P2-22-d

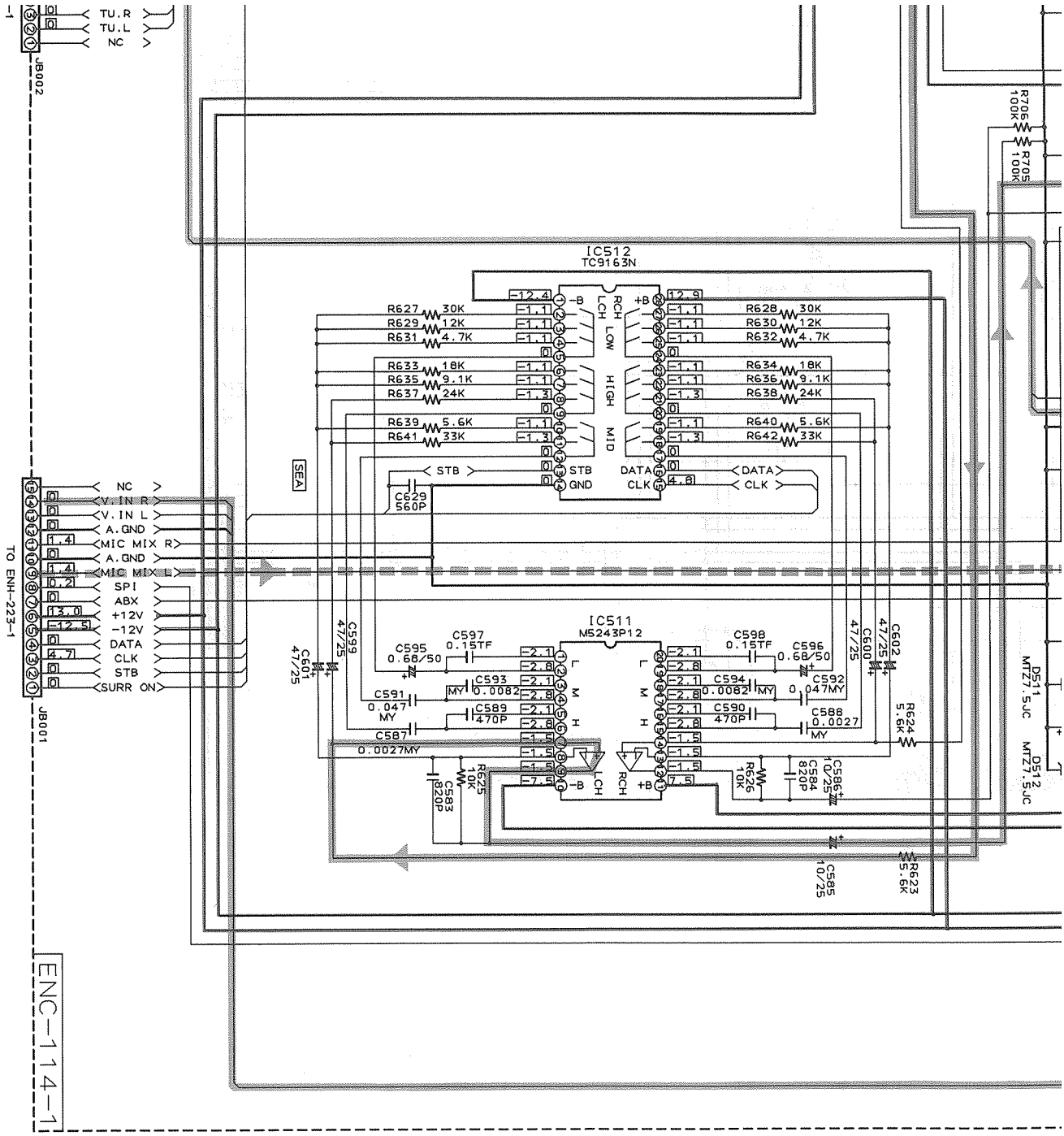


2-22 (No.20476)

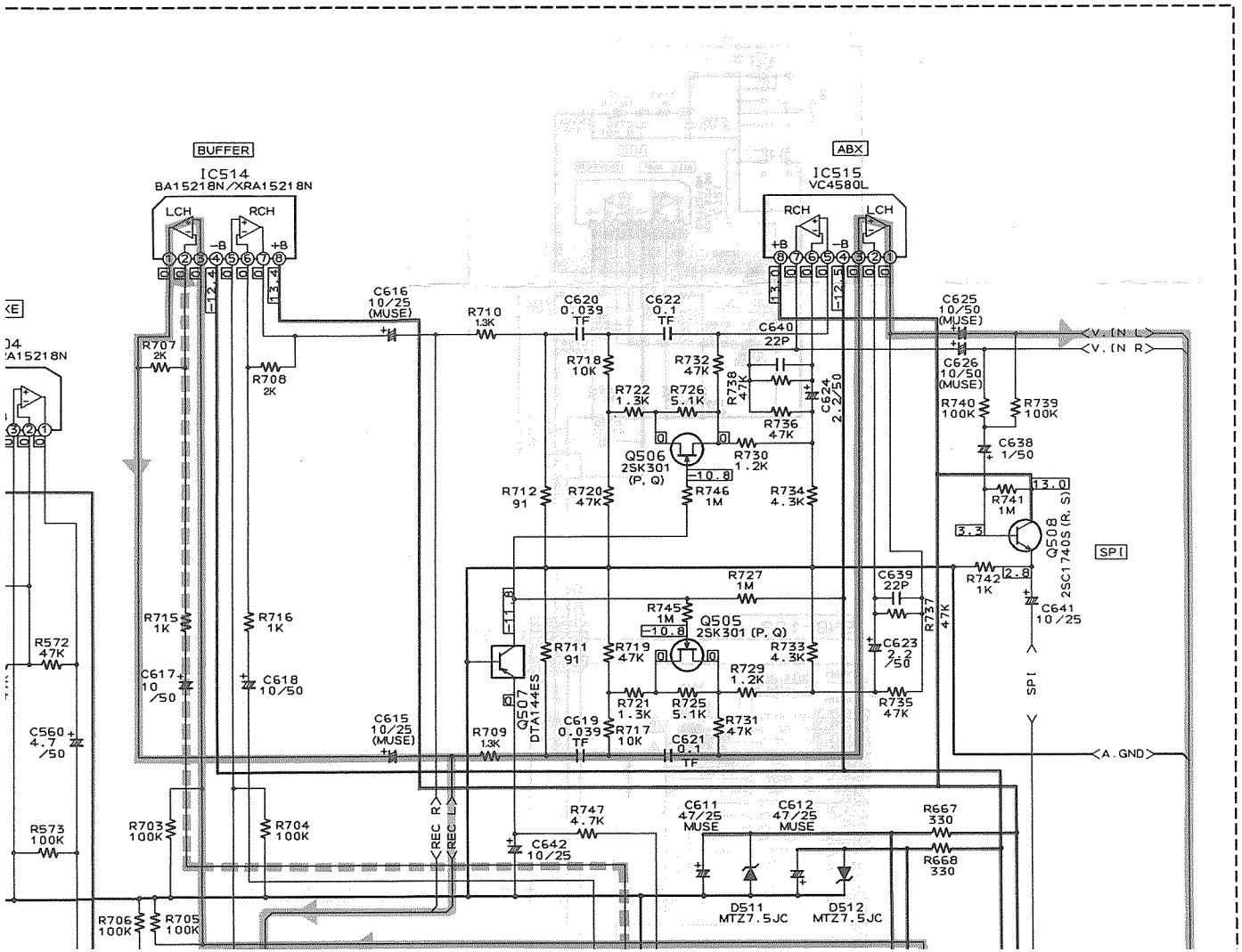
P2-22-a

Source Selector & SEA Section




TU.R
TU.L
NC
JB002
IC512
TC9163N
R627 30K
R629 12K
R631 4.7K
R633 18K
R635 9.1K
R637 24K
R639 5.6K
R641 33K
R628 30K
R630 12K
R632 4.7K
R634 18K
R636 9.1K
R638 24K
R640 5.6K
R642 33K
LCH LOW
HIGH
MID
RCH
STB
GND
DATA
CLK
C629 560P
SEA
NC
V.IN R
V.IN L
A.GND
MIC MIX R
A.GND
MIC MIX L
SPI
ABX
+12V
-12V
DATA
CLK
STB
SURR ON
JB001
TO ENH-223-1
IC511
M5243P12
C595 0.68/50
C597 0.15TF
C598 0.15TF
C596 0.68/50
C593 0.0082MY
C594 0.0082MY
C592 0.047MY
C591 0.047 MY
C589 470P
C590 470P
C588 0.0027 MY
C587 0.0027MY
C599 47/25
C601 47/25
C600 47/25
C602 47/25
R625 10K
R626 10K
C583 820P
C584 820P
C586 10/25
C585 10/25
R624 5.6K
R623 5.6K
R706 100K
R705 100K
D511 MTZ7.5JC
D512 MTZ7.5JC
ENC-114-1

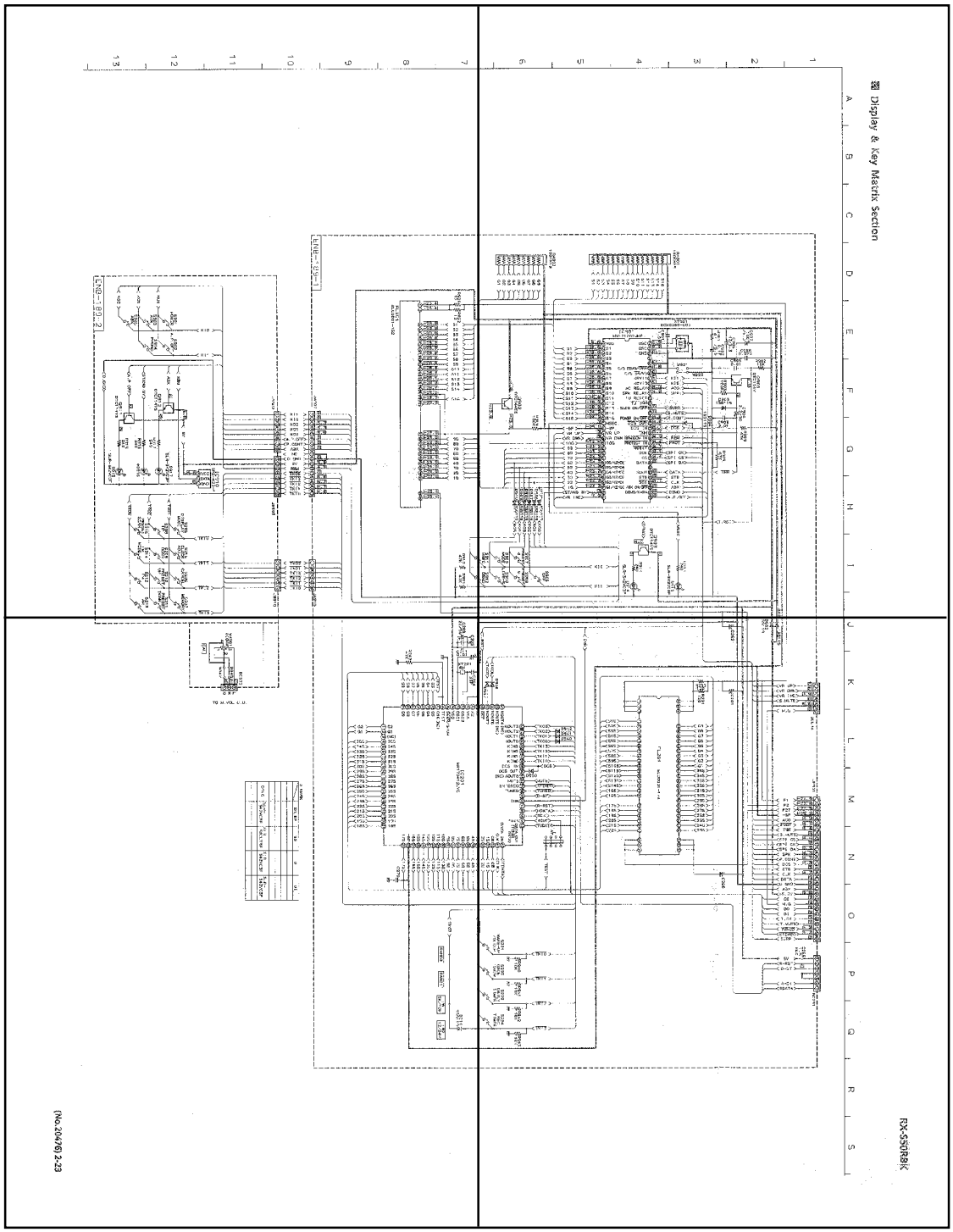
J K L M N O P Q R S



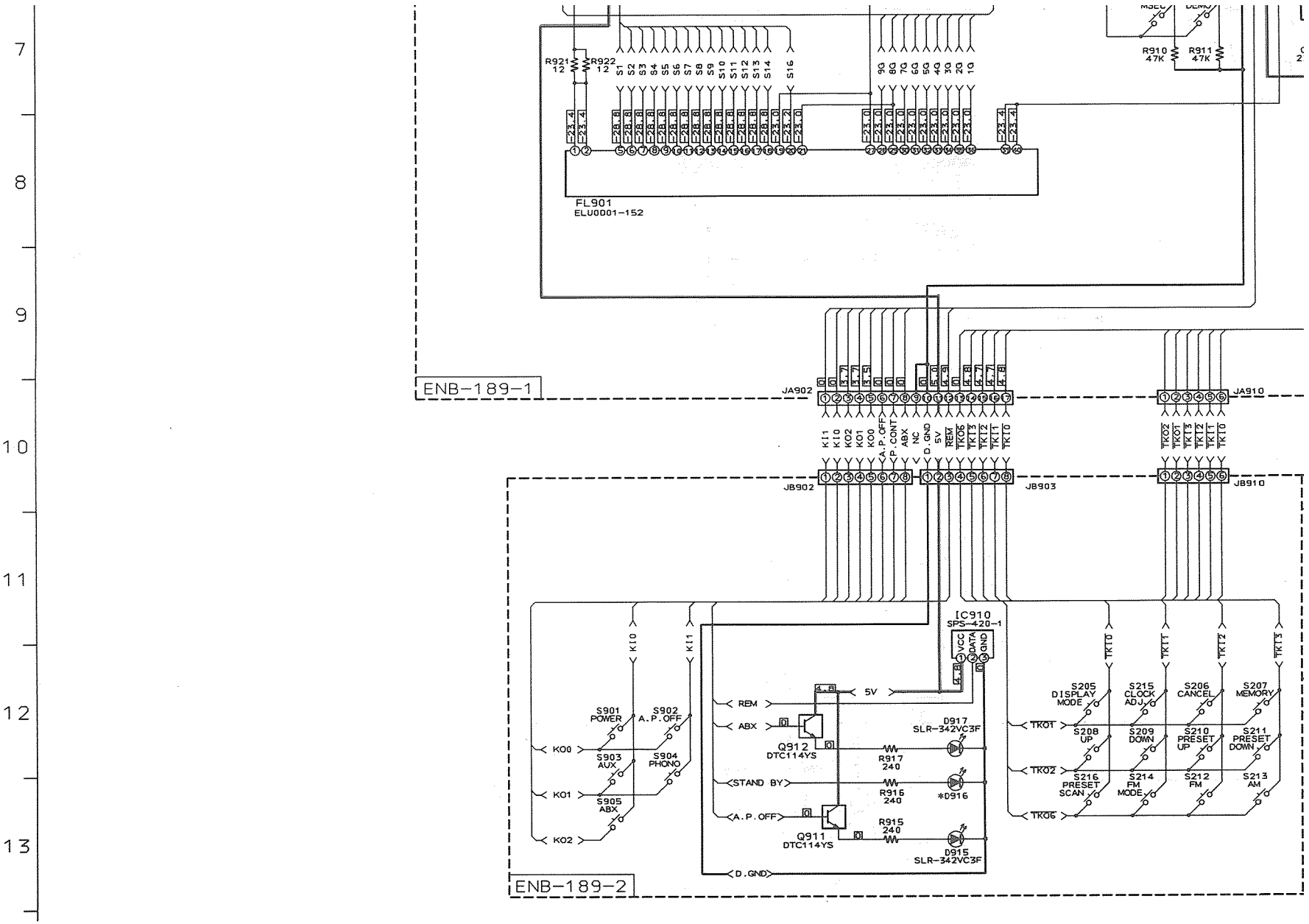
* MARK

SYMBOL NO	EN, EF, BS	G, GI
C531, 532	NONE	USED
C557, 558	NONE	USED
C559	NONE	USED

P2-23-a P2-23-b

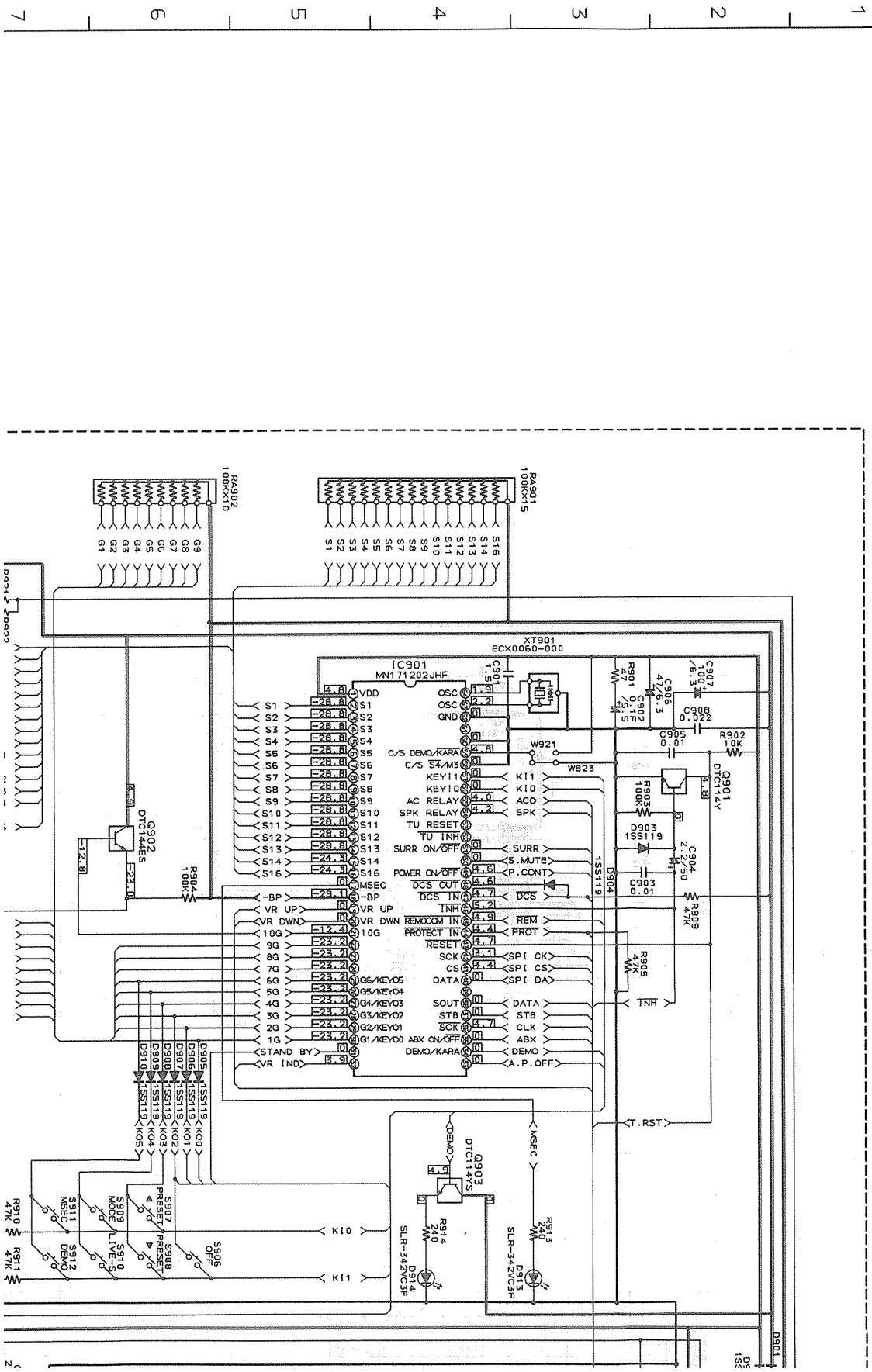


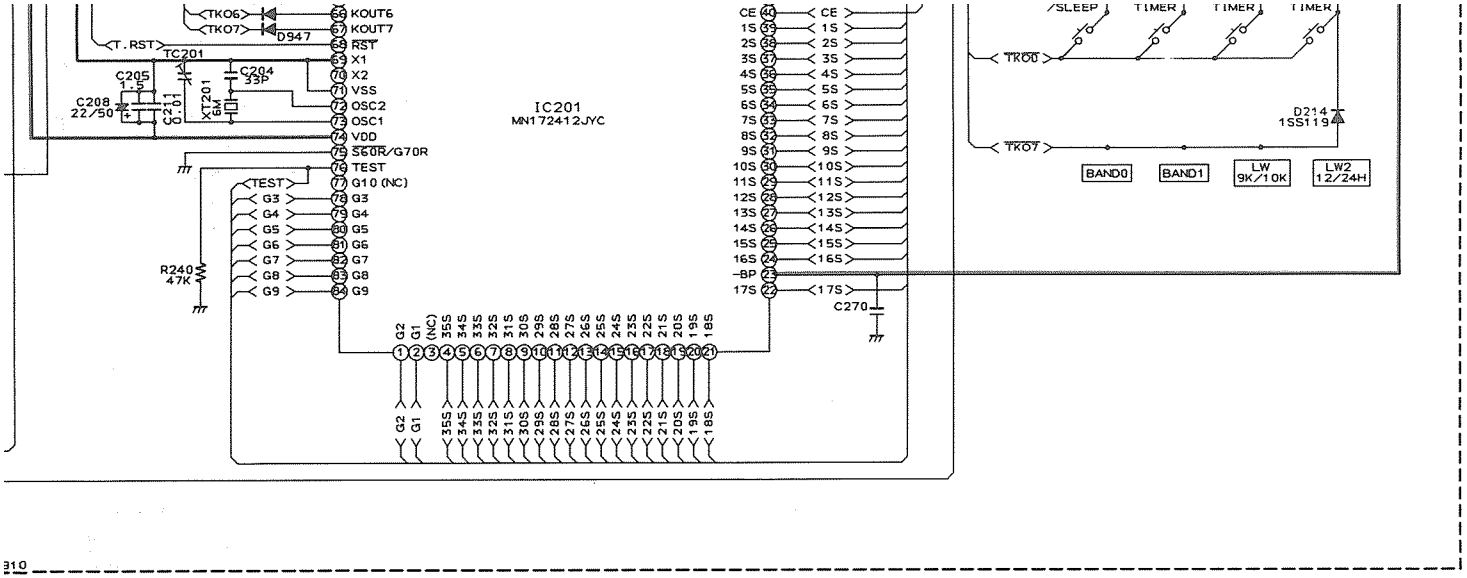
P2-23-c P2-23-d


ENB-189-1
ENB-189-2
FL901
ELU0001-152
R921 12
R922 12
R910 47K
R911 47K
JA902
JA910
JB902
JB903
JB910
K11
K10
K02
K01
K00
A.P.OFF
P.CONT
ABX
NC
D.GND
5V
REM
TKO0
TKI3
TKI2
TKI1
TKI0
TKO2
TKO1
IC910
SPS-420-1
VCC
DATA
GND
S901 POWER
S902 A.P.OFF
S903 AUX
S904 PHONO
S905 ABX
Q912 DTC114YS
Q911 DTC114YS
D917 SLR-342VC3F
D915 SLR-342VC3F
*D916
R917 240
R916 240
R915 240
STAND BY
S205 DISPLAY MODE
S215 CLOCK ADJ
S206 CANCEL
S207 MEMORY
S208 UP
S209 DOWN
S210 PRESET UP
S211 PRESET DOWN
S216 PRESET SCAN
S214 FM MODE
S212 FM
S213 AM

P2-23-a

Display & Key Matrix Section

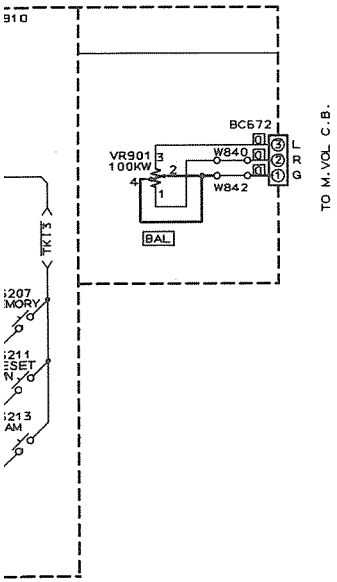


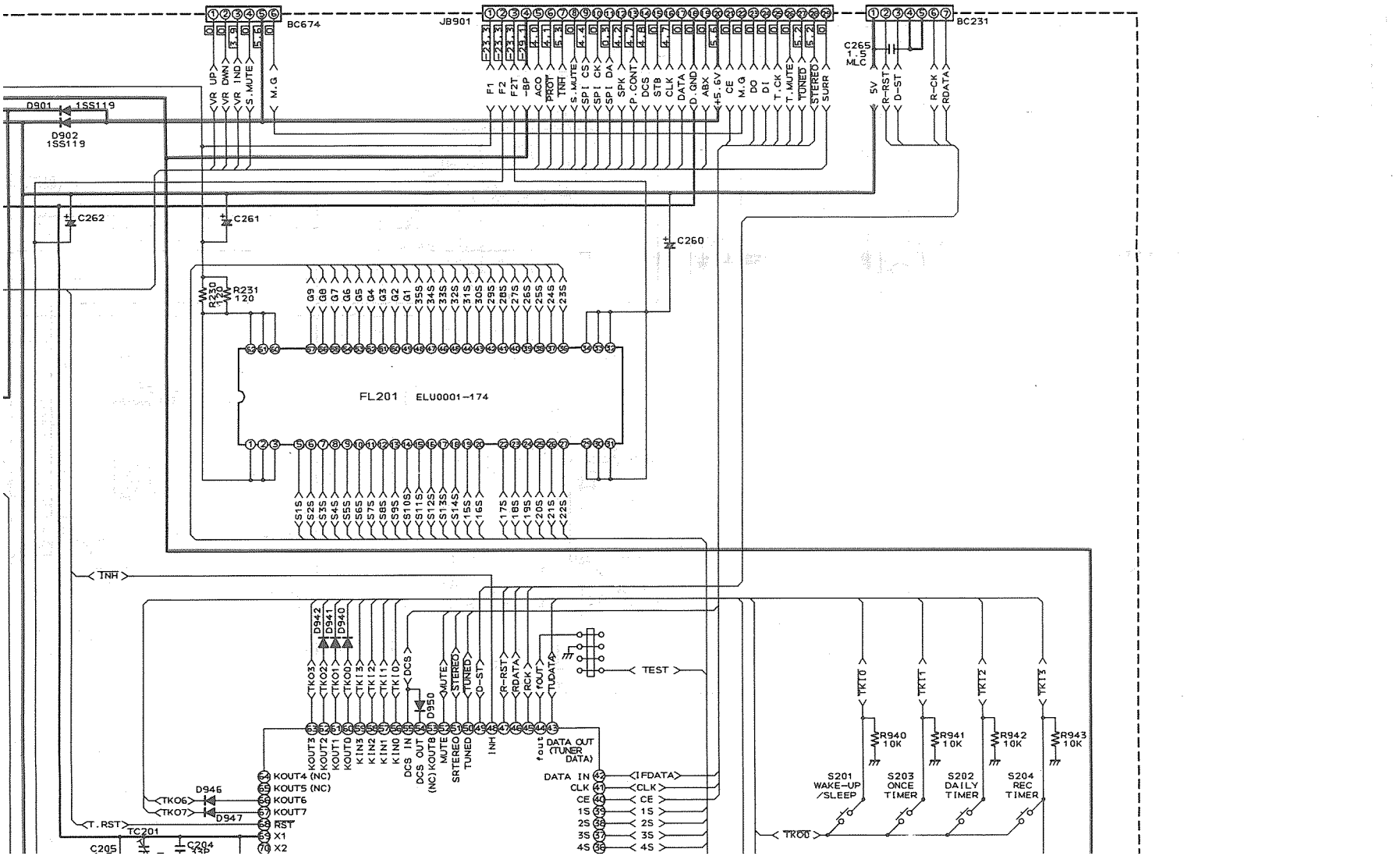


910

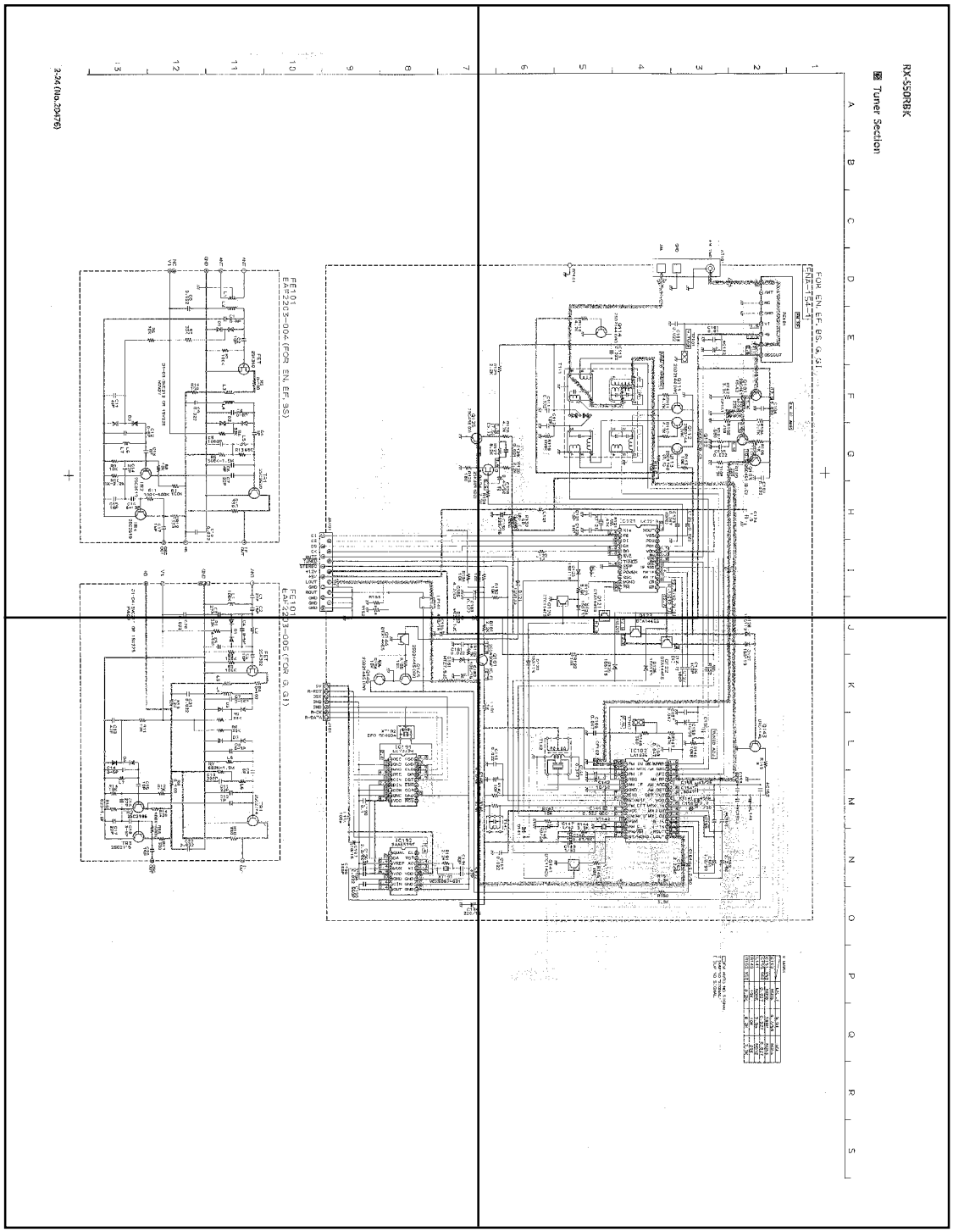
* MARK

	EN, EF	BS	G	GI
D916	SLR-342VC3F	SLR-580LT3F	SLR-342VC3F	SLR-342VC3F

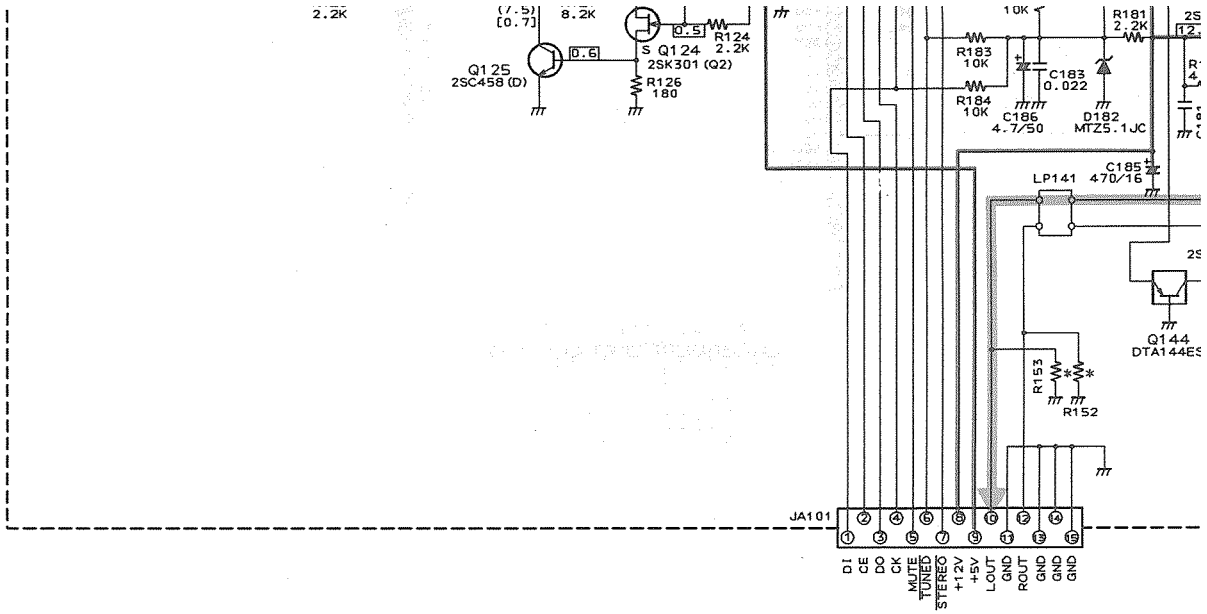


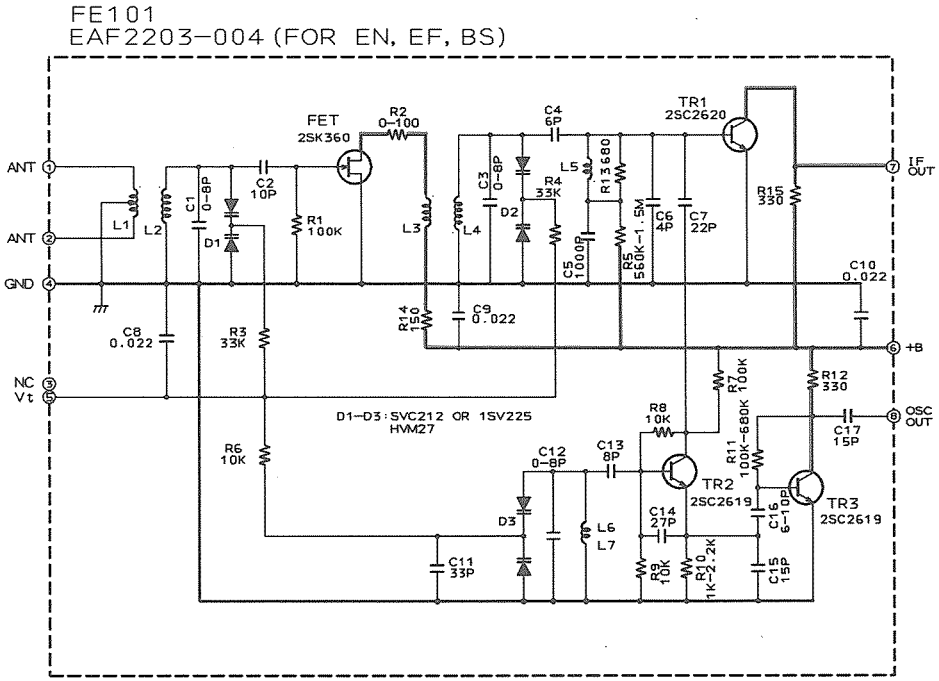

J
K
L
M
N
O
P
Q
R
S
BC674
JB901
BC231
C265
1μ
M.C
D901 1SS119
D902 1SS119
C262
C261
C260
R230 W
R231 120
R232 W
FL201 ELU0001-174
INH
D942
D941
D940
D950
TEST
DATA OUT (TUNER DATA)
DATA IN
D946
D947
TC201
C205
C204
R940 10K
R941 10K
R942 10K
R943 10K
S201 WAKE-UP /SLEEP
S203 ONCE TIMER
S202 DAILY TIMER
S204 REC TIMER

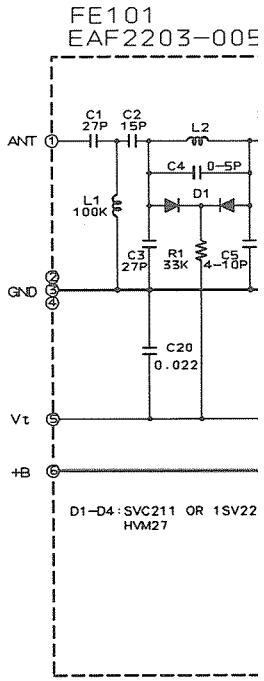
P2-24-a P2-24-b



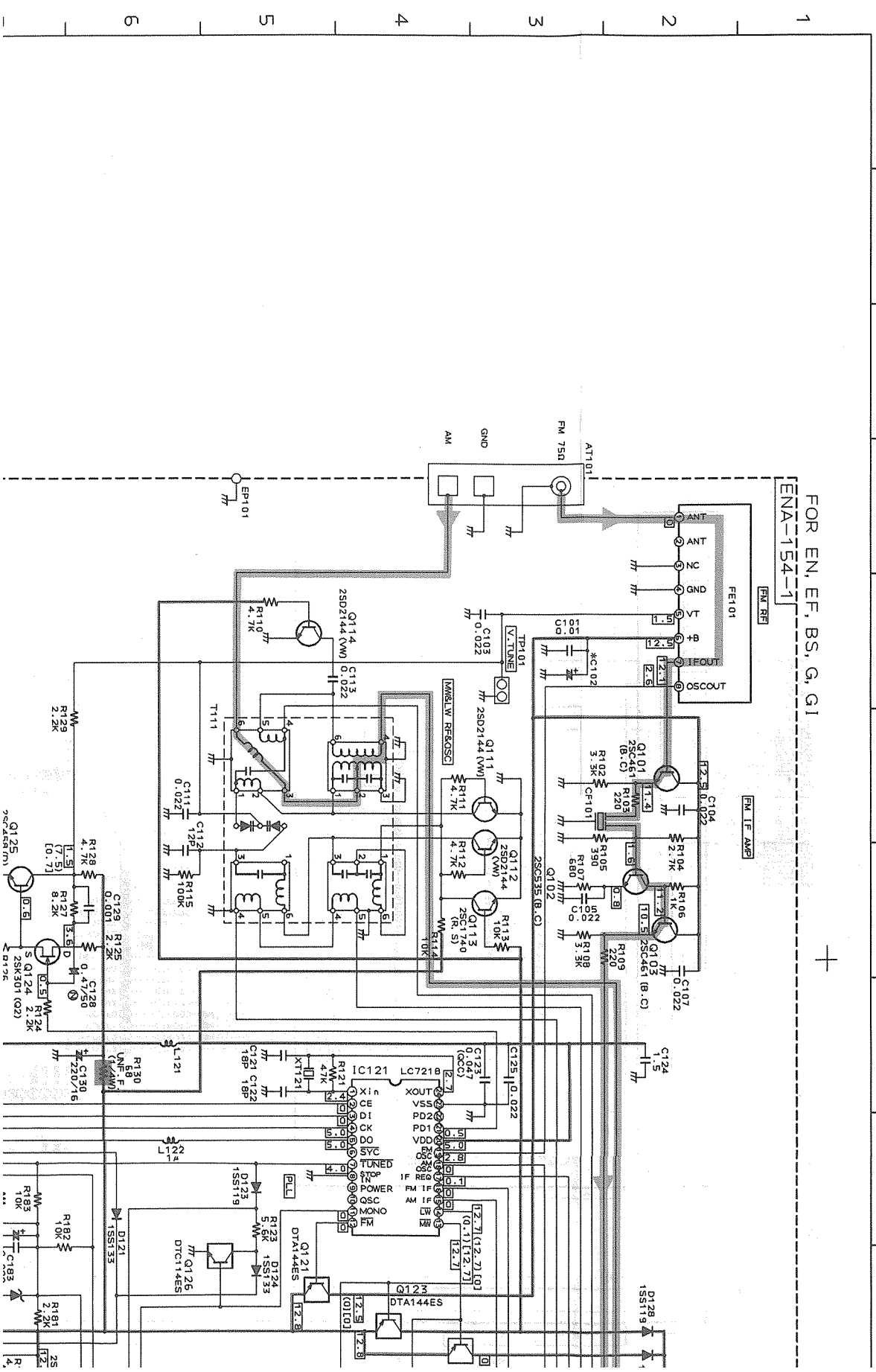
P2-24-c P2-24-d

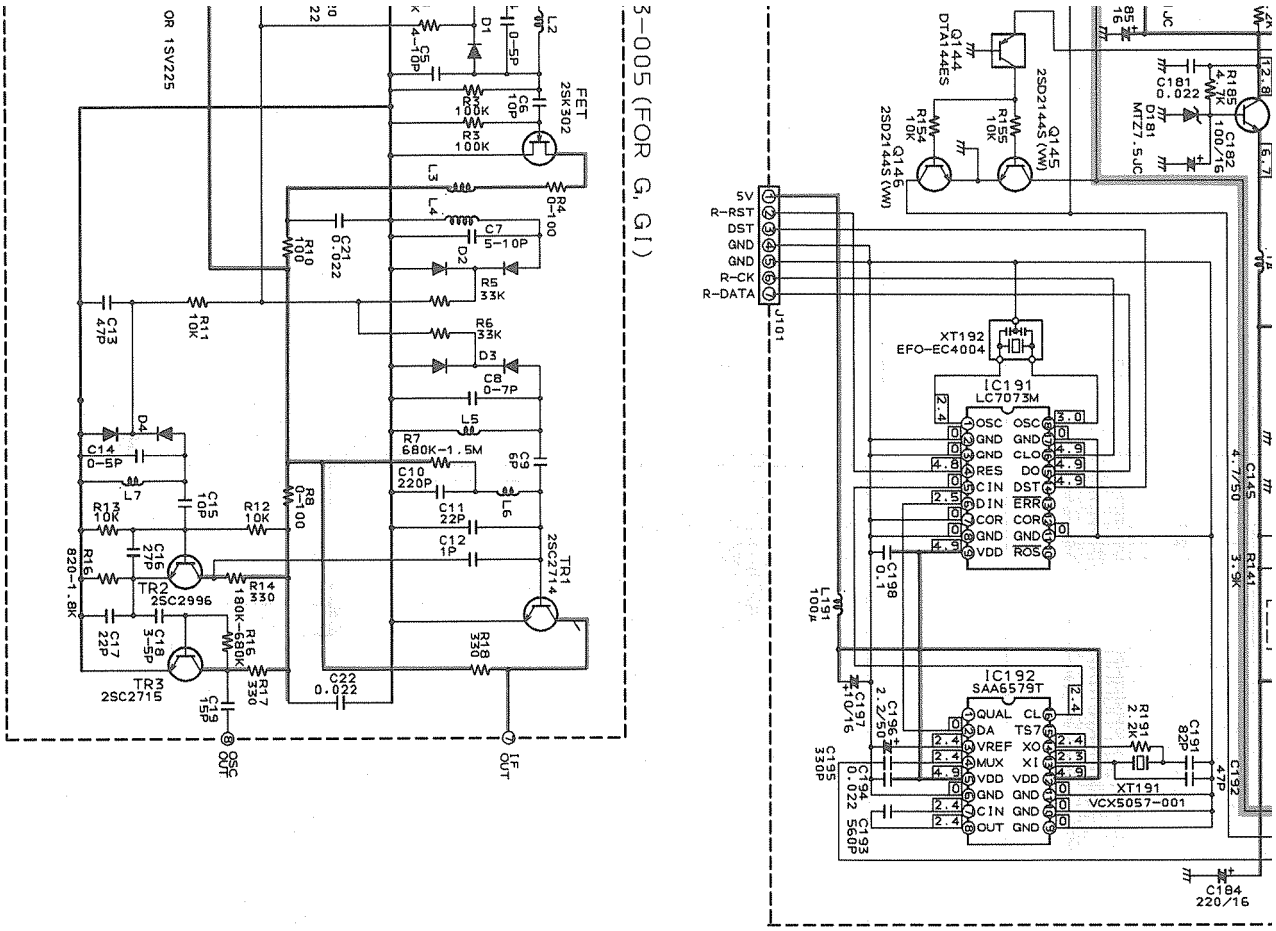

2.2K
8.2K
Q125
2SC458 (D)
R126
180
S Q124
2SK301 (Q2)
R124
2.2K
10K
R181
2.2K
R183
10K
C183
0.022
R184
10K
C186
4.7/50
D182
MTZ5.1JC
C185
470/16
LP141
Q144
DTA144ES
R153
R152
JA101
D1
CE
DO
CK
MUTE
TUNED
STEREO
+12V
+5V
LOUT
GND
ROUT
GND
GND
GND


FE101
EAF2203-004 (FOR EN, EF, BS)
ANT
ANT
GND
NC
Vt
FET
2SK360
R2
0-100
TR1
2SC2620
IF OUT
+B
OSC OUT
R1
100K
C1
0-8P
C2
10P
L1
L2
L3
L4
L5
D1
D2
D3
C3
0-8P
C4
6P
R4
33K
R13
680
C5
1000P
R5
560K-1.5M
C6
4P
C7
22P
R15
330
C8
0.022
C9
0.022
C10
0.022
R3
33K
R14
150
R7
100K
R8
10K
R12
330
C17
15P
R6
10K
C12
0-8P
C13
8P
R11
100K-680K
TR2
2SC2619
TR3
2SC2619
C14
27P
C16
6-10P
C11
33P
R9
10K
R10
1K-2.2K
C15
15P
D1-D3:SVC212 OR 1SV225
HVM27

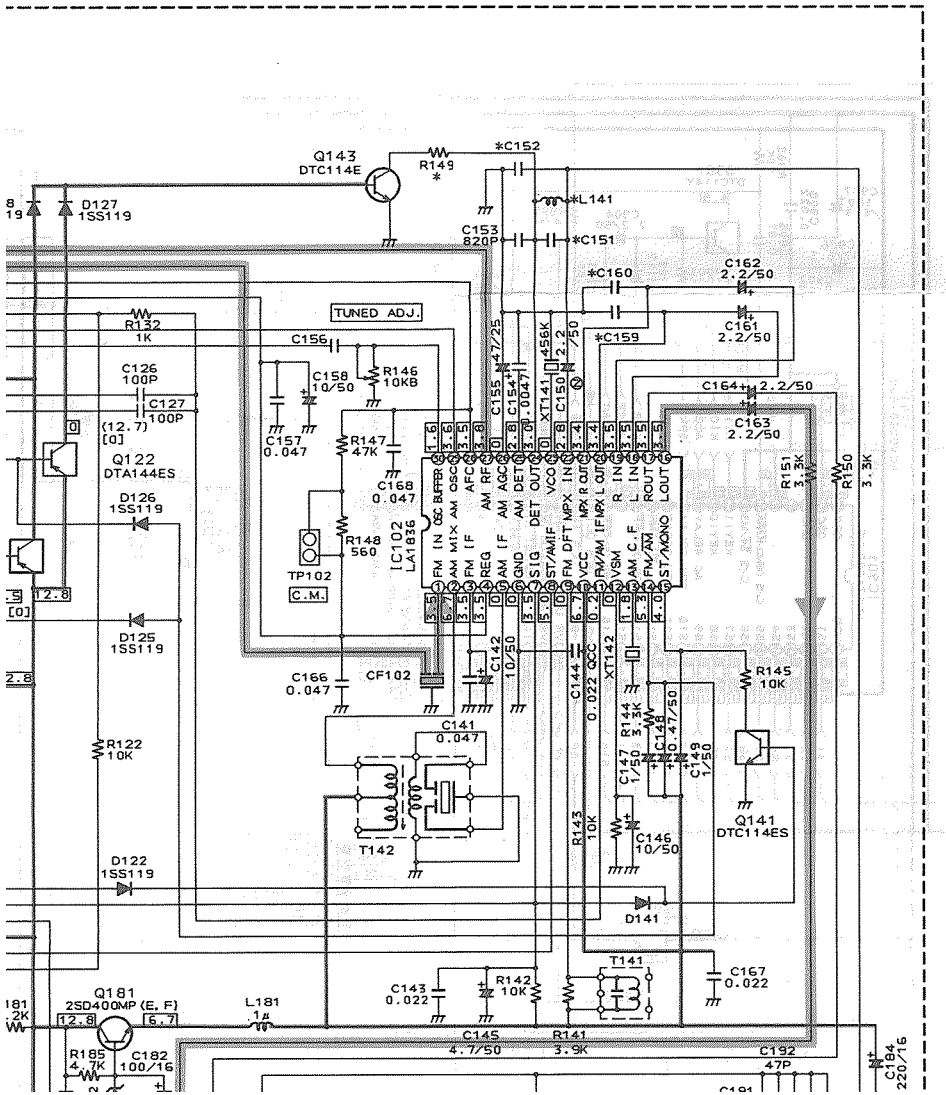

FE101
EAF2203-005
ANT
GND
Vt
+B
C1
27P
C2
15P
L2
C4
0-5P
D1
L1
100K
C3
27P
R1
33K
C5
4-10P
C20
0.022
D1-D4:SVC211 OR 1SV22
HVM27

■ Tuner Section




3-005 (FOR G, GI)
OR 1SV225
FET 2SK302
TR1 2SC2714
TR2 2SC2996
TR3 2SC2715
OSC OUT
LF OUT
5V
R-RST
DST
GND
GND
R-CK
R-DATA
J101
Q144 DTA144ES
Q145 2SD2144S (VW)
Q146 2SD2144S (VW)
XT192 EFO-EC4004
IC191 LC7073M
IC192 SAA6579T
XT191 VCX5057-001

J K L M N O P Q R S



* MARK

	EN, EF	G, GI	BS
C102	NONE	4.7/50	NONE
C151, 152	NONE	180P	NONE
C159, 160	0.027	0.027	0.027
L141	NONE	3.9m	NONE
R149	10K	10K	22K
R152, 153	8.2K	8.2K	3.3K

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

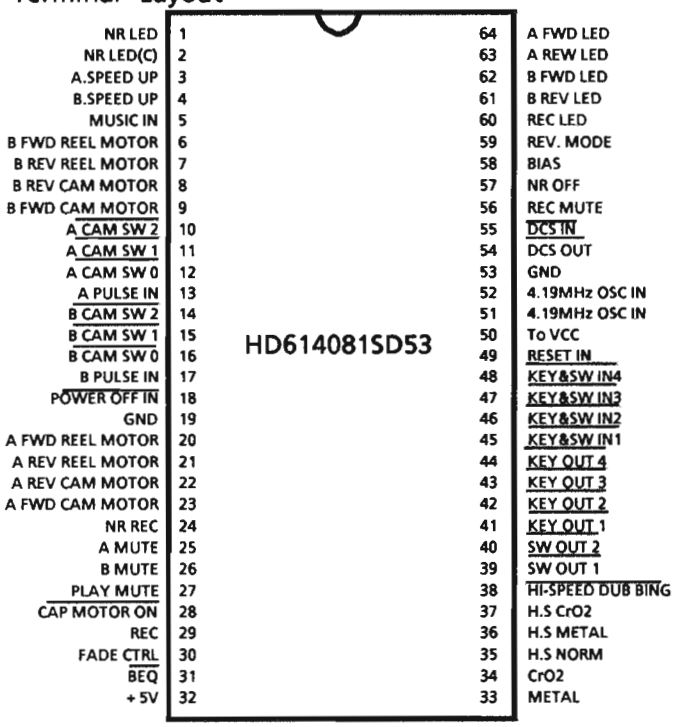
XT-S50RBK

– Contents–

Description of Major LSIs

■ HD614081SD53 (IC491) : Deck System Controller

1. Terminal Layout



2. Table of key matrix

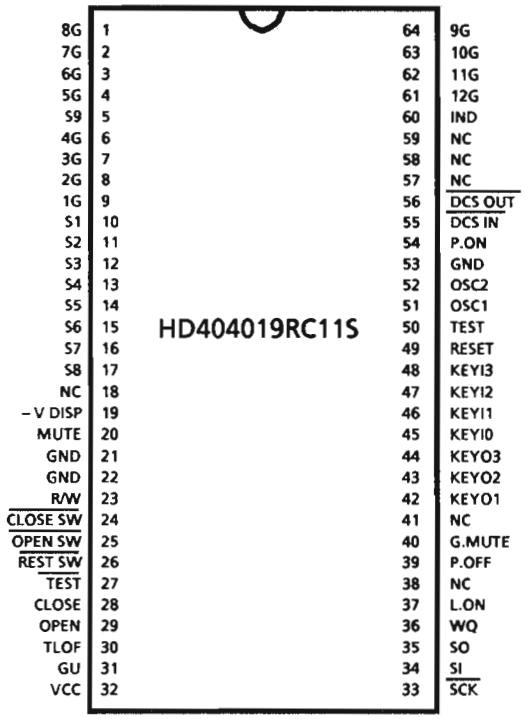
	KEY IN 1	KEY IN 2	KEY IN 3	KEY IN 4
KEY OUT 1	A ◀	A ◀◀	A ▶▶	A ▶
KEY OUT 2	B ◀	B ◀◀	B ▶▶	B ▶
KEY OUT 3	A ■	B ■	B REC PAUSE	
KEY OUT 4	A ▶▶ B	DOLBY	REV. MODE	CD. REC

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 OUT1	O	Key matrix output
10	A CAM SW2	I	A CAM SW input	42	KEY OUT2	O	Key matrix output
11	A CAM SW1	I	A CAM SW input	43	KEY OUT3	O	Key matrix output
12	A CAM SW0	I	A CAM SW input	44	KEY OUT4	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

■ HD404019RC11S (IC951) : CD System Controller

1. Terminal Layout



2. Key matrix

	KEY IN 0	KEY IN 1	KEY IN2	KEY IN3
KEY OUT 1	–	PROGRAM	–	▶/II
KEY OUT 2	⏮	REPEAT	RANDOM	⏏
KEY OUT 3	■/CLEAR	SIDE A/B	EDIT	⏭

3. Pin Functions

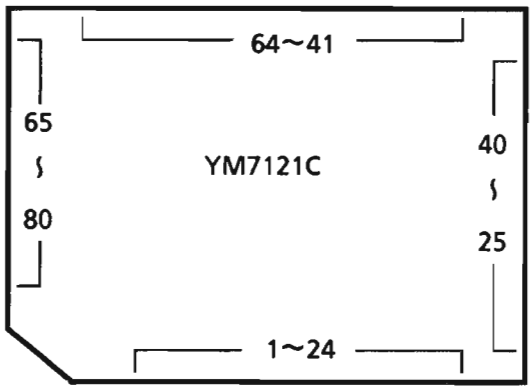
Pin No.	Symbol	I/O	Functions and Operations	Pin No.	Symbol	I/O	Functions and Operations
1~4	8G~5G	O	FL grid control output	34	(D IN) SI	I	Serial data input from IC841
5	S9	O	FL segment control output	35	(D OUT) SO	O	Serial data output for IC841
6~9	4G~1G	O	FL grid control output	36	WQ	I	Write request 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	- VDISP	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

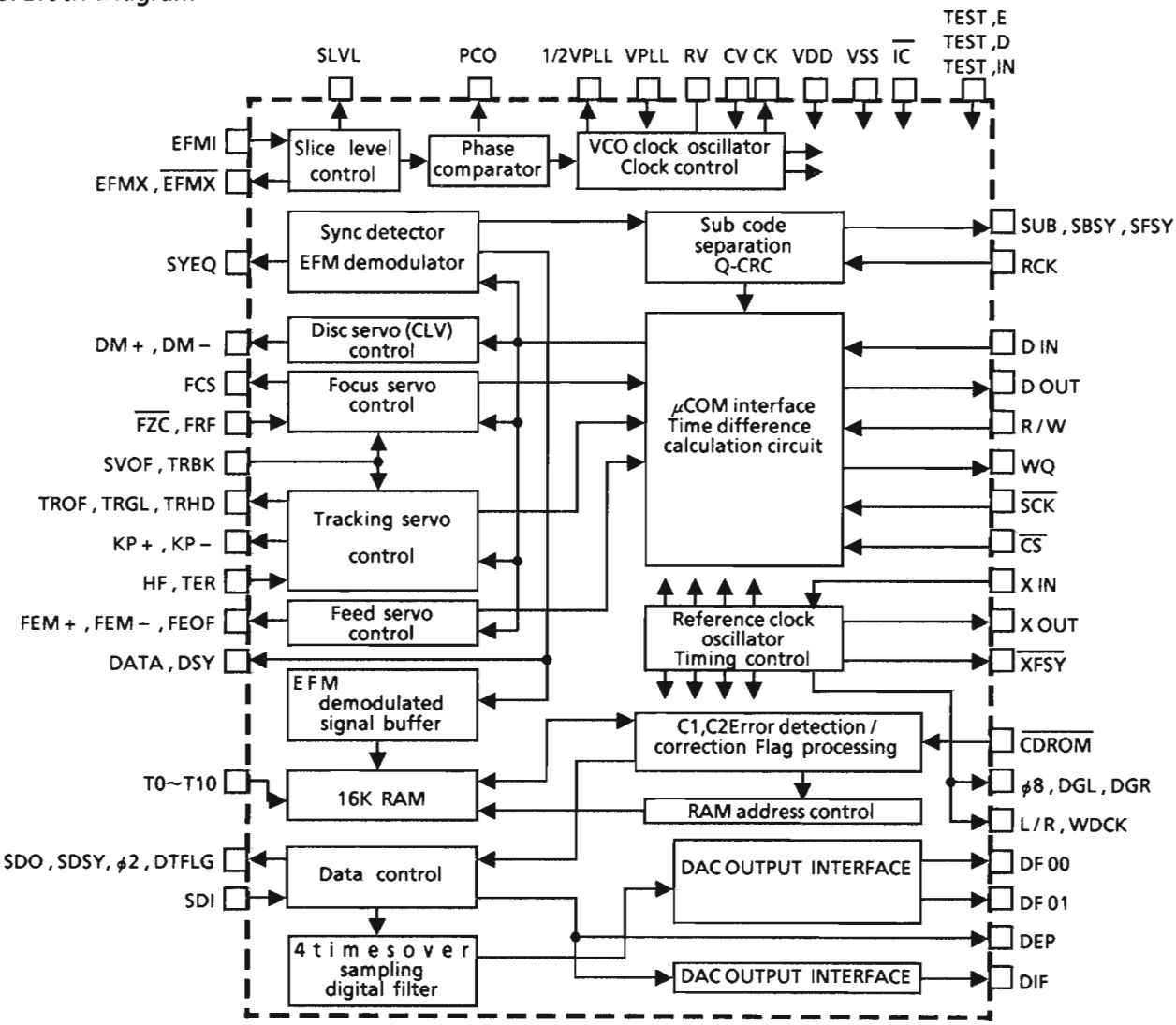
1. Outline

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



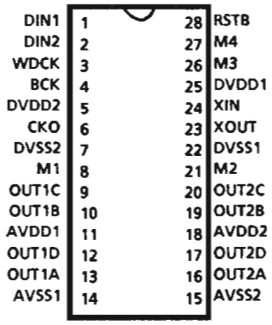
4. Pin Functions

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 ϕ2 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	ϕ2	O	ϕ2 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	$\overline{\text{CDROM}}$	O	Not used.
39	ϕ8	O	ϕ8 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/M 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 theSCK clock input.

Pin No.	Symbol	I/O	Function and Operation
50	WQ	O	This terminal is connected to μCOM. It is a request signal which demands to μCOM inputting the data transfer (YM7121 to μCOM).
51	DIN	I	This is a data input terminal connected to μCOM. When R/W is high, the data is transferred from μCOM 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	$\overline{FZC}$ 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	$\overline{IC}$	I	YM7121 needs initializing when power supply turn on. IC will be low more than 400μs since XIN is input clock with VDD standard.
73 74 75	SLVL EFMX $\overline{EFMX}$	O O O	Amplitude limited, mutually anti-phased signals are output from EFMX and $\overline{EFMX}$. 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

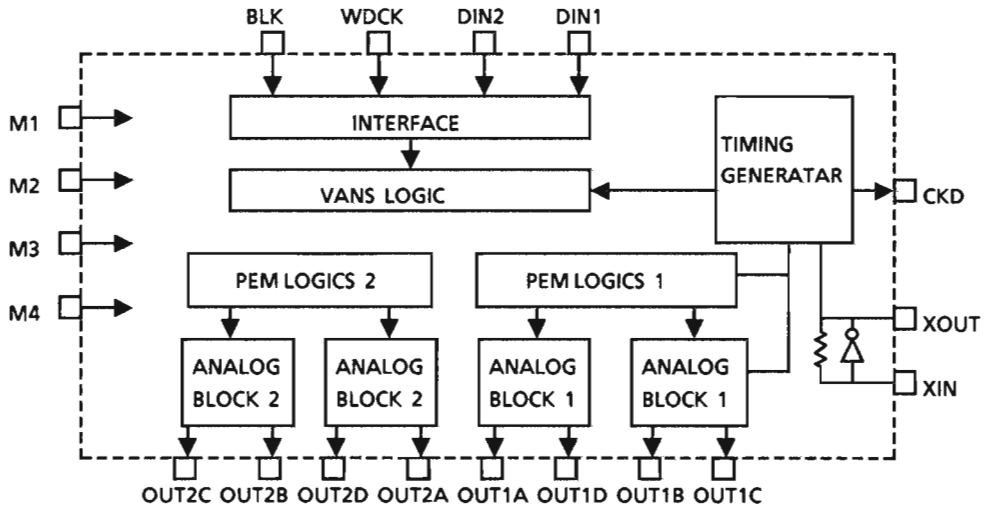
1. Terminal Layout



2. Pin Functions

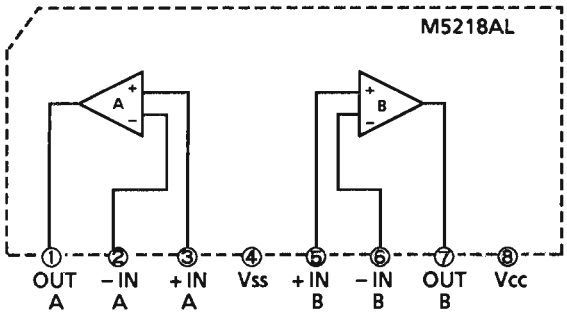
Pin No.	Symbol	I/O	Function
1,2	DIN1, DIN2	I	Serial data input
3	WDCK	I	Word clock input
4	BCK	I	Bit clock input
5	DVDD2	–	Power supply for digital circuit
6	CKO	O	Clock output
7	DVSS2	–	GND for digital circuit
8	M1	I	Input for mode select
9,10	OUT1C , OUT1B	O	PEM signal output (Channel 1)
11	AVDD1	–	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

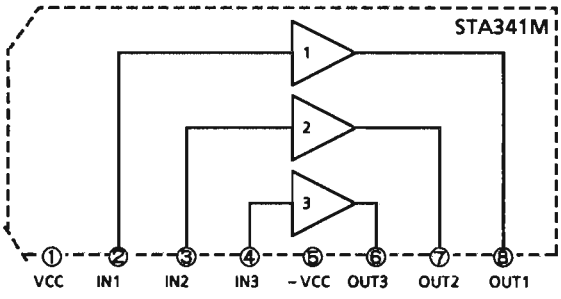


Internal Block Diagram of Other ICs

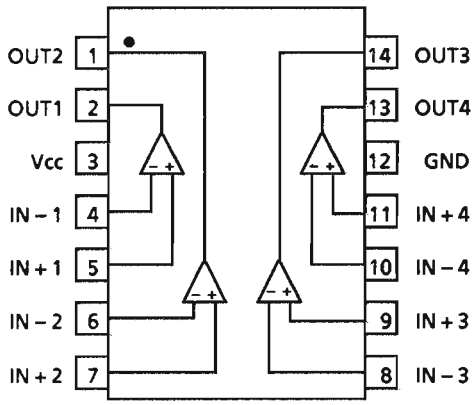
■ M5218AL (IC 762,781,803) : Dual OP Amp.



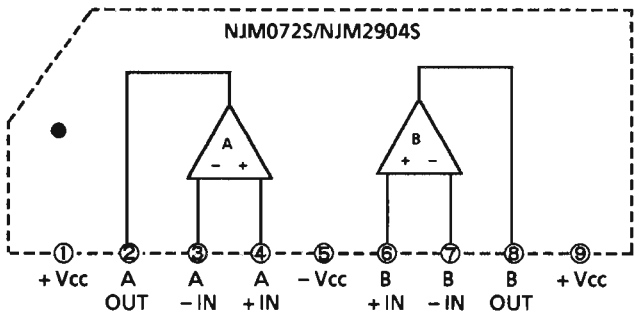
■ STA341M(A) (IC761) : Motor Driver



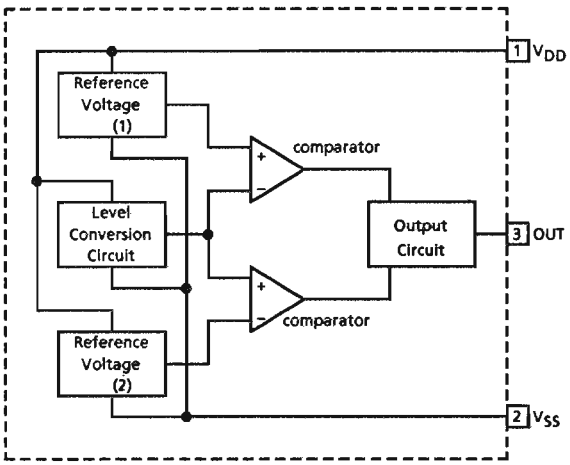
■ XRA/BA10339 (IC802) : Comparator



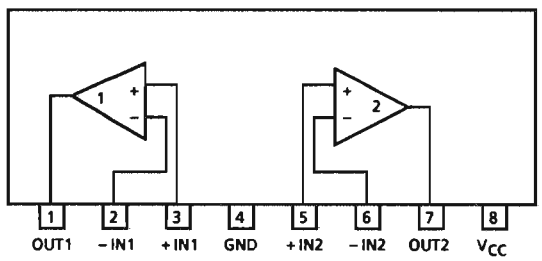
■ NJM072S/NJM2904S (IC801/971) : Dual OP Amp



■ MN1281 (P.Q) (IC952): Reset IC

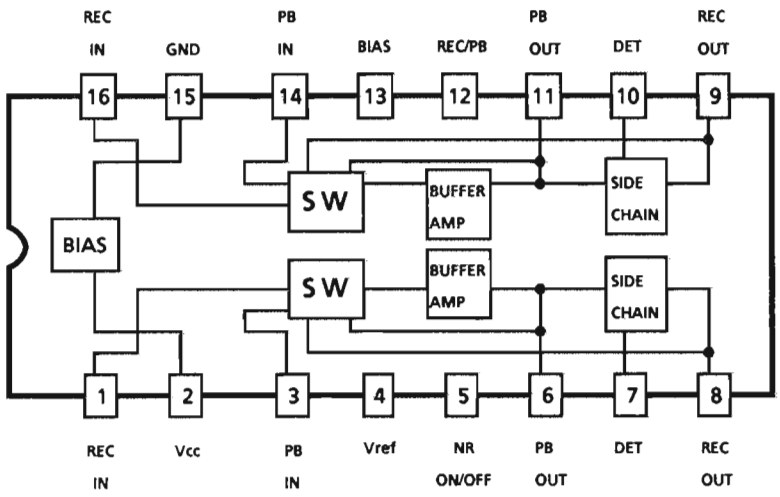


■ XRA/BA15218 (IC871) : Dual OP Amp
BA15218N (IC401)

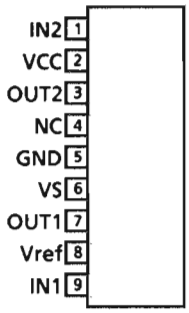


Pin No.	Pin Name	Functions
1	V_{DD}	Power supply
2	V_{SS}	Ground
3	OUT	Reset signal output : Low level is output when resetting : High level is output when cancelling the reset.

■ HA12136A (IC352) : Noise Reduction Amplifier



■ TA8409S (IC451~454) : DC Motor Driver

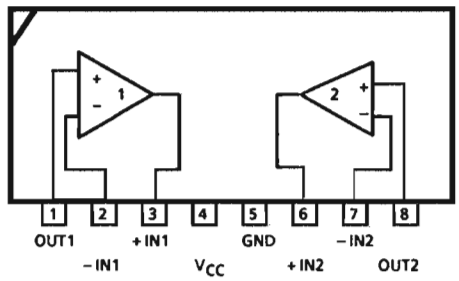


Function

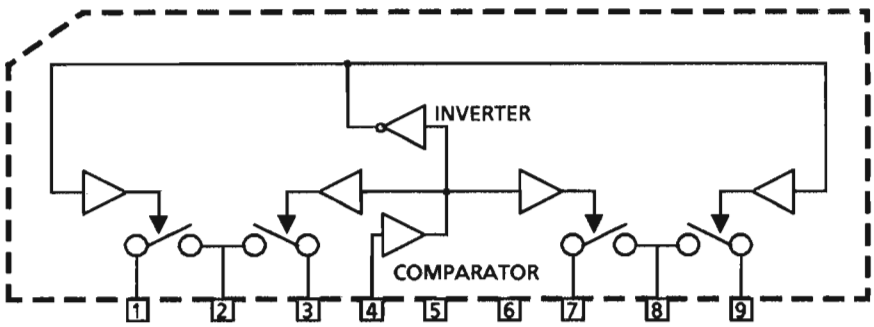
INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	OPEN
0	1	L	H	CLOSE
1	1	L	L	BRAKE

∞: Hight impedance

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



■ μPC1330 HA (IC331) : Head Switch



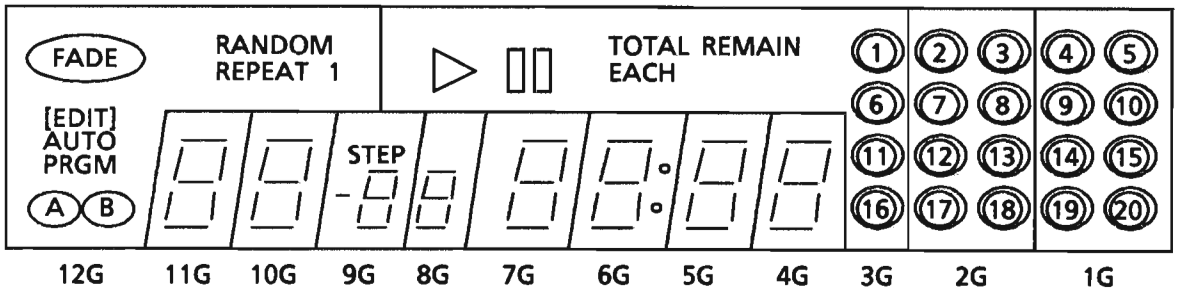
Function

	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
ELECTORODE	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 spreding both sides and lifting the rear up.

■ Front panel block removal

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

■ Cassette mechanism assembly removal

1. Remove the front panel assembly.
2. Remove the 8 blue colored screws Ⓗ Ⓘ 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.

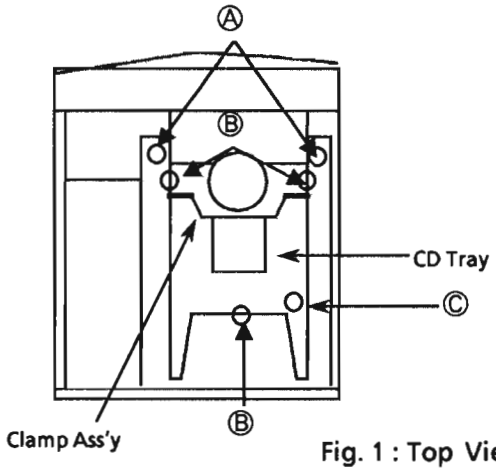


Fig. 1 : Top View

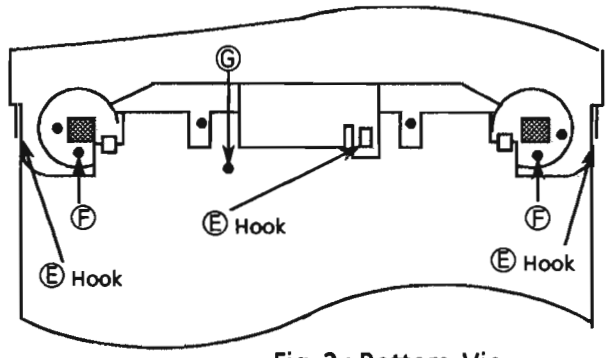


Fig. 2 : Bottom View

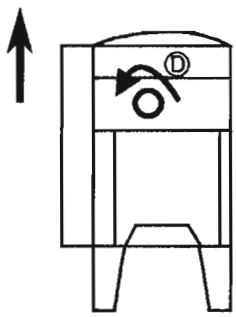


Fig. 3 : Bottom View of the CD mechanism

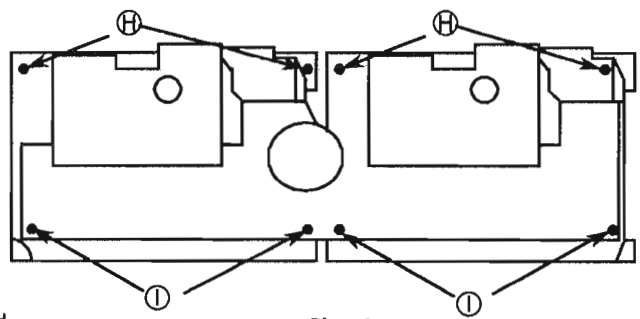


Fig. 4

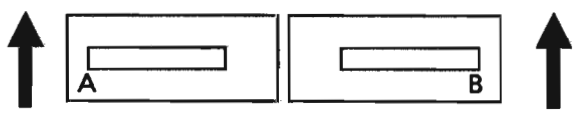


Fig. 5

Disassemble of the CD mechanism assembly

■ Pickup removal

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

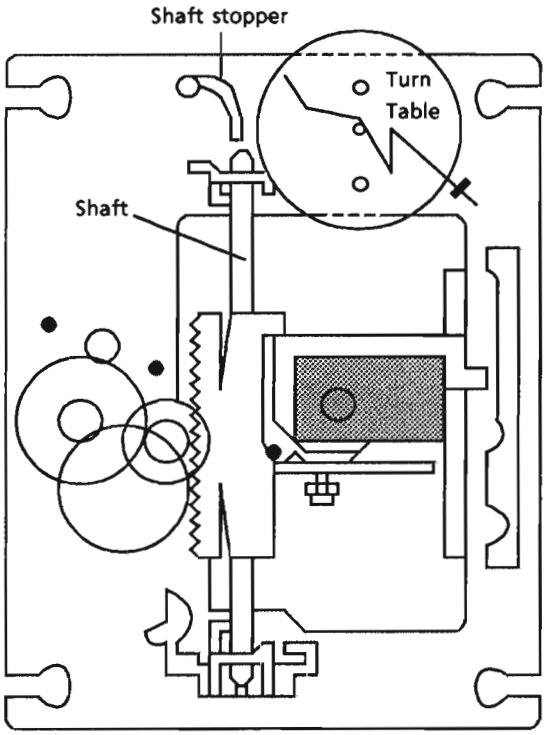


Fig. 6 : CD mechanism assembly

■ 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.

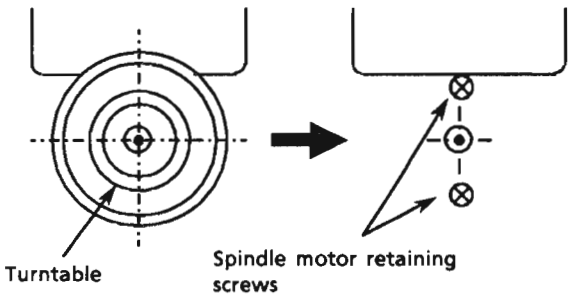


Fig. 7

■ 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±0.1mm.

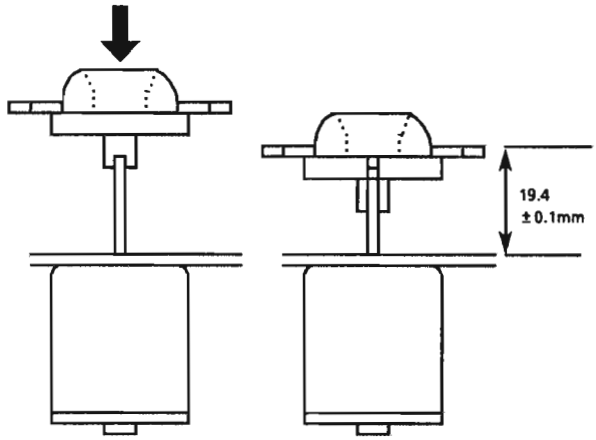


Fig. 8

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).

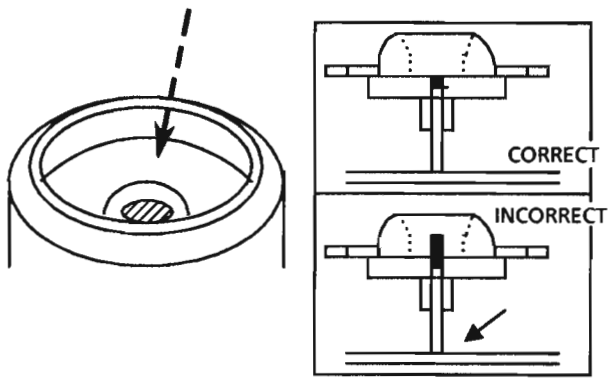


Fig. 9

5. Use "LOCKTITE" #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).

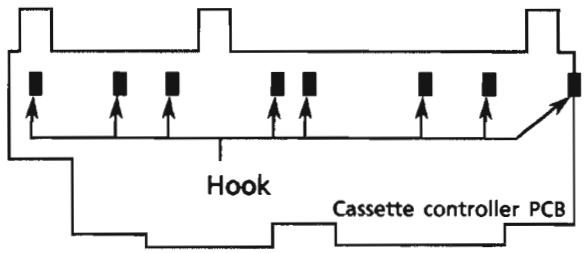


Fig. 10

■ Head assembly removal

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

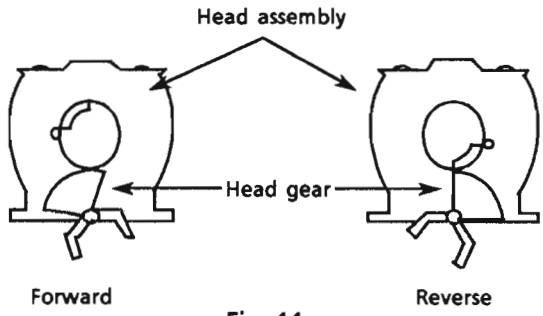


Fig. 11

■ 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).

■ Reel motor PCB removal

1. Remove the cassette mechanism assembly.
2. Remove the cassette controller PCB.
3. Remove the screw ⓀⒿ 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.

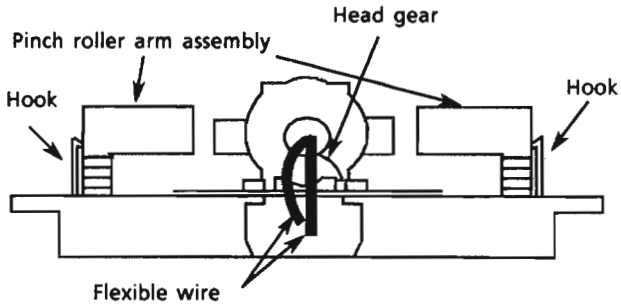


Fig. 12

■ Capstan motor removal

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

■ 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 Ⓝ fixing the motor (Fig. 17).
5. Remove the hooks fixing the motor to remove the motor.

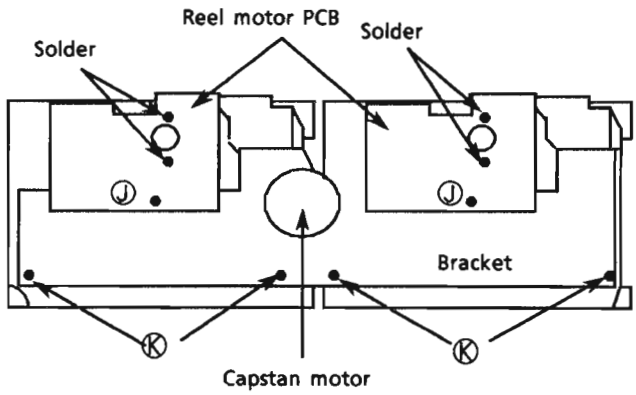


Fig. 13

■ 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 pully using a tweezers and the like.
4. Hang the part Ⓛ to the Idler pully.
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 pully using a tweezers and the like.

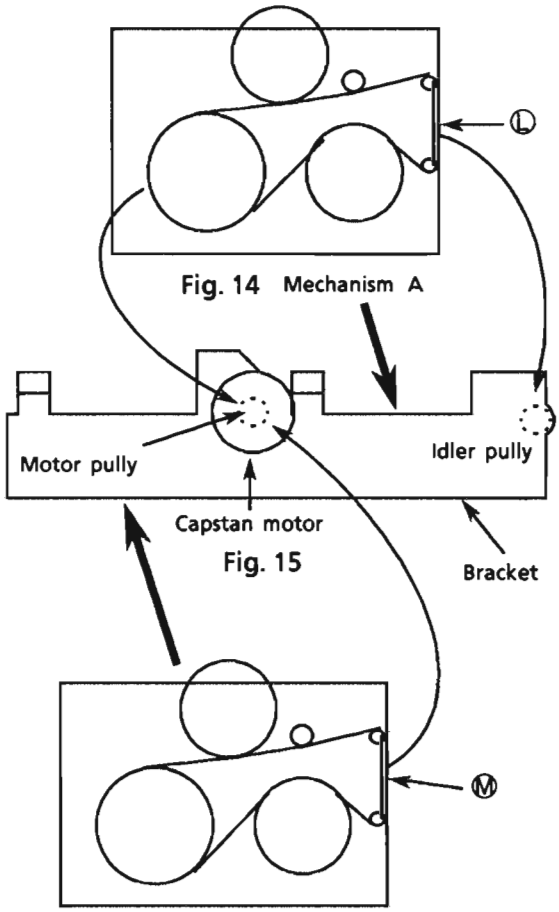


Fig. 14 Mechanism A

Fig. 15

Fig. 16 Mechanism B

■ 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).

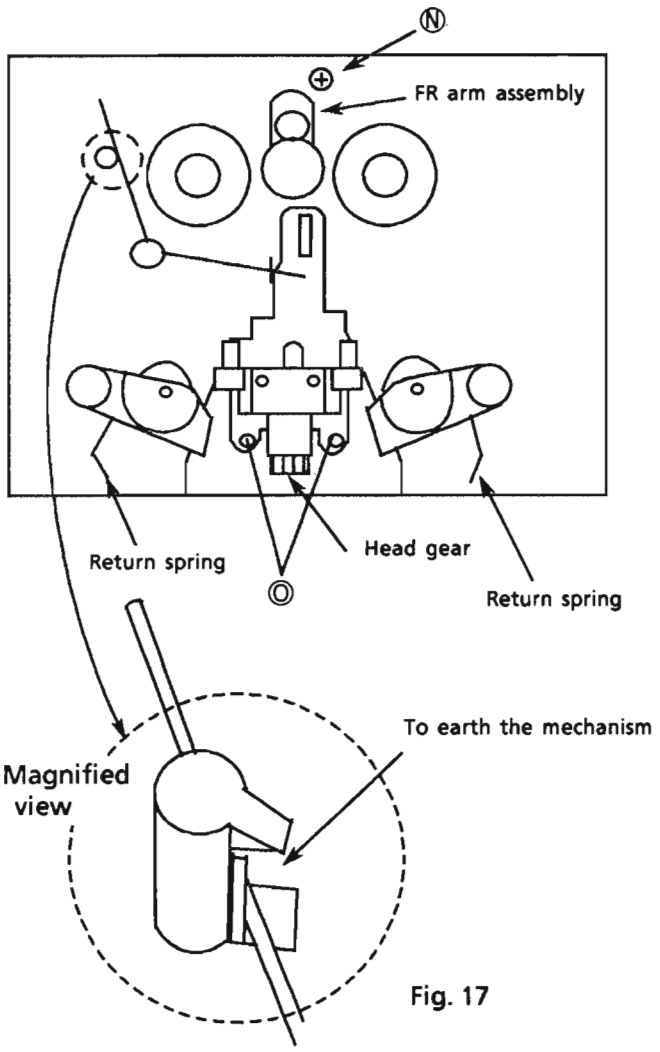


Fig. 17

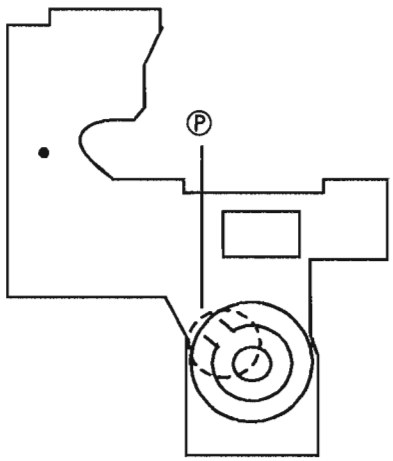
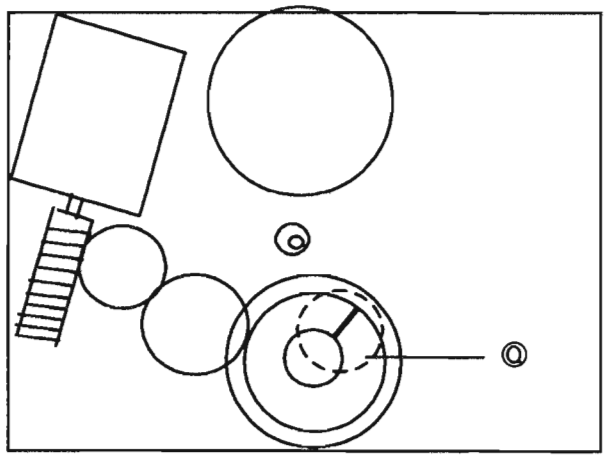


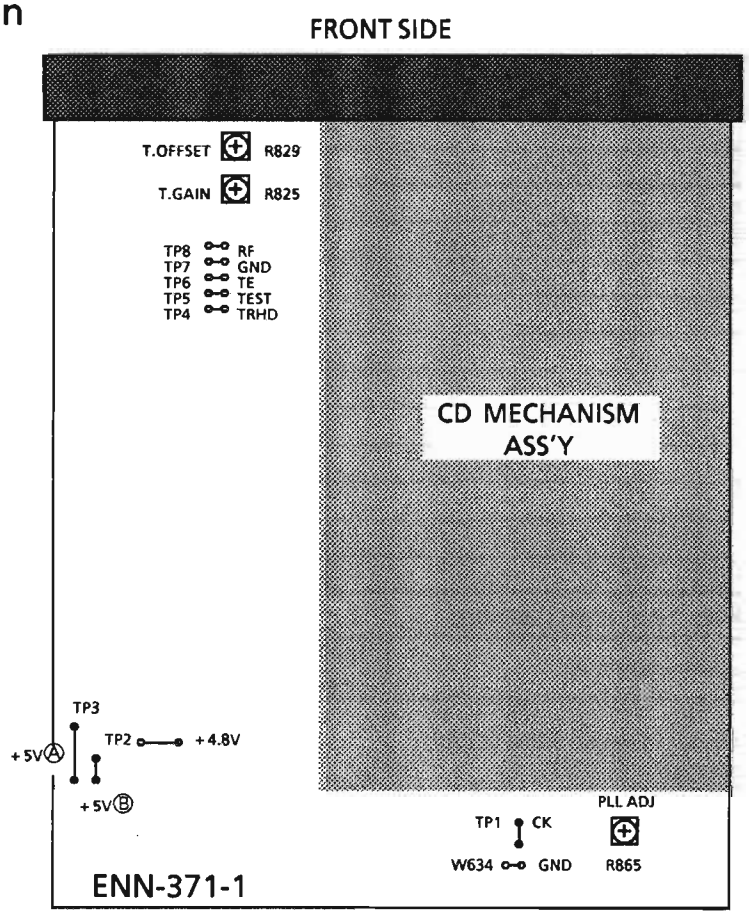
Fig. 18



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 ± 0.02MHz.

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 (off set) becomes 0.
      Note : Adjust R829 for setting the waveform becomes symmetrical around the 0 level.

■ Cassette Deck section

1. Measuring instruments

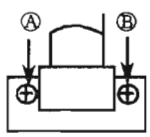
Audio frequency signal generator (0dbs output at the 600 ohm output terminal from 50Hz to 20KHz)
Electronic voltmeter
Frequency counter
Wow & Flutter meter
Distortion Meter with band pass filter
Attenuator (600 ohm impedance)
A resistor with 600Ω

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

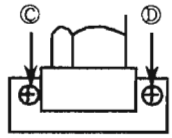
2. Adjustment and repairing the mechanism

Item	Adjustment method	Standard value	Remarks
Head azimuth	Deck A 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. Deck B 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	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	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.

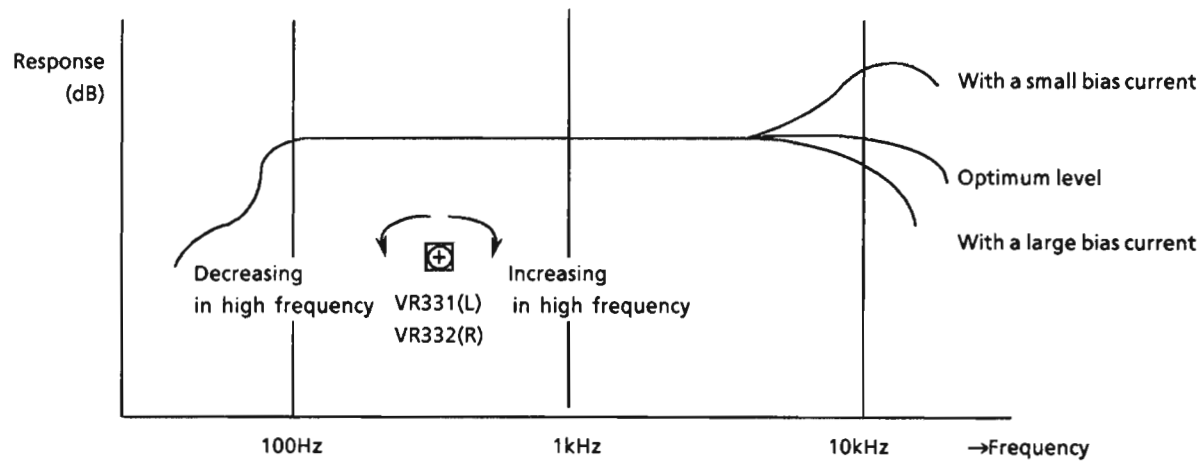


Figure 2

Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
Record / Playback Sensitivity	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	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 sencitivity adjustments.
Recording / playback S/N ratio	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	1. Record a music source using the Metal tape. 2. Rewind and erase the recorded section. 3. Comfirm nothing can be heard.	–	–	–
Music Scan	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.	–	–	–

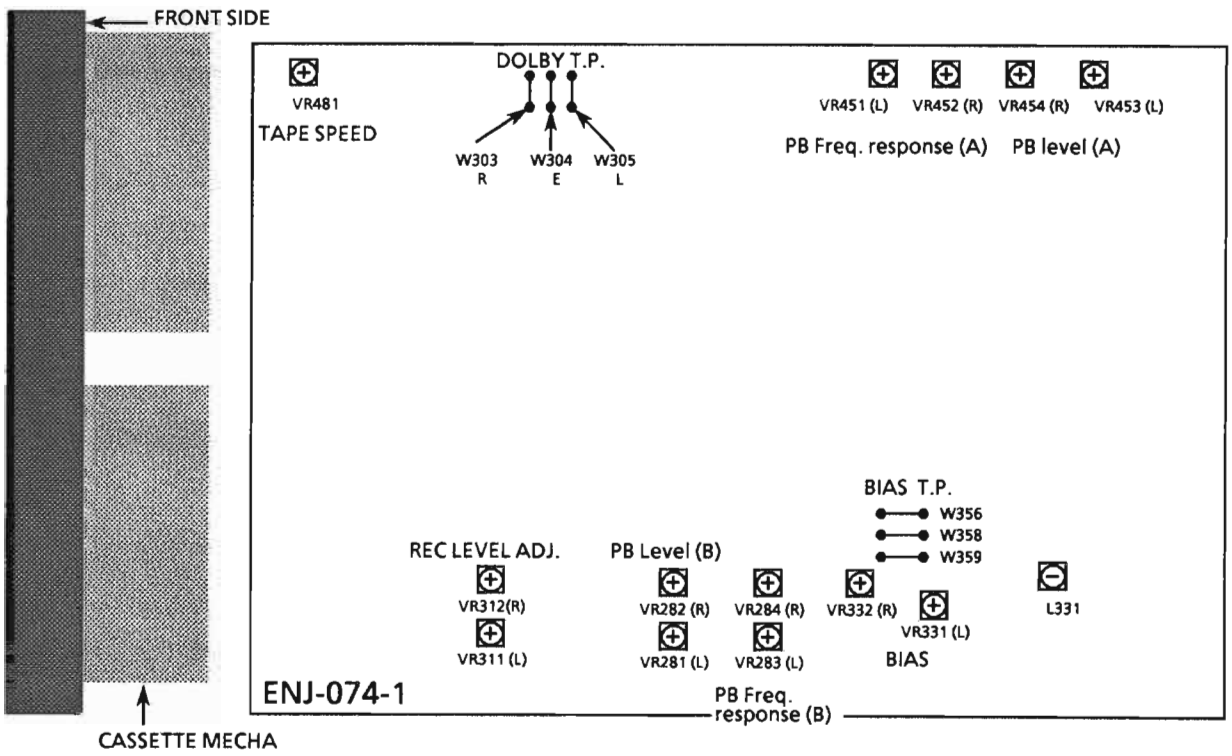


Figure 3

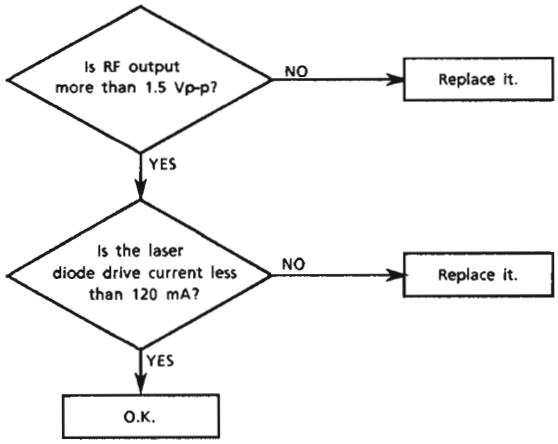
Maintenance of Laser Pickup

1. Life of the laser diode

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

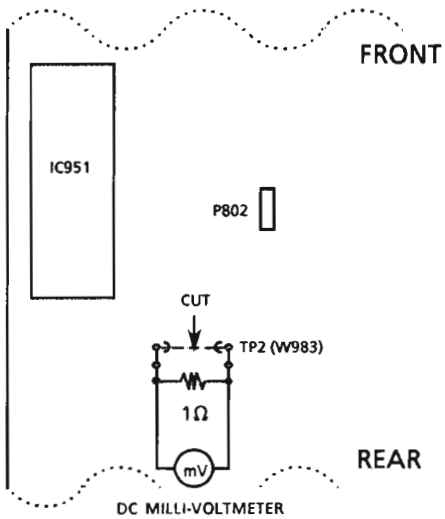
(1) The level of RF output (EFM output: amplitude of eye pattern) will be low.

(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

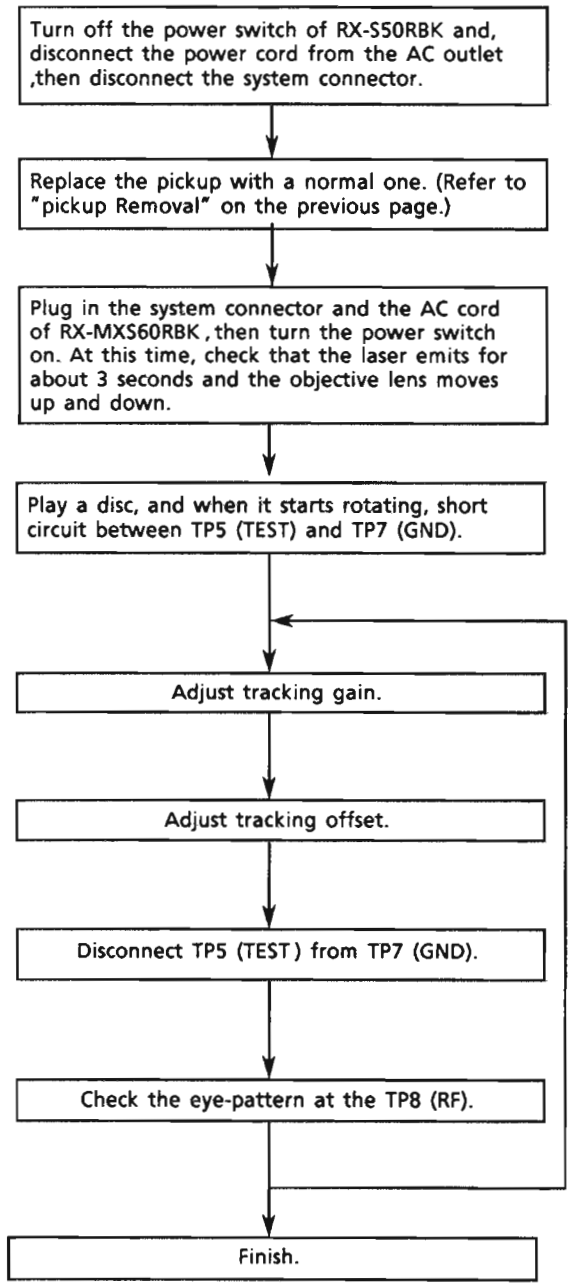
Replace the jump wire TP2(W983) shown below with the resistor (1Ω).
Measure the voltage across the resistor with a milli-voltmeter. When the voltage is more than 180mV, it shows that the life of the laser diode has expired.



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.

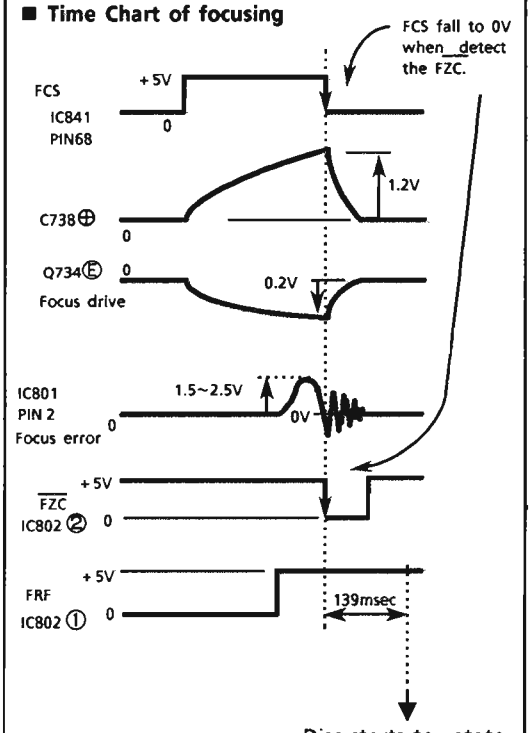
Replacement of Laser Pickup



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

Flow of Functional Operation Until TOC is Read

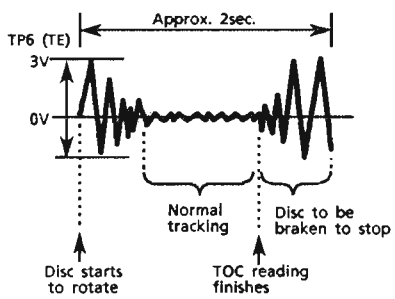
■ **Time Chart of focusing**



- When the lens moves up and down in a 2-seconds interval, FZC is not output.
- When the lens moves up and down in less than 1-second, FRF is not output or the focus servo loop is abnormal.

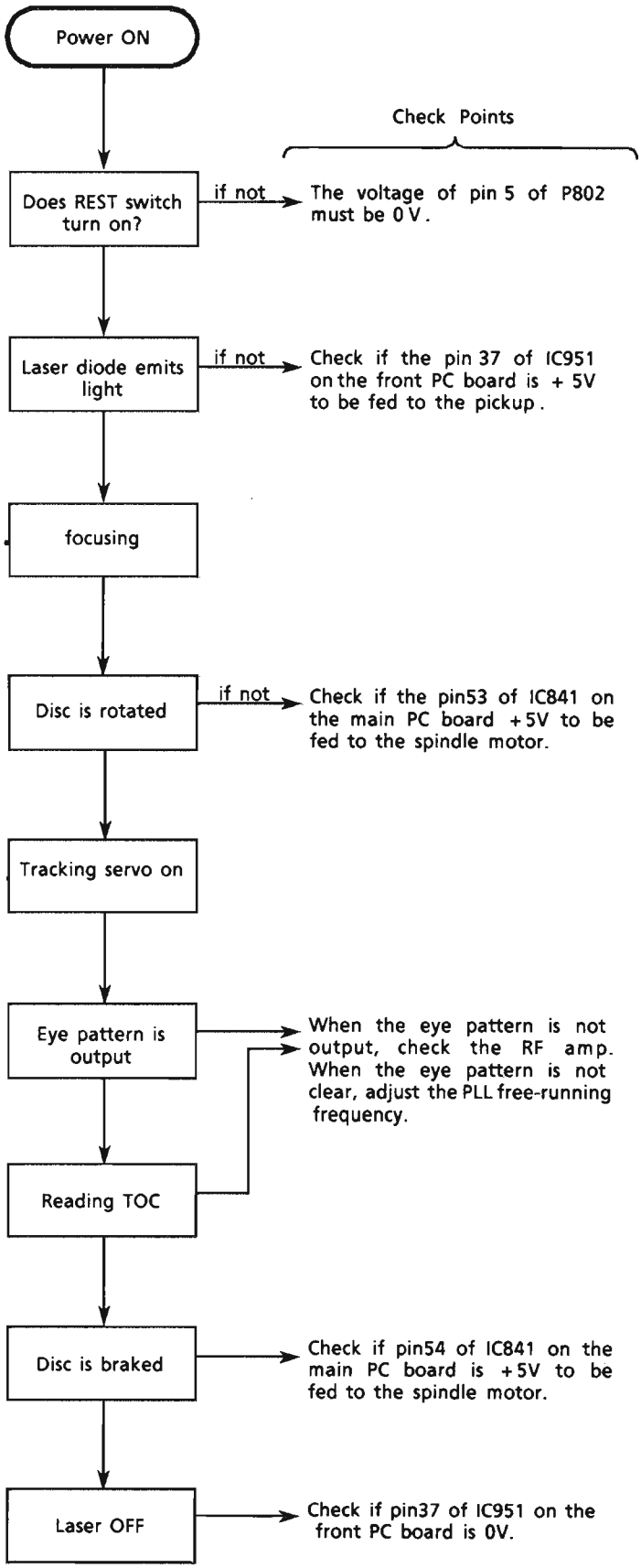
Fig.1

■ **Tracking error waveform at TOC reading**



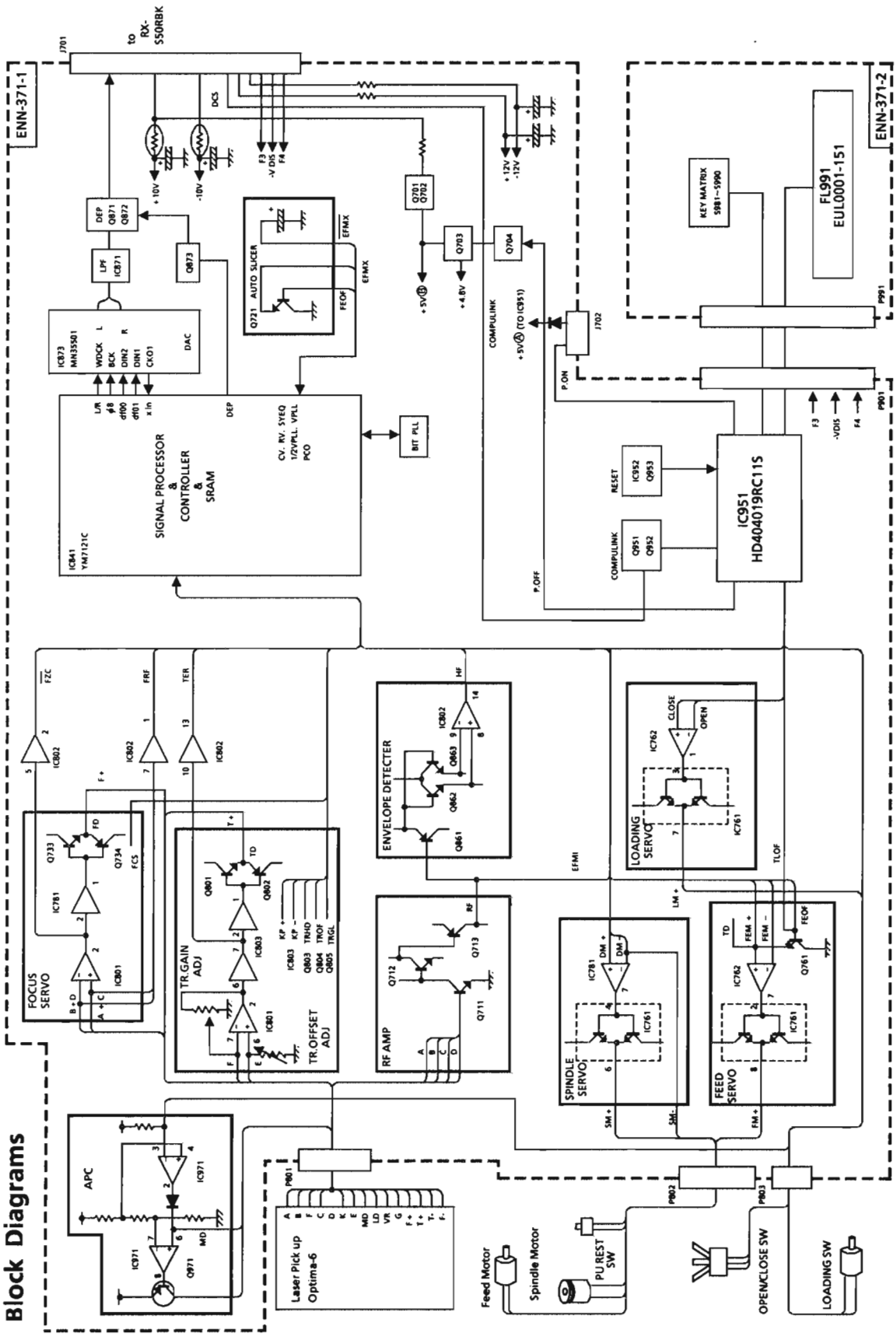
■ **When the tracking loop does not turn ON, check the tracking offset and align it to 0.**

Fig.2

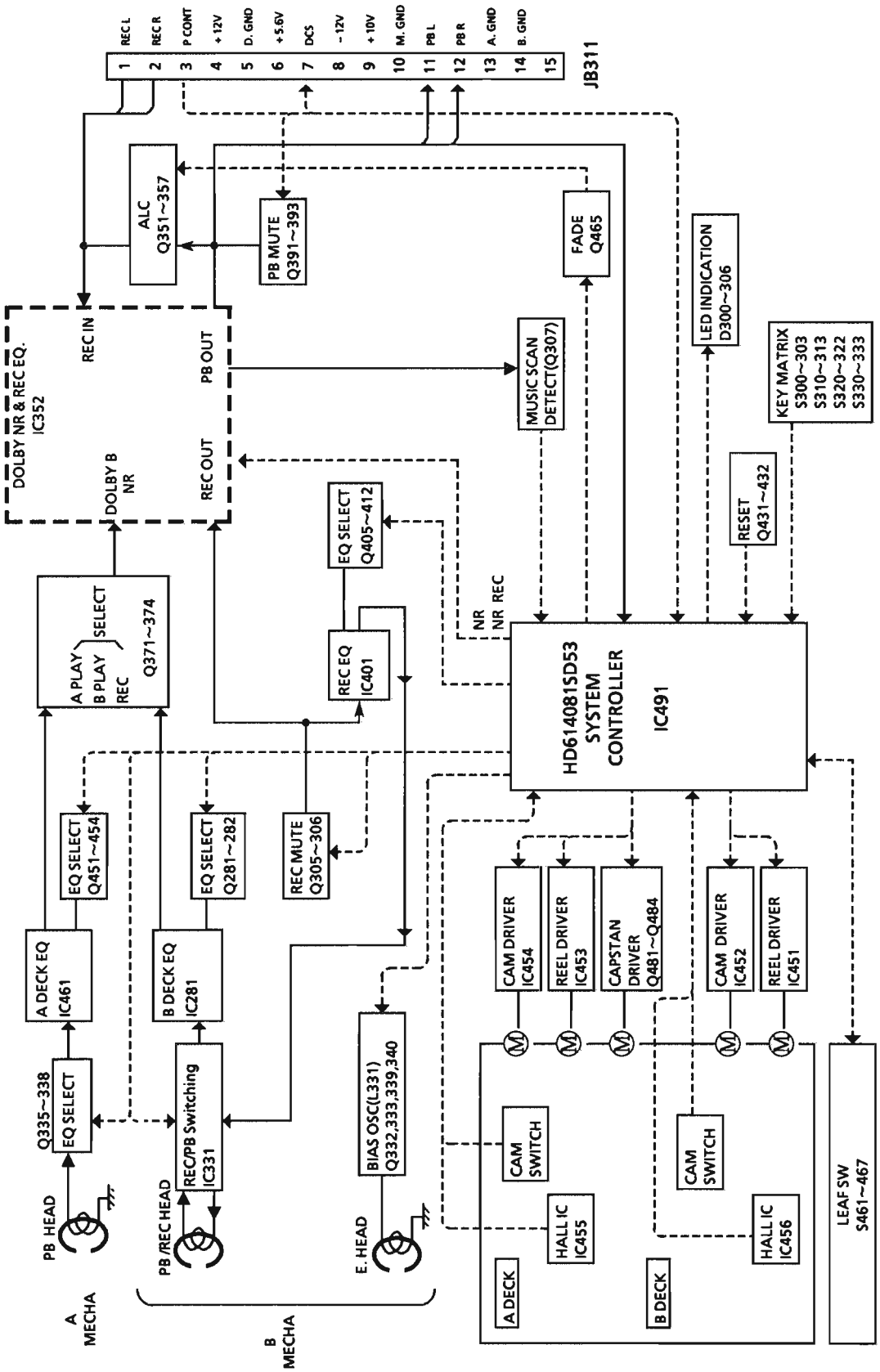


Block Diagrams

■ CD Section

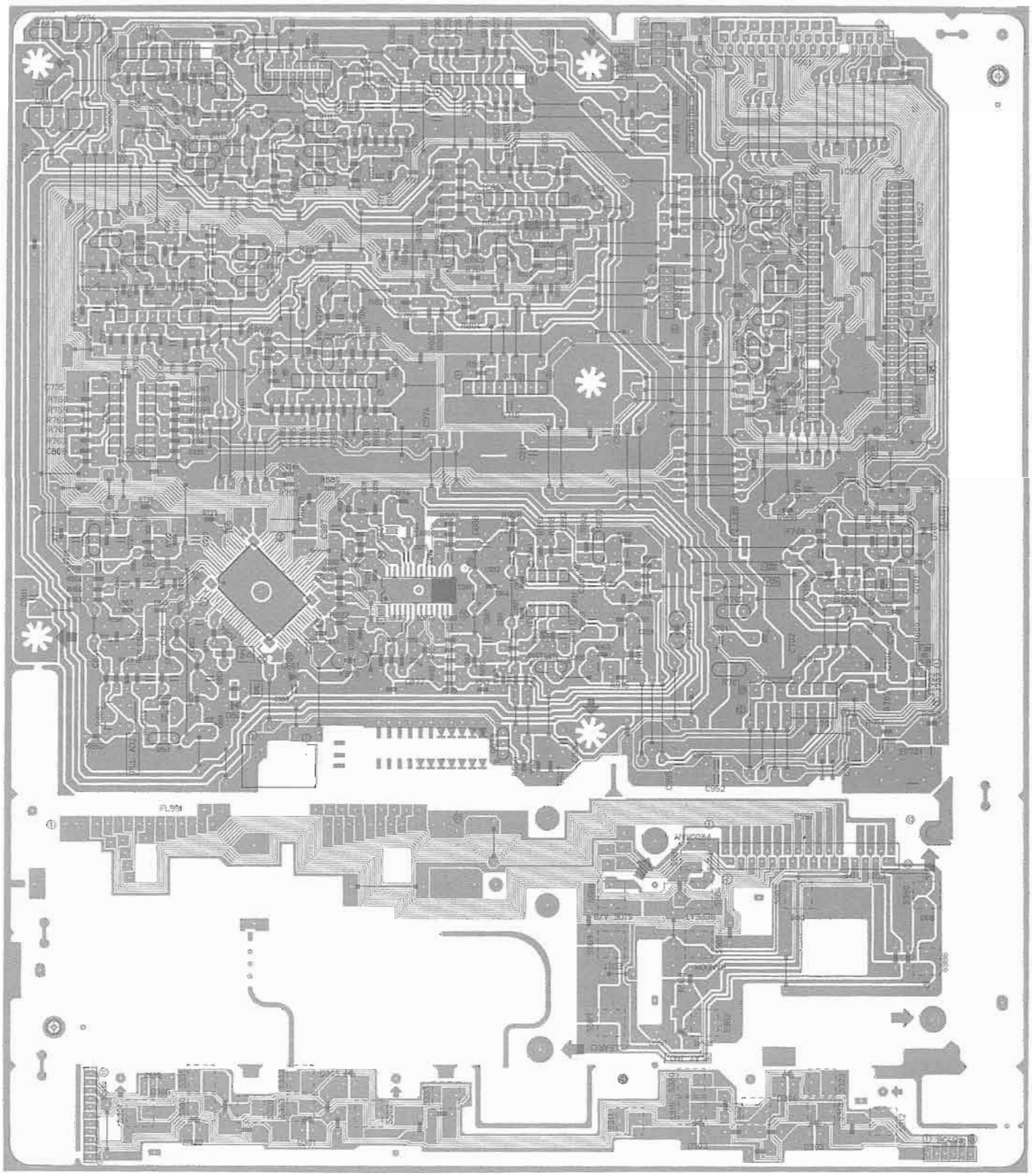


■ Cassette Deck Section

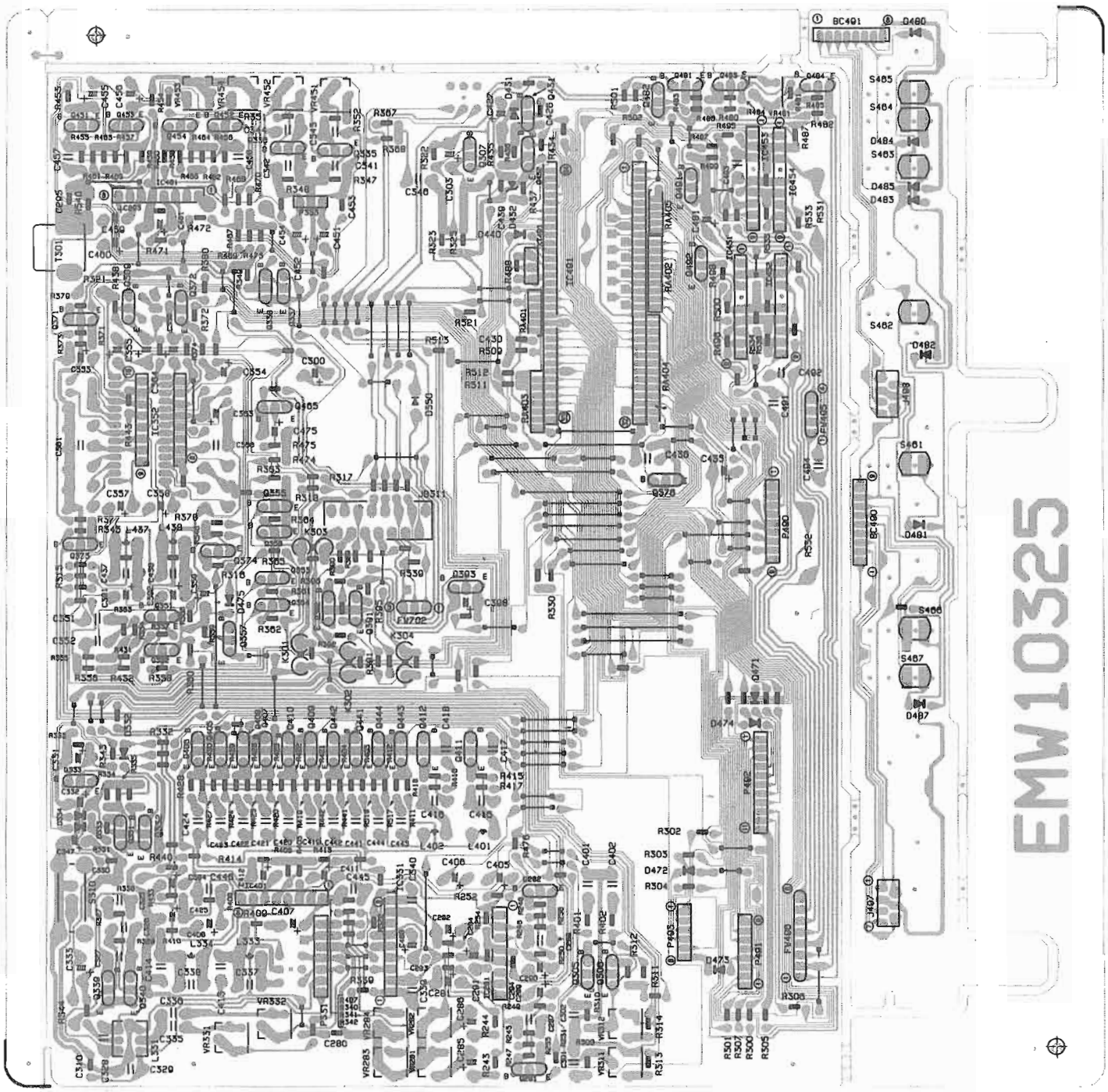


Printed Circuit Boards

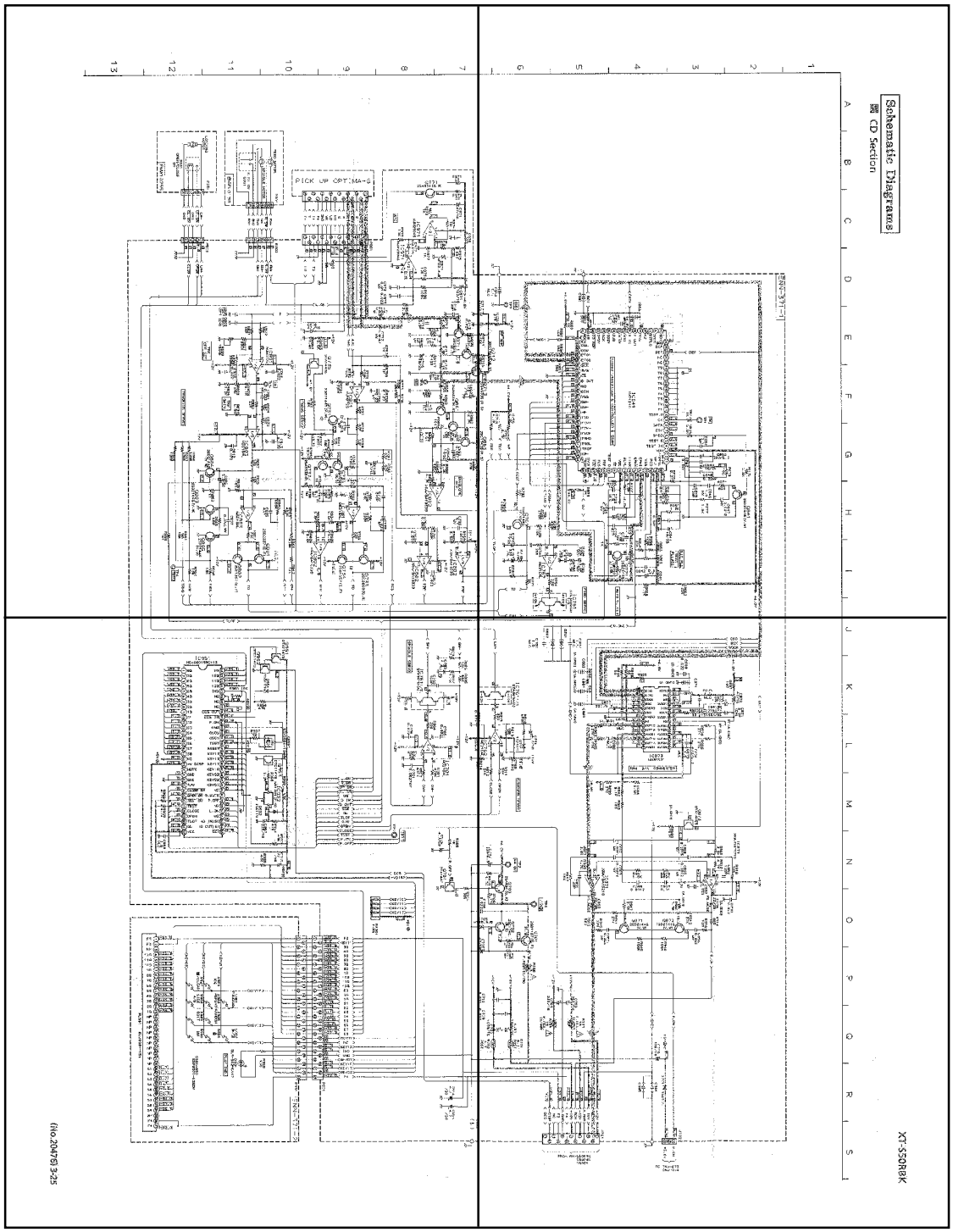
CD P.C.Board (ENN-371)



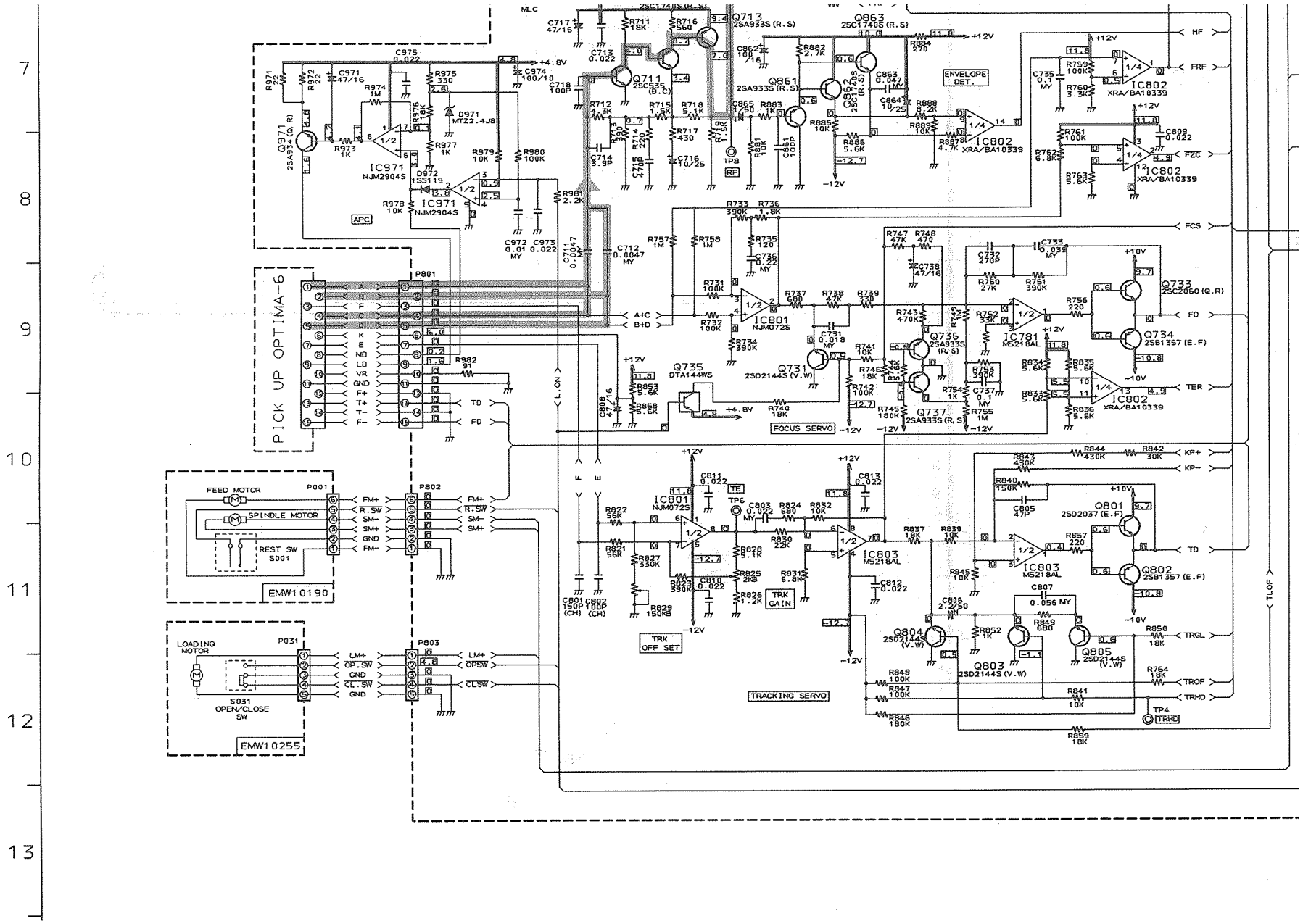
Cassette Deck P.C.Board (ENJ-074)



P3-25-a P3-25-b

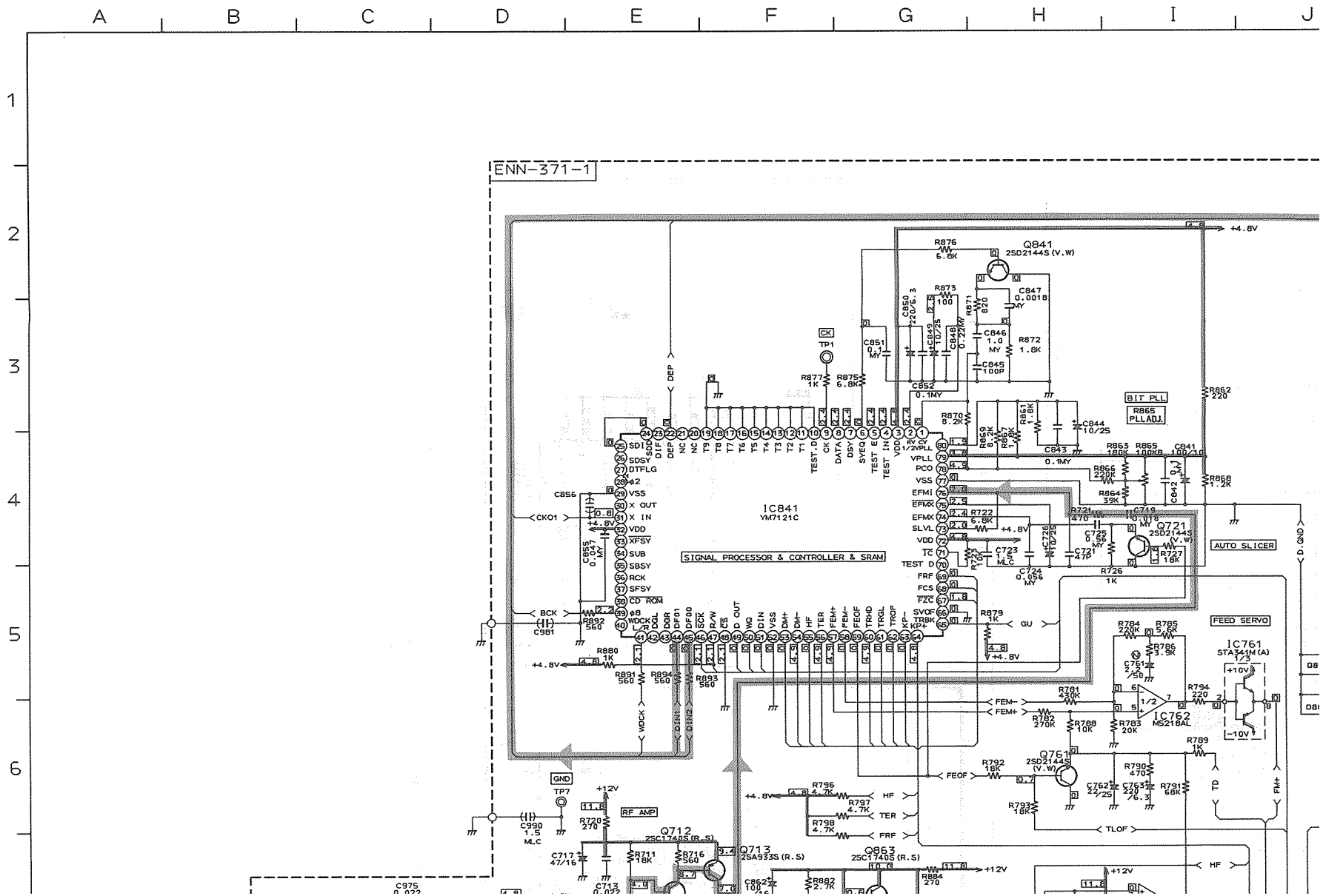


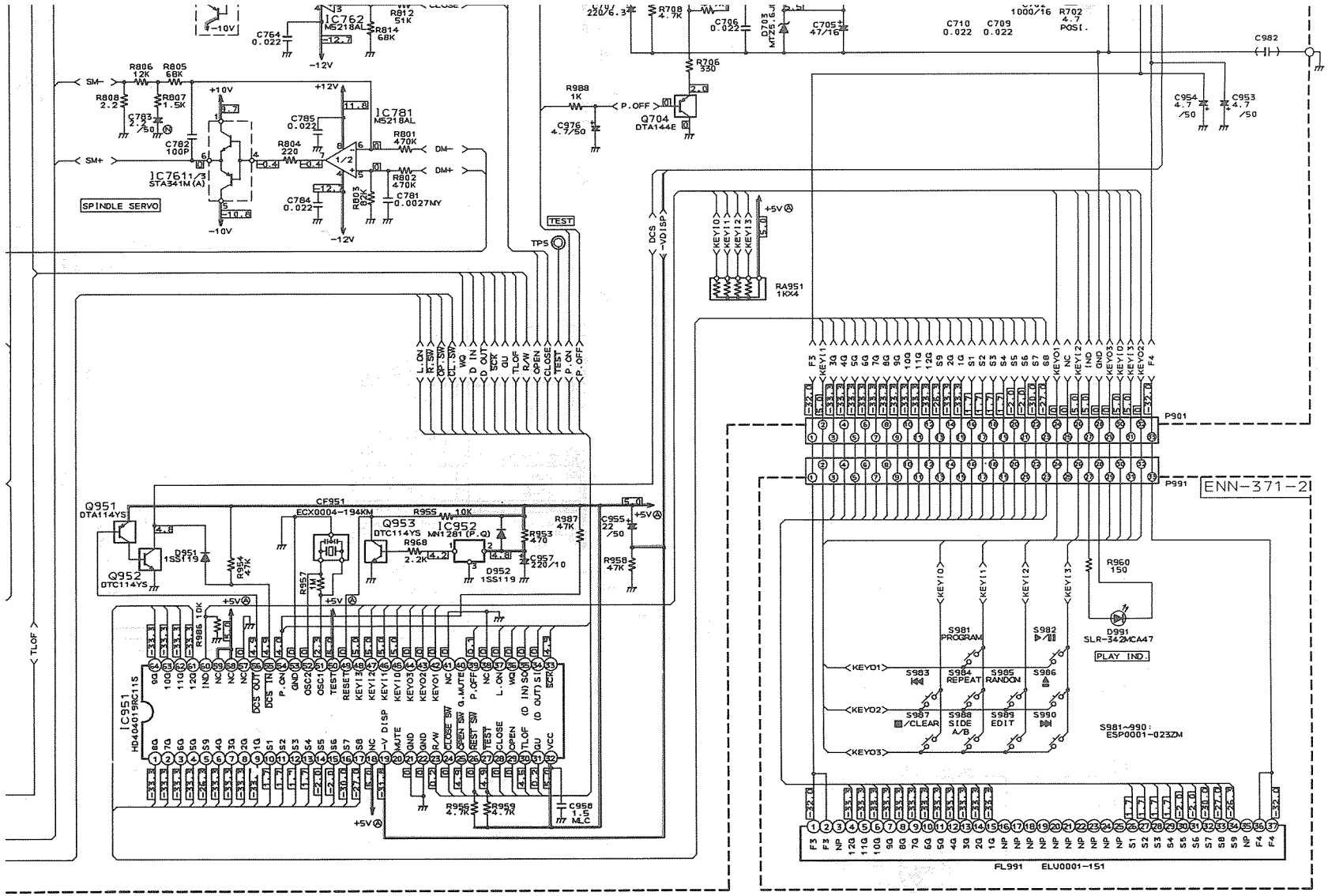
P3-25-c P3-25-d


PICK UP OPTIMA-6
P801
A
B
F
C
E
D
K
E
ND
LD
VR
GND
F+
T+
T−
F−
A+C
B+D
TD
FD
R982
51
FEED MOTOR
P001
SPINDLE MOTOR
REST SW
S001
EMW10190
P802
FM+
R.SW
SM−
SM+
GND
FM−
LOADING MOTOR
P031
S031
OPEN/CLOSE SW
EMW10255
P803
LM+
OP.SW
GND
CL.SW
GND
CLSW
L.ON
F
E
TE
TP6
TRK OFF SET
TRK GAIN
TRACKING SERVO
FOCUS SERVO
ENVELOPE DET.
APC
RF
TP8
IC971 NJM2904S
IC801 NJM072S
IC802 XRA/BA10339
IC803 MS218AL
IC781 MS218AL
Q971 2SA934 (Q.R)
Q711 2SC535 (B.C)
Q713 2SA933S (R.S)
Q861 2SA933S (R.S)
Q863 2SC1740S (R.S)
Q731 2SD2144S (V.W)
Q735 DTA144WS
Q736 2SA933S (R.S)
Q737 2SA933S (R.S)
Q733 2SC2060 (Q.R)
Q734 2SB1357 (E.F)
Q801 2SD2037 (E.F)
Q802 2SB1357 (E.F)
Q803 2SD2144S (V.W)
Q804 2SD2144S (V.W)
Q805 2SD2144S (V.W)
D971 MTZ2.4JB
D972 1SS119
HF
FRF
FZC
FCS
FD
TER
TLOF
TRGL
TROF
TRKD
KP+
KP−
+12V
−12V
+10V
−10V
+4.8V

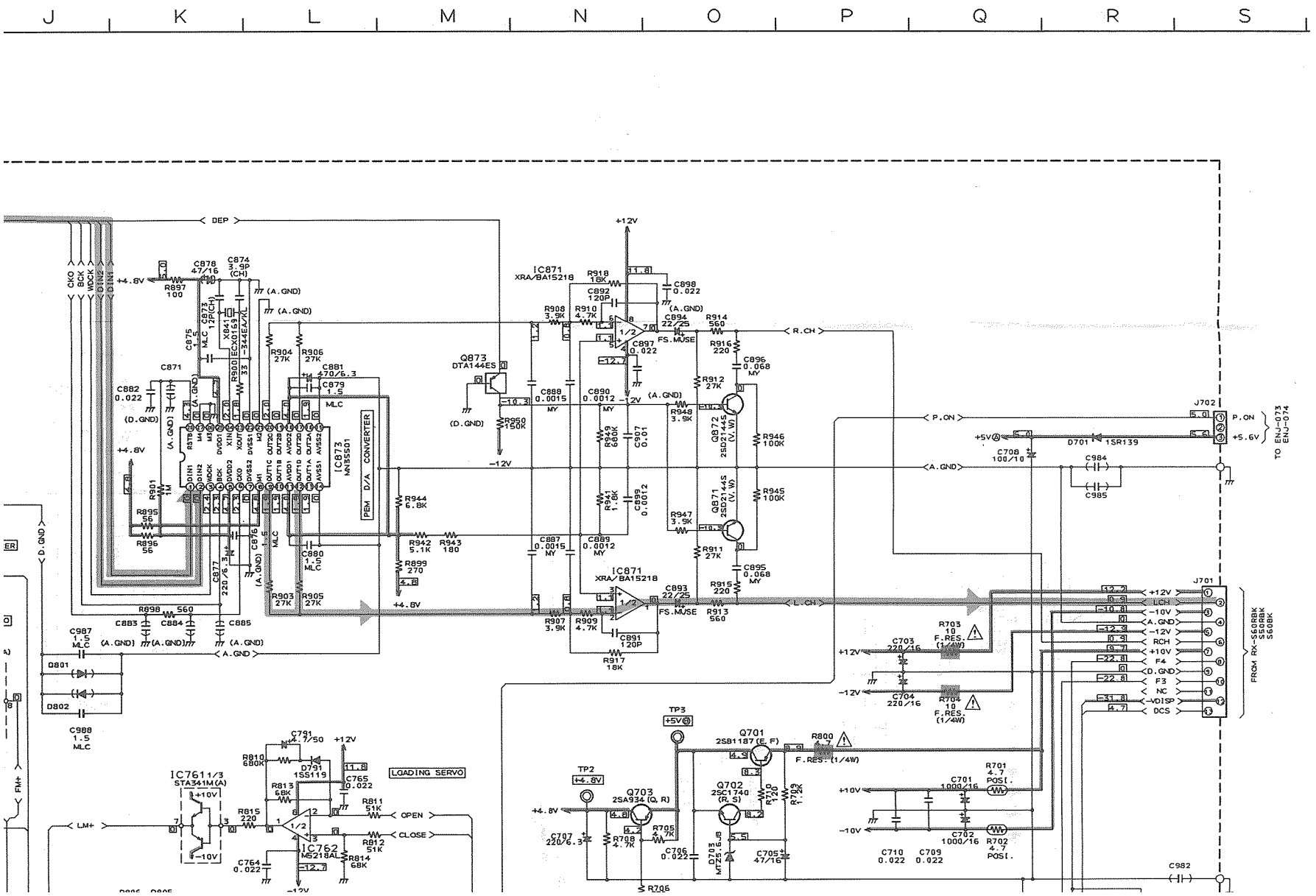
Schematic Diagrams

CD Section

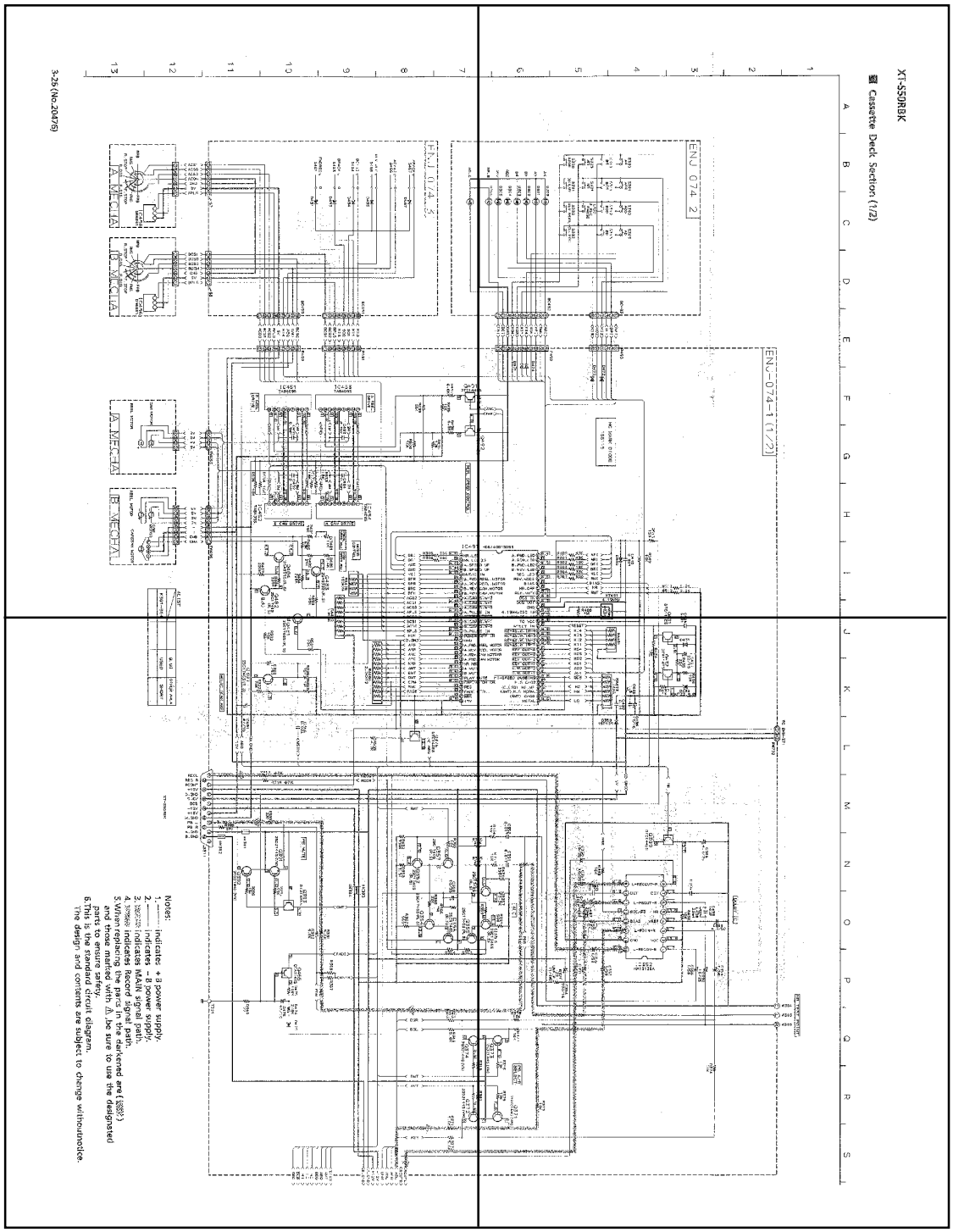



SPINDLE SERVO
IC762 M5218AL
IC781 M5218AL
IC7611/3 STA341M (A)
SM+
SM-
DM+
DM-
TEST
TP5
Q704 DTA144E
P.OFF
RA951 1K×4
P901
P991
ENN-371-2
Q951 DTA114YS
Q952 DTC114YS
Q953 DTC114YS
IC952 MN1281 (P.Q)
D952 1SS119
D951 1SS119
IC951 HD404019SC11S
S981 PROGRAM
S982
S983
S984 REPEAT
S985 RANDOM
S986
S987 /CLEAR
S988 SIDE A/B
S989 EDIT
S990
S981~990: ESP0001-023ZM
D991 SLR-342MCA47
PLAY IND.
FL991 ELU0001-151
TLOF
DCS -VDISP
KEY10
KEY11
KEY12
KEY13
+5V
-10V
-12V
+10V
+12V

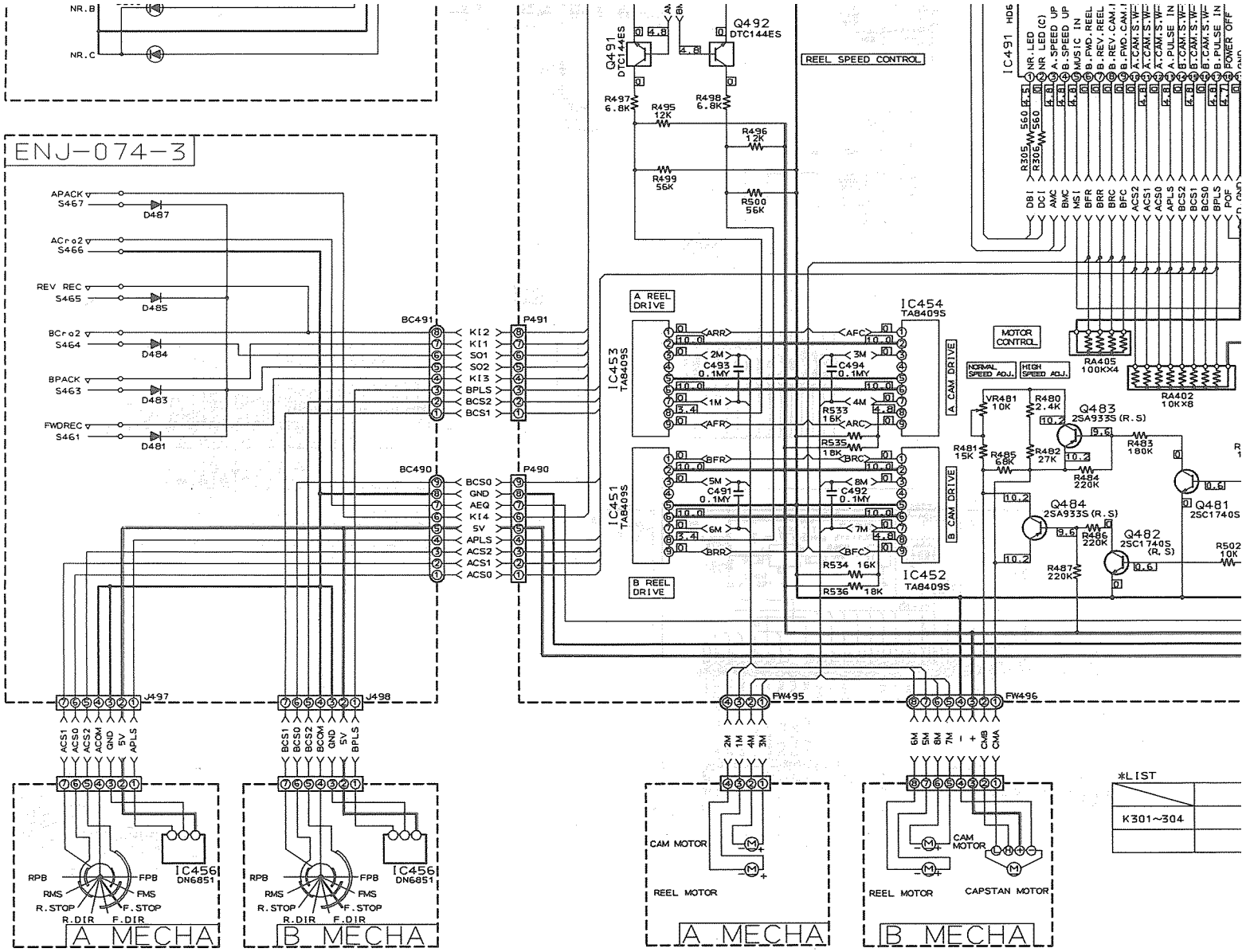
XT-S50RBK


J K L M N O P Q R S
DEP
CKO BCK WDCK DIN1 DIN2
IC871 XRA/BA15218
IC873 MAX5501 D/A CONVERTER
Q873 DTA144ES
Q872 2SD2144S (V, W)
Q871 2SD2144S (V, W)
FS.MUSE
R.CH
L.CH
P.ON
+5V
+5.6V
D701 1SR139
TO ENJ-073 ENJ-074
J702
J701
FROM RX-S60RBK S50RBK S60BK
+12V
-10V
-12V
+10V
+4.8V
A.GND
D.GND
RCH
LCH
F4
F3
NC
VDISP
DCS
F.RES. (1/4W)
Q701 2SB1187 (E, F)
Q703 2SA934 (Q, R)
Q702 2SC1740 (R, S)
IC7611/3 STA341M(A)
IC762 MS218AL
LOADING SERVO
OPEN
CLOSE
LM+
FM+

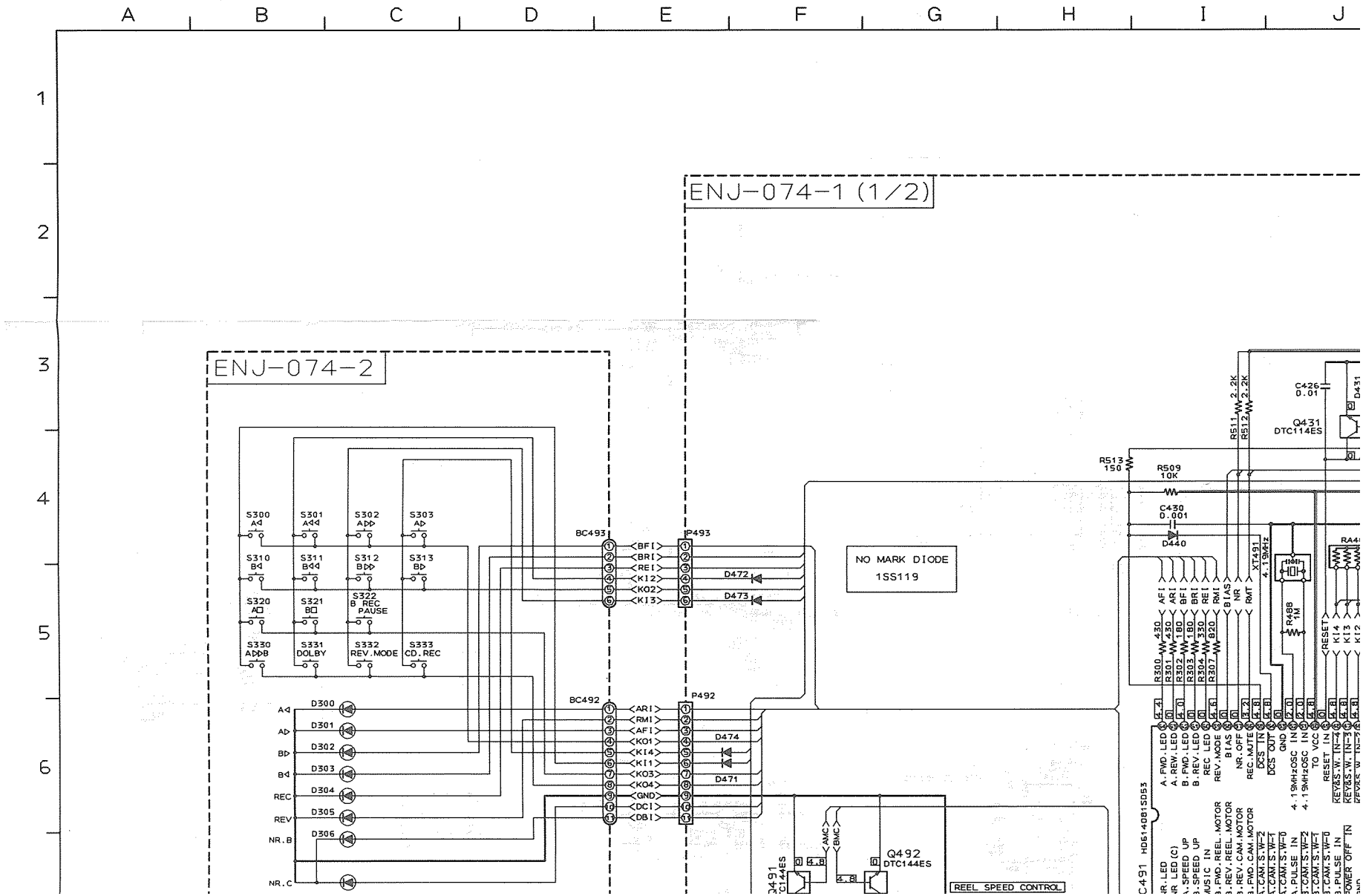
P3-26-a P3-26-b

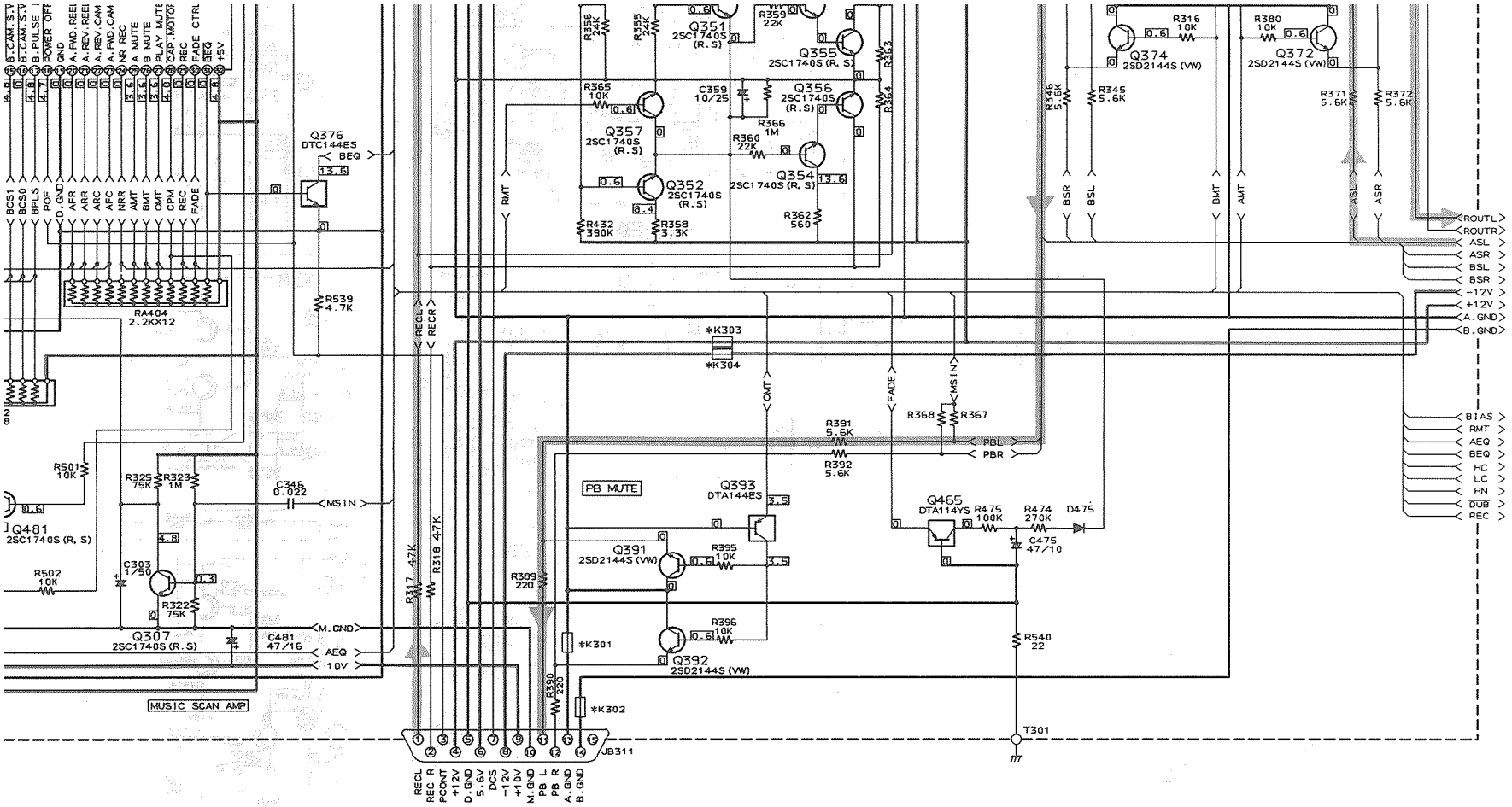


P3-26-c P3-26-d


ENJ-074-3
REEL SPEED CONTROL
A REEL DRIVE
B REEL DRIVE
A CAM DRIVE
B CAM DRIVE
MOTOR CONTROL
IC454 TA8409S
IC453 TA8409S
IC451 TA8409S
IC452 TA8409S
Q491 DTC144ES
Q492 DTC144ES
Q483 2SA933S (R.S)
Q484 2SA933S (R.S)
Q482 2SC1740S (R.S)
Q481 2SC1740S
IC456 DN6851
A MECHA
B MECHA
CAM MOTOR
REEL MOTOR
CAPSTAN MOTOR
*LIST
K301~304

■ Cassette Deck Section (1/2)



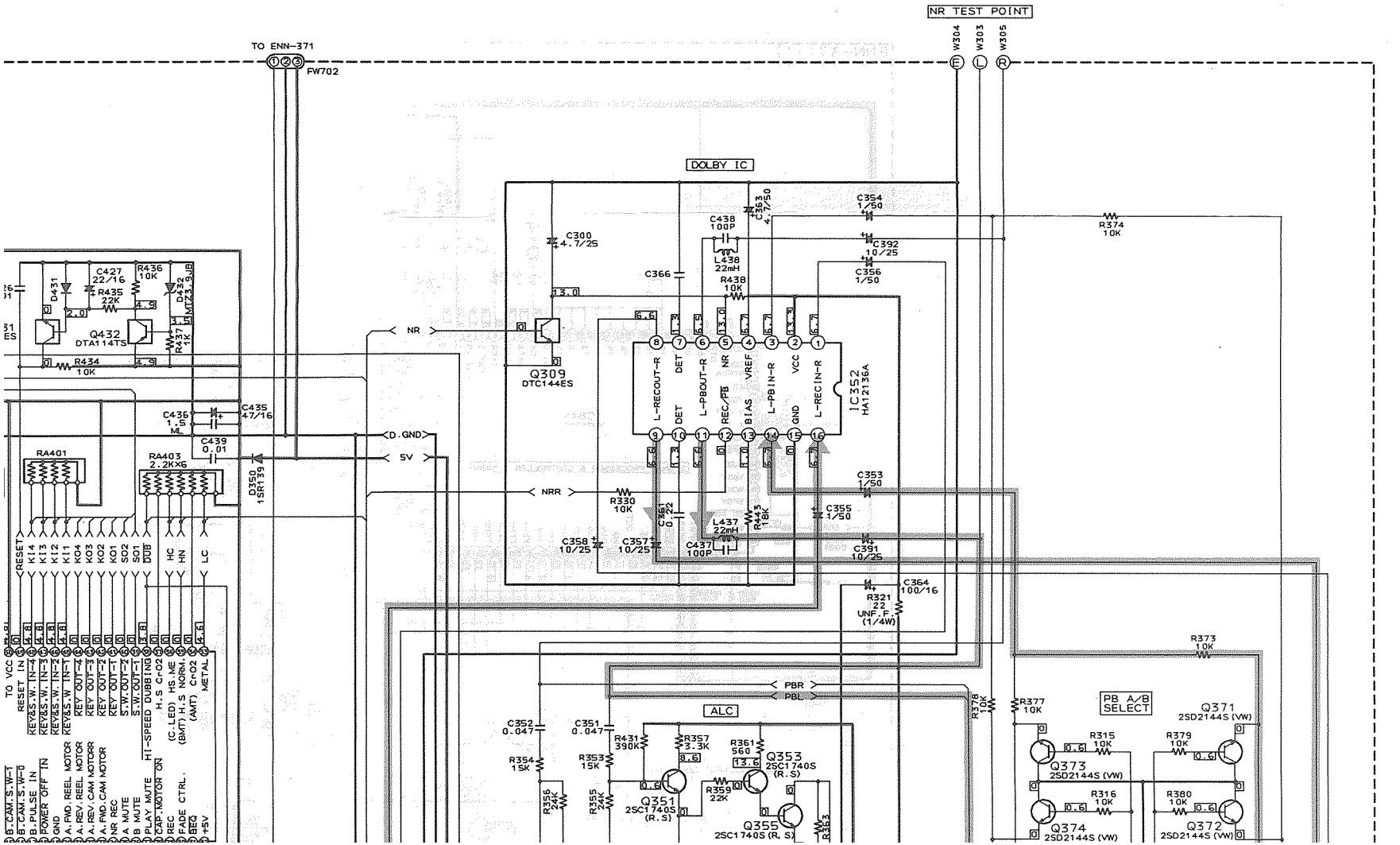


	G, GI	OTHER AREA
	USED	SHORT

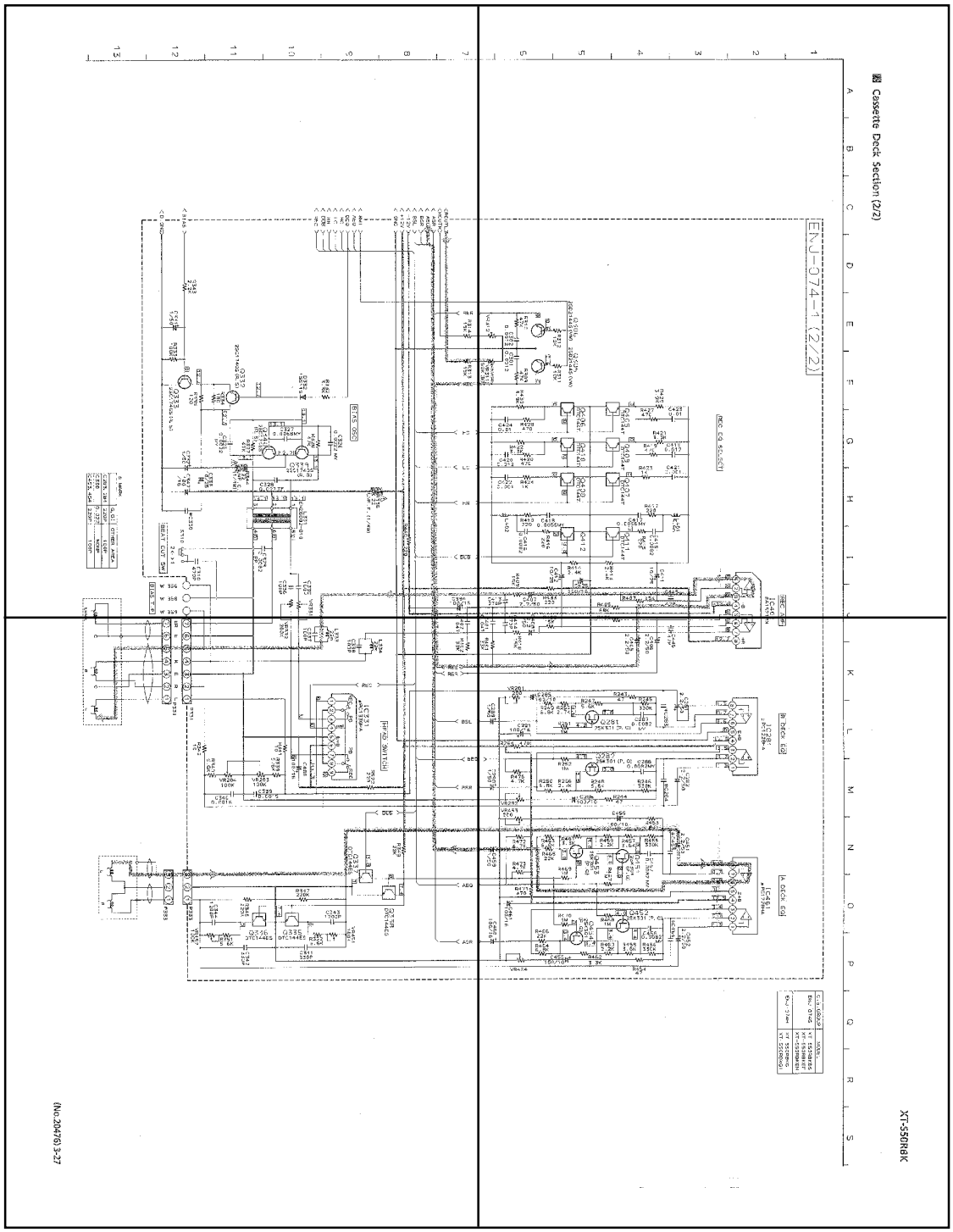
XT-S50RBK

Notes:

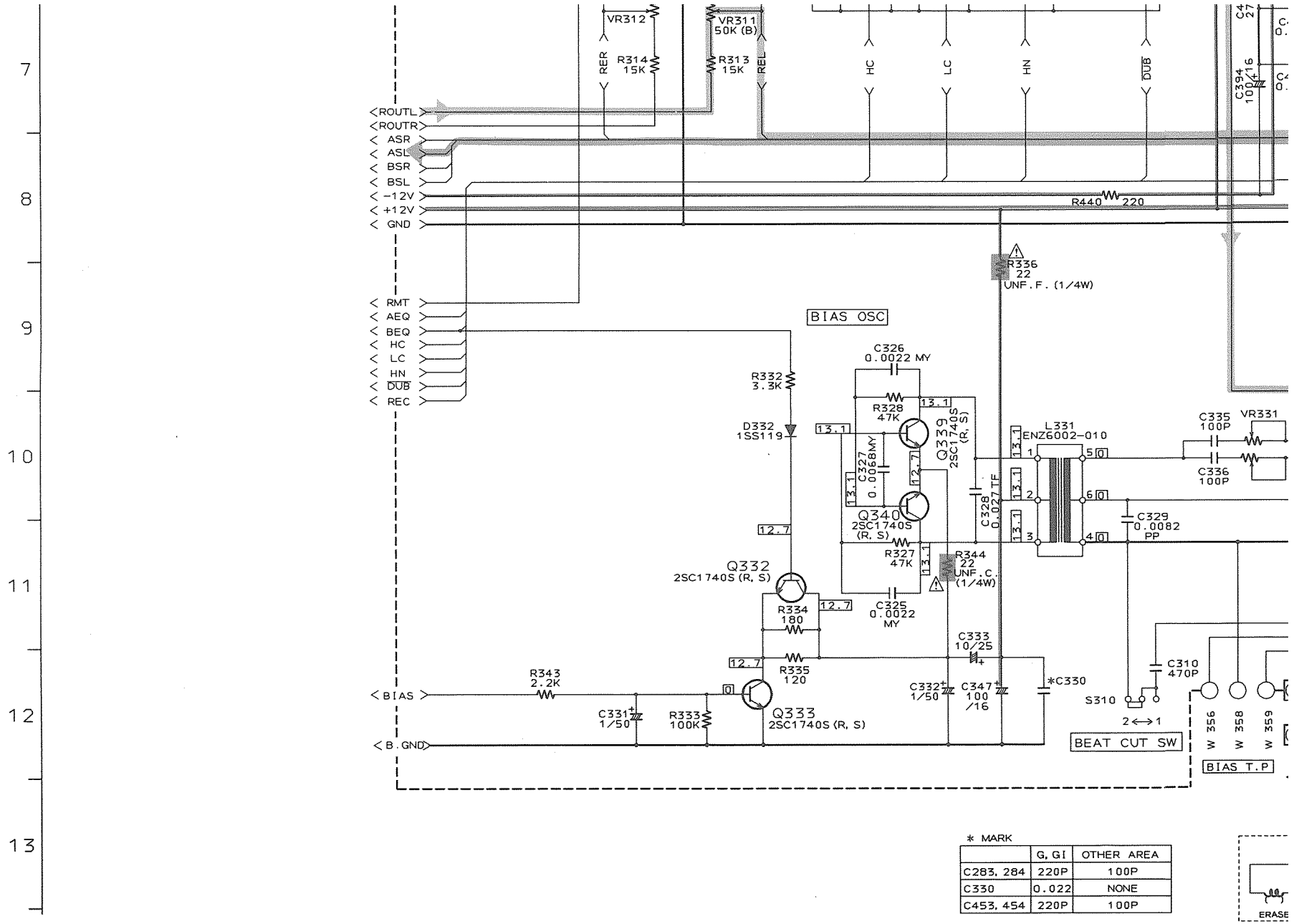
1. ——— indicates + B power supply.
2. ——— indicates – B power supply.
3. ▬▬ indicates MAIN signal path.
4. ▬▬ indicates Record signal path.
5. When replacing the parts in the darkened are (▬▬) and those marked with ⚠ ,be sure to use the designated parts to ensure safety.
6. This is the standard circuit diagram. The design and contents are subject to change withoutnotice.


J K L M N O P Q R S
NR TEST POINT
TO ENN-371
FW702
W304
W303
W305
DOLBY IC
IC352
HA12136A
Q309
DTC144ES
Q432
DTA114TS
NR
NRR
D.GND
5V
PBR
PBL
ALC
PB A/B SELECT
Q351
2SC1740S (R,S)
Q353
2SC1740S (R,S)
Q355
2SC1740S (R,S)
Q371
2SD2144S (VW)
Q373
2SD2144S (VW)
Q374
2SD2144S (VW)
Q372
2SD2144S (VW)

P3-27-a P3-27-b



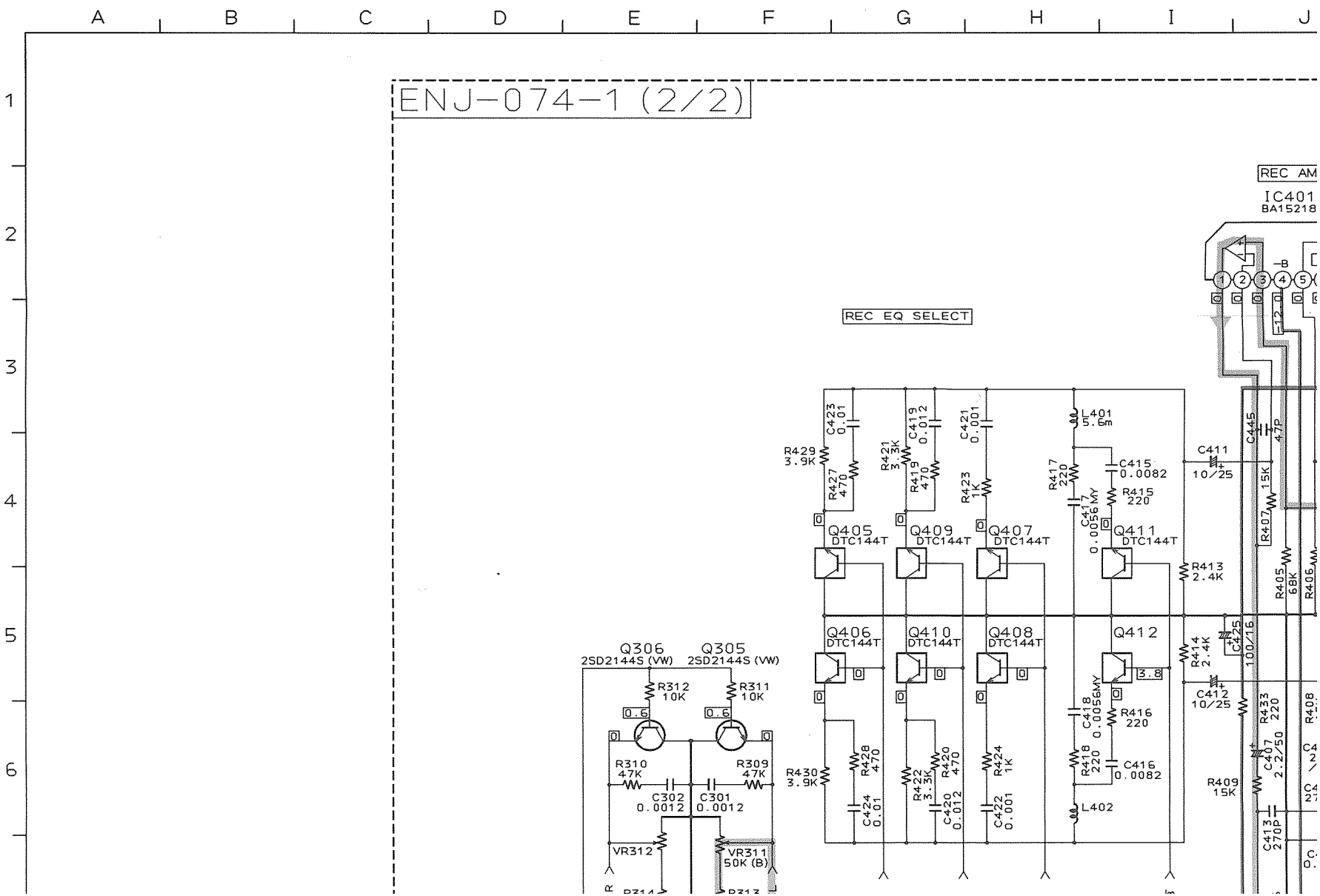
P3-27-c P3-27-d

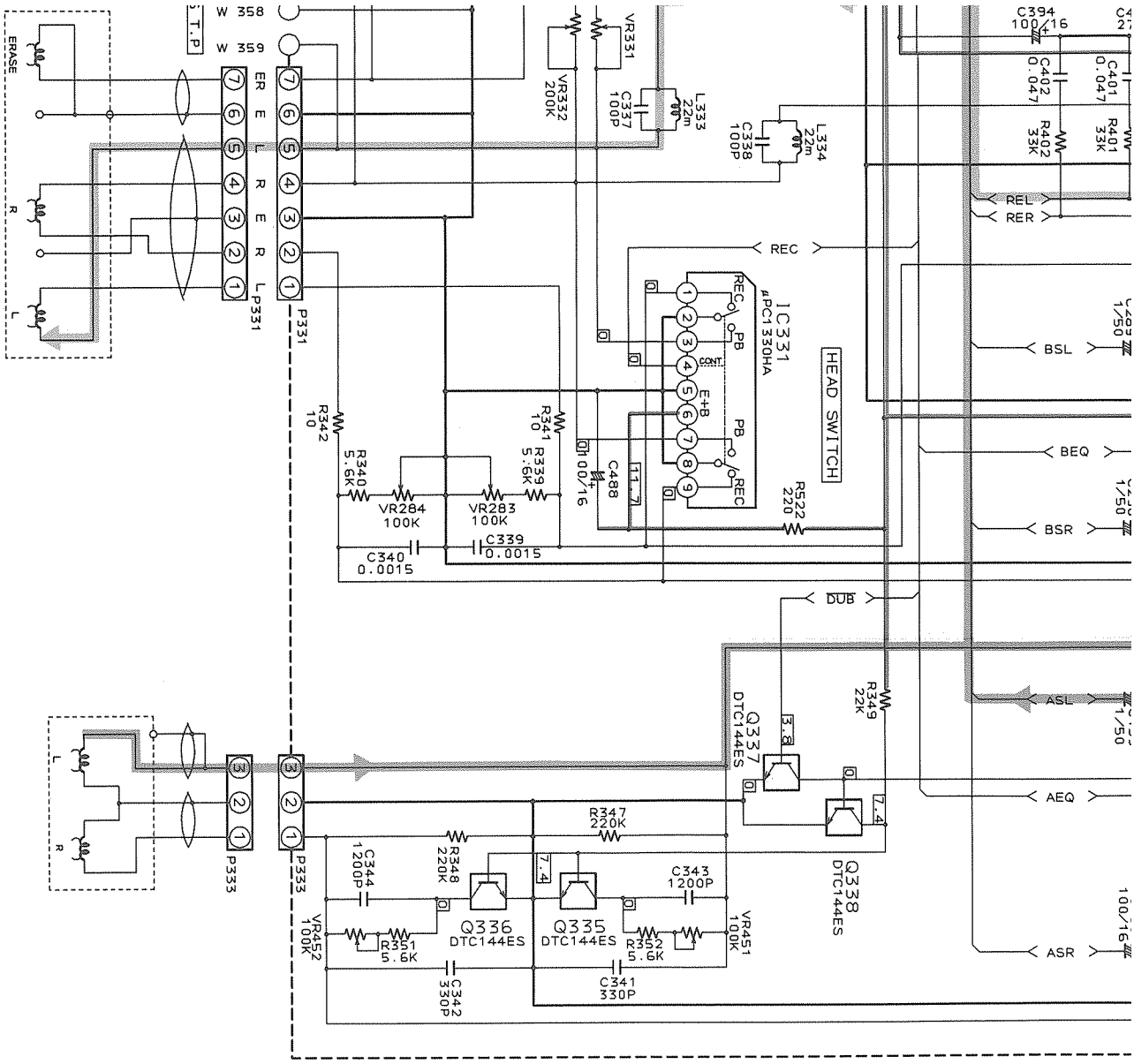


* MARK

	G, GI	OTHER AREA
C283, 284	220P	100P
C330	0.022	NONE
C453, 454	220P	100P

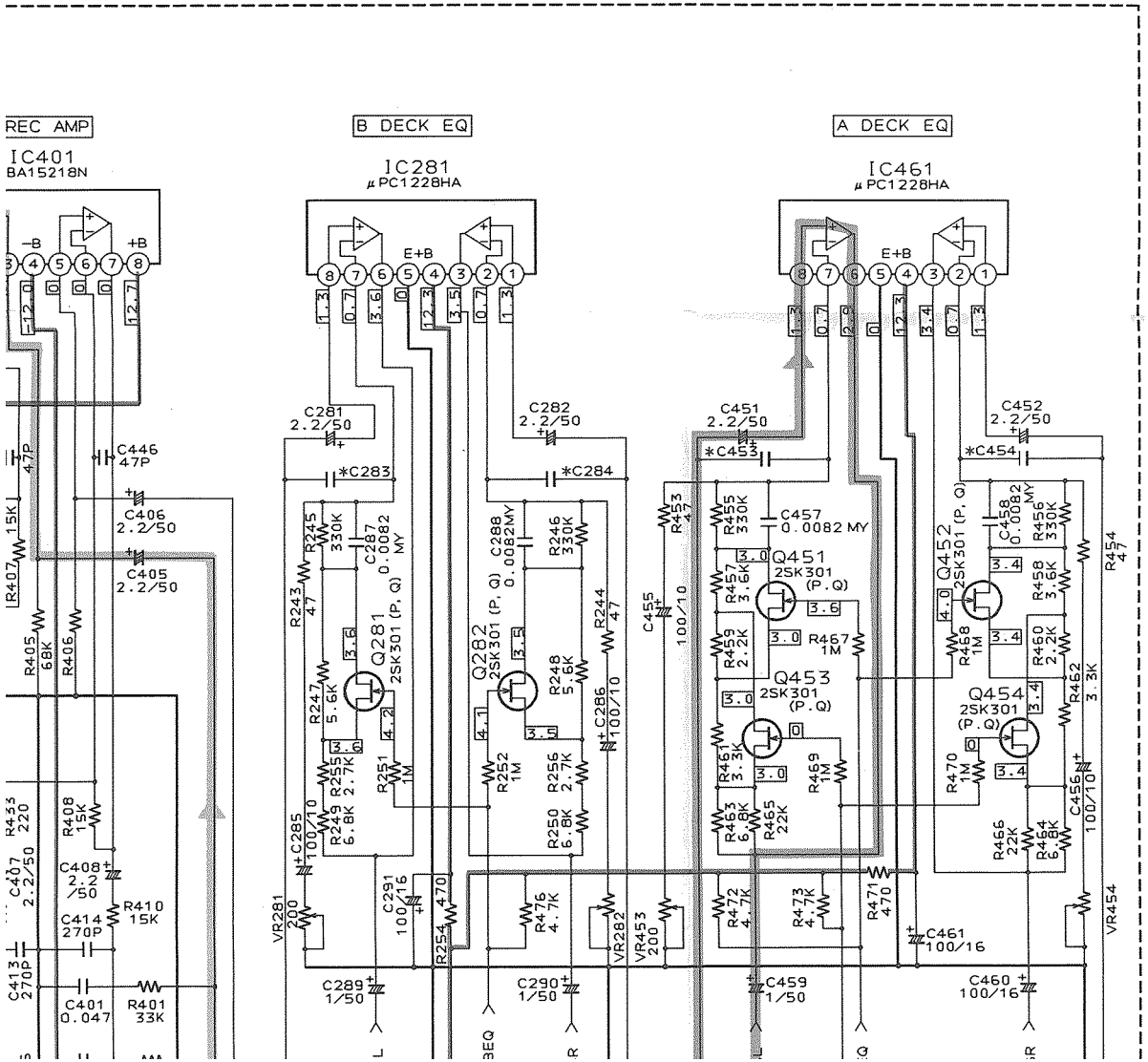
Cassette Deck Section (2/2)




W 358
W 359
T.P
ERASE
ER E
L R E R
L P331
P331
VR332 200K
VR331
C337 100P
L333 22m
C338 100P
L334 22m
C394 100/16
C401 0.047
C402 0.047
R401 33K
R402 33K
REL
RER
REC
IC331 μPC1330HA
REC
PB
CONT
E+B
PB
REC
HEAD SWITCH
BSL
BEQ
BSR
R342 10
R341 10
R340 5.6K
R339 5.6K
VR284 100K
VR283 100K
C488 100/16
R522 220
C340 0.0015
C339 0.0015
DUB
ASL
AEQ
ASR
Q337 DTC144ES
Q338 DTC144ES
R349 22K
R347 220K
R348 220K
C344 1200P
C343 1200P
Q336 DTC144ES
Q335 DTC144ES
R351 5.6K
R352 5.6K
VR452 100K
VR451 100K
C342 330P
C341 330P
P333
L
R

J K L M N O P Q R S

C.B.GROUP	MODEL
ENJ-074G	XT-S50RBKBS XT-S50RBKEF XT-S50RBKEN
ENJ-074H	XT-S50RBKG XT-S50RBKGI



RX-S50RBK

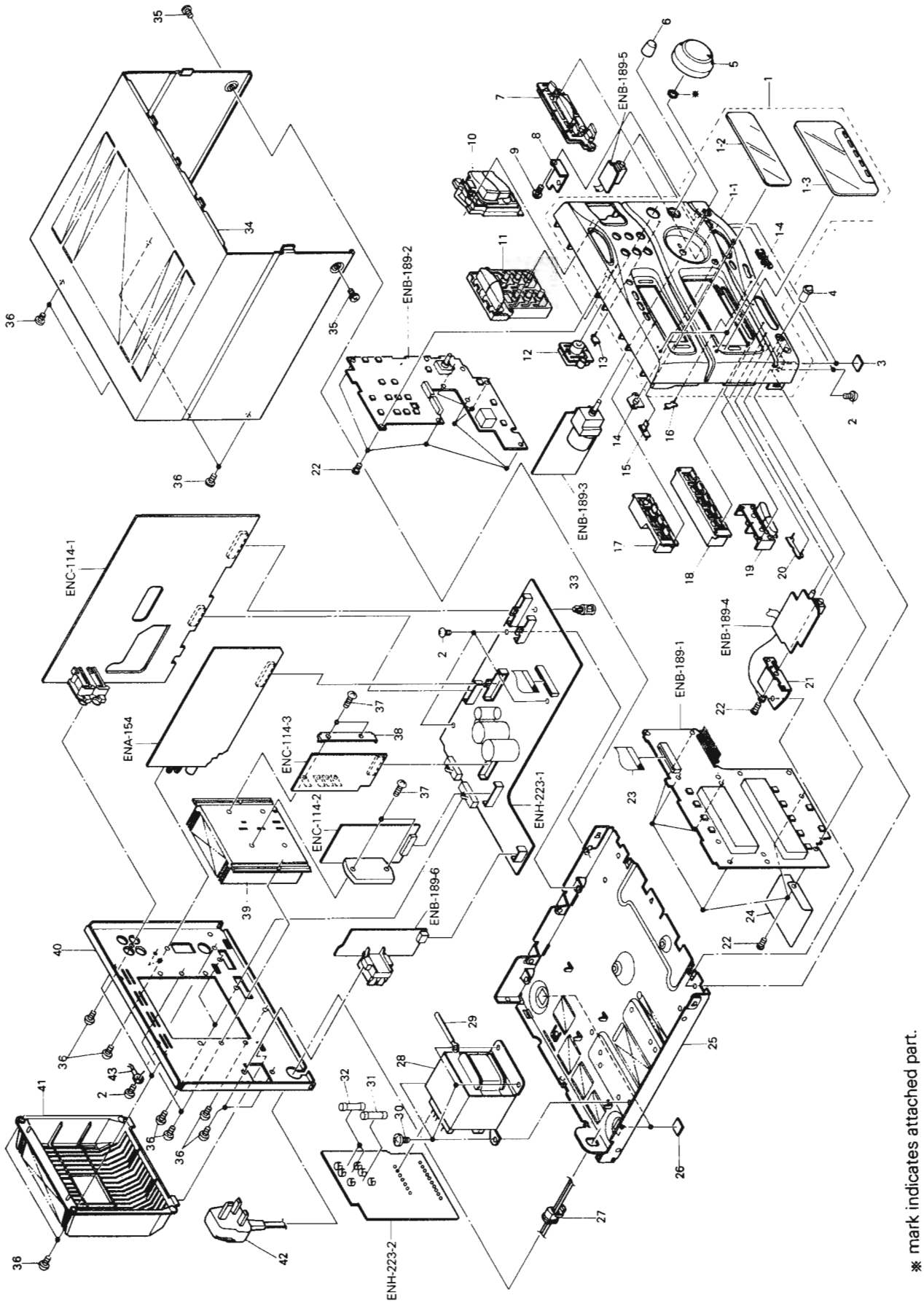
< PARTS LIST >

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

— Contents —

General Exploded View and Parts List

Symbol No. M 1 M M



※ mark indicates attached part.

■ Parts List

Symbol No. M 1 M M

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-RXS50RBKE(S	FRONT PANEL ASSY	1		
	1-1	E102684-019SM	FRONT PANEL	1		
	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		
		SBSG3008CC	SCREW	1		G
		SBSG3008CC	SCREW	1		GI
	3	E75896-001	SPACER	2	FRONT FOOT	
	4	E407233-002	KNOB	1		
	5	E308414-001SS	VOLUME KNOB ASSY	1		
	6	E75737-008	KNOB	1		
	7	E207794-001SM	PUSH BUTTON	1		
	8	E408268-001	BRACKET	1		
	9	E407098-001	SPECIAL SCREW	1		
	10	E207858-004SM	PUSH BUTTON ASSY	1		
	11	E207788-002SM	PUSH BUTTON	1		
	12	E308428-001SM	PUSH BUTTON	1		
	13	E407439-001SS	INDICATOR	1		
	14	E407431-001SM	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	1	FW901	
	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		EN
⚠		QHS3876-162	CORD STOPPER	1		G
⚠		QHS3876-162	CORD STOPPER	1		GI
⚠	28	ETP1100-46EAJBS	POWER TRANSFORMER	1	T001	BS
⚠		ETP1100-46EAJ	POWER TRANSFORMER	1	T001	EF
⚠		ETP1100-46EAJ	POWER TRANSFORMER	1	T001	EN
⚠		ETP1100-46EAJ	POWER TRANSFORMER	1	T001	G
⚠		ETP1100-46EAJ	POWER TRANSFORMER	1	T001	GI
	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
⚠		QMF51E2-1R0J1	FUSE	1	F001 (T1.0A/250V)	EN
⚠		QMF51E2-1R0J1	FUSE	1	F001 (T1.0A/250V)	G
⚠		QMF51E2-1R0J1	FUSE	1	F001 (T1.0A/250V)	GI
⚠	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)	EN
⚠		QMF51E2-1R25	FUSE	2	F101, F102 (T1.25A/250V)	G
⚠		QMF51E2-1R25	FUSE	2	F101, F102 (T1.25A/250V)	GI
	33	E308544-001	FASTENER	1		

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	34	E207787-221	METAL COVER	1		
	35	SDSG3006M	SCREW	2		
	36	E73273-003	SPECIAL SCREW	16		
	37	SBSG3014CC	SCREW	4		
	38	E407434-001SM	LEAF SPRING	1		
	39	E308420-002SM	HEAT SINK	1		
	40	E207785-031SM	REAR PANEL	1		EF
		E207785-031SM	REAR PANEL	1		EN
		E207785-031SM	REAR PANEL	1		G
		E207785-031SM	REAR PANEL	1		GI
		E207785-032SM	REAR PANEL	1		BS
	41	E207356-001SM	REAR COVER	1		
⚠	42	QMP5530-0085BS	POWER CORD	1		BS
⚠		QMP3900-200	POWER CORD	1		EF
⚠		QMP3900-200	POWER CORD	1		EN
⚠		QMP3900-200	POWER CORD	1		G
⚠		QMP3900-200	POWER CORD	1		GI
	43	52868-3	LUG	1		G
		52868-3	LUG	1		GI
	—	QZL1031-101	LABEL	1		EF
	—	E70027-001	LABEL	1		EN
	—	E407619-027	FTZ LABEL	1		G
	—	E75040-041	GI LABEL	1		GI

⚠ SAFETY PARTS

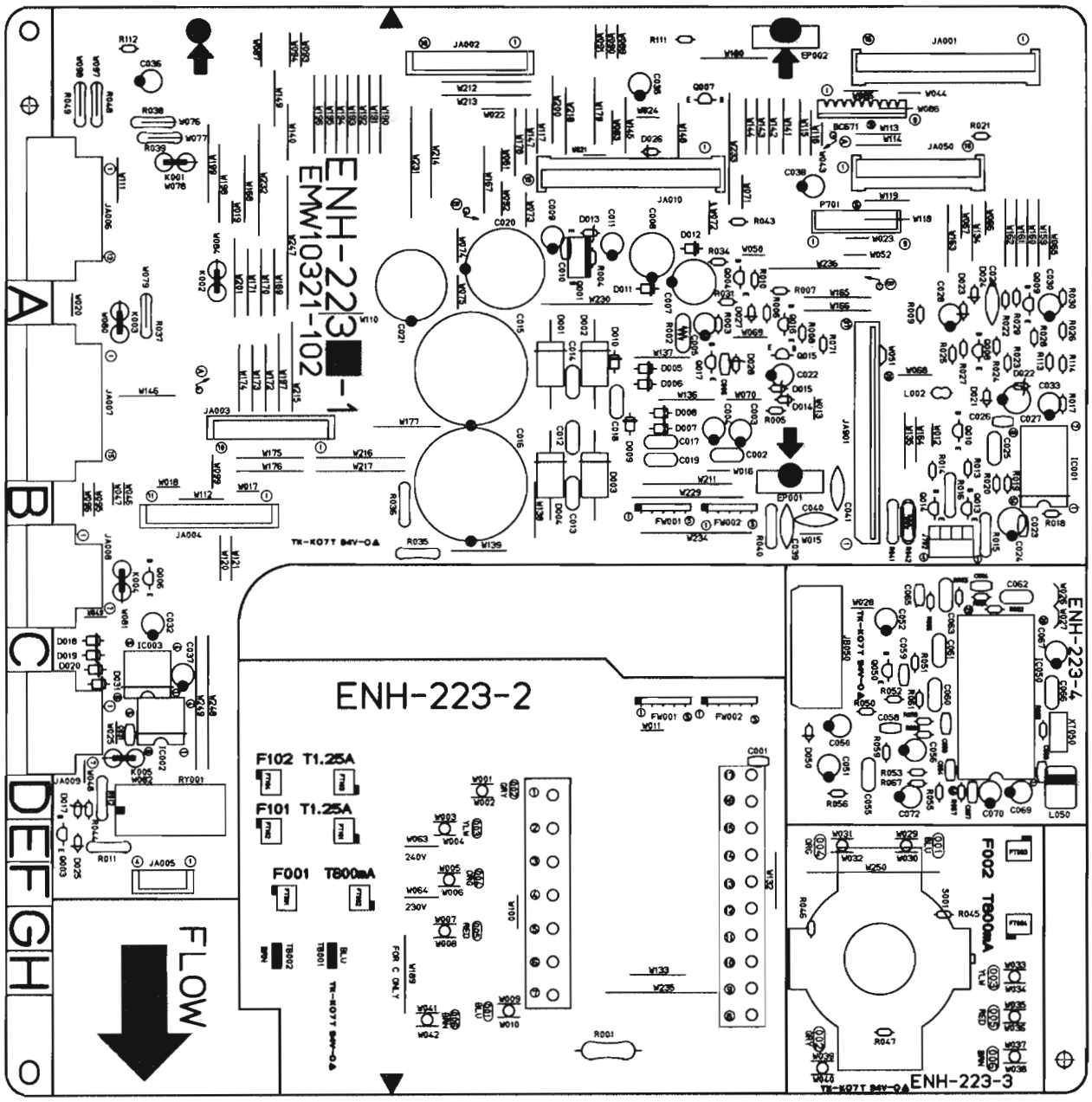
The Marks for Designated Areas

BS ..... the U.K. EN ..... Scandinavia EF ..... Continental Europe
G ..... Germany GI ..... Itary
No mark indicates all areas.

Printed Circuit Board Ass'y and Parts List

■ENH-223☐ Main & Power Primary PC Board Ass'y

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 [J]	EN EF	Scandinavia Continental Europe
ENH-223 [J] BS	BS	the U.K.
ENH-223 [K]	G GI	Germany Italy

Transistors

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

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC001	XR1097CP	I.C(MONO-ANEXAR JAPAN	

⚠ : SAFETY PARTS

Diodes

⚠	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	
	D011	1SR139-200	SI.DIODE ROHM	
	D012	1SR139-200	SI.DIODE ROHM	
	D013	MTZ30JC	ZENER DIODEROHM	
	D014	1SS119	SI.DIODE	
	D015	MTZ5.1JC	ZENER DIODEROHM	
	D017	MTZ8.2JC	ZENER DIODEROHM	
	D021	1SS119	SI.DIODE	
	D022	MTZ5.1JC	ZENER DIODEROHM	
	D023	1SS119	SI.DIODE	
	D025	1SS119	SI.DIODE	
	D026	1SS119	SI.DIODE	
	D027	1SS119	SI.DIODE	
	D028	MTZ5.6JC	ZENER DIODEROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C002	QFV81HJ-104	0.1MF	50V	THIN FILM	CA
	C003	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C004	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C005	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C006	QCVB1CM-103Y	0.01MF	16V	CER.CAPACI	TO
	C007	QETB1HM-227	220MF	50V	E.CAPACITO	R
	C008	QETB1HM-227	220MF	50V	E.CAPACITO	R
	C009	QETB1HM-226E	22MF	50V	E.CAPACITO	R
	C010	QCGB1HK-102	1000PF	50V	CER.CAPACI	TO
	C011	QETB1HM-226E	22MF	50V	E.CAPACITO	R
	C012	QFV82AJ-104	0.1MF	100V	THIN FILM	CA
	C013	QFN81HJ-104	0.1MF	50V	METAL.MYLA	R
	C014	QFN81HJ-104	0.1MF	50V	METAL.MYLA	R
	C015	EEW4208-568E	5600MF		E.CAPACITO	R
	C016	EEW4208-568E	5600MF		E.CAPACITO	R
	C017	QFV81HJ-104	0.1MF	50V	THIN FILM	CA
	C018	QFV81HJ-104	0.1MF	50V	THIN FILM	CA
	C019	QFV81HJ-104	0.1MF	50V	THIN FILM	CA
	C020	QETB1VM-338	3300MF	35V	AL E.CAPAC	IT
	C021	QETB1VM-228N	2200MF	35V	E.CAPACITO	R
	C022	QETB1HM-225	2.2MF	50V	E.CAPACITO	R
	C023	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO
	C024	QETB1AM-107	100MF	10V	AL E.CAPAC	IT
	C025	QFLB1HJ-102	1000PF	50V	MYLAR CAPA	CI
	C026	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO
	C027	QETB1AM-107	100MF	10V	AL E.CAPAC	IT
	C028	QCF21HP-473A	0.047MF	50V	CER.CAPACI	TO
	C029	QETB1HM-105	1MF	50V	AL E.CAPAC	IT
	C030	QETB1EM-106	10MF	25V	AL E.CAPAC	IT
	C033	QETB1EM-106	10MF	25V	AL E.CAPAC	IT
	C039	QCY31HK-103Z	0.01MF	50V	CER.CAPACI	TO BS
	C039	QCY31HK-103Z	0.01MF	50V	CER.CAPACI	TO EF
	C039	QCY31HK-103Z	0.01MF	50V	CER.CAPACI	TO EN
	C042	QCY31HK-103Z	0.01MF	50V	CER.CAPACI	TO BS
	C042	QCY31HK-103Z	0.01MF	50V	CER.CAPACI	TO EF
	C042	QCY31HK-103Z	0.01MF	50V	CER.CAPACI	TO EN

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
⚠	R002	PTH61G25AR4R7M			FUSIBLE RE	SI
	R003	QRD167J-223	22K	1/6W	CARBON RES	IS
	R004	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R005	QRD167J-103	10K	1/6W	CARBON RES	IS
	R006	QRD167J-103	10K	1/6W	CARBON RES	IS
	R007	QRD167J-102	1K	1/6W	CARBON RES	IS
	R008	QRD167J-102	1K	1/6W	CARBON RES	IS
	R009	QRD167J-152	1.5K	1/6W	CARBON RES	IS
	R010	QRD167J-222	2.2K	1/6W	CARBON RES	IS
⚠	R011	QRZ0077-271	270	1/4W	FUSIBLE RE	SI

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
⚠	R012	QRD14CJ-271S	270	1/4W	UNF.CARBON	R
	R013	QRD167J-272	2.7K	1/6W	CARBON RES	IS
	R014	QRD167J-272	2.7K	1/6W	CARBON RES	IS
⚠	R015	QRD14CJ-681S	680	1/4W	UNF.CARBON	R
⚠	R016	QRD14CJ-681S	680	1/4W	UNF.CARBON	R
	R017	QRD167J-223	22K	1/6W	CARBON RES	IS
	R018	QRD167J-223	22K	1/6W	CARBON RES	IS
	R019	QRD167J-563	56K	1/6W	CARBON RES	IS
	R020	QRD167J-152	1.5K	1/6W	CARBON RES	IS
	R021	QRD161J-331	330	1/6W	CARBON RES	IS
	R022	QRD161J-512	5.1K	1/6W	CARBON RES	IS
	R023	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R024	QRD167J-473	47K	1/6W	CARBON RES	IS
	R025	QRD167J-103	10K	1/6W	CARBON RES	IS
	R026	QRD161J-273	27K	1/6W	CARBON RES	IS
	R027	QRD167J-104	100K	1/6W	CARBON RES	IS
	R028	QRD167J-102	1K	1/6W	CARBON RES	IS
	R029	QRD161J-204	200K	1/6W	CARBON RES	IS
	R030	QRD167J-224	220K	1/6W	CARBON RES	IS
	R031	QRD167J-222	2.2K	1/6W	CARBON RES	IS
	R034	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R035	QRD12CJ-331S	330	1/2W	R.NETWORK	
	R036	QRD12CJ-331S	330	1/2W	R.NETWORK	
⚠	R041	QRZ0077-4R7	4.7	1/4W	FUSE RESIS	TO
⚠	R042	QRD14CJ-6R8S	6.8	1/4W	UNF.CARBON	R
	R043	QRD167J-103	10K	1/6W	CARBON RES	IS
⚠	R048	QRD14CJ-4R7S	4.7	1/4W	UNF.CARBON	R
	R071	QRD167J-222	2.2K	1/6W	CARBON RES	IS

⚠ : SAFETY PARTS

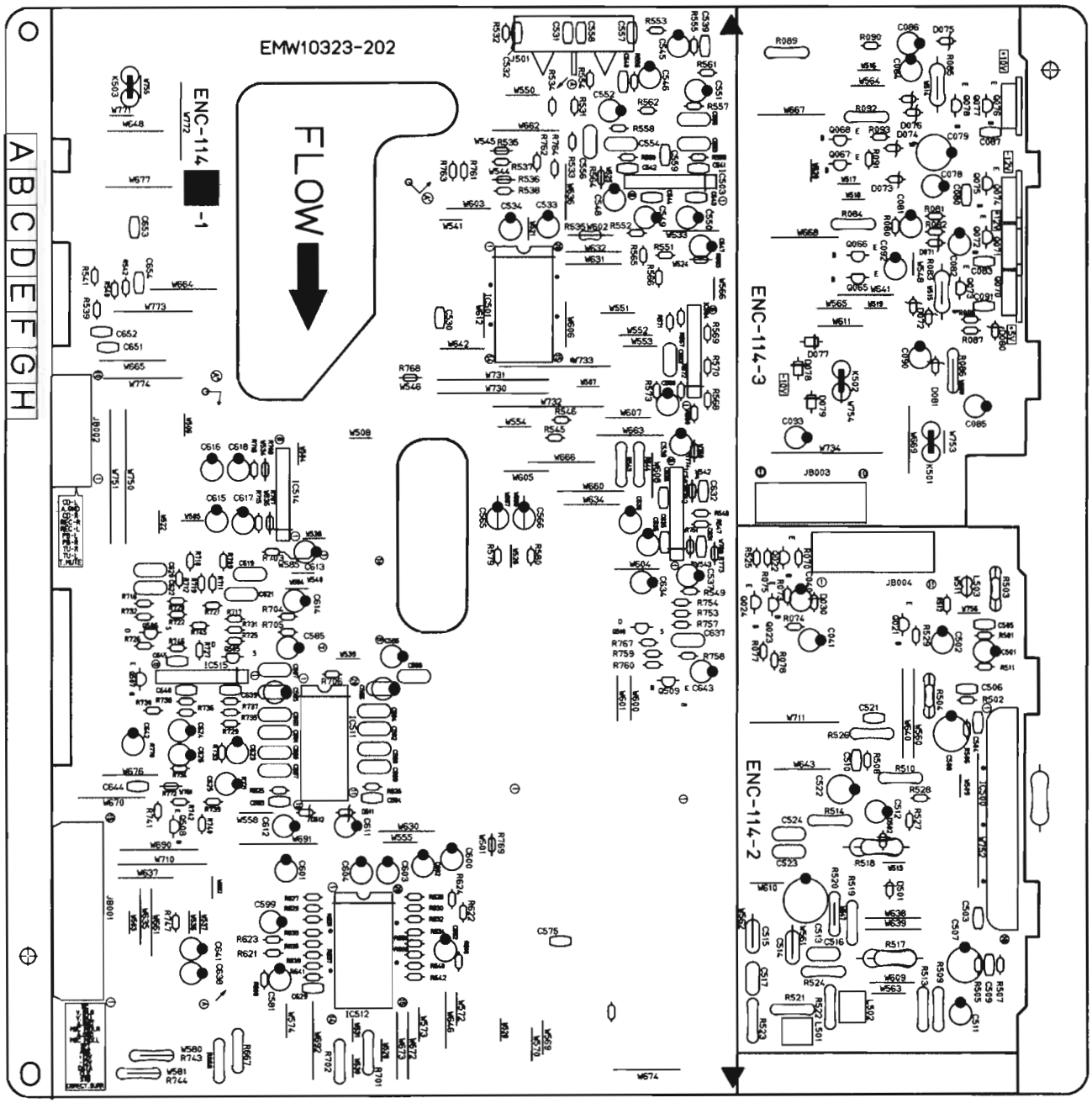
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		QHX2075-001	TIE BAND	
		E67132-T1R0	T1R0 FUSE LABEL	
		QWE350-14RR	VINYL WIRE	
		QWE351-18RR	VINYL WIRE	
	J702	EMV7122-004	CONNECT TERMINAL(4PIN)	
	K002	ENZ8101-007	INDUCTOR	G
	K002	ENZ8101-007	INDUCTOR	GI
	K006	ENZ8101-007	INDUCTOR	G
	K006	ENZ8101-007	INDUCTOR	GI
	L002	EQL4007-1R0T	INDUCTOR	
	P701	EMV5142-905	CONNECT TERMINAL(5PIN)	
	BC671	EWS296-0118	SOCKET WIRE ASSY(6PIN)	
	EP001	E65396-003	EARTH PLATE	BS
	EP001	E65396-003	EARTH PLATE	EF
	EP001	E65396-003	EARTH PLATE	EN
	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 ASSY(5PIN)	
	FW002	EWR35B-16SST	FLAT WIRE ASSY(5PIN)	
	JA001	EMV5140-015	CONNECT TERMINAL(15PIN)	
	JA002	EMV5125-010	MALE CONNECTOR(10PIN)	
	JA003	EMV5125-010	MALE CONNECTOR(10PIN)	
	JA004	EMV5125-011	MALE CONNECTOR(11PIN)	
	JA005	EMV5125-004	CONNECT TERMINAL(4PIN)	
	JA006	EMV7127-013	CONNECT TERMINAL(13PIN)	
	JA007	EMV7127-015	FEMALE CONNECTOR(15PIN)	
	JA010	EMV5140-015	CONNECT TERMINAL(15PIN)	
	JA901	EMV7123-029	MALE CONNECTOR(29PIN)	
	RY001	ESK7D24-2120	RELAY	
	TB001	EMZ4001-001	TAB	
	TB002	EMZ4001-001	TAB	

⚠ : 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 D	BS EN EF	the U.K. Scandinavia Continental Europe
ENC-114 E	G GI	Germany Italy

Transistors

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

⚠ : SAFETY PARTS

Transistors

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

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC500	STK4141MK5	I.C(HYBRID)SANYO	
	IC501	TC9162N	I.C(DIGI-MOTOSHIBA	
	IC502	VC4580L	I.C(MONO-ANDAINICHI	
	IC503	VC4580LD	I.C(MONO-ANDAINICHI	
	IC504	BA15218N	I.C(MONO-ANROHM	
	IC511	M5243P12	I.C(MONO-ANMITSUBISHI	
	IC512	TC9163N	I.C(DIGI-MOTOSHIBA	
	IC514	BA15218N	I.C(MONO-ANROHM	
	IC515	VC4580L	I.C(MONO-ANDAINICHI	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D030	1SS119	SI.DIODE	
	D071	RD13JSB3	ZENER DIODENEC	
	D072	MTZ13JC	ZENER DIODEROHM	
	D073	MTZ13JC	ZENER DIODEROHM	
	D074	RD13JSB3	ZENER DIODENEC	
	D075	MTZ11JC	ZENER DIODEROHM	
	D076	MTZ12JC	ZENER DIODEROHM	
	D077	1SR139-200	SI.DIODE ROHM	
	D078	1SR139-200	SI.DIODE ROHM	
	D079	1SR139-200	SI.DIODE ROHM	
	D080	MTZ6.8JC	ZENER DIODEROHM	
	D081	MTZ6.2JC	ZENER DIODEROHM	
	D501	1SS119	SI.DIODE	
	D502	1SS119	SI.DIODE	
	D511	MTZ6.2JC	ZENER DIODEROHM	
	D512	MTZ6.2JC	ZENER DIODEROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C040	QETB1CM-226	22MF	16V	E.CAPACITO	R
	C041	QETB1AM-476	47MF	10V	E.CAPACITO	R
	C078	QETB1EM-226	22MF	25V	E.CAPACITO	R
	C079	QETB1EM-227	220MF	25V	AL E.CAPAC	IT
	C080	QCVB1CM-103Y	0.01MF	16V	CER.CAPACI	TO
	C081	QETB1EM-226	22MF	25V	E.CAPACITO	R
	C082	QETB1EM-226	22MF	25V	E.CAPACITO	R
	C083	QCVB1CM-103Y	0.01MF	16V	CER.CAPACI	TO
	C084	QETB1EM-226	22MF	25V	E.CAPACITO	R
	C085	EEZ5009-106	10MF		AL E.CAPAC	IT
	C086	QETB1EM-226	22MF	25V	E.CAPACITO	R
	C087	QCVB1CM-103Y	0.01MF	16V	CER.CAPACI	TO
	C090	QETB1EM-226	22MF	25V	E.CAPACITO	R
	C091	QCVB1CM-103Y	0.01MF	16V	CER.CAPACI	TO
	C092	QETB1EM-226	22MF	25V	E.CAPACITO	R
	C093	QETB1EM-226	22MF	25V	E.CAPACITO	R
	C501	EEZ2505-226	22MF		AL E.CAPAC	IT
	C502	EEZ2505-226	22MF		AL E.CAPAC	IT
	C503	QCBB1HK-561Y	560PF	50V	CER.CAPACI	TO
	C504	QCBB1HK-561Y	560PF	50V	CER.CAPACI	TO
	C505	QCBB1HK-101Y	100PF	50V	CER.CAPACI	TO
	C506	QCBB1HK-101Y	100PF	50V	CER.CAPACI	TO
	C507	EET2501-107E	100MF		AL E.CAPAC	IT
	C508	EET2501-107E	100MF		AL E.CAPAC	IT
	C509	QCT30CH-100Y	10PF	50V	CER.CAPACI	TO
	C510	QCT30CH-100Y	10PF	50V	CER.CAPACI	TO
	C511	QETB1HM-226E	22MF	50V	E.CAPACITO	R
	C512	QETB1HM-226E	22MF	50V	E.CAPACITO	R
	C513	QETB1HM-107	100MF	50V	E.CAPACITO	R
	C514	QFV81HJ-104	0.1MF	50V	THIN FILM	CA
	C515	QFV81HJ-104	0.1MF	50V	THIN FILM	CA
	C516	QFV81HJ-104	0.1MF	50V	THIN FILM	CA
	C517	QFV81HJ-104	0.1MF	50V	THIN FILM	CA
	C521	QCBB1HK-681Y	680PF	50V	CER.CAPACI	TO G
	C521	QCBB1HK-681Y	680PF	50V	CER.CAPACI	TO GI
	C522	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C523	QFLB1HJ-473	0.047MF	50V	MYLAR CAPA	CI
	C524	QFLB1HJ-473	0.047MF	50V	MYLAR CAPA	CI
	C530	QCBB1HK-331Y	330PF	50V	CER.CAPACI	TO
	C531	QCBB1HK-331Y	330PF	50V	CER.CAPACI	TO G

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C531	QCBB1HK-331Y	330PF	50V	CER.CAPACI	TO GI
	C532	QCBB1HK-331Y	330PF	50V	CER.CAPACI	TO G
	C532	QCBB1HK-331Y	330PF	50V	CER.CAPACI	TO GI
	C533	EEZ2505-476	47MF		AL E.CAPAC	IT
	C534	EEZ2505-476	47MF		AL E.CAPAC	IT
	C535	QETB1HM-475E	4.7MF	50V	E.CAPACITO	R
	C536	QETB1HM-475E	4.7MF	50V	E.CAPACITO	R
	C537	QETB1HM-475E	4.7MF	50V	E.CAPACITO	R
	C538	QETB1HM-475E	4.7MF	50V	E.CAPACITO	R
	C539	QCBB1HK-101Y	100PF	50V	CER.CAPACI	TO
	C540	QCBB1HK-101Y	100PF	50V	CER.CAPACI	TO
	C543	QCBB1HK-101Y	100PF	50V	CER.CAPACI	TO
	C544	QCBB1HK-101Y	100PF	50V	CER.CAPACI	TO
	C545	QETB1HM-475E	4.7MF	50V	E.CAPACITO	R
	C546	QETB1HM-475E	4.7MF	50V	E.CAPACITO	R
	C547	QETB1HM-475E	4.7MF	50V	E.CAPACITO	R
	C548	QETB1HM-475E	4.7MF	50V	E.CAPACITO	R
	C549	QETB1EM-476	47MF	25V	AL E.CAPAC	IT
	C550	QETB1EM-476	47MF	25V	AL E.CAPAC	IT
	C551	QETB1EM-476	47MF	25V	AL E.CAPAC	IT
	C552	QETB1EM-476	47MF	25V	AL E.CAPAC	IT
	C553	QFLB1HJ-182	1800PF	50V	MYLAR CAPA	CI
	C554	QFLB1HJ-182	1800PF	50V	MYLAR CAPA	CI
	C555	QFLB1HJ-682	6800PF	50V	MYLAR CAPA	CI
	C556	QFLB1HJ-682	6800PF	50V	MYLAR CAPA	CI
	C557	QCBB1HK-561Y	560PF	50V	CER.CAPACI	TO G
	C557	QCBB1HK-561Y	560PF	50V	CER.CAPACI	TO GI
	C558	QCBB1HK-561Y	560PF	50V	CER.CAPACI	TO G
	C558	QCBB1HK-561Y	560PF	50V	CER.CAPACI	TO GI
	C559	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO G
	C559	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO GI
	C560	QETB1HM-475E	4.7MF	50V	E.CAPACITO	R
	C563	QFLB1HJ-683	0.068MF	50V	MYLAR CAPA	CI
	C581	QETB1EM-106	10MF	25V	AL E.CAPAC	IT
	C582	QETB1EM-106	10MF	25V	AL E.CAPAC	IT
	C583	QCGB1HK-821	820PF	50V	CER.CAPACI	TO
	C584	QCGB1HK-821	820PF	50V	CER.CAPACI	TO
	C585	QETB1EM-106	10MF	25V	AL E.CAPAC	IT
	C586	QETB1EM-106	10MF	25V	AL E.CAPAC	IT
	C587	QFLB1HJ-272	2700PF	50V	MYLAR CAPA	CI
	C588	QFLB1HJ-272	2700PF	50V	MYLAR CAPA	CI
	C589	QFLB1HJ-471	470PF	50V	MYLAR CAPA	CI
	C590	QFLB1HJ-471	470PF	50V	MYLAR CAPA	CI
	C591	QFLB1HJ-473	0.047MF	50V	MYLAR CAPA	CI
	C592	QFLB1HJ-473	0.047MF	50V	MYLAR CAPA	CI
	C593	QFLB1HJ-822	8200PF	50V	MYLAR CAPA	CI
	C594	QFLB1HJ-822	8200PF	50V	MYLAR CAPA	CI
	C595	QER51HM-684	0.68MF	50V	AL E.CAPAC	IT
	C596	QER51HM-684	0.68MF	50V	AL E.CAPAC	IT
	C597	QFV81HJ-154	0.15MF	50V	THIN FILM	CA
	C598	QFV81HJ-154	0.15MF	50V	THIN FILM	CA
	C599	QETB1EM-476	47MF	25V	AL E.CAPAC	IT
	C600	QETB1EM-476	47MF	25V	AL E.CAPAC	IT
	C601	QETB1EM-476	47MF	25V	AL E.CAPAC	IT
	C602	QETB1EM-476	47MF	25V	AL E.CAPAC	IT
	C611	EEZ2505-476	47MF		AL E.CAPAC	IT
	C612	EEZ2505-476	47MF		AL E.CAPAC	IT
	C615	EEZ5009-106	10MF		AL E.CAPAC	IT
	C616	EEZ5009-106	10MF		AL E.CAPAC	IT
	C617	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C618	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C619	QFV81HJ-393	0.039MF	50V	THIN FILM	CA
	C620	QFV81HJ-393	0.039MF	50V	THIN FILM	CA
	C621	QFV81HJ-104	0.1MF	50V	THIN FILM	CA
	C622	QFV81HJ-104	0.1MF	50V	THIN FILM	CA
	C623	QER51HM-225G	2.2MF	50V	AL E.CAPAC	IT
	C624	QER51HM-225G	2.2MF	50V	AL E.CAPAC	IT
	C625	EEZ5009-106	10MF		AL E.CAPAC	IT
	C626	EEZ5009-106	10MF		AL E.CAPAC	IT
	C629	QCBB1HK-561Y	560PF	50V	CER.CAPACI	TO
	C631	QCSB1HJ-220	22PF	50V	CER.CAPACI	TO
	C632	QCSB1HJ-220	22PF	50V	CER.CAPACI	TO
	C634	QETB1EM-106	10MF	25V	AL E.CAPAC	IT
	C635	QCSB1HJ-470	47PF	50V	CER.CAPACI	TO
	C636	QCSB1HJ-470	47PF	50V	CER.CAPACI	TO
	C637	QFLB1HJ-392	3900PF	50V	MYLAR CAPA	CI
	C638	QEK51HM-105G	1MF	50V	AL E.CAPAC	IT
	C639	QCSB1HJ-220	22PF	50V	CER.CAPACI	TO
	C640	QCSB1HJ-220	22PF	50V	CER.CAPACI	TO
	C641	QETB1EM-106	10MF	25V	AL E.CAPAC	IT
	C642	QETB1EM-106	10MF	25V	AL E.CAPAC	IT
	C643	QETB1EM-106	10MF	25V	AL E.CAPAC	IT
	C644	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO G
	C644	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO GI
	C645	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO G
	C645	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO GI
	C646	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO G
	C646	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO GI
	C651	QCBB1HK-331Y	330PF	50V	CER.CAPACI	TO
	C652	QCBB1HK-331Y	330PF	50V	CER.CAPACI	TO
	C654	QCBB1HK-101Y	100PF	50V	CER.CAPACI	TO

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R070	QRD161J-333	33K	1/6W	CARBON RES	IS
	R073	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R074	QRD167J-104	100K	1/6W	CARBON RES	IS
	R075	QRD167J-104	100K	1/6W	CARBON RES	IS
	R077	QRD167J-823	82K	1/6W	CARBON RES	IS
	R078	QRD167J-104	100K	1/6W	CARBON RES	IS
	R080	QRD167J-103	10K	1/6W	CARBON RES	IS
	R081	QRD167J-152	1.5K	1/6W	CARBON RES	IS
	R082	QRD167J-471	470	1/6W	CARBON RES	IS
⚠	R084	QRD14CJ-1R0S	1	1/4W	CARBON RES	IS
	R087	QRD167J-103	10K	1/6W	CARBON RES	IS
	R088	QRD167J-103	10K	1/6W	CARBON RES	IS
⚠	R089	QRD14CJ-1R0S	1	1/4W	CARBON RES	IS
	R090	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R091	QRD167J-103	10K	1/6W	CARBON RES	IS
⚠	R092	QRD14CJ-2R7S	2.7	1/4W	UNF.CARBON	R
	R093	QRD167J-222	2.2K	1/6W	CARBON RES	IS
	R501	QRD167J-563	56K	1/6W	CARBON RES	IS
	R502	QRD167J-563	56K	1/6W	CARBON RES	IS
⚠	R503	QRD14CJ-471S	470	1/4W	CARBON RES	IS
⚠	R504	QRD14CJ-471S	470	1/4W	CARBON RES	IS
	R505	QRD167J-471	470	1/6W	CARBON RES	IS
	R506	QRD167J-471	470	1/6W	CARBON RES	IS
	R507	QRD167J-563	56K	1/6W	CARBON RES	IS
	R508	QRD167J-563	56K	1/6W	CARBON RES	IS
⚠	R509	QRD14CJ-272S	2.7K	1/4W	UNF.CARBON	R
⚠	R510	QRD14CJ-272S	2.7K	1/4W	UNF.CARBON	R
	R511	QRD167J-102	1K	1/6W	CARBON RES	IS
	R512	QRD167J-102	1K	1/6W	CARBON RES	IS
⚠	R513	QRD14CJ-272S	2.7K	1/4W	UNF.CARBON	R
⚠	R514	QRD14CJ-272S	2.7K	1/4W	UNF.CARBON	R
⚠	R517	QRX012J-R22AM	0.22	1W	METAL FILM	R
⚠	R518	QRX012J-R22AM	0.22	1W	METAL FILM	R
⚠	R519	QRZ0077-101	100	1/4W	FUSIBLE RE	SI
⚠	R520	QRZ0077-100	10	1/4W	FUSIBLE RE	SI
⚠	R521	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R522	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R523	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R524	QRD14CJ-100S	10	1/4W	UNF.CARBON	
	R525	QRD167J-332	3.3K	1/6W	CARBON RES	IS
⚠	R526	QRD14CJ-100S	10	1/4W	UNF.CARBON	
	R527	QRD167J-272	2.7K	1/6W	CARBON RES	IS
	R528	QRD167J-272	2.7K	1/6W	CARBON RES	IS
	R529	QRD167J-103	10K	1/6W	CARBON RES	IS
	R531	QRD167J-153	15K	1/6W	CARBON RES	IS
	R532	QRD167J-153	15K	1/6W	CARBON RES	IS
	R533	QRD167J-104	100K	1/6W	CARBON RES	IS
	R534	QRD167J-104	100K	1/6W	CARBON RES	IS
	R539	QRD167J-222	2.2K	1/6W	CARBON RES	IS
	R540	QRD167J-222	2.2K	1/6W	CARBON RES	IS
	R541	QRD167J-392	3.9K	1/6W	CARBON RES	IS
	R542	QRD167J-392	3.9K	1/6W	CARBON RES	IS
	R543	QRD161J-331	330	1/6W	CARBON RES	IS
	R544	QRD161J-331	330	1/6W	CARBON RES	IS
	R545	QRD167J-104	100K	1/6W	CARBON RES	IS
	R546	QRD167J-104	100K	1/6W	CARBON RES	IS
	R547	QRD167J-104	100K	1/6W	CARBON RES	IS
	R548	QRD167J-104	100K	1/6W	CARBON RES	IS
	R549	QRD167J-104	100K	1/6W	CARBON RES	IS
	R550	QRD167J-104	100K	1/6W	CARBON RES	IS
	R551	QRD167J-104	100K	1/6W	CARBON RES	IS
	R552	QRD167J-104	100K	1/6W	CARBON RES	IS
	R553	QRD167J-222	2.2K	1/6W	CARBON RES	IS
	R554	QRD167J-222	2.2K	1/6W	CARBON RES	IS
	R555	QRD167J-473	47K	1/6W	CARBON RES	IS
	R556	QRD167J-473	47K	1/6W	CARBON RES	IS
	R557	QRD167J-474	470K	1/6W	CARBON RES	IS
	R558	QRD167J-474	470K	1/6W	CARBON RES	IS
	R559	QRD167J-393	39K	1/6W	CARBON RES	IS
	R560	QRD167J-393	39K	1/6W	CARBON RES	IS
	R561	QRD167J-751	750	1/6W	CARBON RES	IS
	R562	QRD167J-751	750	1/6W	CARBON RES	IS
	R565	QRD167J-391	390	1/6W	CARBON RES	IS
	R566	QRD167J-391	390	1/6W	CARBON RES	IS
	R567	QRD167J-473	47K	1/6W	CARBON RES	IS
	R568	QRD167J-473	47K	1/6W	CARBON RES	IS
	R569	QRD167J-473	47K	1/6W	CARBON RES	IS
	R570	QRD167J-473	47K	1/6W	CARBON RES	IS
	R571	QRD167J-473	47K	1/6W	CARBON RES	IS
	R572	QRD167J-473	47K	1/6W	CARBON RES	IS
	R573	QRD167J-104	100K	1/6W	CARBON RES	IS
	R609	QRD161J-362	3.6K	1/6W	CARBON RES	IS
	R610	QRD161J-362	3.6K	1/6W	CARBON RES	IS
	R621	QRD161J-752	7.5K	1/6W	CARBON RES	IS
	R622	QRD161J-752	7.5K	1/6W	CARBON RES	IS
	R623	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R624	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R625	QRD167J-103	10K	1/6W	CARBON RES	IS
	R626	QRD167J-103	10K	1/6W	CARBON RES	IS
	R627	QRD161J-303Y	30K	1/6W	CARBON RES	IS
	R628	QRD161J-303Y	30K	1/6W	CARBON RES	IS
	R629	QRD167J-123	12K	1/6W	CARBON RES	IS
	R630	QRD167J-123	12K	1/6W	CARBON RES	IS
	R631	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R632	QRD167J-472	4.7K	1/6W	CARBON RES	IS

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R633	QRD161J-183	18K	1/6W	CARBON RES	IS
	R634	QRD161J-183	18K	1/6W	CARBON RES	IS
	R635	QRD161J-912	9.1K	1/6W	CARBON RES	IS
	R636	QRD161J-912	9.1K	1/6W	CARBON RES	IS
	R637	QRD167J-243	24K	1/6W	CARBON RES	IS
	R638	QRD167J-243	24K	1/6W	CARBON RES	IS
	R639	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R640	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R641	QRD161J-333	33K	1/6W	CARBON RES	IS
	R642	QRD161J-333	33K	1/6W	CARBON RES	IS
	R667	QRD161J-331	330	1/6W	CARBON RES	IS
	R668	QRD161J-331	330	1/6W	CARBON RES	IS
	R705	QRD167J-104	100K	1/6W	CARBON RES	IS
	R706	QRD167J-104	100K	1/6W	CARBON RES	IS
	R707	QRD161J-202	2K	1/6W	CARBON RES	IS
	R708	QRD161J-202	2K	1/6W	CARBON RES	IS
	R709	QRD161J-132	1.3K	1/6W	CARBON RES	IS
	R710	QRD161J-132	1.3K	1/6W	CARBON RES	IS
	R711	QRD161J-910Y	91	1/6W	CARBON RES	IS
	R712	QRD161J-910Y	91	1/6W	CARBON RES	IS
	R715	QRD167J-102	1K	1/6W	CARBON RES	IS
	R716	QRD167J-102	1K	1/6W	CARBON RES	IS
	R717	QRD167J-103	10K	1/6W	CARBON RES	IS
	R718	QRD167J-103	10K	1/6W	CARBON RES	IS
	R719	QRD167J-473	47K	1/6W	CARBON RES	IS
	R720	QRD167J-473	47K	1/6W	CARBON RES	IS
	R721	QRD161J-132	1.3K	1/6W	CARBON RES	IS
	R722	QRD161J-132	1.3K	1/6W	CARBON RES	IS
	R725	QRD161J-512	5.1K	1/6W	CARBON RES	IS
	R726	QRD161J-512	5.1K	1/6W	CARBON RES	IS
	R727	QRD161J-105	1M	1/6W	CARBON RES	IS
	R729	QRD161J-122	1.2K	1/6W	CARBON RES	IS
	R730	QRD161J-122	1.2K	1/6W	CARBON RES	IS
	R731	QRD167J-473	47K	1/6W	CARBON RES	IS
	R732	QRD167J-473	47K	1/6W	CARBON RES	IS
	R733	QRD161J-432	4.3K	1/6W	CARBON RES	IS
	R734	QRD161J-432	4.3K	1/6W	CARBON RES	IS
	R735	QRD167J-473	47K	1/6W	CARBON RES	IS
	R736	QRD167J-473	47K	1/6W	CARBON RES	IS
	R737	QRD167J-473	47K	1/6W	CARBON RES	IS
	R738	QRD167J-473	47K	1/6W	CARBON RES	IS
	R739	QRD167J-104	100K	1/6W	CARBON RES	IS
	R740	QRD167J-104	100K	1/6W	CARBON RES	IS
	R741	QRD161J-105	1M	1/6W	CARBON RES	IS
	R742	QRD167J-102	1K	1/6W	CARBON RES	IS
	R745	QRD161J-105	1M	1/6W	CARBON RES	IS
	R746	QRD161J-105	1M	1/6W	CARBON RES	IS
	R747	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R751	QRD167J-393	39K	1/6W	CARBON RES	IS
	R752	QRD167J-393	39K	1/6W	CARBON RES	IS
	R757	QRD161J-105	1M	1/6W	CARBON RES	IS
	R758	QRD167J-393	39K	1/6W	CARBON RES	IS
	R759	QRD161J-105	1M	1/6W	CARBON RES	IS
	R760	QRD167J-224	220K	1/6W	CARBON RES	IS
	R761	QRD161J-221	220	1/6W	CARBON RES	IS
	R762	QRD161J-221	220	1/6W	CARBON RES	IS
	R763	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R764	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R767	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R768	QRD167J-102	1K	1/6W	CARBON RES	IS

⚠ : SAFETY PARTS

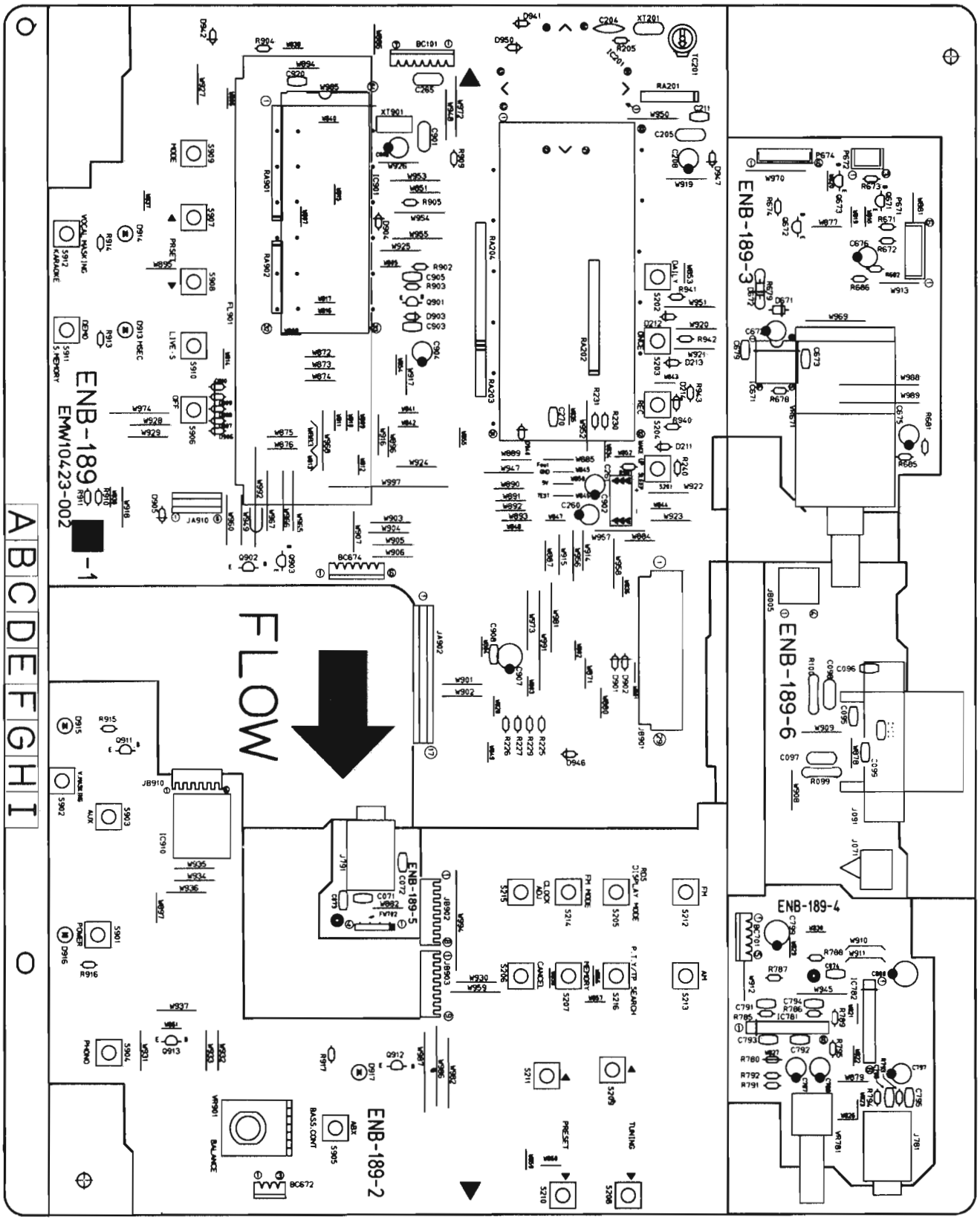
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		QWE350-08RR	VINYL WIRE	
		QWE351-17RR	VINYL WIRE	
	J501	EMN00TV-412B	PIN JACK	
	K501	ENZ8101-007	INDUCTOR	G
	K501	ENZ8101-007	INDUCTOR	GI
	K502	ENZ8101-007	INDUCTOR	G
	K502	ENZ8101-007	INDUCTOR	GI
	L501	EQL0011-R45J1	INDUCTOR	
	L502	EQL0011-R45J1	INDUCTOR	
	L503	EQL4007-1R0T	INDUCTOR	G
	L503	EQL4007-1R0T	INDUCTOR	GI
	JB001	EMV7140-L15R	CONNECT TERMINAL(15PIN)	
	JB002	EMV7125-010R	MALE CONNECTOR(10PIN)	
	JB003	EMV7125-010R	MALE CONNECTOR(10PIN)	
	JB004	EMV7125-011R	MALE CONNECTOR(11PIN)	

⚠ : SAFETY PARTS

■ENB-189☐ Display , Mic Mixing PC Board Ass'y

Note : ENB-189 ☐ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Designated Areas
ENB-189 [A]	EN EF	Scandinavia Continental Europe
ENB-189 [C]	BS	the U.K.
ENB-189 [D]	G	Germany
ENB-189 [E]	GI	Italy

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q671	2SD2144S(VW)	SI.TRANSISTROHM	
	Q672	2SD2144S(VW)	SI.TRANSISTROHM	
	Q673	DTA144ES	DIGITAL TRAROHM	
	Q901	DTC114YS	DIGITAL TRAROHM	
	Q902	DTC144ES	DIGITAL TRAROHM	
	Q903	DTC114YS	DIGITAL TRAROHM	
	Q911	DTC114YS	DIGITAL TRAROHM	
	Q912	DTC114YS	DIGITAL TRAROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC201	MN172412JYC1	I.C(MICRO-CMATSUSHITA	
	IC671	LB1639-CV	I.C(DIGI-OTSANYO	
	IC781	BA15218N	I.C(MONO-ANROHM	
	IC901	MN171202JHF1	I.C(MICRO-CMATSUSHITA	
	IC910	SPS-420-1	INFRARED DESANYO	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D214	1SS119	SI.DIODE	
	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	EN
	D916	SLR-342VC3F	L.E.D. ROHM	G
	D916	SLR-342VC3F	L.E.D. ROHM	GI
	D917	SLR-342VC3F	L.E.D. ROHM	
	D940	1SS119	SI.DIODE	
	D941	1SS119	SI.DIODE	
	D942	1SS119	SI.DIODE	
	D946	1SS119	SI.DIODE	
	D947	1SS119	SI.DIODE	
	D950	1SS119	SI.DIODE	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C071	QCGB1HK-102	1000PF 50V CER.CAPACI	TO
	C072	QCGB1HK-102	1000PF 50V CER.CAPACI	TO
	C074	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	TO
	C095	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO G
	C095	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO GI
	C096	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO G
	C096	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO GI
	C097	QFLB1HJ-103	0.01MF 50V MYLAR CAPA	CI G
	C097	QFLB1HJ-103	0.01MF 50V MYLAR CAPA	CI GI
	C098	QFLB1HJ-103	0.01MF 50V MYLAR CAPA	CI G
	C098	QFLB1HJ-103	0.01MF 50V MYLAR CAPA	CI GI
	C099	QCBB1HK-331Y	330PF 50V CER.CAPACI	TO G
	C099	QCBB1HK-331Y	330PF 50V CER.CAPACI	TO GI
	C100	QCBB1HK-331Y	330PF 50V CER.CAPACI	TO G
	C100	QCBB1HK-331Y	330PF 50V CER.CAPACI	TO GI

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C204	QCT26CH-330	33PF 50V CER.CAPACI	TO
	C205	QCZ0202-155	1.5MF 25V CER.RESIST	OR
	C208	QETB1HM-226E	22MF 50V E.CAPACITO	R
	C211	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	TO
	C265	QCZ0202-155	1.5MF 25V CER.RESIST	OR
	C672	QETB1AM-476	47MF 10V E.CAPACITO	R
	C673	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	TO
	C675	QETB1HM-474	0.47MF 50V ELECTRO	
	C676	QETB1HM-474	0.47MF 50V ELECTRO	
	C679	QCGB1HK-102	1000PF 50V CER.CAPACI	TO
	C787	QEK51EM-106	10MF 25V AL E.CAPAC	IT
	C788	QEK51EM-106	10MF 25V AL E.CAPAC	IT
	C791	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO
	C792	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO
	C793	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO
	C794	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO
	C795	QCGB1HK-102	1000PF 50V CER.CAPACI	TO
	C797	QEK51EM-106	10MF 25V AL E.CAPAC	IT
	C798	QCGB1HK-102	1000PF 50V CER.CAPACI	TO
	C799	QER51CM-476	47MF 16V AL E.CAPAC	IT
	C800	QER51CM-476	47MF 16V AL E.CAPAC	IT
	C901	QCZ0205-155	1.5MF 25V C.CAPACITO	R
	C902	QEADOHZ-22A2M	E.CAPACITO	R
	C903	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	TO
	C904	QEK51HM-225G	2.2MF 50V AL E.CAPAC	IT
	C905	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	TO
	C906	QEK50JM-476	47MF 6.3V AL E.CAPAC	IT
	C907	QER50JM-107	100MF 6.3V AL E.CAPAC	IT
	C908	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R099	QRD14CJ-100S	10 1/4W UNF.CARBON	G
⚠	R099	QRD14CJ-100S	10 1/4W UNF.CARBON	GI
⚠	R100	QRD14CJ-100S	10 1/4W UNF.CARBON	G
⚠	R100	QRD14CJ-100S	10 1/4W UNF.CARBON	GI
	R230	QRD167J-3R9	3.9 1/6W CARBON	
	R240	QRD167J-473	47K 1/6W CARBON RES	IS
	R671	QRD167J-332	3.3K 1/6W CARBON RES	IS
	R672	QRD167J-332	3.3K 1/6W CARBON RES	IS
	R673	QRD167J-103	10K 1/6W CARBON RES	IS
	R674	QRD167J-103	10K 1/6W CARBON RES	IS
	R678	QRD161J-221	220 1/6W CARBON RES	IS
⚠	R679	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	R
	R681	QRD167J-272	2.7K 1/6W CARBON RES	IS
	R682	QRD167J-272	2.7K 1/6W CARBON RES	IS
	R685	QRD167J-123	12K 1/6W CARBON RES	IS
	R686	QRD167J-123	12K 1/6W CARBON RES	IS
	R780	QRD167J-471	470 1/6W CARBON RES	IS
	R785	QRD167J-104	100K 1/6W CARBON RES	IS
	R786	QRD167J-104	100K 1/6W CARBON RES	IS
	R787	QRD161J-202	2K 1/6W CARBON RES	IS
	R788	QRD167J-913	91K 1/6W CARBON RES	IS
	R789	QRD167J-473	47K 1/6W CARBON RES	IS
	R793	QRD167J-102	1K 1/6W CARBON RES	IS
	R794	QRD167J-103	10K 1/6W CARBON RES	IS
	R795	QRD161J-331	330 1/6W CARBON RES	IS
	R901	QRD167J-470	47 1/6W CARBON RES	IS
	R902	QRD167J-103	10K 1/6W CARBON RES	IS
	R903	QRD167J-104	100K 1/6W CARBON RES	IS
	R904	QRD167J-104	100K 1/6W CARBON RES	IS
	R905	QRD167J-473	47K 1/6W CARBON RES	IS
	R909	QRD167J-473	47K 1/6W CARBON RES	IS
	R910	QRD167J-473	47K 1/6W CARBON RES	IS
	R911	QRD167J-473	47K 1/6W CARBON RES	IS
	R913	QRD167J-241	240 1/6W CARBON RES	IS
	R914	QRD167J-241	240 1/6W CARBON RES	IS
	R915	QRD167J-241	240 1/6W CARBON RES	IS
	R916	QRD167J-241	240 1/6W CARBON RES	IS
	R917	QRD167J-241	240 1/6W CARBON RES	IS
	R940	QRD167J-103	10K 1/6W CARBON RES	IS
	R941	QRD167J-103	10K 1/6W CARBON RES	IS
	R942	QRD167J-103	10K 1/6W CARBON RES	IS
	R943	QRD167J-103	10K 1/6W CARBON RES	IS
	VR671	QVDB94B-E15C	100K VARIABLE R	ES
	VR781	QVAB80B-E54D	50K VARIABLE R	ES
	VR901	QVJB84W-E15C	100K VARIABLE R	ES

⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		VYH7653-001	SPRING	
		EWT011-158	TERMINAL WIRE	
	J091	EMB90TV-404A	SPEAKER TERMINAL	BS
	J091	EMB90TV-404A	SPEAKER TERMINAL	EF
	J091	EMB90TV-404A	SPEAKER TERMINAL	EN
	J091	EMB90TV-403A	SPEAKER TERMINAL	G
	J091	EMB90TV-403A	SPEAKER TERMINAL	GI
	J781	QMS3L10-EDOH	MICROPHONE JACK	
	J791	QMS3L10-EDOH	MICROPHONE JACK	
	P671	EMV5109-006A	CONNECT TERMINAL(6PIN)	
	P672	EMV5109-003A	MALE CONNECTOR(3PIN)	
	P674	EMV5142-906	CONNECT TERMINAL(6PIN)	
	S201	ESP0001-023ZJ5	TACT SWITCH(WAKE-UP SLEEP)	
	S202	ESP0001-023ZJ5	TACT SWITCH(DAILY)	
	S203	ESP0001-023ZJ5	TACT SWITCH(ONCE)	
	S204	ESP0001-023ZJ5	TACT SWITCH(REC)	
	S205	ESP0001-023ZJ5	TACT SWITCH(RDS DISPLAY MODE)	
	S206	ESP0001-023ZJ5	TACT SWITCH(CANCEL)	
	S207	ESP0001-023ZJ5	TACT SWITCH(MEMORY)	
	S208	ESP0001-023ZJ5	TACT SWITCH(TUNING ▶)	
	S209	ESP0001-023ZJ5	TACT SWITCH(TUNING ◀)	
	S210	ESP0001-023ZJ5	TACT SWITCH(PRESET ▶)	
	S211	ESP0001-023ZJ5	TACT SWITCH(PRESET ◀)	
	S212	ESP0001-023ZJ5	TACT SWITCH(FM)	
	S213	ESP0001-023ZJ5	TACT SWITCH(AM)	
	S214	ESP0001-023ZJ5	TACT SWITCH(FM MODE)	
	S215	ESP0001-023ZJ5	TACT SWITCH(CLOCK ADJ)	
	S216	ESP0001-023ZJ5	TACT SWITCH(P.T.Y./TP SEARCH)	
	S901	ESP0001-023ZJ5	TACT SWITCH(POWER)	
	S902	ESP0001-023ZJ5	TACT SWITCH(V.MASKING)	

⚠ : SAFETY PARTS

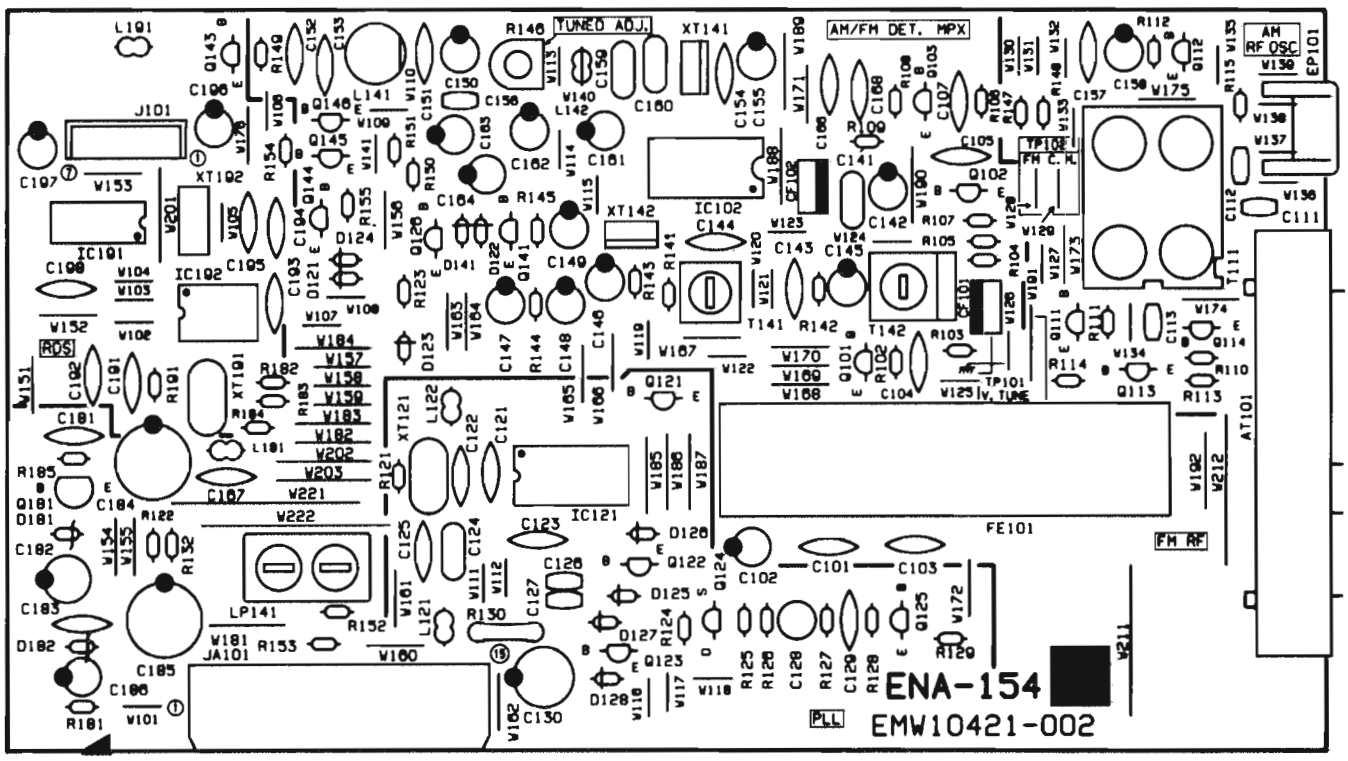
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	S903	ESP0001-023ZJ5	TACT SWITCH(AUX)	
	S904	ESP0001-023ZJ5	TACT SWITCH(PHONO)	
	S905	ESP0001-023ZJ5	TACT SWITCH(ABX/BASS.CONT.)	
	S906	ESP0001-023ZJ5	TACT SWITCH(OFF)	
	S907	ESP0001-023ZJ5	TACT SWITCH(PRESET ◀)	
	S908	ESP0001-023ZJ5	TACT SWITCH(PRESET ▶)	
	S909	ESP0001-023ZJ5	TACT SWITCH(MODE)	
	S910	ESP0001-023ZJ5	TACT SWITCH(LIVE-S)	
	S911	ESP0001-023ZJ5	TACT SWITCH(S.MEMORY)	
	S912	ESP0001-023ZJ5	TACT SWITCH(KARAOKE)	
	BC101	EWS297-1130	SOCKET WIRE ASSY(7PIN)	
	BC672	EWS293-0116	SOCKET WIRE(3PIN)	
	BC674	EWS326-A913	SOCKET WIRE ASSY(6PIN)	
	BC701	EWS325-A920	SOCKET WIRE ASSY(5PIN)	
	BK901	E308419-001SM	FL HOLDER	
	FL201	ELU0001-174	FLUORESCENT DISPLAY TUBE	
	FL901	ELU0001-152	FLUORESCENT DISPLAY TUBE	
	FS901	E306805-014	FELT SPACER	
	FW702	EWR34D-16LS	FLAT WIRE ASSY(4PIN)	
	JA902	EMV5123-H070	CONNECT TERMINAL(17PIN)	
	JA910	EMV5123-6070	CONNECT TERMINAL(6PIN)	
	JB005	EMV7125-004R	CONNECT TERMINAL(4PIN)	
	JB901	EMV7123-029R	PIN CONNECTOR(29PIN)	
	JB902	EMV7124-008	SOCKET(8PIN)	
	JB903	EMV7124-008	SOCKET(9PIN)	
	JB910	EMV7124-006	SOCKET(6PIN)	
	TC201	ENZ1003-015	TRIMMER CAPACITOR	
	XT201	ECX0006-000KNJ	CRYSTAL	
	XT901	ECX0060-000EM	CERAMIC RESONATOR	

⚠ : SAFETY PARTS

■ENA-154☐ Tuner PC Board Ass'y

Note : ENA-154☐ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Designated Areas
ENA-154 D	EN EF	Scandinavia Continental Europe
ENA-154 E	G	Germany
ENA-154 F	BS	the U.K.
ENA-154 G	GI	Italy

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q101	2SC461(B/C)	SI.TRANSISTHITACHI	
	Q102	2SC535(B/C)	SI.TRANSIST	
	Q103	2SC461(B/C)	SI.TRANSISTHITACHI	
	Q111	2SD2144S(VW)	SI.TRANSISTROHM	
	Q112	2SD2144S(VW)	SI.TRANSISTROHM	
	Q113	2SC1740S(R/S)	SI.TRANSISTROHM	
	Q114	2SD2144S(VW)	SI.TRANSISTROHM	
	Q121	DTA144ES	DIGITAL TRAROHM	
	Q122	DTA144ES	DIGITAL TRAROHM	
	Q123	DTA144ES	DIGITAL TRAROHM	
	Q124	2SK301(Q2)	F.E.T.	
	Q125	2SC458(D)	SI.TRANSIST	
	Q126	DTC114ES	DIGITAL TRAROHM	
	Q141	DTC114ES	DIGITAL TRAROHM	
	Q143	DTC114ES	DIGITAL TRAROHM	
	Q144	DTA144ES	DIGITAL TRAROHM	
	Q145	2SD2144S(VW)	SI.TRANSISTROHM	
	Q146	2SD2144S(VW)	SI.TRANSISTROHM	
	Q181	2SD400MP(E/F)	SI.TRANSISTSANYO	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC102	LA1836M	I.C(MONO-ANSANYO	
	IC121	LC7218M	I.C(DIGI-MOSANYO	
	IC191	LC7073M	I.C(DIGI-MOSANYO	
	IC192	SAA6579T	I.C(M)	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D121	1SS119	SI.DIODE	
	D122	1SS119	SI.DIODE	
	D123	1SS119	SI.DIODE	
	D124	1SS119	SI.DIODE	
	D125	1SS119	SI.DIODE	
	D126	1SS119	SI.DIODE	
	D127	1SS119	SI.DIODE	
	D128	1SS119	SI.DIODE	
	D141	1SS119	SI.DIODE	
	D181	MTZ7.5JC	ZENER DIODEROHM	
	D182	MTZ5.1JC	ZENER DIODEROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C101	QCF21HP-103A	0.01MF	50V	CER.CAPACI	TO
	C102	QETB1HM-476	47MF	50V	E.CAPACITO	R G
	C102	QETB1HM-476	47MF	50V	E.CAPACITO	R GI
	C103	QCF21HP-223A	0.022MF	50V	CER.CAPACI	TO
	C104	QCF21HP-223A	0.022MF	50V	CER.CAPACI	TO
	C105	QCF21HP-223A	0.022MF	50V	CER.CAPACI	TO
	C107	QCF21HP-223A	0.022MF	50V	CER.CAPACI	TO
	C111	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO
	C112	QCT30CH-120Y	12PF	50V	CER.CAPACI	TO
	C113	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO
	C121	QCS21HJ-180A	18PF	50V	CER.CAPACI	TO
	C122	QCS21HJ-180A	18PF	50V	CER.CAPACI	TO
	C123	QCC21EM-473	0.047MF	25V	CER.CAPACI	TO
	C124	QCZ0202-155	1.5MF	25V	CER.RESIST	OR
	C125	QCF21HP-223A	0.022MF	50V	CER.CAPACI	TO
	C126	QCBB1HK-101Y	100PF	50V	CER.CAPACI	TO
	C127	QCBB1HK-101Y	100PF,	50V	CER.CAPACI	TO
	C128	QENB1HM-474	0.47MF	50V	NP E.CAPAC	IT
	C129	QCY21HK-102	1000PF	50V	CER.CAPACI	TO
	C130	QETB1CM-227	220MF	16V	AL E.CAPAC	IT

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C141	QFLB1HJ-473	0.047MF	50V	MYLAR CAPA	CI
	C142	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C143	QCF21HP-223A	0.022MF	50V	CER.CAPACI	TO
	C144	QCC21EM-223	0.022MF	25V	CER.CAPACI	TO
	C145	QETB1HM-475E	4.7MF	50V	E.CAPACITO	R
	C146	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C147	QETB1HM-105	1MF	50V	AL E.CAPAC	IT
	C148	QETB1HM-474	0.47MF	50V	ELECTRO	
	C149	QETB1HM-105	1MF	50V	AL E.CAPAC	IT
	C150	QETC1HM-225ZN	2.2MF	50V	AL E.CAPAC	IT
	C151	QCS21HJ-181A	180PF	50V	CER.CAPACI	TO G
	C151	QCS21HJ-181A	180PF	50V	CER.CAPACI	TO GI
	C152	QCS21HJ-181A	180PF	50V	CER.CAPACI	TO G
	C152	QCS21HJ-181A	180PF	50V	CER.CAPACI	TO GI
	C153	QCY31HK-821Z	820PF	50V	CER.CAPACI	TO
	C154	QCY31HK-472Z	4700PF	50V	CER.CAPACI	TO
	C155	QETB1EM-476	47MF	25V	AL E.CAPAC	IT
	C156	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO
	C157	QCF21HP-473A	0.047MF	50V	CER.CAPACI	TO
	C158	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C159	QFLB1HJ-333	0.033MF	50V	MYLAR CAPA	CI
	C160	QFLB1HJ-333	0.033MF	50V	MYLAR CAPA	CI
	C161	QETB1HM-225	2.2MF	50V	E.CAPACITO	R
	C162	QETB1HM-225	2.2MF	50V	E.CAPACITO	R
	C163	QETB1HM-225	2.2MF	50V	E.CAPACITO	R
	C164	QETB1HM-225	2.2MF	50V	E.CAPACITO	R
	C166	QCC21EM-473	0.047MF	25V	CER.CAPACI	TO
	C167	QCF21HP-223A	0.022MF	50V	CER.CAPACI	TO
	C168	QCC21EM-473	0.047MF	25V	CER.CAPACI	TO
	C181	QCF21HP-223A	0.022MF	50V	CER.CAPACI	TO
	C182	QETB1CM-107	100MF	16V	AL E.CAPAC	IT
	C183	QCF21HP-223A	0.022MF	50V	CER.CAPACI	TO
	C184	QETB1CM-227	220MF	16V	AL E.CAPAC	IT
	C185	QETB1CM-477M	470MF	16V	E.CAPACITO	R
	C186	QETB1HM-475E	4.7MF	50V	E.CAPACITO	R
	C191	QCS21HJ-820	82PF	50V	CER.CAPACI	TO
	C192	QCS21HJ-470	47PF	50V	CER.CAPACI	TO
	C193	QCS21HJ-561	560PF	50V	CER.CAPACI	TO
	C194	QCF21HP-223A	0.022MF	50V	CER.CAPACI	TO
	C195	QCS21HJ-331	330PF	50V	CER.CAPACI	TO
	C196	QETB1HM-225	2.2MF	50V	E.CAPACITO	R
	C197	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C198	QCC21EM-104	0.1MF	25V	CER.CAPACI	TO

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R102	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R103	QRD161J-221	220	1/6W	CARBON RES	IS
	R104	QRD167J-272	2.7K	1/6W	CARBON RES	IS
	R105	QRD167J-391	390	1/6W	CARBON RES	IS
	R106	QRD167J-102	1K	1/6W	CARBON RES	IS
	R107	QRD161J-681	680	1/6W	CARBON RES	IS
	R108	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R109	QRD161J-221	220	1/6W	CARBON RES	IS
	R110	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R111	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R112	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R113	QRD167J-103	10K	1/6W	CARBON RES	IS
	R114	QRD167J-103	10K	1/6W	CARBON RES	IS
	R115	QRD167J-104	100K	1/6W	CARBON RES	IS
	R121	QRD167J-473	47K	1/6W	CARBON RES	IS
	R122	QRD167J-103	10K	1/6W	CARBON RES	IS
	R123	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R124	QRD167J-222	2.2K	1/6W	CARBON RES	IS
	R125	QRD167J-222	2.2K	1/6W	CARBON RES	IS
	R126	QRD161J-181	180	1/6W	CARBON RES	IS
	R127	QRD167J-822	8.2K	1/6W	CARBON RES	IS
	R128	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R129	QRD167J-222	2.2K	1/6W	CARBON RES	IS
⚠	R130	QRZ0077-680	68	1/4W	FUSIBLE RE	SI
	R132	QRD167J-102	1K	1/6W	CARBON RES	IS
	R141	QRD167J-392	3.9K	1/6W	CARBON RES	IS
	R142	QRD167J-103	10K	1/6W	CARBON RES	IS
	R143	QRD167J-103	10K	1/6W	CARBON RES	IS
	R144	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R145	QRD167J-103	10K	1/6W	CARBON RES	IS
	R146	QVPA601-103A	10K		TRIMMER RE	SI
	R147	QRD167J-473	47K	1/6W	CARBON RES	IS
	R148	QRD161J-561	560	1/6W	CARBON RES	IS
	R149	QRD167J-223	22K	1/6W	CARBON RES	IS BS
	R149	QRD167J-103	10K	1/6W	CARBON RES	IS EF
	R149	QRD167J-103	10K	1/6W	CARBON RES	IS EN
	R149	QRD167J-103	10K	1/6W	CARBON RES	IS G
	R149	QRD167J-103	10K	1/6W	CARBON RES	IS GI
	R150	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R151	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R152	QRD167J-332	3.3K	1/6W	CARBON RES	IS BS
	R152	QRD167J-822	8.2K	1/6W	CARBON RES	IS EF
	R152	QRD167J-822	8.2K	1/6W	CARBON RES	IS EN
	R152	QRD167J-822	8.2K	1/6W	CARBON RES	IS G
	R152	QRD167J-822	8.2K	1/6W	CARBON RES	IS GI

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R153	QRD167J-332	3.3K 1/6W CARBON RES	IS BS
	R153	QRD167J-822	8.2K 1/6W CARBON RES	IS EF
	R153	QRD167J-822	8.2K 1/6W CARBON RES	IS EN
	R153	QRD167J-822	8.2K 1/6W CARBON RES	IS G
	R153	QRD167J-822	8.2K 1/6W CARBON RES	IS GI
	R154	QRD167J-103	10K 1/6W CARBON RES	IS
	R155	QRD167J-103	10K 1/6W CARBON RES	IS
	R181	QRD167J-222	2.2K 1/6W CARBON RES	IS
	R182	QRD167J-103	10K 1/6W CARBON RES	IS
	R183	QRD167J-103	10K 1/6W CARBON RES	IS
	R184	QRD167J-103	10K 1/6W CARBON RES	IS
	R185	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R191	QRD167J-222	2.2K 1/6W CARBON RES	IS

⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E309022-001SM	SHIELD BRACKET	
		VYH7653-002	I.C.SOCKET	
		VYH7653-004	I.C.PROTECTOR	
	J101	EMV5109-007A	MALE CONNECTOR(7PIN)	
	L111	EQL4004-220	INDUCTOR	G
	L111	EQL4004-220	INDUCTOR	GI
	L121	EQL4007-1R0T	INDUCTOR	
	L122	EQL4007-1R0T	INDUCTOR	
	L141	EQL2108-392	INDUCTOR	G
	L141	EQL2108-392	INDUCTOR	GI

⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	L181	EQL4004-1R0	INDUCTOR	
	L191	EQL4004-101	INDUCTOR	
	T111	EQR7121-002	RF COIL	
	T141	EQT2140-021	I.F.TRANSFORMER	
	T142	ECB1560-010	CERAMIC FILTER	
	AT101	EMB01YV-305K	ANTENNA TERMINAL	
	CF101	ECB2118-007R	CERAMIC FILTER	
	CF102	ECB2118-007R	CERAMIC FILTER	
	EP101	E70225-001	EARTH PLATE	
	FE101	EAF2203-004	FRONT END	BS
	FE101	EAF2203-004	FRONT END	EF
	FE101	EAF2203-004	FRONT END	EN
	FE101	EAF2203-005	FRONT END	G
	FE101	EAF2203-005	FRONT END	GI
	JA101	EMV7140-L15R	CONNECT TERMINAL(15PIN)	
	LP141	EQF0101-002	LOWPASS FILTER	
	XT121	ECX0007-200KWJ1	CRYSTAL	
	XT141	ECXPR46-001A	CRYSTAL	
	XT142	ECB1001-002	CERAMIC FILTER	
	XT191	VCX5057-001	CRYSTAL	
	XT192	EFO-EC4004T4	CERAMIC RESONATOR	

⚠ : SAFETY PARTS

Accessories List

Symbol No. M 2 M M

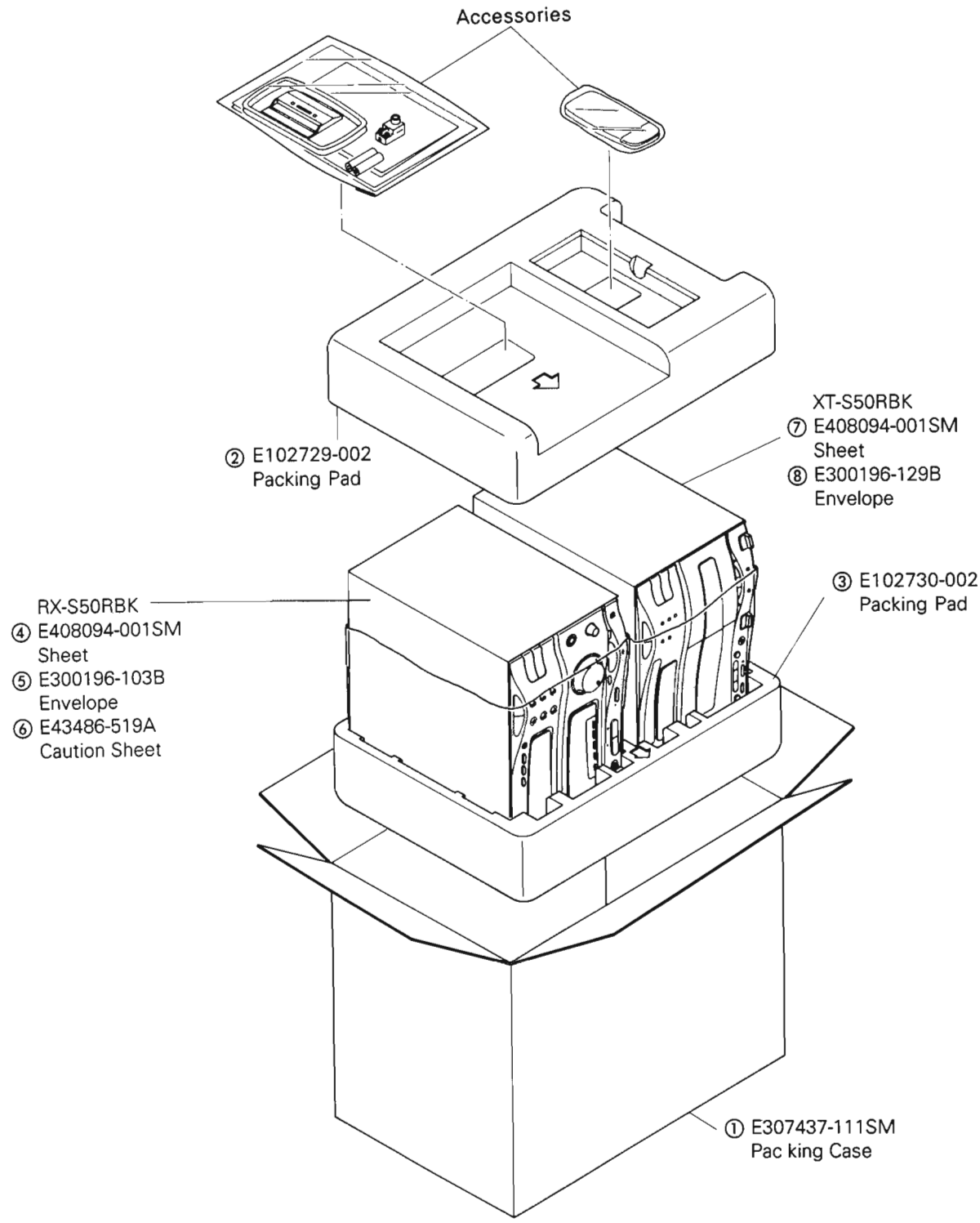
Item	Part Number	Part Name	Q'ty	Description	Areas
1	E30580-2089A	INSTRUCTION BOOK	1		EF
	E30580-2089A	INSTRUCTION BOOK	1		G
	E30580-2089A	INSTRUCTION BOOK	1		GI
	E30580-2090ABS	INSTRUCTION BOOK	1		BS
	E30580-2091A	INSTRUCTION BOOK	1		EN
2	BT20060	WARRANTY CARD	1		BS
3	BT-20134	WARRANTY CARD	1		G
4	BT-20066A	EEC AGENCY	1		BS
5	E43486-340A	SAFETY SHEET	1		BS
6	E03614-004	BIUT-IN ANTENNA	1		BS
	E03614-004	BIUT-IN ANTENNA	1		EF
	E03614-004	BIUT-IN ANTENNA	1		EN
	E03614-004	BIUT-IN ANTENNA	1		GI
	E67007-001	ANTENNA WIRE	1		G
7	EQB4001-015	LOOP ANTENNA	1		
8	EMZ2001-014	ADAPTOR PLUG	1		BS
	EMZ2001-014	ADAPTOR PLUG	1		EF
	EMZ2001-014	ADAPTOR PLUG	1		EN
	EMZ2001-014	ADAPTOR PLUG	1		GI
9	RM-SES50U	REMOTE CONTROLLER	1		
10	UM-3(DJ)-2PSA	BATTERY	1		
11	E43486-597A	INST SHEET	1		G
	E43486-597A	INST SHEET	1		GI
12	EWF102-040	FLAT WIRE ASSY	1		G
	EWF102-040	FLAT WIRE ASSY	1		GI
13	QPGA025-03505B	ENVELOPE	1		

The Marks for Designated Areas

BS .... the U.K. EN .... Scandinavia EF ..... Continental Europe
G ..... Germany GI .... Itary
No mark indicates all areas.

Packing Materials and Part Numbers

Symbol No. M 3 M M



MEMO

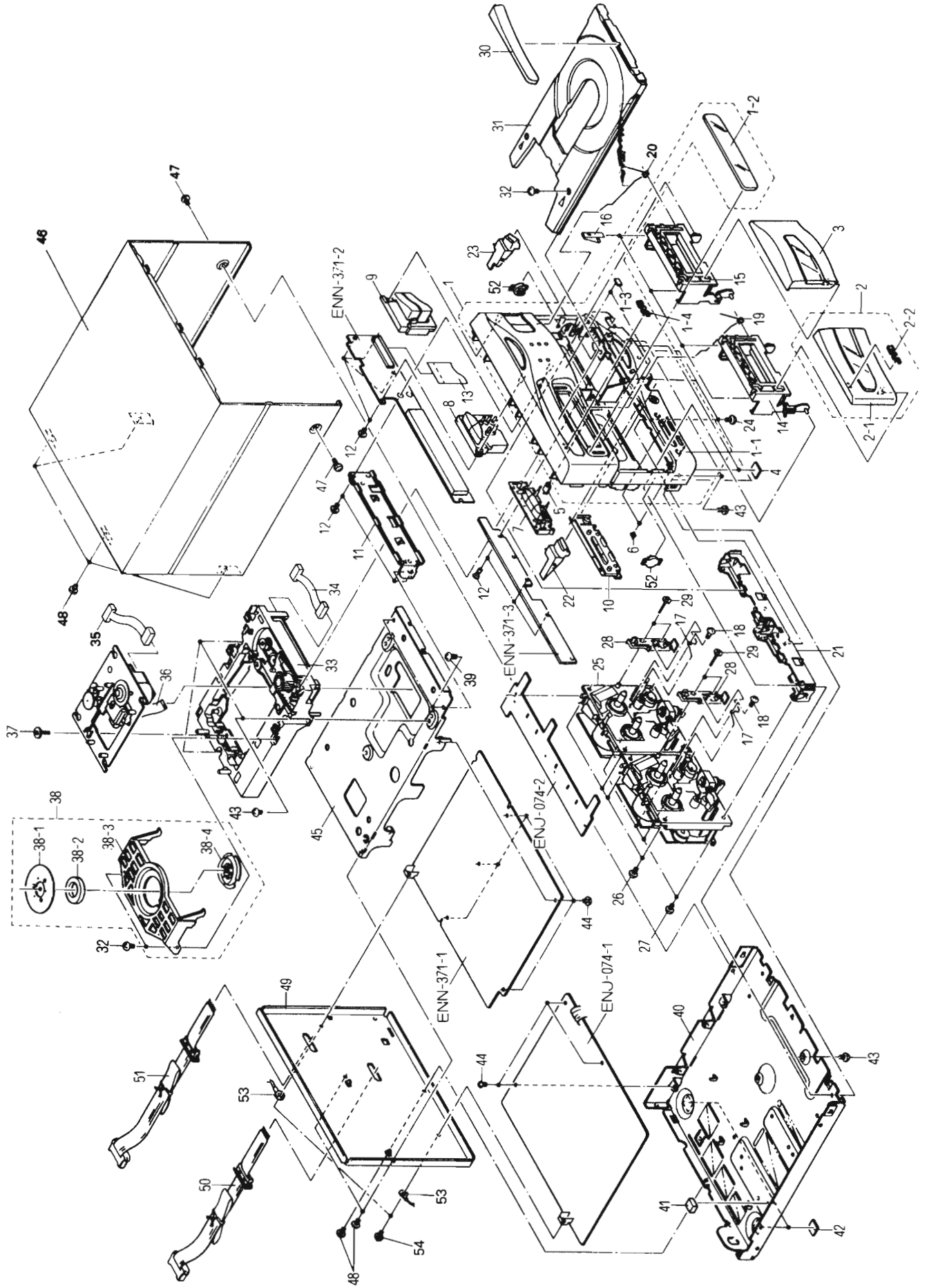
XT-S50RBK

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

— Contents —

General Exploded View and Parts List

Symbol No. M 4 M M



■ Parts List

Symbol No. M 4 M M

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-XTS50RBKE (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 ASSY	1	DECK B	
	4	E75896-001	SPACER	2	FRONT FOOT	
	5	E407446-001SS	INDICATOR	1		
	6	E407445-002SS	INDICATOR	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	CASSETTE SPRING	4		
	17	E407304-001	SPRING	2		
	18	GBSF3006Z	SCREW	2		
	19	E407447-007SM	EJECT SPRING	1	DECK A	
	20	E407447-008SM	EJECT SPRING	1	DECK B	
	21	E207567-001	HOLDER BRACKET	1		
	22	E308160-001SS	EJECT BUTTON	1	DECK A	
	23	E308161-001SS	EJECT BUTTON	1	DECK B	
	24	SBST3006M	SCREW	4		
	25	------	CASSETTE MECHANISM ASSY	1	SEE PAGE 5-5	
	26	SBSF3010C	SCREW	4		
	27	SBST3008C	SCREW	4		
	28	E308162-003SS	EJECT LEVER	2		
	29	E407214-001	SPECIAL SCREW	4		
	30	E207534-003SS	FITTING	1		
	31	E102358-332SS	TRAY	1		
	32	SBSF3008M	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	E306836-003	YOKE	1		
	38-2	E74897-002	MAGNET	1		
	38-3	E26756-002	CLAMPER BASE	1		
	38-4	E306835-001	CLAMPER	1		
	39	SBST3006Z	SCREW	2		
	40	E102616-004SS	CHASSIS BASE	1		
	41	EXO008008R40S	SPACER	1		
	42	E75896-006	FELT SPACER	2	REAR FOOT	
	43	SBST3008Z	SCREW	6		
	44	SBSG3008N	SCREW	8		
	45	E102688-003SM	CHASSIS BASE	1		

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	46	E207787-223	METAL COVER	1		
	47	SDSG3006M	SCREW	2		
	48	E73273-003	SPECIAL SCREW	7		
	49	E207809-015SM	REAR PANEL	1		BS
		E207809-015SM	REAR PANEL	1		EF
		E207809-015SM	REAR PANEL	1		EN
		E207809-015SM	REAR PANEL	1		G
		E207809-015SM	REAR PANEL	1		GI
	50	EWP907-013	PLUG CORD ASSY	1		
	51	EWP907-015	FLAT WIRE ASSY	1		
	52	E304434-005	DAMPER ASSY	2		
	53	52868-3	LUG	2		G
		52868-3	LUG	2		GI
	54	SBSG3008CC	SCREW	2		G
		SBSG3008CC	SCREW	2		GI
	—	E406507-001	CAUTION LABEL	1		
	—	E70891-001	CLASS 1 LABEL	1		

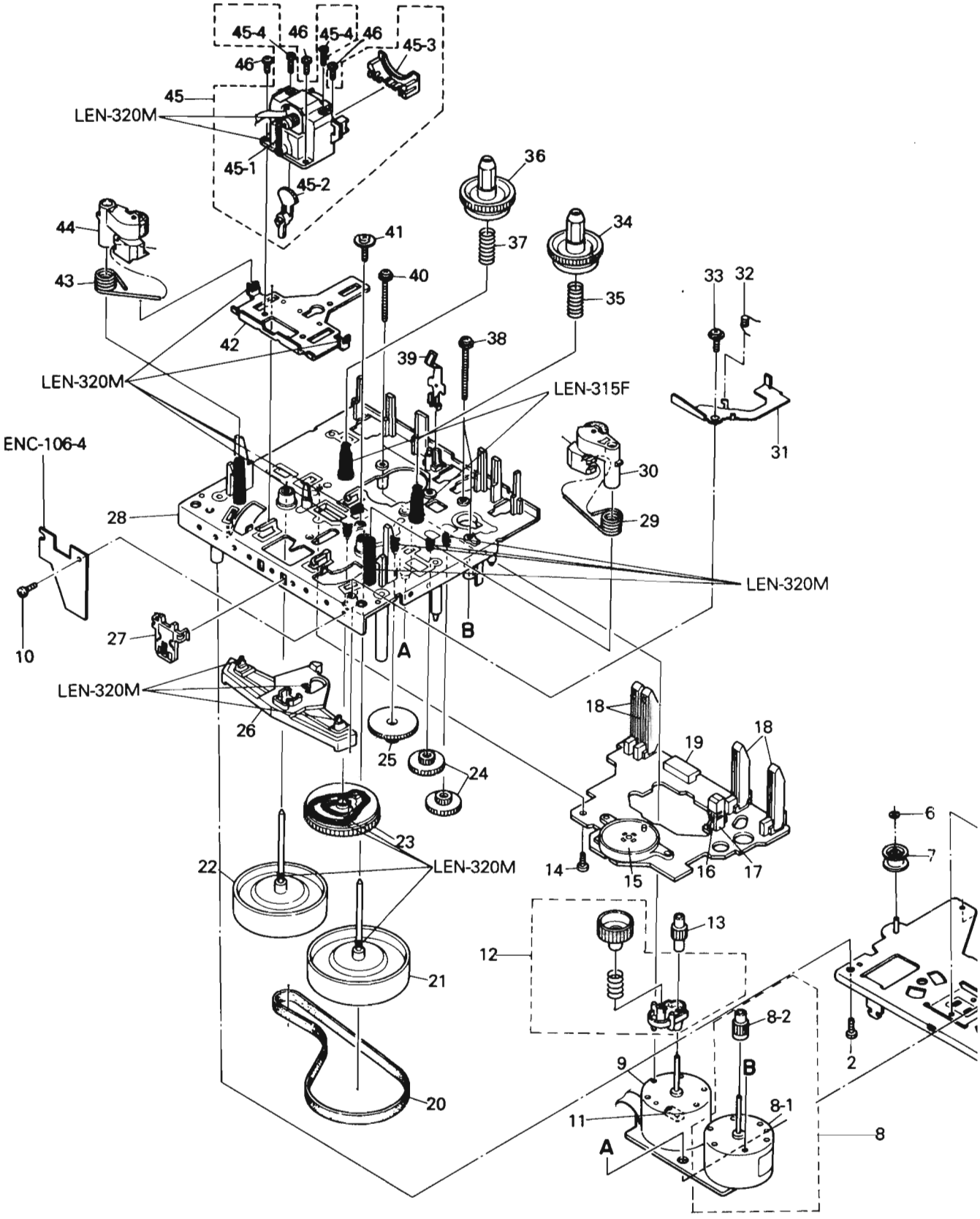
⚠ SAFETY PARTS

The Marks for Designated Areas

BS ..... the U.K. EN ..... Scandinavia EF ..... Continental Europe
G ..... Germany GI ..... Itary
No mark indicates all areas.

Cassette Mechanism Ass'y and Parts List

Symbol No. M 5 M M



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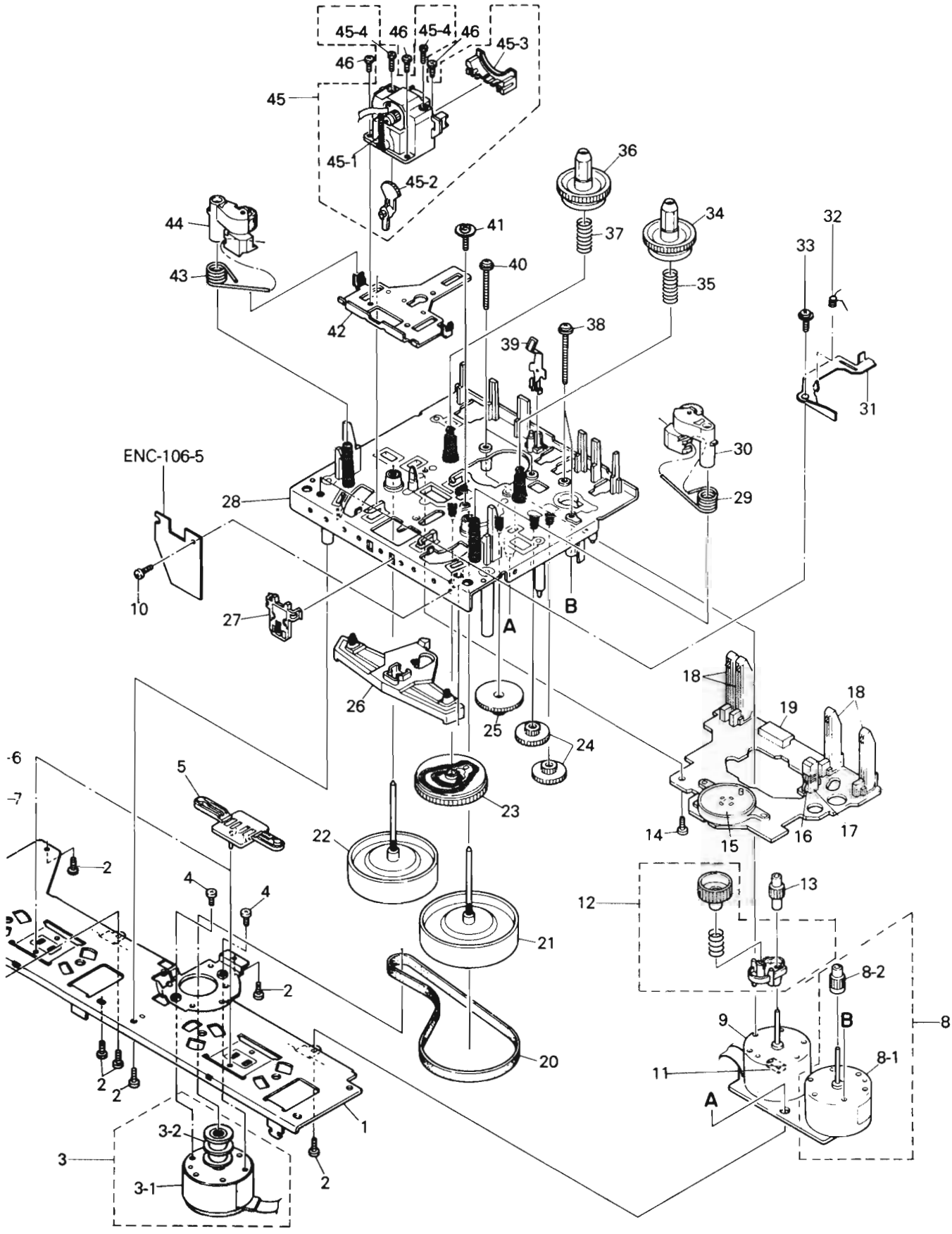
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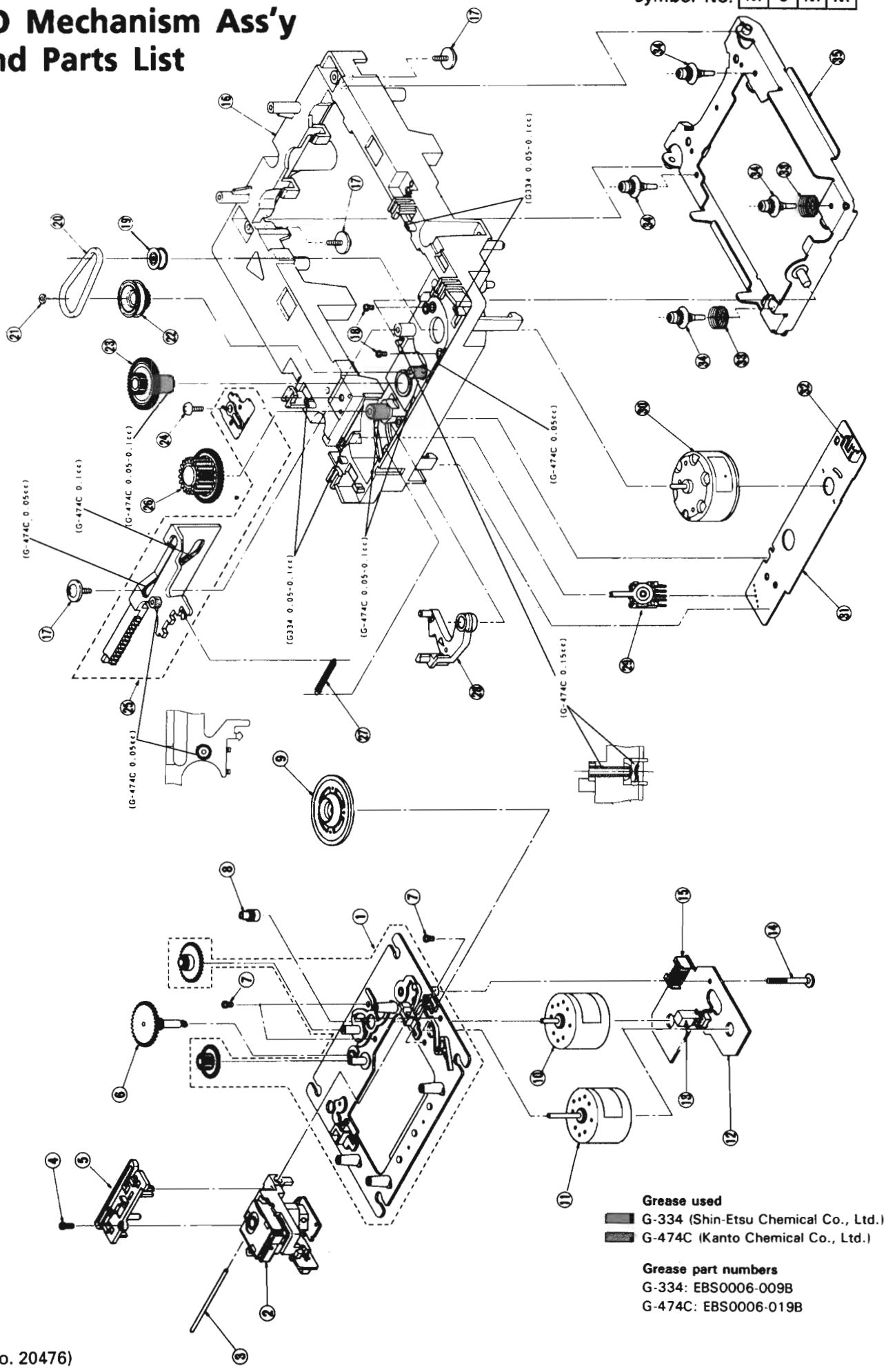
■Parts List (Cassete Mechanism Ass'y)

Symbol No. M 5 M M

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-6H2LWSK	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

Symbol No. M 6 M M



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)

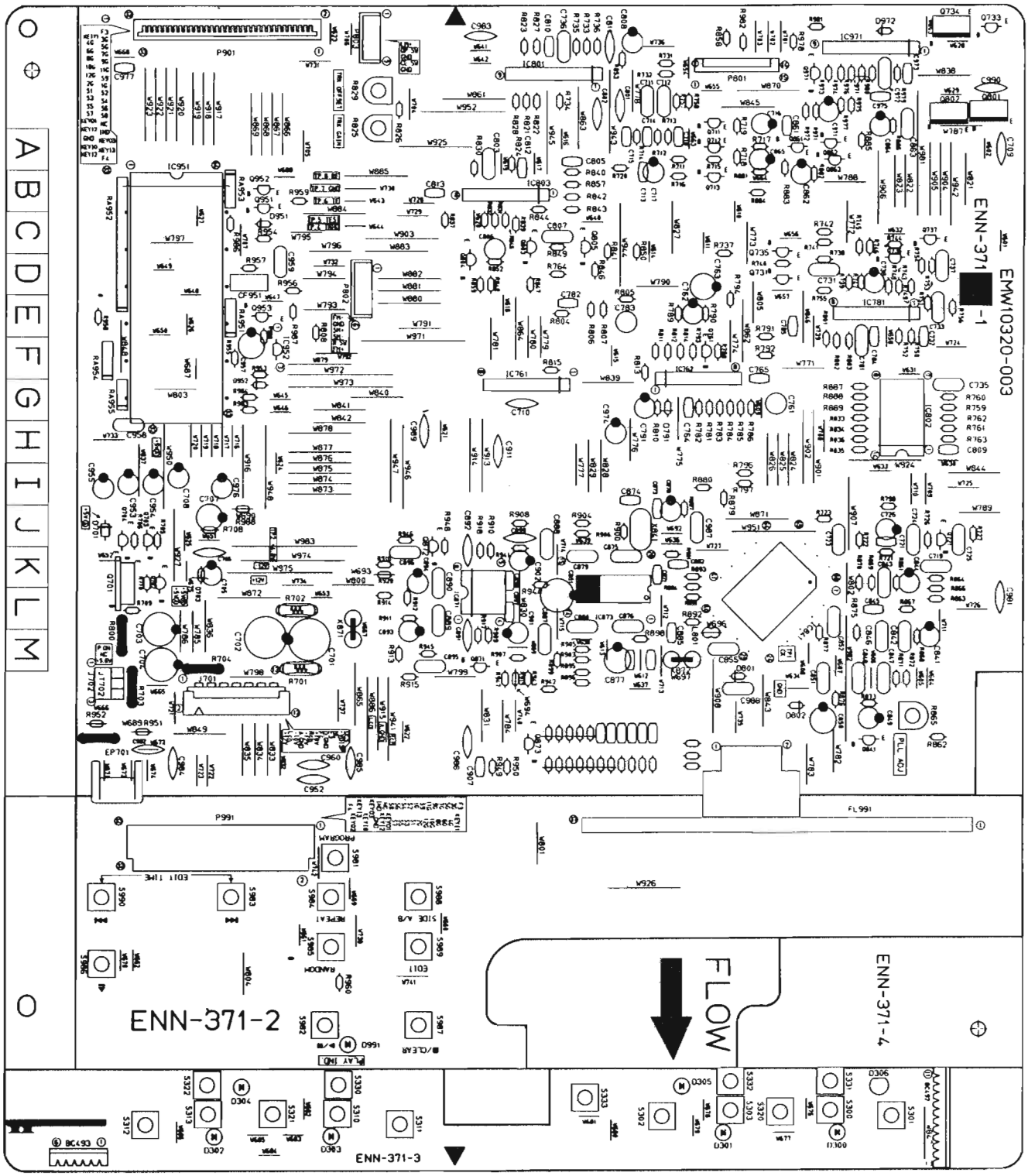
Symbol No. M 6 M M

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 EN EF	the U.K. Scandinavia Continental Europe
ENN-371 Ⓓ	G GI	Germany Italy

Transistors

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

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC761	STA341M(A)	TRANSISTOR	
	IC762	M5218AL	I.C(MONO-ANMITSUBISHI	
	IC781	M5218AL	I.C(MONO-ANMITSUBISHI	
	IC801	NJM072S	I.C(MONO-ANDAINICHI	
	IC802	BA10339	I.C(MONO-ANROHM	
	IC803	M5218AL	I.C(MONO-ANMITSUBISHI	
	IC841	YM7121C	I.C(DIGI-MOYAMAHA	
	IC871	BA15218	I.C(MONO-ANROHM	
	IC873	MN35501	I.C(DIGI-MOMATSUSHITA	
	IC951	HD404019RC11S	I.C(MICRO-CHITACHI	
	IC952	MN1281(P,Q)	I.C(DIGI-MOMATSUSHITA	
	IC971	NJM2904S	I.C(MONO-ANDAINICHI	

⚠ : SAFETY PARTS

Diodes

⚠	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 DIODEROHM	
	D791	1SS119	SI.DIODE	
	D951	1SS119	SI.DIODE	
	D952	1SS119	SI.DIODE	
	D971	MTZ2.4JB	ZENER DIODEROHM	
	D972	1SS119	SI.DIODE	
	D991	SLR-342MCA47	L.E.D. ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C701	QETB1CM-108	1000MF 16V AL E.CAPAC	IT
	C702	QETB1CM-108	1000MF 16V AL E.CAPAC	IT
	C703	QETB1CM-227	220MF 16V AL E.CAPAC	IT
	C704	QETB1CM-227	220MF 16V AL E.CAPAC	IT
	C705	QETB1CM-476	47MF 16V AL E.CAPAC	IT
	C706	QCF21HP-223A	0.022MF 50V CER.CAPACI	TO
	C707	QETB0JM-227	220MF 6.3V E.CAPACITO	R
	C708	QETB1AM-107	100MF 10V AL E.CAPAC	IT
	C709	QCF21HP-223A	0.022MF 50V CER.CAPACI	TO
	C710	QCF21HP-223A	0.022MF 50V CER.CAPACI	TO
	C711	QFLB1HJ-472	4700PF 50V MYLAR CAPA	CI
	C712	QFLB1HJ-472	4700PF 50V MYLAR CAPA	CI
	C713	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO
	C714	QCSB1HK-3R9	3.9PF 50V CER.CAPACI	TO
	C715	QCBB1HK-471Y	470PF 50V CER.CAPACI	TO
	C716	QETB1EM-106	10MF 25V AL E.CAPAC	IT
	C717	QETB1CM-476	47MF 16V AL E.CAPAC	IT
	C718	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO
	C719	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	CI
	C721	QCSB1HJ-470	47PF 50V CER.CAPACI	TO
	C723	QCZ0202-155	1.5MF 25V CER.RESIST	OR
	C724	QFLB1HJ-563	0.056MF 50V MYLAR CAPA	CI
	C725	QFV81HJ-564	0.56MF 50V THIN FILM	CA
	C726	QETB1EM-106	10MF 25V AL E.CAPAC	IT
	C731	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	CI
	C732	QCBB1HK-271Y	270PF 50V CER.CAPACI	TO
	C733	QFLB1HJ-393	0.039MF 50V MYLAR CAPA	CI
	C735	QFV81HJ-104	0.1MF 50V THIN FILM	CA
	C736	QFV81HJ-224	0.22MF 50V THIN FILM	CA
	C737	QFV81HJ-104	0.1MF 50V THIN FILM	CA
	C738	QETB1CM-476	47MF 16V AL E.CAPAC	IT
	C761	QEN51HM-225	2.2MF 50V NP E.CAPAC	IT
	C762	QETB1EM-226	22MF 25V E.CAPACITO	R
	C763	QETB0JM-227	220MF 6.3V E.CAPACITO	R
	C764	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO
	C765	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO
	C781	QFLB1HJ-272	2700PF 50V MYLAR CAPA	CI
	C782	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO
	C783	QEN51HM-225	2.2MF 50V NP E.CAPAC	IT
	C784	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO
	C785	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO
	C791	QETB1HM-475E	4.7MF 50V E.CAPACITO	R
	C801	QCT26CH-151	150PF 50V CER.CAPACI	TO
	C802	QCT26CH-101	100PF 50V CER.CAPACI	TO
	C803	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	CI
	C805	QCSB1HJ-470	47PF 50V CER.CAPACI	TO
	C806	QEN51HM-225	2.2MF 50V NP E.CAPAC	IT
	C807	QFLB1HJ-563	0.056MF 50V MYLAR CAPA	CI
	C808	QETB1CM-476	47MF 16V AL E.CAPAC	IT
	C809	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO
	C810	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO
	C811	QCF21HP-223A	0.022MF 50V CER.CAPACI	TO
	C812	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO
	C813	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO
	C841	QETB1AM-107	100MF 10V AL E.CAPAC	IT
	C842	QFV81HJ-104	0.1MF 50V THIN FILM	CA
	C843	QFV81HJ-104	0.1MF 50V THIN FILM	CA
	C844	QETB1EM-106	10MF 25V AL E.CAPAC	IT
	C845	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO
	C846	QFV81HJ-105	1MF 50V THIN FILM	CA
	C847	QFLB1HJ-182	1800PF 50V MYLAR CAPA	CI
	C848	QFV81HJ-224	0.22MF 50V THIN FILM	CA
	C849	QETB1EM-106	10MF 25V AL E.CAPAC	IT
	C850	QETB0JM-227	220MF 6.3V E.CAPACITO	R
	C851	QFV81HJ-104	0.1MF 50V THIN FILM	CA
	C852	QFV81HJ-104	0.1MF 50V THIN FILM	CA
	C855	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	CI
	C861	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO
	C862	QETB1CM-107	100MF 16V AL E.CAPAC	IT
	C863	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	CI
	C864	QETB1EM-106	10MF 25V AL E.CAPAC	IT
	C865	QETB1HM-105	1MF 50V AL E.CAPAC	IT
	C873	QCT30CH-120Y	12PF 50V CER.CAPACI	TO
	C874	QCT30CH-3R9Y	3.9PF 50V CER.CAPACI	TO
	C875	QCZ0202-155	1.5MF 25V CER.RESIST	OR
	C876	QCZ0202-155	1.5MF 25V CER.RESIST	OR
	C877	QETB0JM-227	220MF 6.3V E.CAPACITO	R
	C879	QCZ0202-155	1.5MF 25V CER.RESIST	OR
	C880	QCZ0202-155	1.5MF 25V CER.RESIST	OR
	C881	QETB0JM-477	470MF 6.3V AL E.CAPAC	IT
	C882	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO
	C887	QFLB1HJ-152	1500PF 50V MYLAR CAPA	CI
	C888	QFLB1HJ-152	1500PF 50V MYLAR CAPA	CI
	C889	QFLB1HJ-122	1200PF 50V MYLAR CAPA	CI
	C890	QFLB1HJ-122	1200PF 50V MYLAR CAPA	CI
	C891	QCS21HJ-121	120PF 50V CER.CAPACI	TO
	C892	QCS21HJ-121	120PF 50V CER.CAPACI	TO
	C893	EEZ2505-226	22MF AL E.CAPAC	IT
	C894	EEZ2505-226	22MF AL E.CAPAC	IT
	C895	QFLB1HJ-683	0.068MF 50V MYLAR CAPA	CI
	C896	QFLB1HJ-683	0.068MF 50V MYLAR CAPA	CI
	C897	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO
	C898	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO
	C899	QCY31HK-122Z	1200PF 50V CER.CAPACI	TO
	C907	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	TO

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C953	QETB1HM-475E	4.7MF	50V	E.CAPACITO	R
	C954	QETB1HM-475E	4.7MF	50V	E.CAPACITO	R
	C955	QETB1HM-226E	22MF	50V	E.CAPACITO	R
	C957	QETB1AM-227	220MF	10V	E.CAPACITO	R
	C958	QCZ0202-155	1.5MF	25V	CER.RESIST	OR
	C959	QFV81HJ-104	0.1MF	50V	THIN FILM	CA BS
	C959	QFV81HJ-104	0.1MF	50V	THIN FILM	CA EF
	C959	QFV81HJ-104	0.1MF	50V	THIN FILM	CA EN
	C959	QFV81HJ-104	0.1MF	50V	THIN FILM	CA G
	C959	QFV81HJ-104	0.1MF	50V	THIN FILM	CA GI
	C971	QETB1CM-476	47MF	16V	AL E.CAPAC	IT
	C972	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI
	C973	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO
	C974	QETB1AM-107	100MF	10V	AL E.CAPAC	IT
	C975	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO
	C976	QETB1HM-475E	4.7MF	50V	E.CAPACITO	R
	C984	QCS21HJ-470	47PF	50V	CER.CAPACI	TO G
	C984	QCS21HJ-470	47PF	50V	CER.CAPACI	TO GI
	C987	QCZ0202-155	1.5MF	25V	CER.RESIST	OR
	C988	QCZ0202-155	1.5MF	25V	CER.RESIST	OR

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
⚠	R701	PTH61G25AR4R7M			FUSIBLE RE	SI
⚠	R702	PTH61G25AR4R7M			FUSIBLE RE	SI
⚠	R703	QRZ0077-100	10	1/4W	FUSIBLE RE	SI
⚠	R704	QRZ0077-100	10	1/4W	FUSIBLE RE	SI
	R705	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R706	QRD161J-331	330	1/6W	CARBON RES	IS
	R708	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R709	QRD161J-122	1.2K	1/6W	CARBON RES	IS
	R710	QRD167J-121	120	1/6W	CARBON RES	IS
	R711	QRD161J-183	18K	1/6W	CARBON RES	IS
	R712	QRD161J-432	4.3K	1/6W	CARBON RES	IS
	R713	QRD167J-391	390	1/6W	CARBON RES	IS
	R714	QRD161J-221	220	1/6W	CARBON RES	IS
	R715	QRD167J-152	1.5K	1/6W	CARBON RES	IS
	R716	QRD161J-561	560	1/6W	CARBON RES	IS
	R717	QRD167J-431	430	1/6W	CARBON RES	IS
	R718	QRD161J-512	5.1K	1/6W	CARBON RES	IS
	R719	QRD167J-152	1.5K	1/6W	CARBON RES	IS
	R720	QRD167J-271	270	1/6W	CARBON RES	IS
	R721	QRD167J-471	470	1/6W	CARBON RES	IS
	R722	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R723	QRD167J-103	10K	1/6W	CARBON RES	IS
	R726	QRD167J-102	1K	1/6W	CARBON RES	IS
	R727	QRD161J-183	18K	1/6W	CARBON RES	IS
	R731	QRD167J-104	100K	1/6W	CARBON RES	IS
	R732	QRD167J-104	100K	1/6W	CARBON RES	IS
	R733	QRD167J-394	390K	1/6W	CARBON RES	IS
	R734	QRD167J-394	390K	1/6W	CARBON RES	IS
	R735	QRD167J-121	120	1/6W	CARBON RES	IS
	R736	QRD167J-182	1.8K	1/6W	CARBON RES	IS
	R737	QRD161J-681	680	1/6W	CARBON RES	IS
	R738	QRD167J-473	47K	1/6W	CARBON RES	IS
	R739	QRD161J-331	330	1/6W	CARBON RES	IS
	R740	QRD161J-183	18K	1/6W	CARBON RES	IS
	R741	QRD167J-103	10K	1/6W	CARBON RES	IS
	R742	QRD167J-104	100K	1/6W	CARBON RES	IS
	R743	QRD167J-474	470K	1/6W	CARBON RES	IS
	R744	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R745	QRD161J-184	180K	1/6W	CARBON RES	IS
	R746	QRD161J-183	18K	1/6W	CARBON RES	IS
	R747	QRD167J-473	47K	1/6W	CARBON RES	IS
	R748	QRD167J-471	470	1/6W	CARBON RES	IS
	R749	QRD161J-105	1M	1/6W	CARBON RES	IS
	R750	QRD161J-273	27K	1/6W	CARBON RES	IS
	R751	QRD167J-394	390K	1/6W	CARBON RES	IS
	R752	QRD161J-333	33K	1/6W	CARBON RES	IS
	R753	QRD167J-394	390K	1/6W	CARBON RES	IS
	R754	QRD167J-102	1K	1/6W	CARBON RES	IS
	R755	QRD161J-105	1M	1/6W	CARBON RES	IS
	R756	QRD161J-221	220	1/6W	CARBON RES	IS
	R757	QRD161J-105	1M	1/6W	CARBON RES	IS
	R758	QRD161J-105	1M	1/6W	CARBON RES	IS
	R759	QRD167J-104	100K	1/6W	CARBON RES	IS
	R760	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R761	QRD167J-104	100K	1/6W	CARBON RES	IS
	R762	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R763	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R764	QRD161J-183	18K	1/6W	CARBON RES	IS
	R781	QRD167J-434	430K	1/6W	CARBON RES	IS
	R782	QRD161J-274	270K	1/6W	CARBON RES	IS
	R783	QRD161J-203	20K	1/6W	CARBON RES	IS
	R784	QRD167J-224	220K	1/6W	CARBON RES	IS
	R785	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R786	QRD167J-392	3.9K	1/6W	CARBON RES	IS
	R788	QRD167J-103	10K	1/6W	CARBON RES	IS

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R789	QRD167J-102	1K	1/6W	CARBON RES	IS
	R790	QRD167J-471	470	1/6W	CARBON RES	IS
	R791	QRD167J-683	68K	1/6W	CARBON RES	IS
	R792	QRD161J-183	18K	1/6W	CARBON RES	IS
	R793	QRD161J-183	18K	1/6W	CARBON RES	IS
	R794	QRD161J-221	220	1/6W	CARBON RES	IS
	R796	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R797	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R798	QRD167J-472	4.7K	1/6W	CARBON RES	IS
⚠	R800	QRZ0077-4R7	4.7	1/4W	FUSE RESIS	TO
	R801	QRD167J-474	470K	1/6W	CARBON RES	IS
	R802	QRD167J-474	470K	1/6W	CARBON RES	IS
	R803	QRD167J-823	82K	1/6W	CARBON RES	IS
	R804	QRD161J-221	220	1/6W	CARBON RES	IS
	R805	QRD167J-683	68K	1/6W	CARBON RES	IS
	R806	QRD167J-123	12K	1/6W	CARBON RES	IS
	R807	QRD167J-152	1.5K	1/6W	CARBON RES	IS
	R808	QRD167J-2R2	2.2	1/6W	CARBON RES	IS
	R810	QRD161J-684	680K	1/6W	CARBON RES	IS
	R811	QRD161J-513	51K	1/6W	CARBON RES	IS
	R812	QRD161J-513	51K	1/6W	CARBON RES	IS
	R813	QRD167J-683	68K	1/6W	CARBON RES	IS
	R814	QRD167J-683	68K	1/6W	CARBON RES	IS
	R815	QRD161J-221	220	1/6W	CARBON RES	IS
	R821	QRD167J-563	56K	1/6W	CARBON RES	IS
	R822	QRD167J-563	56K	1/6W	CARBON RES	IS
	R823	QRD167J-394	390K	1/6W	CARBON RES	IS
	R824	QRD161J-681	680	1/6W	CARBON RES	IS
	R825	QVPA601-202A	2K		TRIMMER RE	SI
	R826	QRD161J-122	1.2K	1/6W	CARBON RES	IS
	R827	QRD167J-334	330K	1/6W	CARBON RES	IS
	R828	QRD161J-512	5.1K	1/6W	CARBON RES	IS
	R829	QVPA601-154A	150K		TRIMMER RE	SI
	R830	QRD167J-223	22K	1/6W	CARBON RES	IS
	R831	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R832	QRD167J-103	10K	1/6W	CARBON RES	IS
	R833	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R834	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R835	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R836	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R837	QRD161J-183	18K	1/6W	CARBON RES	IS
	R839	QRD167J-103	10K	1/6W	CARBON RES	IS
	R840	QRD167J-154	150K	1/6W	CARBON RES	IS
	R841	QRD167J-103	10K	1/6W	CARBON RES	IS
	R842	QRD161J-303Y	30K	1/6W	CARBON RES	IS
	R843	QRD167J-434	430K	1/6W	CARBON RES	IS
	R844	QRD167J-434	430K	1/6W	CARBON RES	IS
	R845	QRD167J-103	10K	1/6W	CARBON RES	IS
	R846	QRD161J-184	180K	1/6W	CARBON RES	IS
	R847	QRD167J-104	100K	1/6W	CARBON RES	IS
	R848	QRD167J-104	100K	1/6W	CARBON RES	IS
	R849	QRD161J-681	680	1/6W	CARBON RES	IS
	R850	QRD161J-183	18K	1/6W	CARBON RES	IS
	R852	QRD167J-102	1K	1/6W	CARBON RES	IS
	R853	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R857	QRD161J-221	220	1/6W	CARBON RES	IS
	R858	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R859	QRD161J-183	18K	1/6W	CARBON RES	IS
	R861	QRD167J-182	1.8K	1/6W	CARBON RES	IS
	R862	QRD161J-221	220	1/6W	CARBON RES	IS
	R863	QRD161J-184	180K	1/6W	CARBON RES	IS
	R864	QRD167J-393	39K	1/6W	CARBON RES	IS
	R865	QVPA601-104A	100K		TRIMMER RE	SI
	R866	QRD167J-224	220K	1/6W	CARBON RES	IS
	R867	QRD167J-182	1.8K	1/6W	CARBON RES	IS
	R868	QRD161J-122	1.2K	1/6W	CARBON RES	IS
	R869	QRD167J-822	8.2K	1/6W	CARBON RES	IS
	R870	QRD167J-822	8.2K	1/6W	CARBON RES	IS
	R871	QRD161J-821	820	1/6W	CARBON RES	IS
	R872	QRD167J-182	1.8K	1/6W	CARBON RES	IS
	R873	QRD161J-101	100	1/6W	CARBON RES	IS
	R875	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R876	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R877	QRD167J-102	1K	1/6W	CARBON RES	IS
	R879	QRD167J-102	1K	1/6W	CARBON RES	IS
	R880	QRD167J-102	1K	1/6W	CARBON RES	IS
	R881	QRD167J-103	10K	1/6W	CARBON RES	IS
	R882	QRD167J-272	2.7K	1/6W	CARBON RES	IS
	R883	QRD167J-102	1K	1/6W	CARBON RES	IS
	R884	QRD167J-271	270	1/6W	CARBON RES	IS
	R885	QRD167J-103	10K	1/6W	CARBON RES	IS
	R886	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R887	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R888	QRD167J-822	8.2K	1/6W	CARBON RES	IS
	R889	QRD167J-103	10K	1/6W	CARBON RES	IS
	R891	QRD161J-561	560	1/6W	CARBON RES	IS
	R892	QRD161J-561	560	1/6W	CARBON RES	IS
	R893	QRD161J-561	560	1/6W	CARBON RES	IS
	R894	QRD161J-561	560	1/6W	CARBON RES	IS
	R895	QRD167J-560	56	1/6W	CARBON RES	IS
	R896	QRD167J-560	56	1/6W	CARBON RES	IS
	R897	QRD161J-101	100	1/6W	CARBON RES	IS
	R898	QRD161J-561	560	1/6W	CARBON RES	IS
	R899	QRD167J-271	270	1/6W	CARBON RES	IS
	R900	QRD161J-330	33	1/6W	CARBON RES	IS

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R901	QRD161J-105	1M 1/6W CARBON RES	IS
	R903	QRD161J-273	27K 1/6W CARBON RES	IS
	R904	QRD161J-273	27K 1/6W CARBON RES	IS
	R905	QRD161J-273	27K 1/6W CARBON RES	IS
	R906	QRD161J-273	27K 1/6W CARBON RES	IS
	R907	QRD167J-392	3.9K 1/6W CARBON RES	IS
	R908	QRD167J-392	3.9K 1/6W CARBON RES	IS
	R909	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R910	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R911	QRD161J-273	27K 1/6W CARBON RES	IS
	R912	QRD161J-273	27K 1/6W CARBON RES	IS
	R913	QRD161J-561	560 1/6W CARBON RES	IS
	R914	QRD161J-561	560 1/6W CARBON RES	IS
	R915	QRD161J-221	220 1/6W CARBON RES	IS
	R916	QRD161J-221	220 1/6W CARBON RES	IS
	R917	QRD161J-183	18K 1/6W CARBON RES	IS
	R918	QRD161J-183	18K 1/6W CARBON RES	IS
	R941	QRD167J-182	1.8K 1/6W CARBON RES	IS
	R942	QRD161J-512	5.1K 1/6W CARBON RES	IS
	R943	QRD161J-181	180 1/6W CARBON RES	IS
	R944	QRD167J-682	6.8K 1/6W CARBON RES	IS
	R945	QRD167J-104	100K 1/6W CARBON RES	IS
	R946	QRD167J-104	100K 1/6W CARBON RES	IS
	R947	QRD167J-392	3.9K 1/6W CARBON RES	IS
	R948	QRD167J-392	3.9K 1/6W CARBON RES	IS
	R949	QRD161J-684	680K 1/6W CARBON RES	IS
	R950	QRD167J-154	150K 1/6W CARBON RES	IS
	R953	QRD167J-471	470 1/6W CARBON RES	IS
	R954	QRD167J-473	47K 1/6W CARBON RES	IS
	R955	QRD167J-103	10K 1/6W CARBON RES	IS
	R956	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R957	QRD161J-105	1M 1/6W CARBON RES	IS
	R958	QRD167J-473	47K 1/6W CARBON RES	IS
	R959	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R960	QRD167J-151	150 1/6W CARBON RES	IS
	R968	QRD167J-222	2.2K 1/6W CARBON RES	IS
	R971	QRD161J-220	22 1/6W CARBON RES	IS
	R972	QRD161J-220	22 1/6W CARBON RES	IS
	R973	QRD167J-102	1K 1/6W CARBON RES	IS
	R974	QRD161J-105	1M 1/6W CARBON RES	IS
	R975	QRD161J-331	330 1/6W CARBON RES	IS
	R976	QRD161J-183	18K 1/6W CARBON RES	IS
	R977	QRD167J-102	1K 1/6W CARBON RES	IS
	R978	QRD167J-103	10K 1/6W CARBON RES	IS
	R979	QRD167J-103	10K 1/6W CARBON RES	IS
	R980	QRD167J-104	100K 1/6W CARBON RES	IS
	R981	QRD167J-222	2.2K 1/6W CARBON RES	IS
	R982	QRD161J-910Y	91 1/6W CARBON RES	IS
	R986	QRD167J-103	10K 1/6W CARBON RES	IS
	R987	QRD167J-473	47K 1/6W CARBON RES	IS
	R988	QRD167J-102	1K 1/6W CARBON RES	IS
	RA951	QRB049J-102	1K 1/10W NETWORK RE	SI

⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		VYH7653-005	I.C.PROTECTOR	
		VYH7653-002	I.C.SOCKET	
		E407620-001	SPACER	
		E306805-075	FELT SPACER	
		E308432-001	FL.HOLDER	
	J701	EMV7141-013M	CONNECT TERMINAL(13PIN)	
	P801	EMV7144-015	F.P.C.PLUG(15PIN)	
	P802	EMV5109-006A	CONNECT TERMINAL(6PIN)	
	P803	EMV5109-005A	MALE CONNECTOR(5PIN)	
	P901	EMV7123-033	FEMALE CONNECTOR(33PIN)	
	P991	EMV7123-033R	FEMALE CONNECTOR(33PIN)	
	S300	ESP0001-023ZJ5	TACT SWITCH(B.W PLAY)A Mecha	
	S301	ESP0001-023ZJ5	TACT SWITCH(REW)A Mecha	
	S302	ESP0001-023ZJ5	TACT SWITCH(FF)A Mecha	
	S303	ESP0001-023ZJ5	TACT SWITCH(F.W PLAY)A Mecha	
	S310	ESP0001-023ZJ5	TACT SWITCH(B.W PLAY)B Mecha	
	S311	ESP0001-023ZJ5	TACT SWITCH(REW)B Mecha	
	S312	ESP0001-023ZJ5	TACT SWITCH(FF)B Mecha	
	S313	ESP0001-023ZJ5	TACT SWITCH(F.W PLAY)B Mecha	
	S320	ESP0001-023ZJ5	TACT SWITCH(STOP)A Mecha	
	S321	ESP0001-023ZJ5	TACT SWITCH(STOP)B Mecha	
	S322	ESP0001-023ZJ5	TACT SWITCH(REC.PAUSE)B Mecha	
	S330	ESP0001-023ZJ5	TACT SWITCH(HIGH SPEED DUBBING)	
	S331	ESP0001-023ZJ5	TACT SWITCH(DOLBY)	
	S332	ESP0001-023ZJ5	TACT SWITCH(REV.MODE)	
	S333	ESP0001-023ZJ5	TACT SWITCH(CD REC)	
	S981	ESP0001-023ZJ5	TACT SWITCH(PROGRAM)	
	S982	ESP0001-023ZJ5	TACT SWITCH(PALY/PAUSE)	
	S983	ESP0001-023ZJ5	TACT SWITCH(BACK AUTO SEARCH)	
	S984	ESP0001-023ZJ5	TACT SWITCH(REPEAT)	
	S985	ESP0001-023ZJ5	TACT SWITCH(RAMDOM)	
	S986	ESP0001-023ZJ5	TACT SWITCH(OPEN/CLOSE)	
	S987	ESP0001-023ZJ5	TACT SWITCH(STOP/CLEAR)	
	S988	ESP0001-023ZJ5	TACT SWITCH(SIDE A/B)	
	S989	ESP0001-023ZJ5	TACT SWITCH(EDIT)	

⚠ : SAFETY PARTS

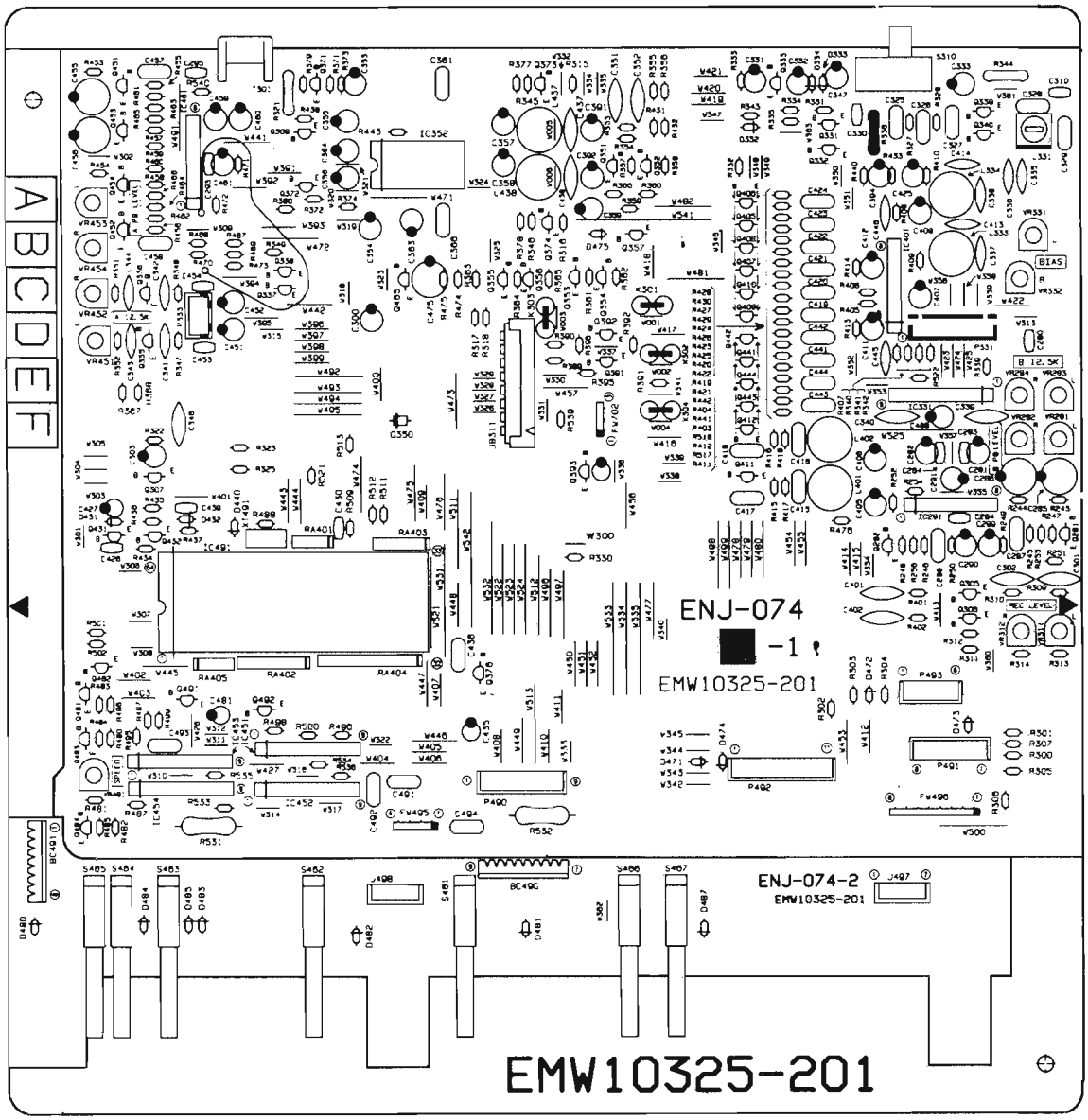
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	S990	ESP0001-023ZJ5	TACT SWITCH(FOW.AUTO SEARCH)	
	X841	ECX0169-344KL	CRYSTAL	
	BC492	EWS32B-A930	SOCKET WIRE ASSY(11PIN)	
	BC493	EWS326-A920	SOCKET WIRE ASSY(6PIN)	
	CF951	ECX0004-194KM	CERAMIC RESONATOR	
	EP701	E70225-001	EARTH PLATE	
	FL991	ELU0001-151	FLUORESCENT DISPLAY TUBE	
	JT702	EMV7122-103	CONNECT TERMINAL(3PIN)	

⚠ : SAFETY PARTS

■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 D	BS EN EF	the U.K. Scandinavia Continental Europe
ENJ-074 F	G GI	Germany Italy

Transistors

⚠	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.TRANSISTROHM	
	Q306	2SD2144S(VW)	SI.TRANSISTROHM	
	Q307	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q309	DTC144ES	DIGITAL TRAROHM	
	Q332	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q333	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q335	DTC144ES	DIGITAL TRAROHM	
	Q336	DTC144ES	DIGITAL TRAROHM	
	Q337	DTC144ES	DIGITAL TRAROHM	
	Q338	DTC144ES	DIGITAL TRAROHM	
	Q339	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q340	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q351	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q352	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q353	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q354	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q355	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q356	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q357	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q371	2SD2144S(VW)	SI.TRANSISTROHM	
	Q372	2SD2144S(VW)	SI.TRANSISTROHM	
	Q373	2SD2144S(VW)	SI.TRANSISTROHM	
	Q374	2SD2144S(VW)	SI.TRANSISTROHM	

⚠ : SAFETY PARTS

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q376	DTC144ES	DIGITAL TRAROHM	
	Q391	2SD2144S(VW)	SI.TRANSISTROHM	
	Q392	2SD2144S(VW)	SI.TRANSISTROHM	
	Q393	DTA144ES	DIGITAL TRAROHM	
	Q405	DTC144TS	DIGITAL TRAROHM	
	Q406	DTC144TS	DIGITAL TRAROHM	
	Q407	DTC144TS	DIGITAL TRAROHM	
	Q408	DTC144TS	DIGITAL TRAROHM	
	Q409	DTC144TS	DIGITAL TRAROHM	
	Q410	DTC144TS	DIGITAL TRAROHM	
	Q411	DTC144TS	DIGITAL TRAROHM	
	Q412	DTC144TS	DIGITAL TRAROHM	
	Q431	DTC114ES	DIGITAL TRAROHM	
	Q432	DTA114TS	DIGITAL TRAROHM	
	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 TRAROHM	
	Q481	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q482	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q483	2SA933S(R,S)	SI.TRANSIST	
	Q484	2SA933S(R,S)	SI.TRANSIST	
	Q491	DTC144ES	DIGITAL TRAROHM	
	Q492	DTC144ES	DIGITAL TRAROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC281	UPC1228HA	I.C(MONO-ANNEC	
	IC331	UPC1330HA	I.C(MONO-ANNEC	
	IC352	HA12136A	I.C(MONO-ANHITACHI	
	IC401	BA15218N	I.C(MONO-ANROHM	
	IC451	TA8409S	I.C(MONO-ANTOSHIBA	
	IC452	TA8409S	I.C(MONO-ANTOSHIBA	
	IC453	TA8409S	I.C(MONO-ANTOSHIBA	
	IC454	TA8409S	I.C(MONO-ANTOSHIBA	
	IC461	UPC1228HA	I.C(MONO-ANNEC	
	IC491	HD614081SD53	I.C(MICRO-CHITACHI	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D332	1SS119	SI.DIODE	
	D350	1SR139-200	SI.DIODE ROHM	
	D431	1SS119	SI.DIODE	
	D432	MTZ3.9JB	ZENER DIODEROHM	
	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	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C280	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	TO G
	C280	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	TO GI
	C281	QEK51HM-225G	2.2MF 50V AL E.CAPAC	IT
	C282	QEK51HM-225G	2.2MF 50V AL E.CAPAC	IT
	C283	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO BS
	C283	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO EF
	C283	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO EN
	C283	QCBB1HK-471Y	470PF 50V CER.CAPACI	TO G
	C283	QCBB1HK-471Y	470PF 50V CER.CAPACI	TO GI
	C284	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO BS
	C284	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO EF
	C284	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO EN
	C284	QCBB1HK-471Y	470PF 50V CER.CAPACI	TO G
	C284	QCBB1HK-471Y	470PF 50V CER.CAPACI	TO GI
	C285	QETB1AM-107	100MF 10V AL E.CAPAC	IT
	C286	QETB1AM-107	100MF 10V AL E.CAPAC	IT
	C287	QFLB1HJ-822	8200PF 50V MYLAR CAPA	CI
	C288	QFLB1HJ-822	8200PF 50V MYLAR CAPA	CI
	C289	QER51HM-105G	1MF 50V AL E.CAPAC	IT
	C290	QER51HM-105G	1MF 50V AL E.CAPAC	IT
	C291	QEK51CM-107	100MF 16V E.CAPACITO	R
	C293	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO G
	C293	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO GI
	C294	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO G
	C294	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO GI

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C301	QCY31HK-122Z	1200PF 50V CER.CAPACI	TO
	C302	QCY31HK-122Z	1200PF 50V CER.CAPACI	TO
	C303	QEK51HM-105G	1MF 50V AL E.CAPAC	IT
	C310	QCBB1HK-471Y	470PF 50V CER.CAPACI	TO BS
	C310	QCBB1HK-471Y	470PF 50V CER.CAPACI	TO EF
	C310	QCBB1HK-471Y	470PF 50V CER.CAPACI	TO EN
	C310	QCBB1HK-471Y	470PF 50V CER.CAPACI	TO G
	C310	QCBB1HK-471Y	470PF 50V CER.CAPACI	TO GI
	C325	QFLB1HJ-222	2200PF 50V MYLAR CAPA	CI
	C326	QFLB1HJ-222	2200PF 50V MYLAR CAPA	CI
	C327	QFLB1HJ-682	6800PF 50V MYLAR CAPA	CI
	C328	QFLB1HJ-273	0.027MF 50V MYLAR CAPA	CI
	C329	QFP81HG-822	8200PF 50V POLYPROPY.	FI
	C330	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO G
	C330	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO GI
	C331	QETB1HM-105	1MF 50V AL E.CAPAC	IT
	C332	QETB1HM-105	1MF 50V AL E.CAPAC	IT
	C333	QETB1EM-106	10MF 25V AL E.CAPAC	IT
	C335	QCS21HJ-101A	100PF 50V CER.CAPACI	TO
	C336	QCS21HJ-101A	100PF 50V CER.CAPACI	TO
	C337	QCS21HJ-101A	100PF 50V CER.CAPACI	TO
	C338	QCS21HJ-101A	100PF 50V CER.CAPACI	TO
	C339	QCY31HK-152Z	1500PF 50V CER.CAPACI	TO
	C340	QCY31HK-152Z	1500PF 50V CER.CAPACI	TO
	C341	QCS21HJ-331	330PF 50V CER.CAPACI	TO
	C342	QCS21HJ-331	330PF 50V CER.CAPACI	TO
	C343	QCY31HK-122Z	1200PF 50V CER.CAPACI	TO
	C344	QCY31HK-122Z	1200PF 50V CER.CAPACI	TO
	C346	QCF21HP-223A	0.022MF 50V CER.CAPACI	TO
	C347	QETB1CM-107	100MF 16V AL E.CAPAC	IT
	C351	QCF21HP-473A	0.047MF 50V CER.CAPACI	TO
	C352	QCF21HP-473A	0.047MF 50V CER.CAPACI	TO
	C353	QEK51HM-105G	1MF 50V AL E.CAPAC	IT
	C354	QEK51HM-105G	1MF 50V AL E.CAPAC	IT
	C355	QEK51HM-105G	1MF 50V AL E.CAPAC	IT
	C356	QEK51HM-105G	1MF 50V AL E.CAPAC	IT
	C357	QETB1EM-106	10MF 25V AL E.CAPAC	IT
	C358	QETB1EM-106	10MF 25V AL E.CAPAC	IT
	C359	QETB1CM-476	47MF 16V AL E.CAPAC	IT
	C361	QFV81HJ-224	0.22MF 50V THIN FILM	CA
	C363	QEK51HM-475	4.7MF 50V AL E.CAPAC	IT
	C364	QEK51CM-107	100MF 16V E.CAPACITO	R
	C366	QFV81HJ-224	0.22MF 50V THIN FILM	CA
	C371	QCBB1HK-331Y	330PF 50V CER.CAPACI	TO
	C372	QCBB1HK-331Y	330PF 50V CER.CAPACI	TO
	C373	QCBB1HK-331Y	330PF 50V CER.CAPACI	TO
	C374	QCBB1HK-331Y	330PF 50V CER.CAPACI	TO
	C385	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO G
	C385	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO GI
	C386	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO G
	C386	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO GI
	C391	QEK51EM-106	10MF 25V AL E.CAPAC	IT
	C392	QEK51EM-106	10MF 25V AL E.CAPAC	IT
	C394	QETB1CM-107	100MF 16V AL E.CAPAC	IT
	C401	QCF21HP-473A	0.047MF 50V CER.CAPACI	TO
	C402	QCF21HP-473A	0.047MF 50V CER.CAPACI	TO
	C405	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C406	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C407	QER51HM-225G	2.2MF 50V AL E.CAPAC	IT
	C408	QER51HM-225G	2.2MF 50V AL E.CAPAC	IT
	C411	QER51EM-106	10MF 25V E.CAPACITO	R
	C412	QER51EM-106	10MF 25V E.CAPACITO	R
	C413	QCS21HJ-271A	270PF 50V CER.CAPACI	TO
	C414	QCS21HJ-271A	270PF 50V CER.CAPACI	TO
	C415	QFLB1HJ-822	8200PF 50V MYLAR CAPA	CI
	C416	QFLB1HJ-822	8200PF 50V MYLAR CAPA	CI
	C417	QFLB1HJ-562	5600PF 50V MYLAR CAPA	CI
	C418	QFLB1HJ-562	5600PF 50V MYLAR CAPA	CI
	C419	QFLB1HJ-123	0.012MF 50V MYLAR CAPA	CI
	C420	QFLB1HJ-123	0.012MF 50V MYLAR CAPA	CI
	C421	QFLB1HJ-102	1000PF 50V MYLAR CAPA	CI
	C422	QFLB1HJ-102	1000PF 50V MYLAR CAPA	CI
	C423	QFLB1HJ-103	0.01MF 50V MYLAR CAPA	CI
	C424	QFLB1HJ-103	0.01MF 50V MYLAR CAPA	CI
	C425	QETB1CM-107	100MF 16V AL E.CAPAC	IT
	C426	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	TO
	C427	QEK51CM-226	22MF 16V AL E.CAPAC	IT
	C430	QCGB1HK-102	1000PF 50V CER.CAPACI	TO
	C435	QETB1CM-476	47MF 16V AL E.CAPAC	IT
	C436	QCZ0202-155	1.5MF 25V CER.RESIST	OR
	C437	QCS21HJ-101A	100PF 50V CER.CAPACI	TO
	C438	QCS21HJ-101A	100PF 50V CER.CAPACI	TO
	C439	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	TO
	C445	QCS21HJ-470	47PF 50V CER.CAPACI	TO
	C446	QCS21HJ-470	47PF 50V CER.CAPACI	TO
	C451	QEK51HM-225G	2.2MF 50V AL E.CAPAC	IT
	C453	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO BS
	C453	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO EF
	C453	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO EN
	C453	QCBB1HK-471Y	470PF 50V CER.CAPACI	TO G
	C453	QCBB1HK-471Y	470PF 50V CER.CAPACI	TO GI
	C454	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO BS
	C454	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO EF
	C454	QCBB1HK-101Y	100PF 50V CER.CAPACI	TO EN
	C454	QCBB1HK-471Y	470PF 50V CER.CAPACI	TO G

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C454	QCBB1HK-471Y	470PF	50V	CER.CAPACI	TO GI
	C455	QETB1AM-107	100MF	10V	AL E.CAPAC	IT
	C456	QETB1AM-107	100MF	10V	AL E.CAPAC	IT
	C457	QFLB1HJ-822	8200PF	50V	MYLAR CAPA	CI
	C458	QFLB1HJ-822	8200PF	50V	MYLAR CAPA	CI
	C459	QEK51HM-105G	1MF	50V	AL E.CAPAC	IT
	C460	QEK51HM-105G	1MF	50V	AL E.CAPAC	IT
	C461	QETB1CM-107	100MF	16V	AL E.CAPAC	IT
	C475	QETB1AM-476	47MF	10V	E.CAPACITO	R
	C481	QETB1CM-476	47MF	16V	AL E.CAPAC	IT
	C488	QEK51CM-107	100MF	16V	E.CAPACITO	R
	C490	QCGB1HK-102	1000PF	50V	CER.CAPACI	TO G
	C490	QCGB1HK-102	1000PF	50V	CER.CAPACI	TO GI
	C491	QFLB1HJ-104	0.1MF	50V	MYLAR CAPA	CI
	C492	QFLB1HJ-104	0.1MF	50V	MYLAR CAPA	CI
	C493	QFLB1HJ-104	0.1MF	50V	MYLAR CAPA	CI
	C494	QFLB1HJ-104	0.1MF	50V	MYLAR CAPA	CI

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R241	QRD167J-470	47	1/6W	CARBON RES	IS G
	R241	QRD167J-470	47	1/6W	CARBON RES	IS GI
	R242	QRD167J-470	47	1/6W	CARBON RES	IS G
	R242	QRD167J-470	47	1/6W	CARBON RES	IS GI
	R243	QRD167J-470	47	1/6W	CARBON RES	IS
	R244	QRD167J-470	47	1/6W	CARBON RES	IS
	R245	QRD167J-334	330K	1/6W	CARBON RES	IS
	R246	QRD167J-334	330K	1/6W	CARBON RES	IS
	R247	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R248	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R249	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R250	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R251	QRD161J-105	1M	1/6W	CARBON RES	IS
	R252	QRD161J-105	1M	1/6W	CARBON RES	IS
	R254	QRD167J-471	470	1/6W	CARBON RES	IS
	R255	QRD167J-272	2.7K	1/6W	CARBON RES	IS
	R256	QRD167J-272	2.7K	1/6W	CARBON RES	IS
	R300	QRD167J-431	430	1/6W	CARBON RES	IS
	R301	QRD167J-431	430	1/6W	CARBON RES	IS
	R302	QRD161J-181	180	1/6W	CARBON RES	IS
	R303	QRD161J-181	180	1/6W	CARBON RES	IS
	R304	QRD161J-331	330	1/6W	CARBON RES	IS
	R305	QRD161J-561	560	1/6W	CARBON RES	IS
	R306	QRD161J-561	560	1/6W	CARBON RES	IS
	R307	QRD161J-821	820	1/6W	CARBON RES	IS
	R309	QRD167J-473	47K	1/6W	CARBON RES	IS
	R310	QRD167J-473	47K	1/6W	CARBON RES	IS
	R311	QRD167J-103	10K	1/6W	CARBON RES	IS
	R312	QRD167J-103	10K	1/6W	CARBON RES	IS
	R313	QRD167J-153	15K	1/6W	CARBON RES	IS
	R314	QRD167J-153	15K	1/6W	CARBON RES	IS
	R315	QRD167J-103	10K	1/6W	CARBON RES	IS
	R316	QRD167J-103	10K	1/6W	CARBON RES	IS
	R317	QRD167J-473	47K	1/6W	CARBON RES	IS
	R318	QRD167J-473	47K	1/6W	CARBON RES	IS
⚠	R321	QRZ0077-220	22	1/4W	FUSIBLE RE	SI
	R322	QRD167J-913	91K	1/6W	CARBON RES	IS
	R323	QRD161J-105	1M	1/6W	CARBON RES	IS
	R325	QRD167J-104	100K	1/6W	CARBON RES	IS
	R327	QRD167J-473	47K	1/6W	CARBON RES	IS
	R328	QRD167J-473	47K	1/6W	CARBON RES	IS
	R330	QRD167J-103	10K	1/6W	CARBON RES	IS
	R332	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R333	QRD167J-104	100K	1/6W	CARBON RES	IS
	R334	QRD161J-181	180	1/6W	CARBON RES	IS
	R335	QRD167J-121	120	1/6W	CARBON RES	IS
⚠	R336	QRZ0077-220	22	1/4W	FUSIBLE RE	SI
	R341	QRD161J-100	10	1/6W	CARBON RES	IS
	R342	QRD161J-100	10	1/6W	CARBON RES	IS
	R343	QRD167J-222	2.2K	1/6W	CARBON RES	IS
⚠	R344	QRD14CJ-220S	22	1/4W	UNF.CARBON	R
	R345	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R346	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R347	QRD167J-224	220K	1/6W	CARBON RES	IS
	R348	QRD167J-224	220K	1/6W	CARBON RES	IS
	R349	QRD167J-223	22K	1/6W	CARBON RES	IS
	R353	QRD167J-153	15K	1/6W	CARBON RES	IS
	R354	QRD167J-153	15K	1/6W	CARBON RES	IS
	R355	QRD167J-243	24K	1/6W	CARBON RES	IS
	R356	QRD167J-243	24K	1/6W	CARBON RES	IS
	R357	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R358	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R359	QRD167J-223	22K	1/6W	CARBON RES	IS
	R360	QRD167J-223	22K	1/6W	CARBON RES	IS
	R361	QRD161J-561	560	1/6W	CARBON RES	IS
	R362	QRD161J-561	560	1/6W	CARBON RES	IS
	R363	QRD161J-242	2.4K	1/6W	CARBON RES	IS
	R364	QRD161J-242	2.4K	1/6W	CARBON RES	IS
	R365	QRD167J-103	10K	1/6W	CARBON RES	IS
	R366	QRD161J-105	1M	1/6W	CARBON RES	IS

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R367	QRD167J-223	22K	1/6W	CARBON RES	IS
	R368	QRD167J-223	22K	1/6W	CARBON RES	IS
	R371	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R372	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R373	QRD167J-103	10K	1/6W	CARBON RES	IS
	R374	QRD167J-103	10K	1/6W	CARBON RES	IS
	R377	QRD167J-103	10K	1/6W	CARBON RES	IS
	R378	QRD167J-103	10K	1/6W	CARBON RES	IS
	R379	QRD167J-103	10K	1/6W	CARBON RES	IS
	R380	QRD167J-103	10K	1/6W	CARBON RES	IS
	R389	QRD161J-221	220	1/6W	CARBON RES	IS
	R390	QRD161J-221	220	1/6W	CARBON RES	IS
	R391	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R392	QRD167J-562	5.6K	1/6W	CARBON RES	IS
	R395	QRD167J-103	10K	1/6W	CARBON RES	IS
	R396	QRD167J-103	10K	1/6W	CARBON RES	IS
	R401	QRD161J-333	33K	1/6W	CARBON RES	IS
	R402	QRD161J-333	33K	1/6W	CARBON RES	IS
	R405	QRD167J-683	68K	1/6W	CARBON RES	IS
	R406	QRD167J-683	68K	1/6W	CARBON RES	IS
	R407	QRD167J-153	15K	1/6W	CARBON RES	IS
	R408	QRD167J-153	15K	1/6W	CARBON RES	IS
	R409	QRD167J-153	15K	1/6W	CARBON RES	IS
	R410	QRD167J-153	15K	1/6W	CARBON RES	IS
	R413	QRD167J-182	1.8K	1/6W	CARBON RES	IS
	R414	QRD167J-182	1.8K	1/6W	CARBON RES	IS
	R415	QRD161J-221	220	1/6W	CARBON RES	IS
	R416	QRD161J-221	220	1/6W	CARBON RES	IS
	R417	QRD161J-221	220	1/6W	CARBON RES	IS
	R418	QRD161J-221	220	1/6W	CARBON RES	IS
	R419	QRD167J-471	470	1/6W	CARBON RES	IS
	R420	QRD167J-471	470	1/6W	CARBON RES	IS
	R421	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R422	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R423	QRD167J-102	1K	1/6W	CARBON RES	IS
	R424	QRD167J-102	1K	1/6W	CARBON RES	IS
	R427	QRD167J-471	470	1/6W	CARBON RES	IS
	R428	QRD167J-471	470	1/6W	CARBON RES	IS
	R429	QRD167J-392	3.9K	1/6W	CARBON RES	IS
	R430	QRD167J-392	3.9K	1/6W	CARBON RES	IS
	R431	QRD167J-394	390K	1/6W	CARBON RES	IS
	R432	QRD167J-394	390K	1/6W	CARBON RES	IS
	R433	QRD161J-221	220	1/6W	CARBON RES	IS
	R434	QRD167J-103	10K	1/6W	CARBON RES	IS
	R435	QRD167J-223	22K	1/6W	CARBON RES	IS
	R436	QRD167J-103	10K	1/6W	CARBON RES	IS
	R437	QRD167J-102	1K	1/6W	CARBON RES	IS
	R438	QRD167J-103	10K	1/6W	CARBON RES	IS
	R440	QRD161J-221	220	1/6W	CARBON RES	IS
	R443	QRD161J-183	18K	1/6W	CARBON RES	IS
	R451	QRD167J-470	47	1/6W	CARBON RES	IS G
	R451	QRD167J-470	47	1/6W	CARBON RES	IS GI
	R452	QRD167J-470	47	1/6W	CARBON RES	IS G
	R452	QRD167J-470	47	1/6W	CARBON RES	IS GI
	R453	QRD167J-470	47	1/6W	CARBON RES	IS
	R454	QRD167J-470	47	1/6W	CARBON RES	IS
	R455	QRD167J-334	330K	1/6W	CARBON RES	IS
	R456	QRD167J-334	330K	1/6W	CARBON RES	IS
	R457	QRD161J-362	3.6K	1/6W	CARBON RES	IS
	R458	QRD161J-362	3.6K	1/6W	CARBON RES	IS
	R459	QRD167J-222	2.2K	1/6W	CARBON RES	IS
	R460	QRD167J-222	2.2K	1/6W	CARBON RES	IS
	R461	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R462	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R463	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R464	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R465	QRD167J-223	22K	1/6W	CARBON RES	IS
	R466	QRD167J-223	22K	1/6W	CARBON RES	IS
	R467	QRD161J-105	1M	1/6W	CARBON RES	IS
	R468	QRD161J-105	1M	1/6W	CARBON RES	IS
	R469	QRD161J-105	1M	1/6W	CARBON RES	IS
	R470	QRD161J-105	1M	1/6W	CARBON RES	IS
	R471	QRD167J-471	470	1/6W	CARBON RES	IS
	R472	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R473	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R474	QRD161J-274	270K	1/6W	CARBON RES	IS
	R475	QRD167J-104	100K	1/6W	CARBON RES	IS
	R476	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R480	QRD161J-242	2.4K	1/6W	CARBON RES	IS
	R481	QRD167J-153	15K	1/6W	CARBON RES	IS
	R482	QRD161J-273	27K	1/6W	CARBON RES	IS
	R483	QRD161J-184	180K	1/6W	CARBON RES	IS
	R484	QRD167J-224	220K	1/6W	CARBON RES	IS
	R485	QRD167J-683	68K	1/6W	CARBON RES	IS
	R486	QRD167J-224	220K	1/6W	CARBON RES	IS
	R487	QRD167J-224	220K	1/6W	CARBON RES	IS
	R488	QRD161J-105	1M	1/6W	CARBON RES	IS
	R495	QRD167J-123	12K	1/6W	CARBON RES	IS
	R496	QRD167J-123	12K	1/6W	CARBON RES	IS
	R497	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R498	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R499	QRD167J-563	56K	1/6W	CARBON RES	IS
	R500	QRD167J-563	56K	1/6W	CARBON RES	IS
	R501	QRD167J-103	10K	1/6W	CARBON RES	IS
	R502	QRD167J-103	10K	1/6W	CARBON RES	IS

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R509	QRD167J-103	10K 1/6W CARBON RES	IS
	R513	QRD167J-151	150 1/6W CARBON RES	IS
	R522	QRD161J-221	220 1/6W CARBON RES	IS
	R525	QRD161J-221	220 1/6W CARBON RES	IS
	R526	QRD161J-221	220 1/6W CARBON RES	IS
	R527	QRD161J-220	22 1/6W CARBON RES	IS G
	R527	QRD161J-220	22 1/6W CARBON RES	IS GI
⚠	R531	QRG022J-470A	47 2W OXIDE META	L
⚠	R532	QRG022J-470A	47 2W OXIDE META	L
	R533	QRD161J-163	16K 1/6W CARBON RES	IS
	R534	QRD161J-163	16K 1/6W CARBON RES	IS
	R535	QRD161J-183	18K 1/6W CARBON RES	IS
	R536	QRD161J-183	18K 1/6W CARBON RES	IS
	R539	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R540	QRD161J-220	22 1/6W CARBON RES	IS BS
	R540	QRD161J-220	22 1/6W CARBON RES	IS EF
	R540	QRD161J-220	22 1/6W CARBON RES	IS EN
	RA401	QRB049J-103	10K 1/10W RESISTOR	
	RA402	QRB089J-103	10K 1/10W NETWORK RE	SI
	VR281	QVPA601-201A	200 TRIMMER RE	SI
	VR282	QVPA601-201A	200 TRIMMER RE	SI
	VR283	QVPA601-104A	100K TRIMMER RE	SI
	VR284	QVPA601-104A	100K TRIMMER RE	SI
	VR311	QVPA601-503A	50K TRIMMER RE	SI
	VR312	QVPA601-503A	50K TRIMMER RE	SI
	VR331	QVPA601-204A	200K TRIMMER RE	SI
	VR332	QVPA601-204A	200K TRIMMER RE	SI
	VR451	QVPA601-104A	100K TRIMMER RE	SI
	VR452	QVPA601-104A	100K TRIMMER RE	SI
	VR453	QVPA601-201A	200 TRIMMER RE	SI
	VR454	QVPA601-201A	200 TRIMMER RE	SI
	VR481	QVPA601-103A	10K TRIMMER RE	SI

⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		QWE351-10RR	VINYL WIRE	BS
		QWE351-10RR	VINYL WIRE	EF
		QWE351-10RR	VINYL WIRE	EN
		QWE351-10RR	VINYL WIRE	G
		QWE356-11RR	SHIELD WIRE	G
		QWE353-08RR	SHIELD WIRE	G
		QWE350-15RR	SHIELD WIRE	G
		QWE351-10RR	VINYL WIRE	GI
		QWE356-11RR	SHIELD WIRE	GI
		QWE353-08RR	SHIELD WIRE	GI
		QWE350-15RR	SHIELD WIRE	GI
	J497	VMC0234-P07	CONNECT TERMINAL(7PIN)	
	J498	VMC0234-P07	CONNECT TERMINAL(7PIN)	
	K302	ENZ8101-007	INDUCTOR	G
	K302	ENZ8101-007	INDUCTOR	GI
	K303	ENZ8101-007	INDUCTOR	G
	K303	ENZ8101-007	INDUCTOR	GI
	K304	ENZ8101-007	INDUCTOR	G
	K304	ENZ8101-007	INDUCTOR	GI
	L331	ENZ6002-013J2	OSC COIL	BS
	L331	ENZ6002-013J2	OSC COIL	EF
	L331	ENZ6002-013J2	OSC COIL	EN
	L331	ENZ6002-013J2	OSC COIL	G
	L331	ENZ6002-013J2	OSC COIL	GI
	L333	EQL2106-223TJ2	INDUCTOR	
	L334	EQL2106-223TJ2	INDUCTOR	
	L401	EQL2106-562TJ2	INDUCTOR	
	L402	EQL2106-562TJ2	INDUCTOR	
	L437	EQL2106-223TJ2	INDUCTOR	
	L438	EQL2106-223TJ2	INDUCTOR	
	P331	EMV5133-007K	PLUG(7PIN)	
	P333	EMV5133-003K	CONNECT TERMINAL(3PIN)	
	P490	EMV5109-009A	PIN PLUG(9PIN)	
	P491	EMV5109-008A	MALE CONNECTOR(8PIN)	
	P492	EMV5142-911	CONNECT TERMINAL(11PIN)	
	P493	EMV5142-906	CONNECT TERMINAL(6PIN)	
	S310	QSS7A12-E01	SLIDE SWITCH	BS
	S310	QSS7A12-E01	SLIDE SWITCH	EF
	S310	QSS7A12-E01	SLIDE SWITCH	EN
	S310	QSS7A12-E01	SLIDE SWITCH	G
	S310	QSS7A12-E01	SLIDE SWITCH	GI
	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	EWS269-F413	SOCKET WIRE ASSY(9PIN)	
	BC491	EWS268-F413	SOCKET WIRE ASSY(8PIN)	
	FW495	EWR34D-16LS	FLAT WIRE ASSY(4PIN)	
	FW496	EWR38D-16LS	FLAT WIRE ASSY(8PIN)	
	FW702	EWR33D-20LS	FLAT WIRE ASSY(3PIN)	
	JB311	EMV7141-015	PIN CONNECTOR(15PIN)	
	XT491	ECX0004-194KM	CERAMIC RESONATOR	

⚠ : SAFETY PARTS

JVC

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