

Service Manual

TOP NEXT

ORDER NO. MD0302054C2

Service Manual

CD Stereo System



- SA-AK210E
- SA-AK210EB
- SA-AK210EG

Colour

(S)... Silver Type

TAPE SECTION :

SG-2W MECHANISM SERIES



Specifications

AMPLIFIER SECTION

|                               |                        |
|-------------------------------|------------------------|
| RMS Power output              |                        |
| 10% Total harmonic distortion |                        |
| 1kHz, both channels driven    |                        |
| (Low channel)                 | 55 W per channel (6Ω ) |
| 10kHz, both channels driven   |                        |
| (High channel)                | 55 W per channel (6Ω ) |
| Total Bi-Amp power            | 110 W per channel      |
| Input sensitivity             |                        |
| AUX                           | 250 mV                 |
| Input Impedance               |                        |
| AUX                           | 13.3 kΩ                |

FM TUNER SECTION

|                     |                                   |
|---------------------|-----------------------------------|
| Frequency range     | 87.50 - 108.00 MHz (50 kHz steps) |
| Sensitivity         | 1.8μ V (IHF)                      |
| S/ N 26 dB          | 1.5μ V                            |
| Antenna terminal(s) | 75Ω (unbalanced)                  |

AM TUNER SECTION

|                         |                              |
|-------------------------|------------------------------|
| Frequency range         | 522 - 1629 kHz (9 kHz steps) |
| Sensitivity             |                              |
| S/ N 20 dB (at 999 kHz) | 560μ V/ m                    |

CASSETTE DECK SECTION

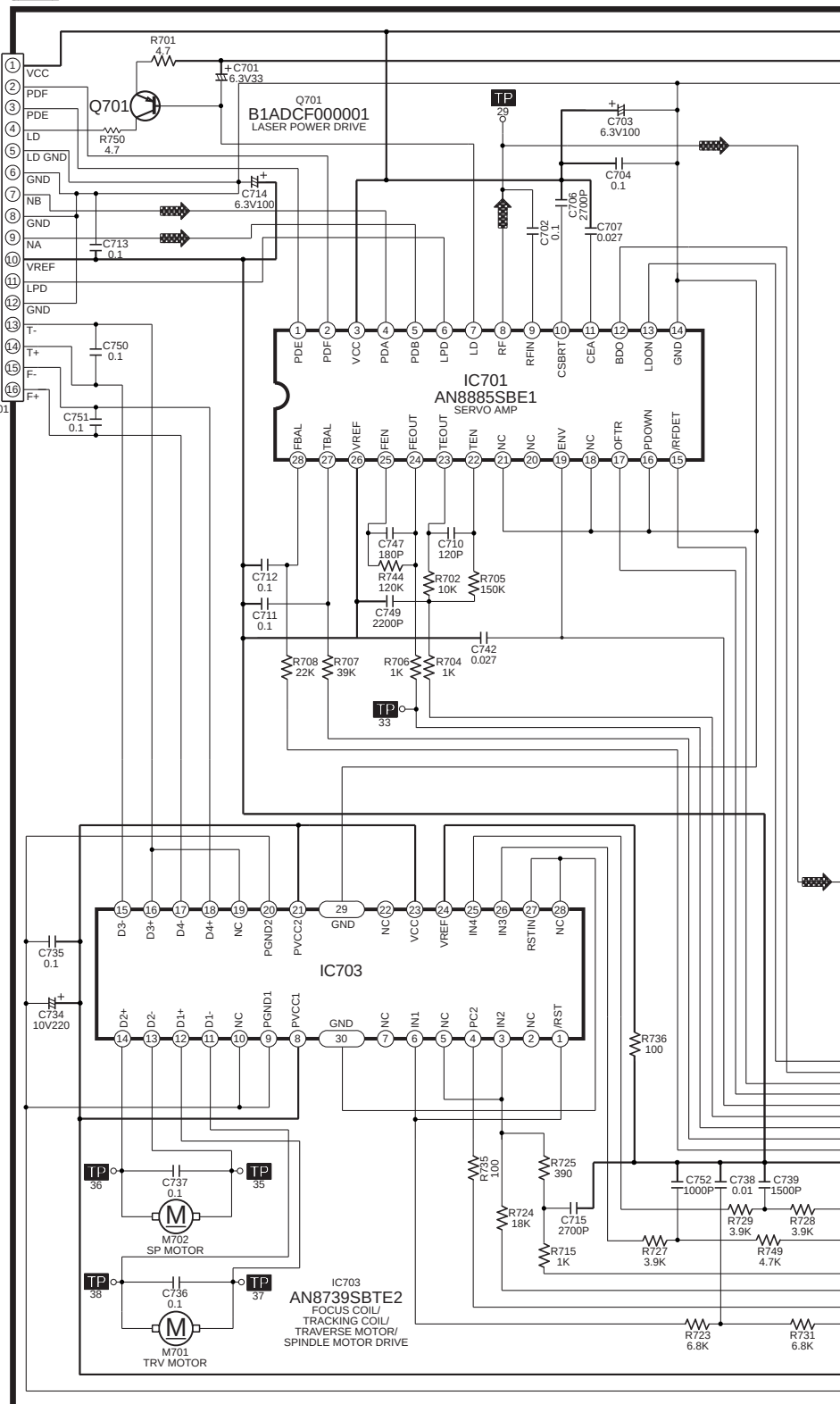
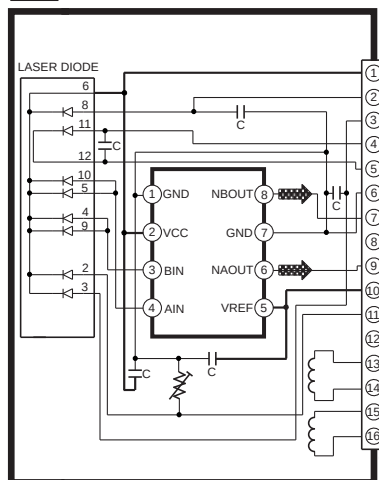
|                                                        |                                             |
|--------------------------------------------------------|---------------------------------------------|
| Track system                                           | 4 track, 2 channel                          |
| Heads                                                  |                                             |
| Record/ playback                                       | Solid permalloy head                        |
| Erasure                                                | Double gap ferrite head                     |
| Motor                                                  | DC servo motor                              |
| Recording system                                       | AC bias 100 kHz                             |
| Erasing system                                         | AC erase 100 kHz                            |
| Tape speed                                             | 4.8 cm/ s                                   |
| Overall frequency response (+ 3 dB, -6 dB at DECK OUT) |                                             |
| NORMAL (TYPE I)                                        | 35 Hz - 14 kHz                              |
| S/ N                                                   | 50 dB (A weighted)                          |
| Wow and flutter                                        | 0.18% (WRMS)                                |
| Fast forward and rewind time                           | Approx. 120 seconds with C-60 cassette tape |

CD SECTION

|                         |                             |
|-------------------------|-----------------------------|
| Sampling frequency      | 44.1 kHz                    |
| Decording               | 16 bit linear               |
| Pickup                  |                             |
| Beam source/ wavelength | Semiconductor laser/ 780 nm |
| Number of channels      | Stereo                      |
| Frequency response      | 20 Hz - 20 kHz (+ 1, -2 dB) |
| Wow and flutter         | Below measurable limit      |
| Digital filter          | 8 fs                        |
| D/ A converter          | MASH (1 bit DAC)            |

 OPTICAL PICKUP CIRCUIT

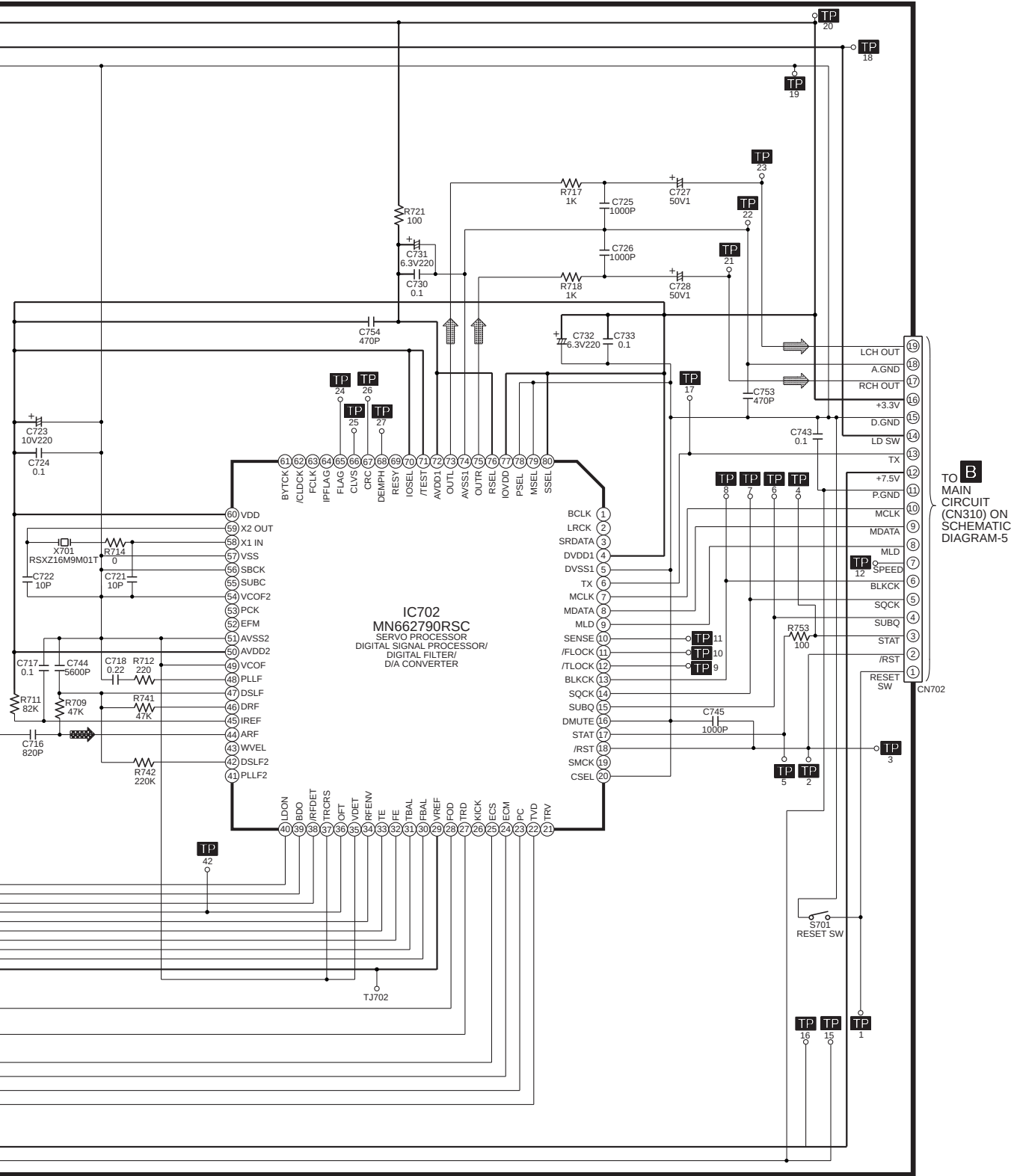
## A CD SERVO CIRCUIT



SCHEMATIC DIAGRAM - 2

**A** CD SERVO CIRCUIT

— : +B SIGNAL LINE     : CD-DA SIGNAL LINE     : CD SIGNAL LINE



**B**

— : +B SIGNAL LINE

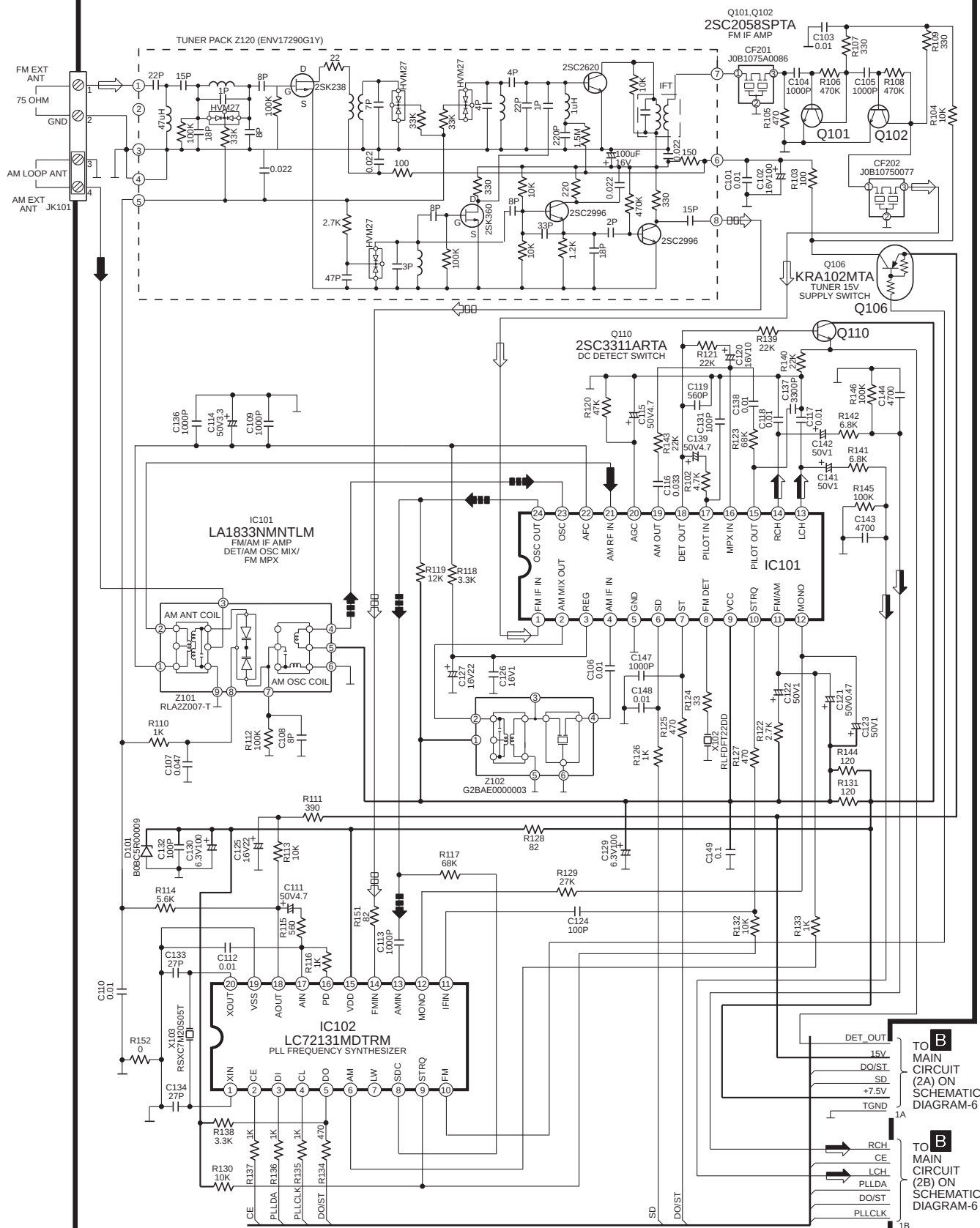
➡ : FM/AM SIGNAL LINE

⇒ : FM SIGNAL LINE

□□▷ : FM OSC SIGNAL LINE

➡ : AM SIGNAL LINE

■ ■ ■ ▶ : AM OSC SIGNAL LINE



— : +B SIGNAL LINE  
- - : -B SIGNAL LINE

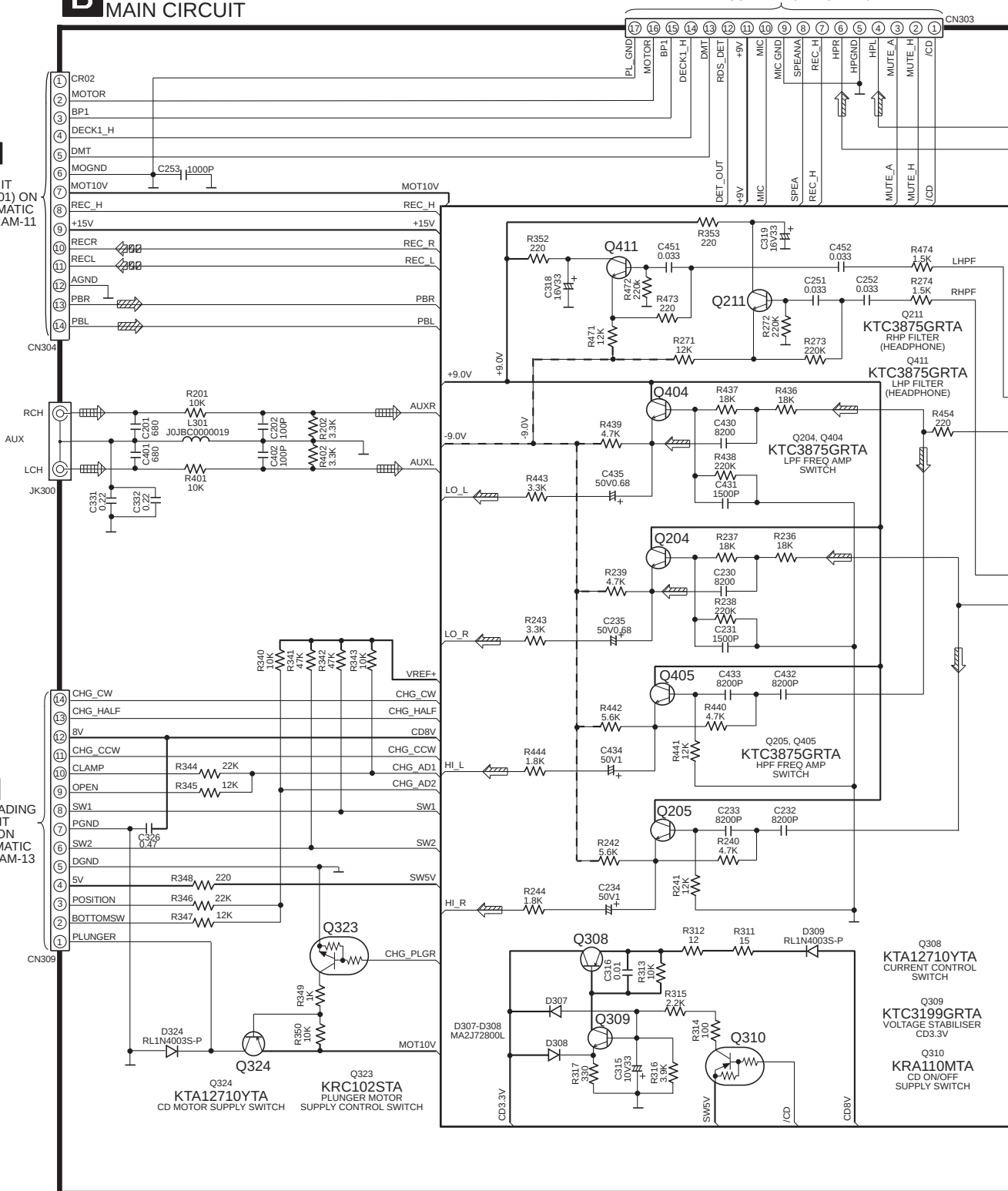
 : MAIN SIGNAL LINE  
 : PLAYBACK SIGNAL LINE  
 : RECORD SIGNAL LINE

TO  PANEL CIRCUIT  
(CP601) ON  
SCHEMATIC DIAGRAM-9

B

TO **E**  
DECK  
CIRCUIT  
(CN1001) ON  
SCHEMATIC  
DIAGRAM-11

TO **I**  
CD LOADING  
CIRCUIT  
(CN1) ON  
SCHEMATIC  
DIAGRAM-13

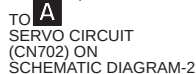


— — : -B SIGNAL LINE

 : CD SIGNAL LINE

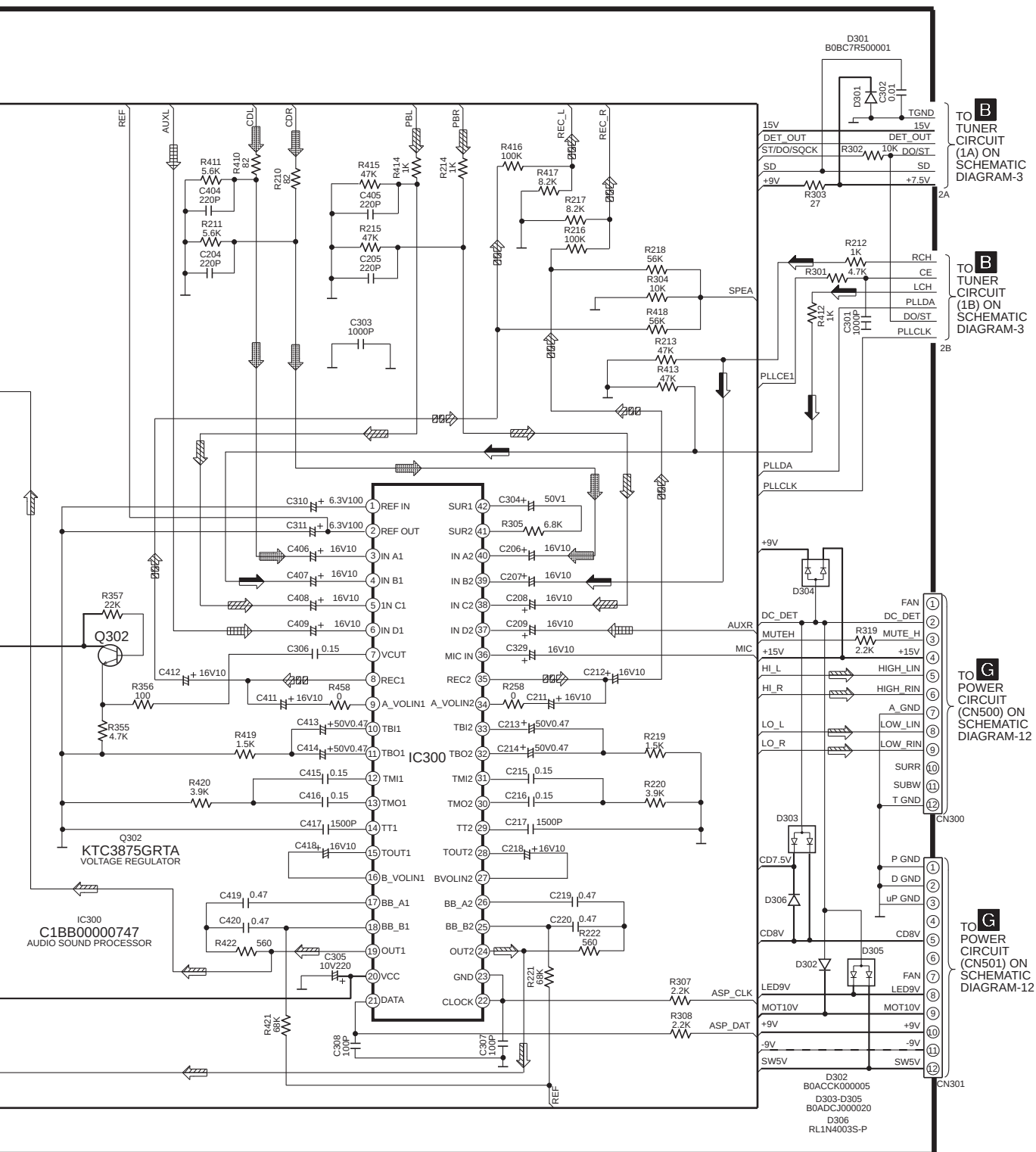
TC

## B MAIN CIRCUIT



## B MAIN CIRCUIT

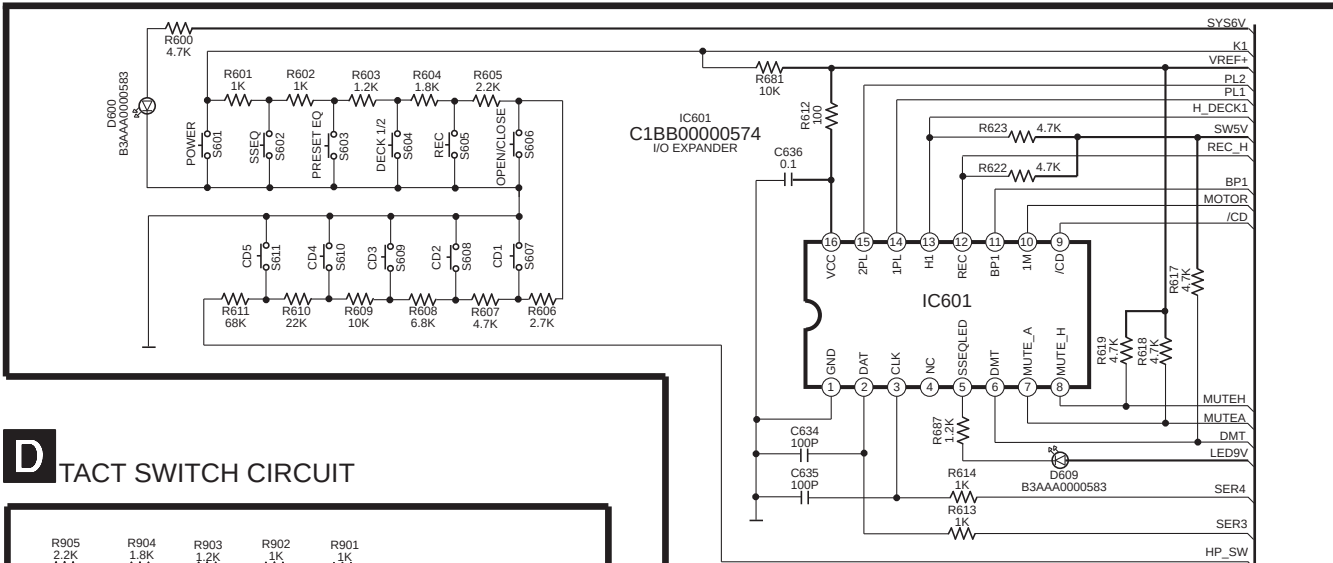
 : AUX SIGNAL LINE     
  : MAIN SIGNAL LINE  
 : CD SIGNAL LINE     
  : PLAYBACK SIGNAL LINE  
 : FM/AM SIGNAL LINE     
  : RECORD SIGNAL LINE



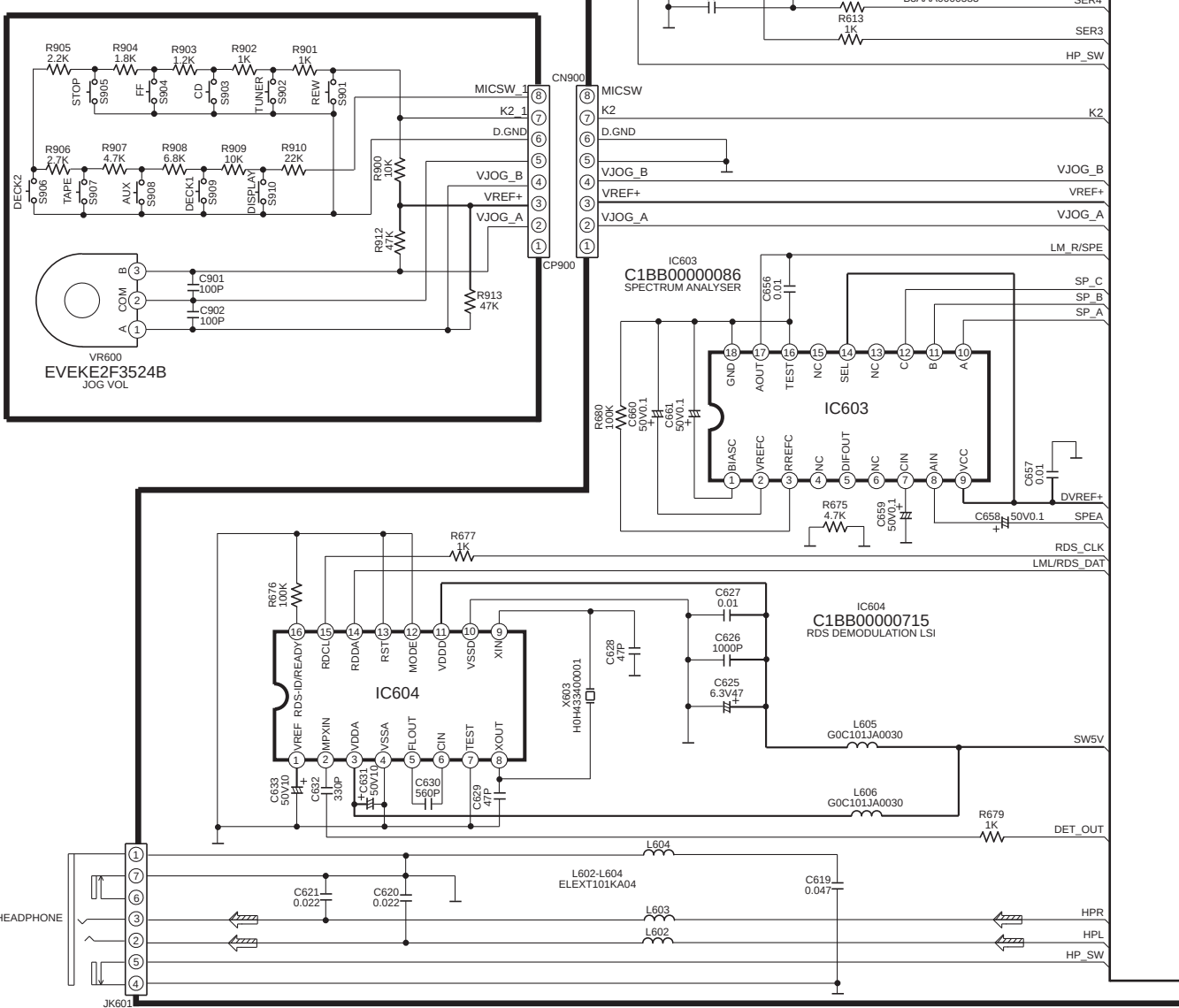
SCHEMATIC DIAGRAM - 7

— : +B SIGNAL LINE    ⇨ : MAIN SIGNAL LINE

C PANEL CIRCUIT



D TACT SWITCH CIRCUIT

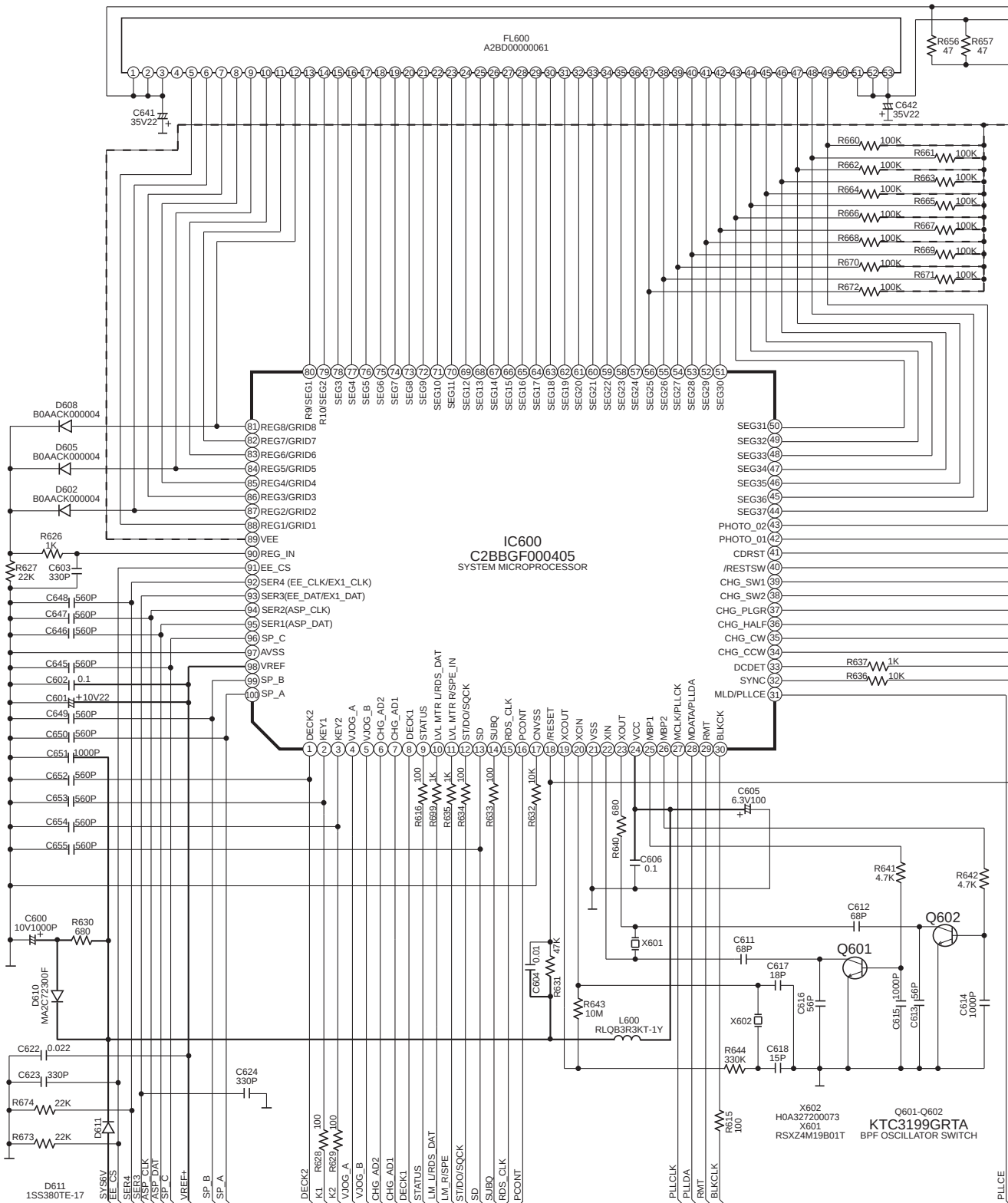




SCHEMATIC DIAGRAM - 8

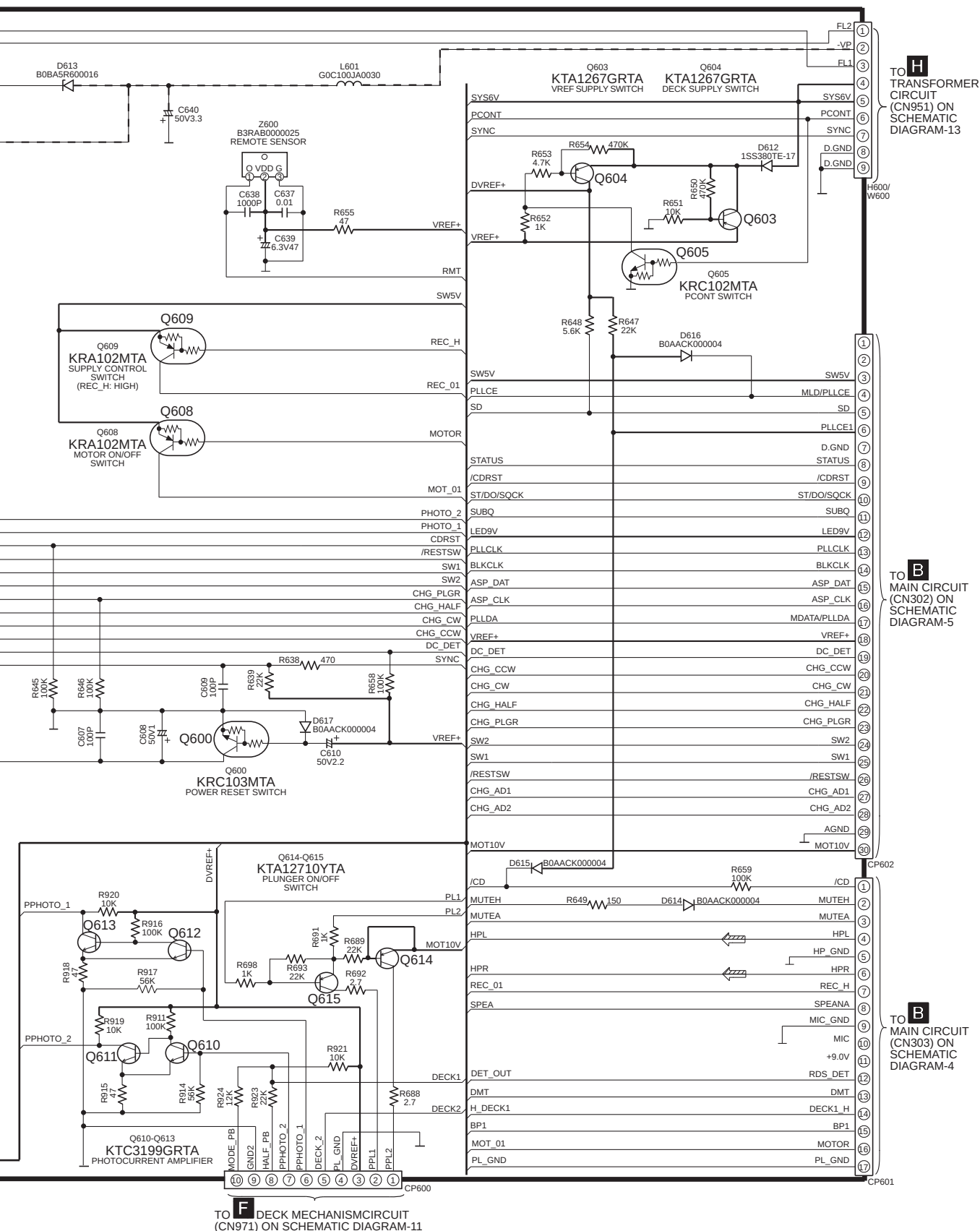
C PANEL CIRCUIT

— : +B SIGNAL LINE    - - - : -B SIGNAL LINE



## C

— : +B SIGNAL LINE    - - : -B SIGNAL LINE     : MAIN SIGNAL LINE



SCHEMATIC DIAGRAM -10

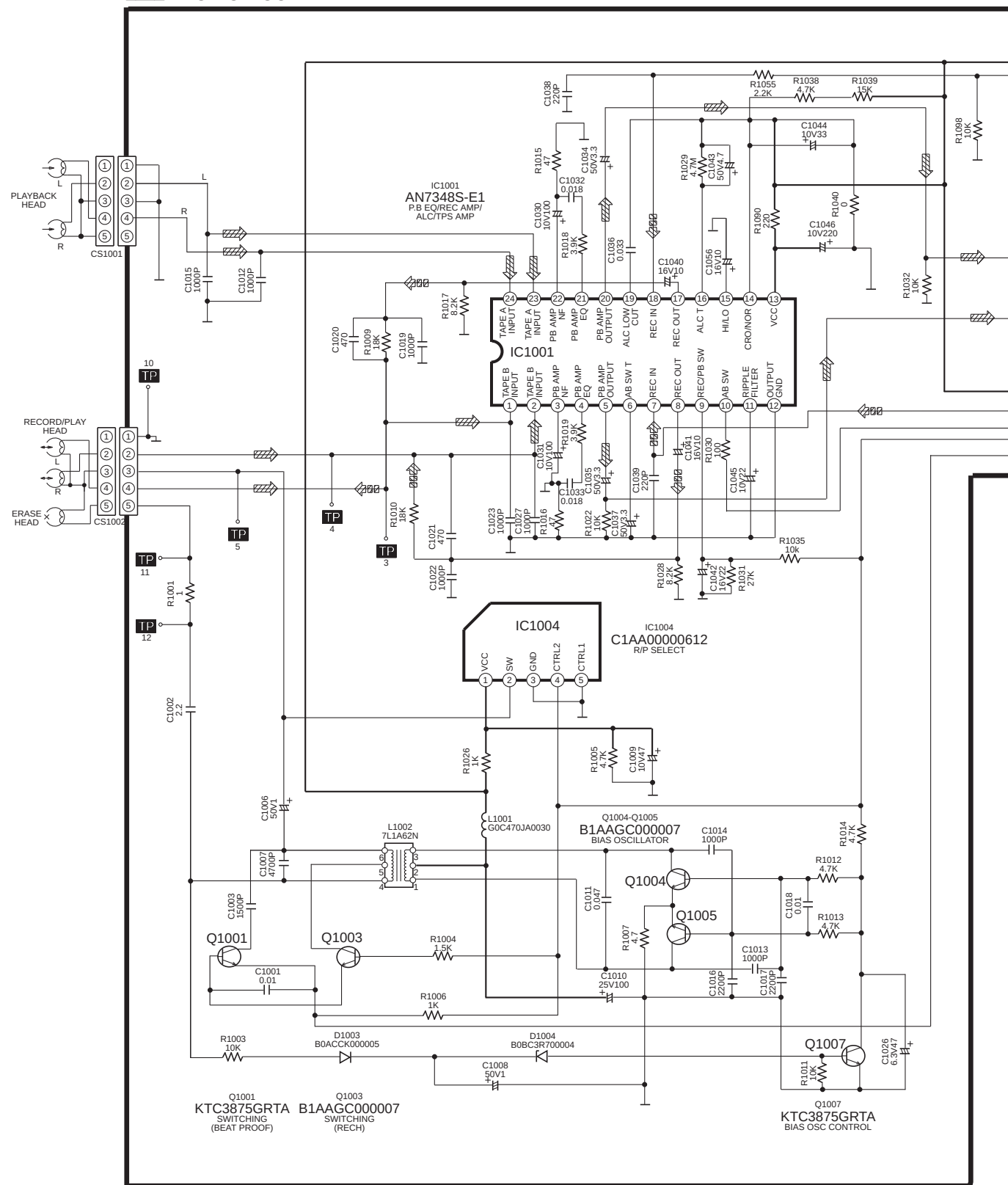
— : +B SIGNAL LINE

 : PLAYBACK SIGNAL LINE

— — : -B SIGNAL LINE

 : RECORD SIGNAL LINE

**E** DECK CIRCUIT

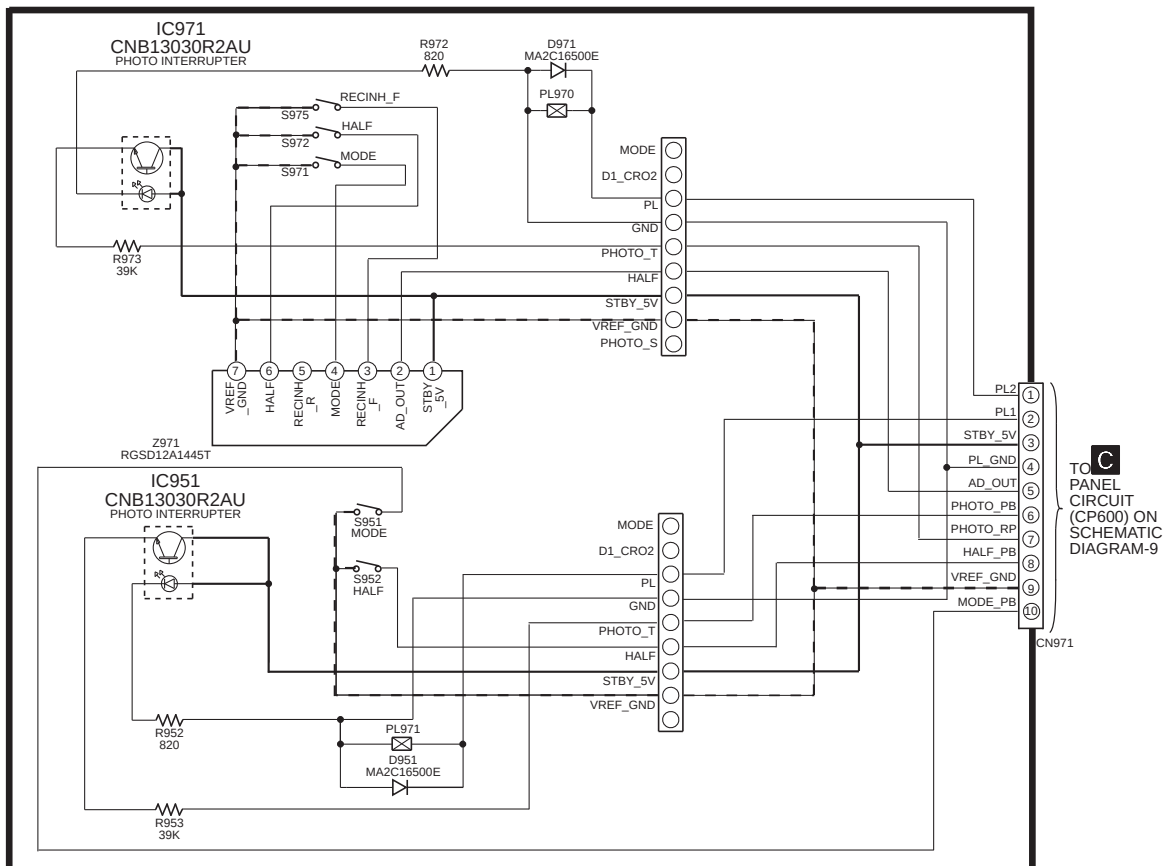


## E DECK CIRCUIT

— — : -B SIGNAL LINE

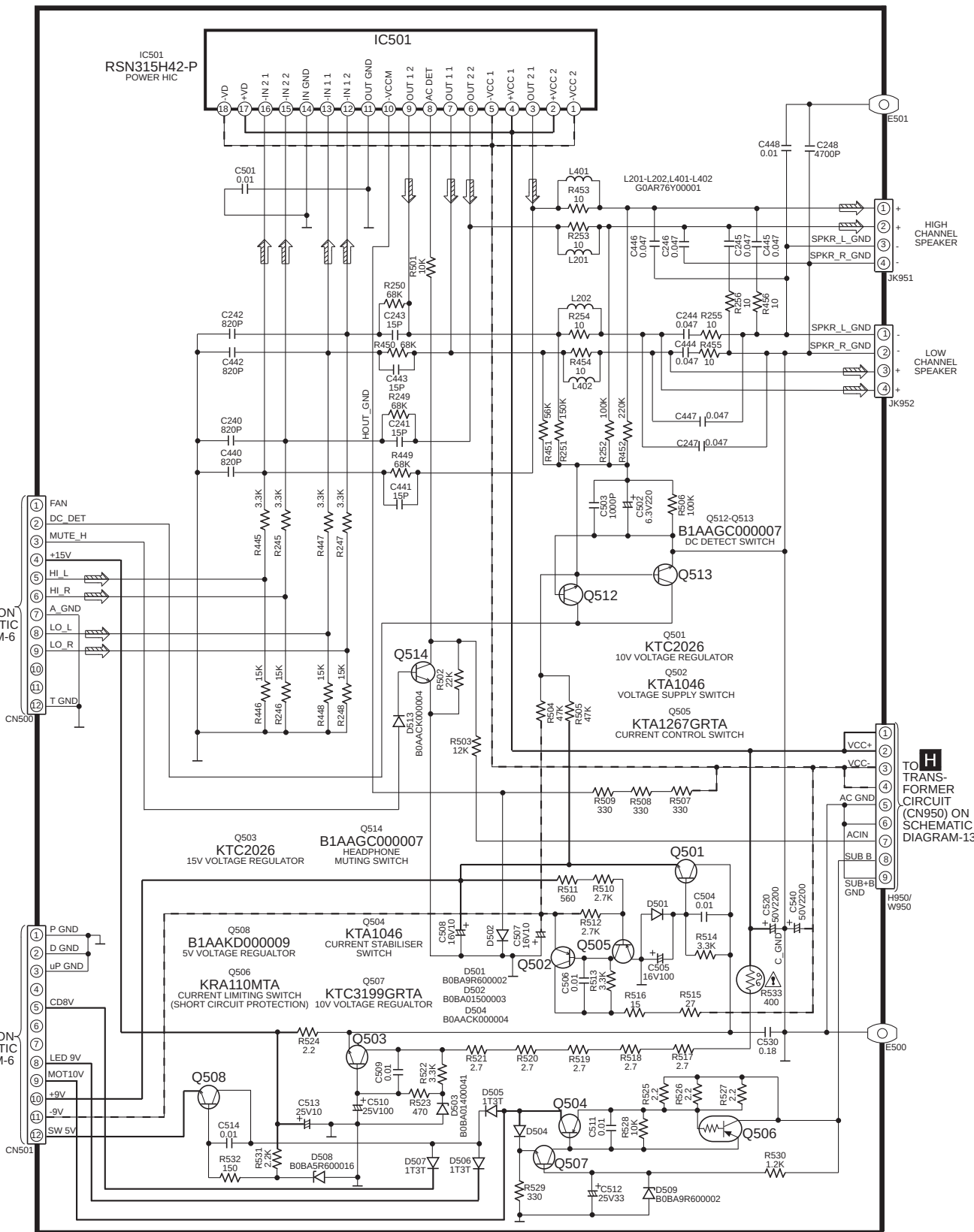
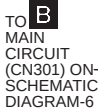
 : RECORD SIGNAL LINE

TO **B**  
MAIN CIRCUIT (CN304) ON  
SCHEMATIC DIAGRAM-4



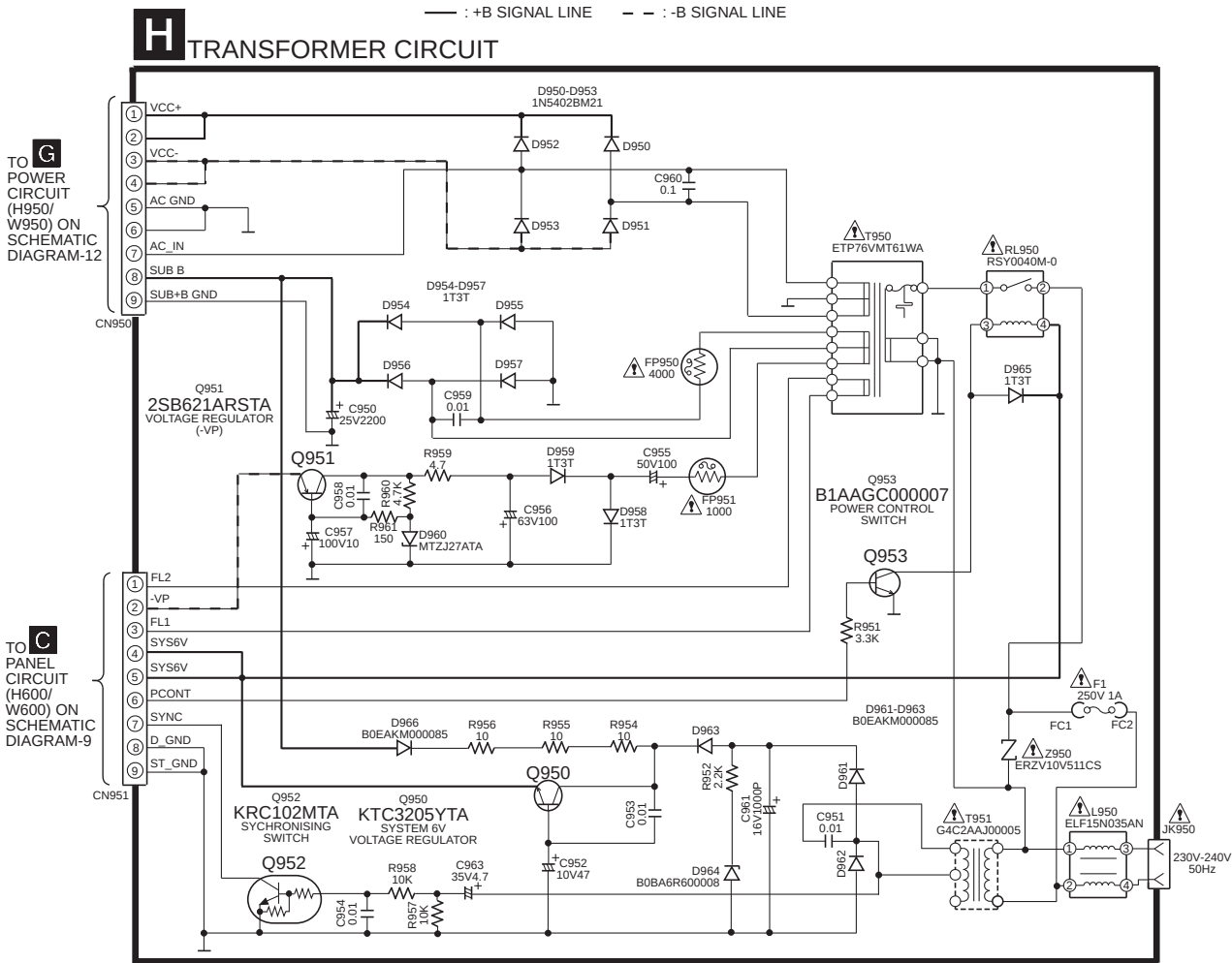
— : +B SIGNAL LINE      - - : -B SIGNAL LINE       : MAIN SIGNAL LINE

TO **B**  
MAIN  
CIRCUIT  
(CN300) ON  
SCHEMATIC  
DIAGRAM-6

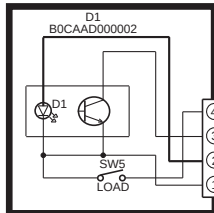
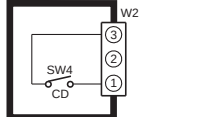


SCHEMATIC DIAGRAM - 13

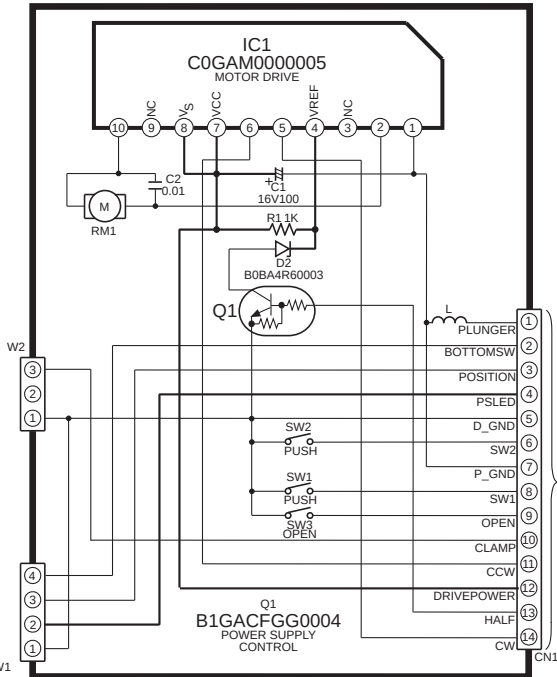
**H** TRANSFORMER CIRCUIT



**J** CD DETECT CIRCUIT



**K** SPINDLE POSITION CIRCUIT



**I** CD LOADING CIRCUIT

**B** MAIN CIRCUIT (CN309) ON SCHEMATIC DIAGRAM-4