

# SCHEMATIC DIAGRAM

## MODEL : 29CZ5DE/29CZ5T/29CZ6SI

**WARNING:** BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY radiation precaution", "SAFETY PRECAUTION" and "PRODUCT SAFETY NOTICE" ON THE MANUAL FOR THIS MODEL.



**CAUTION:** The international hazard symbols " $\triangle$ " in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

**NOTE:**

- RESISTOR** Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.

|  |                                     |
|--|-------------------------------------|
| 1/2R = Metal or Metal oxide of 1/2 watt    | 1/2S = Carbon compstion of 1/2 watt |
| 1RF = Fuse resistor of 1 watt              | 10W = Cement of 10 watt             |
| K = $\pm 10\%$ G = $\pm 2\%$ F = $\pm 1\%$ |                                     |
- CAPACITOR** Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in  $\mu\text{F}$ , and the values more than 1 in pF.

All capacitors are ceramic 50V, unless otherwise noted as the following marks.

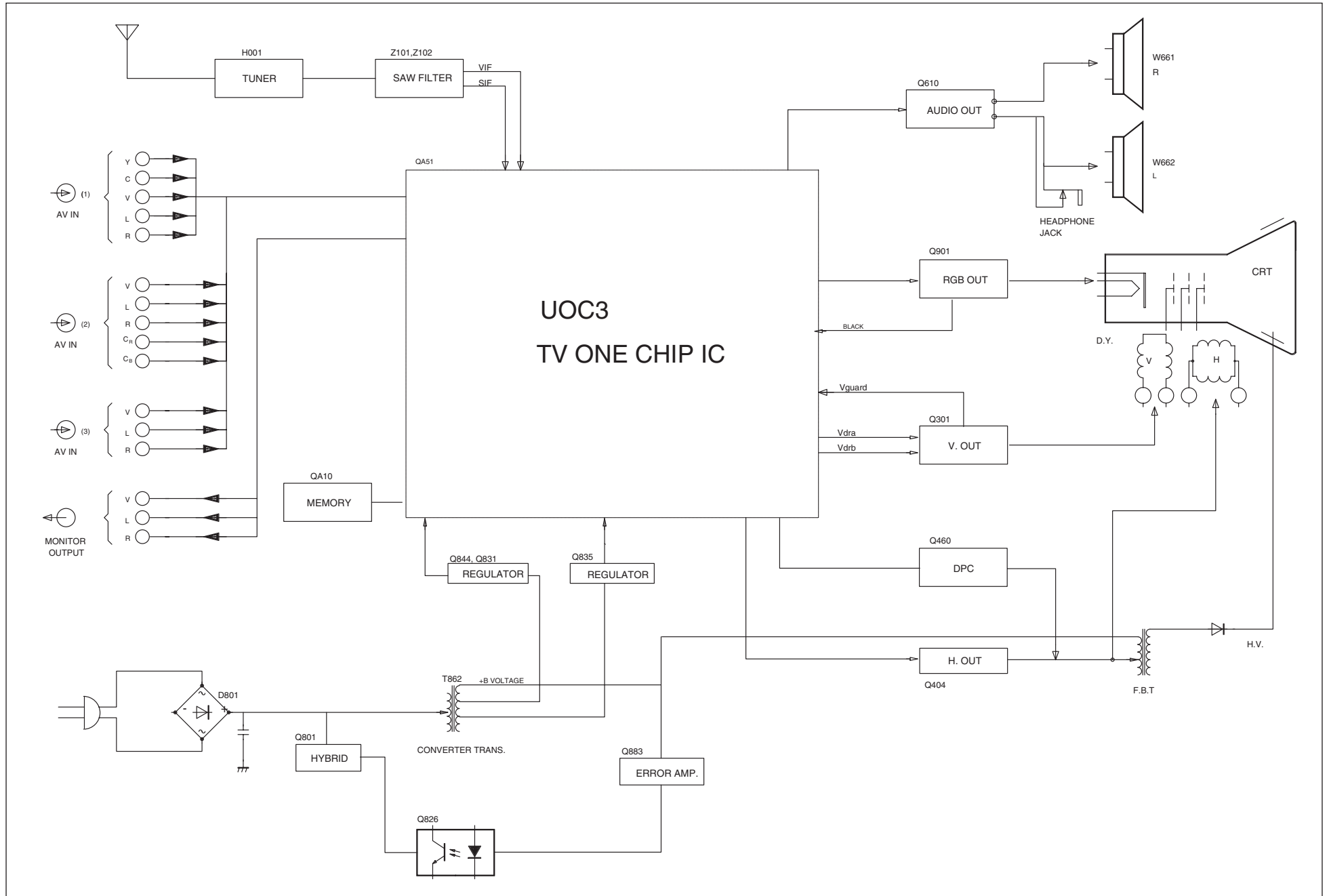
|  |   |
|--|---|
|  Electrolytic capacitor |  Mylar capacitor |
|--|---|
- The parts indicated with " $\triangle$ " have special characteristics, and should be replaced with identical parts only.
- Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage at 220 volts.
- Waveforms are taken receiving color bar signal with enough sensitivity.
- Voltage reading shown are nominal values and may vary  $\pm 20\%$  except H.V.

■ **SCHEMATIC DIAGRAM STRUCTURE:**

|                         |              |                   |     |
|-------------------------|--------------|-------------------|-----|
| MAIN Circuit            | SIGNAL/MICON | [SHEET-1/6] ..... | 1/8 |
|                         | VERT         | [SHEET-2/6] ..... | 2/8 |
|                         | HORIZONTAL   | [SHEET-3/6] ..... | 3/8 |
|                         | PROTECTER    | [SHEET-4/6] ..... | 4/8 |
|                         | LOW B REG    | [SHEET-5/6] ..... | 5/8 |
|                         | POWER        | [SHEET-6/6] ..... | 6/8 |
| CRT DRIVE Circuit ..... |              |                   | 7/8 |
| FRONT Circuit .....     |              |                   | 8/8 |

SPECIFIC INFORMATIONS

CIRCUIT BLOCK DIAGRAM



SCHEMATIC DIAGRAM MODEL : 29CZ5DE/29CZ5T/29CZ6SI (1/8)

| LOCATION | RUSSIA MODEL | OTHER MODEL | VERSION MODEL |
|----------|--------------|-------------|---------------|
| TOP      | 29CZ514      | 29CZ515     | 29CZ514       |
| LOA      | 29CZ516      | 29CZ517     | 29CZ516       |
| LOA      | 29CZ518      | 29CZ519     | 29CZ518       |
| LOA      | 29CZ520      | 29CZ521     | 29CZ520       |

| LOCATION | RUSSIA MODEL | OTHER MODEL |
|----------|--------------|-------------|
| TOP      | 29CZ522      | 29CZ523     |
| LOA      | 29CZ524      | 29CZ525     |
| LOA      | 29CZ526      | 29CZ527     |

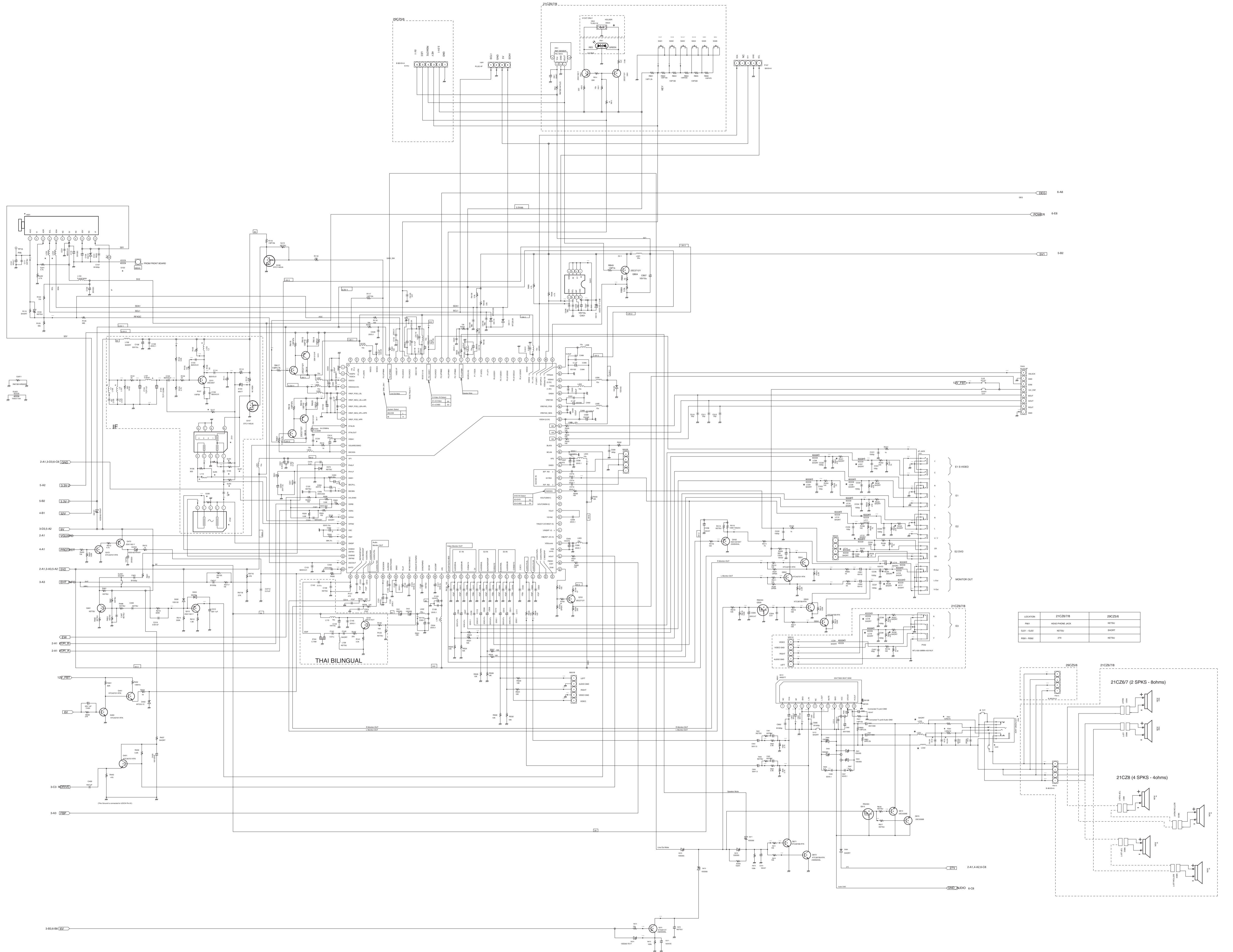
| LOCATION | RUSSIA MODEL | OTHER MODEL |
|----------|--------------|-------------|
| TOP      | 29CZ528      | 29CZ529     |
| LOA      | 29CZ530      | 29CZ531     |
| LOA      | 29CZ532      | 29CZ533     |

| MODEL   | TOP     | LOA     | LOA     | LOA     | LOA     | LOA     | LOA     | LOA     |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 29CZ514 | 29CZ515 | 29CZ516 | 29CZ517 | 29CZ518 | 29CZ519 | 29CZ520 | 29CZ521 | 29CZ522 |
| 29CZ522 | 29CZ523 | 29CZ524 | 29CZ525 | 29CZ526 | 29CZ527 | 29CZ528 | 29CZ529 | 29CZ530 |
| 29CZ530 | 29CZ531 | 29CZ532 | 29CZ533 | 29CZ534 | 29CZ535 | 29CZ536 | 29CZ537 | 29CZ538 |

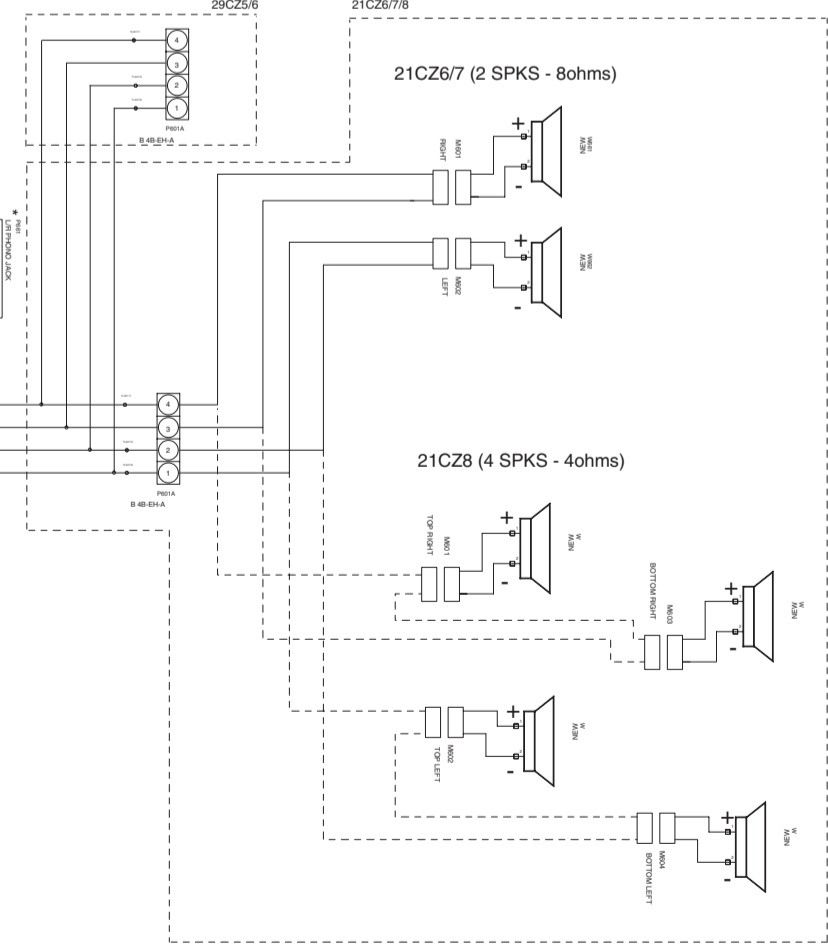
| MODEL   | TOP     |
|---------|---------|
| 29CZ514 | 29CZ515 |
| 29CZ516 | 29CZ517 |
| 29CZ518 | 29CZ519 |
| 29CZ520 | 29CZ521 |

| LOCATION | MODEL   | TOP     | LOA     |
|----------|---------|---------|---------|
| TOP      | 29CZ514 | 29CZ515 | 29CZ516 |
| LOA      | 29CZ517 | 29CZ518 | 29CZ519 |
| LOA      | 29CZ520 | 29CZ521 | 29CZ522 |
| LOA      | 29CZ523 | 29CZ524 | 29CZ525 |
| LOA      | 29CZ526 | 29CZ527 | 29CZ528 |
| LOA      | 29CZ529 | 29CZ530 | 29CZ531 |
| LOA      | 29CZ532 | 29CZ533 | 29CZ534 |
| LOA      | 29CZ535 | 29CZ536 | 29CZ537 |
| LOA      | 29CZ538 | 29CZ539 | 29CZ540 |
| LOA      | 29CZ541 | 29CZ542 | 29CZ543 |
| LOA      | 29CZ544 | 29CZ545 | 29CZ546 |
| LOA      | 29CZ547 | 29CZ548 | 29CZ549 |
| LOA      | 29CZ550 | 29CZ551 | 29CZ552 |
| LOA      | 29CZ553 | 29CZ554 | 29CZ555 |
| LOA      | 29CZ556 | 29CZ557 | 29CZ558 |
| LOA      | 29CZ559 | 29CZ560 | 29CZ561 |
| LOA      | 29CZ562 | 29CZ563 | 29CZ564 |
| LOA      | 29CZ565 | 29CZ566 | 29CZ567 |
| LOA      | 29CZ568 | 29CZ569 | 29CZ570 |
| LOA      | 29CZ571 | 29CZ572 | 29CZ573 |
| LOA      | 29CZ574 | 29CZ575 | 29CZ576 |
| LOA      | 29CZ577 | 29CZ578 | 29CZ579 |
| LOA      | 29CZ580 | 29CZ581 | 29CZ582 |
| LOA      | 29CZ583 | 29CZ584 | 29CZ585 |
| LOA      | 29CZ586 | 29CZ587 | 29CZ588 |
| LOA      | 29CZ589 | 29CZ590 | 29CZ591 |
| LOA      | 29CZ592 | 29CZ593 | 29CZ594 |
| LOA      | 29CZ595 | 29CZ596 | 29CZ597 |
| LOA      | 29CZ598 | 29CZ599 | 29CZ600 |

| LOCATION | MODEL   | TOP     | LOA     |
|----------|---------|---------|---------|
| TOP      | 29CZ514 | 29CZ515 | 29CZ516 |
| LOA      | 29CZ517 | 29CZ518 | 29CZ519 |
| LOA      | 29CZ520 | 29CZ521 | 29CZ522 |
| LOA      | 29CZ523 | 29CZ524 | 29CZ525 |
| LOA      | 29CZ526 | 29CZ527 | 29CZ528 |
| LOA      | 29CZ529 | 29CZ530 | 29CZ531 |
| LOA      | 29CZ532 | 29CZ533 | 29CZ534 |
| LOA      | 29CZ535 | 29CZ536 | 29CZ537 |
| LOA      | 29CZ538 | 29CZ539 | 29CZ540 |
| LOA      | 29CZ541 | 29CZ542 | 29CZ543 |
| LOA      | 29CZ544 | 29CZ545 | 29CZ546 |
| LOA      | 29CZ547 | 29CZ548 | 29CZ549 |
| LOA      | 29CZ550 | 29CZ551 | 29CZ552 |
| LOA      | 29CZ553 | 29CZ554 | 29CZ555 |
| LOA      | 29CZ556 | 29CZ557 | 29CZ558 |
| LOA      | 29CZ559 | 29CZ560 | 29CZ561 |
| LOA      | 29CZ562 | 29CZ563 | 29CZ564 |
| LOA      | 29CZ565 | 29CZ566 | 29CZ567 |
| LOA      | 29CZ568 | 29CZ569 | 29CZ570 |
| LOA      | 29CZ571 | 29CZ572 | 29CZ573 |
| LOA      | 29CZ574 | 29CZ575 | 29CZ576 |
| LOA      | 29CZ577 | 29CZ578 | 29CZ579 |
| LOA      | 29CZ580 | 29CZ581 | 29CZ582 |
| LOA      | 29CZ583 | 29CZ584 | 29CZ585 |
| LOA      | 29CZ586 | 29CZ587 | 29CZ588 |
| LOA      | 29CZ589 | 29CZ590 | 29CZ591 |
| LOA      | 29CZ592 | 29CZ593 | 29CZ594 |
| LOA      | 29CZ595 | 29CZ596 | 29CZ597 |
| LOA      | 29CZ598 | 29CZ599 | 29CZ600 |



| LOCATION | 21CZ578 | 29CZ54 |
|----------|---------|--------|
| TOP      | 29CZ54  | 29CZ54 |
| LOA      | 29CZ54  | 29CZ54 |
| LOA      | 29CZ54  | 29CZ54 |



A

B

C

D

E

F

| LOCATION     | RUSSIA MODEL                   |                        | OTHER MODEL                                     |   | VIETNAM MODEL |            |
|--------------|--------------------------------|------------------------|---|---|---------------|------------|
| H001         | 23321514                       | ENV59DA7G3             | (R1) 23321549<br>(R2) 23321545<br>(R3) 23321534 | 1158BA86ST<br>ENV59K11G3F<br>TAEM-G107D | 23321514      | ENV59DA7G3 |
| LC04<br>LC05 | (RA) 23103279<br>(RB) 23103248 | TEM2014AO<br>TEM2014AA | (R1) SHORT<br>(R2) 100R<br>(R3) 100R            |   | 100R          |            |
| G103         | (RA) 23103249<br>(RB) 23103894 | TEM2011AO<br>TEM2011AA | SHORT   |   | SHORT         |            |

[21CZ6-8 MODELS]

| LOCATION    | RUSSIA MODEL                   | OTHER MODEL            |
|-------------|--------------------------------|------------------------|
| RC01 - RC08 | 1k                             | SHORT                  |
| CC32 - CC33 | 10uF                           | KETSU                  |
| LC01 - LC03 | (RA) 23221141<br>(RB) 23221139 | TRF9240AC<br>TRF9240AH |

[29CZ5 MODELS]

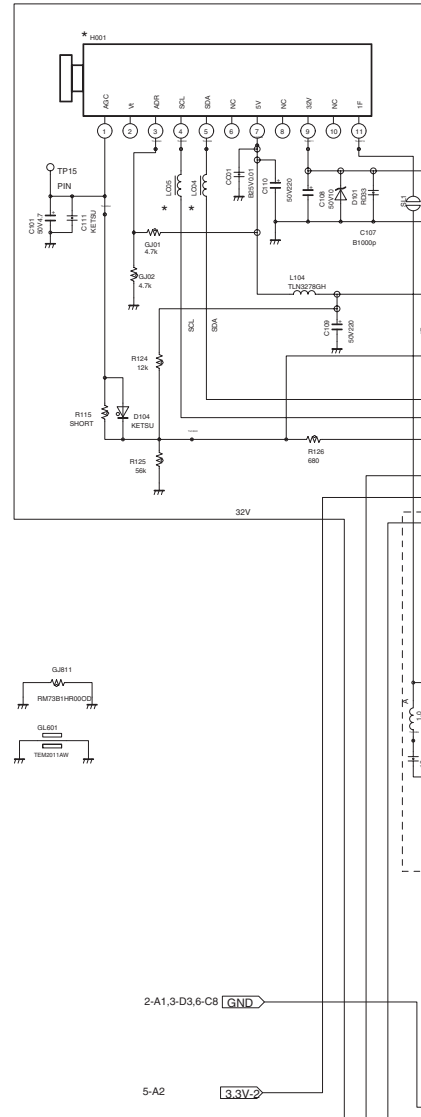
| LOCATION                                  | RUSSIA MODEL                   | OTHER MODEL            |
|---|--------------------------------|------------------------|
| RC01 - RC06 (MAIN)<br>RC17 - RC18 (FRONT) | 1k                             | SHORT                  |
| CC36 - CC37                               | 10uF                           | KETSU                  |
| LC04 - LC06                               | (RA) 23221141<br>(RB) 23221139 | TRF9240AC<br>TRF9240AH |

|                | Z101                                       | Z102                        | C104  | GJ03  | GJ04  | GJ05  | GJ06  | GJ07  |
|----------------|--|-----------------------------|-------|-------|-------|-------|-------|-------|
| NICAM          | (RA) BSF6284<br>(RB) K6284K                | (RA) BSF9351<br>(RB) K9351K | 10uF  | SHORT | KETSU | SHORT | KETSU | KETSU |
| AV STEREO      | (R1) TSF6380Y<br>(R2) K6269K<br>(R3) F816K | KETSU                       | KETSU | SHORT | KETSU | KETSU | KETSU | SHORT |
| MONO BILINGUAL | K2984M                                     | KETSU                       | KETSU | SHORT | KETSU | SHORT | KETSU | KETSU |

| MODEL        | CC20  |
|--------------|-------|
| "M", "R"     | 15p   |
| OTHER MODELS | KETSU |

| PRE AMP  | GJ17  |
|----------|-------|
| NOT USED | SHORT |
| USED     | KETSU |

| LOCATION    | MULTI  | THAI BILINGUAL |
|-------------|--|----------------|
| D103        | (RA) KDS114<br>(RB) MA77                       | KETSU          |
| R111        | 3K   | KETSU          |
| R112        | 10K  | KETSU          |
| R113        | 3.3K   | KETSU          |
| R110        | 10K  | KETSU          |
| R117        | 15K  | KETSU          |
| R118        | 100R   | KETSU          |
| Q107 - Q108 | (RA) SRC1202U<br>(RB) KRC402<br>(RC) DTC114EUA | KETSU          |

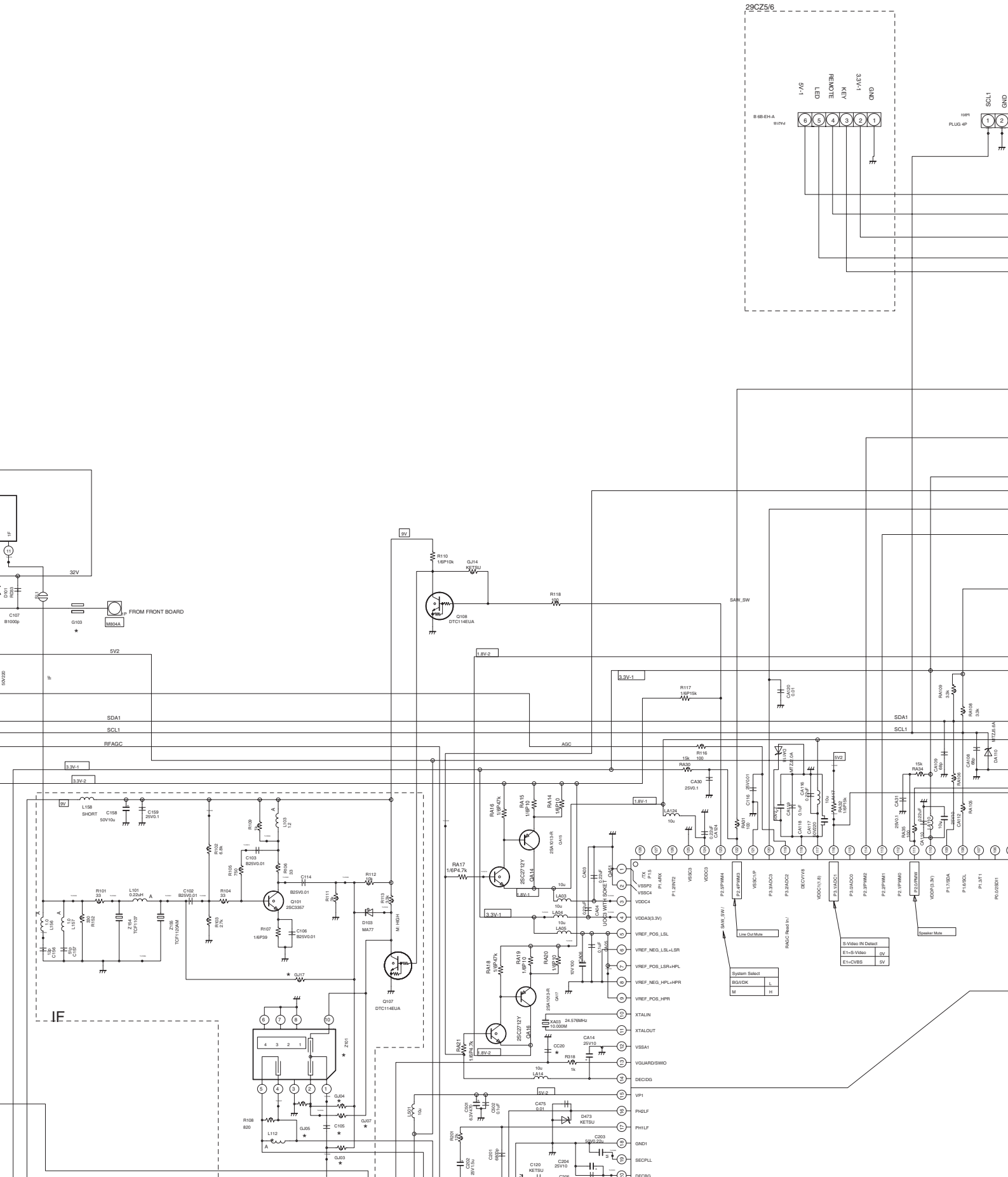


2-A1,3-D3,6-C8 [GND]

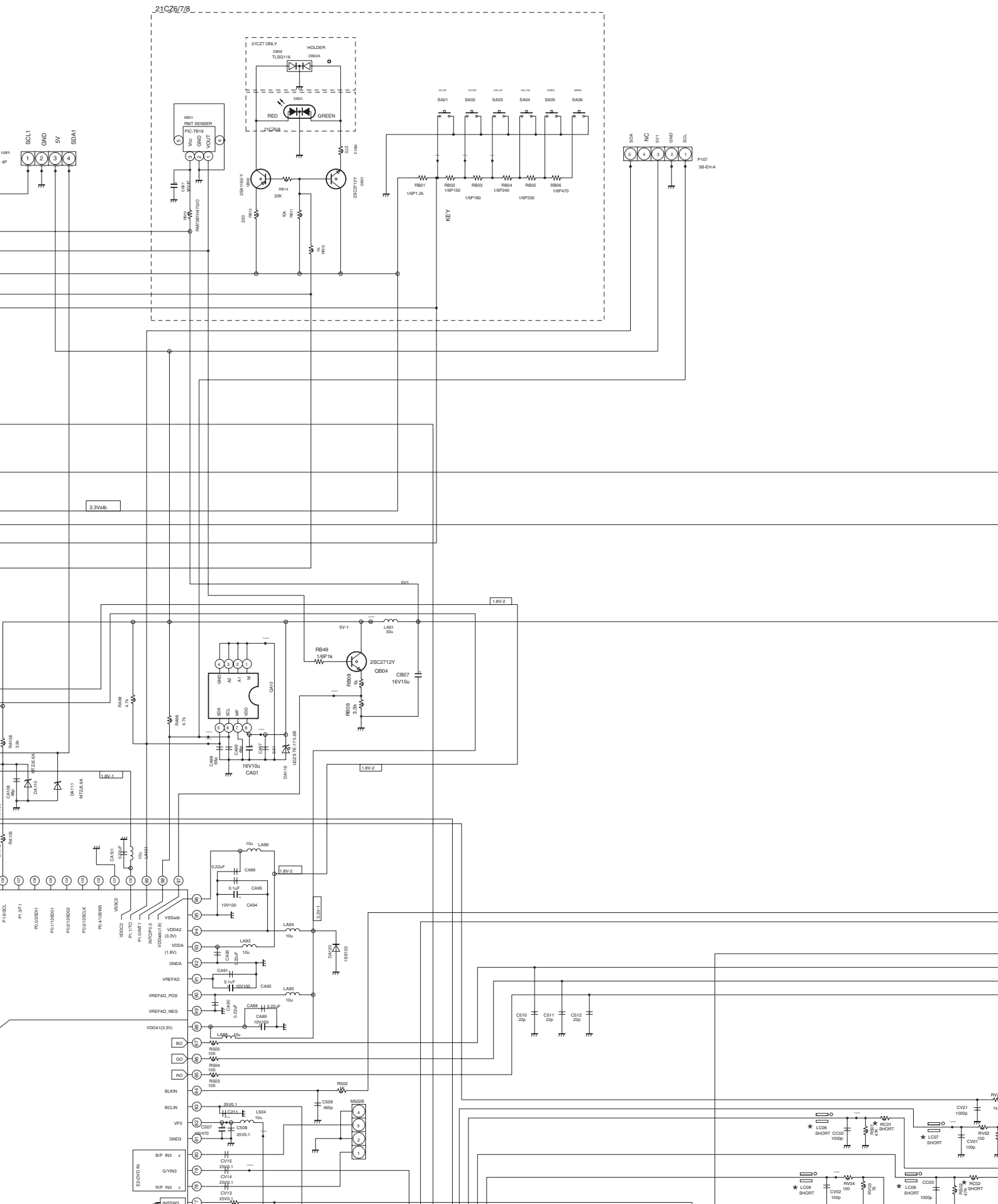
5-A2

3.3V

# SCHEMATIC DIAGRAM MODEL :



# EL : 29CZ5DE/29CZ5T/29CZ6SI (1/8)



A

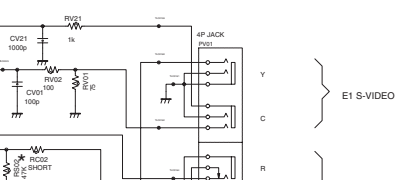
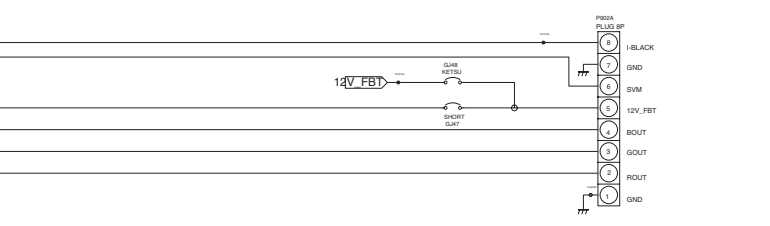
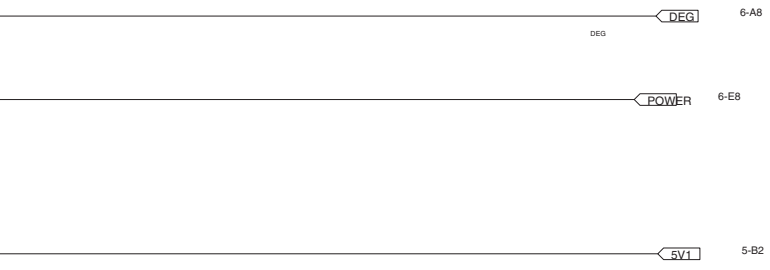
B

C

D

E

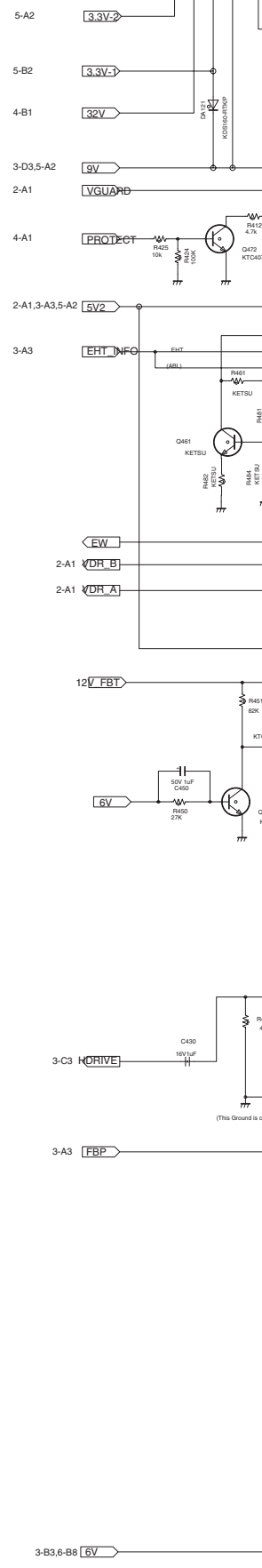
F



|             |      |           |               |
|-------------|------|-----------|---------------|
| R117        |      | 15K       | KETSU         |
| R118        |      | 100R      | KETSU         |
| Q107 - Q108 | (RA) | SPRC1202U | KETSU         |
|             | (RB) | KRC402    |               |
|             | (RC) | DTC114EUA |               |
| C140        |      | KETSU     | 47pF          |
| C141        |      | KETSU     | 10nF          |
| C142        |      | KETSU     | 10nF          |
| C144        |      | KETSU     | 10uF          |
| C145        |      | KETSU     | 100nF         |
| C130        |      | KETSU     | KETSU         |
| R140        |      | KETSU     | 100R          |
| R141        |      | KETSU     | 2.2k          |
| R142        |      | KETSU     | 1k            |
| R123        |      | KETSU     | 100R          |
| L109        |      | KETSU     | 12uH          |
| L110        |      | KETSU     | 10uH          |
| Q102        |      | KETSU     | (RA) KTC4075Y |
|             |      |           | (RB) 2SC4116Y |
|             |      |           | (RC) 2SC4081T |
| Z104        |      | KETSU     | EFC55R74YSST  |

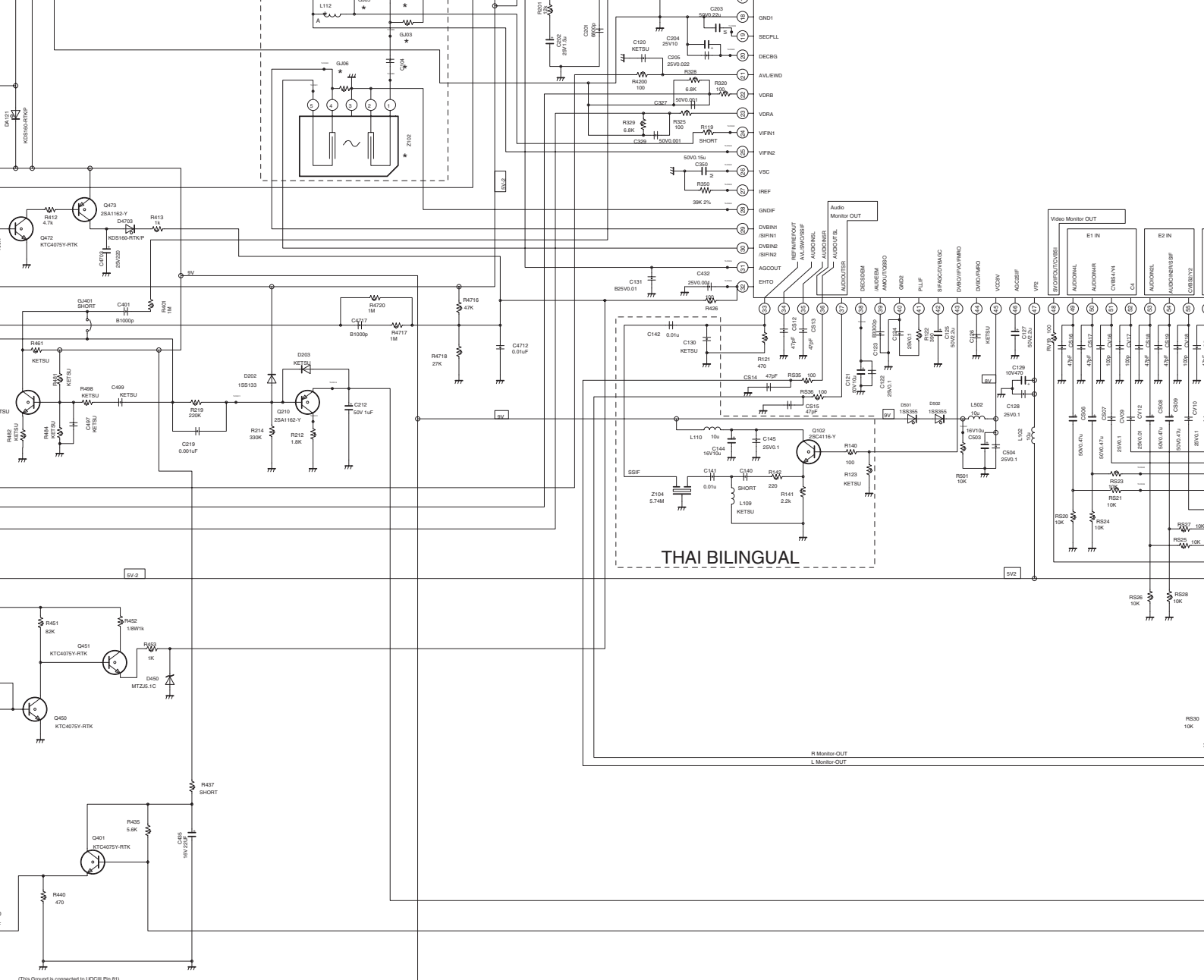
POWER (MAIN BOARD) [21CZ6-8 MODELS]

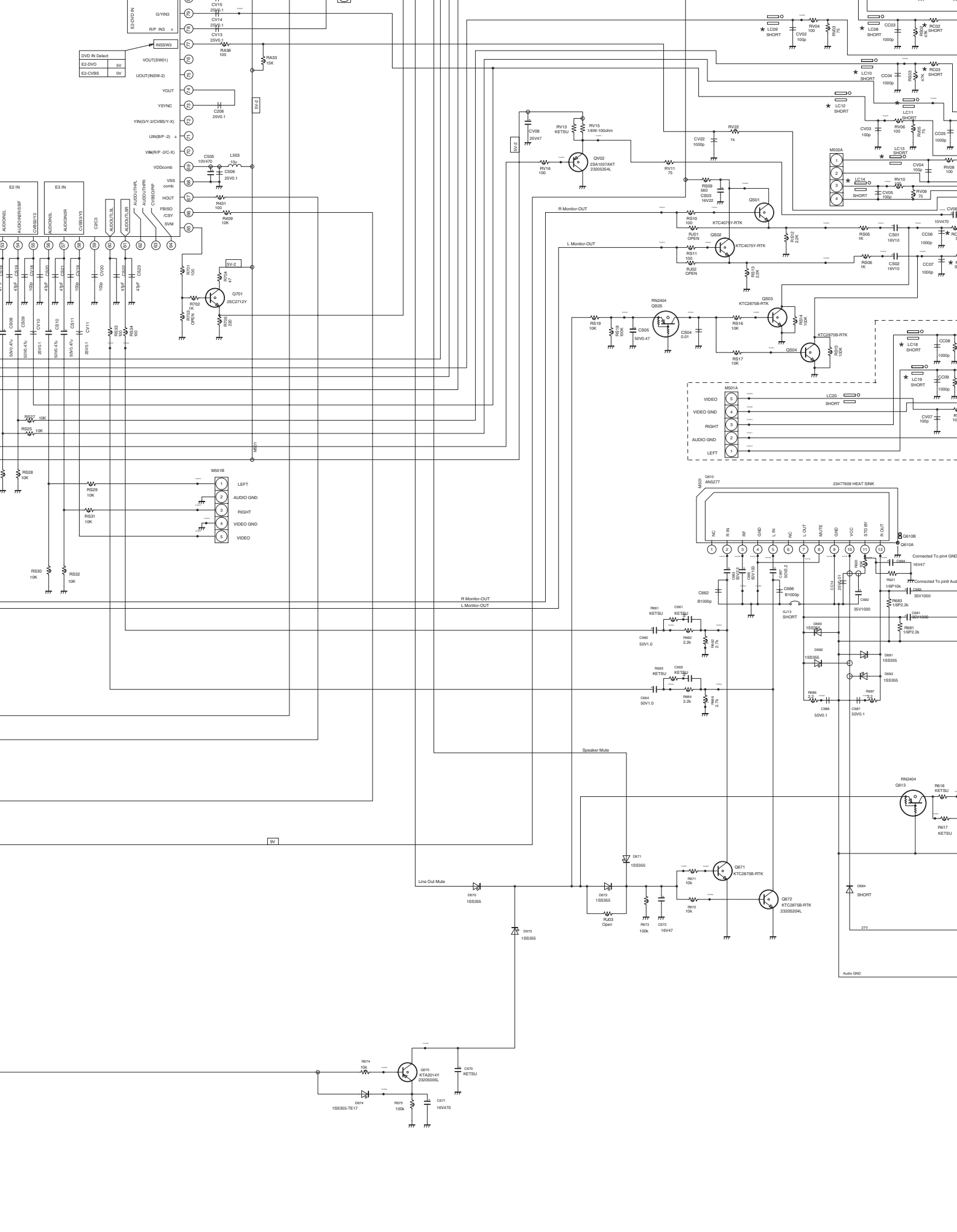
| LOCATION    |      | RUSSIA MODEL | OTHER MODEL |
|-------------|------|--------------|-------------|
| G104 - G105 | (RA) | 23248423     | TLN3481AC   |
|             | (RB) | 23248386     | TLN3481AA   |
|             | (RB) | 23248417     | TLN3481AH   |
| G106 - G109 | (RA) | 23103308     | TEM2011AO   |
|             | (RB) | 23103302     | TEM2011AH   |
| GJ32 - GJ43 |      | KETSU        | SHORT       |

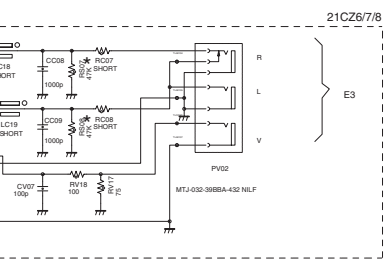
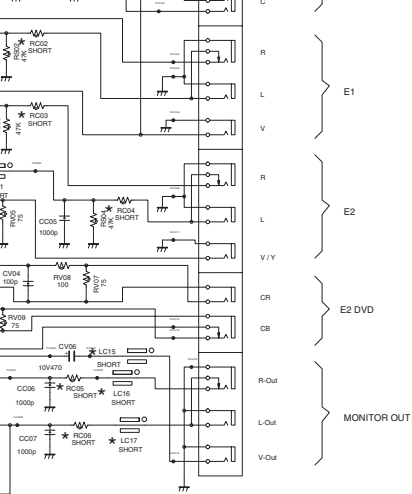


G  
H  
I  
J  
K  
L

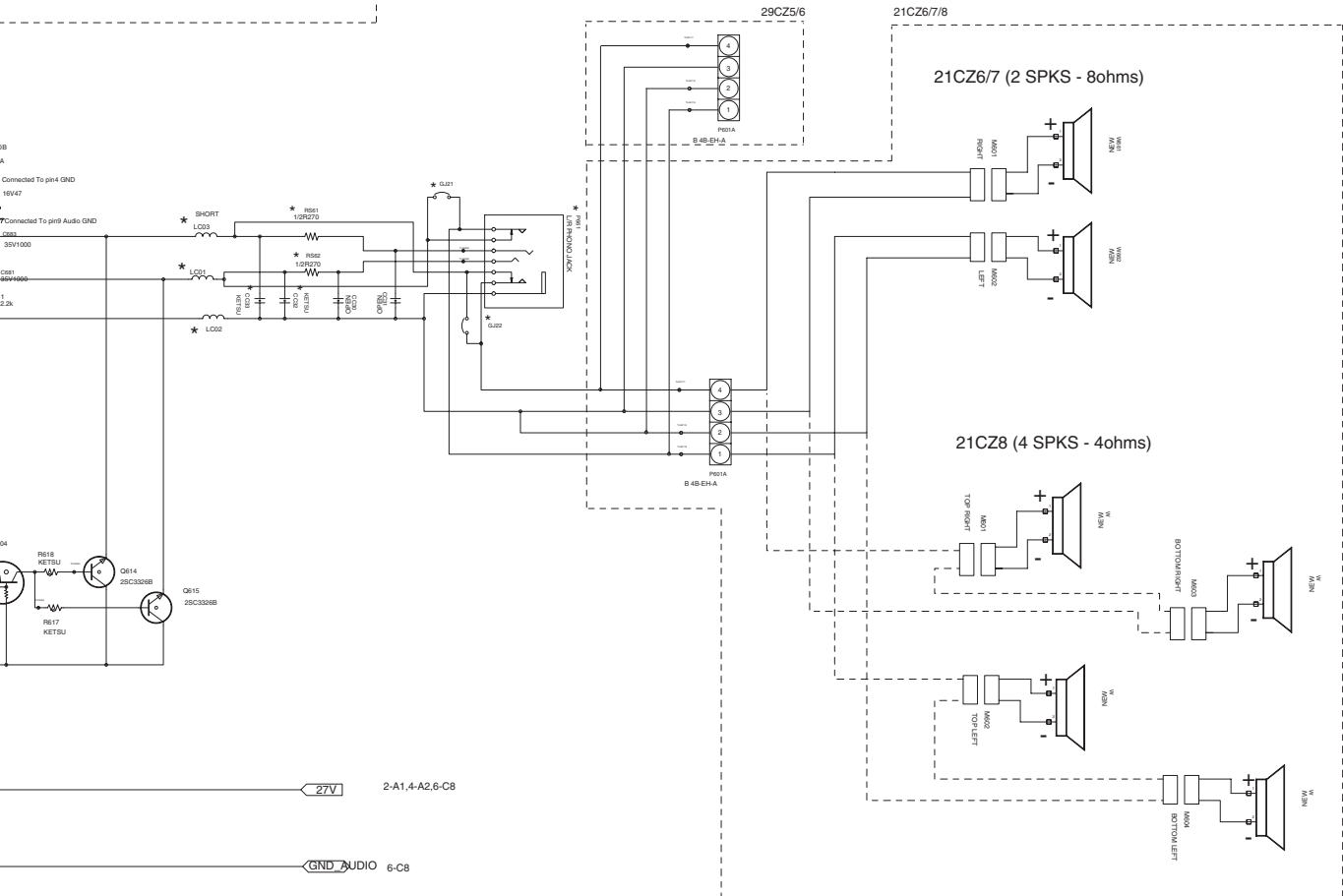








| LOCATION    | 21CZ6/7/8       | 29CZ5/6 |
|-------------|-----------------|---------|
| P661        | HEAD PHONE JACK | KETSU   |
| GJ21 - GJ22 | KETSU           | SHORT   |
| RS61 - RS62 | 270             | KETSU   |

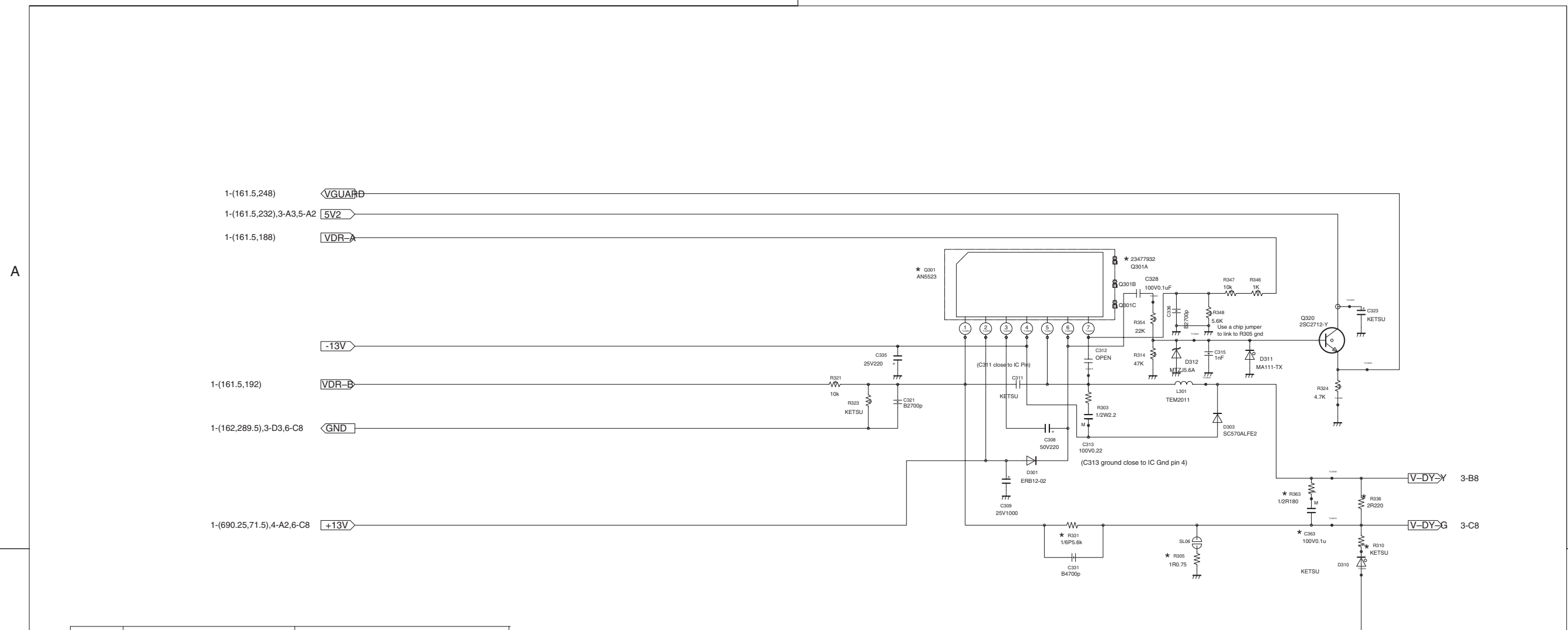


29CZ5DE/29CZ5T/29CZ6SI  
 MAIN (SIGNAL/MICON)  
 [SHEET-1/6]

# SCHEMATIC DIAGRAM MODEL : 29CZ5DE/29CZ5T/29CZ6SI (2/8)

1

2



A

B

A

B

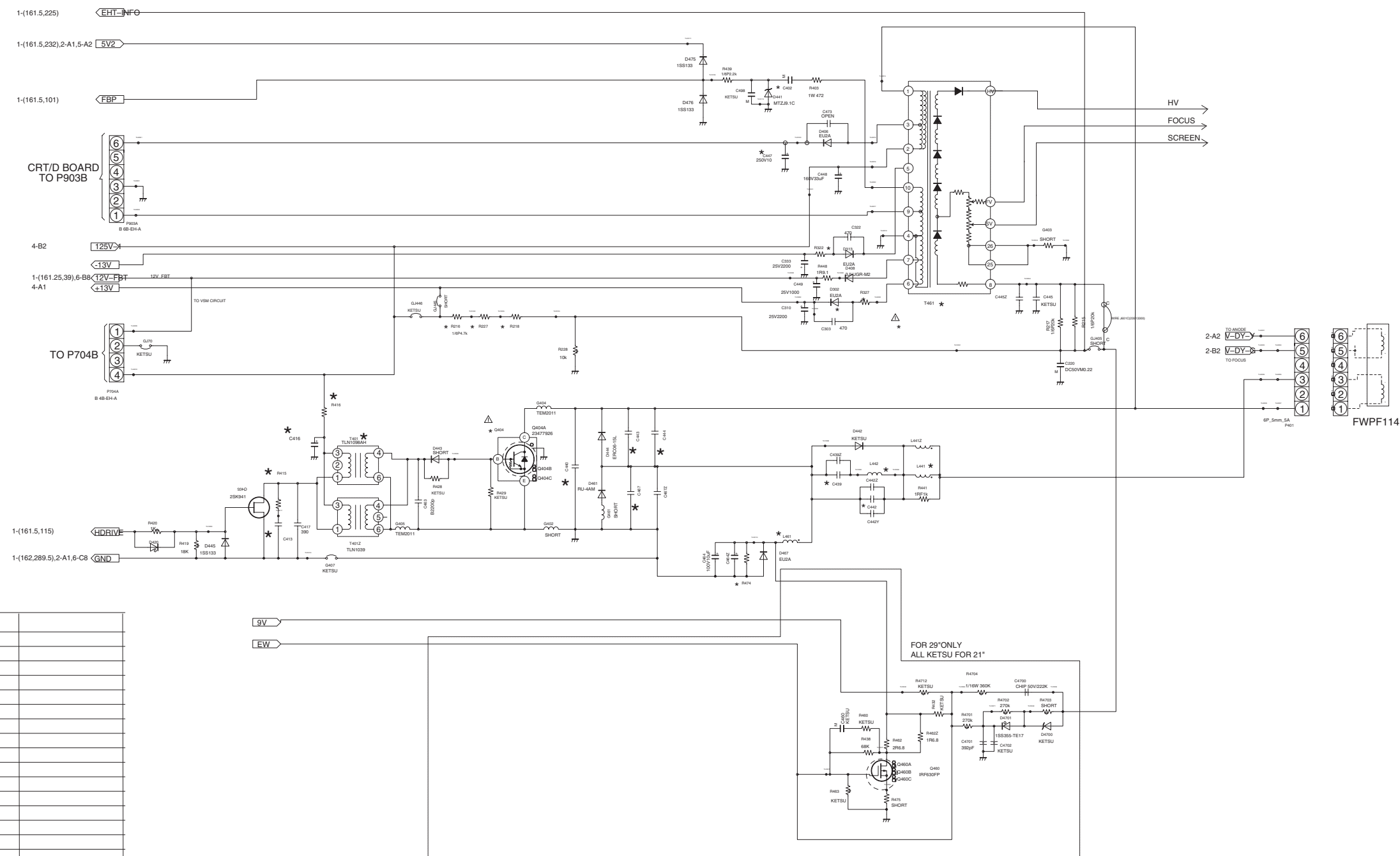
| *     | 29CZ5      | 21CZ6/7/8 |
|-------|------------|-----------|
| C363  | M100V0.1uF |           |
| Q301  | AN5523     |           |
| Q301A | 23478144   |           |
| R305  | 1W1R       |           |
| R345  | 2R1K       |           |
| R329  | 1/4P10K    |           |
| R330  | 1/4P33K    |           |
| R331  | 1/4P15K    |           |
| R336  | 2R100      |           |
| R363  | 1/2R180    |           |

29CZ5DE/29CZ5T/29CZ6SI  
MAIN (VERT)  
[SHEET-2/6]

1

2

# SCHEMATIC DIAGRAM MODEL : 29CZ5DE/29CZ5T/29CZ6SI (3/8)



|           | 29CZ5                      | 21CZ 6/7/8                          |
|-----------|----------------------------|-------------------------------------|
| C402      | 76693472D 100V/472         | 76693472D 100V/472                  |
| C439      | 76503125B CAP 400V/753J    | KETSU                               |
| C440      | KETSU                      | 76503213B 1.5KV/152                 |
| C442      | 76503298B 315V/304J        | 76082995B 250V/364                  |
| C443      | 76503194B 1.5KV 103H       | KETSU                               |
| C444      | 76503225B 1.5KV 622H       | 76503274B 1.5KV/782                 |
| C464      | 7621222A(RA)/76640872E(RB) | 76640872E 100V/10uF                 |
| C467      | 76503160B 630V 433J        | 76503157B 630V/333                  |
| L441(RA)  | 23233132 TLN2083AH         | 23233113 TLN2210AA                  |
| L441(RB)  | 23233124 TLN2083AT         | 23233147 TLN2210AC                  |
| L441(RC)  | 23211848 TLN2083G          | 23233145 TLN2210AY                  |
| L442      | 23248404 TLN3383D          | KETSU                               |
| L461(RA)  | 23248375 TLN3335AA         | 23248410 TLN3337AD                  |
| L461(RB)  | 23248409 TLN3335AD         | 23248460 TLN3337AC                  |
| L461(RC)  | 23248459 TLN3335AC         | 23248376 TLN3337AA                  |
| R218      | 23183918 WIRE JUMPER       | 76366472Y 1/6W/64.7K                |
| R227      | 76366392Y 1/6W/3.9K        | 76366472Y 1/6W/64.7K                |
| R216      | 76366103Y 1/6W/10K         | 76366332Y 1/6W/63.3K                |
| R322      | 76182030L ERX1FJ4R7H       | 76182011L ERX1SJS4R7P               |
| R327      | 76182030L ERX1FJ4R7H       | 76182011L ERX1SJS4R7P               |
| R474 (R1) | KETSU                      | KETSU                               |
| R474 (R2) | KETSU                      | 76383271S                           |
| R474 (R3) | KETSU                      | 76383221S                           |
| T401(RA)  | 23224395 TLN1098GH         | 23224391 TLN1104AH                  |
| T401(RB)  | TLN1098AH                  | 23224404 TLN1039                    |
| T461(RA)  | 23236963 TFB4229AG         | 23236962 TFB4228AT                  |
| T461(RB)  | 23236957 TFB4228AS         | 23236957 TFB4228AS                  |
| C447      | 76679220S 250V/22UF        | 76679100S 250V/10UF                 |
| R415      | 76553272L 1W/272           | KETSU                               |
| C413      | 76214821A CERA 500V/821K   | KETSU                               |
| R416      | 76019323 5W 182J           | (RA)/76019329 (RB)/76510332 5W 332J |
| C416      | 76678479S 200V 4.7UF       | KETSU                               |
| C440      |                            |                                     |

29CZ5DE/29CZ5T/29CZ6SI  
MAIN (HORIZONTAL)  
[SHEET-3/6]

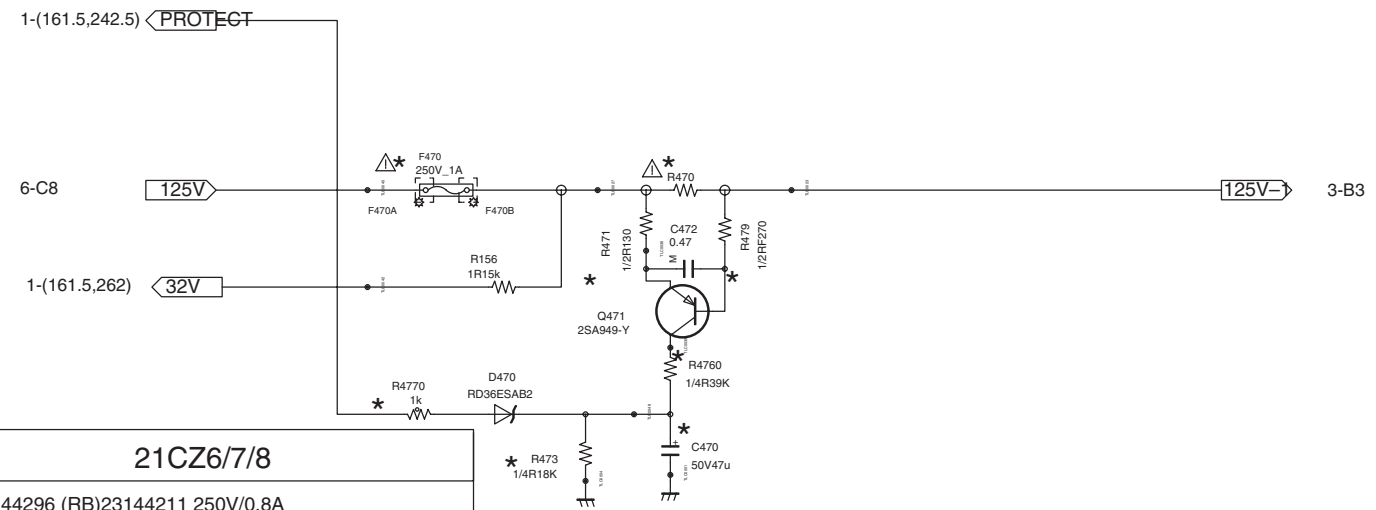
SCHEMATIC DIAGRAM MODEL : 29CZ5DE/29CZ5T/29CZ6SI (4/8)

1

2

A

A



| *     | 29CZ5                                | 21CZ6/7/8                            |
|-------|--------------------------------------|--------------------------------------|
| F470  | (RA)23144297(RB)23144210 250V 1A     | (RA)23144296 (RB)23144211 250V/0.8A  |
| R470  | 76182018L ERX1FJR47H                 | 76182021L ERX1FJR75H                 |
| R471  | 76381131L 1/2 W 130                  | 76382121S 1W121                      |
| R479  | 76381271L RS14B2H271J                | 76552301L 1/2W 301                   |
| R4760 | 76000242Y 1/4W 18K                   | 76366183Y 1/6W 183                   |
| R473  | 76000247Y RN14C2E393F                | 76366183Y 1/6W 183                   |
| R4770 | 76011102R RM73M1J102JD               | 76011102R 1/16W 102                  |
| C470  | (RA)76766101S(RB)76797101S 50V/100UF | (RA)76766470S (RB)76797470S 50V/47UF |

B

B

29CZ5DE/29CZ5T/29CZ6SI  
 MAIN (PROTECTOR)  
 [SHEET-4/6]

1

2

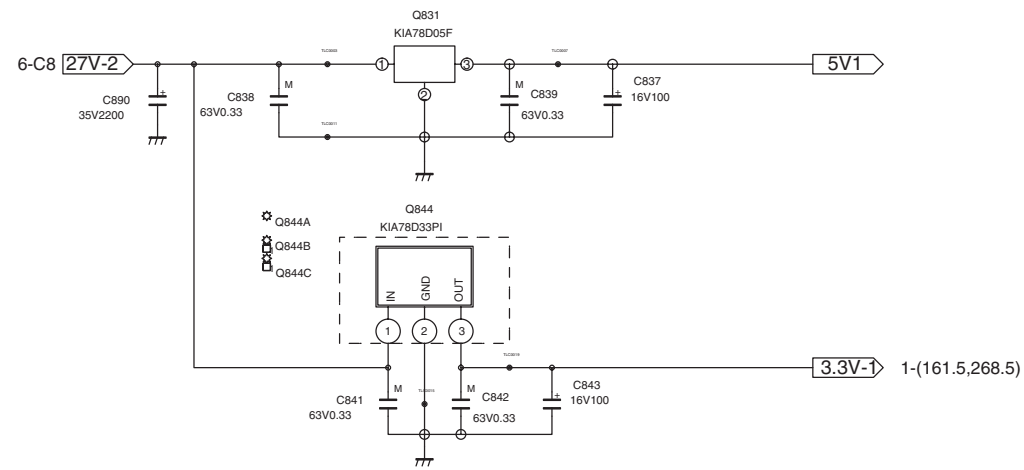
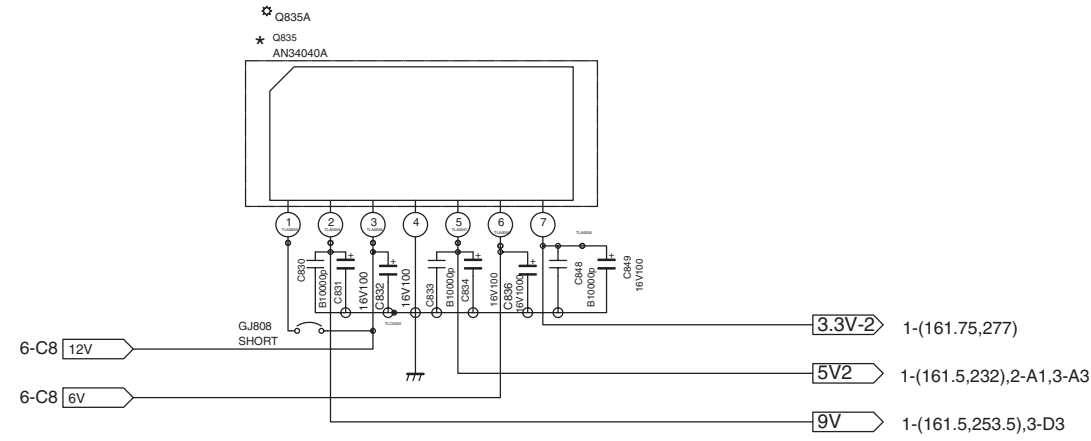
SCHEMATIC DIAGRAM MODEL : 29CZ5DE/29CZ5T/29CZ6SI (5/8)

1

2

A

A



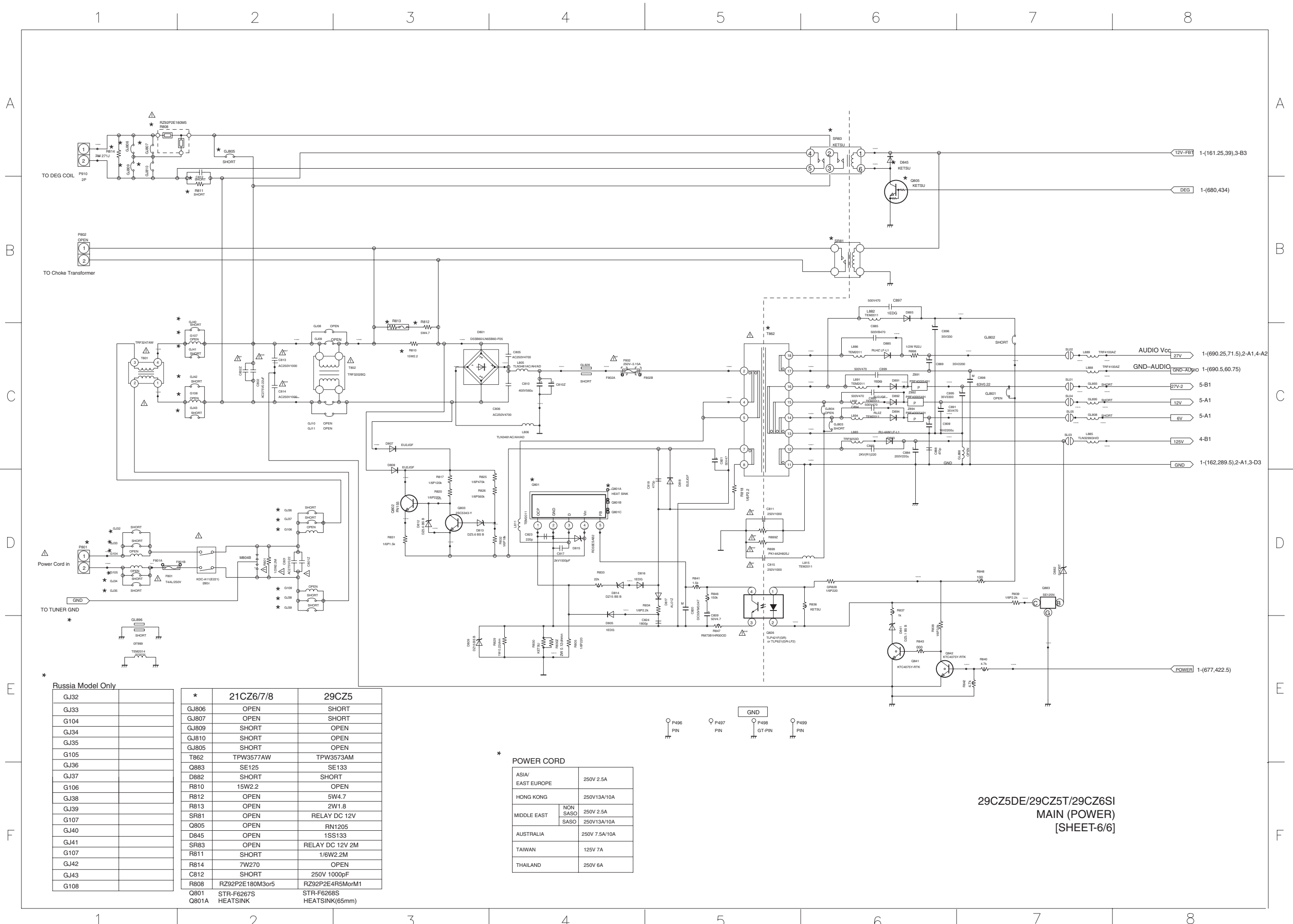
B

B

1

2

# SCHEMATIC DIAGRAM MODEL : 29CZ5DE/29CZ5T/29CZ6SI (6/8)



**Russia Model Only**

|       | 21CZ6/7/8  | 29CZ5          |
|-------|------------|----------------|
| GJ32  |            |                |
| GJ33  |            |                |
| G104  |            |                |
| GJ34  |            |                |
| GJ35  |            |                |
| G105  |            |                |
| GJ36  |            |                |
| GJ37  |            |                |
| G106  |            |                |
| GJ38  |            |                |
| GJ39  |            |                |
| G107  |            |                |
| GJ40  |            |                |
| GJ41  |            |                |
| G107  |            |                |
| GJ42  |            |                |
| GJ43  |            |                |
| G108  |            |                |
| Q801  | STR-F6267S | STR-F6268S     |
| Q801A | HEATSINK   | HEATSINK(65mm) |

**POWER CORD**

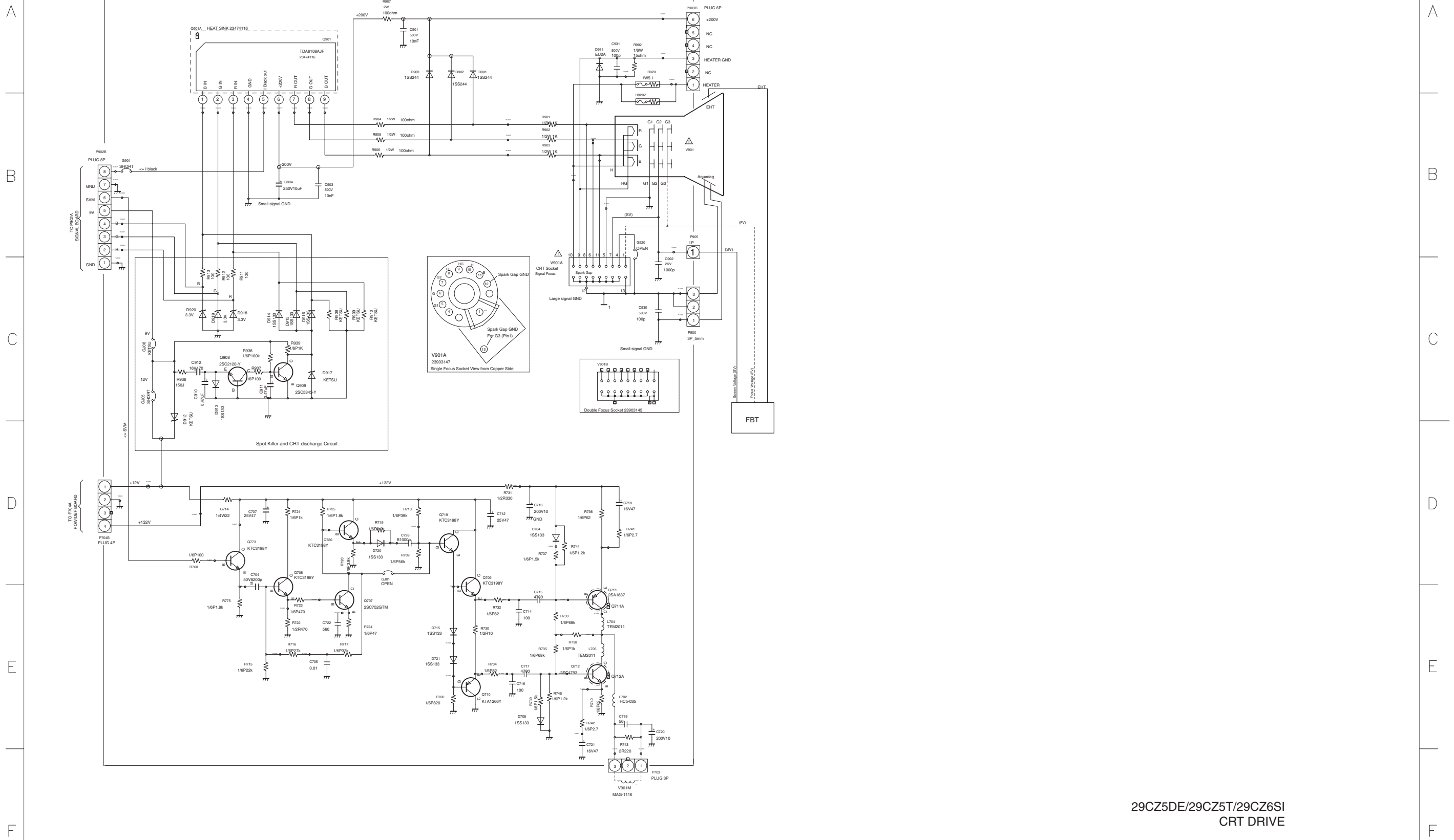
|             |                    |
|-------------|--------------------|
| ASIA        | 250V 2.5A          |
| EAST EUROPE | 250V 2.5A          |
| HONG KONG   | 250V13A/10A        |
| MIDDLE EAST | NON SASO 250V 2.5A |
|             | SASO 250V13A/10A   |
| AUSTRALIA   | 250V 7.5A/10A      |
| TAIWAN      | 125V 7A            |
| THAILAND    | 250V 6A            |

**29CZ5DE/29CZ5T/29CZ6SI  
MAIN (POWER)  
[SHEET-6/6]**



# SCHEMATIC DIAGRAM MODEL : 29CZ5DE/29CZ5T/29CZ6SI (7/8)

## CRT-Drive BOARD



29CZ5DE/29CZ5T/29CZ6SI  
CRT DRIVE

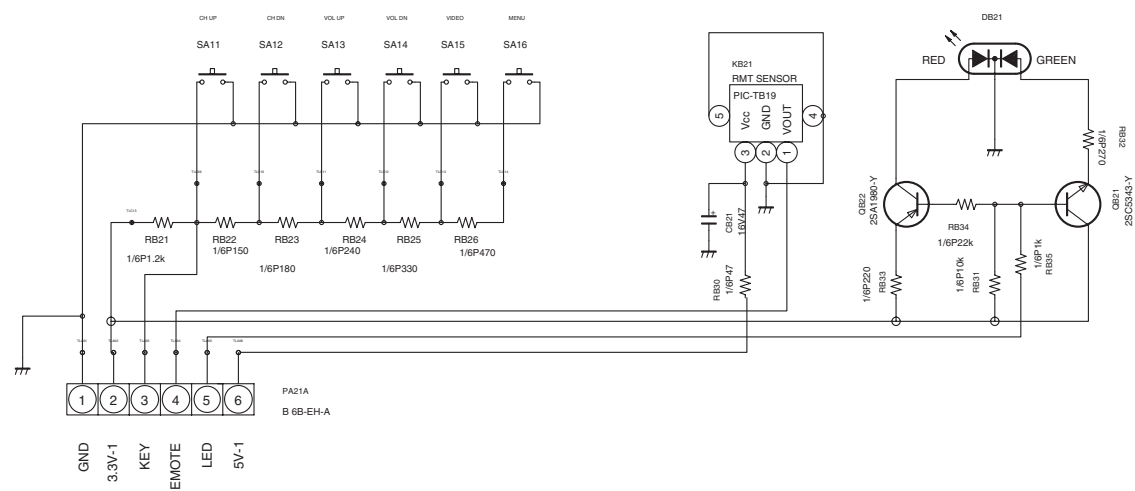
# SCHEMATIC DIAGRAM MODEL : 29CZ5DE/29CZ5T/29CZ6SI (8/8)

1

2

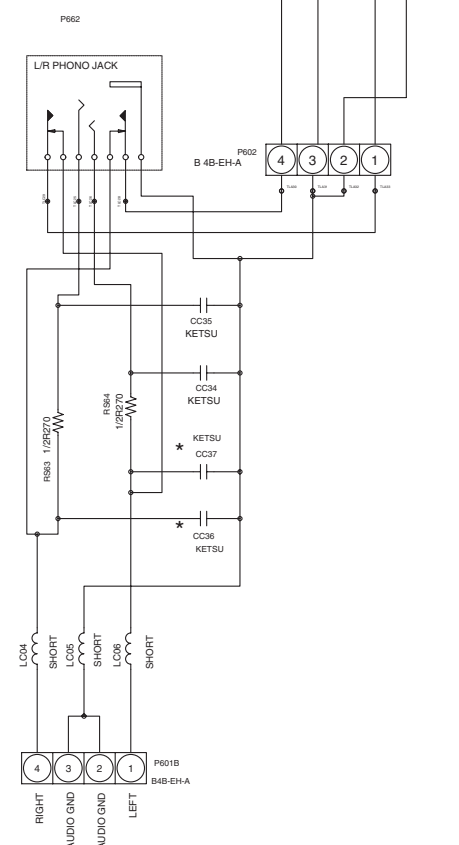
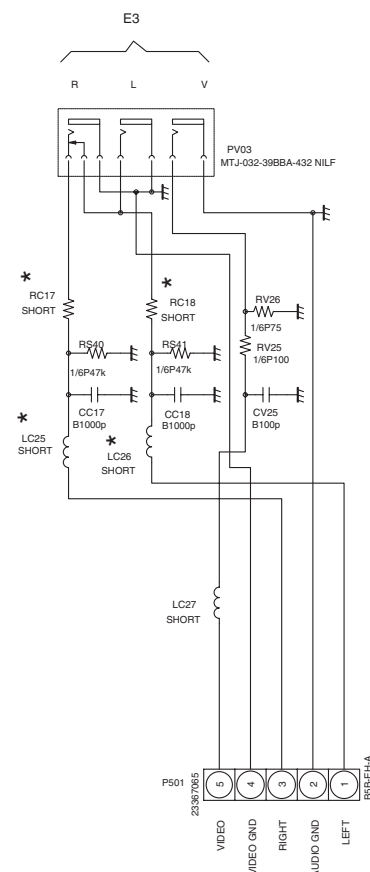
A

A



B

B



29CZ5DE/29CZ5T/29CZ6SI  
FRONT

1

2