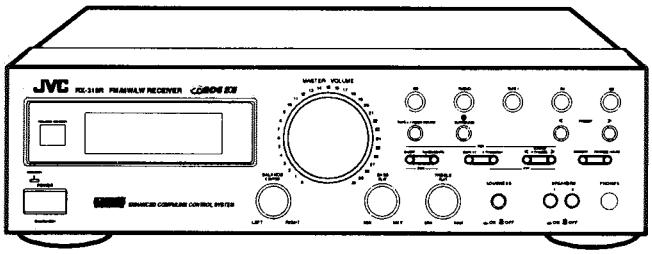
JVC

SERVICE MANUAL

FM/MW/LW RECEIVER

RX-316RBK



Area Suffix

BS	....	the U.K.
EN	....	Scandinavia
EF	....	Continental Europe
G	.....	Germany
GI	....	Italy

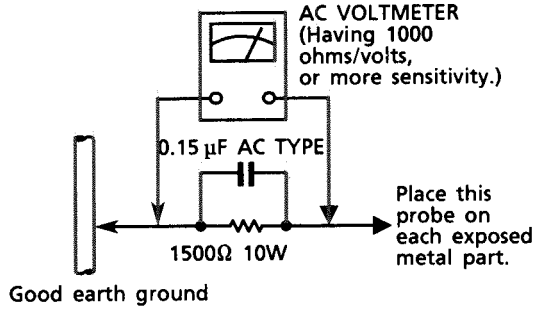
COMPU LINK
Remote
Control Component

Contents

No. 20504
Feb. 1995

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.

Warnings, Cautions and Others / Warnung, Achtung und sonstige Hinweise / Mises en garde, précautions et indications diverses / Waarschuwingen, voorzorgen en andere mededelingen / Avisos, precuciones y otras notas / Avvertenze e precauzioni da osservare

IMPORTANT for the U.K.

DO NOT cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your leader.

BE SURE to replace the fuse only with an identical approved type, as originally fitted.

If nontheless the mains plug is cut off ensure to remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

If this product is not supplied fitted with a mains plug then follow the instructions given below:

IMPORTANT.

DO NOT make any connection to the terminal which is marked with the letter E or by the safety earth symbol or coloured green or green-and-yellow.

The wires in the mains lead on this product are coloured in accordance with the following code:

Blue	:	Neutral
Brown	:	Live

As these colours may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

IF IN DOUBT - CONSULT A COMPETENT ELECTRICIAN

IMPORTANT FOR AC OUTLET(S)

Connect only the audio equipments. Moreover do not connect any equipments which have a power consumption exceeding the value indicated by the AC OUTLETS.

This apparatus does connect with the mains line even when POWER is set to STANDBY. The power of this apparatus can be also controlled from the remote control unit. Disconnect the mains plug to shut the power off completely.

Dieses Gerät bleibt mit dem Stromnetz verbunden, auch wenn der Netzschalter (POWER) auf STANDBY steht. Dieses Gerät kann auch über Ferbedienung ein- und ausgeschitet werden. Um das Gerät aber vollständig vom Stromnetz zu trennen, muß der Stecker aus der Steckdose gezogen werden.

Cet appareil reste connecté à l'alimentation secteur même quand POWER est réglé sur STANDBY. L'alimentation de cet appareil peut aussi être contrôlée à partir de la télécommande. Déconnectez la prise d'alimentation pour mettre l'appareil complètement hors tension.

Zolang de stekker van het netsnoer in het stopkontakt steekt, blijft het apparaat onder spanning staan, zelfs als de POWER schakelaar op "STANDBY" staat. Dit apparaat kan ook in-en uitgeschakeld worden met de afstandsbediening. Als u het apparaat geheel spanningsvrij wilt hebben, trek de stekker van het netsnoer dan uit het stopkontakt.

Este aparatus permanecerá conectado a la red de CA incluso aungue ponga POWER en STANDBY. La alimentación de este aparato también podrá controlarse con el controlador remoto. Para desconectar completamente la alimentación, desconecte el enchufe del cable de alimentación de CA.

Questo apparecchio rimane collegato alla rete di alimentazione anche se l'interruttore POWER viene regolato su STANDBY. L'alimentazione di questo aparecchio può essere controllata anche con il telecomando. Scollegare il cavo di alimentazione per spegnere complemente l'apparecchio.

CAUTION
To reduce the risk of electrical shocks, fire, etc.:
1. Do not remove screws, covers or cabinet.
2. Do not expose this appliance to rain or moisture.

ACHTUNG
Zur Verhinderung von elektrischen Schtägen, Brandgefahr, usw:
1. Keine Schrauben lösen oder Abdeckungen entfernen und nicht das Gehäuse öilnen.
2. Dieses Gerät weder Regen noch Feuchtigkeit aussetzen.

ATTENTION
Afin d'éviter tout risque d'électrocution, d'incendie, etc.:
1. Ne pas enlever les vis ni les panneaux et ne pas ouvrir le coffret de l'appareil.
2. Ne pas exposer l'appareil à la pluie ni à l'humidité.

VOORZICHTIG
Ter vermindering van gevaar voor brand, elektrische schokken, enz.:
1. Verwijder geen schroeven, panelen of de behuizing.
2. Stel dit toestel niet bloot aan regen of vocht.

PRECAUCIÓN
Para reducir riesgos de choques eléctricca, incendio, etc.:
1. No extraiga ios tornilios, ios cubiertas ni la caja.
2. No exponga este aparato a la lluvia o a la humedad.

ATTENZIONE
Per ridurre il rischio di schock elettrici, incendi, ecc...
1. Non togliete viti, coperchi o la scatola.
2. Non esponete l'apparecchio alla piogggia e all'umidità.

Contents

Introduction

Thank you for purchasing the JVC RX-316RBK receiver. We hope it will be a valued addition to your audio system. Be sure to read these instructions carefully before installing and operating the receiver.

Features

- Monitor recording quality
- Surround feature with two or four speakers
- Remote control
- RDS (Radio Data System) with EON (Enhanced Other Network)
- Preset radio stations
- Easy to use

About This Manual

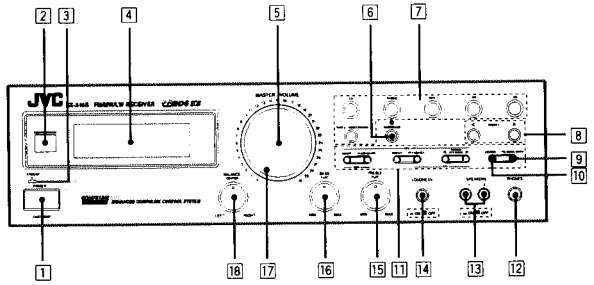
This manual gives you the basic information you need to install and use your receiver. It explains everything you need to know from turning the power switch on to basic troubleshooting. Please consult your JVC dealer if you have further questions about the receiver.

The following conventions are used in this manual:

- Controls, buttons, and connection points on the back of the receiver are indicated with capital letters, like this: POWER button, AUDIO jacks
- Messages that appear on the display window are indicated with capital letters and in quotes, like this: "TUNED"
- Instructions that you need to follow to get the correct results are labeled ***IMPORTANT!***
- Helpful information is labeled ***NOTE:***
- To avoid electric shock to yourself or damage to the receiver, read the information labeled ⚠ **CAUTION!**

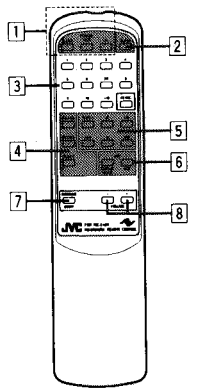
Switches and Controls

Familiarize yourself with the main switches and controls on your JVC RX-316RBK receiver.



Receiver

1. POWER switch
2. REMOTE SENSOR window
3. STANDBY indicator
4. Display window
5. MASTER VOLUME control
6. SURROUND button
7. SOURCE SELECT buttons
8. PRESET buttons
9. FM MODE/MUTE button
10. MEMORY button
11. RDS/TUNING buttons
12. PHONES jack
13. SPEAKERS buttons
14. LOUDNESS button
15. TREBLE control
16. BASS control
17. MASTER VOLUME indicator
18. BALANCE control



Remote Control

1. POWER switch
   Turns on the Unit or puts it in standby mode
2. SLEEP button
3. • Numeric button for only FM/AM
   • Control button for CD and CD Changer
4. SOURCE SELECT buttons
5. Tape 1 and CD control buttons
6. RDS button
7. SURROUND button
8. VOLUME adjuster

Installation

This section explains how to connect the receiver to other stereo equipment and speakers, and how to connect the power supply.

⚠ Cautions

Before Installation

⚠ **CAUTION!** Before installing your receiver:

- Make sure your hands are dry.
- Turn the power off to all components.
- Read the installation instructions for all components you are going to connect.

Positioning the Receiver

⚠ **CAUTION!**

- Install the receiver in a location that is level and protected from moisture.
- The temperature around the receiver must be between 23° and 104° F (–5° and 40° C).
- Make sure there is good ventilation around the receiver. Poor ventilation could cause overheating and damage the receiver.

Making Power Connections

⚠ **CAUTION!**

- Do not handle the power cord with wet hands.
- Do not pull on the power cord to unplug the receiver. Always grab the plug directly so as not to damage the cord.

Handling the Receiver

⚠ **CAUTION!**

- Do not insert any metal object into the receiver.
- Do not disassemble the receiver or remove screws, covers, or cabinet.
- Do not expose the receiver to rain or moisture.

Connecting Stereo Equipment

Before Starting

Before connecting the receiver, read the following paragraphs carefully.

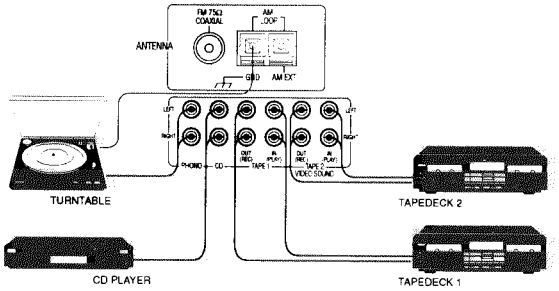
IMPORTANT! *The left channel of any audio component must be connected to the left-channel jack of the receiver, and the right channel to the right-channel jack. If they are reversed, the stereophonic image will not be correct.*

NOTE: To ensure correct connections, insert the red plug into the right channel.

Basic Connections

Connect stereo component to the amplifier using cables with RCA PIN plugs. Connect the output jacks on a tape deck to the jacks marked IN (PLAY) on the amplifier, and the input jacks to those marked OUT (REC).

NOTE: Any turntables incorporating a small-output cartridge such as an MC (moving-coil type) must be connected to this amplifier through a commercial head amplifier or step-up transformer. Direct connection may result in insufficient volume.



NOTE: If a ground cable is fitted to your turntable, connect the ground cable to the AM LOOP terminal marked GND. In this case, do not disconnect the AM LOOP wire from the GND terminal.

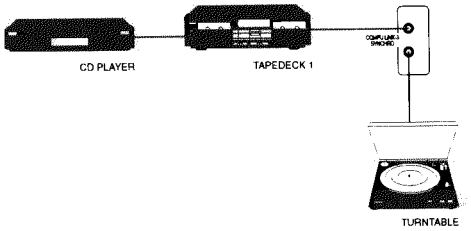
COMPU LINK-3 Connections

COMPU LINK-3 SYNCHRO jacks on the back of the receiver connect the COMPU LINK remote control system. This system connects other JVC audio components with the receiver to make listening and recording more convenient. To use this system, attach the cables provided with your JVC components to the COMPU LINK-3 SYNCHRO jacks on the rear panel of each component. Then connect the cables to the receiver.

NOTES:

- *COMPU LINK-3 is an upgraded version of COMPU LINK-1. If your equipment provides COMPU LINK-1 jacks, you can still connect your equipment, but slight imperfections may result. Automatic Power ON/OFF, for example, may not always function properly.*
- *Refer to page 19 for details about the COMPU LINK remote control system.*

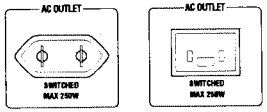
⚠ **CAUTION!** Do not connect Tape Deck 2 to the COMPU LINK jacks. It may cause the COMPU LINK system to malfunction.



Other Audio Connections

Use the socket on the back of the receiver to connect the power supply of any audio components. By pressing the POWER switch on the remote control, you can turn the receiver, and all connected components, on or off at the same time.

⚠ **CAUTION!** Do not connect any components that consume more power than the capacity of the AC outlets. This capacity is indicated below the socket on the back of the receiver.



For Continental Europe For the U.K.

The FUSE holder is provided near the AC OUTLET except for the U.K., Germany, and Italy.

Connecting Speakers

Before Starting

Up to four speakers (two sets) can be connected to the receiver. Connecting four speakers will allow you to use the built-in Surround feature.

Connecting Speakers

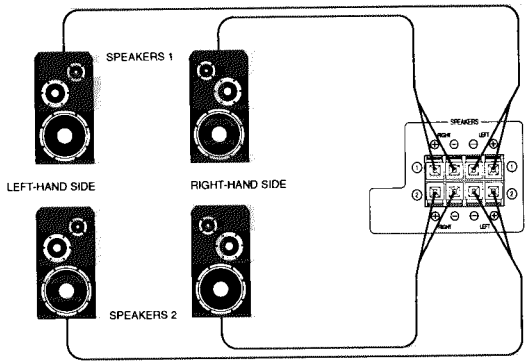
Connect speakers to the SPEAKERS terminals on the back of the receiver. Use the wire supplied with the speakers.

To connect each speaker, follow these steps:

Step 1 Open each terminal on the back of the receiver and insert the end of the speaker wire, as shown.

Step 2 Close the terminals to clamp the speaker wires in place, as shown.

⚠ **CAUTION!** Use speakers with the same speaker impedance indicated by the speaker terminals on the back of this unit.



Connecting an AM Antenna

Before Starting

One AM loop antenna is supplied with your receiver.

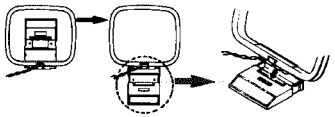
Basic Connections

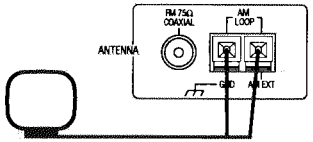
To connect the AM loop antenna to the AM LOOP terminals, follow these steps:

Step 1 Open each terminal and insert one of the two ends of the AM antenna wire.

Step 2 Close the terminals to clamp the antenna wires in place.

Step 3 Stand the AM loop antenna on its own base, as shown. Set it on any flat surface.





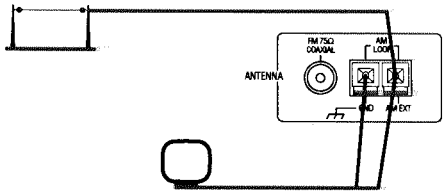
AM Outdoor Antenna

If your AM broadcast reception is unsatisfactory, you should connect an AM outdoor antenna in addition to the loop antenna. The antenna wire should be 16 to 40 feet (5 to 13 meters) long.

Connect one end of the outdoor single vinyl-covered antenna wire to the AM LOOP terminal marked AM EXT.

IMPORTANT! *The AM loop antenna must be installed to receive AM broadcasts. Do not disconnect the loop antenna when installing an outdoor antenna.*

IMPORTANT! *Except for the connection, make sure no uninsulated antenna wire touches the rear panel of the receiver. Otherwise, the receiver might not pick up AM broadcasts.*



Connecting an FM Antenna

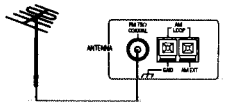
Before Starting

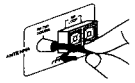
The type of terminal provided for connecting an FM antenna depends on your geographic area. Read the section below which corresponds to your area.

IMPORTANT! *Make sure the antenna conductors do not touch any other terminals on the receiver. This could cause poor reception.*

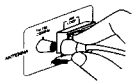
For Germany

You have two options for connecting an FM antenna. Connect the included wire antenna as shown in option ⓐ, or purchase antenna and cable with connector DIN 45332 and attach as shown in option ⓑ.





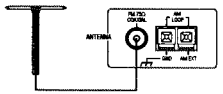
ⓐ



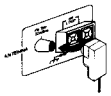
ⓑ

For Other European Countries

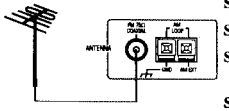
Connect the antenna cable to the FM75ΩCOAXIAL terminal using the Antenna Adaptor. You have two options — a 300-ohm feeder cable, or a 75-ohm coaxial cable.



To attach the Antenna Adaptor to the 300-ohm feeder cable, secure the two conductors to the screws of the Antenna Adaptor, as shown at the left.



To attach the Antenna Adaptor to the 75-ohm coaxial cable, follow these steps:



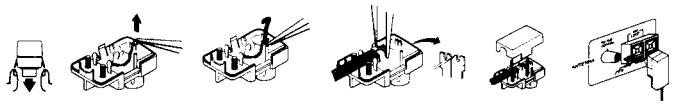
Step 1 Remove the cover of the Antenna Adaptor by lifting the tabs on both sides.

Step 2 Remove the jumper wire in the Antenna Adaptor with a tweezer.

Step 3 Insert the center conductor of the coaxial cable into the notch located in the center of the fitting at the end of the Antenna Adaptor.

Step 4 Using a pair of pliers, secure the fitting in the center of the Antenna Adaptor so that the shield brald of the coaxial cable is held tightly in the fitting.

Step 5 Snap the cover back onto the Antenna Adaptor.



1 2 3 4 5

Connecting the Power

Connecting the Power Supply

After checking all connections, insert the power cord plug into an outlet.

When the power supply is connected correctly, the POWER STANDBY indicator lights on the front of the receiver. A small amount of power (3 watts) is consumed under these conditions, even if the receiver is turned off. To shut off the power completely, unplug the power cord from the outlet.

⚠ **CAUTION!**

- Do not handle the power cord with wet hands.
- Do not pull on the power cord to unplug the receiver. Always grasp the plug directly so as not to damage the cord.
- Do not plug the power cord into a socket until all components are connected correctly.

IMPORTANT! *If the power cord is disconnected or a power failure occurs, the receiver settings in memory fade away for 2 or 3 days.*

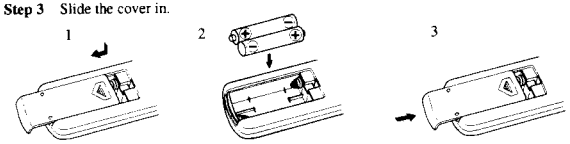
Inserting Batteries into the Remote Control

The remote control requires two batteries (supplied). To insert batteries, follow these steps:

Step 1 On the back side of the remote control, press down on the battery cover and slide it out.

Step 2 Insert batteries. Make sure to observe the proper polarity: (+) to (+) and (–) to (–).

Step 3 Slide the cover in.



Replacing Batteries

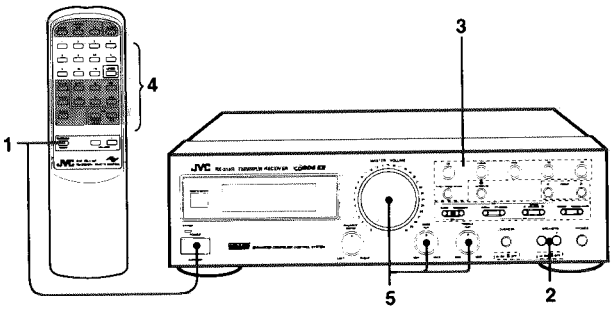
If the range or effectiveness of the remote control decreases, replace the batteries. Use two (2) dry-cell batteries of the R6P (SUM-3)/AA (15F) type.

⚠ **CAUTION!** Follow these precautions to avoid leaking or cracking cells:

- Place batteries in the remote control so they match the polarity indicated (+) to (+) and (–) to (–).
- Use the correct type of batteries. Batteries that look similar may differ in voltage.
- Always replace both batteries at the same time.
- Do not expose batteries to heat or flame.

Operation Outline

Basic Operation Reference



1 Turn on the power

Push the POWER switch to turn on the receiver. For instance, the display lights as follows:

NOTE: Pushing the POWER switch again turns off the power and lights the STANDBY light. A small amount of power (3 watts) is consumed and the STANDBY indicator is lit in the standby mode. To turn the power off completely, disconnect the power cord from the wall outlet.

2 Select speakers (page 17)

Use the SPEAKERS switch to choose between the two sets of speakers. To use your headphones, insert the headphone plug into the PHONES jack on the receiver.

3 Choose an audio source (page 11)

To choose an audio source, press one of the SOURCE SELECT buttons on the receiver or select one of the components on the remote control.

4 Operate the audio source (pages 19-21)

Refer to the manual provided with each component. If your JVC components are connected to the COMPU LINK jack of the receiver, you can operate them using the remote control.

5 Adjust volume and tone (pages 17-18)

Rotate the MASTER VOLUME control on the receiver or press the VOLUME button on the remote control to adjust volume. See page 17 for other ways to change the volume or tone.

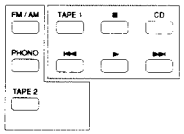
Selecting the Audio Source

The receiver can receive input from compact discs, cassette tapes, turntables, or any audio source that you connect. You can select a source for either listening or recording.

Listening

Press one of the SOURCE buttons on the receiver or the remote control.

CD*	Listen to the CD player.
PHONO*	Listen to a record.
TAPE 1*	Listen to the tape deck connected to the TAPE 1 jacks.
TAPE 2 / VIDEO SOUND	Listen to the tape deck connected to the TAPE 2/VIDEO SOUND jacks.
FM*	Listen to an FM broadcast.
AM*	Listen to an AM broadcast.



IMPORTANT! *The TAPE 2/VIDEO SOUND button has a different function from other source selector buttons, because it allows you to monitor the quality of the recording. For more details, see Monitoring below.*

NOTE: *On the remote, when you press one of the SOURCE buttons marked above with an asterisk, the receiver automatically turns ON (even if it was OFF before).*

Recording

The source being played is automatically selected as the source to be recorded. While recording, you can listen to the selected source at any desired volume and tone settings.

NOTE: *Volume and Tone adjustments and the surround sound effect do not affect recording.*

IMPORTANT! *When recording from TAPE 2 to TAPE 1, press the TAPE 2/VIDEO SOUND button and another button other than TAPE 1.*

Monitoring

Using the Monitor feature, you can compare the sound quality of the source to the sound quality of the recording being made.

To use the Monitor feature while recording onto a cassette deck connected to the TAPE 2 jacks, follow these steps:

Step 1 Press the TAPE 2/VIDEO SOUND button.

The "TAPE 2 MONITOR" light appears and you can listen to the sound of the cassette deck connected to the TAPE 2 jacks. You are now hearing the quality of the recording, not the quality of the source.

Step 2 Press the TAPE 2/VIDEO SOUND button again.

This turns off the "TAPE 2 MONITOR" light, and the speakers play the previously selected source.

NOTE: *If the cassette deck has three heads, you can hear the sound of the recording at the same time as it records on the tape.*

Receiving an AM/FM Broadcast

To receive an AM/FM broadcast, select either AM or FM using the AM button or FM button. Then tune to the precise frequency using the TUNING buttons.

Tuning

Tune to the frequency of a desired station using the TUNING buttons. Pressing the right button increases the frequency, and pressing the left button decreases the frequency. Tapping the TUNING button once changes the frequency in steps of 1 kHz for LW, 9 kHz for MW and 50 kHz for FM.

On the model that can receive LW (Long-Wave) broadcast, AM tuning will skip to the lower limit of the MW (Middle-Wave) frequencies when it reaches the upper limit of the LW frequencies and vica versa.

There are two tuning modes: Manual and Automatic.

Manual Tuning

If you know the frequency of a desired station, hold down the TUNING button to start the frequency changing quickly. Release the TUNING button near the desired station and tap it repeatedly until you arrive at the correct frequency.

Automatic Tuning

If you want to scan frequencies for a desired station, hold down the TUNING button to start the frequency changing quickly. When you release the TUNING button, the frequency continues to change until it reaches a station.

When a station is correctly tuned, the "TUNED" light appears on the display window.

Once a tuned frequency is preset, it can be directly recalled using the PRESET buttons. For details, see page 13.

NOTE: *When you use automatic tuning, weak stations are ignored. To pick up weak stations, use manual tuning.*

IMPORTANT! *If the receiver is tuned to a station but the "TUNED" light does not appear, try rotating the antenna for better reception.*

Selecting an FM Reception Mode

Pressing the FM MODE/MUTE switch switches between these modes.

The "MUTE-AUTO" light appears on the display window. You hear either stereo sound or monaural sound, depending on the broadcast. If it is a stereo broadcast, the "STEREO" light appears. This mode is also useful for suppressing static "noise" between stations.

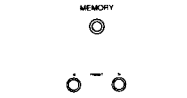
The "MUTE-AUTO" light disappears. You hear monaural sound even if a broadcast is in stereo. This mode is also useful when a stereo broadcast is noisy because of a weak signal.

NOTE: *Using the Automatic Tuning mode, the sound of a broadcast with a weak signal may be muted. In this case, select the monaural mode.*

Presetting Tuned Frequencies

You can preset up to total 40 FM/AM radio stations by assigning channel numbers (1 through 40) to them. Once a station is preset, you can listen to it by entering the preset number using the PRESET buttons on the receiver, or the numeric buttons of the remote.

Presetting



To use presetting to assign channel numbers to your favorite stations, follow these steps:

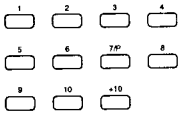
Step 1 Tune to a station. If necessary, follow the procedure on page 12.

Step 2 Press the MEMORY button.
The "MEMORY" light appears in the display window.

Step 3 Using the PRESET buttons, enter a number (1 through 40). This number is the channel number you are assigning to the station.

IMPORTANT! *You must enter the channel number while the "MEMORY" light is on. You have about 5 seconds to do this. If the light disappears before you enter the channel number, press the MEMORY button again.*

Step 4 While the preset channel number is flickering, press the memory button again. When the MEMORY light disappears and the channel number is displayed, presetting is completed.



To choose numbers from 1 through 40, press the +10 key and numeric button on the remote.

To choose 17	Press +10, then 7.
To choose 20	Press +10, then 10.
To choose 25	Press +10 twice, then 5.
To choose 40	Press +10 three times, then 10.

NOTE: You can also tune using the remote control. First press the FM/AM button on the remote, then enter the channel number using the numeric buttons on the remote.

Using the RDS (Radio Data System) to Receive FM Stations

RDS allows FM stations to send additional signal 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 provides the RDS service, the RDS indicator lights up.

With the RX-316RBK, you can receive the following types of RDS signals.

PS (Program Service) :	shows station names commonly known
PTY (Program Type) :	shows types of broadcast programs
RT (Radio Text) :	shows text messages the station sends

What information can RDS signals provide?

You can see the RDS signals the station sends on the display.

To show the RDS signals on the display:
Press the DISPLAY button or DISPLAY MODE on the remote control while listening to an FM station.
Each time you press the button, the display changes to show you the following information:

PS → PTY → RT → Frequency

PS (Program Service) :
While searching, "PS" appears and then the station names will be displayed. "NO PS" appears if no signal is sent.

PTY (Program Type) :
While searching, "PTY" appears and then the type of the broadcast program will be displayed. "NO PTY" appears if no signal is sent.

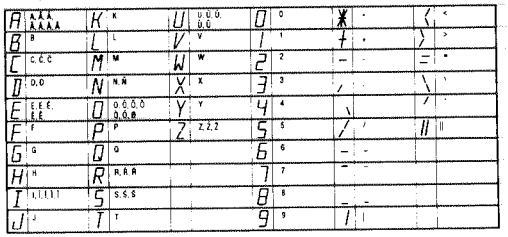
RT (Radio Text) :
While searching, "RT" appears and then text messages the station sends will be displayed. "NO RT" appears if no signal is sent.

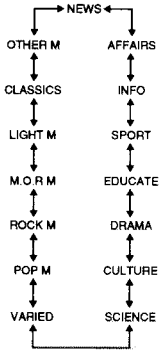
Station Frequency :
Station frequency (non-RDS service.)

NOTES:
- *If searching finishes at once, "PS", "PTY", and "RT" will not appear on the display.*
- *If you press the DISPLAY button or DISPLAY MODE while listening to an AM (MW/LW) station, the display only shows station frequency.*
- *RDS is not available in AM (MW/LW) broadcasts.*

On characters displayed

When the display shows PS, PTY, or RT signals, the following characters are used.
- The display cannot differentiate upper case and lower case letters and always uses upper case letters.
- The display cannot show accented letters, "A", for instance, may stand for accented "A's" like "Å, Ä, Ã, Á, À, and Â





To search the program by PTY codes

One of the advantages of 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: (Possible only on the front panel)

1. **Press the PTY SEARCH button while listening to an FM station.**
   The display alternates between "PTY" and "SELECT."

2. **Press the PTY MODE <or> button to select a PTY code.**
   The display gives you the PTY codes described below.

3. **Press the PTY SEARCH button.**
   While searching, the display alternates between "SEARCH" and the selected PTY code. The RX-316RBK searches 40 preset channels, stops when it finds the one you have selected, and tunes in that station.

To continue searching after the first stop, press the PTY SEARCH button again while the indications on the display blink.
If no program is found, "NOT FOUND" appears on the display.

To stop searching any time during the process.
Using any tuner operating buttons and controls will stop searching.

Descriptions of the PTY codes

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
NONE:	Undefined (this cannot be searched.)

When an emergency broadcast (ALARM signal) is sent from an FM station.
The RX-316RBK automatically switches the source to FM and tunes in the station except in the following cases:

- When you are listening to non-RDS stations (all AM (MW/LW) and some FM stations).
- When the power to the RX-316RBK is turned off.

While receiving an emergency broadcast, "ALARM" appears on the display.

To switch to a broadcast program of your choice temporarily

Another convenient RDS service is called "EON (Enhanced Other Network)."
This allows the RX-316RBK to switch temporarily to a broadcast program of your choice (NEWS, TA, and/or INFO) from other sources *except in the following cases:*

- When you are listening to a non-RDS station (all AM (MW/LW) and some FM stations).
- When the last received FM station is a non-RDS station.

To select the program type
Press the TA/NEWS/INFO button on the front panel
Each time you press the button, the display changes to show the following.

TA → NEWS → INFO → TA/NEWS → TA/NEWS/INFO → TA/INFO → NEWS/INFO → TA

TA:	Traffic Announcement
NEWS:	News
INFO:	Programs on medical service, weather forecast, etc.

To use the EON function
Press the ON/OFF button either on the front panel or EON button on the remote control.
The EON indicator lights up on the display, and the RX-316RBK enters EON standby mode.

CASE 1 If there is no station broadcasting the program you have selected

The RX-316RBK continues playing the current source.

When a station starts broadcasting the program you have selected, the RX-316RBK automatically switches to the station. The EON indicator starts blinking.

When the program is over, the RX-316RBK goes back to the currently selected source, but still remains in EON standby mode.

CASE 2 If there is a station broadcasting the program you have selected

The RX-316RBK stops playing the current source, and tunes in the program. The EON indicator starts blinking.

When the program is over, the RX-316RBK goes back to the currently selected source, but still remains in EON standby mode.

To stop listening to the program selected by EON
Press the EON button again so that the EON indicator goes off on the display. The RX-316RBK enters EON off mode and goes back to the currently selected source.
Each time you press the button, the EON mode always alternates between standby mode and off mode.

NOTES:

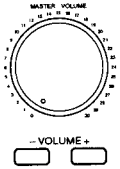
- *In EON standby mode, if you change the source to AM or if you carry out synchronized recording (see page 19), EON standby mode is cancelled temporarily. The RX-316RBK goes back to EON standby mode again when you have finished that operation.*
- *While listening to a program tuned in by the EON function, you can only use the POWER, EON, and DISPLAY buttons.*
- *When the RX-316RBK is turned off, the EON function is also turned off.*

CAUTION:
When the source alternates intermittently between the station tuned in by the EON function and the currently selected source, press the EON button to cancel the EON function (the EON indicator off on the display). This is not the malfunction of the RX-316RBK.

Adjusting the Volume and Tone

Adjusting the Volume

Using the MASTER VOLUME Control



Use the MASTER VOLUME control to adjust the volume from the left and right speakers. Rotating the dial to the right increases the volume. The volume from the speakers and the headphones increases simultaneously.

NOTE: Volume can also be adjusted using the remote control. Press the VOLUME button marked + to increase the volume, or the VOLUME button marked – to decrease the volume.

⚠ **CAUTION:** Listening to extremely loud sound may damage your hearing. Be especially careful when using headphones.

Selecting the Speakers

Pushing in SPEAKER button 1 or 2 activates that pair of speakers. Pressing either button again deactivates that pair of speakers. When the button is in, that pair is activated. You can listen to both pairs, pair 1, pair 2, or neither pair.

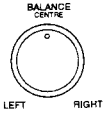
***IMPORTANT!** If only one set of speakers is connected, pressing "in" both speaker buttons will produce no sound.*

Listening to Headphones

Insert the headphone plug into the PHONES jack. To limit sound to the headphones (no sound from the speakers), press SPEAKER buttons 1 and 2 to deactivate all speakers.

⚠ **CAUTION:** To avoid hearing damage, turn the volume down before plugging in the headphones, then gradually increase the volume.

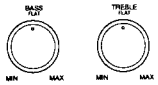
Adjusting the Left-Right Balance



Use the BALANCE control to adjust the balance between the left and right channels. Rotating the dial to the right decreases the left-channel volume, and rotating it to the left decreases the right-channel volume. The BALANCE control affects both sets of speakers and the headphones.

Adjusting the Tone

Adjusting Bass and Treble



Use the BASS control to adjust low pitches and the TREBLE control to adjust high pitches. Turn either control to the right for intensified pitch. Set both controls at the FLAT position for normal listening.

Enjoying the Surround Sound Effect

Press the SURROUND button to create this movie-theater effect. The SURROUND indicator lights. Press the SURROUND button again to deactivate the surround feature. The SURROUND indicator turns off.

***IMPORTANT!** The Surround feature has no effect on monaural (non-stereo) sources.*

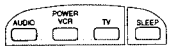
NOTE: Two set of speakers are recommended to produce an ideal surround effect, but you can use the feature with only one set of speakers connected.

Listening at Low Volume *(Loudness)*

Human ears are not sensitive to bass at low volume. To compensate for this, the loudness function automatically boosts the bass level as you lower the volume.

To use the loudness function, press the LOUDNESS button.

To turn the function off, press the LOUDNESS button again.



Using the Sleep Timer

The sleep timer lets you listen to any program for up to 80 minutes before it automatically shuts off. The receiver goes back to standby mode (off) after the time period that you specify. To use the sleep timer:

Step 1 Press the SLEEP button on the remote control.

"SLEEP" appears in the display window.

***IMPORTANT!** You have 5 seconds to proceed to the next step. If you wait more than 5 seconds, return to step 1.*

Step 2 Press the SLEEP button again to set the timer.

Each time you press the SLEEP button, the time limit is extended 10 minutes. You can set up to 80 minutes.

Step 3 Stop when you reach the desired time period.

To set time indicator disappears after a few seconds. The receiver will automatically return to standby mode (off) after the time period you specified.

NOTES:

- *After setting the sleep timer, you can change sources as often as you wish within the specified time period.*
- *After setting the sleep timer, you can check the remaining time in minutes by pressing the SLEEP button. You can extend the time period further, in 10-minute increments, by pressing the SLEEP button again.*

Operating Audio Components

COMPU LINK Remote Control System

The COMPU LINK remote control system lets you operate the receiver and JVC components from the remote supplied with this receiver. Control signals for JVC audio components are preset in the receiver's remote control.

Connecting the COMPU LINK-3 SYNCHRO jacks on the back of the receiver will allow you to use the four functions below.

Remote Control

You can control all components via the REMOTE SENSOR on the receiver using the receiver's remote control. For details, see page 20.

IMPORTANT! *Point the remote control directly at the REMOTE SENSOR on the receiver.*

Automatic Source Selection

When you *press play* on a component or the remote, the component begins playing immediately. On the other hand, if you select a *new source* on the receiver or the remote, the component begins playing immediately, but the previously selected source continues playing without sound for a few seconds.

Synchronized Recording

Synchronized recording means the tape deck starts recording as soon as a CD or record begins playing.

To use synchronized recording, follow these steps:

Step 1 Put a tape in the deck, and a disc in the CD player or on the turntable.

Step 2 Press the REC and PAUSE button on the tape deck at the same time. This puts the tape deck in the REC/PAUSE state.

IMPORTANT! *If you do not press the REC button and PAUSE button together, the synchronized recording feature will not operate.*

Step 3 Press the PLAY button on the CD player or turntable.

As soon as the disc starts playing, the tape deck starts recording. When the disc ends, the tape deck switches back to the REC/PAUSE mode, and stops 4 seconds later.

NOTES:

- *During synchronized recording, the CD or PHONO button is activated. Other SOURCE buttons are disabled to prevent recording failure.*
- *If your CD player is operated in the PROGRAM mode, a 4-second mute is recorded between tracks to enable the music scan feature of your tape deck to work.*
- *If the power of any component is shut off during synchronized recording, the system will not operate properly. In this case, you must start again with step 1.*

Automatic Power ON/OFF

The CD player and cassette deck are turned on and off along with the receiver. When you turn on the receiver (using either the remote or the receiver's POWER switch), the CD player or cassette deck will turn on automatically, depending which component was previously selected.

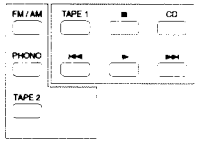
NOTE: *This function has been added to COMPU LINK-3 (Enhanced COMPU LINK), an upgraded version of COMPU LINK-1. Refer to your JVC component manual for details.*

Using the Remote Control

By connecting the COMPU LINK jack to this receiver, you can operate the audio stereo component with this receiver's remote control. In addition, if your VCR is a JVC product, you can operate it with this receiver's remote control.

NOTE: *The VCR does not work with the COMPU LINK remote control system. When you operate the VCR, you must aim the remote control at the VCR instead of the receiver.*

Operating the Component Already Selected

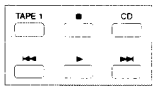


Select a source with the SOURCE SELECT buttons on the remote control. Operate that source using the buttons below the SOURCE SELECT buttons.

IMPORTANT! *If you choose a source on the receiver directly, the remote control will not operate that source. To operate a source with the remote control, the source must be selected using the remote control.*

IMPORTANT! *When you select CD, TAPE 1, FM, AM or PHONO on the remote control, the component will turn on and start playing automatically.*

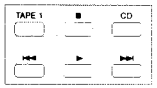
CD Player



After pressing the CD button, you can perform the following operations on the remote:

- ► Starts playing
- ⏮ Skips to the beginning of the previous track
- ⏭ Skips to the beginning of the next track
- ■ Stops playing

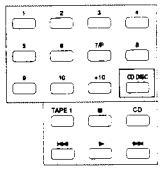
Cassette Deck



After pressing the TAPE 1 button, you can perform the following operations on the remote:

- ► Starts playback
- ■ Stops operation
- ⏮ Fast wind the tape from right to left
- ⏭ Fast wind the tape from left to right

Operating the Component Not Currently Selected

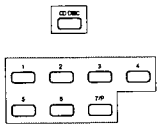


When you want to operate one component while listening to another component (e.g., recording from a CD), use the buttons in the CONTROL section of the remote control. The CONTROL buttons allow you to use the operation buttons for the new component without affecting the component already playing.

NOTE: You can also turn the VCR and TV on and off by pressing the VCR or TV button in the POWER section of the remote control.

IMPORTANT! Aim the remote control at the VCR or TV, not at the receiver.

CD Player-Changer



After pressing the CD DISC button in the CONTROL section of the remote, you can perform the following operations on the remote:

1-6, P Select the number of the disk installed in the CD player-changer. Then continue to operate the CD player as shown on page 20.

Troubleshooting

Use this chart to help you solve everyday operational problems. If there is any problem you cannot solve, contact your JVC service center.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Display window does not light up	Power cord not plugged in	Plug power cord into AC socket
No sound from speakers	Speaker wires not connected	Check speaker wiring and reconnect if necessary
	SPEAKERS buttons not set correctly	Push the SPEAKERSbuttons in or out as desired
	Incorrect SOURCE button was pressed	Select the correct audio source
Sound from one speaker only	Speaker wires not connected properly	Check speaker wiring and reconnect if necessary
	Balance control is set to one extreme	Adjust BALANCE control so that both speakers have sound
Continuous hiss or buzzing during FM reception	Incoming signal is too weak	Adjust antenna
	Station is too far away	Select a new station
	Incorrect antenna used	Check with your dealer to be sure you have the correct antenna
	Antenna not connected properly	Check connections
Occasional cracking noise during FM reception	Ignition noise from automobiles	Move the antenna farther from automobile traffic
Howling during record playing	Turntable too close to speaker	Move speakers away from turntable
Remote control does not work	There is an obstruction in front of the REMOTE SENSOR on the receiver	Remove the obstruction
	Batteries are weak	Replace batteries

Specifications

Amplifier

Output Power

Europe and Australia

90 watts per channel, min. RMS, both channels driven into 4 ohms at 1 kHz with no more than 0.9% total harmonic distortion (IEC268-3/DIN).
65 watts per channel, min. RMS, both channels driven into 8 ohms at 1 kHz with no more than 0.9% total harmonic distortion (IEC268-3/DIN).
55 watts per channel, min. RMS, both channels driven into 8 ohms from 40 Hz to 20 kHz, with no more than 0.08% total harmonic distortion.

Total Harmonic Distortion (8 ohms, 1 kHz) 0.08%* at 55 watts output

Frequency Response (8 ohms)
PHONO 20 Hz to 20 kHz (±1 dB)
CD / TAPE 1 / TAPE 2 20 Hz to 20 kHz (±1 dB)

Signal-to-Noise Ratio ('66 IHF / DIN)
PHONO 70 dB / 66 dB
CD / TAPE 1 / TAPE 2 91 dB/ 67 dB

RIAA Phono Equalization ±1 dB (20 Hz to 20 kHz)

Input Sensitivity / Impedance (1 kHz)
PHONO 2.5 mV / 47 k ohms
CD / TAPE 1 / TAPE 2 200 mV / 47 k ohms

Output Level
TAPE 1 / TAPE 2 200 mV

Tone Control Range BASS (at 100 Hz) ±8 dB
TREBLE (at 10 kHz) ±8 dB

Loudness Control +4.5 dB (at 100 Hz)
(Volume control at –30 dB)

FM Tuner (IHF)

Tuning Range 87.5 MHz to 108.0 MHz

Usable Sensitivity 10.8 dBf (0.95 µV / 75 ohms)

50 dB Quieting Sensitivity
Monaural 16.3 dBf (1.8 µV / 75 ohms)
Stereo 38.3 dBf (22.5 µV / 75 ohms)

Signal-to-Noise Ratio (IHF-A weighted)
Monaural 80 dB at 85 dBf
Stereo 73 dB at 85 dBf

Total Harmonic Distortion (IHF)
Monaural 0.15 % at 1 kHz
Stereo 0.2 % at 1 kHz

Stereo Separation at REC OUT 40 dB at 1 kHz

Capture Ratio (IHF) 1.5 dB (10 mV / 300 ohms)

Alternate Channel Selectivity (IHF) 60 dB (±400 kHz)

Frequency Response 30 Hz to 15 kHz: (+0.5 dB, –3 dB)

MW Tuner

Tuning Range 522 kHz to 1,629 kHz (MW)
144 kHz to 288 kHz (LW)

Usable Sensitivity
Loop antenna 300µV/m
External antenna 30µV

Signal-to-Noise Ratio 50 dB (100mV/m)

LW Tuner

Usable Sensitivity
Loop antenna 600µV/m
External antenna 100µV

General

Power Requirements AC 230V ∿ , 50 Hz

Power Consumption 220 watts (at operation)
3 watts (at standby mode)

Dimensions (W x H x D) 17 3/16 x 5 x 14 1/16 inches
435 x 126 x 356 mm

Mass 19.8 lbs
9.0 kg

* Measured by JVC Audio Analysis System.
** Measured at 999 kHz (MW), at 245 kHz (LW).

Supplied Accessories
- Remote control unit (RM-SR316RU) 1
- Batteries R6P(SUM-3)/AA(15F) 2
- AM(MW/LW) loop antenna 1
- FM wire antenna (only for Germany) 1
- FM feeder antenna (except for Germany) 1
- Antenna adaptor (except for Germany) 1
- Mains plug (only for the U.K.) 1

Designs and specifications subject to change without notice.

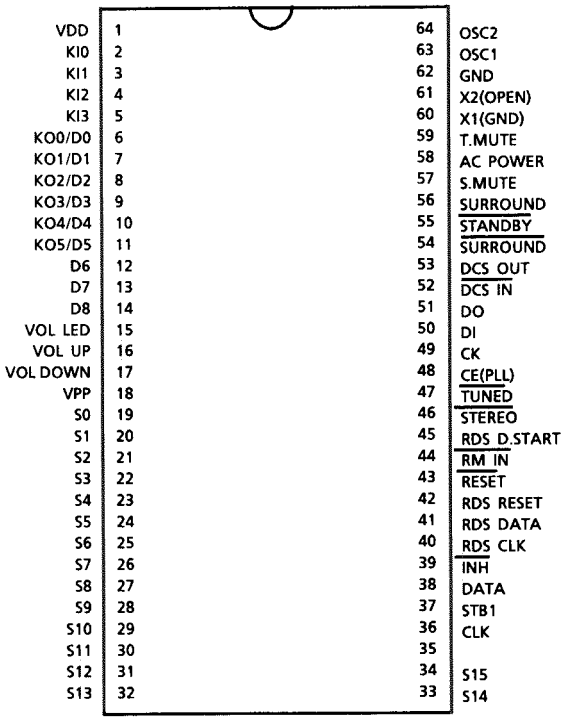
(No. 20504) 1-15

RX-316RBK

Description of ICs

■ MN171202J5C (IC401) : System controller

1.Terminal Layout



2.Key Matrix

	KEY IN 0	KEY IN 1	KEY IN 2	KEY IN 3
KEY OUT 0	POWER	CD	PHONO	TAPE1
KEY OUT 1	PRESET +	TUNING +	FM	AM
KEY OUT 2	PRESET −	TUNING −	FM MODE /MUTE	MEMORY
KEY OUT 3	--	SURROUND	TAPE2 /TV SOUND	--
KEY OUT 4	EON	EON TA/NEWS /INFO	DISPLAY	PTY ON/OFF

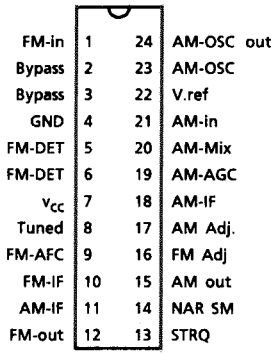
3.Pin Function

Pin No.	Symbol	I/O	Function and Operations	Pin No.	Symbol	I/O	Function and Operations
1	VDD	--	Power supply	33	S14	O	Segment control signal
2	KI0	I	Key matrix in	34	S15	O	Segment control signal
3	KI1	I	Key matrix in	35		--	Not used
4	KI2	I	Key matrix in	36	CLK	O	Clock output for IC321
5	KI3	I	Key matrix in	37	STB1	O	Strobe signal for IC321
6	D0/KO0	O	Grid control signal (Key matrix out)	38	DATA	O	Data for IC321
7	D1/KO1	O	Grid control signal (Key matrix out)	39	INH	I	Inhibit signal input
8	D2/KO2	O	Grid control signal (Key matrix out)	40	RDS CLK	O	Clock output for IC201
9	D3/KO3	O	Grid control signal (Key matrix out)	41	RDS DATA	O	Strobe signal for IC201
10	D4/KO4	O	Grid control signal (Key matrix out)	42	RDS RESET	O	Reset signal for IC201
11	D5/KO5	O	Grid control signal (Key matrix out)	43	RESET	I	Reset signal input
12	D6	O	Grid control signal	44	RM IN	I	Detection for protector
13	D7	O	Grid control signal	45	RDS D.START	O	D.Start signal for IC201
14	D8	O	Grid control signal	46	STEREO	I	STEREO indication control
15	VOL LED	O	Volume indication control	47	TUNED	I	TUNED indication control
16	VOL UP	O	Volume control signal	48	CE	O	Chip select signal for IC102
17	VOL DOWN	O	Volume control signal	49	CK	O	Clock output for IC102
18	VPP	--	Power supply for FL display	50	DI	I	Data to IC102
19	S0	O	Segment control signal	51	DO	O	Data for IC102
20	S1	O	Segment control signal	52	DCS IN	I	Compulink signal input
21	S2	O	Segment control signal	53	DCS OUT	O	Compulink signal output
22	S3	O	Segment control signal	54	SURROUND	O	SURROUND indicator signal output
23	S4	O	Segment control signal	55	STANDBY	O	STANDBY indicator signal output
24	S5	O	Segment control signal	56	SURROUND	O	SURROUND on signal output
25	S6	O	Segment control signal	57	S.MUTE	O	Muting signal when changing the source
26	S7	O	Segment control signal	58	AC POWER	O	RY001 control signal
27	S8	O	Segment control signal	59	T.MUTE	O	Tuner muting control signal
28	S9	O	Segment control signal	60	X1	--	Connected to GND
29	S10	O	Segment control signal	61	X2	--	Non connection
30	S11	O	Segment control signal	62	GND	--	GND
31	S12	O	Segment control signal	63	OSC1	--	Oscillation terminal
32	S13	O	Segment control signal	64	OSC2	--	Oscillation terminal

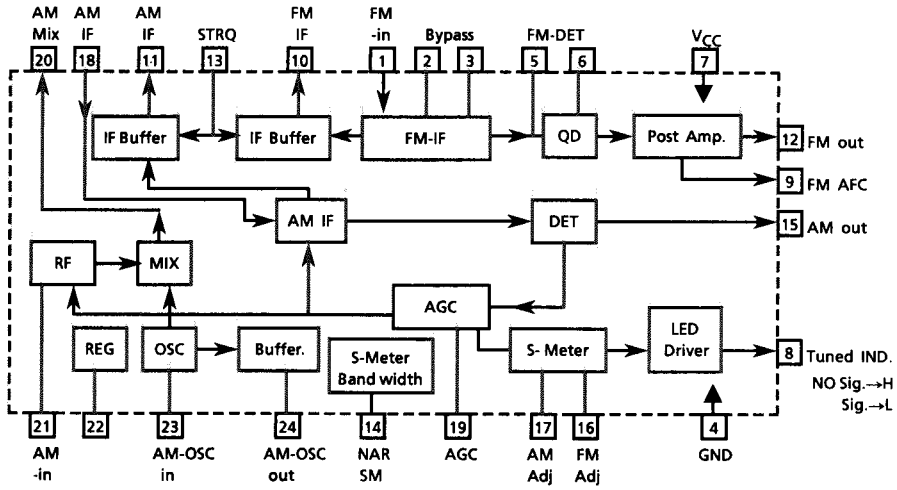
■ LA1266A (IC104) : FM AM IF AMP & detector

1. The main function descriptions
   (1) Amplify and detect of FM intermediate frequencies.
   (2) It has local oscillator and mixer for AM, and detect the AM-IF signal.

2. Terminal Layout



3. Block Diagram



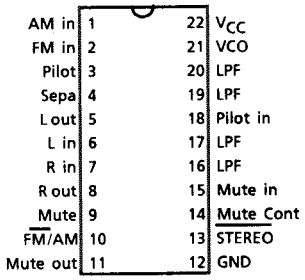
4. Pin Function

Pin No.	Symbol	I/O	Functions and Operations
1	FM in	I	This is an input terminal of FM IF Signal.
2,3	Bypass	--	Bypass of FM IF Amp.
4	GND	--	This is the device ground terminal.
5,6	FM DET	--	FM detect transformer.
7	V_{CC}	--	This is the power supply terminal.
8	Tuned	O	When the set is tunning ,this terminal become "L".
9	FM AFC	O	This is an output terminal of voltage for FM - AFC.
10	FM IF out	O	When the signal of IF REQ of IC102(LC7218) applied to pin17, the signal of FM IF does output.
11	AM IF out	O	When the signal of IF REQ of IC102(LC7218) applied to pin17, the signal of AM IF does output.
12	FM out	O	FM detection output.
13	STRQ	I	The IF-signals come out from pin10 (FM-IF) or pin11 (AM-IF) while this terminal going to "High".
14	NAR SM	--	Control the Band-width of signal meter.
15	AM out	O	AM detection output.
16	FM Adj	--	For adjust the stop level (or mute level) of FM.
17	AM Adj	--	For adjust the stop level (or mute level) of AM.
18	AM-IF	I	Input of AM IF Signal.
19	AM-AGC	I	This is an AGC voltage Input terminal for AM.
20	AM-MIX	O	This is an output terminal for AM mixer.
21	AM-IN	I	This is an input terminal for AM RF Signal.
22	V.REF	--	Register value between pin9 and pin22 desides the frequency width of the input signal.
23	AM-OSC	--	This is a terminal of AM Local oscillation circuit.
24	AM-OSC out	O	AM Local Oscillation Signal output.

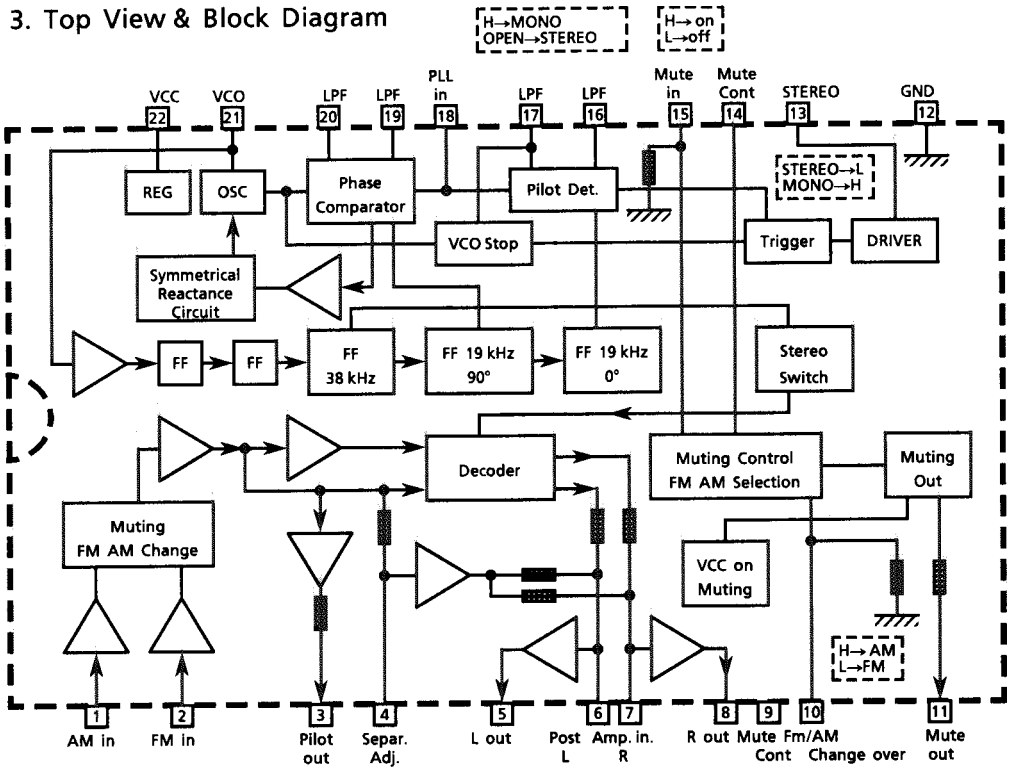
■ LA3401 (IC105) : FM MPX Detector

1. The main function descriptions
   (1) Detect the FM Multiplex Signal (Stereo signal).
   (2) When receiving FM Stereo Signal, it outputs the signal for indicator.
   (3) AM / FM Audio Amplifier.

2. Terminal Layout



3. Top View & Block Diagram



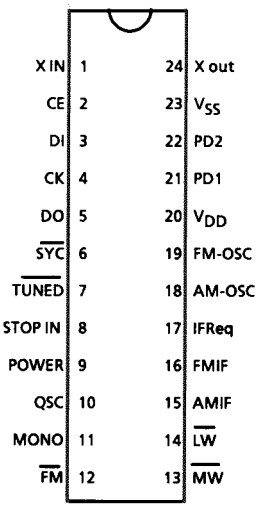
4. Pin Function

Pin No.	Symbol	I/O	Functions and Operations
1	AM in	I	This is an input terminal for AM detection signal.
2	FM in	I	This is an input terminal for FM detection signal.
3	Pilot out	O	Output of MPX pilot signal (Connect to Pin18).
4	Sepa. Adj.	--	Separation adjustment.
5	L. out	O	Left channel signal output.
6	L	O	Reversal output of Pin5.
7	R	O	Reversal output of Pin8.
8	R out	O	Right channel signal output
9	Mute Cont	--	Not used.
10	FM / AM	I	Change over the FM / AM input. "H" : AM, "L" : FM
11	Mute out	---	Not used.
12	GND	--	Ground terminal.
13	Stereo	O	Stereo indicator output. Stereo : "L", Mono : "H"
14	Mute Cont	--	The mute time is controlled by the connected capacitor when changing over the FM / AM .
15	Mute in	I	Mute signal input."H" : Mute on, "L" : Mute off.
16	LPF	--	Low pass filter of pilot detector.
17	LPF	--	While this terminal goes to "H", the VCO stop.
18	Pilot in	I	Pilot signal input.
19	LPF	--	Low-pass filter of PLL.
20	LPF	--	Low-pass filter of PLL.
21	VCO	I	Voltage controlled oscillator terminal.
22	V_{CC}	--	Power supply.

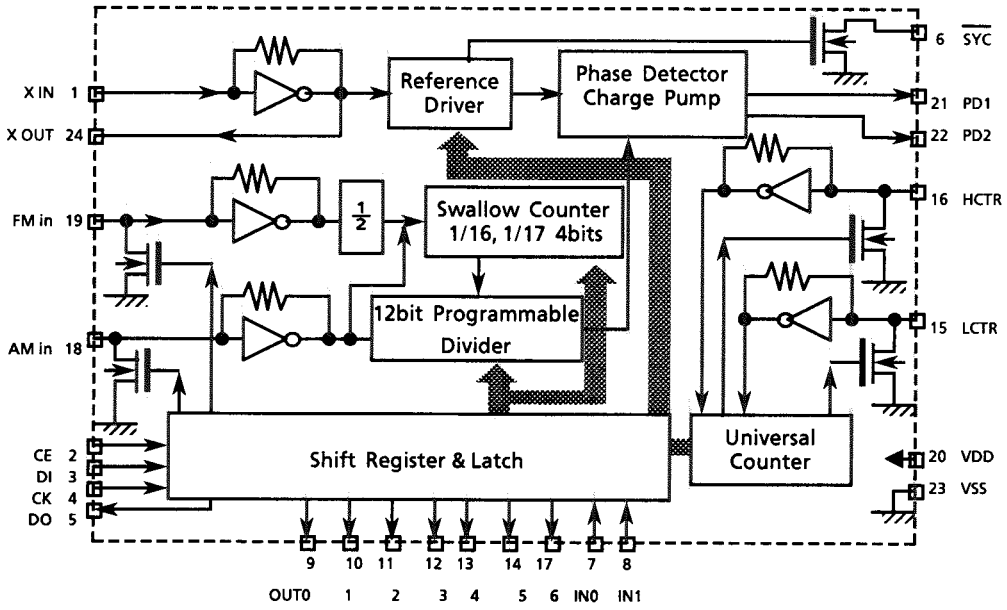
■ LC7218 (IC102) : PLL Synthesizer

1. The main function descriptions
   (1) It makes the local oscillation frequency by the control data from IC401.
   (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 IC401.

2. Terminal Layout



3. Block Diagram



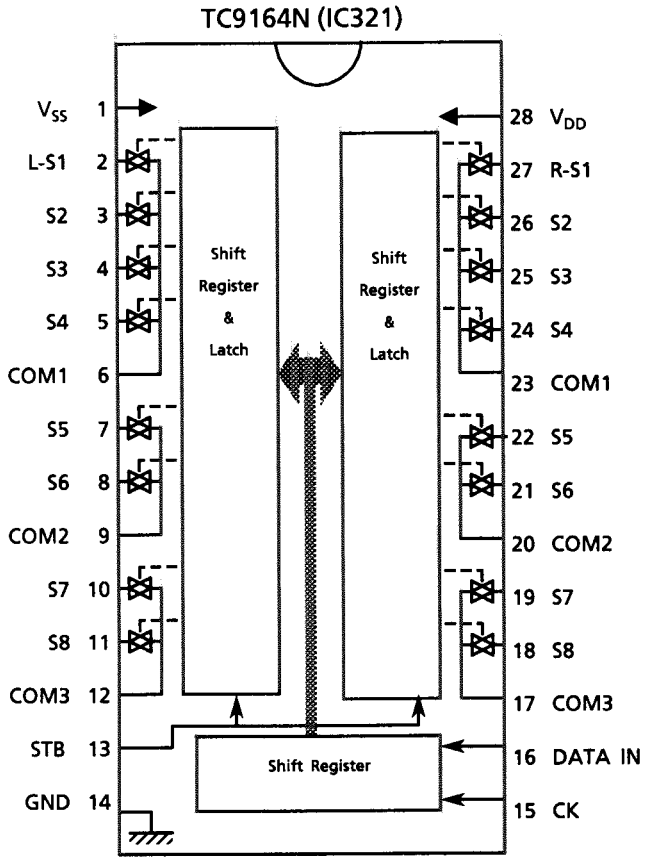
4. Pin Function

Pin No.	Symbol	I/O	Functions and Operations
1,24	X in , X out	I/O	Crystal oscillator (7.2MHz).
2	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.
3	DI	I	Receive the control data from the controller (IC401).
4	CK	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 CK.
6	SYC	—	Not used.
7	Tuned	I	Receive the tuned signal from IC104 (LA1266A).
8	Stop in	—	Connect 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 IC104 (LA1266A).
16	FM-IF	I	Universal counter input for FM-IF from IC104(LA1266A).
17	IF REQ	O	Output the "IF-signal request" to IC104 when the pin-7 (tuned in) goes to "H".
18	AM OSC	I	Input the local oscillator signal of AM.
19	FM OSC	I	Input the local oscillator signal of FM.
20	V_{DD}	—	This is a terminal of power supply.
21	PD1	O	PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
22	PD2	—	Not used.
23	Vss	—	Connect to GND.

■ TC9164N (IC321) : Analog Switch

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

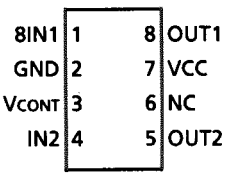
2. Terminal Layout & Block diagram



3. 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.

	Switch Select bit								CH1 (R-S1~S8)	CH2 (L-S1~S8)	Chip Select bit			
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14
TC9164N	The switch is ON when the data is "1".										0	1	0	0

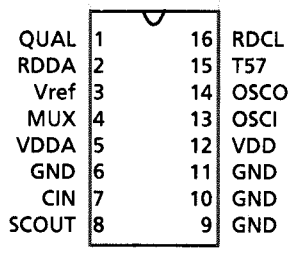
■ LB1639 (IC361) : Motor Driver



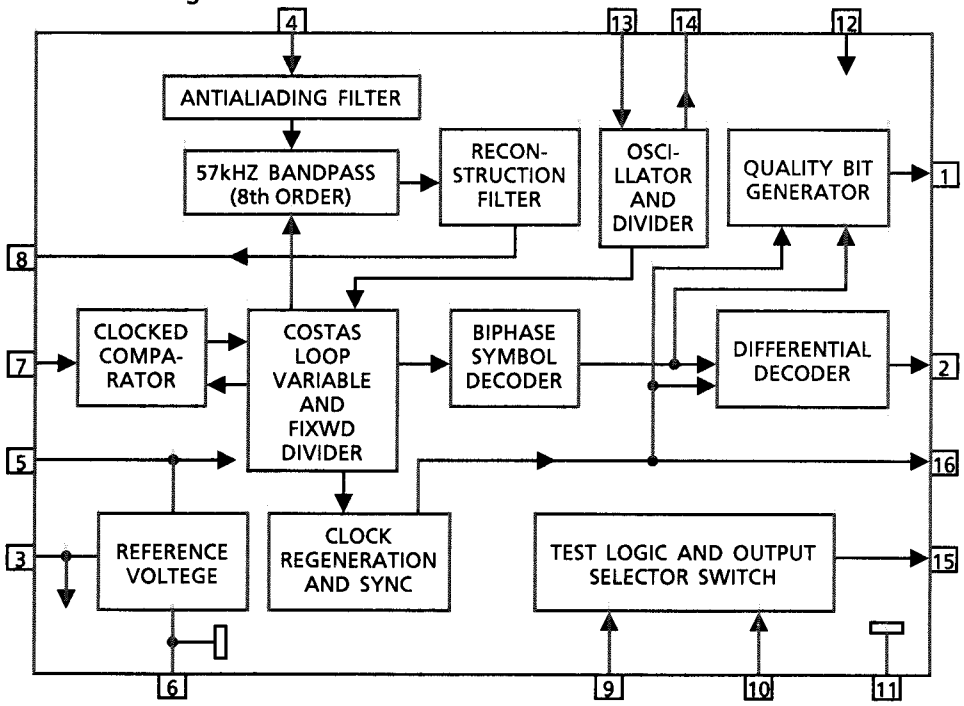
IN 1	IN 2	OUT 1	OUT 2	MOTOR
H	L	H	L	CLOCKWISE
L	H	L	H	COUNTER-CLOCKWISE
H	H	OFF	OFF	WAITING
L	L	OFF	OFF	WAITING

■ SAA6579 (IC202) : Radio data system demodulator

1. Terminal Layout



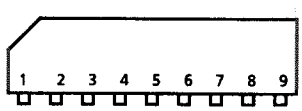
2. Block Diagram

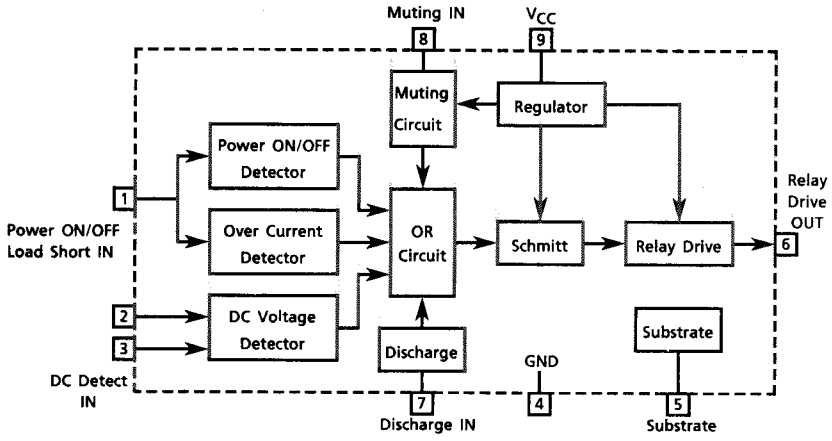


3. Pin Function

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

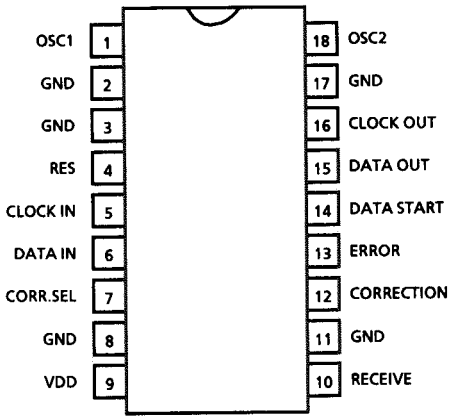
■ TA7317P (IC901) : PROTECTOR



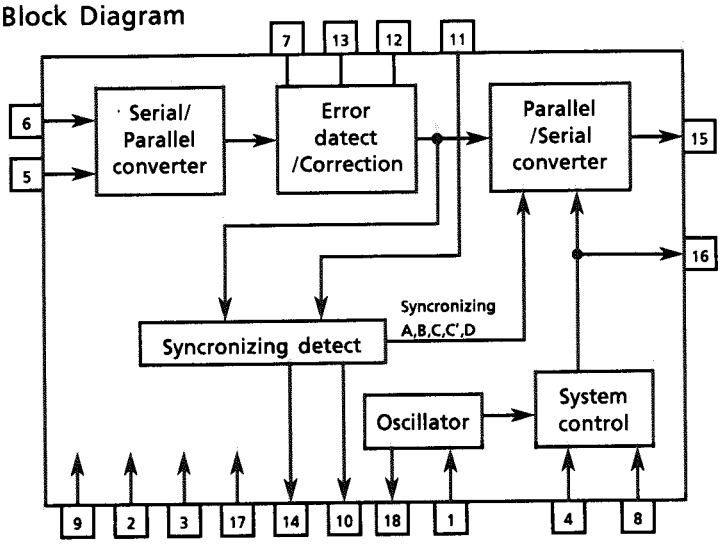


■ LC7073 (IC201) : Radio Data System

1. Terminal Layout



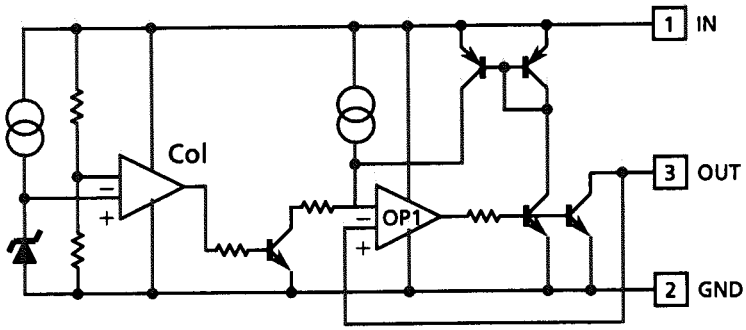
2. Block Diagram



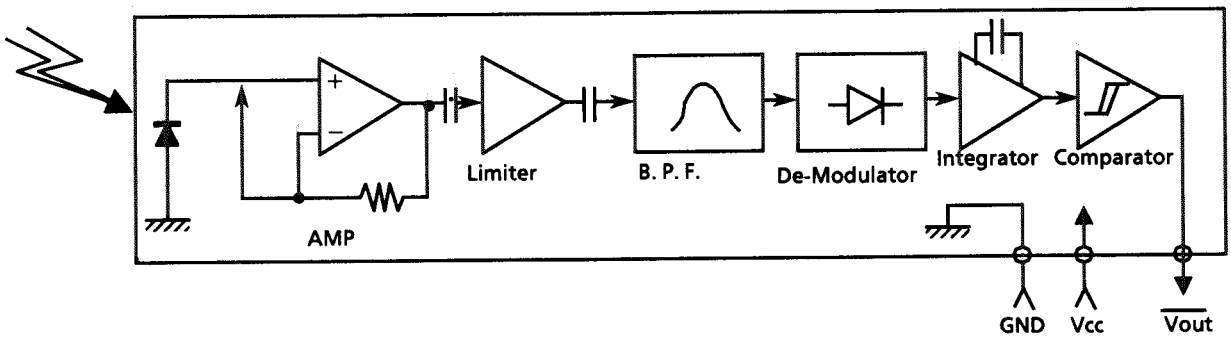
3. Pin Function

Pin No.	Symbol	I/O	Functions & Operations	Pin No.	Symbol	I/O	Functions & Operations
1,18	OSC1,OSC2	I/O	Oscillation terminal	10	RECEIVE	—	Non connection
2,3,8, 11,17	GND	—	GND	12	CORRECTION	—	Non connection
4	RES	I	Reset input	13	ERRDR	—	Non connection
5	CLOCK IN	I	RDS clock input	14	DATA START	O	Data start signal for block data to output serial data.
6	DATA IN	I	RDS data input	15	DATA OUT	O	Serial data output
7	CORR.SEL	I	Non connection	16	CLOCK OUT	O	Data output of serial data output
9	VDD	—	Power supply				

■ PST600E (IC403) : Reset IC



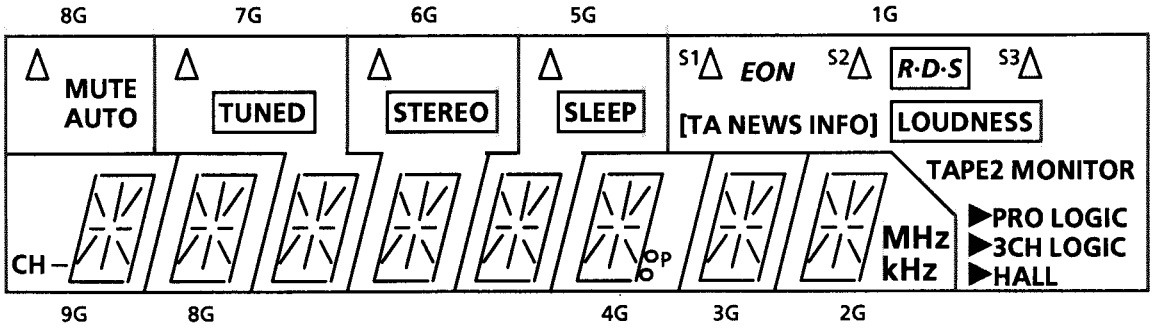
■ NJH32H380A (IC402) : Remocon Module IC

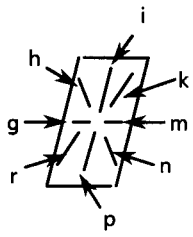


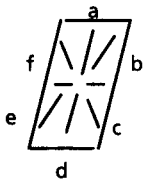
Internal Connection of the Display

■ ELU0001-183: FL TUBE

(1) Grid Layout







[9G ~ 2G]

(2) 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	1G	2G	3G	4G	5G	6G	7G	8G	9G	NC	NC	NC	NC	NC	NC	P 1
TERMINAL NO.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	
ELECTRODE	P 2	P 3	P 4	P 5	P 6	P 7	P 8	P 9	P 10	P 11	P 12	P 13	P 14	P 15	P 16	NP	NP	F2	F2	

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

(3) Anode Connections

	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	a	a	a	a	a	a	a	a	S1
P2	b	b	b	b	b	b	b	b	S2
P3	j	j	j	j	j	j	j	j	S3
P4	k	k	k	k	k	k	k	k	--
P5	h	h	h	h	h	h	h	h	TAPE2 MONITOR
P6	f	f	f	f	f	f	f	f	LOUDNESS
P7	m	m	m	m	m	m	m	m	--
P8	g	g	g	g	g	g	g	g	--
P9	c	c	c	c	c	c	c	c	▶PRO LOGIC
P10	n	n	n	n	n	n	n	n	▶3CH LOGIC
P11	r	r	r	r	r	r	r	r	▶HALL
P12	p	p	p	p	p	p	p	p	R·D·S
P13	e	e	e	e	e	e	e	e	TA
P14	d	d	d	d	d	d	d	d	NEWS
P15	CH–	MUTE AUTO	TUNED	STEREO	SLEEP	Op	--	MHz	INFO
P16	--	△	△	△	△	--	--	kHZ	EON [ ]

Disassembly Procedures

(1) Removing the Top Cover

1. Remove the 4 screws fastening both sides of the Top Cover, and the 2 screws fastening the rear sides.
2. Remove the Top Cover.

(2) Removing the Front Panel

1. Remove the 3 screws Ⓐ fastening top of the Front Panel, and the 3 screws Ⓕ fastening bottom of the Front Panel.
2. Disconnect the connectors. (P101,P702,PA807,P805)
3. Remove the master volume knob.
4. Remove the nut fastenning the master volume.
5. Remove the Front Panel.

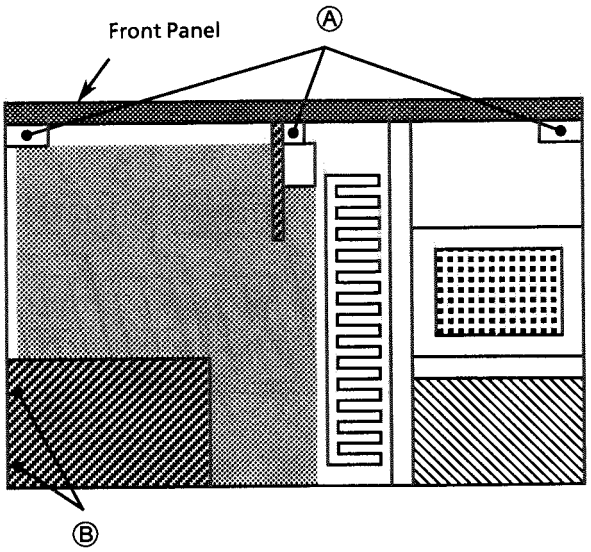


Fig 1. Top View

(3) Removing the Bottom Cover

1. Remove the 17 screws Ⓔ.
2. Remove the Bottom Cover.

(4) Removing the Tuner P.C. Board

1. Disconnect the connectors.(P101,P103)
2. Remove the 6 screws Ⓑ, Ⓒ and Ⓓ, and take it out.

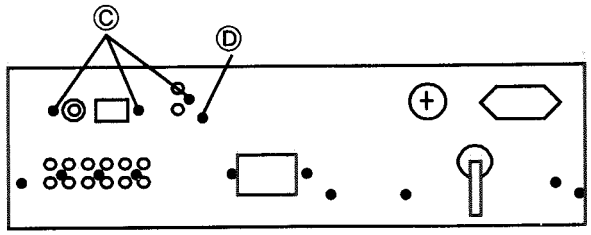


Fig 2. Rear View

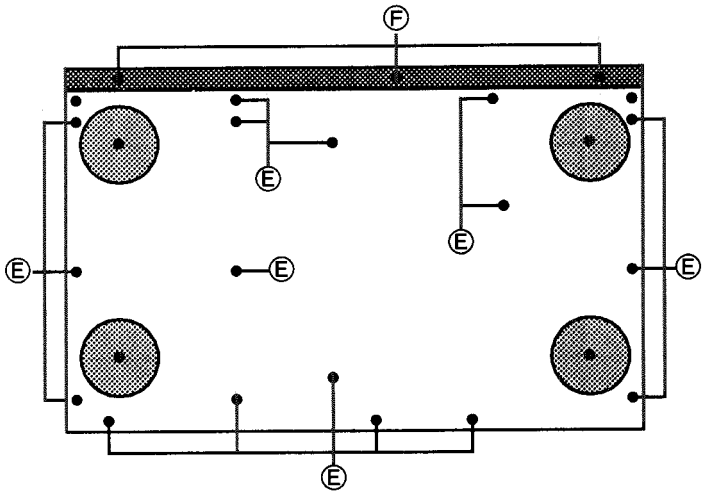


Fig 3. Bottom Cover

Adjustment Procedures ■ Tuner section

Tuning range

Area	Range		
	LW (kHz)	MW (kHz)	FM (MHz)
East Europe	144~288	522~1629	87.5~108
Continental Europe, the U.K			
the U.S.A., Canada			
Australia			
Universal type(AM Channel space 9kHz)			
Universal type(AM Channel space 10kHz)			

(1) Tuning voltage

Confirm the voltages in the table below at TP101.

FM Tuning voltage (Unit : V)

Area	Frequency			
	64.0MHz	74.0MHz	87.5MHz	108MHz
East Europe	—	—	—	—
the U.K., Continental Europe,	—	—	1.6±1.0 (V)	8.0±1.0 (V)

AM Tuning voltage (Unit : V)

Area	Frequency (MW)							Frequency (LW)		
	522KHz	530KHz	531KHz	1600KHz	1602KHz	1629KHz	1710KHz	144kHz	290kHz	353kHz
East Europe	—	—	—	—	—	—	—	—	—	—
the U.K., Continental Europe	0.9±0.2	—	—	—	—	7.5±0.8	—	0.8±0.2	—	7.7±0.6
U.S.A., Canada	—	0.9±0.2	—	—	—	—	8.0±0.8	—	—	—
Australia	0.9±0.2	—	—	—	—	7.5±0.8	—	—	—	—
Universal (Chanel space9kHz)	—	—	0.9±0.2	—	7.2±0.7	—	—	—	—	—
Universal (Chanel space10kHz)	—	0.9±0.2	—	7.2±0.7	—	—	—	—	—	—

(2) FM center meter

Adjust T105 as follows after the frequency counter correctly receives a broadcast.

Adjust T105 (detector coil) so that the voltage at TP102 becomes 0±1.5mV.

(T106 is used to minimize the distortion of output on the production line.)

(3) FM separation

Receive a stereo signal.

Adjust VR 167 so that channel separation becomes maximam.

(4) LW Tracking

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

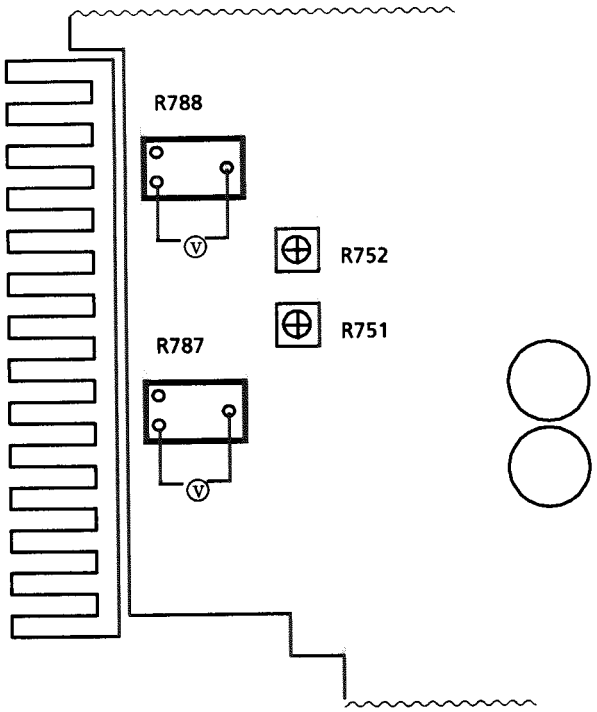
Adjust TC106 (antenna trimmer) to obtain the best receiving sensitivity on 288kHz.

(5) MW Tracking

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

Adjust TC106 (antenna trimmer) to obtain the best receiving sensitivity on 1400kHz or 1404kHz.

■ Power Amplifier section



Idling Current

(1) Set the volume control to minimum during this adjustment.

(2) Turn R751 and R752 fully counterclockwise before the power is switch on.

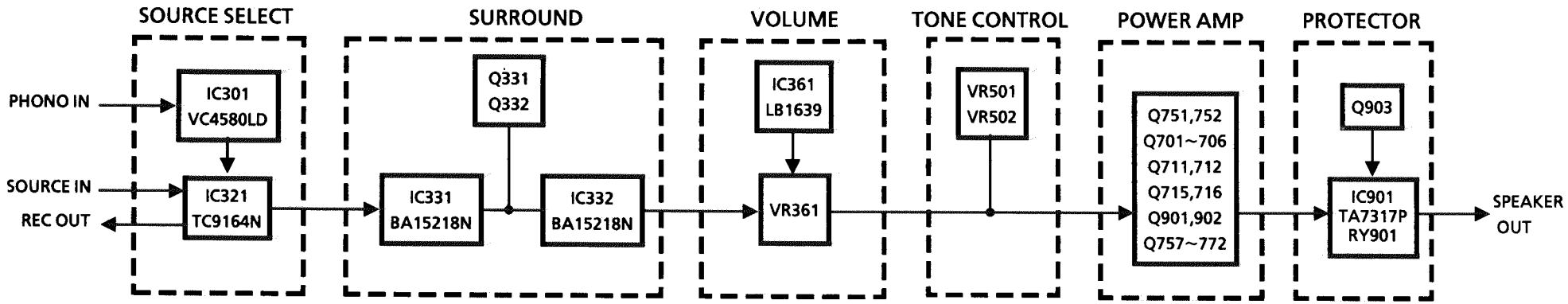
(3) Always start from cold, and allow 5 minutes to warm up before adjustment.
If the heatsink is already warm from previous use the correct adjustment can not be made.

(4) Connect a DC voltmeter to R787 resistor's leads for left channel, or to R788 for right channel.

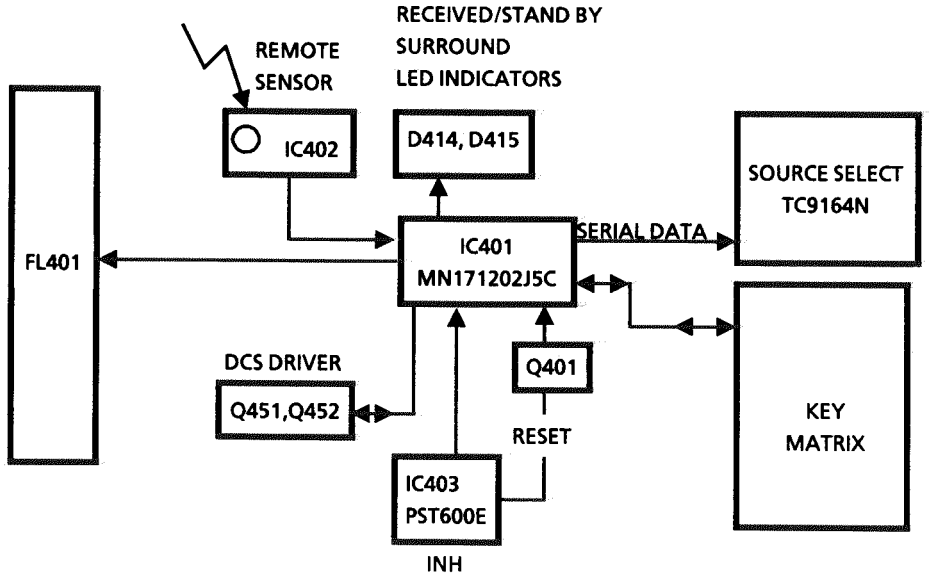
(5) Adjust R751 for left channel, or R752 for right channel, so that the DC voltmeter becomes 2mV ~ 3mV.

Block Diagram

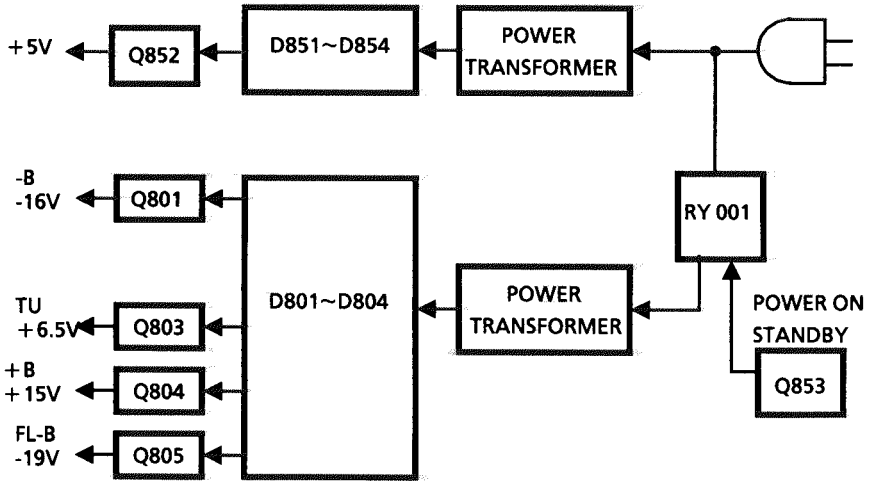
■ Audio Section



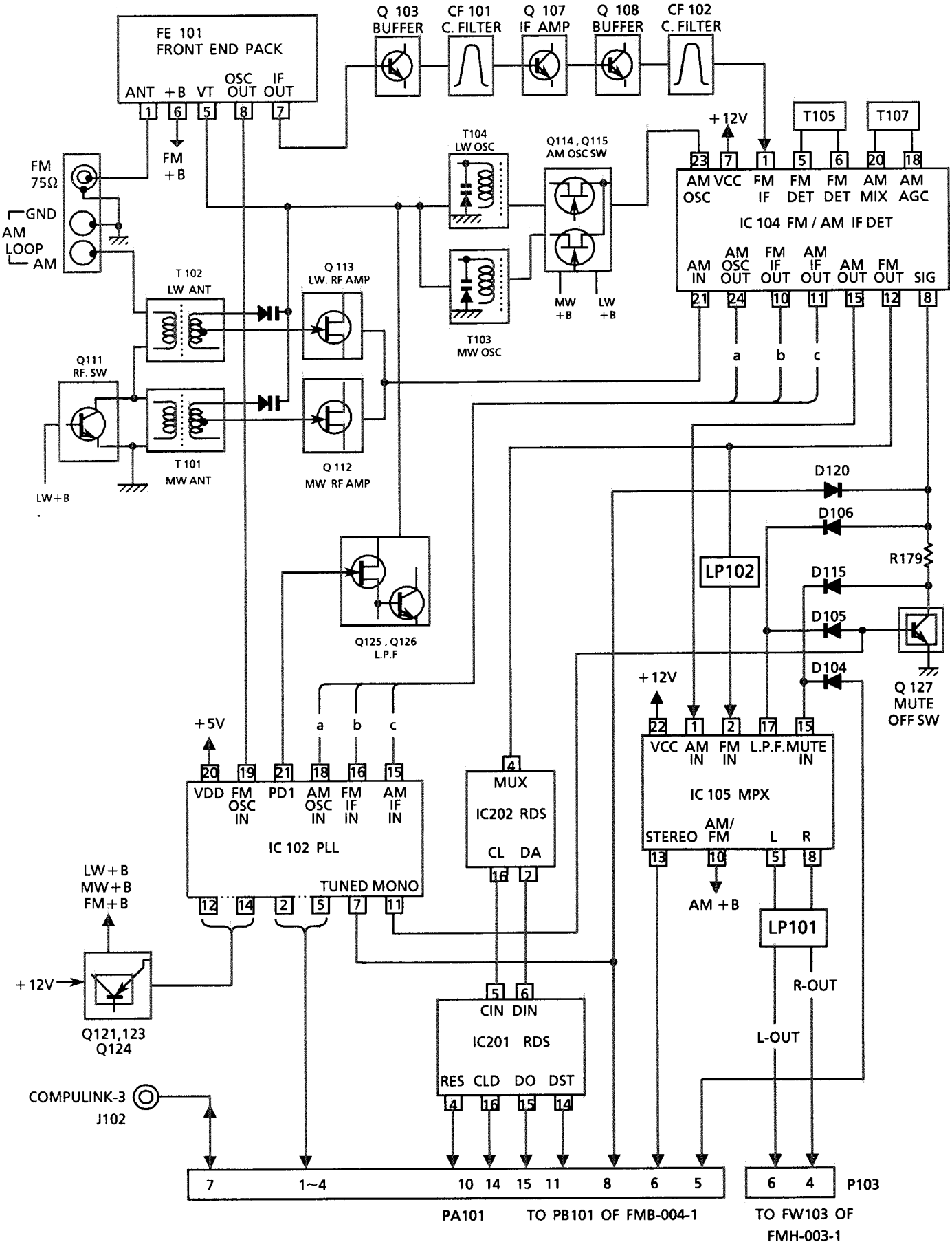
■ Control Section



■ Power Supply Section



■ Tuner Section

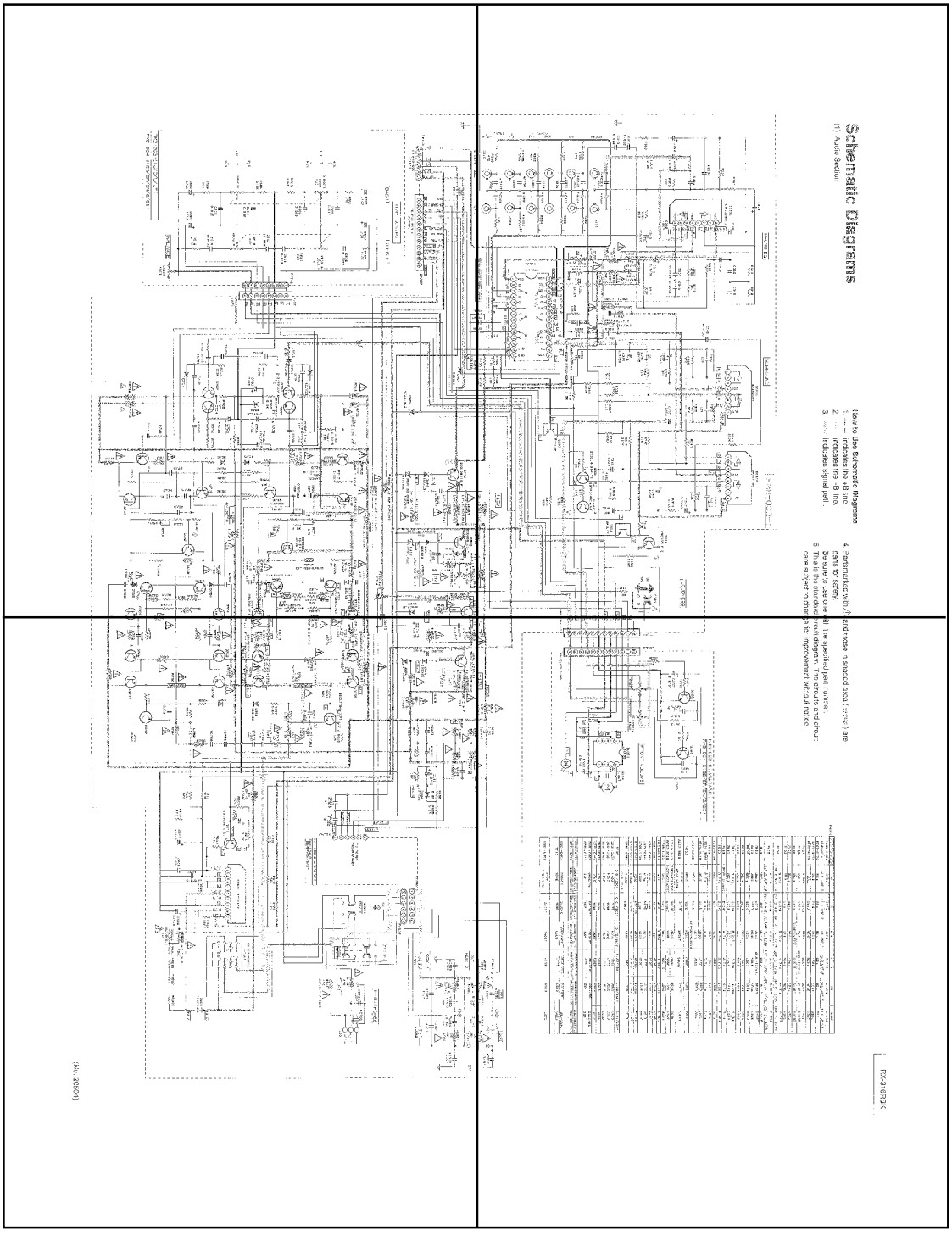


–MEMO–

–MEMO–

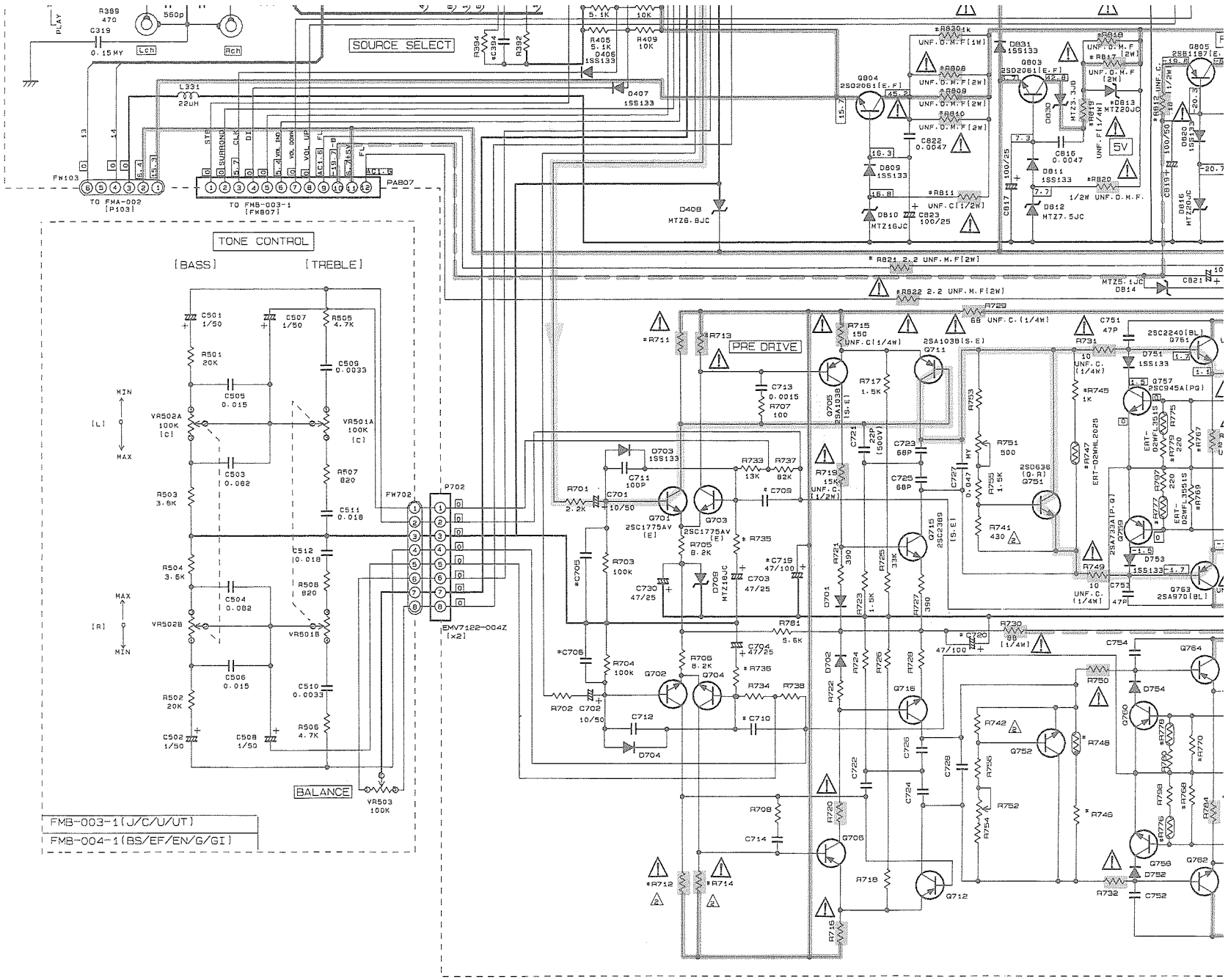
P-S.D(1)A.S-a

P-S.D(1)A.S-b



P-S.D(1)A.S-c

P-S.D(1)A.S-d


SOURCE SELECT
TONE CONTROL
[BASS]
[TREBLE]
PRE DRIVE
BALANCE
TO FMA-002 [P103]
TO FMB-003-1 [PMB07]
PAB07
P702
FW702
EMV7122-004Z [x2]
FMB-003-1(J/C/U/UT)
FMB-004-1(BS/EF/EN/G/GI)

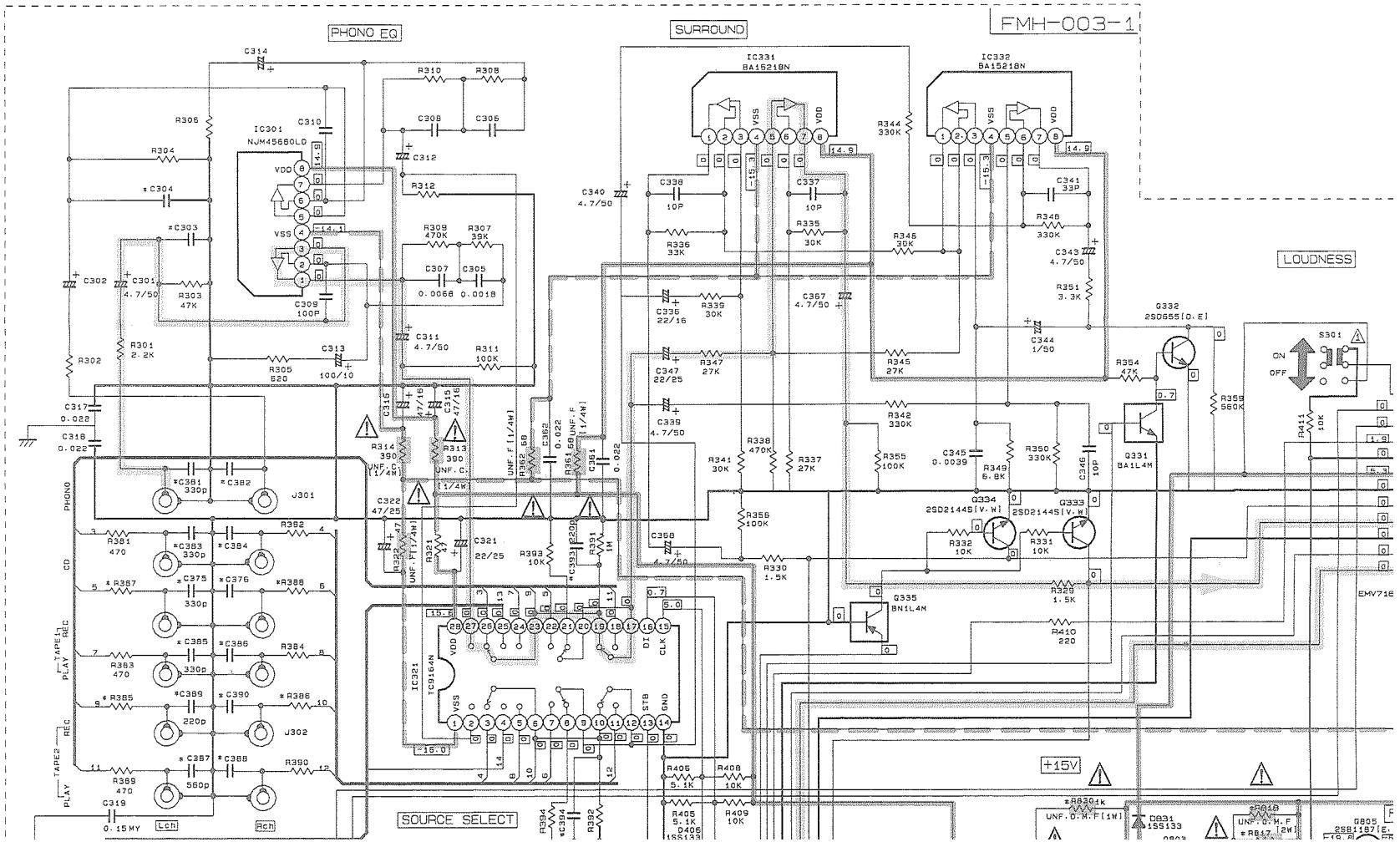
Schematic Diagrams

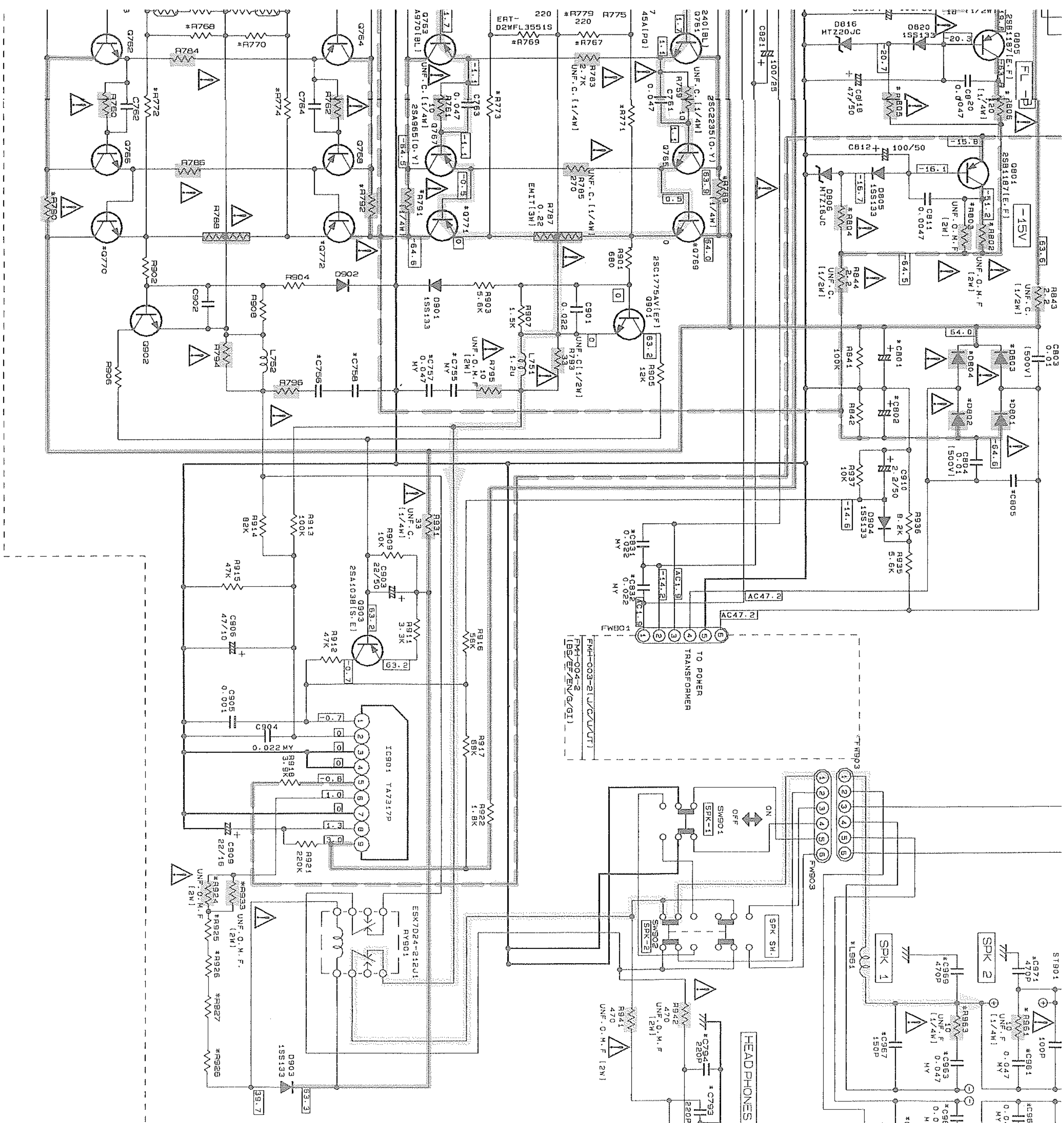
(1) Audio Section

How to Use Schematic Diagrams

1. ——— indicates the +B line
2. - - - - indicates the –B line.
3. ▒▒▒ indicates signal path.

4. Partsmarked with ⚠ a
   parts for safety.
   Be sure to use one wi
5. This is the standard ci
   care subject to change




TO POWER TRANSFORMER
HEAD PHONES
SPK 1
SPK 2
IC901 TA7317P
-15V

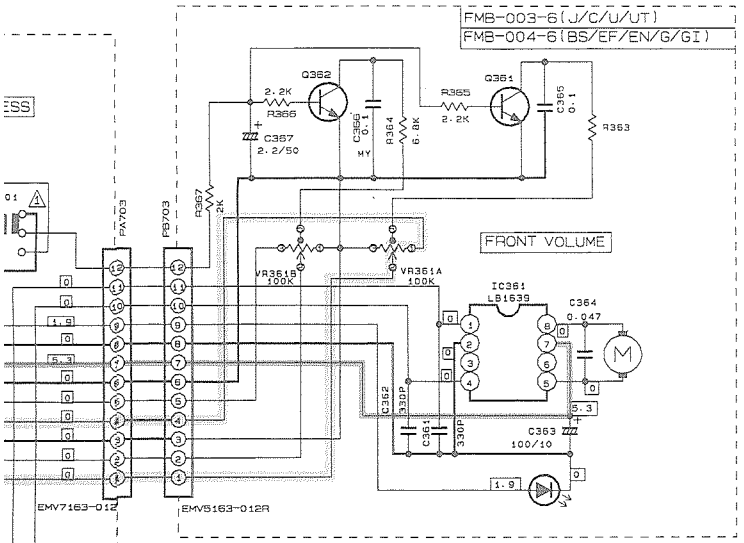
(No. 20504)

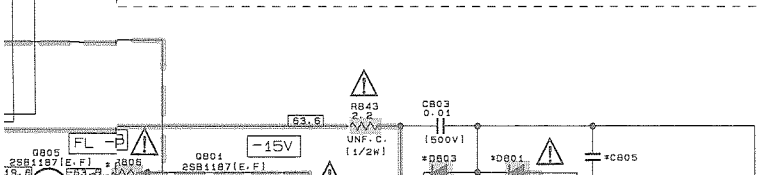
ith ⚠ and those in shaded area ( ) are

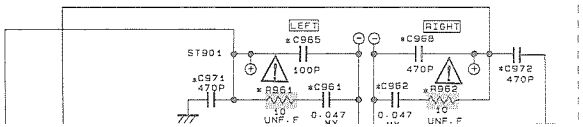
.

one with the specified part number.
ıdard circuit diagram. The circuits and circuit
change for improvement without notice.

*MARK	J	C	U.UT	EF.EN	BS	G.GI
R385-R388	470Ω	470Ω	470Ω	2.2KΩ	2.2KΩ	2.2KΩ
R789-R792	12Ω UNF.C	10Ω UNF.F	10 UNF.F	10Ω UNF.F	10Ω UNF.F	10Ω UNF.F
R767-R770	56Ω	56Ω	82Ω	82Ω	82Ω	82Ω
R771-R774	36Ω	36Ω	150Ω	150Ω	150Ω	150Ω
R775-R778	USED	USED	NONE	NONE	NONE	NONE
R924	1.8KΩ	1.8KΩ	820Ω	820Ω	820Ω	820Ω
R925	120Ω	120Ω	75Ω	SHORT(W774)	SHORT	SHORT
R926	150Ω	150Ω	SHORT(W775)	SHORT	SHORT	SHORT
R802	820Ω	820Ω	820Ω	120Ω	120Ω	120Ω
R803	1KΩ	1KΩ	1KΩ	NONE	NONE	NONE
R804	5.6KΩ UNF O.M.F 1W	5.6KΩ UNF O.M.F 1W	5.6KΩ UNF C. 1/2W	4.7KΩ UNF C. 1/2W	4.7KΩ UNF C. 1/2W	4.7KΩ UNF C. 1/2W
R805	4.7KΩ UNF O.M.F 1W	4.7KΩ UNF O.M.F 1W	4.7KΩ UNF C. 1/2W	3.9KΩ UNF C. 1/2W	3.9KΩ UNF C. 1/2W	3.9KΩ UNF C. 1/2W
R806	UNF.C	UNF.F	UNF.F	UNF.F	UNF.F	UNF.F
R812	USED	USED	USED	SHORT(W750)	SHORT	SHORT
R830	USED	USED	NONE	NONE	NONE	NONE
R808	560Ω	560Ω	180Ω	180Ω	180Ω	180Ω
R809	560Ω	560Ω	560Ω	180Ω	180Ω	180Ω
R810	560Ω	560Ω	560Ω	NONE	NONE	NONE
R811	8.2KΩ	8.2KΩ	8.2KΩ	4.7KΩ	4.7KΩ	4.7KΩ
R817	100Ω	100Ω	120Ω	120Ω	120Ω	120Ω
R819	SHORT (W780)	SHORT	4.7Ω	4.7Ω	4.7Ω	4.7Ω
R820	8.2KΩ	8.2KΩ	8.2KΩ	6.8KΩ	6.8KΩ	6.8KΩ
R961-R964	NONE	NONE	NONE	USED	USED	USED
R818	NONE	NONE	150Ω	150Ω	150Ω	150Ω
R821-R822	2.2Ω	2.2Ω	2.2Ω	3.9Ω	3.9Ω	3.9Ω
R745-R746	NONE	NONE	USED	USED	USED	USED
R747-R748	NONE	NONE	USED EAT-D2WHL202S	USED	USED	USED
R933	NONE	NONE	NONE	NONE	NONE	NONE
R927-R928	SHORT W748-W749	SHORT	SHORT	SHORT	SHORT	SHORT
R779-R780	SHORT(W778-W776)	SHORT	NONE	NONE	NONE	NONE
R797-R798	SHORT(W777-W779)	SHORT	NONE	NONE	NONE	NONE
R735-R736	560Ω	560Ω	680Ω	820Ω	820Ω	820Ω
R711-R714	2KΩ	2KΩ	1.5KΩ	1.5KΩ	1.5KΩ	1.5KΩ
C303-C304	100P	100P	100P	470P	470P	470P
C393-C394	NONE	NONE	NONE	220P	220P	220P
C375-C390	NONE	NONE	NONE	USED	USED	USED
C705-C706	100P	100P	100P	270P	270P	270P
C719-C720	NONE	47/100	47/63	47/63	47/63	47/63
C755-C756	0.022	0.047	0.047	0.047	0.047	0.047
C757-C758	SHORT W712-W713	USED	USED	USED	USED	USED
C805	0.01/500V	0.01/500V	0.22/160V	0.22/160V	0.22/160V	0.22/160V
C831-C832	USED	NONE	NONE	USED	USED	USED
C961-C964	NONE	NONE	NONE	USED	USED	USED
C965-C968	NONE	NONE	NONE	USED	USED	USED
C969-C972	NONE	NONE	USED	USED	USED	USED
C793-C794	NONE	NONE	USED	USED	USED	USED
C801-C802	5600/75	6800/75	6800/75	6800/56	6800/56	6800/56
C709-C710	10P	10P	10P	22P	22P	22P
Q769-Q770	2SD2155LB(A.O)	2SD2155LB(A.O)	2SC3854LD(O.Y)	2SD2155LB(A.O)	2SD2155LB(A.O)	2SD2155LB(A.O)
Q771-Q772	2SB1429LB(A.O)	2SB1429LB(A.O)	2SA1480LD(O.Y)	2SB1429LB(A.O)	2SB1429LB(A.O)	2SB1429LB(A.O)
D801-D804	3DD2FC	3DD2FC	3DDF2SFC	3DDF2SFC	3DDF2SFC	3DDF2SFC
D813	NONE	NONE	USED	USED	USED	USED
L961-L962	SHORT W709-W710	SHORT	SHORT	USED	USED	USED

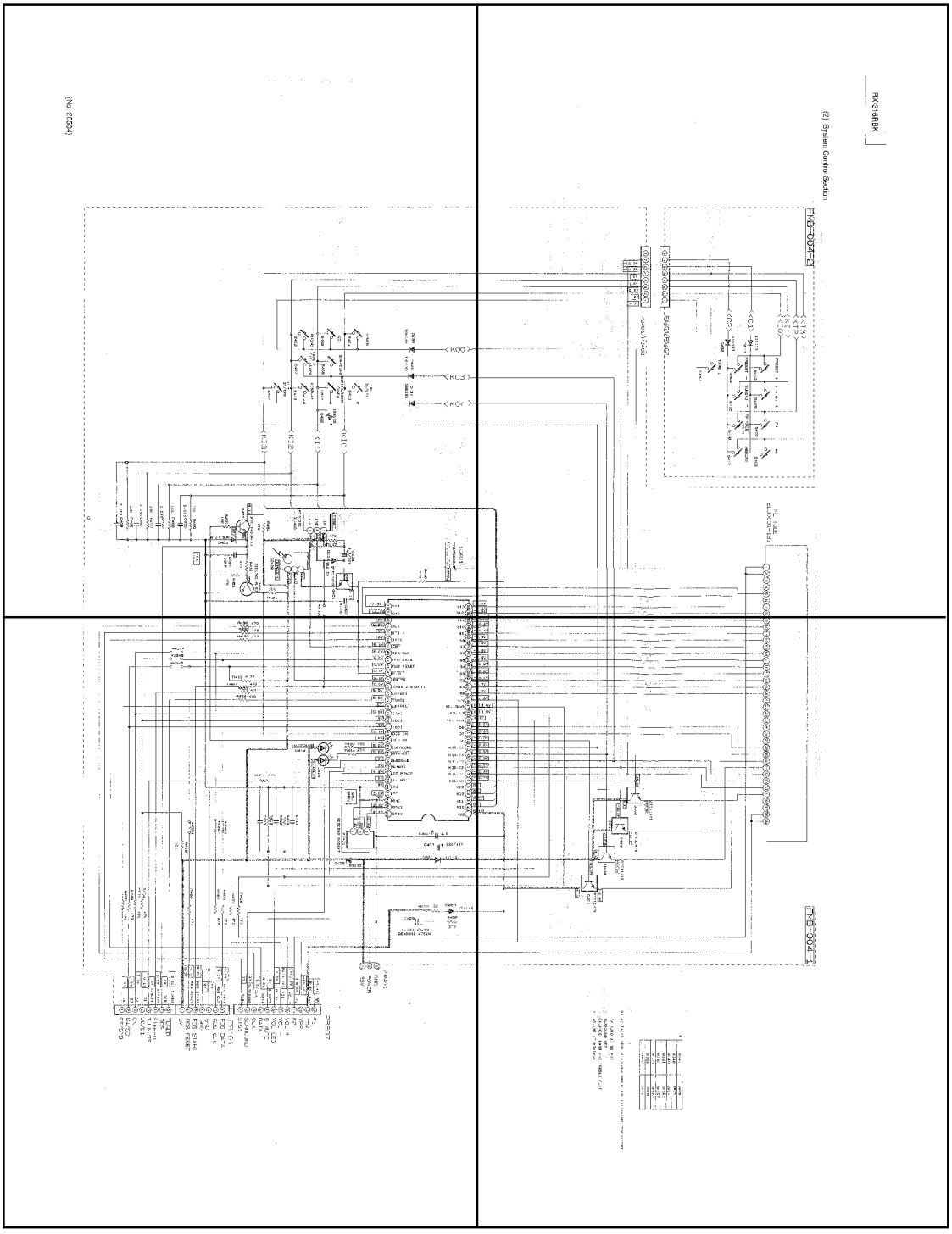






P-(2)S.C.S-a

P-(2)S.C.S-b



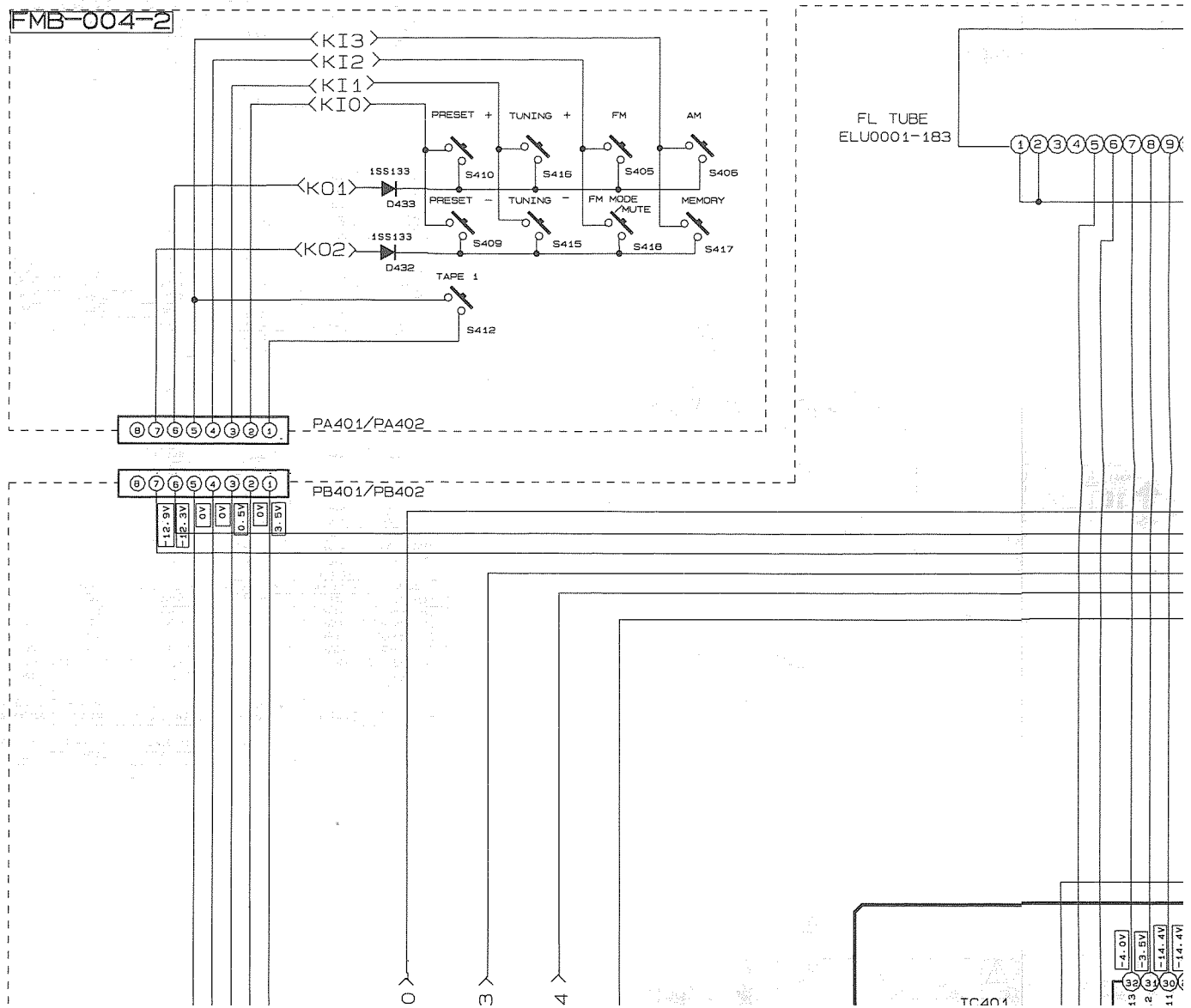
P-(2)S.C.S-c

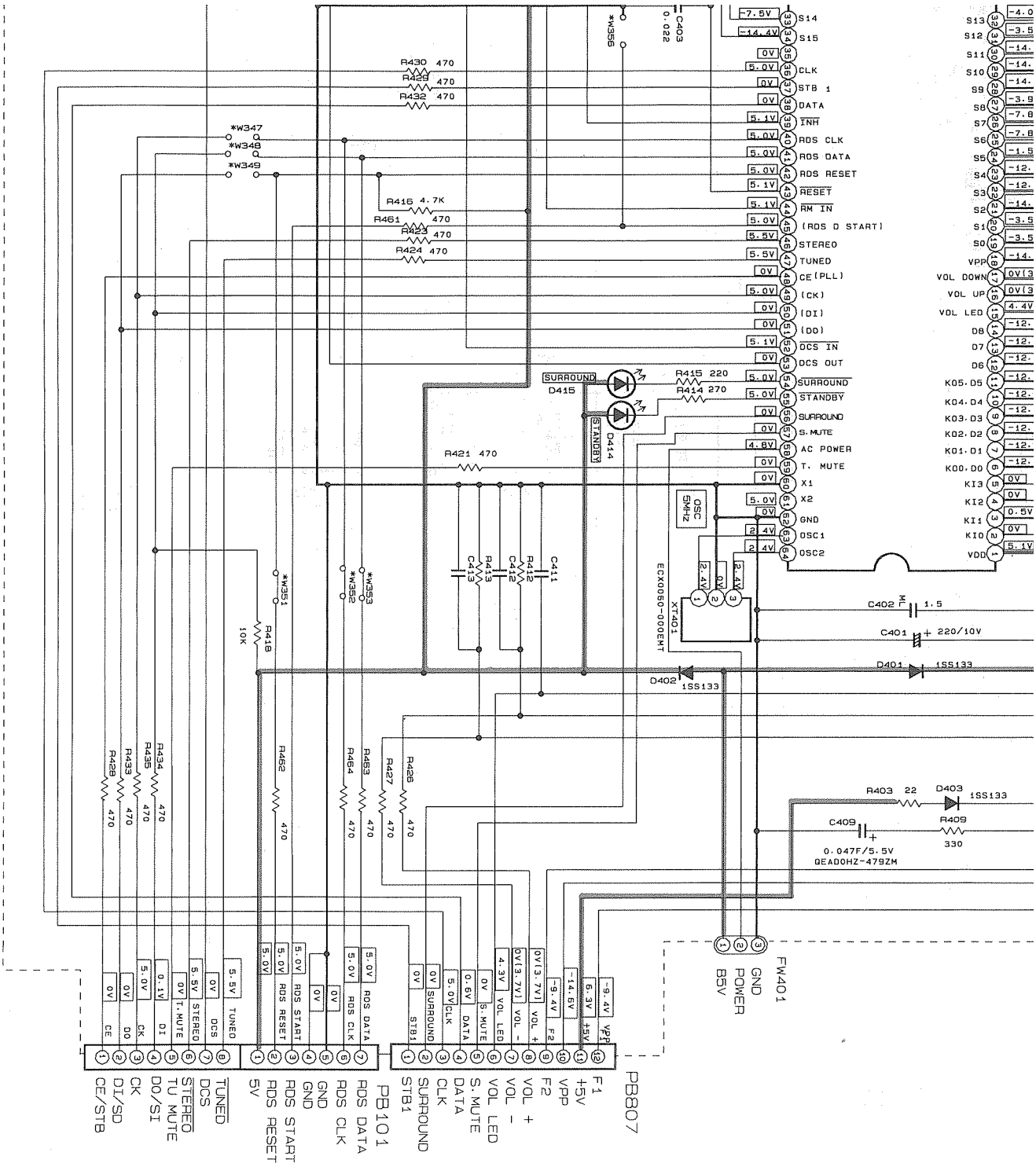
P-(2)S.C.S-d

(No. 20504)

P-(2)S.C.S-a

(2) System Control Section




PB807
PB101
FW401
S14
S15
CLK
STB 1
DATA
INH
RDS CLK
RDS DATA
RDS RESET
RM IN
(RDS D START)
STEREO
TUNED
CE(PLL)
(CK)
(DI)
(DO)
DCS IN
DCS OUT
SURROUND
STANDBY
S.MUTE
AC POWER
T. MUTE
X1
X2
GND
OSC1
OSC2
OSC 5MHZ
VOL DOWN
VOL UP
VOL LED
VPP
F1
+5V
F2
VOL +
VOL -
VOL LED
S.MUTE
DATA
CLK
SURROUND
STB1
RDS DATA
RDS CLK
GND
RDS START
RDS RESET
5V
TUNED
DCS
STEREO
TU MUTE
DO/SI
CK
DI/SD
CE/STB
POWER
B5V
D401 1SS133
D402 1SS133
D403 1SS133
D414
D415
C401 220/10V
C402 1.5
C403 0.022
C409 0.047F/5.5V
XT401 EFXO060-000ENT

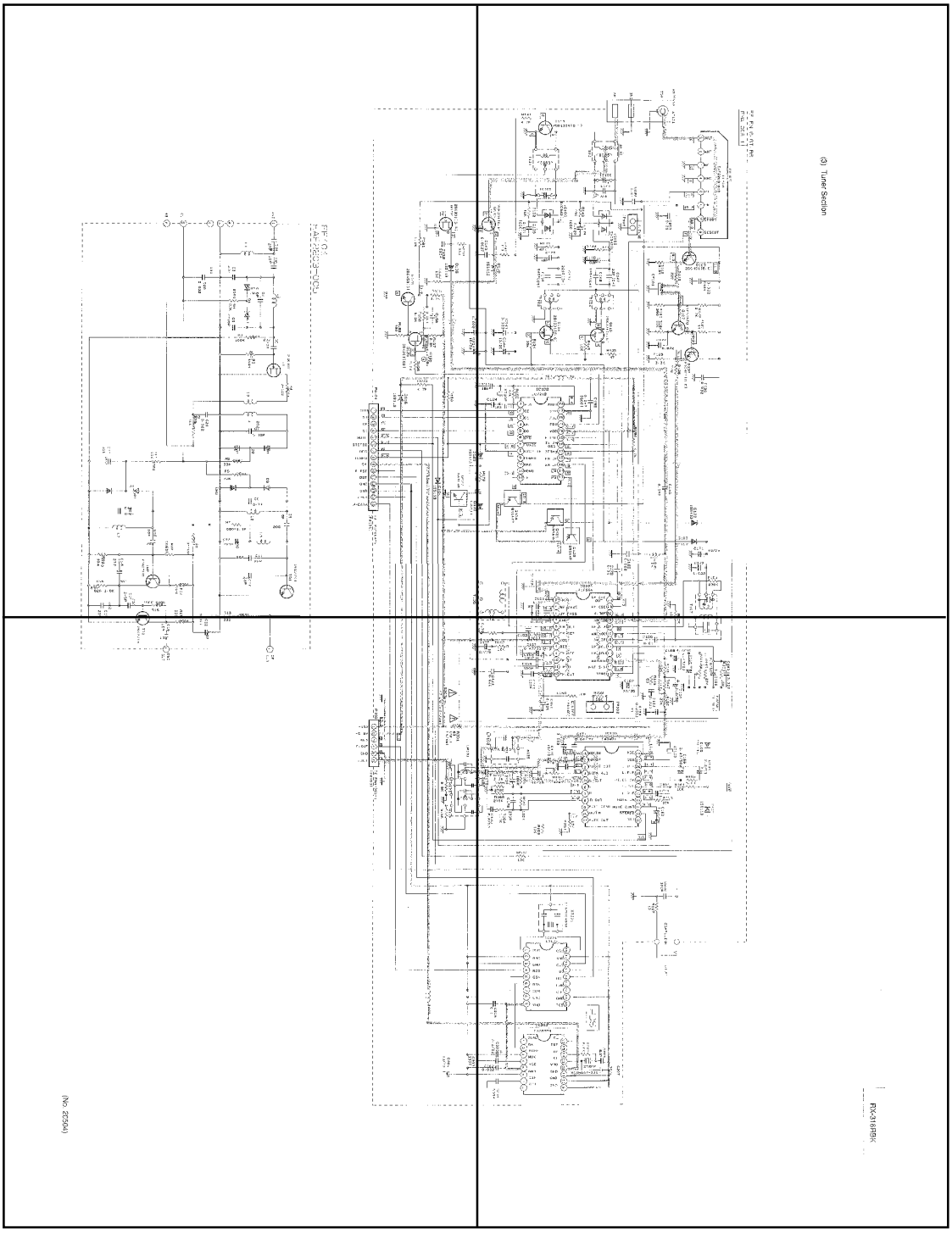
DC VOLTAGES WERE MEASURED UNDER THE FOLLOWING CONDITIONS:

- FM AUTO AT 98 MHZ
- SURROUND OFF
- BALANCE, BASS AND TREBLE FLAT
- VOLUME AT MINIMUM

	*
W347	OPEN
W348	OPEN
W349	OPEN
W351	SHORT
W352	SHORT
W353	SHORT
W355	OPEN
D422	USED

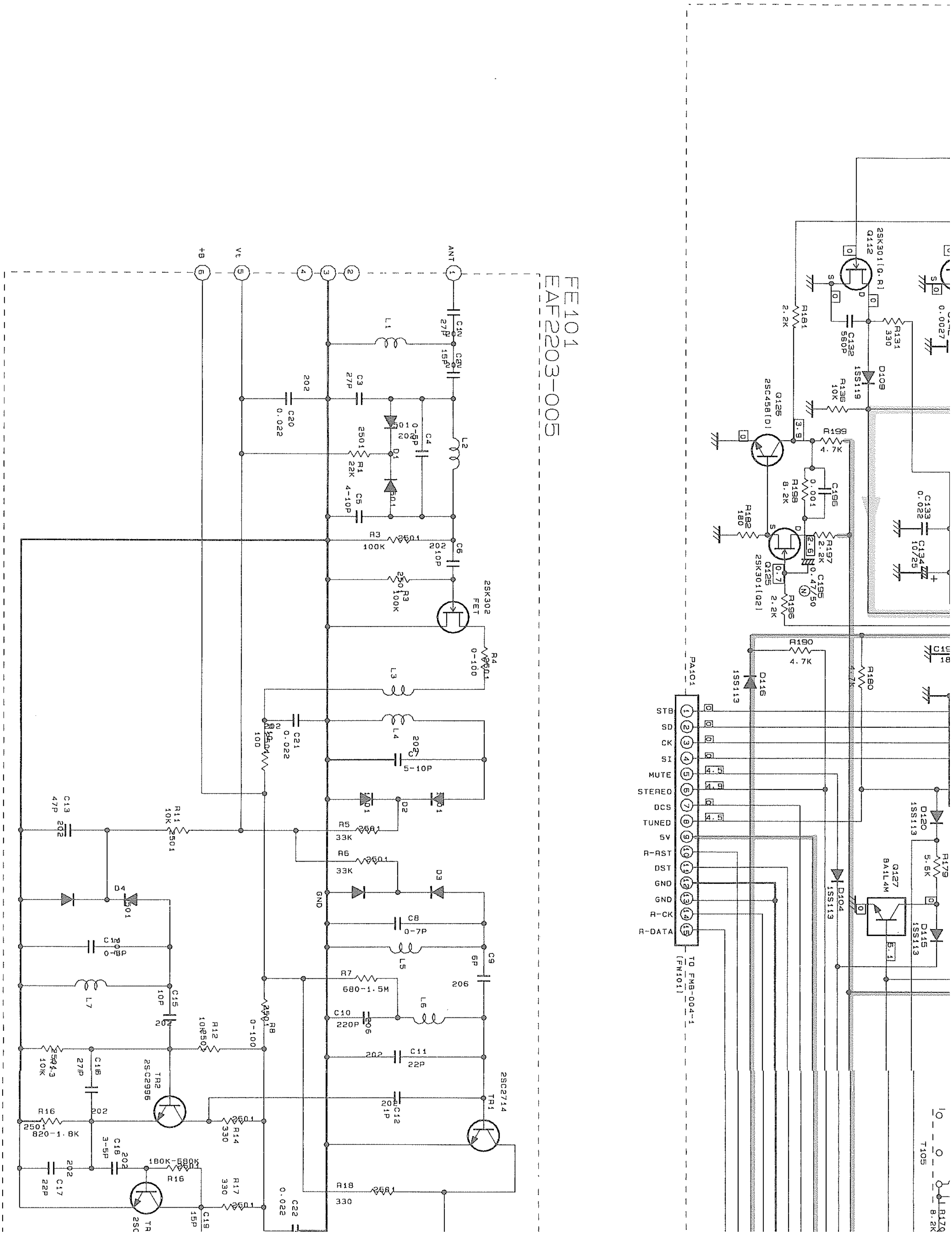
P-(3)T.S-a

P-(3)T.S-b

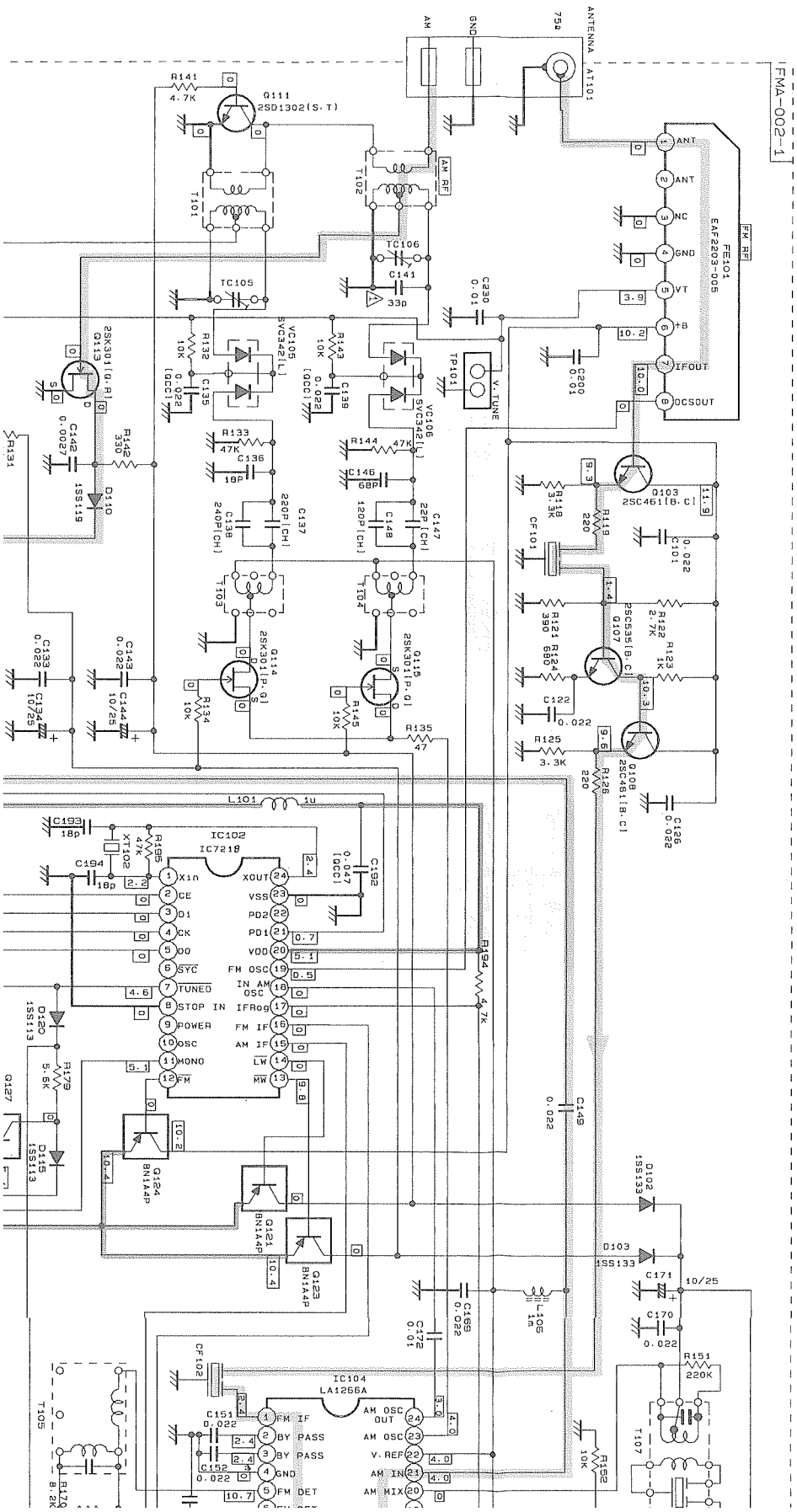


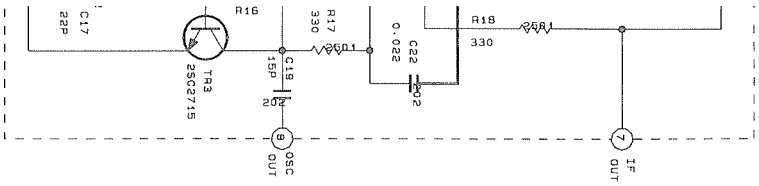
P-(3)T.S-c

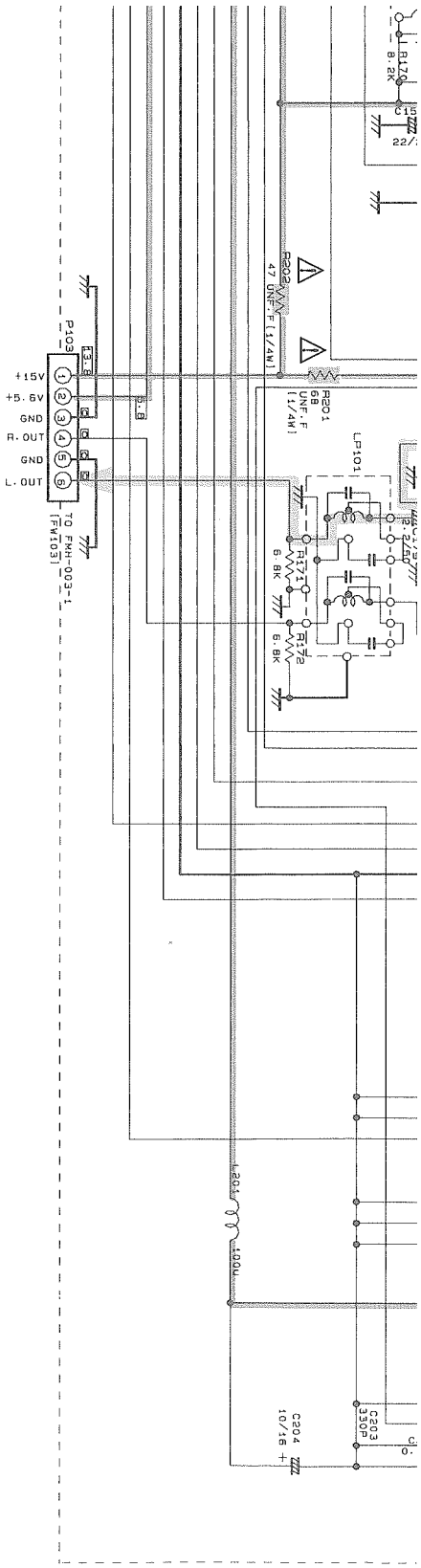
P-(3)T.S-d


FE101
EAF2203-005
STB
SD
CK
SI
MUTE
STEREO
DCS
TUNED
5V
R-RST
DST
GND
GND
R-CK
R-DATA
PA101

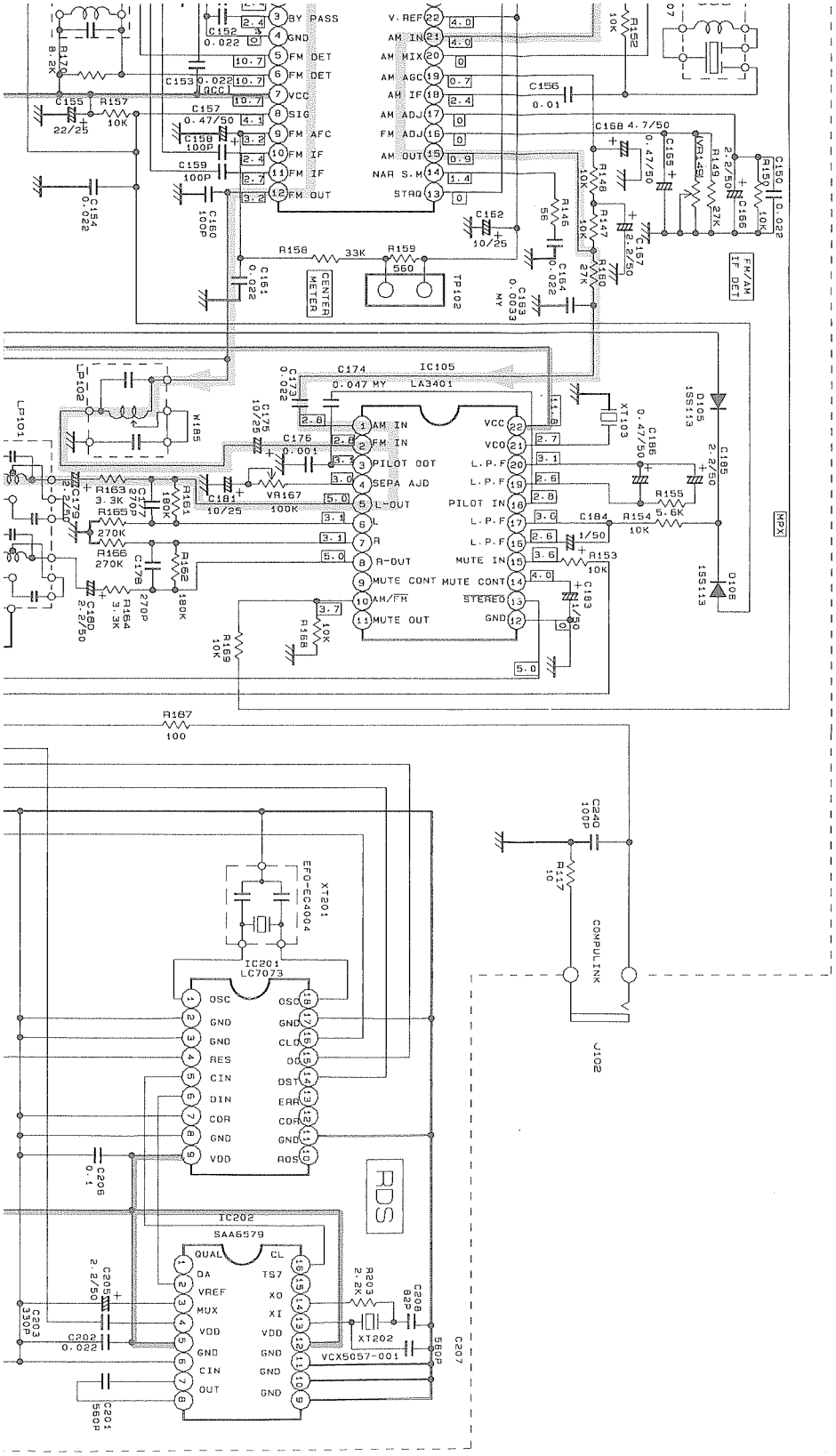
(3) Tuner Section




C17
22P
R16
TR3
2SC2715
R17
330
C19
15P
C22
0.022
R18
330
OSC
OUT
IF
OUT

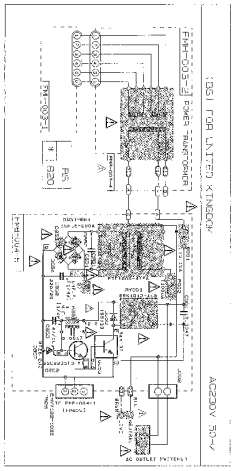

P103
+15V
+5.6V
GND
R.OUT
GND
L.OUT
TO FMH-003-1 [FM103]
R202
47 UNF.F (1/4W)
R201
UNF.F (1/4W)
LP101
R171
6.8K
R172
6.8K
L201
100u
C203
330P
C204
10/16

(No. 20504)


IC105
LA3401
IC201
LC7073
IC202
SAA6579
XT201
EFO-EC4004
XT202
VCX5057-001
RDS
COMPULINK
J102
FM/AM IF DET
MPX
CENTER METER

P-(4)P.P.S-a

P-(4)P.P.S-b

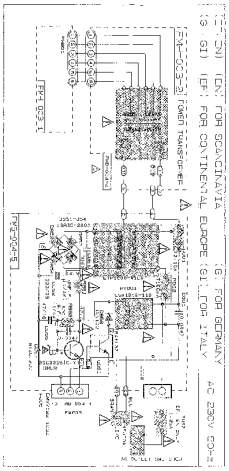


(No 2054)

RX-3 6FBK

(4) Power Primary Section

P-(4)P.P.S-c

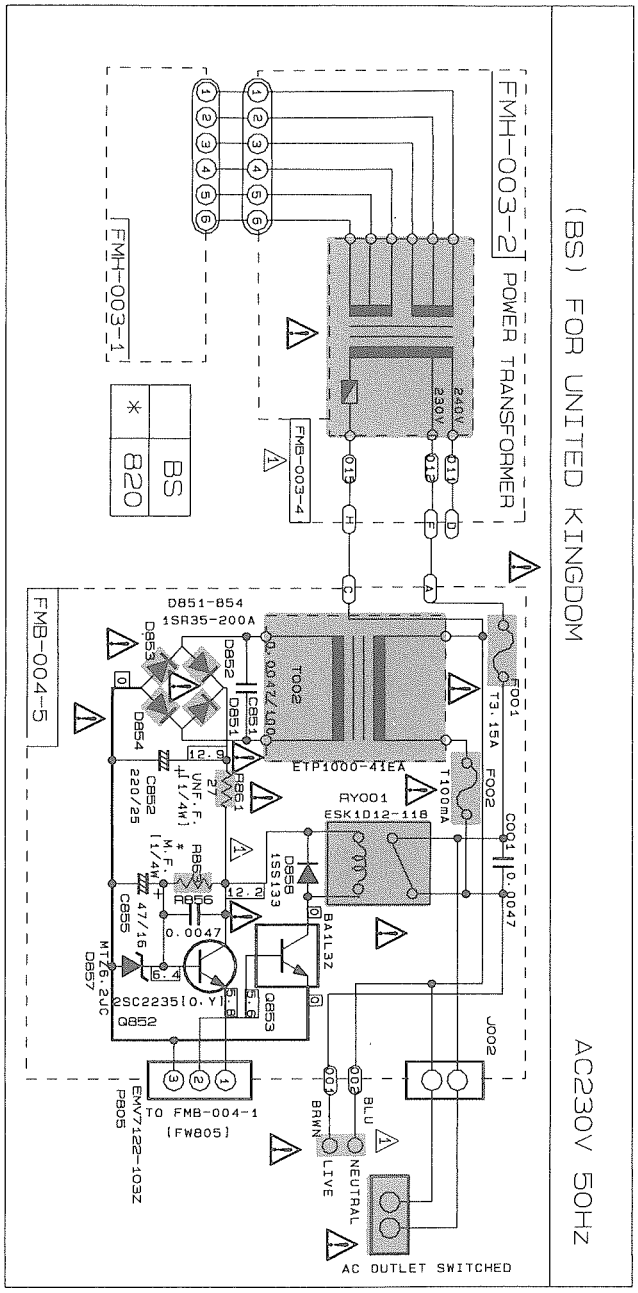


P-(4)P.P.S-d

POWER SUPPLY BLOCK

(BS) FOR UNITED KINGDOM

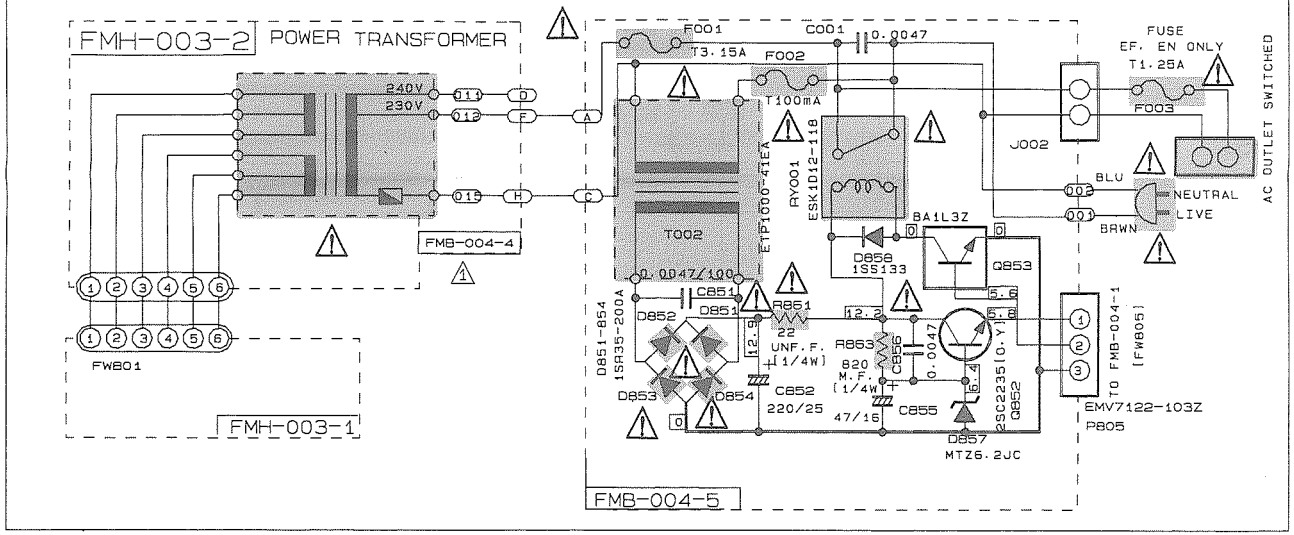
AC230V 50Hz



(4) Power Primary Section

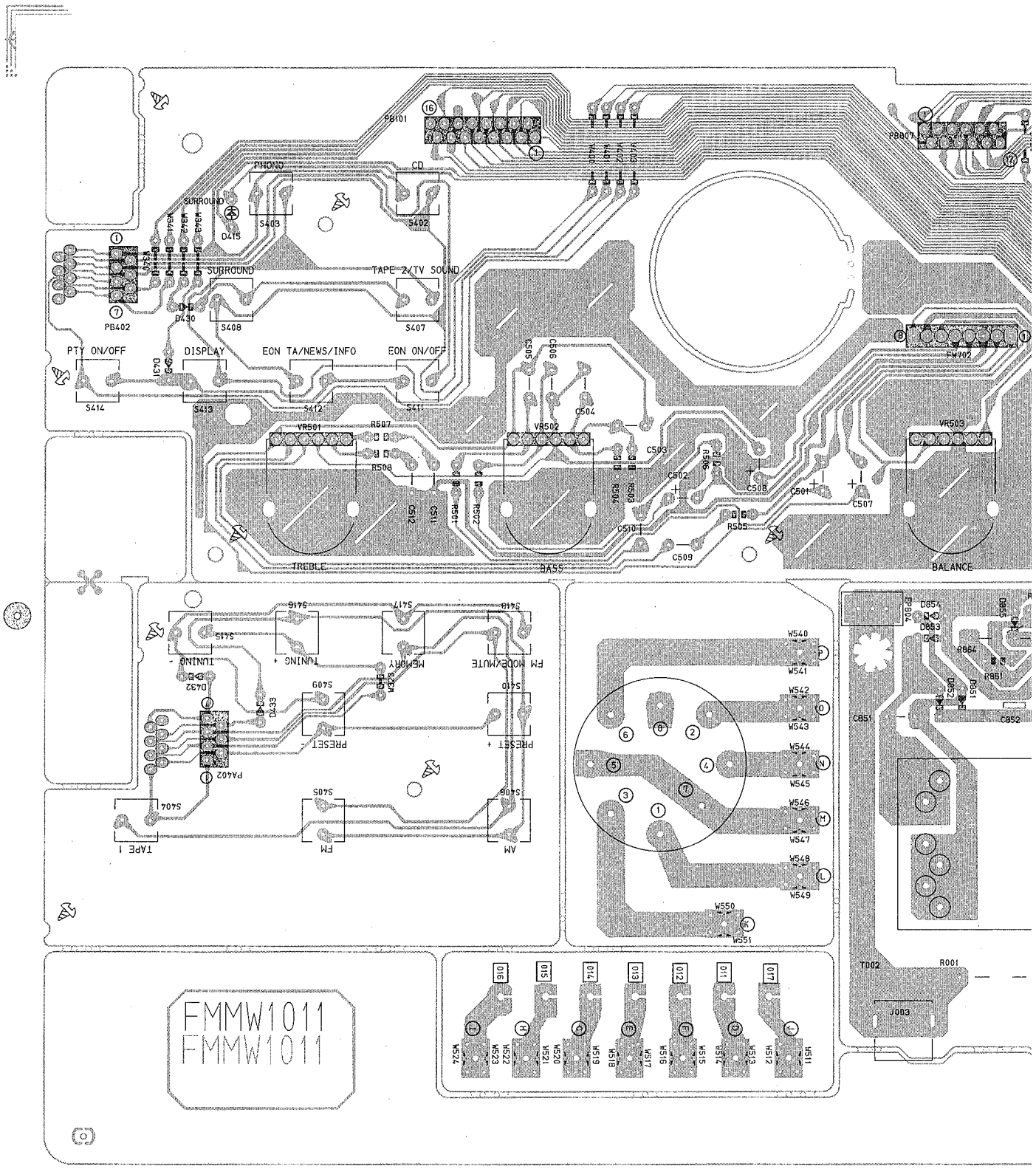
POWER SUPPLY BLOCK

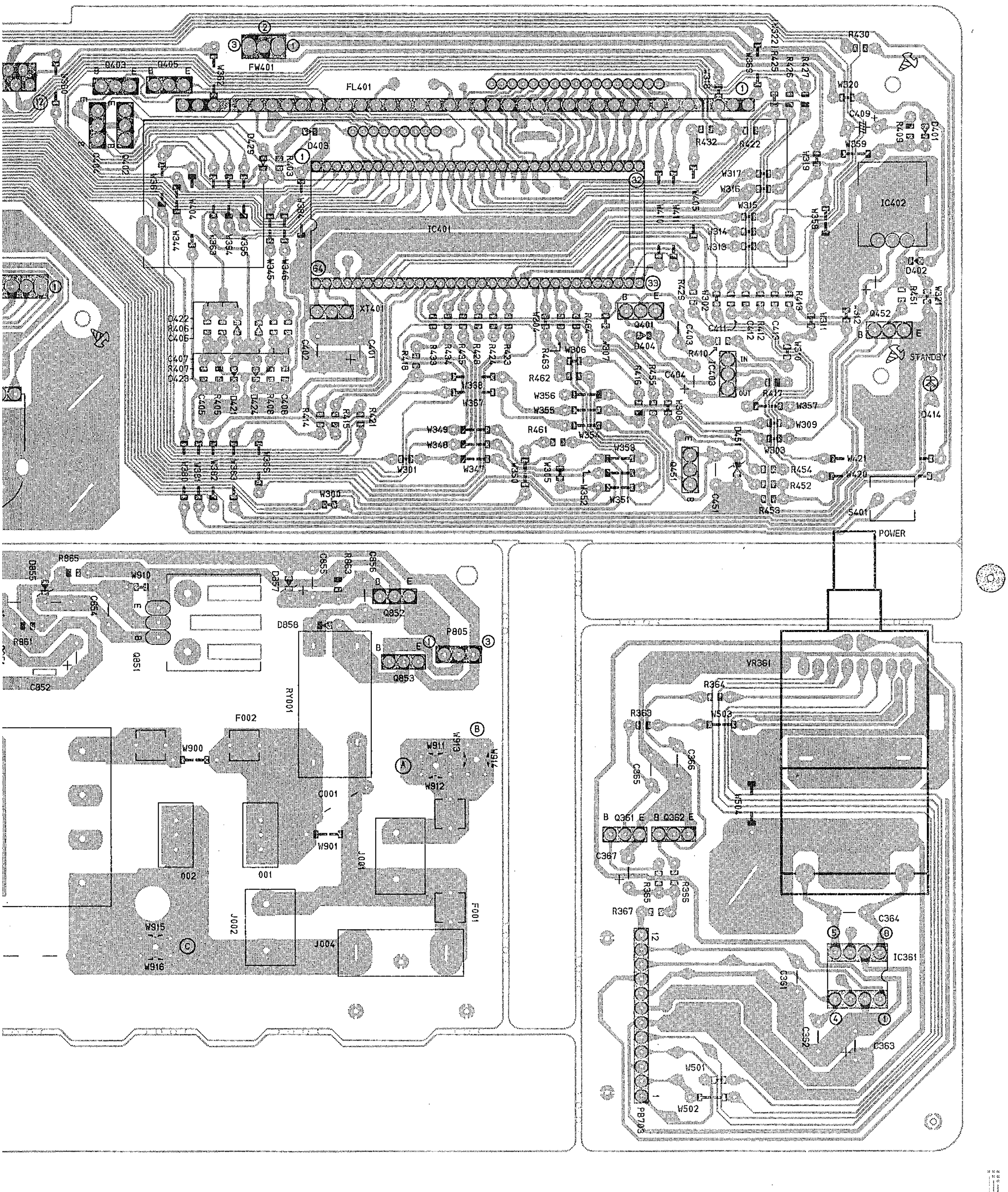
(EF, EN) (EN) FOR SCANDINAVIA (G) FOR GERMANY
(G , GI) (EF) FOR CONTINENTAL EUROPE (GI) FOR ITALY
AC 230V 50Hz



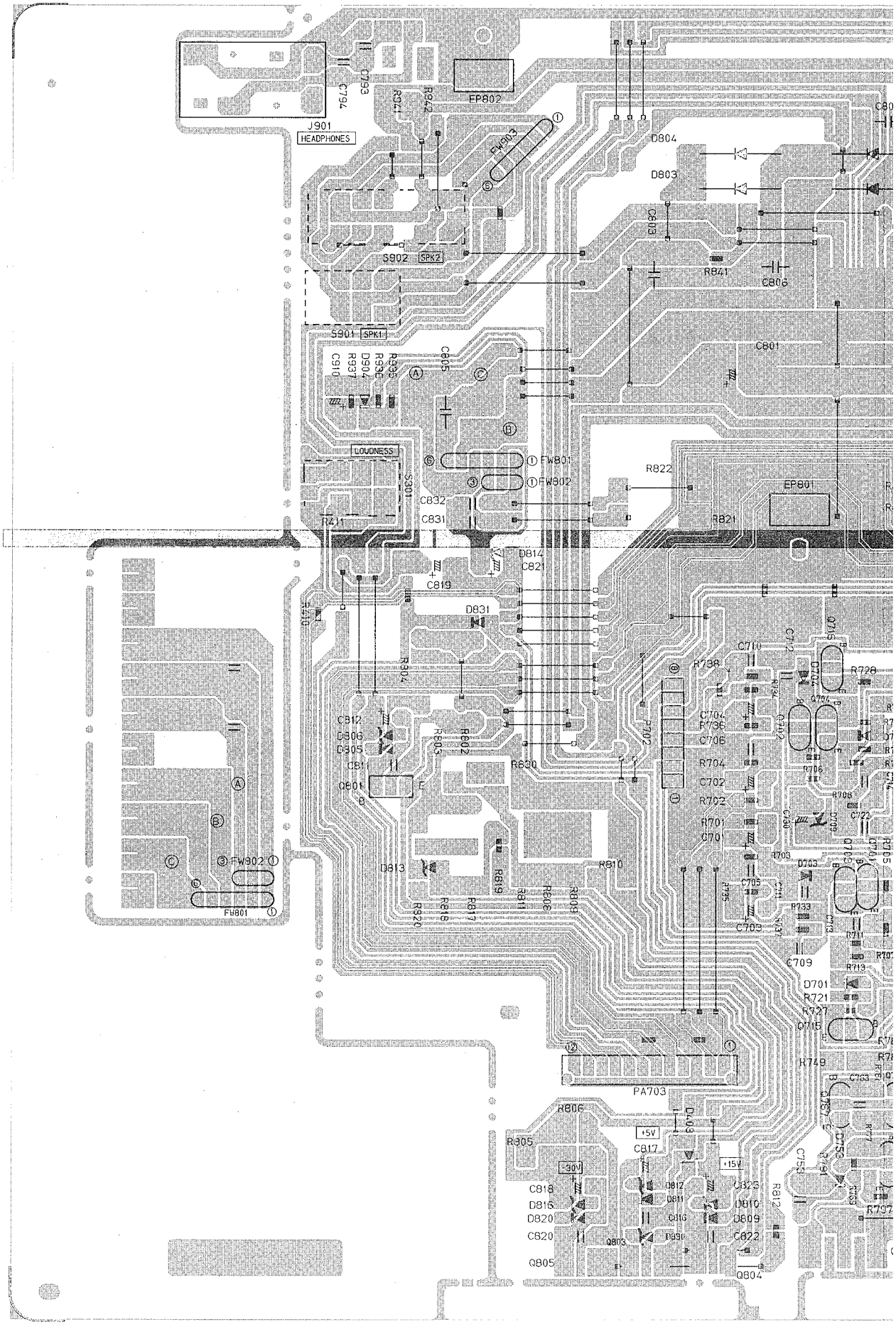
Printed Circuit Board

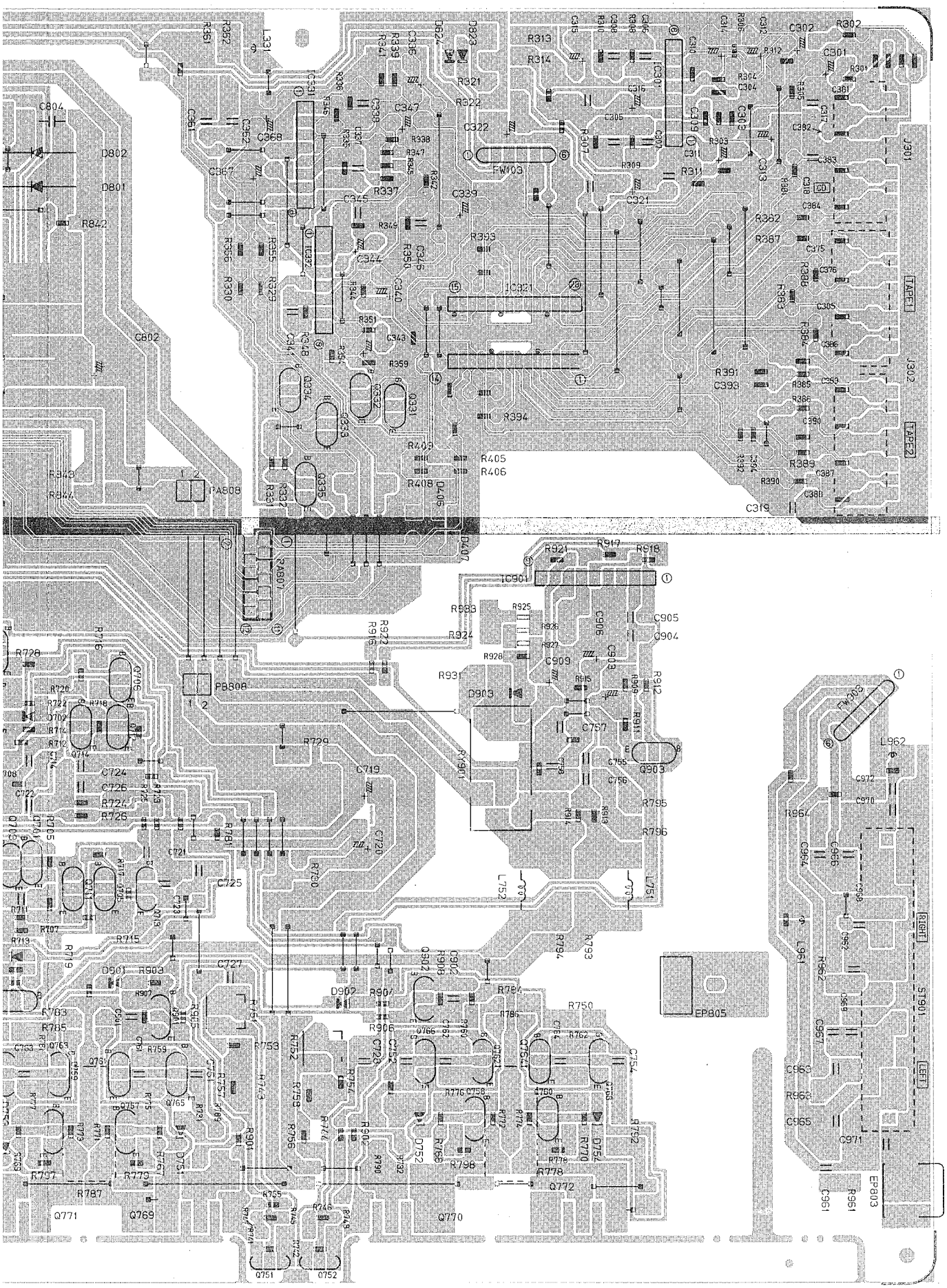
■ Front, Tone Control & Power Supply P.C. Board (FMB-004)




FW401
FL401
IC401
IC402
XT401
Q401
Q452
STANDBY
S401
POWER
VR361
IC361
Q851
Q852
Q853
P805
RY001
F001
F002
J001
J002
J004
Q361
Q362
PB703

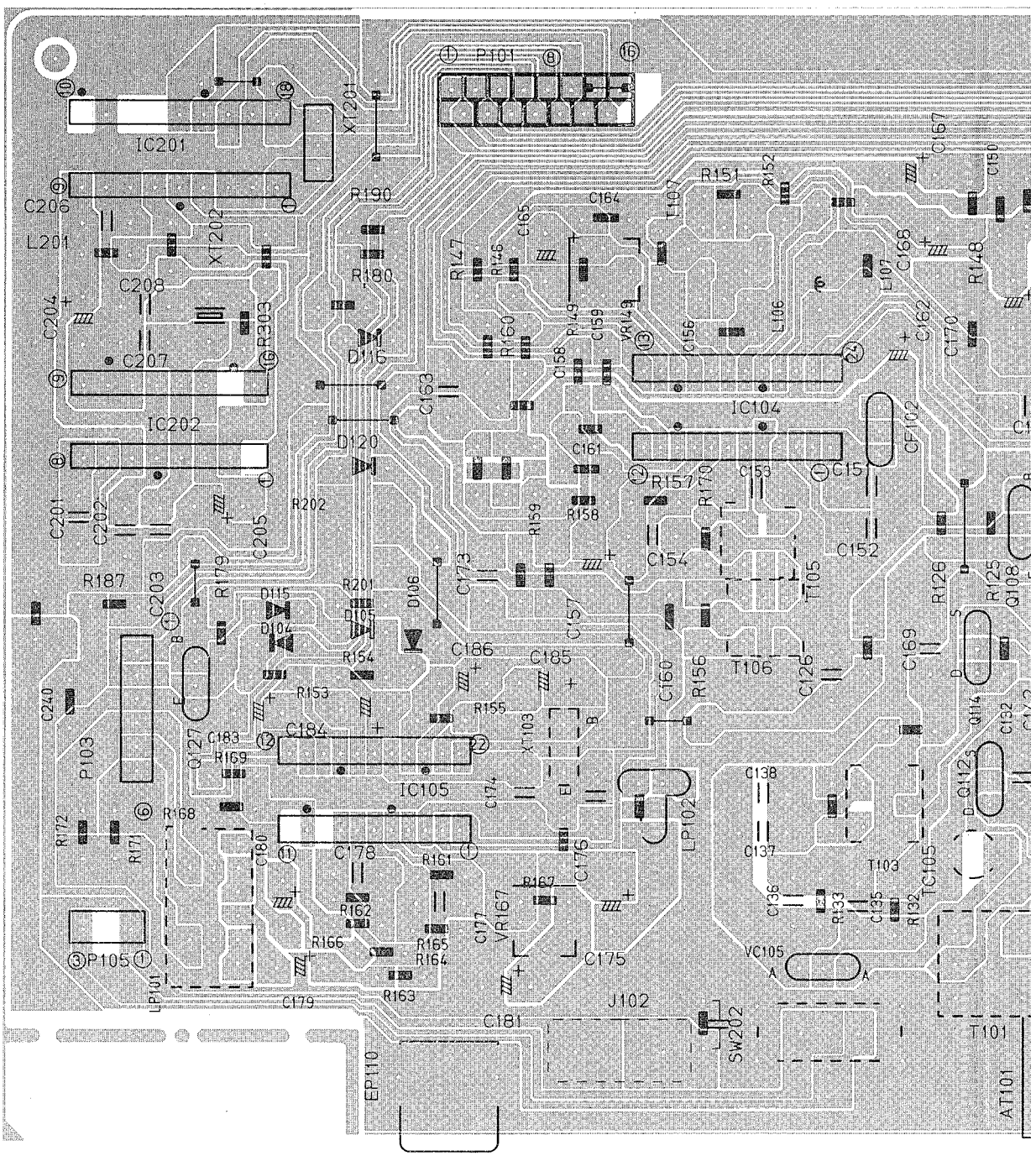
■ Amplifier Selector P.C. Board (FMH-003)

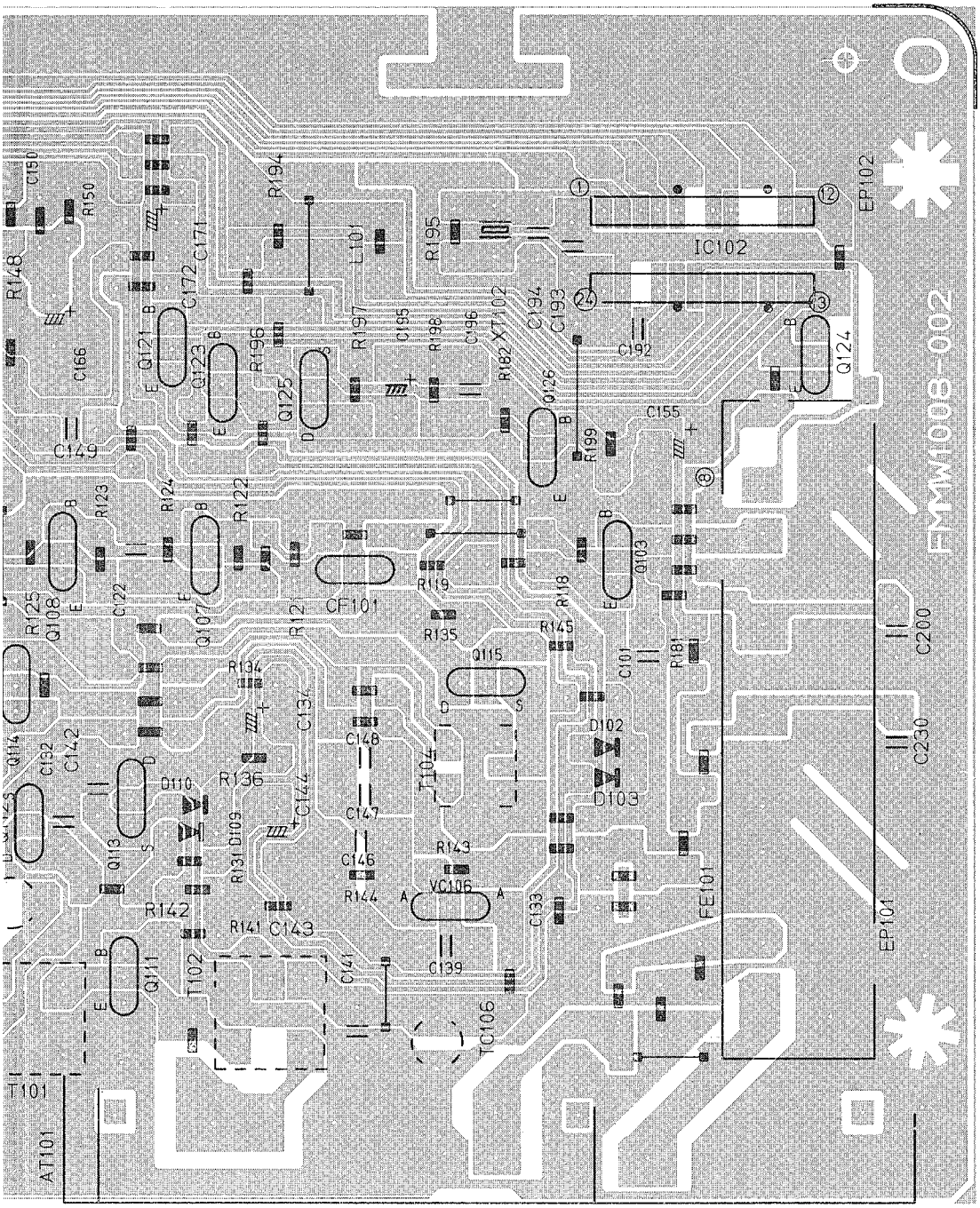




(No. 20504)

■ Tuner P.C. Board (EMA-002)




FMW1008-002
IC102
EP102
EP101
Q124
Q125
Q126
Q121
Q123
Q122
Q107
Q108
Q103
Q115
Q111
Q113
Q110
CF101
D102
D103
D109
FE101
VC106
TC106
T101
T102
T104
L101
AT101
C200
C230
C192
C193
C194
C195
C196
C155
C166
C171
C172
C139
C141
C143
C144
C146
C147
C148
C101
C122
C132
C133
C142
C149
R148
R150
R194
R195
R196
R197
R198
R199
R182
XT102
R181
R145
R143
R144
R142
R141
R136
R135
R134
R131
R125
R123
R124
R122
R119
R118

PARTS LIST

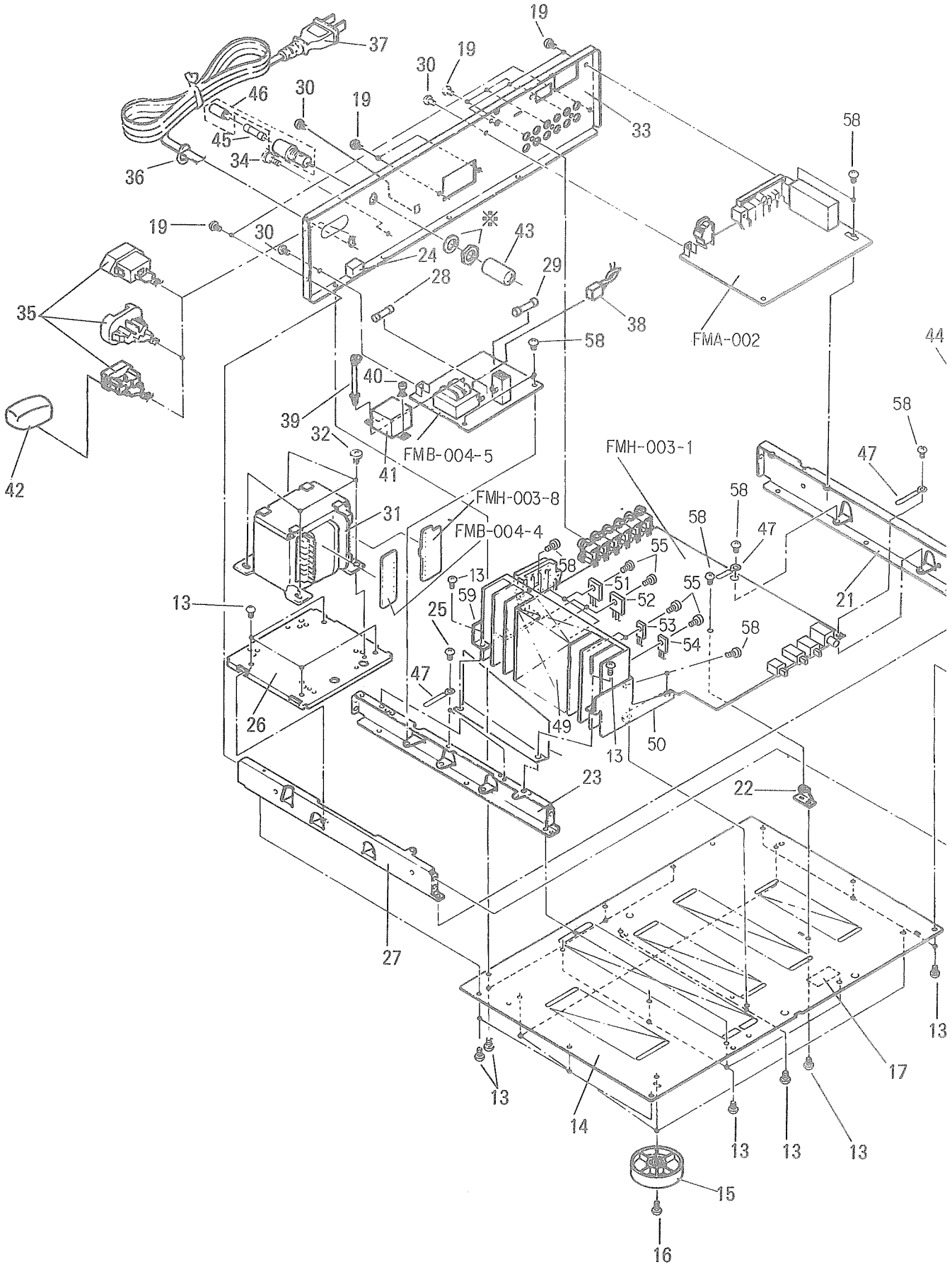
Note : All printed circuit borad assemblies are not available as service parts.

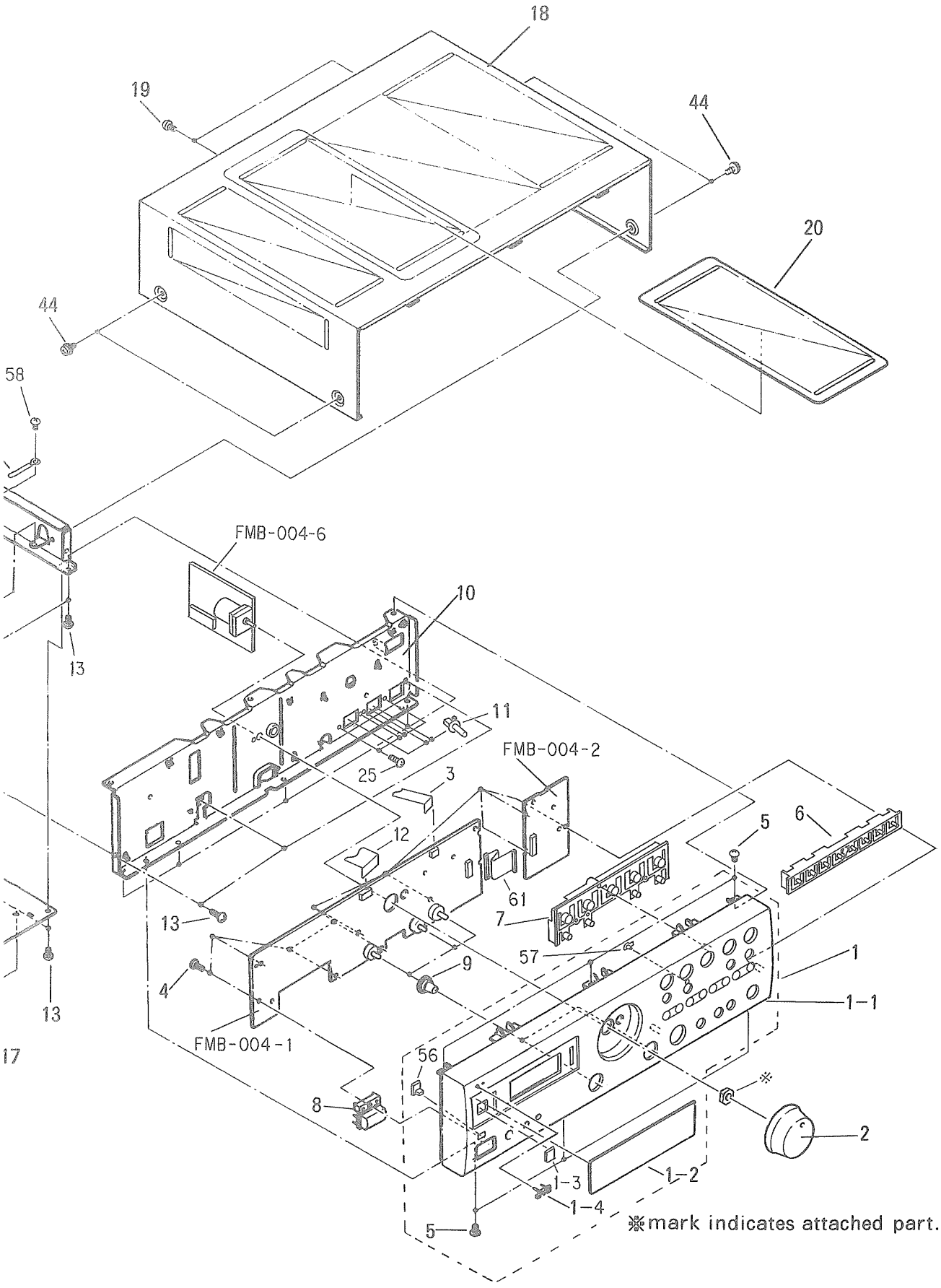
Contents

–MEMO–

General Exploded View and Parts List

Symbol No. M 1 M M

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※mark indicates attached part.

PARTS LIST

Symbol No. M 1 M M

⚠	Item	Part Number	Part Name	Q'ty	Description	Area
	1	EFP-RX316RBKE(S	FRONT PANEL	1		
	1-1	FMJC1007-001	FRONT PANEL	1		
	1-2	E308268-011SM	WINDOW SCREEN	1		
	1-3	E72436-006	REMORT SCREEN	1		
	1-4	VJD5429-001	JVC MARK	1		
	2	E309107-001SM	VOLUME KNOB	1		
	3	FMWF1216-23TTA		1		
	4	SDSF2608Z	SCREW	9		
	6	FMXP3008-001	PUSH BUTTON	1		
	7	FMXP2001-001	PUSH BUTTON	1		
	8	FMXP4004-001	POWER BUTTON	1		
	8	SDSG3008M	TAPPING SCREW	6		
	9	FMXL4006-001	BALANCE KNOB	3		
	10	FMKL1001-001	FRONT BRACKET	1		
	11	E407321-002SM	PUSH BUTTON	3		
	12	FMWF1212-35TTB	FLAT WIRE ASSY	1		
	13	SBSG3008Z	TAPPING SCREW	28		
	14	E102371-005SM	CHASSIS BASE	1		
	15	E406379-008SS	FOOT	4		
	16	SBST3010Z	TAPPING SCREW	4		
	17	E70115-002	CAUTION LABEL	1		
	18	E207049-007(S)	METAL COVER	1		
	19	SBSG3008M	TAPPING SCREW	12		
	20	E208294-001	PROTECTOR COVER	1		
	21	E206957-001SM	SIDE BRACKET	1		
	22	E68587-222SM	BRACKET PLATE	1		
	23	E206958-004SM	CENTER BRACKET	1		
	24	E306805-023	SPACER	1		
	25	SBST3006Z	TAPPING SCREW	6		
	26	E206959-003SM	TRANSFORMER BRACKET	1		
	27	E206956-001SM	SIDE BRACKET	1		
⚠	28	QMF51E2-R10SBS	FUSE	1	F002(250V/100mA)	BS
⚠		QMF51A2-R10S	FUSE	1	F002(250V/100mA)	EF
⚠		QMF51A2-R10S	FUSE	1	F002(250V/100mA)	EN
⚠		QMF51A2-R10S	FUSE	1	F002(250V/100mA)	G
⚠		QMF51A2-R10S	FUSE	1	F002(250V/100mA)	GI
⚠	29	QMF51E2-3R15J1	FUSE	1	F001(250V/3.15A)	
	30	SBST3006M	TAPPING SCREW	3		
⚠	31	FMTP1200-02EABS	POWER TRANSFORMER	1		BS
⚠		FMTP1200-02EA	POWER TRANSFORMER	1		EF
⚠		FMTP1200-02EA	POWER TRANSFORMER	1		EN
⚠		FMTP1200-02EA	POWER TRANSFORMER	1		G
⚠		FMTP1200-02EA	POWER TRANSFORMER	1		GI
	32	E65389-002	SPECIAL SCREW	4		
	33	E207332-048SM	REAR PANEL	1		BS
		E207332-049SM	REAR PANEL	1		EF
		E207332-049SM	REAR PANEL	1		EN
		E207332-048SM	REAR PANEL	1		G
		E207332-048SM	REAR PANEL	1		GI
	34	E73562-003	SPECIAL SCREW	1		
⚠	35	EMC0237-001BS	AC OUTLET	1		BS
⚠		EMC0236-001	AC OUTLET	1		EF
⚠		EMC0236-001	AC OUTLET	1		EN

⚠	Item	Part Number	Part Name	Q'ty	Description	Area
⚠		EMC0236-001	AC OUTLET	1		G
⚠		EMC0236-001	AC OUTLET	1		GI
⚠	36	QHS3876-162	CORD STOPPER	1		
⚠	37	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
	38	EWS282-002BS	SOCKET WIRE	1		BS
		EWS282-002	SOCKET WIRE	1		EF
		EWS282-002	SOCKET WIRE	1		EN
		EWS282-002	SOCKET WIRE	1		G
		EWS282-002	SOCKET WIRE	1		GI
	39	E306232-002	FASTENER	1		
	40	E48729-008	PLASTIC RIVET	1		
	41	E406528-003	PRIMARY COVER	1		
	42	E406079-001	COVER	1		BS
	43	E69291-001	FUSE COVER	1		EF
		E69291-001	FUSE COVER	1		EN
	44	E61660-004	SPECIAL SCREW	4		
⚠	45	QMF51E2-1R25	FUSE	1	(250V/1.25A)	EF
⚠		QMF51E2-1R25	FUSE	1	(250V/1.25A)	EN
⚠	46	QMG0301-003	FUSE HOLDER	1		EF
⚠		QMG0301-003	FUSE HOLDER	1		EN
	47	VKZ4001-111S	WIRE CLAMP	2		
	49	E308271-005	HEAT SINK	1		
	50	E307874-001SM	HEAT SINK BRACKET	1		
	51	2SB1429LB(R,O)	SI.TRANSISTOR	2		
	52	2SD2155LB(R,O)	SI.TRANSISTOR	2		
	53	2SD2061F(E,F)	SI.TRANSISTOR	2		
	54	2SB1187F(E,F)	SI.TRANSISTOR	1		
	55	E73525-003SS	SCREW	7		
	56	FMJK4005-001	INDICATOR LENS	1		
	57	FMJK4004-001	INDICATOR LENS	1		
	58	SBSG3008CC	TAPPING SCREW	11		
	59	E307874-002SM	HEAT SINK BRACKET	1		
	60	FMPK3001-001	INSULATOR SHEET	1		
	61	FMWH0001-001	FLAT WIRE ASSY	1		
	-	QHW4110-001	WIRE CLAMP	1		
	-	QZL1007-001	BEAB LABEL	1		BS
	-	QWE882-14FF	VINYL WIRE	1		EF
	-	QZL1031-101	LABEL	1		EF
	-	QWE882-14FF	VINYL WIRE	1		EN
	-	FMND4001-002	FTZ LABEL	1		G
	-	E408450-094	CE LABEL	1		

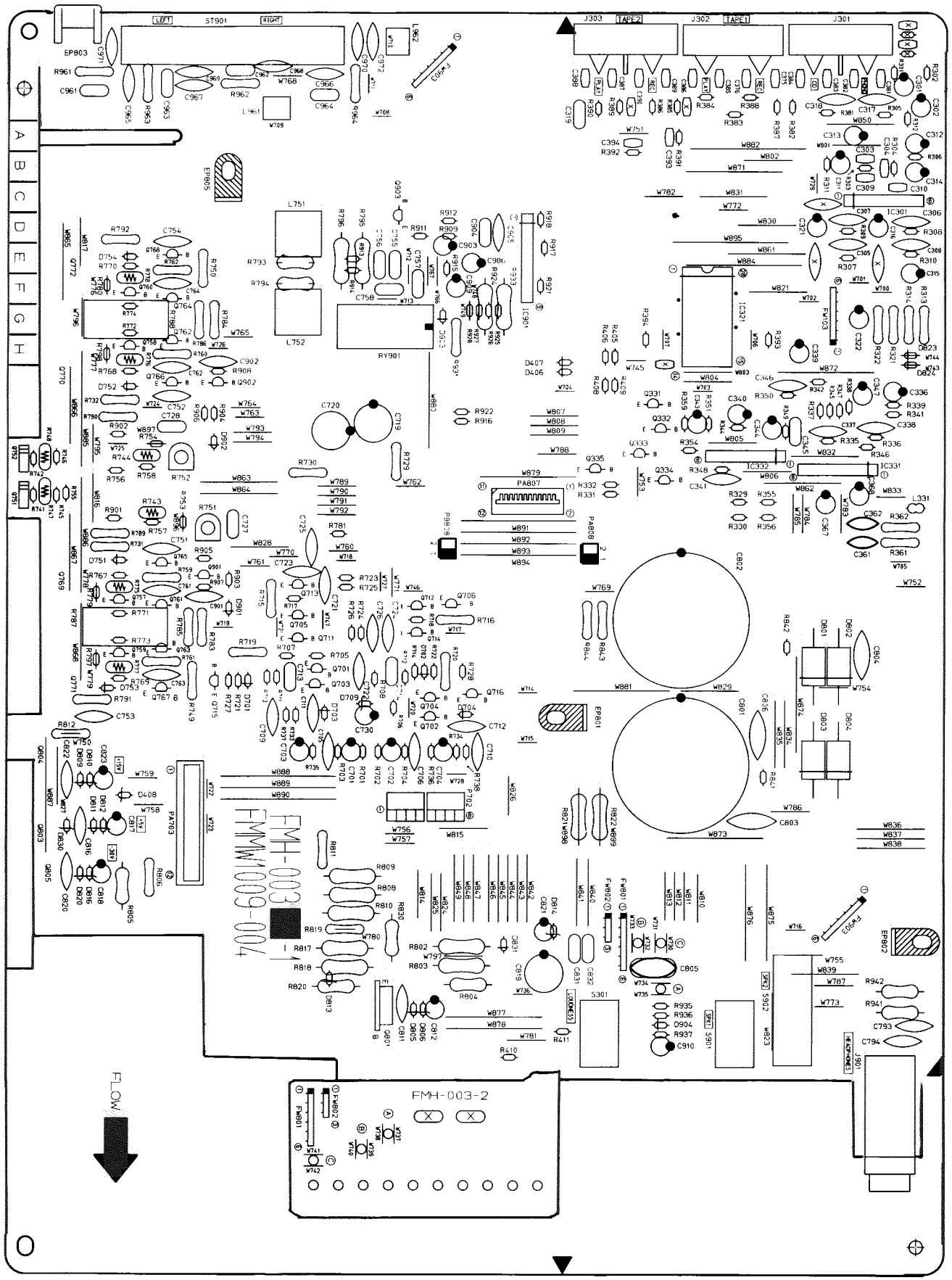
The Marks for Designated Areas

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

Printed Circuit Board Ass'y and Parts List

■ FMH-003 □ Amplifier & Selector PC Board Ass'y

Note: FMH-003 □ varies according to the areas employed.See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Designated Areas
FMH-003 F	BS	the U.K.
FMH-003 E	EF	Continental Europe
	EN	Scandinavia
	G	Germany
	GI	Italy

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q331	BA1L4M	DIGITAL TRA NEC	
	Q332	2SD655(E,F)	SI.TRANSIST HITACHI	
	Q333	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q334	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q335	BN1L4M	D.TR.I.M	
	Q701	2SC1775AV(F1)	SI.TRANSIST HITACHI	
	Q702	2SC1775AV(F1)	SI.TRANSIST HITACHI	
	Q703	2SC1775AV(F1)	SI.TRANSIST HITACHI	
	Q704	2SC1775AV(F1)	SI.TRANSIST HITACHI	
	Q705	2SA1038(R,S)	SI.TRANSIST ROHM	
	Q706	2SA1038(R,S)	SI.TRANSIST ROHM	
	Q711	2SA1038(R,S)	SI.TRANSIST ROHM	
	Q712	2SA1038(R,S)	SI.TRANSIST ROHM	
	Q715	2SC2389(S,E)	SI.TRANSIST ROHM	
	Q716	2SC2389(S,E)	SI.TRANSIST ROHM	
	Q751	2SD636	SI.TRANSIST MATSUSHITA	
	Q752	2SD636	SI.TRANSIST MATSUSHITA	
	Q757	2SC945A	SI.TRANSIST NEC	
	Q758	2SC945A	SI.TRANSIST NEC	
	Q759	2SA733A(P,K)	SI.TRANSIST NEC	
	Q760	2SA733A(P,K)	SI.TRANSIST NEC	
	Q761	2SC2240(BL)	SI.TRANSIST	
	Q762	2SC2240(BL)	SI.TRANSIST	
	Q763	2SA970(GR)	SI.TRANSIST TOSHIBA	
	Q764	2SA970(GR)	SI.TRANSIST TOSHIBA	
	Q765	2SC2235(O,Y)	SI.TRANSIST TOSHIBA	
	Q766	2SC2235(O,Y)	SI.TRANSIST TOSHIBA	
	Q767	2SA965(Y)	SI.TRANSIST TOSHIBA	
	Q768	2SA965(Y)	SI.TRANSIST TOSHIBA	
	Q801	2SB1187(F,G)	SI.TRANSIST ROHM	
	Q901	2SC1775AV(F1)	SI.TRANSIST HITACHI	
	Q902	2SC1775AV(F1)	SI.TRANSIST HITACHI	
	Q903	2SA1038(R,S)	SI.TRANSIST ROHM	

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC301	NJM4580LD	I.C(MONO-AN DAINICHI	
	IC321	TC9164N	I.C(DIGI-MO TOSHIBA	
	IC331	BA15218N	I.C(MONO-AN ROHM	
	IC332	BA15218N	I.C(MONO-AN ROHM	
	IC901	TA7317P	I.C(MONO-AN TOSHIBA	

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D406	1SS133	SI.DIODE ROHM	
	D407	1SS133	SI.DIODE ROHM	
	D408	MTZ6.8JC	ZENER DIODE ROHM	
	D701	1SS133	SI.DIODE ROHM	
	D702	1SS133	SI.DIODE ROHM	
	D703	1SS133	SI.DIODE ROHM	
	D704	1SS133	SI.DIODE ROHM	
	D709	MTZ18JC	ZENER DIODE ROHM	
	D751	1SS133	SI.DIODE ROHM	
	D752	1SS133	SI.DIODE ROHM	
	D753	1SS133	SI.DIODE ROHM	
	D754	1SS133	SI.DIODE ROHM	
⚠	D801	30DF2SFC	SI.DIODE NIHONINTER	
⚠	D802	30DF2SFC	SI.DIODE NIHONINTER	
⚠	D803	30DF2SFC	SI.DIODE NIHONINTER	
⚠	D804	30DF2SFC	SI.DIODE NIHONINTER	
	D805	1SS133	SI.DIODE ROHM	
	D806	MTZ16JC	ZENER DIODE ROHM	
	D809	1SS133	SI.DIODE ROHM	
	D810	MTZ16JC	ZENER DIODE ROHM	
	D811	1SS133	SI.DIODE ROHM	
	D812	MTZ7.5JC	ZENER DIODE ROHM	
	D813	MTZ20JC	ZENER DIODE ROHM	
	D814	MTZ5.1JC	ZENER DIODE ROHM	
	D816	MTZ20JC	ZENER DIODE ROHM	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D820	1SS133	SI.DIODE ROHM	
	D830	MTZ3.3JB	ZENER DIODE ROHM	
	D831	1SS133	SI.DIODE ROHM	
	D901	1SS133	SI.DIODE ROHM	
	D902	1SS133	SI.DIODE ROHM	
	D903	1SS133	SI.DIODE ROHM	
	D904	1SS133	SI.DIODE ROHM	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C301	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C302	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C303	QCBB1HK-471Y	470PF 50V CER.CAPACI	
	C304	QCBB1HK-471Y	470PF 50V CER.CAPACI	
	C305	QCY31HK-182Z	1800PF 50V CER.CAPACI	
	C306	QCY31HK-182Z	1800PF 50V CER.CAPACI	
	C307	QCY31HK-682Z	6800PF 50V CER.CAPACI	
	C308	QCY31HK-682Z	6800PF 50V CER.CAPACI	
	C309	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C310	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C311	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C312	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C313	QETB1AM-107	100MF 10V AL E.CAPAC	
	C314	QETB1AM-107	100MF 10V AL E.CAPAC	
	C315	QETB1CM-476	47MF 16V AL E.CAPAC	
	C316	QETB1CM-476	47MF 16V AL E.CAPAC	
	C317	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C318	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C319	QFV81HJ-154	0.15MF 50V THIN FILM	
	C321	QETB1EM-226	22MF 25V AL E.CAPAC	
	C322	QETB1EM-226	22MF 25V AL E.CAPAC	
	C336	QETB1CM-226	22MF 16V E.CAPACITO	
	C337	QCS21HJ-100	10PF 50V CER.CAPACI	
	C338	QCS21HJ-100	10PF 50V CER.CAPACI	
	C339	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C340	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C341	QCS31HJ-330Z	33PF 50V CER.CAPACI	
	C343	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C344	QETB1HM-105	1MF 50V AL E.CAPAC	
	C345	QFLB1HJ-392	3900PF 50V MYLAR CAPA	
	C346	QCS21HJ-100	10PF 50V CER.CAPACI	
	C347	QETB1EM-226	22MF 25V AL E.CAPAC	
	C361	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C362	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C367	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C368	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C375	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C376	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C381	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C382	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C383	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C384	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C385	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C386	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C387	QCBB1HK-561Y	560PF 50V CER.CAPACI	
	C388	QCBB1HK-561Y	560PF 50V CER.CAPACI	
	C389	QCBB1HK-221Y	220PF 50V CER.CAPACI	
	C390	QCBB1HK-221Y	220PF 50V CER.CAPACI	
	C393	QCBB1HK-221Y	220PF 50V CER.CAPACI	
	C394	QCBB1HK-221Y	220PF 50V CER.CAPACI	
	C701	QETB1HM-106	10MF 50V E.CAPACITO	
	C702	QETB1HM-106	10MF 50V E.CAPACITO	
	C703	QETB1EM-476	47MF 25V AL E.CAPAC	
	C704	QETB1EM-476	47MF 25V AL E.CAPAC	
	C705	QCS21HJ-271A	270PF 50V CER.CAPACI	
	C706	QCS21HJ-271A	270PF 50V CER.CAPACI	
	C709	QCS21HJ-220A	22PF 50V CER.CAPACI	
	C710	QCS21HJ-220A	22PF 50V CER.CAPACI	
	C711	QCS21HJ-101A	100PF 50V CER.CAPACI	
	C712	QCS21HJ-101A	100PF 50V CER.CAPACI	
	C713	QFLB1HJ-152	1500PF 50V MYLAR CAPA	
	C714	QFLB1HJ-152	1500PF 50V MYLAR CAPA	
	C719	QETB1JM-476	47MF 63V AL E.CAPAC	
	C720	QETB1JM-476	47MF 63V AL E.CAPAC	
	C721	QCS22HJ-220	22PF 500V CER.CAPACI	
	C722	QCS22HJ-220	22PF 500V CER.CAPACI	
	C723	QCS21HJ-680A	68PF 50V CER.CAPACI	
	C724	QCS21HJ-680A	68PF 50V CER.CAPACI	
	C725	QCS21HJ-680A	68PF 50V CER.CAPACI	
	C726	QCS21HJ-680A	68PF 50V CER.CAPACI	
	C727	QFLB1HK-473	0.047MF 50V MYLAR CAPA	
	C728	QFLB1HK-473	0.047MF 50V MYLAR CAPA	
	C730	QETB1EM-476	47MF 25V AL E.CAPAC	
	C751	QCS22HJ-470A	47PF 500V CER.CAPACI	
	C752	QCS22HJ-470A	47PF 500V CER.CAPACI	
	C753	QCS22HJ-470A	47PF 500V CER.CAPACI	
	C754	QCS22HJ-470A	47PF 500V CER.CAPACI	
	C755	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
	C756	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
	C757	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C758	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
	C761	QCF21HP-473A	0.047MF 50V CER.CAPACI	
	C762	QCF21HP-473A	0.047MF 50V CER.CAPACI	
	C763	QCF21HP-473A	0.047MF 50V CER.CAPACI	
	C764	QCF21HP-473A	0.047MF 50V CER.CAPACI	
	C793	QCS21HJ-221	220PF 50V CER.CAPACI	
	C794	QCS21HJ-221	220PF 50V CER.CAPACI	
	C801	EEW5613-688T	6800MF E.CAPACITO	
	C802	EEW5613-688T	6800MF E.CAPACITO	
	C803	QCE22HP-103A	0.01MF 500V CER.CAPACI	
	C804	QCE22HP-103A	0.01MF 500V CER.CAPACI	
	C805	QFN82CJ-224	0.22MF 160V MYLAR CAPA	
	C811	QCF21HP-472	4700PF 50V CER.CAPACI	
	C812	QETB1HM-107	100MF 50V E.CAPACITO	
	C816	QCF21HP-472	4700PF 50V CER.CAPACI	
	C817	QETB1EM-107	100MF 25V AL E.CAPAC	
	C818	QETB1HM-476	47MF 50V E.CAPACITO	
	C819	QETB1HM-107	100MF 50V E.CAPACITO	
	C820	QCF21HP-472	4700PF 50V CER.CAPACI	
	C821	QETB1EM-107	100MF 25V AL E.CAPAC	
	C822	QCF21HP-472	4700PF 50V CER.CAPACI	
	C823	QETB1EM-107	100MF 25V AL E.CAPAC	
	C831	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	
	C832	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	
	C901	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C902	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C903	QETB1HM-226E	22MF 50V E.CAPACITO	
	C904	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	
	C905	QCY31HK-102Z	1000PF 50V CER.CAPACI	
	C906	QETB1AM-476	47MF 10V E.CAPACITO	
	C909	QETB1CM-226	22MF 16V E.CAPACITO	
	C910	QETB1HM-225	2.2MF 50V AL E.CAPAC	
	C961	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
	C962	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
	C963	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
	C964	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	
	C965	QCS21HJ-101A	100PF 50V CER.CAPACI	
	C966	QCS31HJ-471Z	470PF 50V CER.CAPACI	
	C967	QCS31HJ-151Z	150PF 50V CER.CAPACI	
	C968	QCS31HJ-471Z	470PF 50V CER.CAPACI	
	C969	QCS31HJ-471Z	470PF 50V CER.CAPACI	
	C970	QCS31HJ-391Z	390PF 50V CER.CAPACI	
	C971	QCS31HJ-471Z	470PF 50V CER.CAPACI	
	C972	QCS31HJ-471Z	470PF 50V CER.CAPACI	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R301	QRD161J-222	2.2K 1/6W CARBON RES	
	R302	QRD161J-222	2.2K 1/6W CARBON RES	
	R303	QRD161J-473	47K 1/6W CARBON RES	
	R304	QRD161J-473	47K 1/6W CARBON RES	
	R305	QRD161J-621	620 1/6W CARBON RES	
	R306	QRD161J-621	620 1/6W CARBON RES	
	R307	QRD161J-393	39K 1/6W CARBON RES	
	R308	QRD161J-393	39K 1/6W CARBON RES	
	R309	QRD161J-474	470K 1/6W CARBON RES	
	R310	QRD161J-474	470K 1/6W CARBON RES	
	R311	QRD161J-104	100K 1/6W CARBON RES	
	R312	QRD161J-104	100K 1/6W CARBON RES	
⚠	R313	QRD14CJ-391SX	390 1/4W UNF.CARBON	
⚠	R314	QRD14CJ-391SX	390 1/4W UNF.CARBON	
⚠	R321	QRZ0077-470	47 1/4W FUSIBLE RE	
⚠	R322	QRZ0077-470	47 1/4W FUSIBLE RE	
	R329	QRD167J-152	1.5K 1/6W CARBON RES	
	R330	QRD167J-152	1.5K 1/6W CARBON RES	
	R331	QRD161J-103	10K 1/6W CARBON RES	
	R332	QRD161J-103	10K 1/6W CARBON RES	
	R335	QRD161J-303Y	30K 1/6W CARBON RES	
	R336	QRD161J-333	33K 1/6W CARBON RES	
	R337	QRD161J-273	27K 1/6W CARBON RES	
	R338	QRD161J-474	470K 1/6W CARBON RES	
	R339	QRD161J-303Y	30K 1/6W CARBON RES	
	R341	QRD161J-303Y	30K 1/6W CARBON RES	
	R342	QRD167J-334	330K 1/6W CARBON RES	
	R344	QRD167J-334	330K 1/6W CARBON RES	
	R345	QRD161J-273	27K 1/6W CARBON RES	
	R346	QRD161J-303Y	30K 1/6W CARBON RES	
	R347	QRD161J-273	27K 1/6W CARBON RES	
	R348	QRD167J-334	330K 1/6W CARBON RES	
	R349	QRD167J-682	6.8K 1/6W CARBON RES	
	R350	QRD167J-334	330K 1/6W CARBON RES	
	R351	QRD167J-332	3.3K 1/6W CARBON RES	
	R354	QRD161J-473	47K 1/6W CARBON RES	
	R355	QRD161J-104	100K 1/6W CARBON RES	
	R356	QRD161J-104	100K 1/6W CARBON RES	
	R359	QRD161J-564	560K 1/6W CARBON RES	
⚠	R361	QRZ0077-680	68 1/4W FUSIBLE RE	
⚠	R362	QRZ0077-680	68 1/4W FUSIBLE RE	
	R381	QRD161J-471	470 1/6W CARBON RES	
	R382	QRD161J-471	470 1/6W CARBON RES	
	R383	QRD161J-471	470 1/6W CARBON RES	
	R384	QRD161J-471	470 1/6W CARBON RES	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R385	QRD161J-222	2.2K 1/6W CARBON RES	
	R386	QRD161J-222	2.2K 1/6W CARBON RES	
	R387	QRD161J-222	2.2K 1/6W CARBON RES	
	R388	QRD161J-222	2.2K 1/6W CARBON RES	
	R389	QRD161J-471	470 1/6W CARBON RES	
	R390	QRD161J-471	470 1/6W CARBON RES	
	R391	QRD161J-105	1M 1/6W CARBON RES	
	R392	QRD161J-105	1M 1/6W CARBON RES	
	R393	QRD161J-103	10K 1/6W CARBON RES	
	R394	QRD161J-103	10K 1/6W CARBON RES	
	R405	QRD161J-512	5.1K 1/6W CARBON RES	
	R406	QRD161J-512	5.1K 1/6W CARBON RES	
	R408	QRD161J-103	10K 1/6W CARBON RES	
	R409	QRD161J-103	10K 1/6W CARBON RES	
	R410	QRD161J-221	220 1/6W CARBON RES	
	R411	QRD161J-103	10K 1/6W CARBON RES	
	R701	QRD161J-222	2.2K 1/6W CARBON RES	
	R702	QRD161J-222	2.2K 1/6W CARBON RES	
	R703	QRD161J-104	100K 1/6W CARBON RES	
	R704	QRD161J-104	100K 1/6W CARBON RES	
	R705	QRD167J-822	8.2K 1/6W CARBON RES	
	R706	QRD167J-822	8.2K 1/6W CARBON RES	
	R707	QRD161J-101	100 1/6W CARBON RES	
	R708	QRD161J-101	100 1/6W CARBON RES	
	R711	QRD161J-202	2K 1/6W CARBON RES	
	R712	QRD161J-202	2K 1/6W CARBON RES	
	R713	QRD161J-202	2K 1/6W CARBON RES	
	R714	QRD161J-202	2K 1/6W CARBON RES	
⚠	R715	QRD14CJ-151SX	150 1/4W UNF.CARBON	
⚠	R716	QRD14CJ-151SX	150 1/4W UNF.CARBON	
⚠	R719	QRD12CJ-153SX	15K 1/2W UNF.CARBON	
⚠	R720	QRD12CJ-153SX	15K 1/2W UNF.CARBON	
	R721	QRD161J-391	390 1/6W CARBON RES	
	R722	QRD161J-391	390 1/6W CARBON RES	
	R723	QRD167J-152	1.5K 1/6W CARBON RES	
	R724	QRD167J-152	1.5K 1/6W CARBON RES	
	R727	QRD161J-391	390 1/6W CARBON RES	
	R728	QRD161J-391	390 1/6W CARBON RES	
⚠	R729	QRD14CJ-680SX	68 1/4W UNF.CARBON	
⚠	R730	QRD14CJ-680SX	68 1/4W UNF.CARBON	
⚠	R731	QRD14CJ-100SX	10 1/4W UNF.CARBON	
⚠	R732	QRD14CJ-100SX	10 1/4W UNF.CARBON	
	R733	QRD161J-133Y	13K 1/6W CARBON RES	
	R734	QRD161J-133Y	13K 1/6W CARBON RES	
	R735	QRD161J-821	820 1/6W CARBON RES	
	R736	QRD161J-821	820 1/6W CARBON RES	
	R737	QRD161J-823	82K 1/6W CARBON RES	
	R738	QRD161J-823	82K 1/6W CARBON RES	
	R741	QRD161J-431	430 1/6W CARBON RES	
	R742	QRD161J-431	430 1/6W CARBON RES	
	R745	QRD161J-102	1K 1/6W CARBON RES	
	R746	QRD161J-102	1K 1/6W CARBON RES	
⚠	R747	ERT-D2WHL202S	2K 1/4W NEGATIVE T	
⚠	R748	ERT-D2WHL202S	2K 1/4W NEGATIVE T	
⚠	R749	QRD14CJ-100SX	10 1/4W UNF.CARBON	
⚠	R750	QRD14CJ-100SX	10 1/4W UNF.CARBON	
	R751	QVPA601-501A	500 TRIMMER RE	
	R752	QVPA601-501A	500 TRIMMER RE	
	R755	QRD167J-152	1.5K 1/6W CARBON RES	
	R756	QRD167J-152	1.5K 1/6W CARBON RES	
⚠	R759	QRD14CJ-100SX	10 1/4W UNF.CARBON	
⚠	R760	QRD14CJ-100SX	10 1/4W UNF.CARBON	
⚠	R761	QRD14CJ-100SX	10 1/4W UNF.CARBON	
⚠	R762	QRD14CJ-100SX	10 1/4W UNF.CARBON	
	R767	QRD161J-820	82 1/6W CARBON RES	
	R768	QRD161J-820	82 1/6W CARBON RES	
	R769	QRD161J-820	82 1/6W CARBON RES	
	R770	QRD161J-820	82 1/6W CARBON RES	
	R771	QRD161J-181	180 1/6W CARBON RES	
	R772	QRD161J-181	180 1/6W CARBON RES	
	R773	QRD161J-181	180 1/6W CARBON RES	
	R774	QRD161J-181	180 1/6W CARBON RES	
	R781	QRD167J-562	5.6K 1/6W CARBON RES	
⚠	R783	QRD14CJ-272S	2.7K 1/4W UNF.CARBON	
⚠	R784	QRD14CJ-272S	2.7K 1/4W UNF.CARBON	
⚠	R785	QRD14CJ-271S	270 1/4W UNF.CARBON	
⚠	R786	QRD14CJ-271S	270 1/4W UNF.CARBON	
⚠	R787	ERF032K-R22	0.22 3W CEM.RESIST	
⚠	R788	ERF032K-R22	0.22 3W CEM.RESIST	
⚠	R789	QRZ0077-100	10 1/4W FUSIBLE RE	
⚠	R790	QRZ0077-100	10 1/4W FUSIBLE RE	
⚠	R791	QRZ0077-100	10 1/4W FUSIBLE RE	
⚠	R792	QRZ0077-100	10 1/4W FUSIBLE RE	
⚠	R793	QRD125J-330	33 1/2W UNF.CARBON	
⚠	R794	QRD125J-330	33 1/2W UNF.CARBON	
⚠	R795	QRG022J-100GJ7	10 2W OXIDE META	
⚠	R796	QRG022J-100GJ7	10 2W OXIDE META	
⚠	R802	QRG022J-121GJ7	120 2W OXIDE META	
⚠	R804	QRD125J-472	4.7K 1/2W UNF.CARBON	
⚠	R805	QRD129J-392	3.9K 1/2W UNF.CARBON	
⚠	R806	QRZ0077-121X	120 1/4W FUSIBLE RE	
⚠	R808	QRG022J-181GJ7	180 2W OXIDE META	
⚠	R809	QRG022J-181GJ7	180 2W OXIDE META	
⚠	R811	QRD125J-472	4.7K 1/2W UNF.CARBON	
⚠	R817	QRG022J-121GJ7	120 2W OXIDE META	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
⚠	R818	QRG022J-151A	150	2W	OXIDE META	
⚠	R819	QRZ0077-4R7	4.7	1/4W	FUSE RESIS	
⚠	R820	QRD125J-682	6.8K	1/2W	UNF.CARBON	
⚠	R821	QRX022J-3R9AM	3.9	2W	OXIDE META	
⚠	R822	QRX022J-3R9AM	3.9	2W	OXIDE META	
⚠	R841	QRD161J-104	100K	1/6W	CARBON RES	
⚠	R842	QRD161J-104	100K	1/6W	CARBON RES	
⚠	R843	QRD12CJ-2R2SX	2.2	1/2W	CARBON RES	
⚠	R844	QRD12CJ-2R2SX	2.2	1/2W	CARBON RES	
	R901	QRD161J-681	680	1/6W	CARBON RES	
	R902	QRD161J-681	680	1/6W	CARBON RES	
	R903	QRD167J-562	5.6K	1/6W	CARBON RES	
	R904	QRD167J-562	5.6K	1/6W	CARBON RES	
	R905	QRD161J-123	12K	1/6W	CARBON RES	
	R906	QRD161J-123	12K	1/6W	CARBON RES	
	R907	QRD167J-152	1.5K	1/6W	CARBON RES	
	R908	QRD167J-152	1.5K	1/6W	CARBON RES	
	R909	QRD161J-103	10K	1/6W	CARBON RES	
	R911	QRD167J-332	3.3K	1/6W	CARBON RES	
	R912	QRD161J-473	47K	1/6W	CARBON RES	
	R913	QRD161J-104	100K	1/6W	CARBON RES	
	R914	QRD161J-823	82K	1/6W	CARBON RES	
	R915	QRD161J-473	47K	1/6W	CARBON RES	
	R916	QRD161J-563	56K	1/6W	CARBON RES	
	R917	QRD161J-683	68K	1/6W	CARBON RES	
	R918	QRD161J-392	3.9K	1/6W	CARBON RES	
	R921	QRD161J-224	220K	1/6W	CARBON RES	
	R922	QRD161J-182	1.8K	1/6W	CARBON RES	
⚠	R924	QRG022J-821GJ7	820	2W	OXIDE META	
⚠	R931	QRD14CJ-330SX	33	1/4W	UNF.CARBON	
	R935	QRD167J-562	5.6K	1/6W	CARBON RES	
	R936	QRD167J-822	8.2K	1/6W	CARBON RES	
	R937	QRD161J-103	10K	1/6W	CARBON RES	
⚠	R941	QRG012J-471A	470	1W	OXIDE META	
⚠	R942	QRG012J-471A	470	1W	OXIDE META	
⚠	R961	QRZ0077-100	10	1/4W	FUSIBLE RE	
⚠	R962	QRZ0077-100	10	1/4W	FUSIBLE RE	
⚠	R963	QRZ0077-100	10	1/4W	FUSIBLE RE	
⚠	R964	QRZ0077-100	10	1/4W	FUSIBLE RE	

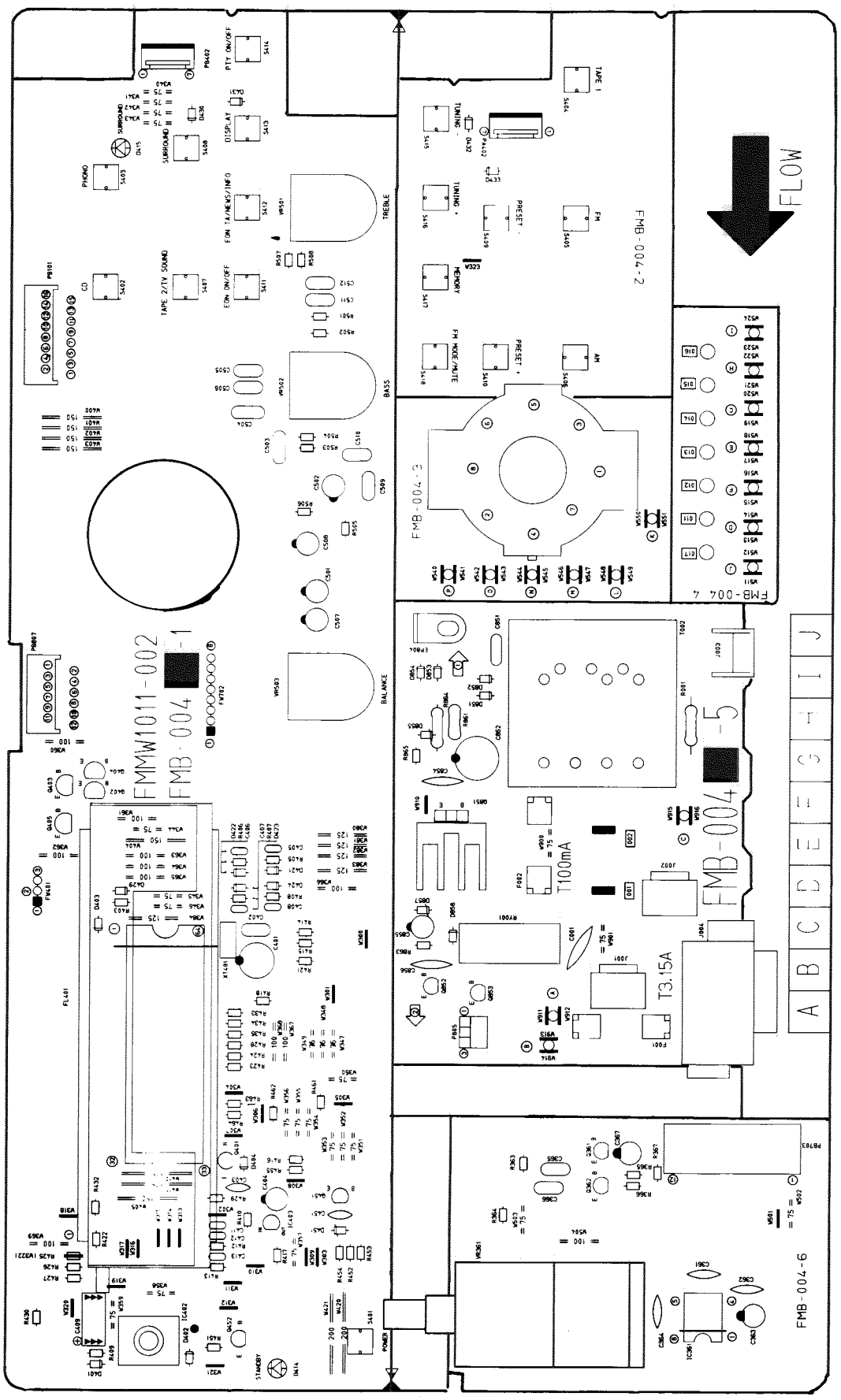
⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		FMMW1009-002	PRINTED BOA	
		QXTF500-015	SHRINK TUBE	
	J301	EMN00TV-423AJ2	PIN JACK	
	J302	EMN00TV-421AJ2	PIN JACK	
	J303	EMN00TV-421AJ2	PIN JACK	
	J901	QMS6022-V01	MICROPHONE	
	L331	EQL4007-220	INDUCTOR	
	L751	EQL0121-1R2J1	INDUCTOR	
	L752	EQL0121-1R2J1	INDUCTOR	
	L961	EQL0011-R45J1	INDUCTOR	
	L962	EQL0011-R45J1	INDUCTOR	
	S301	QST4101-E15	PUSH SWITCH **LOUDNESS**	
	S901	QST4241-E05J2	PUSH SWITCH **SPK 1**	
	S902	QST4241-E05J2	PUSH SWITCH **SPK 2**	
	EP801	EMZ4002-001Z	EARTH PLATE	
	EP802	EMZ4002-001Z	EARTH PLATE	
	EP803	E70225-001	EARTH PLATE	
	FW103	EWR36D-25LS	FLAT WIRE A **6PIN**	
	FW801	EWR36D-45SS	FLAT WIRE A **6PIN**	
	FW903	EWR36D-35SS	FLAT WIRE A **6PIN**	
	JT001	EMV7122-004Z	CONNECT TER **4PIN**	
	JT002	EMV7122-004Z	CONNECT TER **4PIN**	
	PA703	EMV7163-012	CONNECT TER **12PIN**	
	PA807	VMC0261-012	CONNECT TER **12PIN**	
	RY901	ESK7D24-2120	RELAY	
	ST901	FMMJ4002-001	SPEAKER TER	

■ FMB-004 ☐ Front,Tone Control & Power Supply PC Board Ass'y

Note: FMB-004 ☐ varies according to the areas employed.See note (2) when placing an order.



Note (2)

PC Board Ass'y	Version	Designated Areas
FMB-004 [A]	BS	the U.K.
FMA-002 [B]	EF	Continental Europe
	EN	Scandinavia
	G	Germany
FMA-002 [C]	GI	Italy

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q361	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q362	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q401	DTC114YS	DIGITAL TRA ROHM	
	Q402	DTC114YS	DIGITAL TRA ROHM	
	Q403	DTC114YS	DIGITAL TRA ROHM	
	Q404	DTC114YS	DIGITAL TRA ROHM	
	Q405	DTC114YS	DIGITAL TRA ROHM	
	Q451	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q452	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q852	2SC2235(O,Y)	SI.TRANSIST TOSHIBA	
	Q853	BA1L3Z	DIGITAL TRA NEC	

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC361	LB1639-CV	I.C(DIGI-OT SANYO	
	IC401	MN171202J5C	I.C(MICRO-C MATSUSHITA	
	IC402	NJH32H380A	I.C(M) DAINICHI	
	IC403	PST600E-T	I.C(MONO-AN 0062	

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D401	1SS133	SI.DIODE ROHM	
	D402	1SS133	SI.DIODE ROHM	
	D403	1SS133	SI.DIODE ROHM	
	D404	1SS133	SI.DIODE ROHM	
	D414	SLA-580LT70F124	L.E.D. ROHM	BS
	D414	SLR-54VC50F124	L.E.D. ROHM	EF
	D414	SLR-54VC50F124	L.E.D. ROHM	EN
	D414	SLR-54VC50F124	L.E.D. ROHM	G
	D414	SLR-54VC50F124	L.E.D. ROHM	GI
	D415	SLR-34DC50F124	L.E.D.	
	D422	1SS133	SI.DIODE ROHM	
	D429	1SS133	SI.DIODE ROHM	
	D430	1SS133	SI.DIODE ROHM	
	D431	1SS133	SI.DIODE ROHM	
	D432	1SS133	SI.DIODE ROHM	
	D433	1SS133	SI.DIODE ROHM	
	D451	MTZ7.5JC	ZENER DIODE ROHM	
	D851	1SR35-200A	SI.DIODE ROHM	
	D852	1SR35-200A	SI.DIODE ROHM	
	D853	1SR35-200A	SI.DIODE ROHM	
	D854	1SR35-200A	SI.DIODE ROHM	
	D857	MTZ6.2JC	ZENER DIODE ROHM	
	D858	1SS133	SI.DIODE ROHM	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	C001	QCZ9019-472BS	4700PF CERAMIC	BS
⚠	C001	QCZ9019-472	4700PF C.CAPACITO	EF
⚠	C001	QCZ9019-472	4700PF C.CAPACITO	EN
⚠	C001	QCZ9019-472	4700PF C.CAPACITO	G
⚠	C001	QCZ9019-472	4700PF C.CAPACITO	GI
	C361	QCY21HK-331	330PF 50V CER.CAPACI	
	C362	QCY21HK-331	330PF 50V CER.CAPACI	
	C363	QETBOJM-107	100MF 6.3V AL E.CAPAC	
	C364	QCF21HP-473A	0.047MF 50V CER.CAPACI	
	C365	QFLB1HJ-104	0.1MF 50V MYLAR CAPA	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C366	QFLB1HJ-104	0.1MF 50V MYLAR CAPA	
	C367	QETB1EM-226	22MF 25V AL E.CAPAC	
	C401	QEK61AM-227ZM	220MF 10V AL E.CAPAC	
	C402	QCZ0202-155	1.5MF 25V CER.RESIST	
	C403	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C404	QEK51HM-225G	2.2MF 50V AL E.CAPAC	
	C405	QCBB1HK-102Y	1000PF 50V CER.CAPACI	
	C406	QCBB1HK-102Y	1000PF 50V CER.CAPACI	
	C407	QCBB1HK-102Y	1000PF 50V CER.CAPACI	
	C408	QCBB1HK-102Y	1000PF 50V CER.CAPACI	
	C409	QEAD0HZ-479A	47000MF E.CAPACITO	
	C411	QCBB1HK-102Y	1000PF 50V CER.CAPACI	
	C412	QCBB1HK-102Y	1000PF 50V CER.CAPACI	
	C413	QCBB1HK-102Y	1000PF 50V CER.CAPACI	
	C451	QCS21HJ-221	220PF 50V CER.CAPACI	
	C501	QEK51HM-105G	1MF 50V AL E.CAPAC	
	C502	QEK51HM-105G	1MF 50V AL E.CAPAC	
	C503	QFLB1HJ-823	0.082MF 50V MYLAR CAPA	
	C504	QFLB1HJ-823	0.082MF 50V MYLAR CAPA	
	C505	QFLB1HJ-153	0.015MF 50V MYLAR CAPA	
	C506	QFLB1HJ-153	0.015MF 50V MYLAR CAPA	
	C507	QETB1HM-105	1MF 50V AL E.CAPAC	
	C508	QETB1HM-105	1MF 50V AL E.CAPAC	
	C509	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
	C510	QFLB1HJ-332	3300PF 50V MYLAR CAPA	
	C511	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	
	C512	QFLB1HJ-183	0.018MF 50V MYLAR CAPA	
	C851	QFN82AJ-472	4700PF 100V MYLAR CAPA	
	C852	QETB1EM-227	220MF 25V AL E.CAPAC	
	C855	QETB1CM-476	47MF 16V AL E.CAPAC	
	C856	QCF21HP-472	4700PF 50V CER.CAPACI	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R363	QRD167J-682	6.8K 1/6W CARBON RES	
	R364	QRD167J-682	6.8K 1/6W CARBON RES	
	R365	QRD161J-222	2.2K 1/6W CARBON RES	
	R366	QRD161J-222	2.2K 1/6W CARBON RES	
	R367	QRD161J-202	2K 1/6W CARBON RES	
	R403	QRD161J-220	22 1/6W CARBON RES	
	R405	QRD161J-103	10K 1/6W CARBON RES	
	R406	QRD161J-103	10K 1/6W CARBON RES	
	R407	QRD161J-103	10K 1/6W CARBON RES	
	R408	QRD161J-103	10K 1/6W CARBON RES	
	R409	QRD161J-331	330 1/6W CARBON RES	
	R410	QRD167J-223	22K 1/6W CARBON RES	
	R412	QRD161J-221	220 1/6W CARBON RES	
	R413	QRD161J-221	220 1/6W CARBON RES	
	R414	QRD161J-271	270 1/6W CARBON RES	
	R415	QRD161J-221	220 1/6W CARBON RES	
	R416	QRD161J-472	4.7K 1/6W CARBON RES	
	R417	QRD161J-471	470 1/6W CARBON RES	
	R418	QRD161J-103	10K 1/6W CARBON RES	
	R421	QRD161J-471	470 1/6W CARBON RES	
	R423	QRD161J-471	470 1/6W CARBON RES	
	R424	QRD161J-471	470 1/6W CARBON RES	
	R426	QRD161J-471	470 1/6W CARBON RES	
	R427	QRD161J-471	470 1/6W CARBON RES	
	R428	QRD161J-471	470 1/6W CARBON RES	
	R429	QRD161J-471	470 1/6W CARBON RES	
	R430	QRD161J-471	470 1/6W CARBON RES	
	R432	QRD161J-471	470 1/6W CARBON RES	
	R433	QRD161J-471	470 1/6W CARBON RES	
	R434	QRD161J-471	470 1/6W CARBON RES	
	R435	QRD161J-471	470 1/6W CARBON RES	
	R451	QRD161J-103	10K 1/6W CARBON RES	
	R452	QRD161J-473	47K 1/6W CARBON RES	
	R453	QRD167J-223	22K 1/6W CARBON RES	
	R454	QRD161J-471	470 1/6W CARBON RES	
	R455	QRD161J-103	10K 1/6W CARBON RES	
	R461	QRD161J-471	470 1/6W CARBON RES	
	R462	QRD161J-471	470 1/6W CARBON RES	
	R463	QRD161J-471	470 1/6W CARBON RES	
	R464	QRD161J-471	470 1/6W CARBON RES	
	R501	QRD161J-203	20K 1/6W CARBON RES	
	R502	QRD161J-203	20K 1/6W CARBON RES	
	R503	QRD161J-362	3.6K 1/6W CARBON RES	
	R504	QRD161J-362	3.6K 1/6W CARBON RES	
	R505	QRD161J-472	4.7K 1/6W CARBON RES	
	R506	QRD161J-472	4.7K 1/6W CARBON RES	
	R507	QRD161J-821	820 1/6W CARBON RES	
	R508	QRD161J-821	820 1/6W CARBON RES	
⚠	R861	QRD14CJ-270SX	27 1/4W UNF.CARBON	BS
⚠	R861	QRD14CJ-220S	22 1/4W UNF.CARBON	EF
⚠	R861	QRD14CJ-220S	22 1/4W UNF.CARBON	EN
⚠	R861	QRD14CJ-220S	22 1/4W UNF.CARBON	G
⚠	R861	QRD14CJ-220S	22 1/4W UNF.CARBON	GI
⚠	R863	QRV144F-8200	1/4W CONST.META	
	VR361	QVDB71B-E15BJ5	100K VARIABLE R	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	VR501	QVDB92C-E15CJ3	100K VARIABLE R	
	VR502	QVDB92C-E15CJ3	100K VARIABLE R	
	VR503	QVDA92W-E15EJ3	100K VARIABLE R	

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		FMMW1011-002	PRINTED BOA	
		EMZ4001-001	TAB	
		VMZ0087-001Z	FUSE HOLDER	
		QWE881-26RR	VINYL WIRE	
		QWE883-28RR	VINYL WIRE	
		FMMW1011-002BS	PRINTED BOA	BS
	J002	EMV5137-002	CONNECT TER 2PIN	
	J003	E70225-001	EARTH PLATE	
	P805	EMV7122-103	CONNECT TER 3PIN	
	S401	ESP0001-023M	TACT SWITCH POWER	
	S402	ESP0001-023M	TACT SWITCH CD	
	S403	ESP0001-023M	TACT SWITCH PHONO	
	S404	ESP0001-023M	TACT SWITCH TAPE 1	
	S405	ESP0001-023M	TACT SWITCH FM	
	S406	ESP0001-023M	TACT SWITCH AM	
	S407	ESP0001-023M	TACT SWITCH TAPE 2/TV SOUND	
	S408	ESP0001-023M	TACT SWITCH SURROUND	
	S409	ESP0001-023M	TACT SWITCH PRESET DOWN	
	S410	ESP0001-023M	TACT SWITCH PRESET UP	
	S411	ESP0001-023M	TACT SWITCH EON ON/OFF	

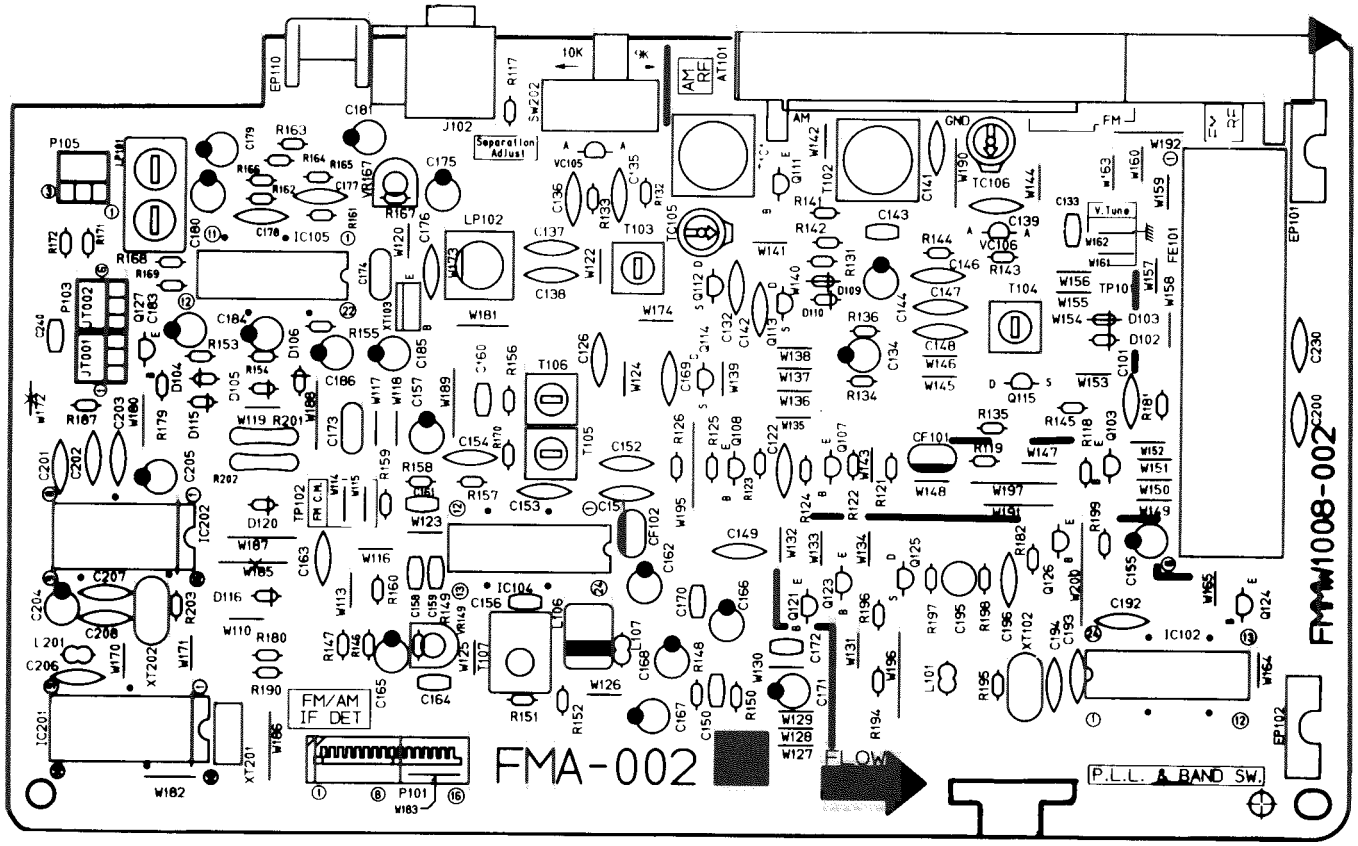
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	S412	ESP0001-023M	TACT SWITCH EON TA/NEWS/INFO	
	S413	ESP0001-023M	TACT SWITCH DISPLAY	
	S414	ESP0001-023M	TACT SWITCH PTY ON/OFF	
	S415	ESP0001-023M	TACT SWITCH TUNING DOWN	
	S416	ESP0001-023M	TACT SWITCH TUNING UP	
	S417	ESP0001-023M	TACT SWITCH FM MODE/MUTE	
	S418	ESP0001-023M	TACT SWITCH MEMORY	
⚠	T002	ETP1000-41EABS	POWER TRASN	BS
⚠	T002	ETP1000-41EA	POWER TRASN	EF
⚠	T002	ETP1000-41EA	POWER TRASN	EN
⚠	T002	ETP1000-41EA	POWER TRASN	G
⚠	T002	ETP1000-41EA	POWER TRASN	GI
	EP804	EMZ4002-001Z	EARTH PLATE	
	FH001	E309106-001SM	FL HOLDER	
	FL401	ELU0001-183	FLUORESCENT	
	FS001	E3400-431	FELT SPACER	
	FS002	E3400-431	FELT SPACER	
	FW401	EWR33D-30LS	FLAT WIRE A 3PIN	
	FW702	EWR38D-30LS	FLAT WIRE A 8PIN	
	PA402	VMC0261-R07	CONNECT TER 7PIN	
	PB101	VMC0261-R16	CONNECT TER 16PIN	
	PB402	VMC0261-R07	CONNECT TER 7PIN	
	PB703	EMV5163-012R	CONNECT TER 12PIN	
	PB807	VMC0261-R12	CONNECT TER 12PIN	
⚠	RY001	ESK1D12-118J1BS	RELAY	BS
⚠	RY001	ESK1D12-118J1	RELAY	EF
⚠	RY001	ESK1D12-118J1	RELAY	EN
⚠	RY001	ESK1D12-118J1	RELAY	G
⚠	RY001	ESK1D12-118J1	RELAY	GI
	XT401	ECX0060-000EM	CERAMIC RES	

⚠ : SAFETY PARTS

■ FMA-002 □ Tuner PC Board Assy

Note: FMA-002 □ varies according to the areas employed.See note (3) when placing an order.



Note (3)

PC Board Ass'y	Version	Designated Areas
FMA-002 [E]	BS	the U.K.
FMA-002 [D]	EF	Continental Europe
	EN	Scandinavia
FMA-002 [G]	G	Germany
FMA-002 [F]	GI	Italy

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q103	2SC461	SI.TRANSIST	
	Q107	2SC535	SI.TRANSIST HITACHI	
	Q108	2SC461	SI.TRANSIST	
	Q111	2SD1302	SI.TRANSIST MATSUSHITA	
	Q112	2SK301(P,Q)	F.E.T. MATSUSHITA	
	Q113	2SK301(P,Q)	F.E.T. MATSUSHITA	
	Q114	2SK301(P,Q)	F.E.T. MATSUSHITA	
	Q115	2SK301(P,Q)	F.E.T. MATSUSHITA	
	Q121	BN1A4P	DIGITAL TRA NEC	
	Q123	BN1A4P	DIGITAL TRA NEC	
	Q124	BN1A4P	DIGITAL TRA NEC	
	Q125	2SK301(P,Q)	F.E.T. MATSUSHITA	
	Q126	2SC458(C,D)	SI.TRANSIST HITACHI	
	Q127	BA1L4M	DIGITAL TRA NEC	

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC102	LC7218	I.C(DIGI-MO	
	IC104	LA1266A	I.C(MONO-AN SANYO	
	IC105	LA3401	I.C(MONO-AN SANYO	
	IC201	LC7073	I.C(DIGI-MO SANYO	
	IC202	SAA6579	I.C(M)	

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D102	1SS133	SI.DIODE ROHM	
	D103	1SS133	SI.DIODE ROHM	
	D104	1SS133	SI.DIODE ROHM	
	D105	1SS133	SI.DIODE ROHM	
	D106	1SS133	SI.DIODE ROHM	
	D109	1SS133	SI.DIODE ROHM	
	D110	1SS133	SI.DIODE ROHM	
	D115	1SS133	SI.DIODE ROHM	
	D116	1SS133	SI.DIODE ROHM	
	D120	1SS133	SI.DIODE ROHM	
	VC105	SVC342(L)	VARI-CAPA D SANYO	
	VC106	SVC342(L)	VARI-CAPA D SANYO	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C101	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C122	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C126	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C132	QCS31HJ-561Z	560PF 50V CER.CAPACI	
	C133	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C134	QETB1EM-106	10MF 25V AL E.CAPAC	
	C135	QCC21EM-223	0.022MF 25V CER.CAPACI	
	C136	QCT25CH-180Z	18PF 50V CER.CAPACI	
	C137	QCT26CH-221	220PF 50V CER.CAPACI	
	C138	QCT26CH-241	240PF 50V CER.CAPACI	
	C139	QCC21EM-223	0.022MF 25V CER.CAPACI	
	C141	QCS21HJ-270	27PF 50V CER.CAPACI	
	C142	QCY31HK-272Z	2700PF 50V CER.CAPACI	
	C143	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C144	QETB1EM-106	10MF 25V AL E.CAPAC	
	C146	QCT26CH-680	68PF 50V CER.CAPACI	
	C147	QCT25CH-220Z	22PF 50V CER.CAPACI	
	C148	QCT25CH-121	120PF 50V CER.CAPACI	
	C149	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C150	QCHB1EZ-223	0.022MF 25V CER.CAPACI	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C151	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C152	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C153	QCC21EM-223	0.022MF 25V CER.CAPACI	
	C154	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C155	QETB1EM-226	22MF 25V AL E.CAPAC	
	C156	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C157	QETB1HM-474	0.47MF 50V ELECTRO	
	C158	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C159	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C160	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C161	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C162	QETB1EM-106	10MF 25V AL E.CAPAC	
	C163	QCY31HK-332Z	3300PF 50V CER.CAPACI	
	C164	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C165	QETB1HM-474	0.47MF 50V ELECTRO	
	C166	QETB1HM-225	2.2MF 50V AL E.CAPAC	
	C167	QETB1HM-225	2.2MF 50V AL E.CAPAC	
	C168	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C169	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C170	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C171	QETB1EM-106	10MF 25V AL E.CAPAC	
	C172	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C173	QFLB1HK-223	0.022MF 50V MYLAR CAPA	
	C174	QFLB1HK-473	0.047MF 50V MYLAR CAPA	
	C175	QETB1EM-106	10MF 25V AL E.CAPAC	
	C176	QCY31HK-102Z	1000PF 50V CER.CAPACI	
	C177	QCS21HJ-271A	270PF 50V CER.CAPACI	
	C178	QCS21HJ-271A	270PF 50V CER.CAPACI	
	C179	QETB1HM-225	2.2MF 50V AL E.CAPAC	
	C180	QETB1HM-225	2.2MF 50V AL E.CAPAC	
	C181	QETB1EM-106	10MF 25V AL E.CAPAC	
	C183	QETB1HM-105	1MF 50V AL E.CAPAC	
	C184	QETB1HM-105	1MF 50V AL E.CAPAC	
	C185	QETB1HM-225	2.2MF 50V AL E.CAPAC	
	C186	QETB1HM-474	0.47MF 50V ELECTRO	
	C192	QCC21EM-473	0.047MF 25V CER.CAPACI	
	C193	QCS21HJ-180A	18PF 50V CER.CAPACI	
	C194	QCS21HJ-180A	18PF 50V CER.CAPACI	
	C195	QEN51HM-474	0.47MF 50V NP E.CAPAC	
	C196	QCY31HK-102Z	1000PF 50V CER.CAPACI	
	C201	QCS31HJ-561Z	560PF 50V CER.CAPACI	
	C202	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C203	QCS31HJ-331Z	330PF 50V CER.CAPACI	
	C204	QETC1CM-106Z	10MF 16V AL E.CAPAC	
	C205	QETB1HM-225	2.2MF 50V AL E.CAPAC	
	C206	QCC21EM-104	0.1MF 25V CER.CAPACI	
	C207	QCS21HJ-470	47PF 50V CER.CAPACI	
	C208	QCS21HJ-820	82PF 50V CER.CAPACI	
	C230	QCF21HP-103A	0.01MF 50V CER.CAPACI	
	C240	QCBB1HK-101Y	100PF 50V CER.CAPACI	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R117	QRD161J-100	10 1/6W CARBON RES	
	R118	QRD167J-332	3.3K 1/6W CARBON RES	
	R119	QRD161J-221	220 1/6W CARBON RES	
	R121	QRD161J-391	390 1/6W CARBON RES	
	R122	QRD167J-272	2.7K 1/6W CARBON RES	
	R123	QRD161J-102	1K 1/6W CARBON RES	
	R124	QRD161J-681	680 1/6W CARBON RES	
	R125	QRD167J-332	3.3K 1/6W CARBON RES	
	R126	QRD161J-221	220 1/6W CARBON RES	
	R131	QRD161J-331	330 1/6W CARBON RES	
	R132	QRD161J-103	10K 1/6W CARBON RES	
	R133	QRD161J-473	47K 1/6W CARBON RES	
	R134	QRD161J-103	10K 1/6W CARBON RES	
	R135	QRD161J-470	47 1/6W CARBON RES	
	R136	QRD161J-103	10K 1/6W CARBON RES	
	R141	QRD161J-472	4.7K 1/6W CARBON RES	
	R142	QRD161J-331	330 1/6W CARBON RES	
	R143	QRD161J-103	10K 1/6W CARBON RES	
	R144	QRD161J-473	47K 1/6W CARBON RES	
	R145	QRD161J-103	10K 1/6W CARBON RES	
	R146	QRD167J-560	56 1/6W CARBON RES	
	R147	QRD161J-103	10K 1/6W CARBON RES	
	R148	QRD161J-103	10K 1/6W CARBON RES	
	R149	QRD161J-273	27K 1/6W CARBON RES	
	R150	QRD161J-103	10K 1/6W CARBON RES	
	R151	QRD161J-224	220K 1/6W CARBON RES	
	R152	QRD161J-103	10K 1/6W CARBON RES	
	R153	QRD161J-103	10K 1/6W CARBON RES	
	R154	QRD161J-103	10K 1/6W CARBON RES	
	R155	QRD167J-562	5.6K 1/6W CARBON RES	
	R157	QRD161J-103	10K 1/6W CARBON RES	
	R158	QRD161J-333	33K 1/6W CARBON RES	
	R159	QRD161J-561	560 1/6W CARBON RES	
	R160	QRD161J-273	27K 1/6W CARBON RES	
	R161	QRD161J-184	180K 1/6W CARBON RES	
	R162	QRD161J-184	180K 1/6W CARBON RES	
	R163	QRD167J-332	3.3K 1/6W CARBON RES	
	R164	QRD167J-332	3.3K 1/6W CARBON RES	
	R165	QRD161J-274	270K 1/6W CARBON RES	
	R166	QRD161J-274	270K 1/6W CARBON RES	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R168	QRD161J-103	10K 1/6W CARBON RES	
	R169	QRD161J-103	10K 1/6W CARBON RES	
	R170	QRD167J-822	8.2K 1/6W CARBON RES	
	R171	QRD167J-682	6.8K 1/6W CARBON RES	
	R172	QRD167J-682	6.8K 1/6W CARBON RES	
	R179	QRD167J-562	5.6K 1/6W CARBON RES	
	R180	QRD161J-472	4.7K 1/6W CARBON RES	
	R181	QRD161J-222	2.2K 1/6W CARBON RES	
	R182	QRD161J-181	180 1/6W CARBON RES	
	R187	QRD161J-101	100 1/6W CARBON RES	
	R190	QRD161J-472	4.7K 1/6W CARBON RES	
	R194	QRD161J-472	4.7K 1/6W CARBON RES	
	R195	QRD161J-473	47K 1/6W CARBON RES	
	R196	QRD161J-222	2.2K 1/6W CARBON RES	
	R197	QRD161J-222	2.2K 1/6W CARBON RES	
	R198	QRD167J-822	8.2K 1/6W CARBON RES	
	R199	QRD161J-472	4.7K 1/6W CARBON RES	
⚠	R201	QRZ0077-680	68 1/4W FUSIBLE RE	
⚠	R202	QRZ0077-470	47 1/4W FUSIBLE RE	
	R203	QRD161J-222	2.2K 1/6W CARBON RES	
	VR167	QVPE601-104	100K 0.15W TRIMMER RE	

⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		FMMW1008-002A	PRINTED BOA	
	J102	QMS3501-021	PIN JACK	
	L101	EQL4007-1R0	INDUCTOR	
	L106	EQL3001-102K	INDUCTOR	
	L201	EQL4007-101	INDUCTOR	
	P101	VMC0261-016	CONNECT TER 16PIN	
	T101	EQR1111-014	RF COIL	
	T102	FMQZ0001-001	RF COIL	
	T103	EQR1207-015	RF COIL	
	T104	EQR1307-009	RF COIL	
	T105	EQT2140-017	I.F.TRANSFO	
	T107	ECB1560-010	CERAMIC FIL	
	AT101	EMB41YV-301K	ANTENNA TER	
	CF101	ECB2118-007R	CERAMIC FIL	
	CF102	ECB2118-007R	CERAMIC FIL	
	EP101	E65396-003	EARTH PLATE	
	EP102	E65396-003	EARTH PLATE	
	EP110	E70225-001	EARTH PLATE	
	FE101	EAF2203-005	FRONT END	
	JT001	EMV7122-103	CONNECT TER 3PIN	
	JT002	EMV7122-103	CONNECT TER 3PIN	
	LP101	EQF0101-002	LOWPASS FIL	
	LP102	EQF0102-001	LOWPASS FIL	
	TC105	ENZ1003-006	TRIMMER CAP	
	TC106	ENZ1003-006	TRIMMER CAP	
	XT102	ECX0007-200KWJ1	CRYSTAL	
	XT103	ECX0000-456KR	CERAMIC RES	
	XT201	EFO-EC4004T4	CERAMIC RES	
	XT202	VCX5057-001	CRYSTAL	

Accessories List

Symbol No. M 2 M M

⚠	Item	Part Number	Part Name	Q'ty	Description	Area
	1	E30580-2189ABS	INSTRUCTION BOOK	1		BS
		E30580-2189A	INSTRUCTION BOOK	1		EF
		E30580-2190A	INSTRUCTION BOOK	1		EN
		E30580-2189A	INSTRUCTION BOOK	1		G
		E30580-2189A	INSTRUCTION BOOK	1		GI
	2	RM-SR316RU	WIRE-LESS REMOTE CONTROL	1		
	3	E03614-004	FM FEEDER ANTENNA	1		BS
		E03614-004	FM FEEDER ANTENNA	1		EF
		E03614-004	FM FEEDER ANTENNA	1		EN
		E67007-001	ANTENNA WIRE	1		G
		E03614-004	FM FEEDER ANTENNA	1		GI
	4	EQB4001-015	LOOP ANTENNA	1		
	5	UM-3(DJ)-2PSA	BATTERY	1		
	6	EMZ2001-014	ADAPTOR PLUG	1		BS
		EMZ2001-014	ADAPTOR PLUG	1		EF
		EMZ2001-014	ADAPTOR PLUG	1		EN
		EMZ2001-014	ADAPTOR PLUG	1		GI
	7	E300196-033B	POLY BAG	1		
	-	E43486-340A	SAFETY SHEET	1		BS
	-	BT20060	WARRANTY CARD	1		BS
	-	BT-20066A	WARRANTY CARD	1		BS
⚠	-	EMC0202-001BS	AC PLUG	1		BS
	-	E43486-371A	INSTRUCTION SHEET	1		BS
	-	BT-20134	WARRANTY CARD	1		G

The Marks for Designated Areas

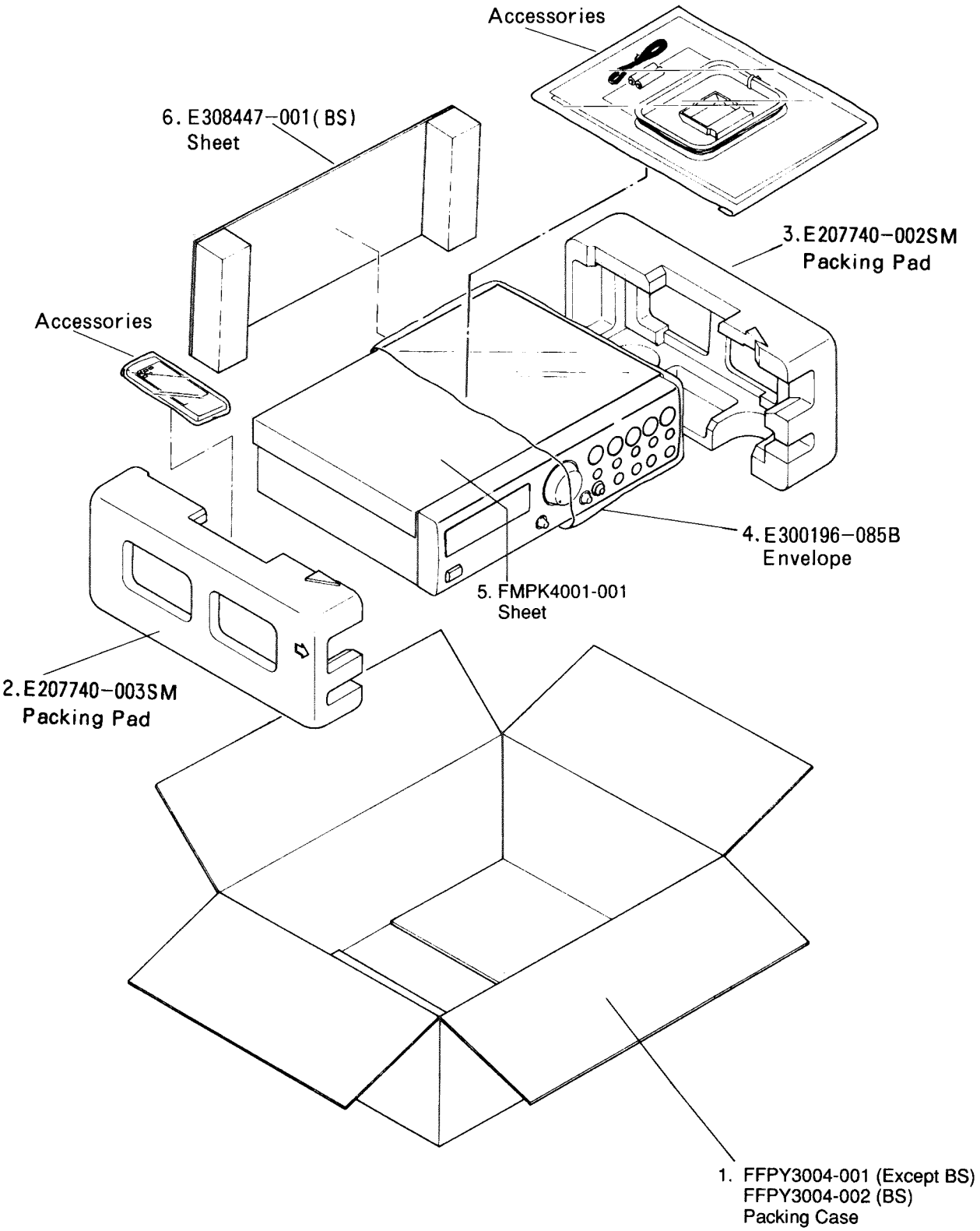
BS .. the U.K. EF ... Continental Europe ... EN .... Scandinavia

G ... Germany GI ... Itary

No mark indicates all area.

Packing Materials and Part Numbers

Symbol No. M 3 M M



The Marks for Designated Areas		
BS .... the U.K.	EF .... Continental Europe	EN .... Scandinavia
G ..... Germany	GI .... Italy	
No mark indicates all area.		

–MEMO–

RX-316RBK

JVC

VICTOR COMPANY OF JAPAN, LIMITED
AUDIO PRODUCTS DIVISION 1644, SHIMOTSURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN

(No. 20504)

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