

MODEL: 14N1XE / 14N1XR / 14N1XH

14N1XRP / 14N1XRY / 14N1XEP

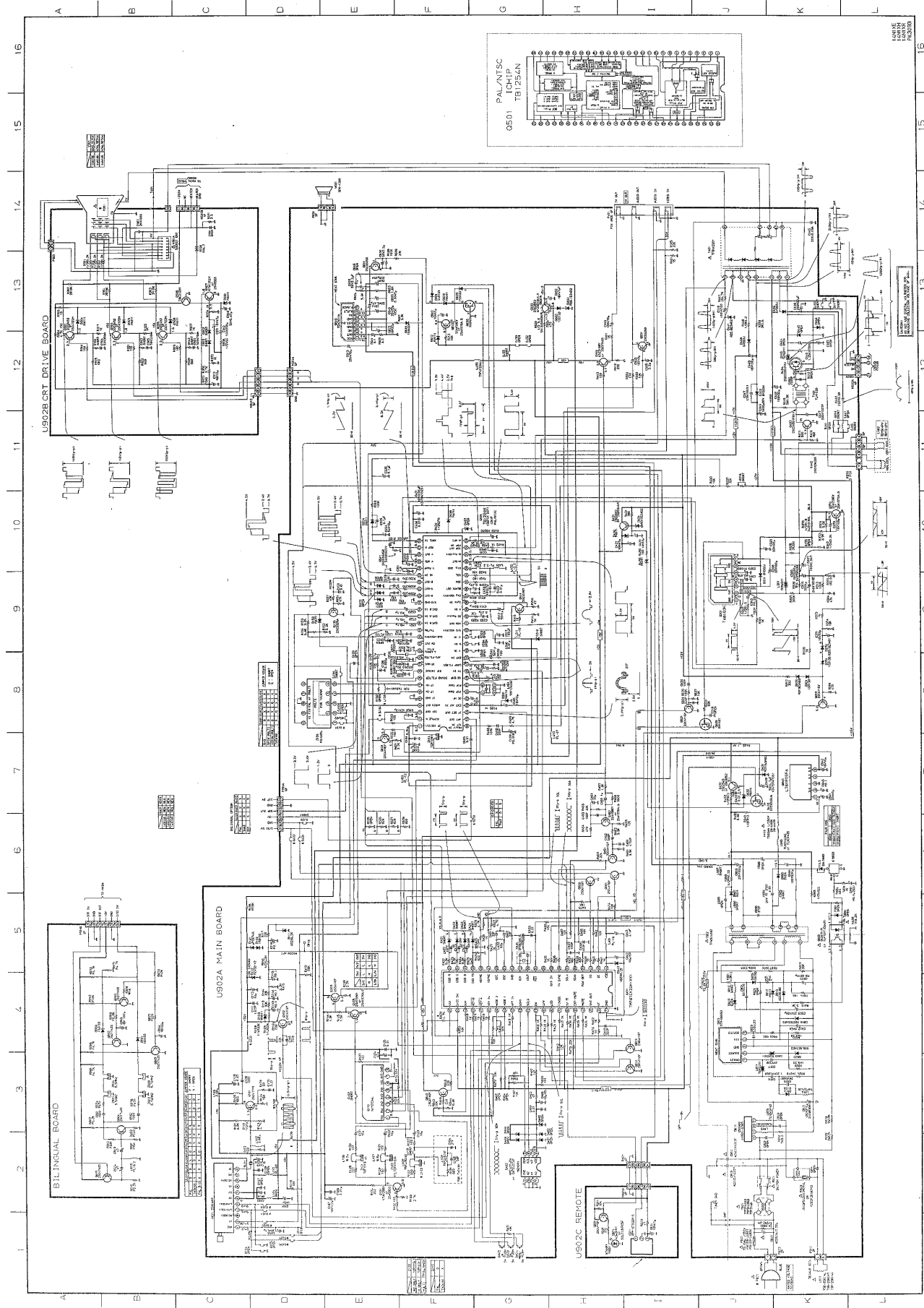
OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to chassis ground, line voltage 220 volts, colour bar signal. Voltages reading may vary $\pm 20\%$.
2. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
3. Waveforms are taken using a standard colour bar signal.
4. Make sure that CONTRAST and COLOUR controls are in mid position and BRIGHTNESS control is almost in maximum position. Set other controls for best picture.

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, $k=1,000$, $M=1,000,000$

⦿ : Solder links.



MODEL : 14N1XE / 14N1XR / 14N1XH

060-9915

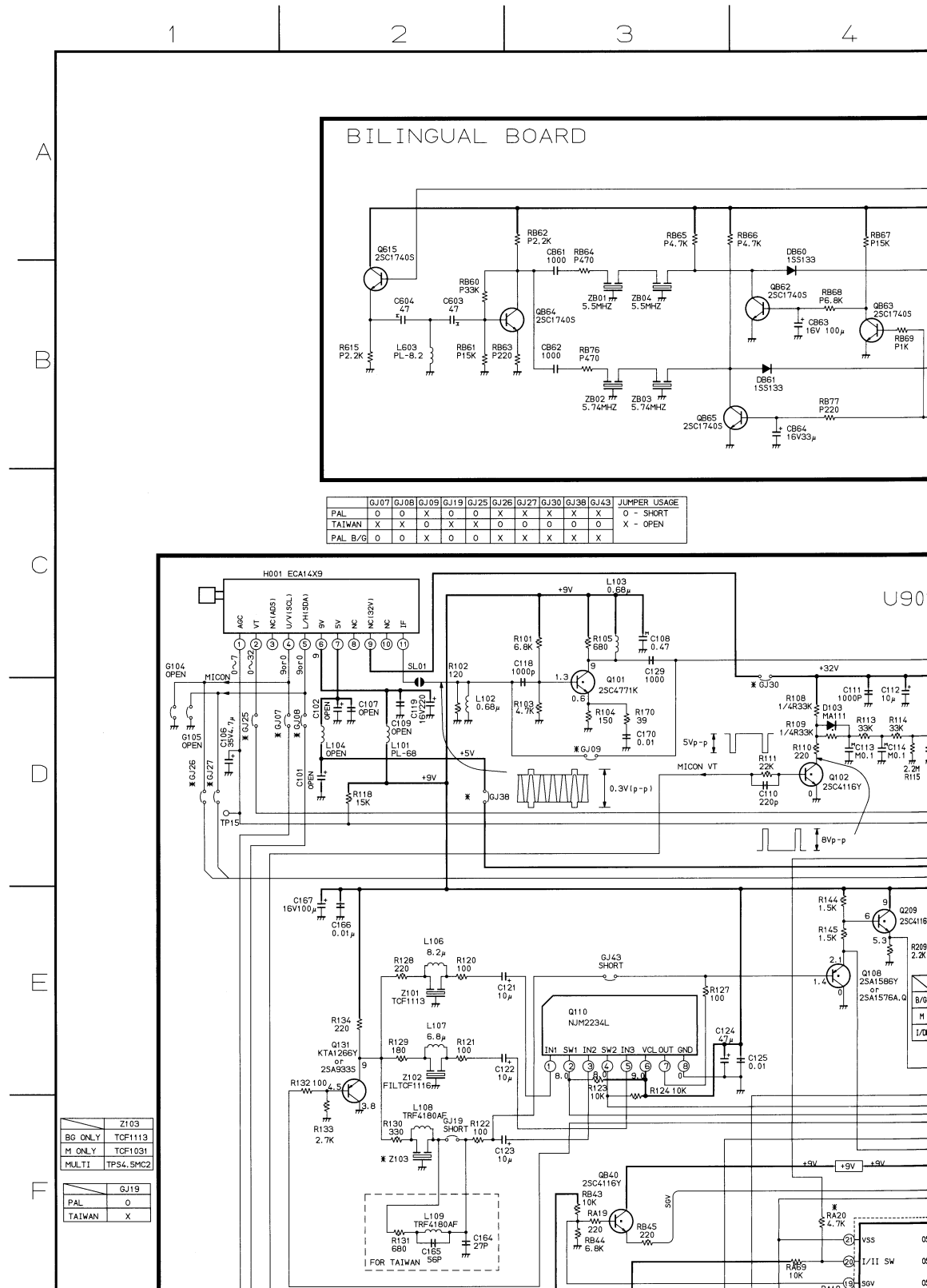
14N1XRP / 14N1XRY / 14N1XEP

14N1XEY / 14N1XHP / 14N1XHY

OBSERVATION 0

1. Voltages read v
2. All waveforms s
3. Waveforms are
4. Make sure tha
BRIGHTNESS c
picture.

CAUTION: The international hazard symbols “⚠” 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 page 3. Do not degrade the safety of the receiver through improper servicing.



PY

- # Y

1. D.C. resistance value of a principal transformer. These are measured for separated
2. The circuits are subject to change without
3. : Solder links.

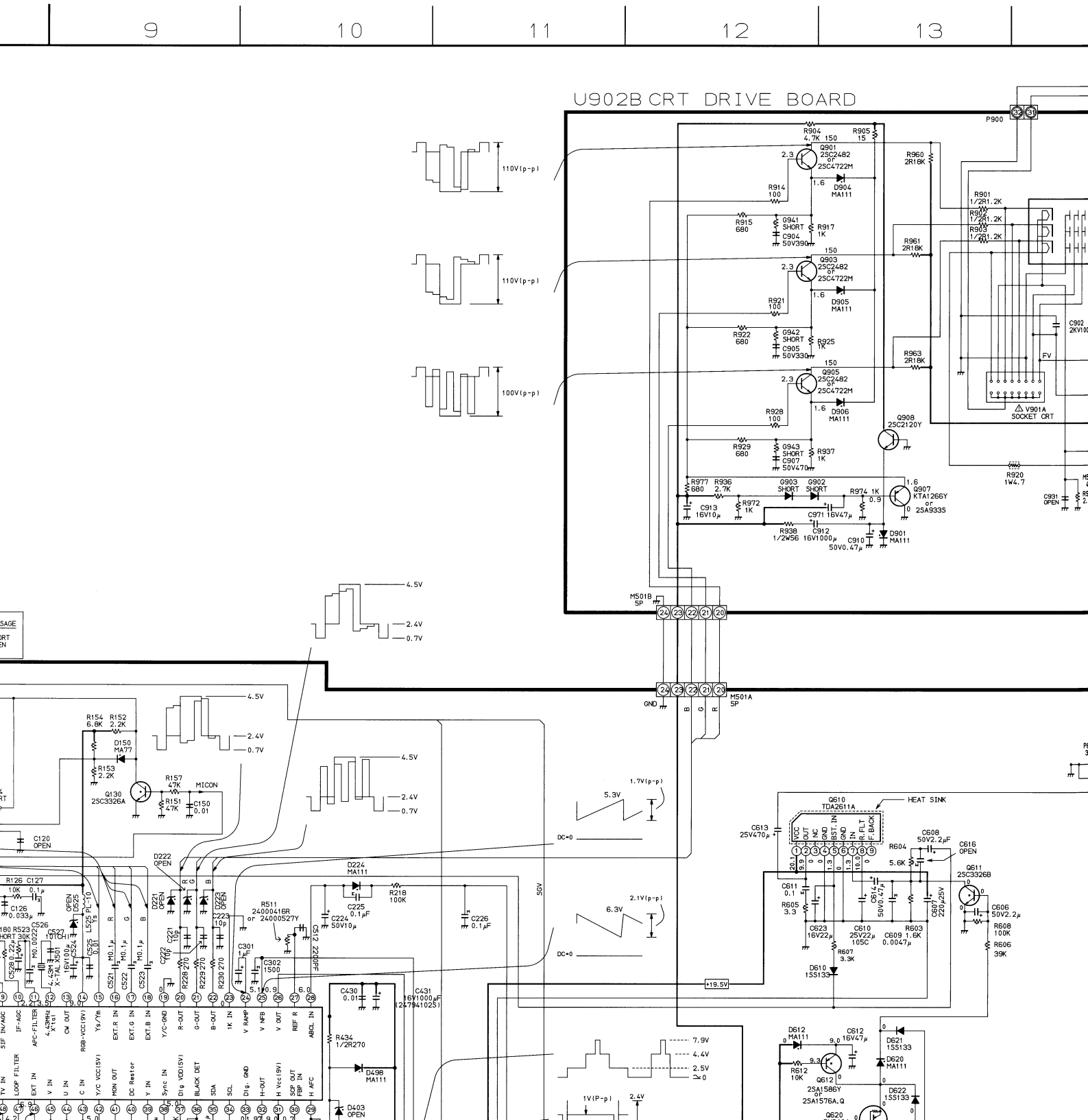


EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

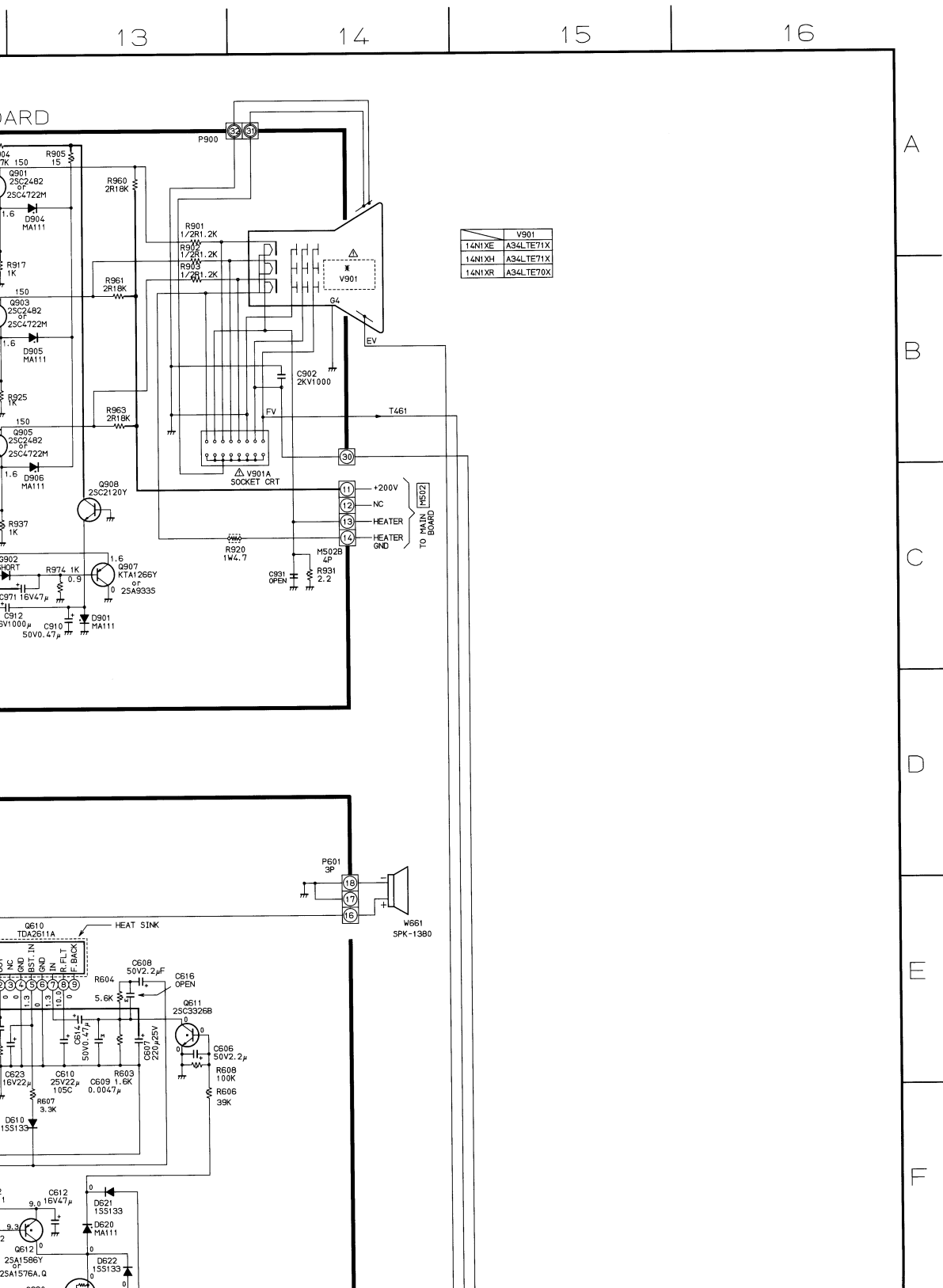
1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are in pF and the values more than 1 in μ F.
3. Unless otherwise noted in schematic, all inductor values more than 1 are in mH, and the values less than 1 in H.

ance value of a principal transformer is shown in this schematic diagram. The values are measured for separated from the circuit. The values are subject to change without notice. For more information, please refer to the links.



R, CAPACITOR and INDUCTOR

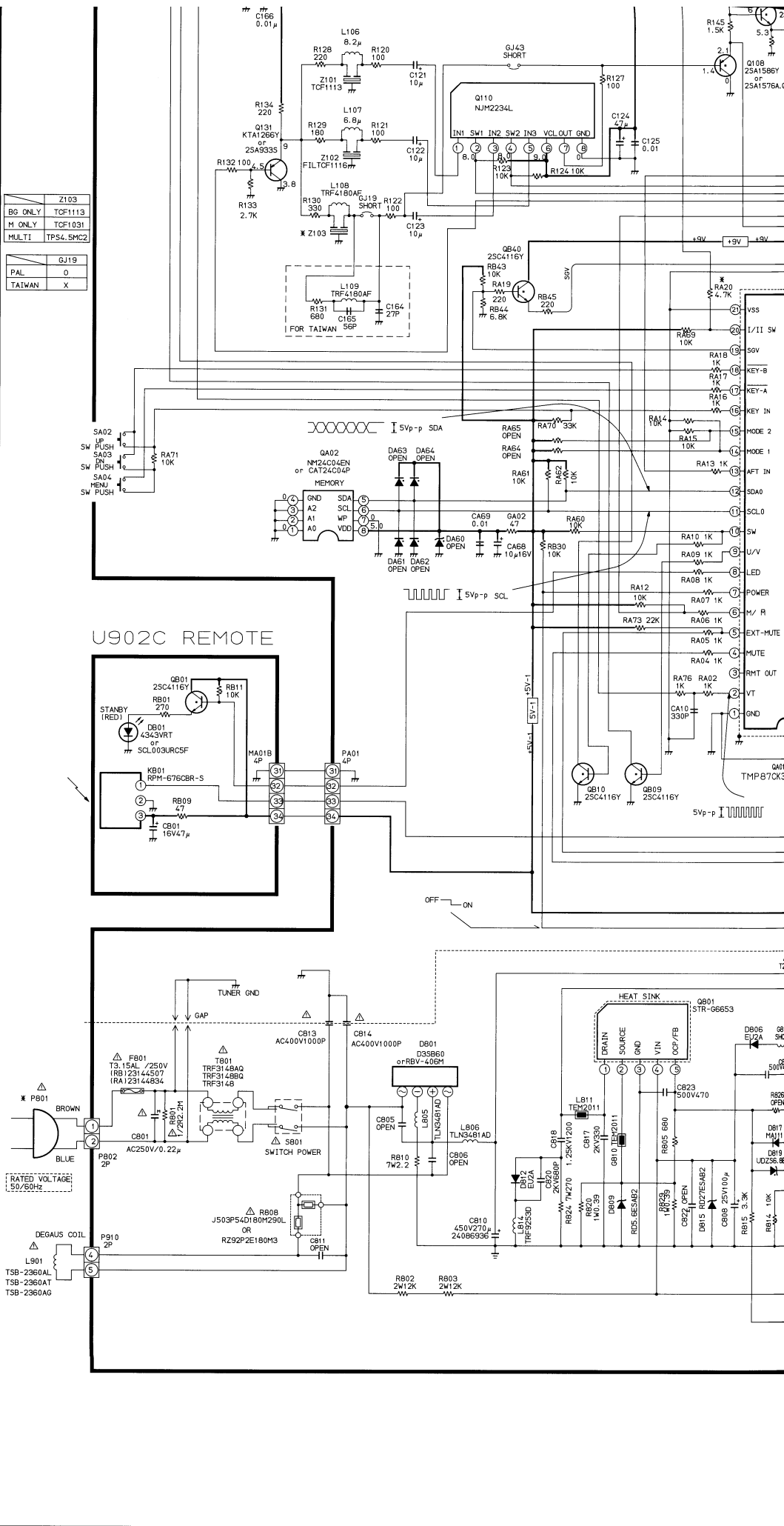
n ohm, k=1,000, M=1,000,000
 ted in schematic, all capacitor values less than 1 are expres-
 es more than 1 in pF.
 ted in schematic, all inductor values more than 1 are expres-
 es less than 1 in H.

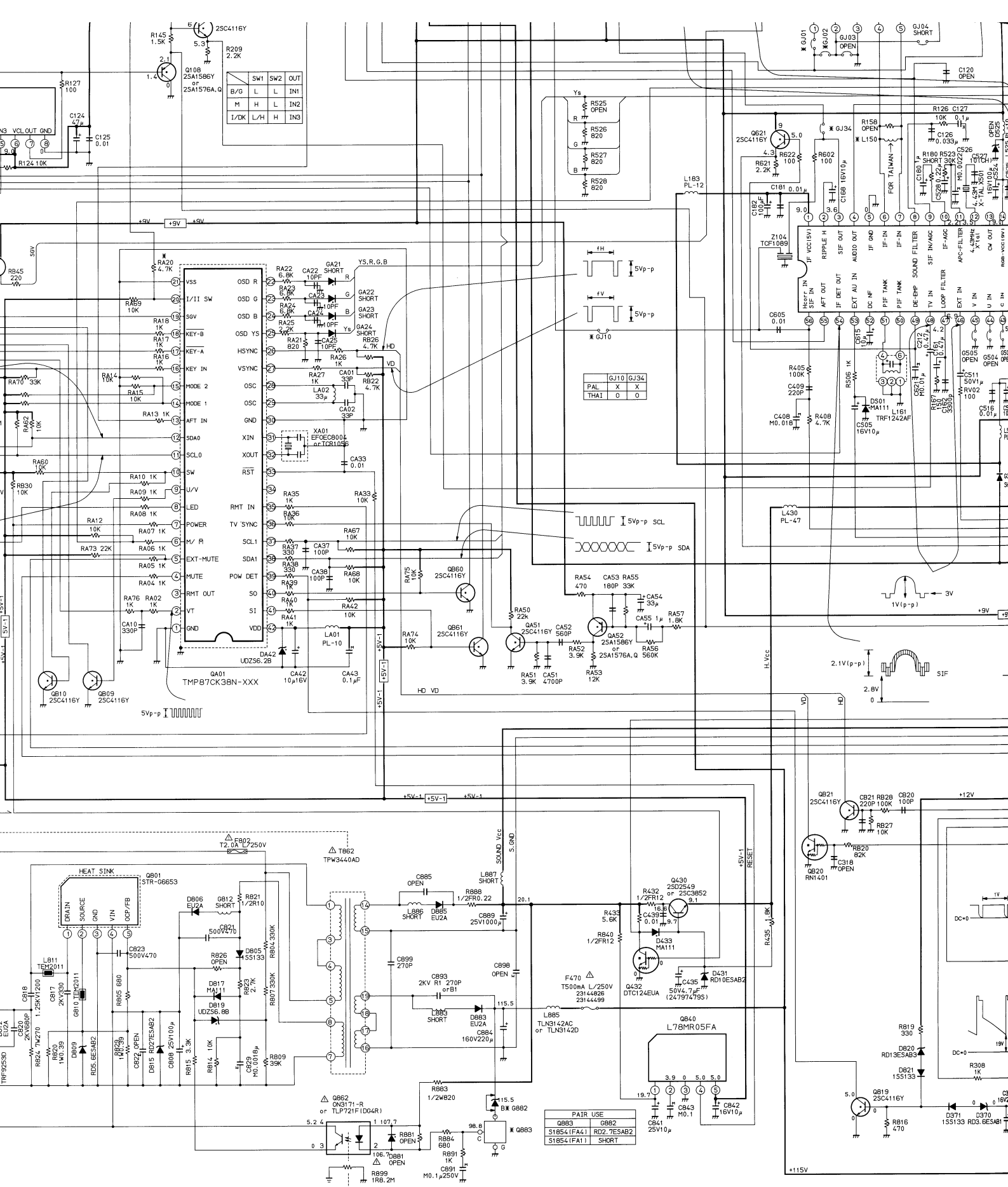


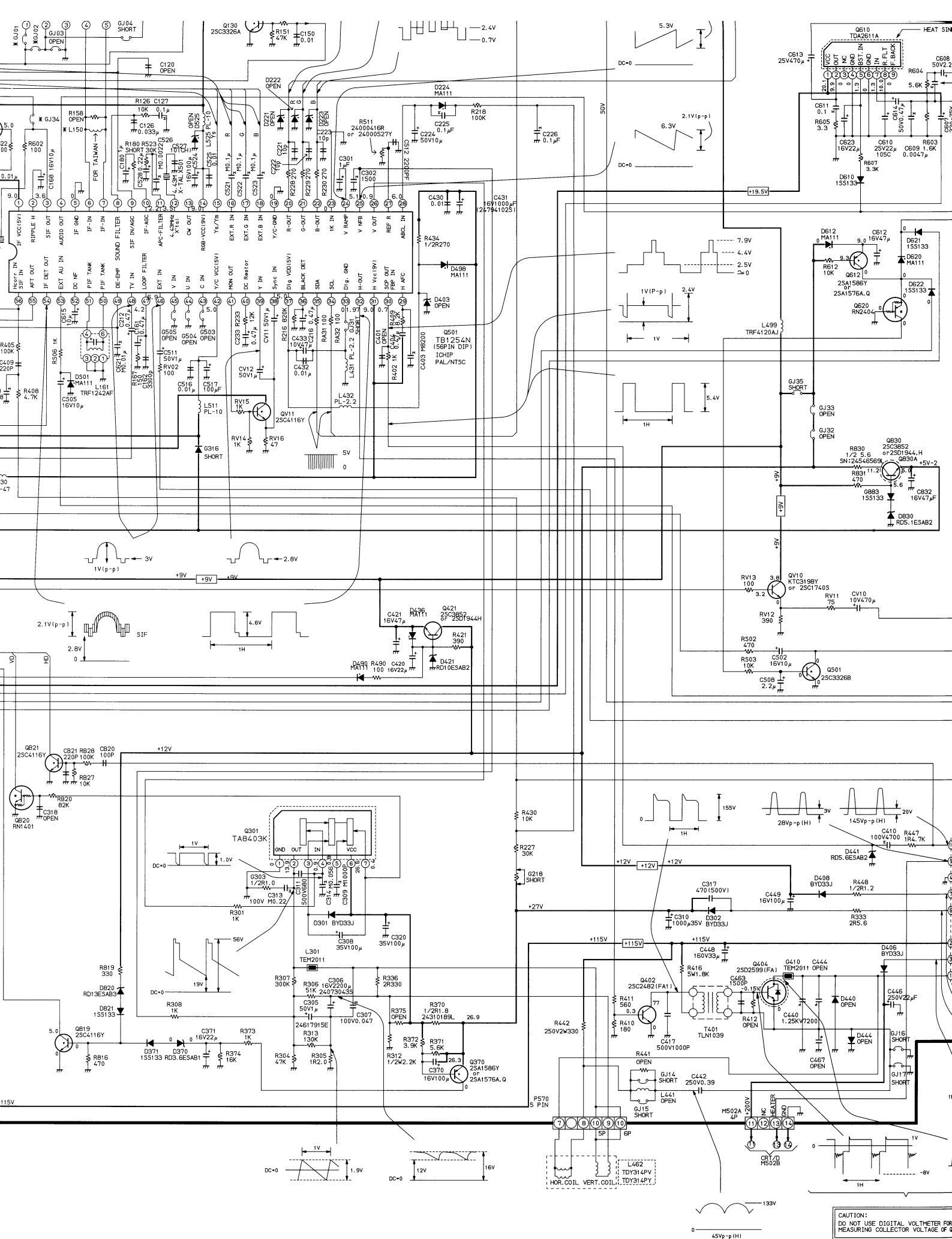
	Z103
BG ONLY	TCF1113
M ONLY	TCF1031
MULTI	TPS4.SMC2

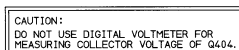
	GJ19
PAL	0
TAIWAN	X

U902C REMOTE







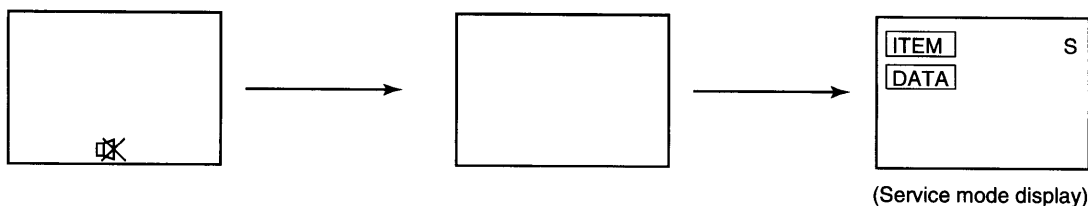


14N1XE
14N1XH
14N1XR
PK3093

SERVICE MODE

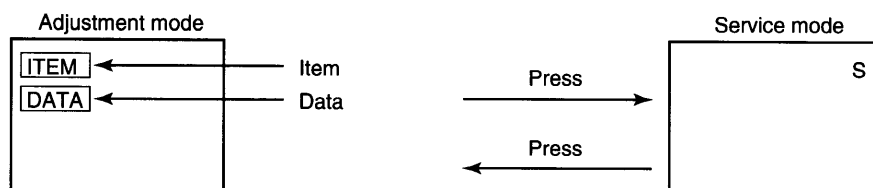
1. ENTERING TO SERVICE MODE

- 1) Press  button once on Remote Control.
- 2) Press  button again to keep pressing.
- 3) While pressing the  button, press MENU button on TV set.



2. DISPLAYING THE ADJUSTMENT MENU

- 1) Press MENU button on TV.



3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

A single horizontal line ON/OFF:

Test signal selection :

Selection of the adjustment items :

Change of the data value :

Adjustment menu mode ON/OFF :

Initialization of the memory (QA02) :

Reset the count of operating protect circuit to "00":

"RCUT" selection :

"GCUT" selection :

"BCUT" selection :

"CNTX" (or "SCNT") selection :

"COLC" selection :

"TNTC" selection :

Test audio signal ON/OFF (1kHz) :

Self diagnostic display ON/OFF :

- / - - button (on Remote) or  button (on TV)

 button (on Remote)

CHANNEL  /  (on TV & Remote)

VOLUME  + / - (on TV & Remote)

MENU button on TV

CALL + CHANNEL button on TV ()

CALL + CHANNEL button on TV ()

1 button

2 button

3 button

4 button

5 button - - - Color thickness correction

6 button note: Displayed differently as shown below, depending on the setting of the receiving color system.

8 button

9 button

COLP (PAL)

COLC (NTSC)

COLS (SECAM)

CAUTION : Never try to perform initialization unless you have changed the memory IC.

4. SELECTING THE ADJUSTING ITEMS

- 1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2.
(▼ button for reverse order)



5. ADJUSTING THE DATA

- 1) Pressing of VOLUME ▲/– button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

6. EXIT FROM SERVICE MODE

- 1) Pressing POWER button to turn off the TV once.

■ INITIALIZATION OF MEMORY DATA OF QA02

After replacing QA02, the following initialization is required.

1. Enter the service mode, then select any register item.
2. Press and hold the CALL button on the Remote, then press the CHANNEL ▲ button on the TV. The initialization of QA02 has been completed.
3. Check the picture carefully. If necessary, adjust any adjustment item above.
Perform "Auto search Memory" on the owner's manual.

CAUTION: Never attempt to initialize the data unless QA02 has been replaced.

7. TEST SIGNAL SELECTION

Every pressing of ⏻ button on the Remote Control changes the built-in test patterns on screen as described below in SERVICE MODE.

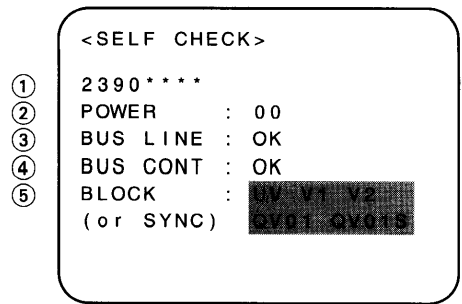
Signal off —→ NTSC signals (14 patterns)
 ↑ PAL signals (14 patterns) ←

Signals	Picture
• Red raster • Green raster • Blue raster • All Black • All White	
• Black & White	
• Black cross-bar • White cross-bar • Black cross-bar on green raster	
• Black cross-hatch • White cross-hatch	
• Black cross-dot • White cross-dot	
• H signal (white) • H signal (black)	

* The signals marked with ■ are not usable to display in the Test signal for some model.

8. SELF DIAGNOSTIC FUNCTION

- 1) Press "9" button on Remote Control during display of adjustment menu in the service mode.
The diagnosis will begin to check if interface among IC's are executed properly.
- 2) During diagnosis, the following displays are shown.



- ① Part number of microcomputer (QA01)
- ② Operation number of protecting circuit ----"00" is normal.
When indication is other than "00", overcurrent apts to flow, and circuit parts may possibly be damaged.
- ③ BUS LINE CHECK ----"OK" is normal.
"SCL(SCL1)-GND" SCL-GND short circuit
"SDA(SDA1)-GND" SDA-GND short circuit
"SCL(SCL1)-SDA (SDA1)" ... SCL-SDA short circuit
- ④ BUS CONT ----"OK" is normal.
When indication shows "Q ○○○ NG", the device with the number may possibly be damaged.
- ⑤ BLOCK ----"OK" is normal.

UV : TV reception mode

V1 : Video input mode (+01)
V2 : Video input mode (+02)

Indicated color of mode now selected : Green and Red
Indicated color of other modes : White

Green : Normal

Red : The microcomputer operates to provide judgement of no video signal. The red color is still indicated though the signal is input, failure may exist in input signal line including QV01.

QV01 : In case of indication green ---Normal

In case of indication red with input signal---

Failure may exist in output line including QV01.

NOTE: Component which controls character display on screen is QT01 (TELETEXT IC). If this display function fails to operate due to damage in QT01, self diagnosis procedure is as follows.

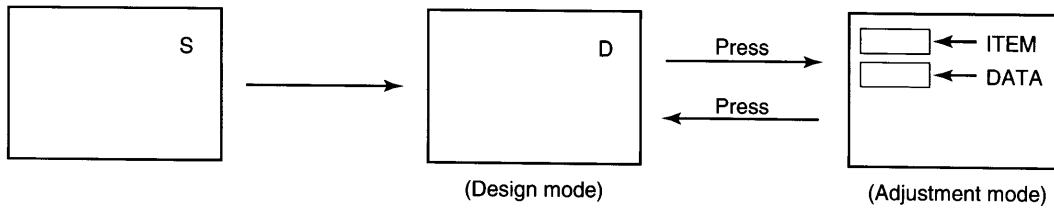
- (1) In case that power indicator is blinking with interval of 0.5 seconds, it means protecting circuit (Current limiter) is operating, and circuit components may possibly be damaged. Check related components.
- (2) In case that power indicator is blinking with interval of 1 second, Protecting circuit does not operate, but a part of Bus line does not operate normally. Check Bus line.

* The items marked with ■ are not usable to display in the SELF DIAGNOSTIC FUCTION for some model.

DESIGN MODE

1. ENTERING TO DESIGN MODE

- 1) Select the Service mode.
- 2) While pressing $\times$ (or CALL) button on Remote and press MENU button on TV.
- 3) Press MENU button on TV.



When QA02 is initialized, items "OPT0" and "OPT1" of DESIGN MODE are set to the data of the representative model of this chassis family.

Therefore, because ON-SCREEN specification remains in the state of the representative of model. This model is required to reset the data of items "OPT0" and "OPT1".

2. SELECTING THE ADJUSTING ITEMS

Every pressing of CHANNEL $\blacktriangledown$ button in the design mode changes the adjustment items in the order of table-3.

Refer to table-3 for data of design mode.
(See SETTING & ADJUSTING DATA on page 18)

3. ADJUSTING THE DATA

Pressing of VOLUME $\blacktriangle$ or $\blacktriangledown$ ($\triangleleft$ +/-) button will change the value of data.