ORDER NO. SM–97095

# Service Manual

## Colour Television

## TX–21K1T TC–21K1R
## TX–14K1T TC–14K1R

### Z–7 Chassis

## Specifications

(Information in brackets {} refer to TX–14K1T / TC–14K1R)

**Power Consumption :** 76.5W {47W}

**Standby Power Consumption :** 1W

**Aerial Impedance :** 75Ω unbalanced, Coaxial Type

**Receiving System :** PAL–BG, H, DK, PAL–60,
SECAM BG, DK
NTSC (AV Only)

**Receiving Channels :** VHF E2–E12
VHF H1–H2 (ITALYi VHF A–H (ITALY)
UHF E21–E69 CATV (S01–S05)
CATV S1–S10 (M1–M10) CATV S11–S20 (U1–U10)
CATV S21–S41 (HYPERBAND)

**Intermediate Frequency :**

| | |
|---|---|
| Video | 38.9 MHz |
| Sound | 33.5 MHz 32.4 MHz |
| Colour | 34.47 MHz (PAL)<br>34.5 MHz (SECAM),<br>34.65 MHz (SECAM) |

**Video / AudioTerminals :**

| | | |
|---|---|---|
| AV1 IN | Video (21 pin) | 1V p–p 75Ω |
| | Audio (21 pin) | 500mV rms 10kΩ |
| | RGB (21 pin) | |
| AV1 OUT | Video (21 pin) | 1V p–p 75Ω |
| | Audio (21 pin) | 500mV rms 1kΩ |
| RCA IN | | Video 1V p–p 75Ω |
| RCA IN | | Audio 500mV rms, 10KΩ |

**High Voltage :** 27kV + 0.7kV / – 1kV
{23kV + 0.7kV / –1 kV}

**Picture Tube :** A51ESF43X191 51 cm
{A34EACO1X13 34 cm}

**Audio Output :**

| | |
|---|---|
| Speaker | 6 W (Music Power)<br>8 Ω Impedance |
| Headphones | 8 Ω Impedance |

**Accessories supplied :** Remote Control
2 x R6 (UM3) Batteries

**Dimensions :**

| | | |
|---|---|---|
| Height : | 480 mm | {364mm} |
| Width : | 520 mm | {389mm} |
| Depth : | 485 mm | {384mm} |

**Net Weight** : 20kg {10kg}

Specifications are subject to change without notice.
Weight and dimensions shown are approximate.

Panasonic

# SCHEMATIC DIAGRAM FOR MODELS
# TX–21K1T / TC–21K1R
# TX–14K1T / TC–14K1R
# (Z–7 CHASSIS)

**IMPORTANT SAFETY NOTICE**

Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

1. RESISTOR
All resistors are carbon ¼W resistor, unless marked. Unit of resistance is OHM (Ω) (K=1,000, M=1,000,000).

: Nonflammable
: Metal Film
: Wire Wound
: Metal Oxide
: Fuse
: Solid

2. CAPACITOR
All capacitors are ceramic 50V capacitors, unless marked as follows: Unit of capacitance is μF, unless otherwise stated.

: Temprature Compensation
: Polypropylene
: Electrolytic
: Metallised Polyester
: Polyester
: Dipped Tantalum
: Bipolar
: Z–Type

3. COIL
Unit of inductance is μH, unless otherwise stated.

4. TEST POINT
Test Point position

5. EARTH SYMBOL
Chassis Earth (COLD)
Line Earth (HOT)

6. VOLTAGE MEASUREMENT
Voltage is measured by a DC voltmeter. Measurement conditions are as follows:
Power source . . . . . .AC 220 / 240V, 50Hz
Receiving Signal . . . . . .Colour Bar signal (RF)
All customer controls. . . . . .Maximum position

7. Indicates the Video signal path
Indicates the Audio signal path
Indicates the Vertical/Horizontal signal path

8. This schematic diagram is the latest at the time of printing and is subject to change without notice.

**Remarks:**

1. Care must be taken when servicing this receiver, as it uses a HOT chassis. The circuit is defined by HOT and COLD indications in the schematic diagram. Take the following precautions. All circuits except the Audio, Video input circuits are HOT.

2. **Precautions**

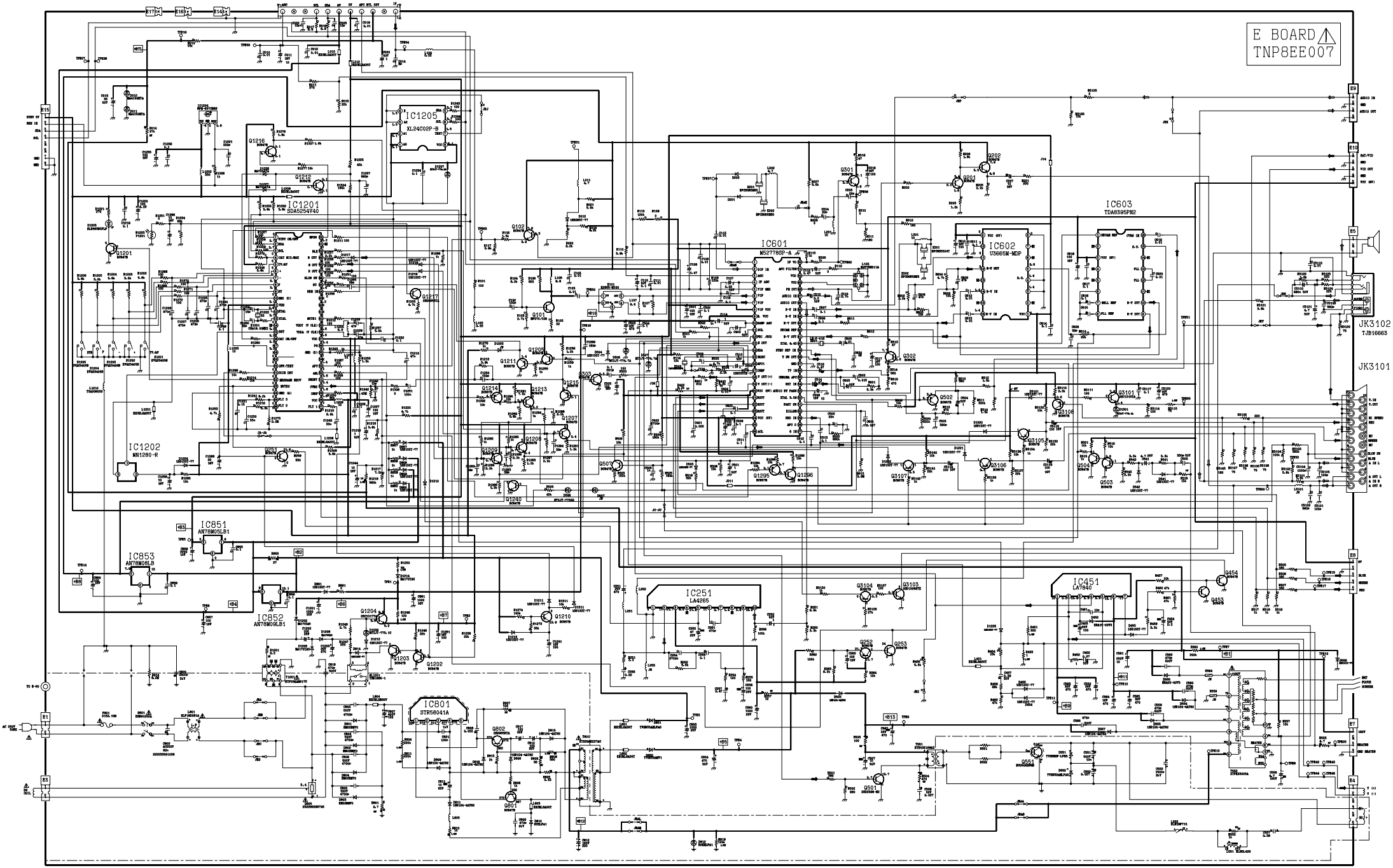
a. Do not touch the HOT part, or the HOT and COLD parts of the chassis, at the same time, as you are liable to a shock hazard.

b. Do not short–circuit the HOT and COLD circuits as electrical components may be damaged.

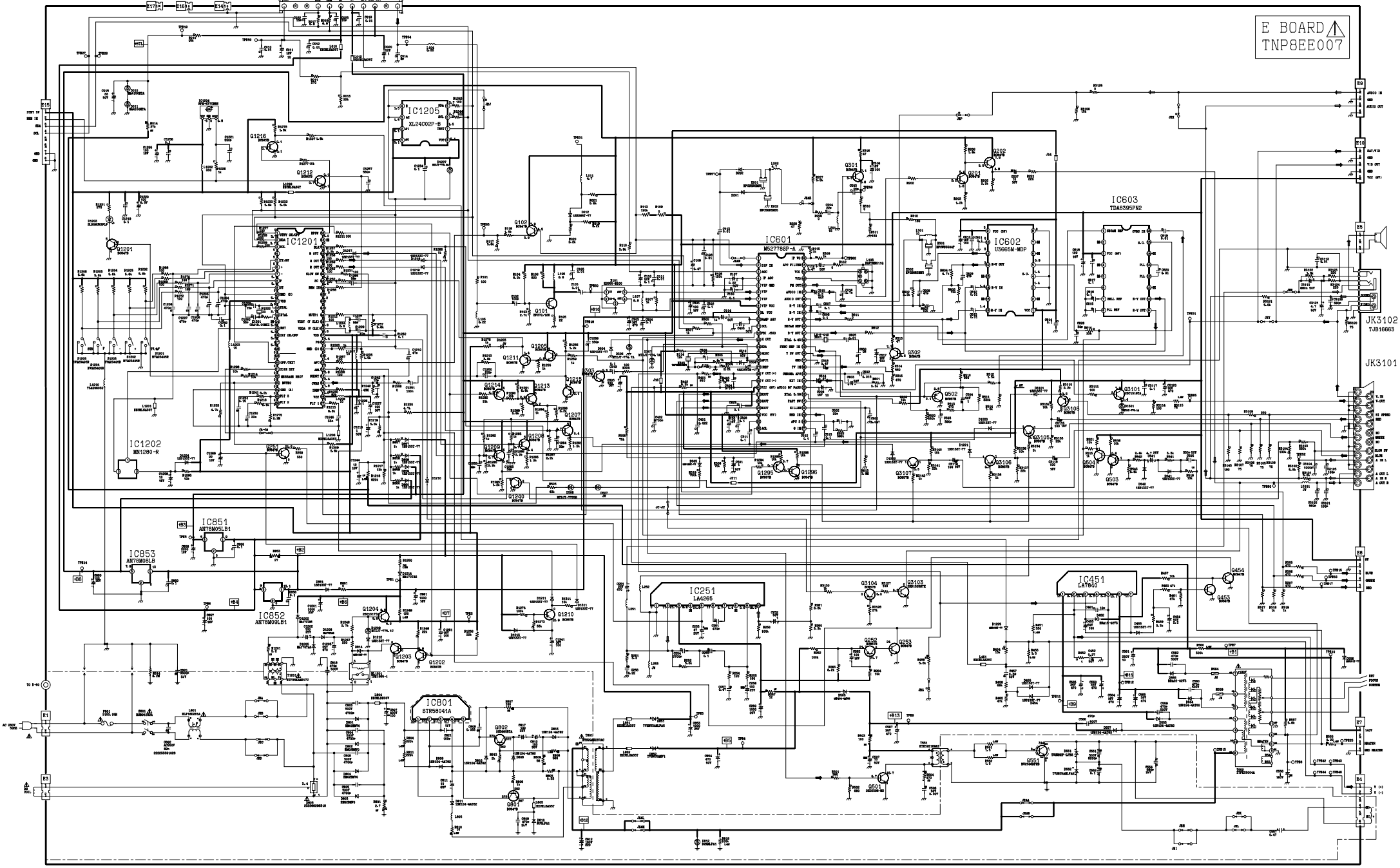
c. Do not connect an instrument, such as an oscilloscope, to the HOT and COLD circuits simultaneously, as this may cause fuse failure. Connect the earth of the instruments to the earth connection of the circuit being measured.

d. Make sure to disconnect the power plug before removing the chassis.

# E BOARD TX - 21K1T



# E BOARD TX - 14K1T



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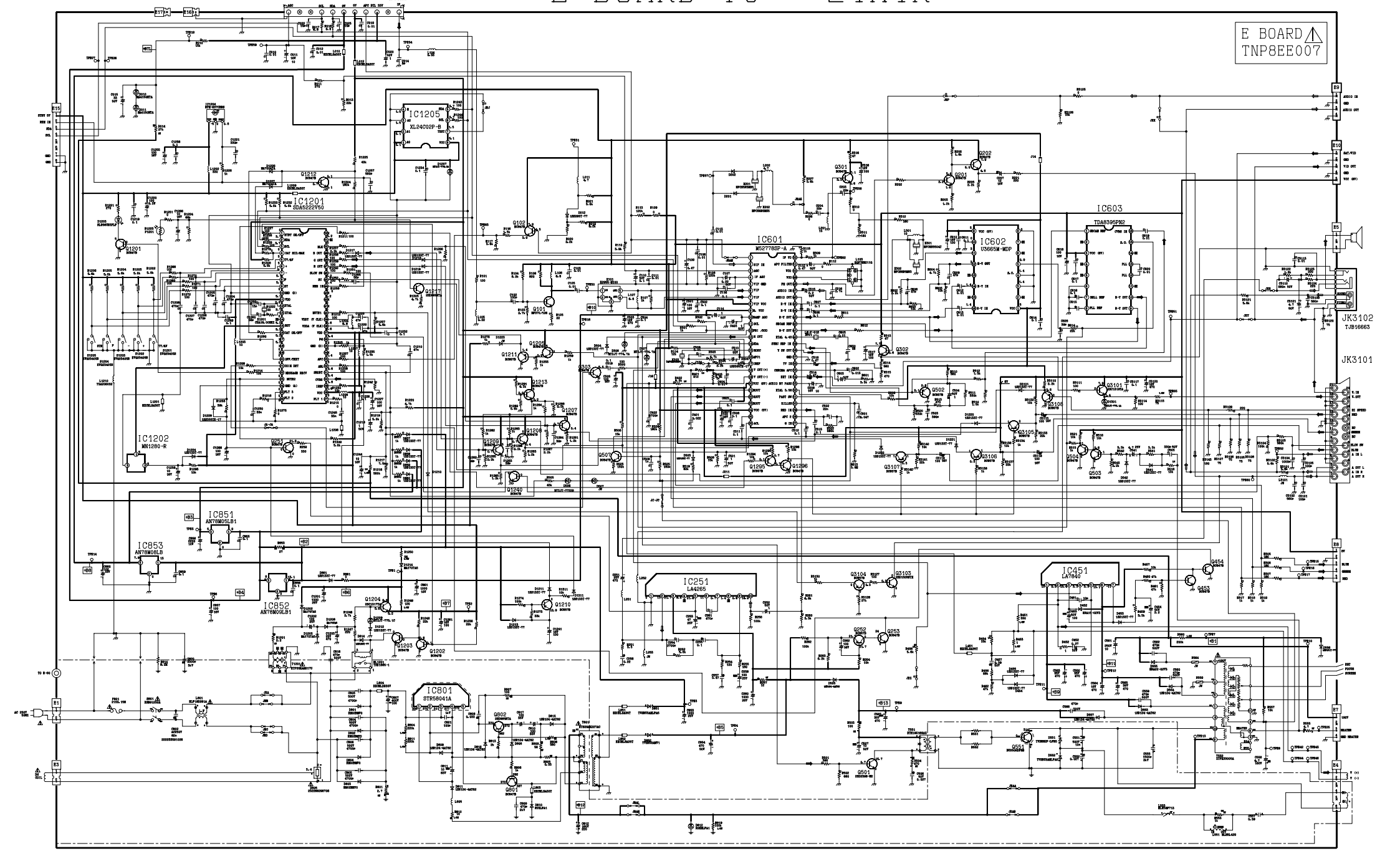

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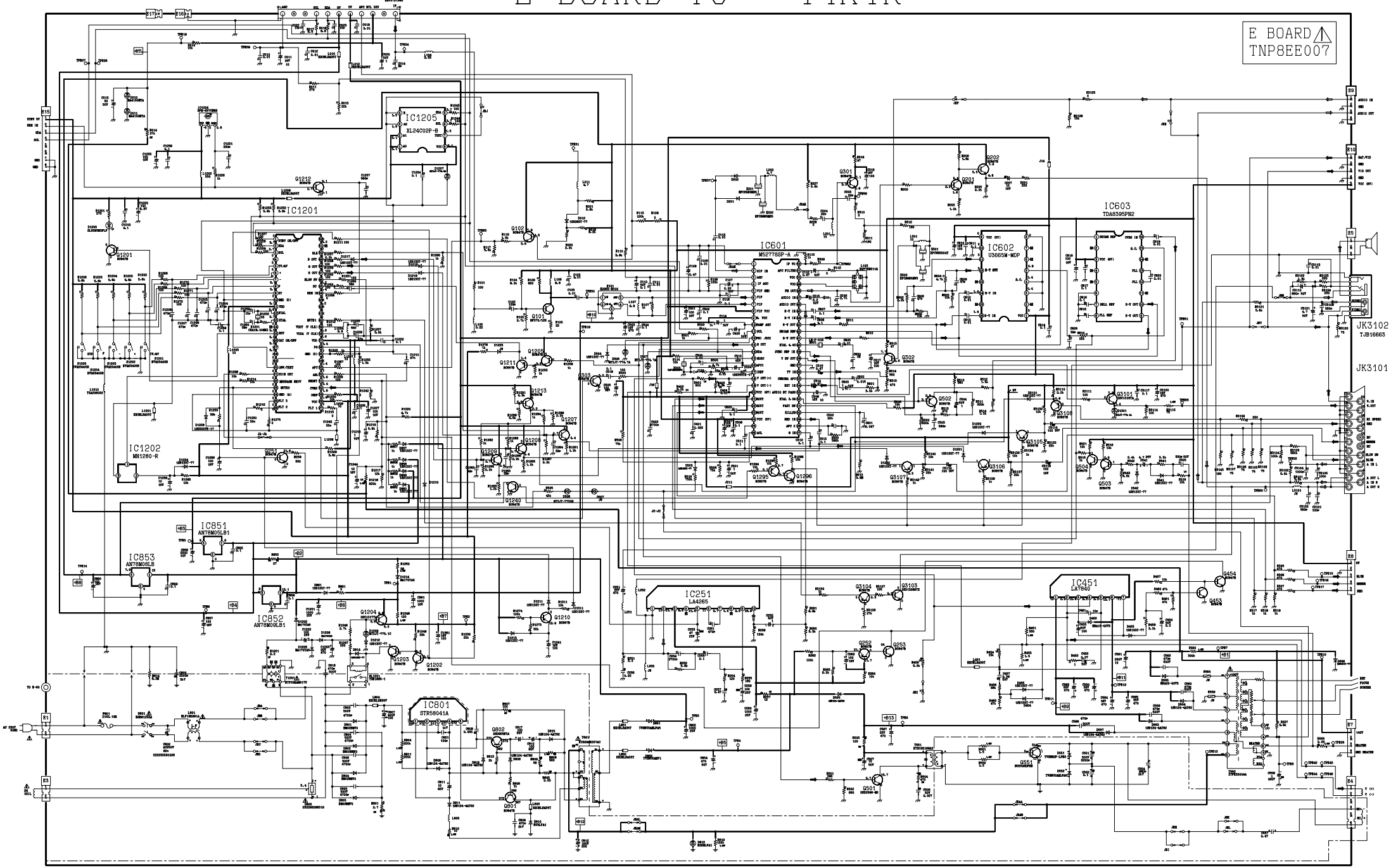
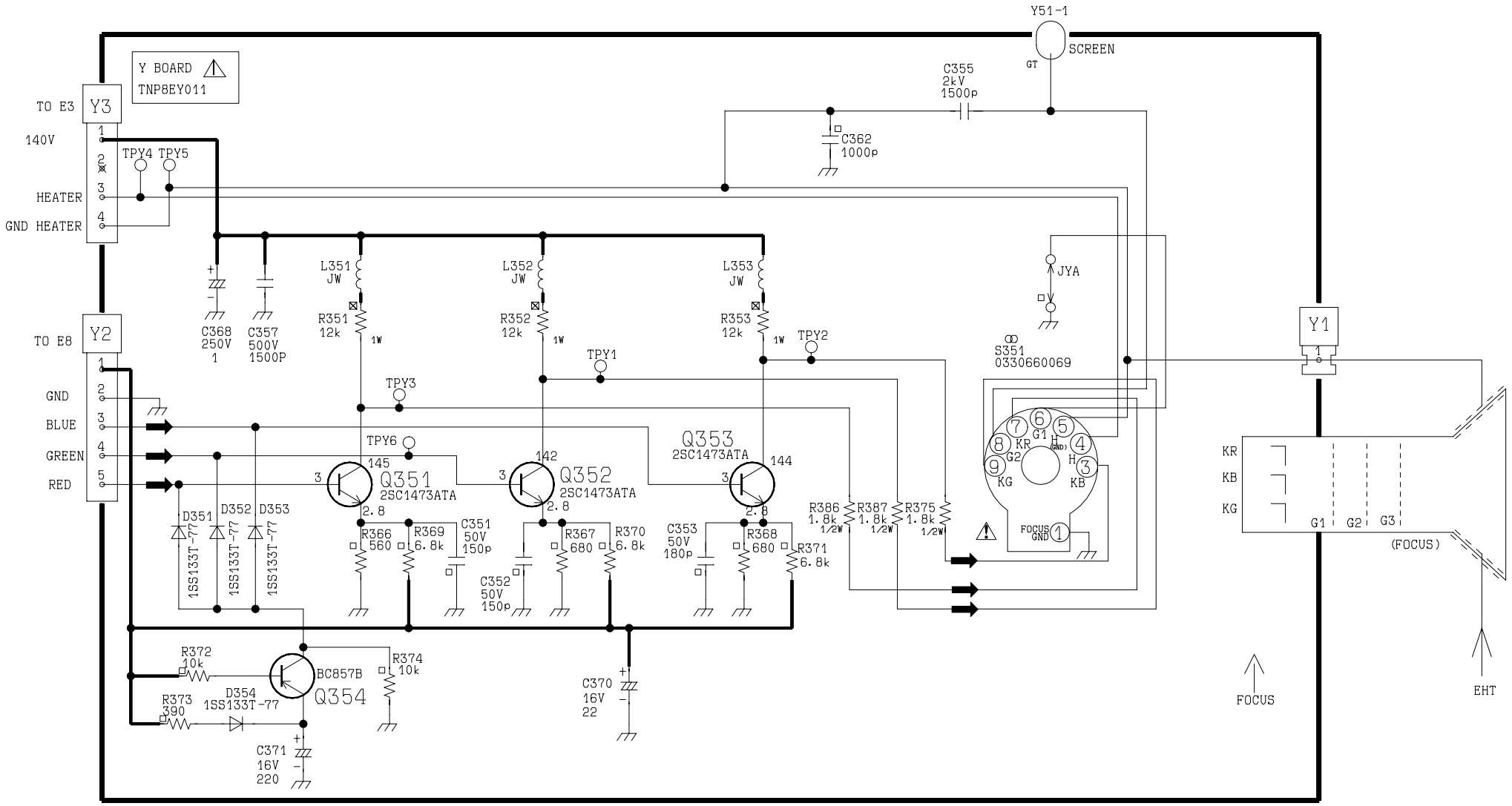
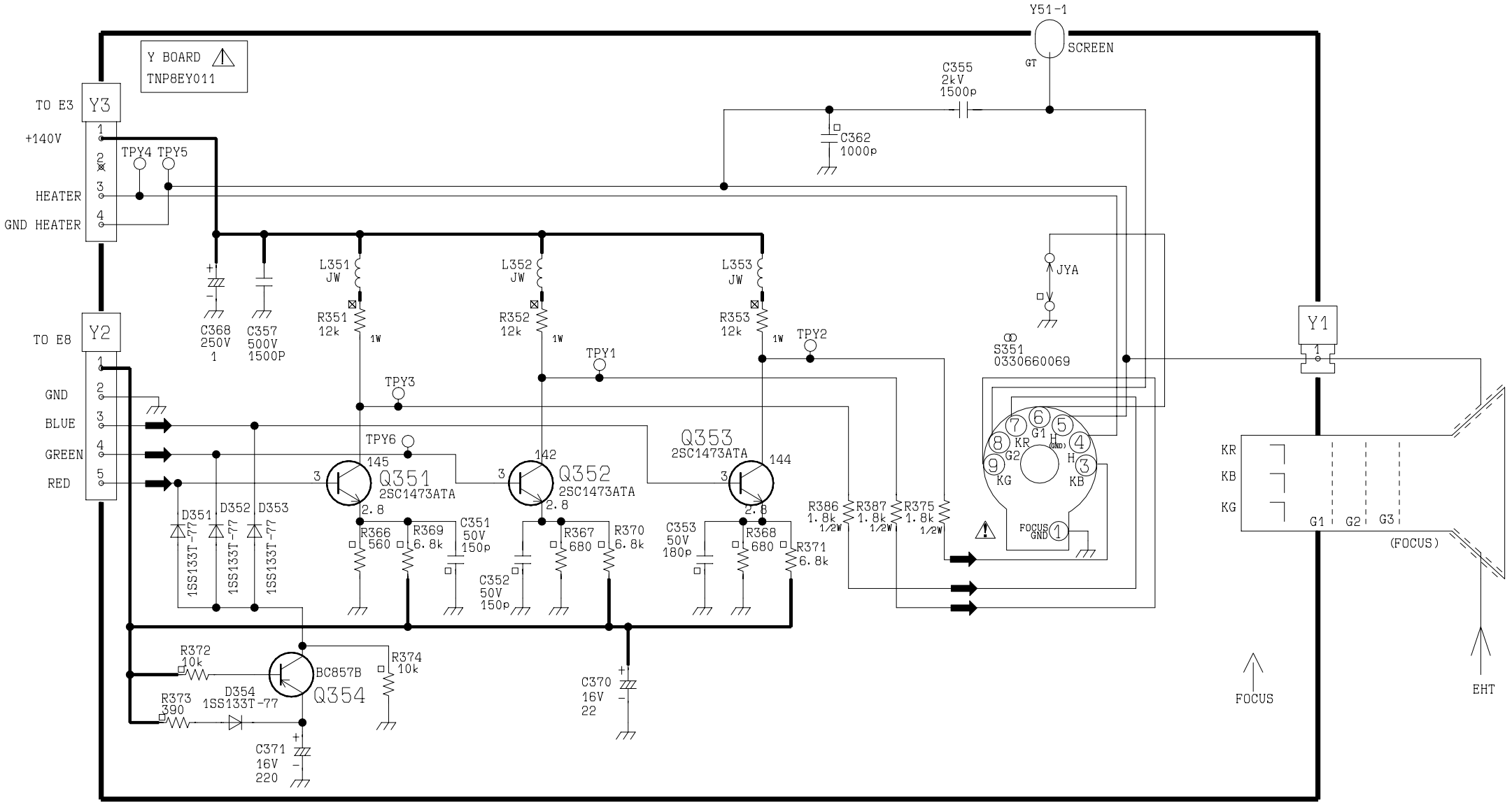



Y BOARD
TNP8EY011
TO E3
Y3
140V
HEATER
GND HEATER
TO E8
Y2
GND
BLUE
GREEN
RED
TPY4
TPY5
TPY1
TPY2
TPY3
TPY6
C368
250V
1
C357
500V
1500P
L351
JW
L352
JW
L353
JW
R351
12k
1W
R352
12k
1W
R353
12k
1W
Y51-1
SCREEN
GT
C355
2kV
1500p
C362
1000p
JYA
S351
0330660069
Y1
KR
KB
KG
G1
G2
G3
(FOCUS)
FOCUS
EHT
Q351
2SC1473ATA
Q352
2SC1473ATA
Q353
2SC1473ATA
145
142
144
2.8
D351
D352
D353
1SS133T-77
R366
560
R369
6.8k
C351
50V
150p
C352
50V
150p
R367
680
R370
6.8k
C353
50V
180p
R368
680
R371
6.8k
R386
1.8k
1/2W
R387
1.8k
1/2W
R375
1.8k
1/2W
FOCUS
GND
R372
10k
BC857B
Q354
R374
10k
R373
390
D354
1SS133T-77
C370
16V
22
C371
16V
220


Y BOARD
TNP8EY011
TO E3
Y3
+140V
HEATER
GND HEATER
TPY4
TPY5
TO E8
Y2
GND
BLUE
GREEN
RED
C368
250V
1
C357
500V
1500P
L351
JW
L352
JW
L353
JW
R351
12k
R352
12k
R353
12k
1W
TPY1
TPY2
TPY3
TPY6
Q351
2SC1473ATA
Q352
2SC1473ATA
Q353
2SC1473ATA
145
142
144
2.8
D351
D352
D353
1SS133T-77
R366
560
R369
6.8k
C351
50V
150p
C352
50V
150p
R367
680
R370
6.8k
C353
50V
180p
R368
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6.8k
R386
1.8k
1/2W
R387
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