

Service
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RC3200/A
RC3200/U1S
RC3200/M1S

Service Manual

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SPECIFICATIONS

Display	Monochrome touch screen LCD with 4 gray levels and digital contrast control. Resolution: 160 x 100 pixels Blue EL backlighting for LCD and hard buttons	
Interface	3-wire (RS232) serial port connector	
Software	Built-in Marantz RC codes Total number of devices limited only by memory	
Infrared (IR)	Infrared sending LED and learning eye Operating distance of 33 feet (10 meters) Learning frequency up to 56 kHz and 455 kHz Learning distance 1 inch (2 cm) up to 4 inch (10 cm) 2-way communication with specific marantz equipment	
Memory	1 MB non-volatile flash memory	
Batteries	3 AA-batteries (3 x 1,5V): primary or rechargeable	
Power management	Power on by tapping the LCD touch screen or by pressing the Backlight button Power off automatically	
Dimensions	7.8 inch x 3 inch x 1.3 inch (177mm x 74mm x 33mm)	
Operating temperature	41°F to 113°F (5°C to 45°C)	
Accessories	only for RC3200/U1S/M1S	only RS3200/A
	RS232 cable for PC connection	None
	IFU RC3200	
	3 AA-batteries	

SERVICE HINTS

-RC3200 information

Press and hold the **Mode** button for 3 seconds -Tap **SETUP** - go to page3/3 with page up or page down button.

This page contains following information:

Free memory :

Boot version :

System version :

Application version :

Configuration file :

-Cleaning RC3200

Use a soft, damp cloth to clean the RC3200

If the LCD touch screen is dirty, clean it with a soft cloth moistened with a diluted window-cleaning solution.

After a repair please make the LCD touch screen always clean !

-Update the RC3200

Please check after each repair the RC300 application version.

Check the version on the website. Is the version higher on the website, please download the new version from the Firmware.

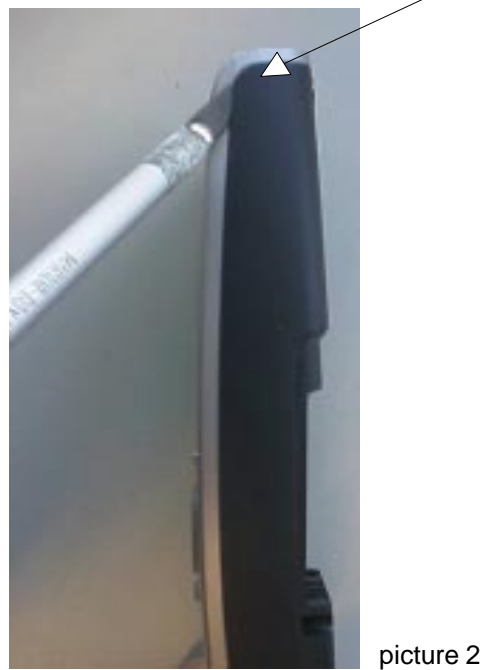
You can find this on the Marantz website <http://www.marantz.com>

DISMANTLING HINTS

1. Remove battery lid
2. Remove label a little. see picture 1
3. Remove 3 x screw as shown in picture 1



4. Put a sharp knife between top part and bottom part and use this as lever to separate the two parts. see picture 2



CIRCUIT DESCRIPTION

1 Power supply

Components: 7201

The power supply makes use of the LT1761 low drop linear regulator of Linear Technologies. The output voltage is 3.3V.

2 Reset & delayed reset.

Components: -reset: 7202

-delayed reset: around 7203, 7204

The S-809 (Panasonic) detects the hardware reset level of the batteries. Below this level (2.8V) reset is passed to the "delayed reset" circuit.

The "delayed reset circuit" is activated by the S-809 or the reset switch 1203. It will delay the reset signal by approx. 80ms and has a hysteresis of 200mV

3 Battery level measurement

Components: around 7206, 7207

The battery voltage is measured via a 1:2 divider by the master microcontroller. This divider is switched on/off by the master by means of 7206 and 7207.

4 EL-foil driver

Components: around 7205

The EL-sheet is driven by the D371 (Durel). This component generates a high-voltage semi sinewave by switching a coil of 2.2mH. It contains 2 oscillators: a high-frequency oscillator switching into the inductor at approx. 17kHz. A low-frequency oscillator drives the EL-sheet at approx. 500Hz. The EL-sheet is driven with approx. 75V_{peak}.

Zener diodes 6208 and 6209 limit the sinewave voltage when no sheet is attached (during repair of the unit).

5 +/- 17V generator

Components: around 7210

The + and - 17V are generated by the MC64063A, a DC-to-DC converter who is used in a step-up configuration.

The switching frequency ranges up to 150kHz (depending on the load) with ringing on the edges of approx. 3MHz.

The generator is switched on/off via 7208 and 7209 from the master microcontroller.

6 Master microcontroller & memories

Components: 7101, 7115, 7103, 7102

The master is the main microcontroller in the system (M30800, Mitsubishi). It uses external flash program memory (AM29LV800BT, AMD) and SRAM (CY62256V, Cypress). Address selection is performed with 74LV139.

The master runs from two crystals: 7.3728MHz, only running when active. The other crystal of 32.768kHz is always running, even in sleep mode.

7 Buzzer

Components: around 1103

The sound function is made by a piezo-electric buzzer. The steering frequency range is 200Hz ~ 8kHz.

8 RS232 transmitter

Components: around 7105, 7106

This circuit converts the RS232 outgoing signal from the master between 0 and 3.3V to -15 and +15V levels.

RS232 communication is set at 115kBaude both directions.

9 RS232 receiver & detection.

Components: around 7107, 7108, 7109

Transistor 7107 converts the incoming RS232 signals between +/-15V into 0-3V levels towards the master.

Transistors 7108 and 7109 perform a RS232 incoming signal detection and interrupt the master during sleep mode when communication starts from a connected PC.

10 Touchscreen.

Components: around 7111, 7112, 7113, 7114

A resistive touchscreen is used, composed of two layers of resistive material. Pressing the screen causes a short-circuit between the two layers.

The touchscreen is operated in two steps:

1. detection of a touch
2. reading of the actual position of the touch

Detection is done by connecting one layer to ground and the second layer to 3.3V with a pull-up resistor. The voltage on the second layer will change from 3.3V to 0V when touching.

Readout is performed in 2 phases, each determining one coordinate.

First, layer 1 is connected between 3V3 and ground. The potentiometric position of the touch location can be read by measuring the voltage on the layer 2.

The other coordinate is read by interchanging the layers in previous procedure.

CIRCUIT DESCRIPTION

11 LCD

Components: 1101

The LCD module (Wintek) is a STN type 100x160 pixel including the driver HD66421 of Hitachi. The touchscreen is glued on top the the LCD module.

The LCD module uses a 8 bit bus directly interfacing to the databus of the master.

It uses two voltages: 3.3V for the logic and 17V for the LCD glass drive.

The LCD driver uses a clock of approx. 190kHz to generate all timing.

12 Keyboard

Components: 0102, etc...

The keyboard is a matrix of 6 x 3 keys. It is static when no key is pressed, and scanned when a key is applied.

13 Slave microcontroller

Components: 7301

The slave microcontroller M37540M4 (Mitsubishi) takes most of the real-time functions: IR-sending, IR learning and steering the database microcontroller.

Sending IR is performed via pins 28 and 29, combining envelope and carrier with AND-gate 7302.

Transistors 7303 and 7304 combine the IR-sending signals from slave uC and database uC towards the IR-transmitter circuit.

The slave uC also switches on/off the power of the learning circuit via 7305.

Bidirectional communication to the master uC goes via a UART at 57kBaud.

Communication to the database uC goes via a 3-line dedicated bus.

14 Infrared transmitter

Components: around 7307, 7308

The IR-transmitter transmits any IR-code coming from slave or database uC.

It steers two IR-transmission diodes with a peak current of approx. 300mA in each of them.

The IR-diodes transmit invisible infrared light at 940 nm in an angle of 2 x 25 degr.

An electrolytic capacitor of 100uF smoothen-out the carrier frequency in order to have only the average current flowing from the batteries (envelope of the IR-code).

There are many many brands with each several IR-codes. Basically, all codes consist of a low bitrate burst (around 1kbit or slower) modulated on a carrier of 30 - 60kHz, and repeated at a rate of 5 - 20Hz.

15 Learning circuit

Components: around 7309, 7310

This circuit is used for learning IR-codes. It uses signals captured by the IR-transmission LEDs 6301 and 6302. Transistor 7309 amplifies the signal. Opamp LM393-B puts a minimum threshold and amplifies further. The output of LM393-B contains the carrier frequency and is fed to the slave IC for carrier frequency measurement. The output is also fed onto a detector. This has a time constant suitable to detect to the envelope signal of the IR-code. Opamp LM393-A cleans up and its output is fed also into the slave uC for envelope recording.

16 IR - Receiver

Infrared receptor 6306 and surrounding components

17 Not implemented functions (in circuit diagram)

Some of the parts in the circuit diagram are actually not stuffed on the board.

RS transmitter module 1301

Overview of frequencies

EL-foil driver D371A: 17kHz, 500Hz (75Vpeak)

+/-17V generator: 150kHz, 3MHz ringing

crystals master uC: 7.3728MHz, 32.768kHz

resonator slave uC: 3.64MHz

resonator database uC: 4MHz

RS232 speed: 115kBaud

baudrate between master & slave uP: 57.6kBaud

LCD internal clock: 190kHz

IR-transmission: carrier frequencies: approx. 30 - 60kHz

List of EMC-critical components

Critical components for EMC are:

- The EL-foil generator (high voltage)
- All crystals
- The data & address busses of the master uC to the Flash, SRAM and LCD module
- The IR-transmitter (high current)

TROUBLESHOOTING

General Problems

The display stays blank or becomes black

- Make sure the batteries are properly installed.
- Press the Backlight button to make sure RC3200 and the backlight are turned on. See 'Turning on the Display and the Backlight'
- Adjust the contrast using the Backlight button and the Page Up or Page Down buttons on the left side of RC3200. See 'Changing the LCD Contrast'

The display is too light or too dark

- Adjust the contrast using the Backlight button and the Page Up or Page Down buttons on the left side of RC3200. See 'Changing the LCD Contrast'

RC3200 shuts off automatically

- This is a timeout feature of the RC3200 to save power. You can change the time RC3200 stays on in the Settings. See 'Adjust the LCD Timeout'

Devices do not respond to commands from RC3200

- Make sure RC3200 is in Use mode. See 'Working with Modes'
- Make sure RC3200's sending LED is pointed towards the device you're operating.
- Check if the battery level is low. If so, replace the batteries.
- Check that you have correctly learned the IR commands. See 'Tricks for Remote Controls that are "Difficult"'
- If the button is programmed with a macro, and all other buttons are working correctly, reprogram the macro. See 'Recording Macros'

RC3200 does not learn commands from an existing remote control

- Do not learn commands directly under fluorescent lights.
- Do not learn commands on a reflecting table surface.
- Check if the battery level is low. If so, replace the batteries.

RC3200 is not recognized by the RC3200 Setup Programming Software software

- Make sure the serial cable is properly connected. See 'RC3200 Setup Programming Software'
- Disconnect other equipment connected to the serial ports, e.g. PDA's.
- Plug the serial cable in another serial port.
- Try to connect multiple times.

Programming Problems

Buttons are not sending the correct commands

- Check whether the button of the device is learned properly. See 'Learning From Other Remotes'
- Check whether the macro is recorded properly. See 'Recording Macros'

RC3200 will not switch modes

- Replace the batteries. When the batteries are low RC3200 prevents you from switching to customizing modes so that no customization can get lost.

RC3200 is low on memory

- Revert the RC3200. See 'Revert'

The configuration file is corrupted

- When this unlikely event occurs, you have to revert to the original configuration or use RC3200 Setup Programming Software to download a new configuration file. All your customized commands and devices will be lost and you will have to reprogram your RC3200. If you use RC3200 Setup Programming Software, it is advised to make backup copies of your customized configurations. See 'Revert' and 'RC3200 Setup Programming Software'

RC3200 error message

If the error message 'Invalid CF version or corrupt Flash!' occurs:

- Use the Reset button on the back of the RC3200. See 'How do I reset the RC3200?'
- Try to recover the RC3200 Configuration File (NCF) by downloading a backup copy or the default file from RC3200 Setup Programming Software. See 'RC3200 Setup Programming Software'
- Go to the Marantz website <http://www.marantz.com> for more information.

- Turning on the Display and the Backlight

RC3200's display can be activated in three different ways:

Tap the touch screen gently with your finger or a blunt, soft object like a pencil eraser.

The display is activated. Press any button on the RC3200.

The display is activated. Press the Backlight button on the left side of the RC3200.

The display and the backlight are activated.

If the LCD touch screen stays blank or becomes black when turning on the display, read the next section 'Changing the LCD Contrast' to adjust the contrast of the LCD touch screen.

Note: RC3200 has a timeout feature: the LCD touch screen and the backlight

automatically turn off to save power. See 'Adjusting the Settings' to adjust the timeout for the LCD and the backlight.

TROUBLESHOOTING

- Changing the LCD Contrast

To adjust the LCD contrast on the touch screen:

1 Press and hold the **Backlight** button.

The screen lights up.

2 While still holding the Backlight button, press the **Page Up** button once to increase the LCD contrast one level.

The LCD contrast is adjusted one level up.

–or–

Press the **Page Down** button once to decrease the LCD contrast one level.

The LCD contrast is adjusted one level down.

3 Release the **Backlight** button when the contrast is satisfactory.

The LCD contrast can be adjusted 16 levels.

Note: To adjust the contrast multiple levels, you have press the Page Up or Page Down button multiple times. When you press and hold the Page Up or Page Down button, the LCD contrast will only change one level.

- Operating Devices

To operate devices on your RC3200 you have to switch to the Device overview. This screen displays the available devices like TV, VCR, DVD, PreAmp and so on.

- Adjusting the Settings

The RC3200 settings can be adjusted in the Setup mode.

Press and hold the **Mode** button for 3 seconds.

- Adjust the LCD Timeout

The LCD timeout indicates how long the LCD touch screen stays active before it turns off. The LCD will only time out when you don't touch any buttons. You can set the timeout between 1 second and 120 seconds.

Press '+' to increase or '-' to decrease the time the LCD stays active.

Tap '+' or '-' once to adjust the timeout 1 second up or down.

Press and hold '+' or '-' to adjust the timeout per 10 seconds up or down.

- Working with Modes

RC3200 starts up in Use mode. In this mode you operate your devices. For customizing the RC3200 (adjusting the settings, defining brands, learning buttons, labeling buttons and devices or recording macros) you have to switch to the appropriate mode via the menu that appears when you press and hold the mode button.

The RC3200 can be put into 4 different modes. These modes are:

Use mode: Normal operating. See 'Operating Devices'

Setup mode: For changing the RC3200 system settings. See 'Adjusting the Settings' for more details.

Learn mode: For learning commands from other remote controls. See 'Learning Commands' for more details.

Macro mode: For recording macros. You can assign multiple commands to one single button. See 'Recording Macros' for more details.

Note :Learning commands and recording macros is not possible from either of the Home pages. You must select a device or the Macro group first, then press and hold the Mode button perform.

- Learning From Other Remotes

If you own any non-Marantz components, you can program RC3200 to reproduce IR signals from your existing remote controls via RC3200's learning eye. To do this, place RC3200 and the device's remote control on a flat surface, 1 to 4 inches (2 to 10 cm) apart.

To learn commands from other remote controls, RC3200 has to be in Learn mode. Switching to Learn mode is only possible from a specific device, not from the Home Page. See 'Working with Modes'

Per device you can learn all soft and hard buttons on the RC3200, except for:

- the Backlight button;
- the Back and FWD buttons;
- the Page Up and Page Down buttons;
- the "S" (Status) button;
- the Home button.

The Learn Sequence

1 From the Home page, select the device, e.g. TV, with the buttons you want to teach new commands to.

2 Press and hold the **Mode** button for 3 seconds. The Mode screen appears.

3 Tap **Learn** on the Mode Menu. RC3200 is now in Learn Mode. 'Learn' and the label of the selected device appear at the top of the touch screen.

4 Use, if necessary, the Page Up or Page Down button to go to the next button you want to learn.

5 Press the soft or hard button you want to learn on the RC3200. The Learn label changes to Learning, which means RC3200 is ready to receive commands from an existing remote control. The RC3200 will wait for 3 seconds to receive an IR code from another remote control.

Note: When a hard button is pressed to learn, there is no on screen feedback to indicate which button is pressed.

TROUBLESHOOTING

6 Press and hold the button on the existing remote control you want to learn to the RC3200. When the RC3200 receives an IR code:

- You hear a confirmation beep;
- The label changes from Learning to OK. The Learn sequence has been successful. When the RC3200 does not receive an IR code in 3 seconds:
- You will hear an error beep;
- The label changes from Learning to Failed. The Learn sequence has failed.
- RC3200 will return to Learn mode. Return to step 5 of the Learn sequence to relearn the button.

Tip You do not have to wait for the OK or Failed to disappear. If you press another button (soft or hard button), the RC3200 Learn sequence immediately goes back to step 5.

7 Go to other pages of the selected device with the Page Up and Page Down buttons. Repeat steps 6 and 7 until you have copied all the commands of the existing remote control.

8 Press **Done** when you have finished learning commands to the buttons of your choice. RC3200 returns to Use Mode. You can try out the new IR codes or select another device to learn.

- Recording Macros

A macro allows you to send a sequence of commands using one single button. You can for instance, switch on your TV, turn to a movie channel and prepare your VCR for recording by rewinding the videotape. All this can be done by pressing a single button on your RC3200.

To record macros, RC3200 has to be in Macro mode.

1 Set the RC3200 in Use Mode. See 'Working with Modes'

2 Select the device, e.g. TV, with the buttons you want to program as a macro.

The device screen appears.

Note Basically, you can assign any button as a macro button. However, it is recommended to assign only the reserved macro buttons on the last page of every device. Use the Page Up and Page Down buttons to go to the last page of the device.

3 Press and hold the **Mode** button for 3 seconds. The Mode screen appears.

4 Tap **Macro** on the Mode screen. A message screen appears. RC3200 is now in Macro Mode.

5 Tap Next. The device screen with the Macro label appears. With the Page Up and Page Down buttons you can go to other screens of the selected device.

6 Tap the soft or hard button you want to select as a macro. A message screen appears.

7 Tap Start. The Device Overview appears with the 'Recording' label at the top of the screen. The buttons you tap on this screen will not be recorded. From the Device Overview you can go to the different devices or you can press the Extra hard button to go to the Extra screen with delays and beeps.

8 Tap the button of the device you want to go to. The device screen appears.

9 Tap the soft or hard buttons with the commands you want to record.

10 Press the Page Up and Page Down buttons to go to different screens of the same device. –or– Press the Device button to go to the Device Overview again.

11 To add delays and beeps to the macro, press the Extra hard button on the Device Overview. The Extra screen appears.

— 1 To add a delay, tap one of the Delay buttons. By tapping several Delay buttons, the duration of the delay will be increased.

— 2 To add a beep, tap the Beep button.

— 3 Press the Device button to go to the Device Overview again.

12 Press Stop to stop recording. A message screen appears.

13 Press OK to save the macro and return to the Mode screen. The existing command of the selected button is replaced by the macro. –or– Press Cancel to return to the Mode screen without saving the macro.

The button retains its previous command.

14 Set the RC3200 in Use mode to test the recorded macro.

- Tricks for Remote Controls that are "Difficult"

- Replace the batteries in your original remote control. Poor battery charge in the original remote will still operate original component from long range, but will corrupt carrier frequency learning
- Change distance. Try increasing distance up to 4 feet. Start in the normal 1" to 4" , then double the distance to 8" and so on.
- Use a short "Tap" instead of a press and hold. A press and hold is only really necessary when you are learning a button that in actual operation you would sometimes press and hold (e.g. volume up and down, fast forward scan). If your system is large and you are concerned about memory, try teaching most commands as taps rather than extended press and holds.
- The "Flicker" technique - rapidly tap the button while learning (7x per second or faster). This is very useful for difficult volume up and volume down commands from some manufacturers.
- The "Swoop" - Start from 2' away and swoop the remote towards the learning remote. Use in absolute desperation, out of sight from anyone who might see you. Reportedly works occasionally.
- The "Flasher" - Hold an opaque object in front of the remote and remove it then quickly replace it. This is especially useful when you want to capture one part of a macro from another remote.

TROUBLESHOOTING

- RC3200 Information

This page contains information that may be important to the dealer in case of a defect. The following information is displayed on this screen:

- Free memory (in percentage), which gives you an indication on how much memory is left to (further) customize the RC3200;
- Boot version;
- Application version;
- Configuration file.

- Revert

Warning When you revert the RC3200, all customization is lost permanently. You loose all RC3200 settings, defined brands, learned codes and recorded macros.

By tapping the Revert button the RC3200 will be reverted to the default configuration. Reverting to the original configuration restores the RC3200 to its initial state. You might have to revert when you notice that scrolling through pages is slowing down. This might be the case when you have added a lot of commands to the RC3200.

- 1 Tap the **Revert** button. A message screen appears to confirm or cancel the revert process.
- 2 Press OK or Cancel.

- RC3200 Setup Programming Software

If you want to personalize your RC3200 even more beyond its standard programming features, RC3200 Setup Programming Software is the tool for you to use.

You can find more information and updates of the software on <http://www.marantz.com>.

RC3200 Setup Programming Software is the visual editor for creating and configuring RC3200 Configuration Files (windows file extension NCF) on your computer. An NCF is a file that is used to define the RC3200 behaviour and look for the LCD touch screen.

Note It is advised to make backup copies of your own configurations. This can be done with RC3200 Setup Programming Software.

With RC3200 Setup Programming Software you can:

- define the types and brands of your devices;
- generate the Home Page;
- design the page layout and the appearance of buttons;
- configure the behavior of the hard buttons and soft buttons;
- save, duplicate and share NCFs, devices, buttons, bitmaps or codes with another RC3200;
- preview the NCF on the RC3200 emulator;
- download the new configurations to your RC3200 by means of the included serial cable;

1 Plug one end of the serial cable in the serial port on your computer. *see picture 1*

2 Plug the other end of the serial cable in the serial port on the RC3200.

Note When the RC3200 is connected to the PC, the battery lifetime may be reduced.

Minimum System Requirements

- PC with a Pentium 166 MHz or higher
- Windows 95/98/ME/XP or NT 4.0/2000
- 32 MB of RAM
- 16 MB of free hard disk space
- Free serial port

TROUBLESHOOTING

How do I reset the RC3200?

Under normal circumstances, you will never have to reset the RC3200.

However, on rare occasions, if the RC3200's touch screen freezes or if you notice unusual behavior, you need to perform a reset to get the RC3200 running again. All customized commands and devices are retained.

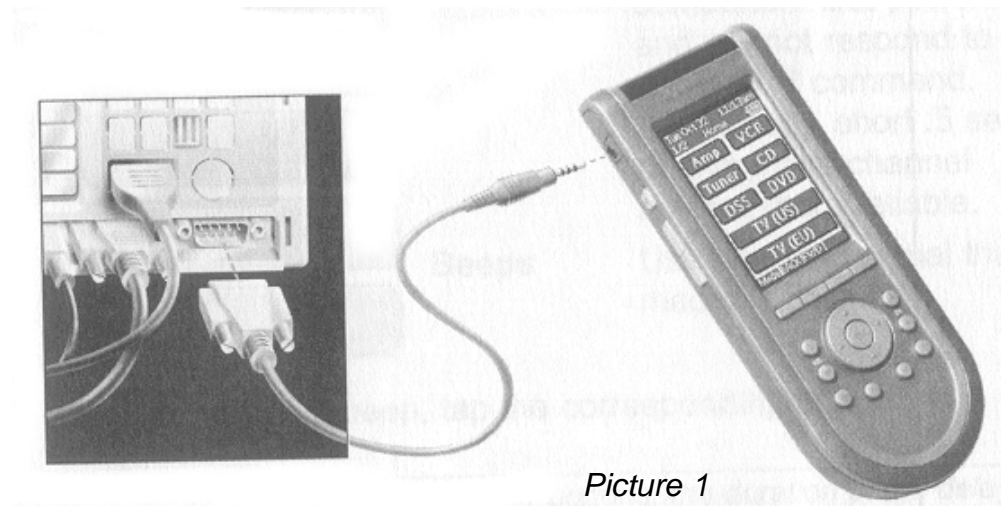
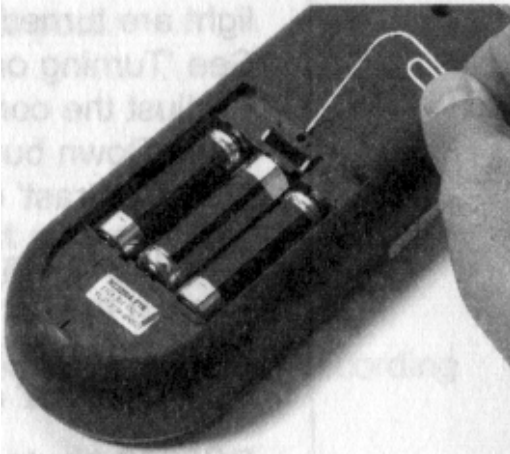
1 Slide the battery cover off the back of the RC3200. You will see the Reset button in the battery compartment.

2 Use an unfolded paperclip or a sharp pencil to carefully press the Reset button.

The RC3200 restarts and an Introduction screen appears.

The RC3200 beeps twice to indicate it is ready for use.

Reset button

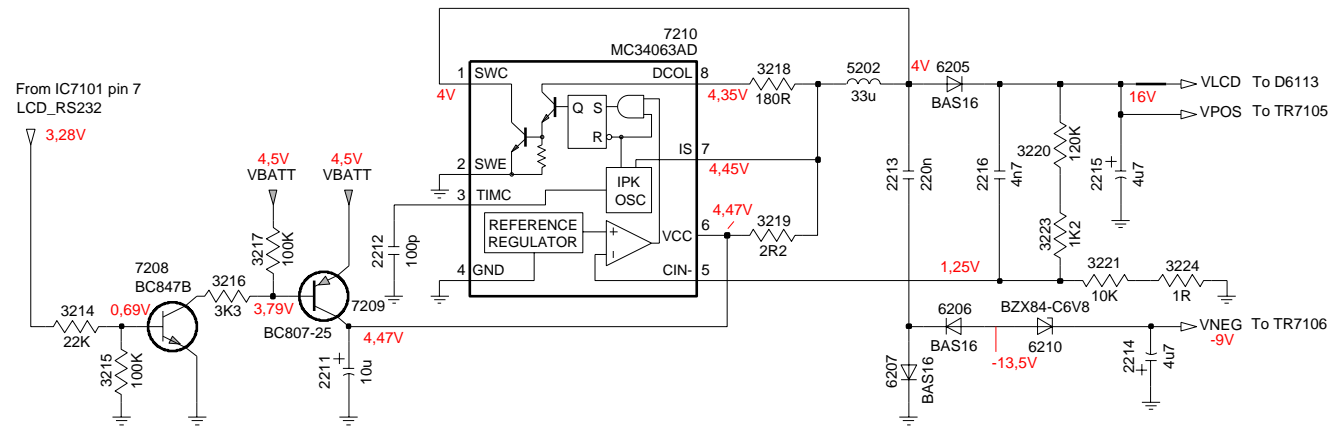
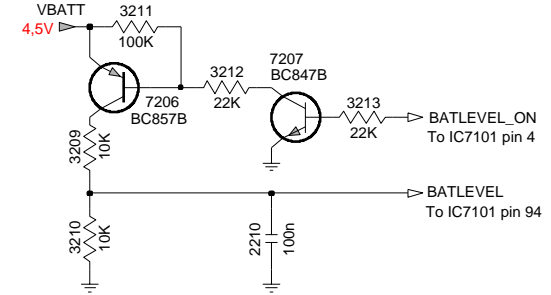
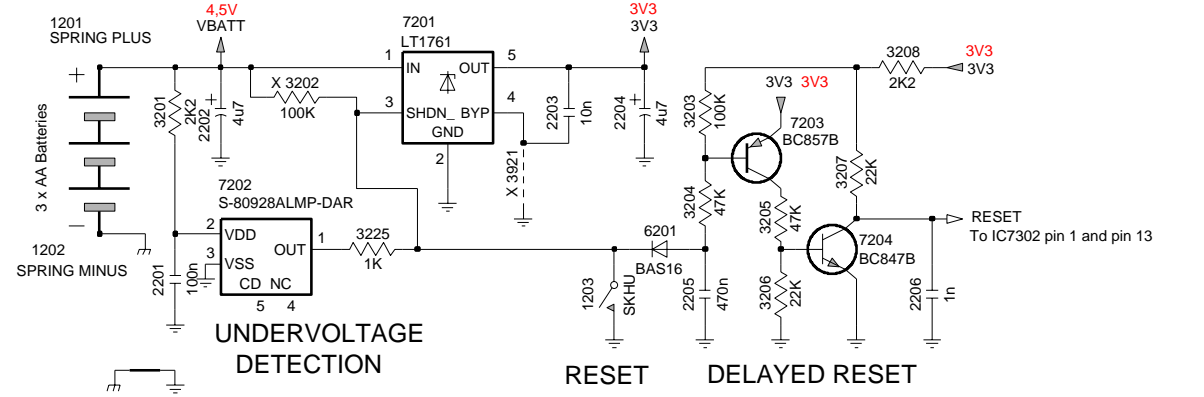


Picture 1

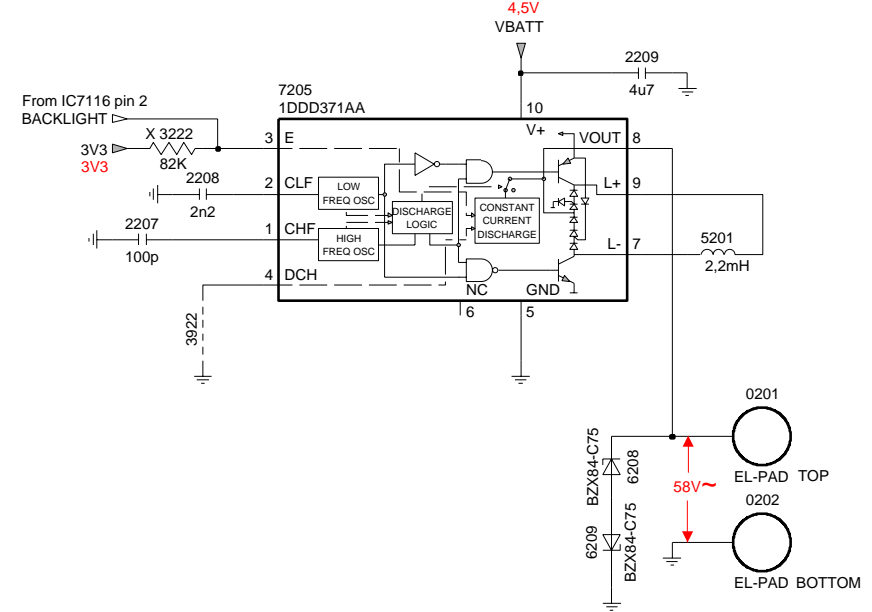
•For more information go to the Marantz website <http://www.marantz.com>

ELECTRICAL DIAGRAM - Power Supply

Power Supply

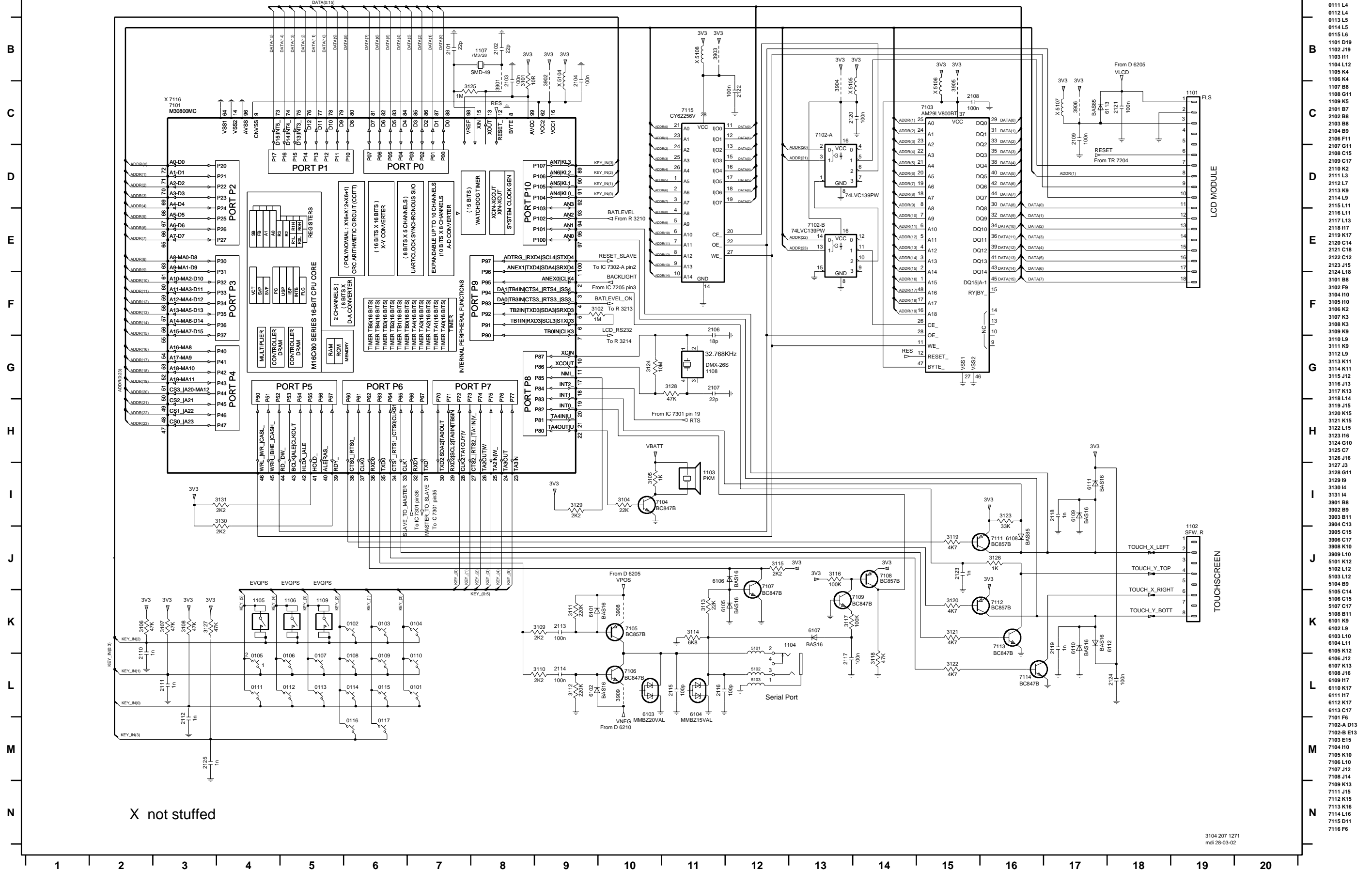


X not stuffed



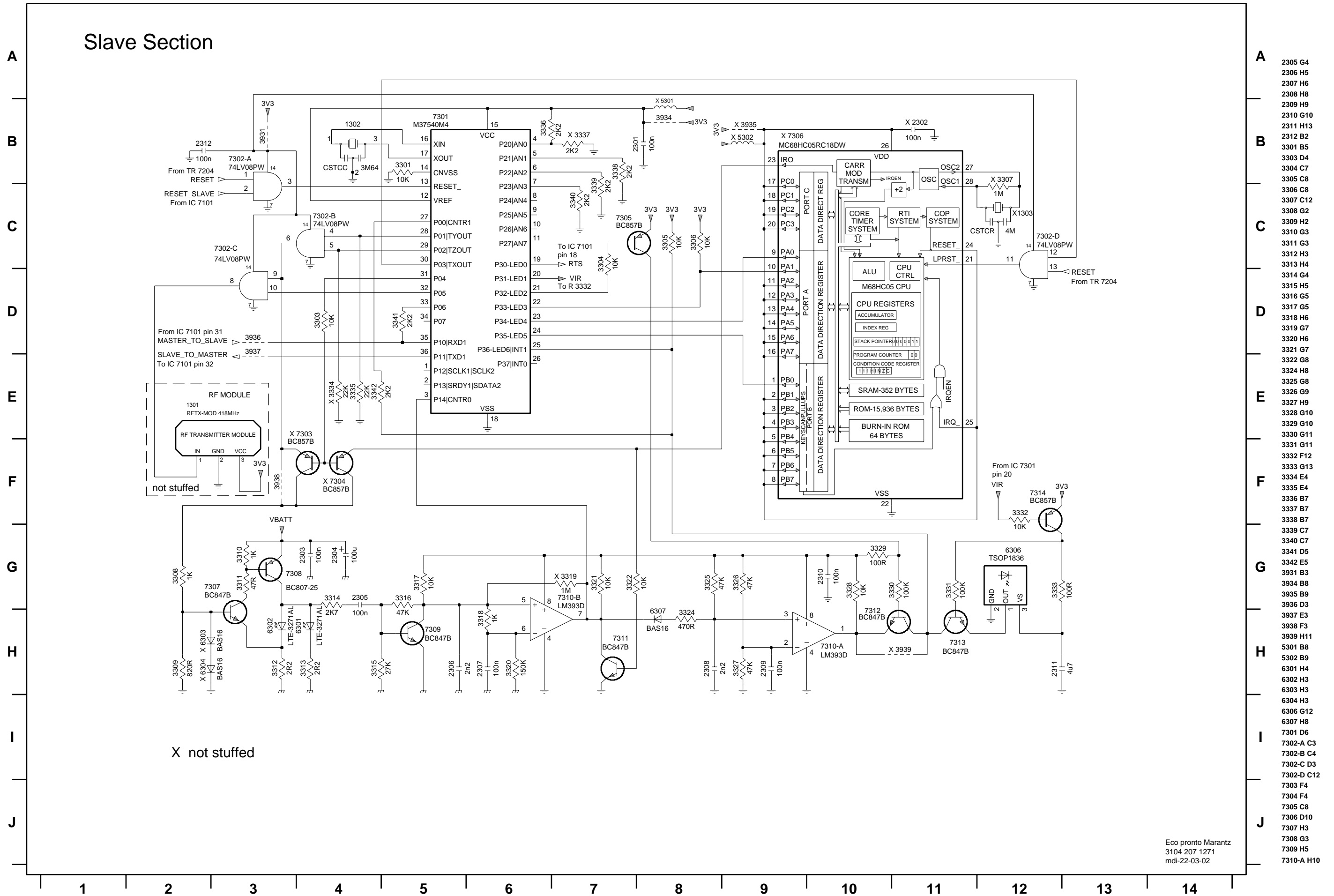
- 2203 B5
- 2204 B6
- 2205 C6
- 2206 C7
- 2207 E10
- 2208 E10
- 2209 D12
- 2210 C11
- 2211 H4
- 2212 G4
- 2213 G7
- 2214 H8
- 2215 G8
- 2216 G7
- 3201 B3
- 3202 B4
- 3203 B6
- 3204 C6
- 3205 C7
- 3206 C7
- 3207 C7
- 3208 B7
- 3209 C10
- 3210 C10
- 3211 B11
- 3212 B11
- 3213 B12
- 3214 G2
- 3215 H2
- 3216 G3
- 3217 G3
- 3218 F6
- 3219 G6
- 3220 F7
- 3221 G8
- 3222 E10
- 3223 G7
- 3224 G8
- 3225 C4
- 3921 C5
- 3922 F10
- 5201 E13
- 5202 F6
- 6201 C6
- 6205 F7
- 6206 G7
- 6207 H7
- 6208 G12
- 6209 G12
- 6210 G7
- 7201 B5
- 7202 C4
- 7203 C6
- 7204 C7
- 7205 E11
- 7206 B10
- 7207 B11
- 7208 G3
- 7209 G3
- 7210 G5

Main Section



X not stuffed

ELECTRICAL DIAGRAM - Slave Section



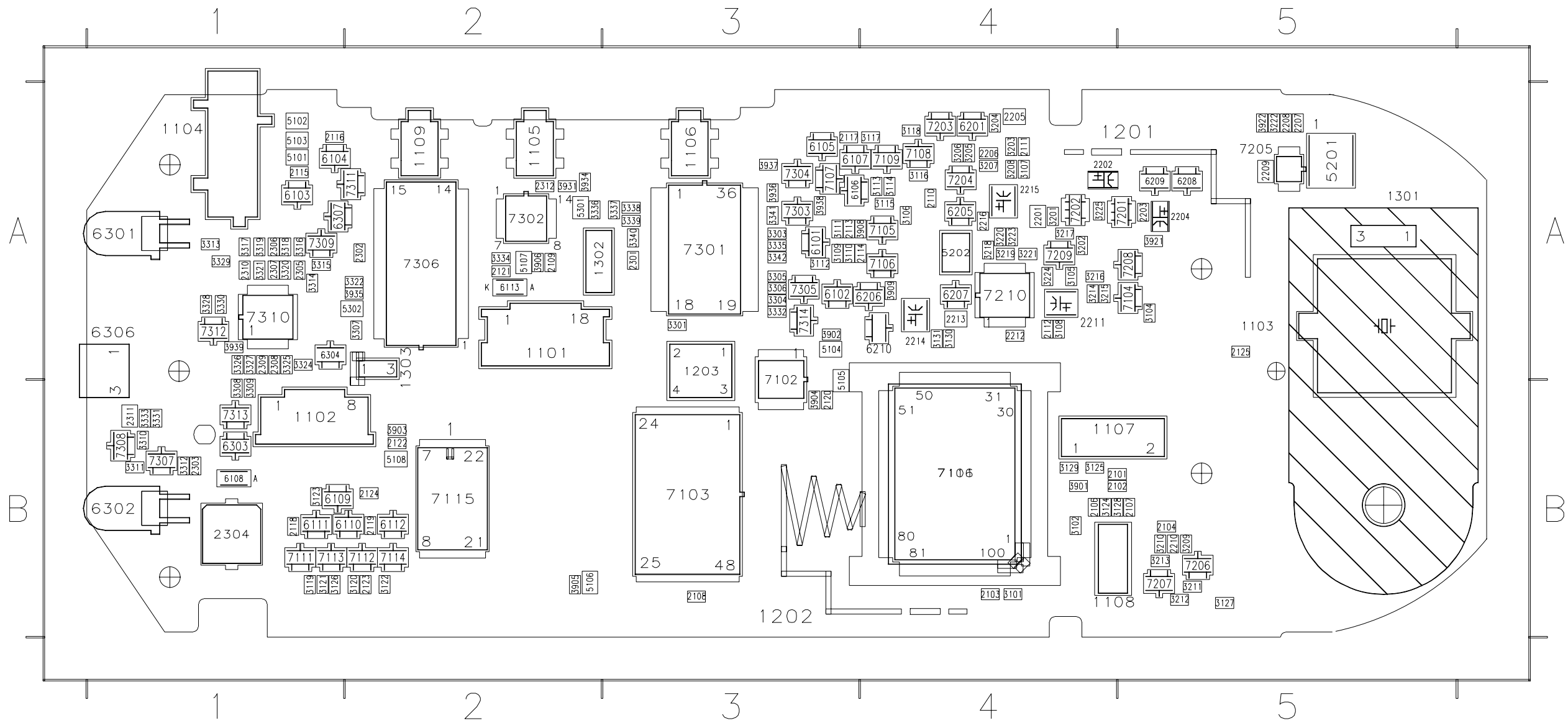
Slave Section

X not stuffed

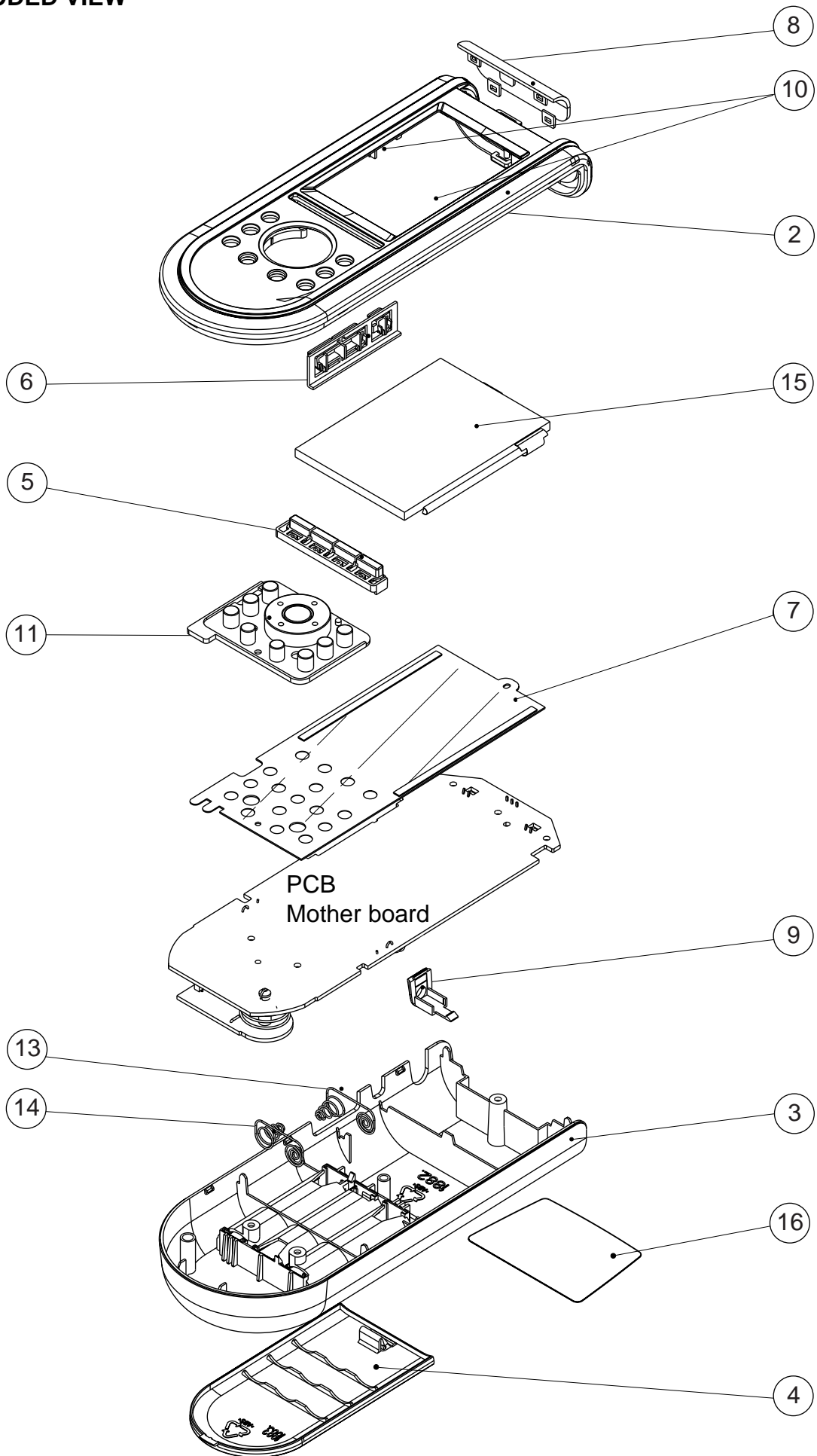
- 2305 G4
- 2306 H5
- 2307 H6
- 2308 H8
- 2309 H9
- 2310 G10
- 2311 H13
- 2312 B2
- 3301 B5
- 3303 D4
- 3304 C7
- 3305 C8
- 3306 C8
- 3307 C12
- 3308 G2
- 3309 H2
- 3310 G3
- 3311 G3
- 3312 H3
- 3313 H4
- 3314 G4
- 3315 H5
- 3316 G5
- 3317 G5
- 3318 H6
- 3319 G7
- 3320 H6
- 3321 G7
- 3322 G8
- 3324 H8
- 3325 G8
- 3326 G9
- 3327 H9
- 3328 G10
- 3329 G10
- 3330 G11
- 3331 G11
- 3332 F12
- 3333 G13
- 3334 E4
- 3335 E4
- 3336 B7
- 3337 B7
- 3338 B7
- 3339 C7
- 3340 C7
- 3341 D5
- 3342 E5
- 3931 B3
- 3934 B8
- 3935 B9
- 3936 D3
- 3937 E3
- 3938 F3
- 3939 H11
- 5301 B8
- 5302 B9
- 6301 H4
- 6302 H3
- 6303 H3
- 6304 H3
- 6306 G12
- 6307 H8
- 7301 D6
- 7302-A C3
- 7302-B C4
- 7302-C D3
- 7302-D C12
- 7303 F4
- 7304 F4
- 7305 C8
- 7306 D10
- 7307 H3
- 7308 G3
- 7309 H5
- 7310-A H10

ASSEMBLY DIAGRAM

U1	B4	1302	A2	2114	A4	2203	A5	2301	A3	3104	A5	3118	A4	3201	A4	3215	A4	3305	A3	3319	A1	3334	A2	3906	A2	5103	A1	6105	A3	6209	A5	7107	A3	7206	B5	7310	A1
1101	A2	1303	A2	2115	A1	2204	A5	2302	A2	3105	A4	3119	B1	3202	A4	3216	A4	3306	A3	3320	A1	3335	A3	3908	A4	5104	A3	6106	A3	6210	A4	7108	A4	7207	B5	7311	A2
1102	B1	2101	B5	2116	A1	2205	A4	2303	B1	3106	A4	3120	B2	3203	A4	3217	A4	3307	A2	3321	A1	3336	A2	3909	A4	5105	B3	6107	A3	6301	A1	7109	A4	7208	A5	7312	A1
1103	A5	2102	B5	2117	A3	2206	A4	2304	B1	3107	A4	3121	B1	3204	A4	3218	A4	3308	B1	3322	A2	3337	A3	3921	A5	5106	B2	6108	B1	6302	B1	7111	B1	7209	A4	7313	B1
1104	A1	2103	B4	2118	B1	2207	A5	2305	A1	3108	A4	3122	B2	3205	A4	3219	A4	3309	B1	3324	A1	3338	A3	3922	A5	5107	A2	6109	B1	6303	B1	7112	B2	7210	A4	7314	A3
1105	A2	2104	B5	2119	B2	2208	A5	2306	A1	3109	A3	3123	B1	3206	A4	3220	A4	3310	B1	3325	A1	3339	A3	3931	A2	5108	B2	6110	B2	6304	A1	7113	B1	7301	A3	cXXX	A4
1106	A3	2106	B4	2120	B3	2209	A5	2307	A1	3110	A3	3124	B4	3207	A4	3221	A4	3311	B1	3326	A1	3340	A3	3934	A2	5201	A5	6111	B1	6306	A1	7114	B2	7302	A2		
1107	B4	2107	B5	2121	A2	2210	B5	2308	A1	3111	A3	3125	B4	3208	A4	3222	A5	3312	B1	3327	A1	3341	A3	3935	A2	5202	A4	6112	B2	6307	A1	7115	B2	7303	A3		
1108	B4	2108	B3	2122	B2	2211	A4	2309	A1	3112	A3	3126	B1	3209	B5	3223	A4	3313	A1	3328	A1	3342	A3	3936	A3	5301	A2	6113	A2	7101	B4	7116	B4	7304	A3		
1109	A2	2109	A2	2123	B2	2212	A4	2310	A1	3113	A4	3127	B5	3210	B5	3224	A4	3314	A1	3329	A1	3901	B4	3937	A3	5302	A2	6201	A4	7102	A3	7201	A5	7305	A3		
1201	A4	2110	A4	2124	B2	2213	A4	2311	B1	3114	A4	3128	B5	3211	B5	3225	A4	3315	A1	3330	A1	3902	A3	3938	A3	6101	A3	6205	A4	7103	B3	7202	A4	7306	A2		
1202	B4	2111	A4	2125	A5	2214	A4	2312	A2	3115	A4	3129	B4	3212	B5	3301	A3	3316	A1	3331	B1	3903	B2	3939	A1	6102	A3	6206	A4	7104	A5	7203	A4	7307	B1		
1203	A3	2112	A4	2201	A4	2215	A4	3101	B4	3116	A4	3130	A4	3213	B5	3303	A3	3317	A1	3332	A3	3904	B3	5101	A1	6103	A1	6207	A4	7105	A4	7204	A4	7308	B1		
1301	A5	2113	A3	2202	A4	2216	A4	3102	B4	3117	A4	3131	A4	3214	A4	3304	A3	3318	A1	3333	B1	3905	B2	5102	A1	6104	A1	6208	A5	7106	A4	7205	A5	7309	A1		



EXPLODED VIEW



PARTSLIST - EXPLODED VIEW

2	3104 207 79200	TOPPART ASSY
3	3104 204 18820	BOTTOMPART ASSY
4	3104 204 18830	BATTERY LID
5	3104 207 79180	LCD BUTTON ASSY
6	3104 207 79190	SIDE BUTTON ASSY
7	3104 204 18740	EL-FOIL
8	3104 204 18780	IR-WINDOW
9	3104 204 18870	JACK COVER
11	3104 207 79170	KEYMAT ASSY
15	3104 200 51640	LCD DISPLAY
16	3104 200 04550	LABEL
	3104 207 14360	PCB - MOTHER BOARD RC3200/A (3104 207 12710)
	3104 207 14370	PCB - MOTHER BOARD RC3200/U1S/M1S (3104 207 13330)

Note: Only the parts mentioned in this list are normal service parts

For more information:

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