TOSHIBA

COLOUR TELEVISION

21V33D

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SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.
To enter the Service Mode, press both set key and remote control key for more than 2 seconds.

Set Key	Remocon Key	Operations
VOL. (-) MIN	0	Reset the user setting items (PICTURE, VOLUME and LANGUAGE) to the initial state for delivery.
VOL. (-) MIN	1	Initialization of the factory. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours.
VOL. (-) MIN	6	POWER ON total hours is displayed on the screen. Refer to the "CONFIRMATION OF HOURS USED". Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
VOL. (-) MIN	8	Writing of EEPROM initial data. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	9	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).

CONFIRMATION OF HOURS USED

POWER ON total hours can be checked on the screen. Total hours are displayed in 16 system of notation.

NOTE: If you set a factory initialization, the total hours is reset to "0".

1. Set the VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 2 seconds.
3. After the confirmation of using hours, turn off the power.

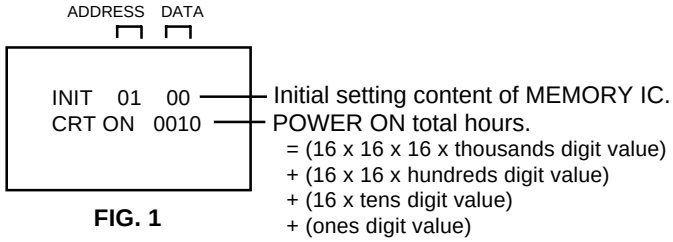


FIG. 1

WHEN REPLACING EEPROM (MEMORY) IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

NOTE: No need setting for after INI 16 due to the adjustment value.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	---	00	38	23	18	71	80	48	00	47	33	05	03	00	06	73
10	10	00	80	80	80	3C	00	---	---	---	---	---	---	---	---	---

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 2 seconds. ADDRESS and DATA should appear as FIG 1.
3. ADDRESS is now selected and should "blink". Using the VOL. +/- button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press OK to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using VOL. +/- button until required DATA value has been selected.
6. Pressing OK will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input. **After the data input, set to the initializing of shipping.**
9. Turn POWER on.
10. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 2 seconds.
11. After the finishing of the initializing of shipping, the unit will turn off automatically.

The unit will now have the correct DATA for the new MEMORY IC.

ELECTRICAL ADJUSTMENTS

1. ADJUSTMENT PROCEDURE

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION

- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- When you exchange IC and Transistor for a heat sink, apply the silicon grease on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor).

Prepare the following measurement tools for electrical adjustments.

1. Oscilloscope
2. Digital Voltmeter
3. Pattern Generator

On-Screen Display Adjustment

1. In the condition of NO indication on the screen. Press the VOL. DOWN button on the set and the Channel button **(9)** on the remote control for more than 2 seconds to appear the adjustment mode on the screen as shown in **Fig. 1-1**.

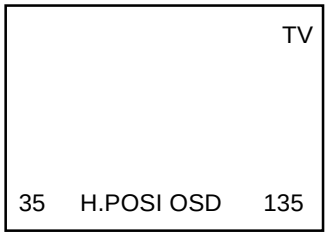


Fig. 1-1

2. Use the Channel button **(0-9)** or Channel UP/DOWN button on the remote control to select the options
3. shown in **Fig. 1-2**. Press the MENU button on the remote control to end the adjustments.

NO.	FUNCTION	NO.	FUNCTION
00	CUT OFF	20	TINT
01	RF AGC	21	SHARP
02	AGC GAIN	22	CONTRAST CENT
03	R DRIVE	23	CONTRAST MAX
04	R CUTOFF	24	CONTRAST MIN
05	G DRIVE	25	COLOR CENT
06	G CUTOFF	26	COLOR MAX
07	B DRIVE	27	COLOR MIN
08	H POSI (50)	28	M R CUT OFF
09	V POSI (50)	29	M G CUT OFF
10	V POSI (60)	30	M B CUT OFF
11	V SIZE (50)	31	CVBS OUT
12	V SIZE (60)	32	APR THRESHOLD
13	VCO COARSE	33	BELL FILTER
14	VCO FINE	34	BANDPASS
15	VCO COARSE L1	35	H POSI OSD
16	VCO FINE L1	36	V POSI OSD
17	BRIGHT CENT	37	H POSI TEXT
18	BRIGHT MAX	38	V POSI TEXT
19	BRIGHT MIN	39	H POSI (60)

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: CONSTANT VOLTAGE

1. Place the set with Aging Test for more than 5 minutes.
2. Connect the digital voltmeter to **TP501**.
3. Set condition is AV MODE without signal.
4. Adjust the **VR501** until the DC voltage is 115 ± 0.5V.

2-2: VCO

1. Place the set with Aging Test for more than 10 minutes.
2. Connect the oscillator (38.9MHz) to **TP001**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(13)** on the remote control to select "VCO COARSE".
4. Press the VOL. +/- button on the remote control until the "OK" appear on the screen. If the "OK" is not displayed, select the "+" side on the changed from "+" to "-".
5. Press the Page UP button once to set to "VCO FINE" mode.
6. Press the VOL. +/- button on the remote control to select the 5 step down point from the upper limit on the "OK". (Example: In case of the "OK" range 30~41, select 36.)

2-3: AGC VOLTAGE

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the UHF (63dB).
3. Connect the digital voltmeter to **pin 5 of CP101**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(01)** on the remote control to select "RF AGC".
5. Press the VOL. +/- button on the remote control until the digital voltmeter is 2.5 ± 0.05V.

2-4: CUT OFF

1. Set condition is AV MODE without signal.
2. Using the remote control, set the brightness and contrast to normal position.
3. Place the set with Aging Test for more than 15 minutes.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(00)** on the remote control to select "CUT OFF".
5. Adjust the **Screen Volume** until a dim raster is obtained.

2-5: WHITE BALANCE

NOTE: Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(03)** on the remote control to select "R DRIVE".
5. Press the Page UP/DOWN button on the remote control to select the "R DRIVE", "G DRIVE", "M R CUTOFF" or "M G CUTOFF".
6. Adjust the VOL. +/- button on the remote control to whiten the R DRIVE, G DRIVE, M R CUT OFF, and M G CUT OFF at each step tone sections equally.
7. Perform the above adjustments 5 and 6 until the white color is looked like a white.

ELECTRICAL ADJUSTMENTS

2-6: FOCUS

1. Receive a 70dB monoscope pattern.
2. Turn the Focus Volume fully counterclockwise once.
3. Adjust the **Focus Volume** until picture is distinct.

2-7: HORIZONTAL POSITION

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(08)** on the remote control to select "H POSI (50)".
4. Press the VOL. +/- button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.
5. Receive the monoscope pattern of NTSC. (Audio Video Input)
6. Using the remote control, set the brightness and contrast to normal position.
7. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(39)** on the remote control to select "H POSI (60)".
8. Press the VOL. +/- button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

2-8: VERTICAL POSITION, VERTICAL LINEARITY

1. Receive the monoscope pattern from the pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Adjust the **VR401** until the horizontal line becomes fit to the notch of the shadow mask.
4. Adjust the **VR420** until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

2-9: VERTICAL SIZE

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(11)** on the remote control to select "V SIZE (50)".
4. Adjust by using the VOL. +/- button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes 8 ± 2%.
5. Receive a broadcast and check if the picture is normal.
6. Receive the monoscope pattern of NTSC. (Audio Video Input)
7. Using the remote control, set the brightness and contrast to normal position.
8. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(12)** on the remote control to select "V SIZE (60)".
9. Adjust by using the VOL. +/- button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes 10 ± 2%.
10. Receive a broadcast and check if the picture is normal.

2-10: BRIGHT CENT

1. Receive the PAL black pattern*. (RF Input)
2. Using the remote control, set the brightness and contrast to normal position.
3. Place the set with Aging Test for more than 15 minutes.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(17)** on the remote control to select "BRIGHT CENT".
5. Press the VOL. +/- button on the remote control until the screen begin to shine.
6. Receive the PAL black pattern*. (Audio Video Input)
7. Set to the AV mode. Then perform the above adjustments 2~5.

*The Black Pattern means the whole black raster signal. Select the "RASTER" of the pattern generator, set to the OFF position for each R, G and B.

2-11: CONTRAST CENT

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(22)** on the remote control to select "CONTRAST CENT".
2. Press the VOL. +/- button on the remote control until the contrast step No. becomes "40".
3. Receive a broadcast and check if the picture is normal.
4. Set to the AV mode. Then perform the above adjustments 1~3.

2-12: COLOR CENT

1. Receive the PAL color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast and color to normal position.
3. Connect the oscilloscope to **TP801**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(25)** on the remote control to select "COLOR CENT".
5. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 5 scales on the screen of the oscilloscope.
6. Press the VOL. +/- button on the remote control until the red color level is adjusted to 90 ± 10% of the white level. **(Refer to Fig. 2-1)**
7. Receive the PAL color bar pattern. (Audio Video Input)
8. Set to the AV mode. Then perform the above adjustments 2~6.

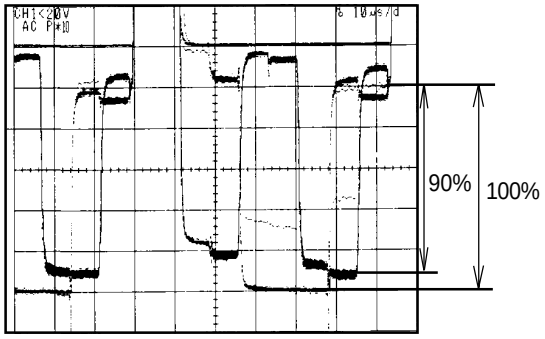


Fig. 2-1

ELECTRICAL ADJUSTMENTS

2-13: TINT

1. Receive the PAL color bar pattern. (Audio Video Input)
2. Using the remote control, set the brightness and contrast to normal position.
3. Connect the oscilloscope to **TP803**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(20)** on the remote control to select "TINT".
5. Press the VOL. +/- button on the remote control until the section "A" becomes a straight line. **(Refer to Fig. 2-2)**

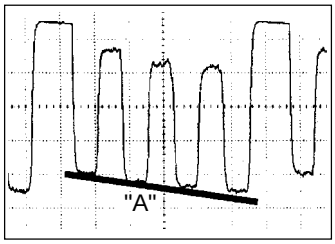


Fig. 2-2

2-14: Confirmation of Fixed Value (Step No.)

Please check if the fixed values of the each adjustment items are set correctly referring below.

NO.	FUNCTION	RF	AV
02	AGC GAIN	00	---
04	R CUTOFF	00	---
06	G CUTOFF	00	---
07	B DRIVE	45	---
09	V POSI (50)	05	---
10	V POSI (60)	00	---
19	BRIGHT MIN	16	16
20	TINT	30	ADJ.
21	SHARP	04	04
24	CONTRAST MIN	15	15
26	COLOR MAX	50	50
27	COLOR MIN	10	10
30	M B CUT OFF	127	---
31	CVBS OUT	31	---
32	APR THRESHOLD	00	---
33	BELL FILTER	20	---
34	BANDPASS	00	---
35	H POSI OSD	135	---
36	V POSI OSD	57	---
37	H POSI TEXT	125	---
38	V POSI TEXT	57	---

*To check for the fixed values of the RF (60Hz), indicate the adjustment mode screen while input the 60Hz video signal.

ELECTRICAL ADJUSTMENTS

3. PURITY AND CONVERGENCE ADJUSTMENTS

NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

3-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. **(Refer to Fig. 3-1)**
   If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from the color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

3-2: PURITY

NOTE

Adjust after performing adjustments in section 3-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
   Adjust the pair of purity magnets so the color at the ends are equally wide.
3. Move the deflection yoke backward (to neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue colors.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

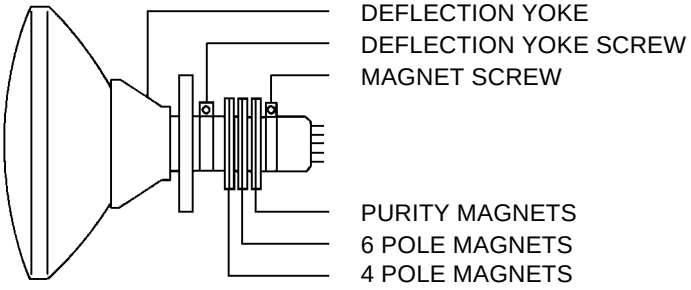


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-2.

1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

3-4: DYNAMIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. **(Refer to Fig. 3-2-a)**
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. **(Refer to Fig. 3-2-b)**

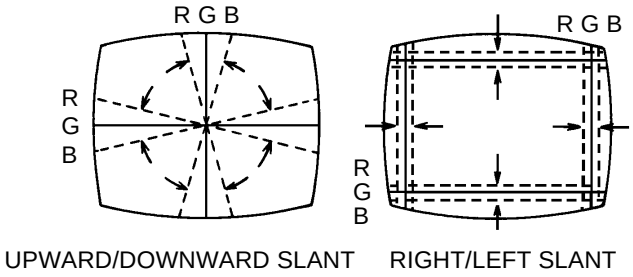


Fig. 3-2-a

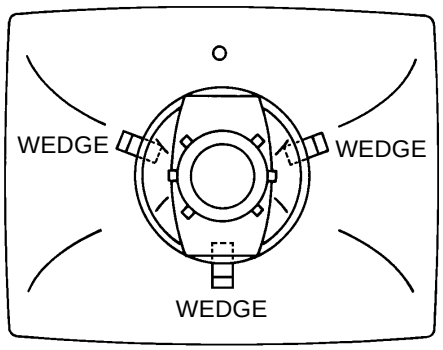
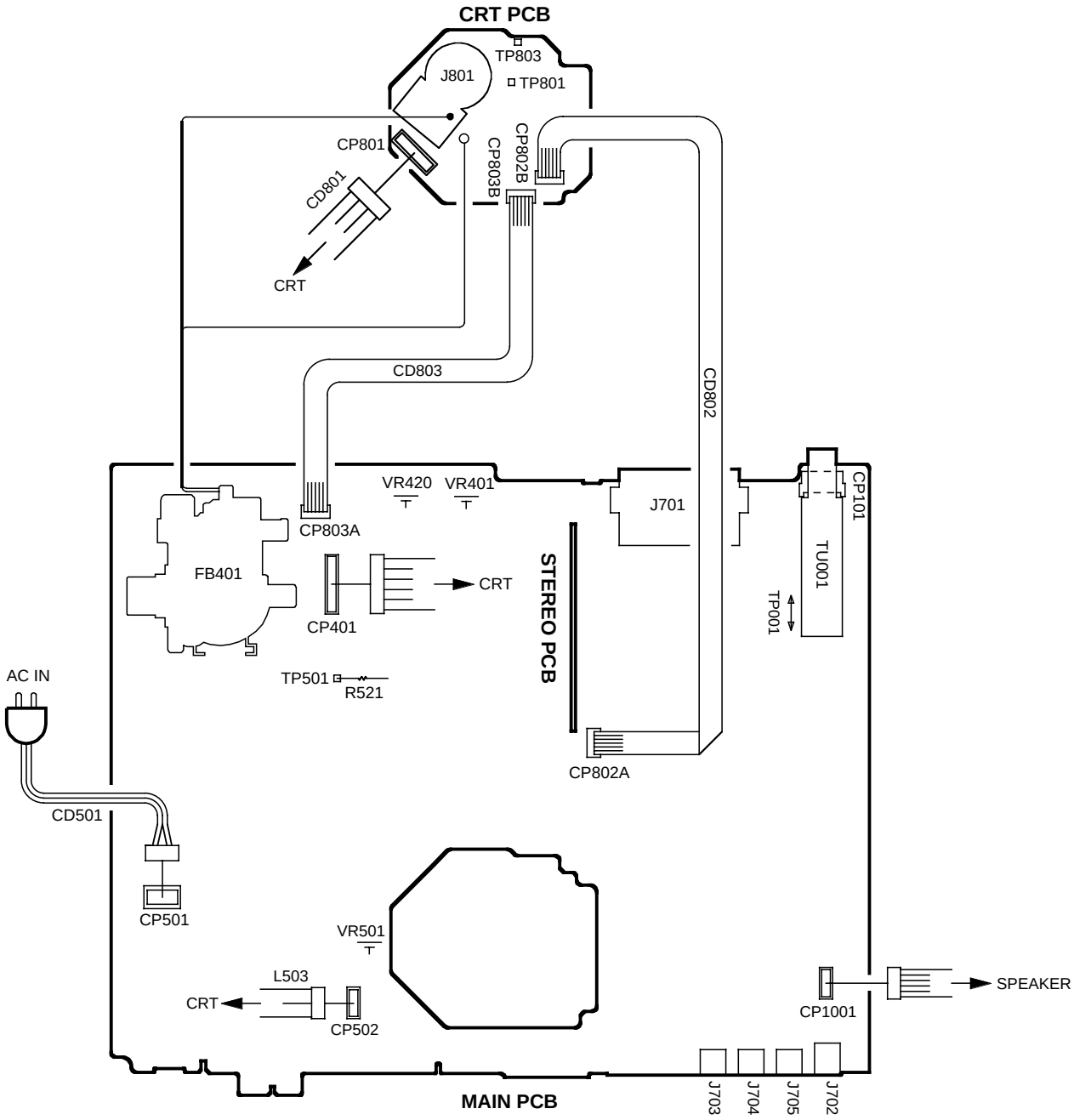


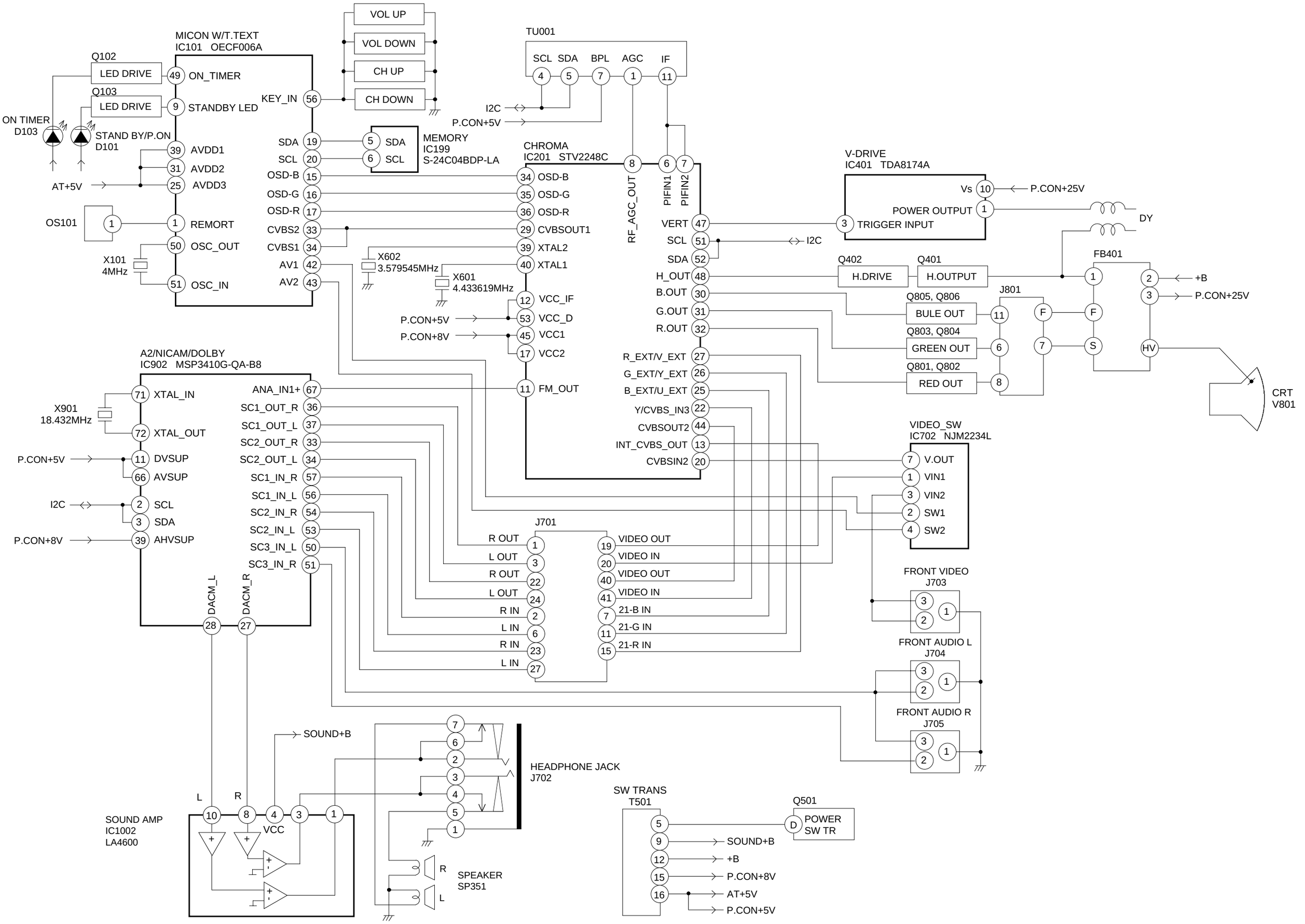
Fig. 3-2-b

ELECTRICAL ADJUSTMENTS

4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



BLOCK DIAGRAM



MICON/TUNER SCHEMATIC DIAGRAM
(MAIN PCB)

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

MICON W/T.TEXT IC101 OECF006A

TUNER TU001 TUWRF4EG-778F2

RESET IC IC102_1 R3111N311A/C-TR

ON TIMER D103 LTL-1CHGE-002A GREEN

LED DRIVE Q102 2SA1037AK

LED DRIVE Q103 2SA1037AK

STAND BY/P.ON D101 SLR-342VCT32 RED

OS101 RPM7138-H5

ACCESSORY: CP001 003P-2100, TM101 R25-1788, UM-4 BT001 R03(AB)2PXGPI, UM-4 BT002 R03(AB)2PXGPI

CP101 06JQ-ST: GND 1, I2C SCL 2, I2C SDA 3, I2C OFF 4, RF AGC 5, NC 6

FROM/TO POWER: P.CON+5V, TUNER_BT, P.FAIL, AT+5V_AVDD, AT+5V_DVDD, GND, DEGAUSS, POWER, EMERGENCY

FROM/TO IF/CHROMA: RF_AGC, IF, SCL, SDA, OSD_FB, OSD_R, OSD_G, OSD_B

FROM/TO 21PIN: CVBS_TXT, PROTECT, V_OUT, ATS

FROM/TO SOUND AMP: SCL, SDA, A_MUTE, STEREO_RESET

FROM DEFLECTION/CRT: AFC

FROM/TO 21PIN: AV1, AV2, FORTHD_VCR_1, FORTHD_VCR_2, TU/RGB

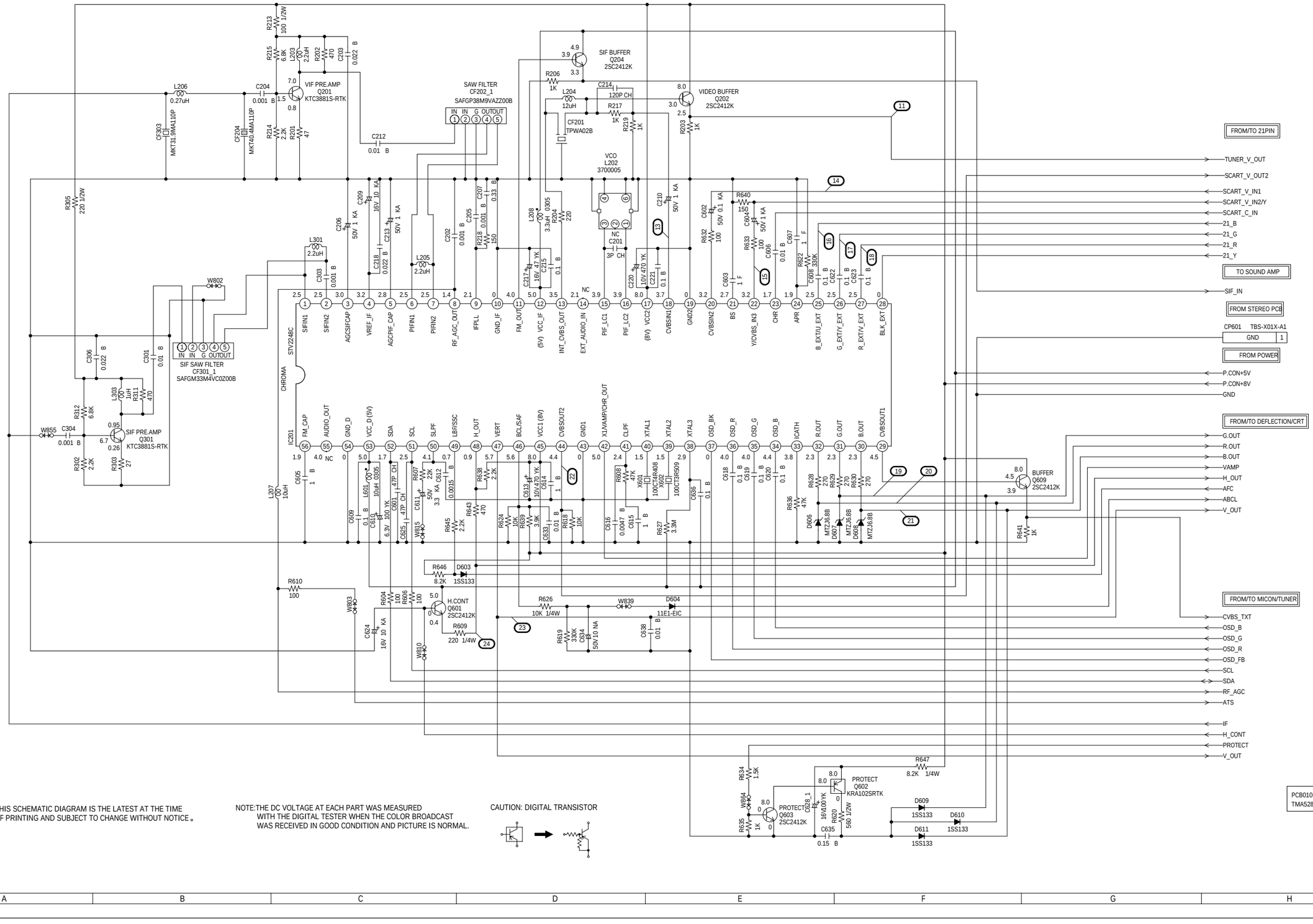
PCB010 TMA528

MEMORY IC IC199 S-24C04BDP-LA

G-1 G-2

IF/CHROMA SCHEMATIC DIAGRAM

(MAIN PCB)



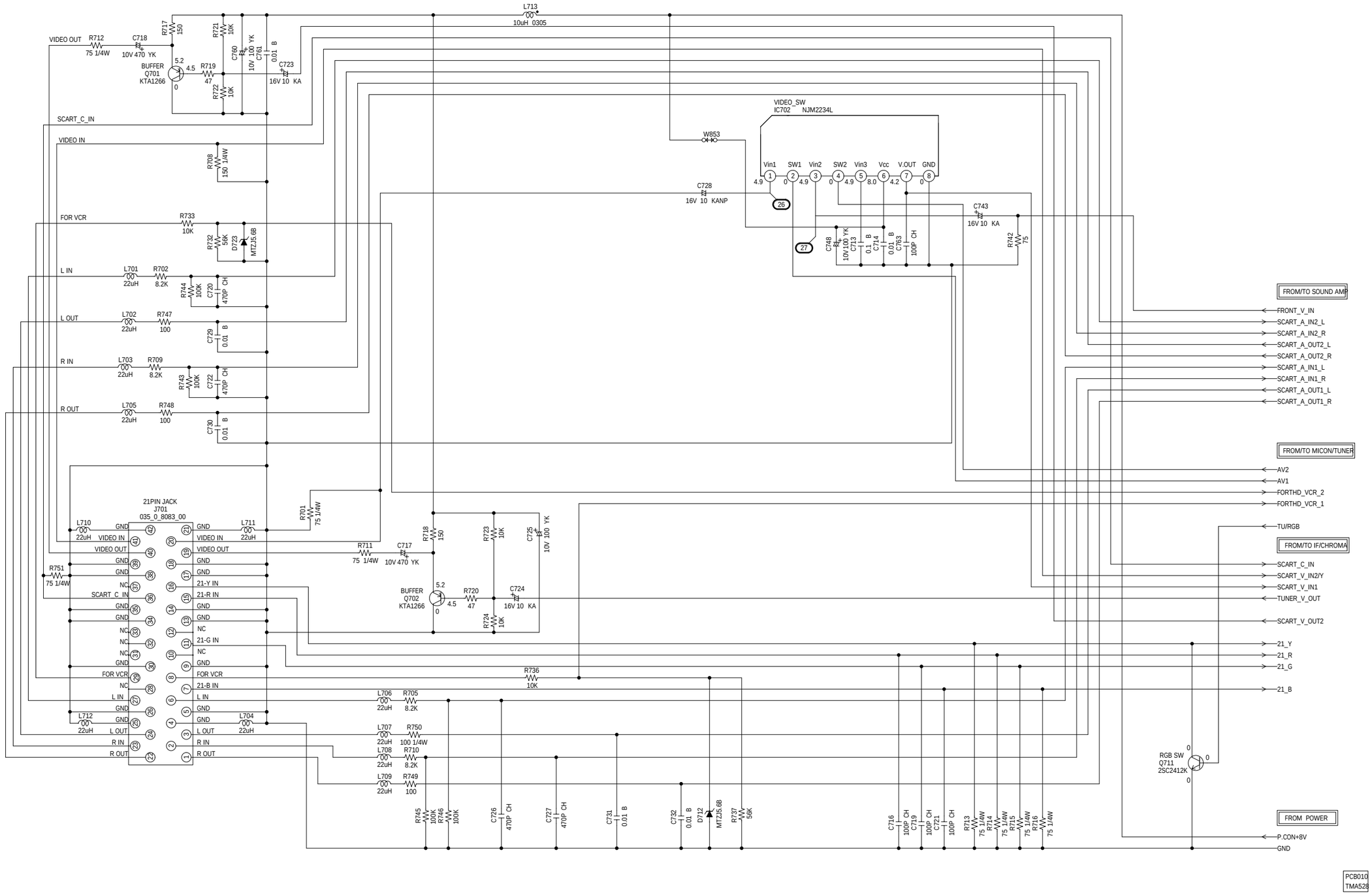
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: DIGITAL TRANSISTOR

21PIN SCHEMATIC DIAGRAM

(MAIN PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

DEFLECTION/CRT SCHEMATIC DIAGRAM

(MAIN PCB)

(CRT PCB)

FROM/TO IF/CHROMA

G.OUT
R.OUT
B.OUT
VAMP
V_OUT
ABCL
H_OUT
AFC

TO MICON/TUNER

AFC

C629 0.001 B

R614 270 R602 270

V-DRIVE IC401 TDA8174A

POWER OUTPUT (1) 15.8
OUTPUT STAGE Vs (2) 26.3
TRIGGER INPUT (3) 5.5
HEIGHT ADJ. (4) 6.7
Vref. DECOUP. (5) 4.5
GND (6) 0
RAMP GENERATOR (7) 8.7
BUFFER OUTPUT (8) 9.6
INVERTING INPUT (9) 4.3
Vs (10) 26.0
FB. GENERATOR (11) 1.1

R422 220K 1/4W
W859
R423 220K 1/4W
R408 1K
C408 50V 10 MHE
C412 0.047 MMTV
R412 12K
C414 35V 100 MHE
D403 11E1-EIC
R426 560 1/2W
C402 100V 0.1 MKT
R409 560 1/2W
R406 2.7K
R418 47 1/4W
R419 820 1/4W
R420 10K
D401 MTZJ30B
D402 MTZJ30B
VR420 V.LIN 470 METAL
C417 50V 10 YK
C418 25V 2200 YK
R416 2.2 1/2W
R417 2.2K +-1%
R428 1.8 1/2W
R407 1.2 1/2W
C422 100V 0.47 MKT
HS401 763WAA0237
R413 1K 1/2W
R425 1K 1/2W
VR401 VERT. 1K METAL

C439 500V 27P SL
T401 ETH14Y47AY
H.OUTPUT Q401 2SD2499
R446 1/2W
C440 100V 0.01 MKT
C446 50V 22 YK
R427 100 1/4W
C442_1 1.25KV 0.0091 MPP
C443 1.25KV 0.0027 MPP
C437_2 250V0.39 PMS
C404 250V 2.2 YK
R411 68 1/2W
L401 4.7mH 0909
FB401 3220053R
C405 0.001 B
D408 1SS133
R403 1.5K 1/4W
C410 500V 0.0012 B
12.4 H.DRIVE Q402 2SC1627_Y 0.4 0
HS402 763WSAA013

FROM POWER

GND
P.CON+8V
+B
H.DRV+B

D404 11E1-EIC
R410 470 1/4W
R431 470 1/4W
D406 11E1-EIC
R402 180 2W
C406 500V 0.001 B
D405 AU02A-EIC
D410 AU02A-EIC
C403 35V 2200 YK
C448 250V 22 MHE
R430 33K 1/2W
R445 47K 1/2W
D407 11E1-EIC
R421 39K 1/2W
C407 100V 0.22 MKT

PCB010 TMA528

CP802A B2013H02-5P: GND 1, CUT OFF 2, G.OUT 3, R.OUT 4, B.OUT 5
CP803A B2013H02-4P: GND 1, HEATER 2, NC 3, 180V 4
FROM/TO CRT

CP802B B2013H02-5P: GND 1, CUT OFF 2, G.OUT 3, R.OUT 4, B.OUT 5
CP803B B2013H02-4P: GND 1, HEATER 2, NC 3, 180V 4
FROM/TO DEFLECTION

R819 2.7 2W

CD801_1 SM1510-001-1A
CP801_1 A2361WV2-3P

V801 A51QDX992X002
L801 100uH

CP401 A1561WV2-A5P
L403 ELH5L4113
R424 2.2K 1/2W
R429 2.2K 1/2W

FOCUS
SCREEN

CP806 005P-2100
SCREEN
CP806_1

C801 2KV 0.001 R

R804 56 1/4W
R805 220
C802 270P CH
R806 1.8K
RED OUT Q801 KTC3199_Y

R810 56 1/4W
R811 220
C803 270P CH
R812 1.8K
GREEN OUT Q803 KTC3199_Y

R816 56 1/4W
R817 220
C804 270P CH
R818 1.8K
BULE OUT Q805 KTC3199_Y

R802 220
D801 1SS133
RED OUT Q802 KTC4217

R808 220
D802 1SS133
GREEN OUT Q804 KTC4217

R814 220
D803 1SS133
BLUE OUT Q806 KTC4217

TP801 TP802 TP803

L802 150uH 0607
R801 12K 2W
R803 2.7K 1/4W

L803 150uH 0607
R807 12K 2W
R809 2.7K 1/4W

L804 150uH 0607
R813 12K 2W
R815 2.7K 1/4W

J801 CVT3275-5101

PCB110 TCA387

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

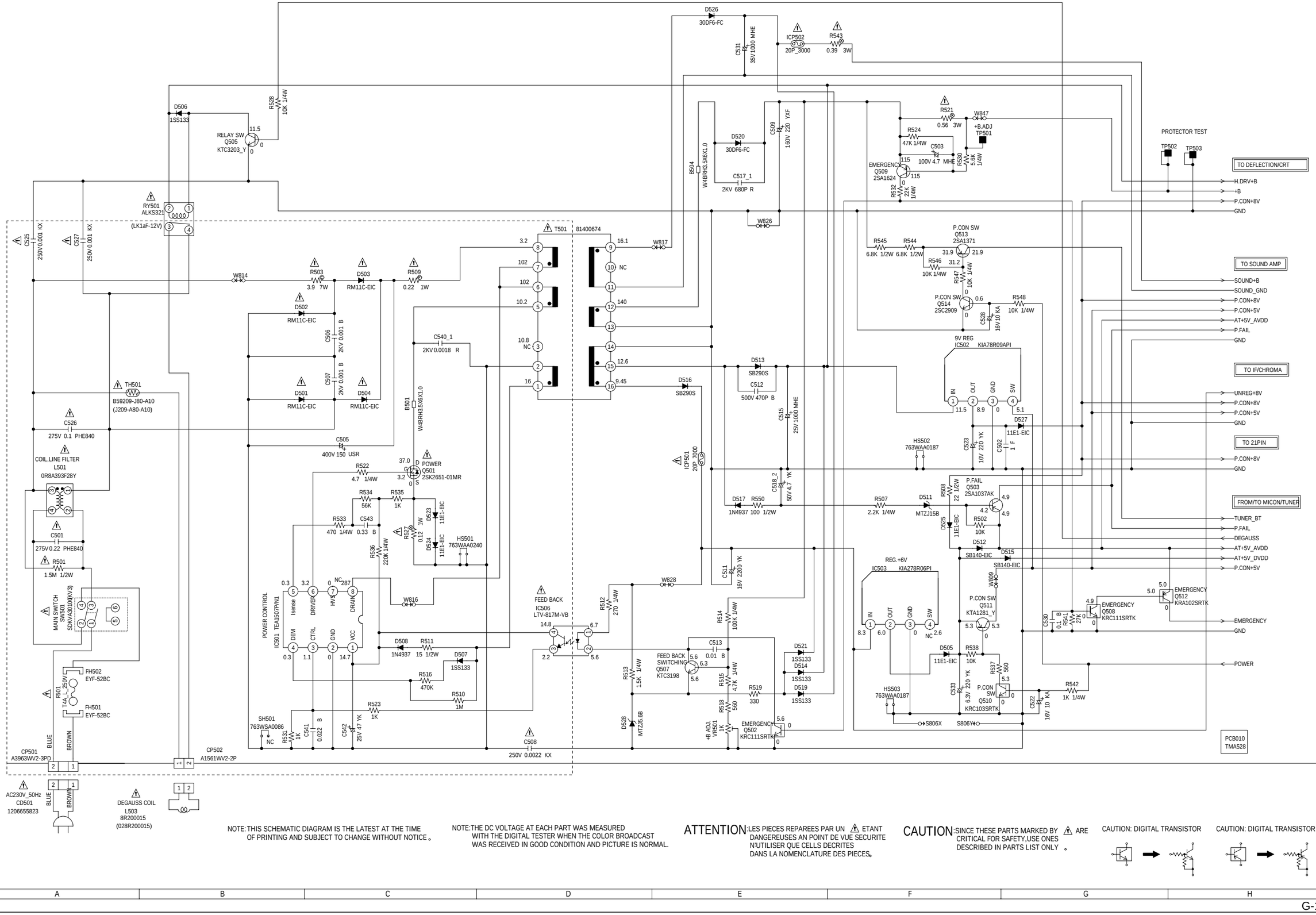
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

G-7

POWER SCHEMATIC DIAGRAM

(MAIN PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY 。

CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR

SOUND AMP SCHEMATIC DIAGRAM

(MAIN PCB)

FROM/TO 21PIN

SCART_A_IN1_R
SCART_A_IN1_L
SCART_A_IN2_R
SCART_A_IN2_L
FRONT_A_L
FRONT_V_IN
SCART_A_OUT1_L
SCART_A_OUT1_R
SCART_A_OUT2_L
SCART_A_OUT2_R

CP901A
IMSA-9130B-10

SCART A IN1 R	1
SCART A IN1 L	2
SCART A IN2 R	3
SCART A IN2 L	4
FRONT AUDIO R	5
FRONT AUDIO L	6
SCART A OUT1 L	7
SCART A OUT1 R	8
SCART A OUT2 L	9
SCART A OUT2 R	10

FROM/TO STEREO PCB

FROM/TO MICON/TUNER

SDA
SCL
STEREO_RESET
A_MUTE

FROM IF/CHROMA

SIF_IN

CP902A
IMSA-9130B-10

R621 100
R625 100

SDA	1
SCL	2
P.CON+5V	3
P.CON+8V	4
STEREO RSET	5
SOUND L	6
SOUND R	7
GND	8
SIF IN	9
MONO A IN	10

W860

SOUND AMP (STEREO) IC

IC1002 LA4600

ATT. INPUT GND STAND-BY P.P RIPPLE FILTER VCC OUTPUT GND

10	9	8	7	6	5	4	3	2	1
1.4	0	1.4	4.0	11.7	8.7	16.7	8.7	0	8.7

C745 .1 0.22 B
C747_1 0.22 B
R1011 1K
R1009 1K
W861
S802Y
S802X

D1001 1SS133
C1002 6.3V 100 YK
MUTE Q1001 KRA103SRTK
4.9 4.9 -1.6

D1003 1SS133
R1001 4.7K 1/4W
D1002 1SS133
R1003 1K
MUTE Q1003 2SC2412K 8.7 0 0
R1017 680

W851
W852
C1009 0.0047 B
C1010 50V 2.2 KA
C1012_2 25V 2200 MHE
C1011_1 16V 33 KA
C1007 0.0047 B
C1019 220 YK 6.3V
C1016 1 F
C1013 16V 1000 YK
C1014 16V 1000 YK
43 42 44 45

HS1002 763WAA0224

R707 100 1/2W
C757 10V 100 YK

BUFFER Q703 2SC2412K 7.5 2.8 3.8
R727 100K
R728 100K
R726 1K
R730 100K
C736 50V 1 KA
R738 8.2K
L715 00 22uH

BUFFER Q704 2SC2412K 7.5 2.8 3.8
C759 0.001 B
C737 50V1 KA
R739 8.2K
L716 00 22uH
R729 1K
R731 100K
C758 100P CH
C762 0.001 B

FRONT VIDEO J703 HTJ-032-03AY
FRONT AUDIO L J704 HTJ-032-03AW
FRONT AUDIO R J705 HTJ-032-03AR

FROM POWER

AT+5V_AVDD
P.FAIL
SOUND+B
SOUND_GND
P.CON+8V
P.CON+5V
GND

W822
C1015 50V 47 NA
W863
W813
W841
W850
C1018 6.3V 100 YK

R725 B701 W4BRH3.5X6X1.0
R706 390 1/2W B702 W4BRH3.5X6X1.0 390 1/2W
HEADPHONEJACK J702 MSJ-2000

W829

CP1001 A2502WV2-4P
SP351 SG05A02AWA
RED WHITE
W825
R
L

R1014 1.2K 1/4W

PCB010
TMA528

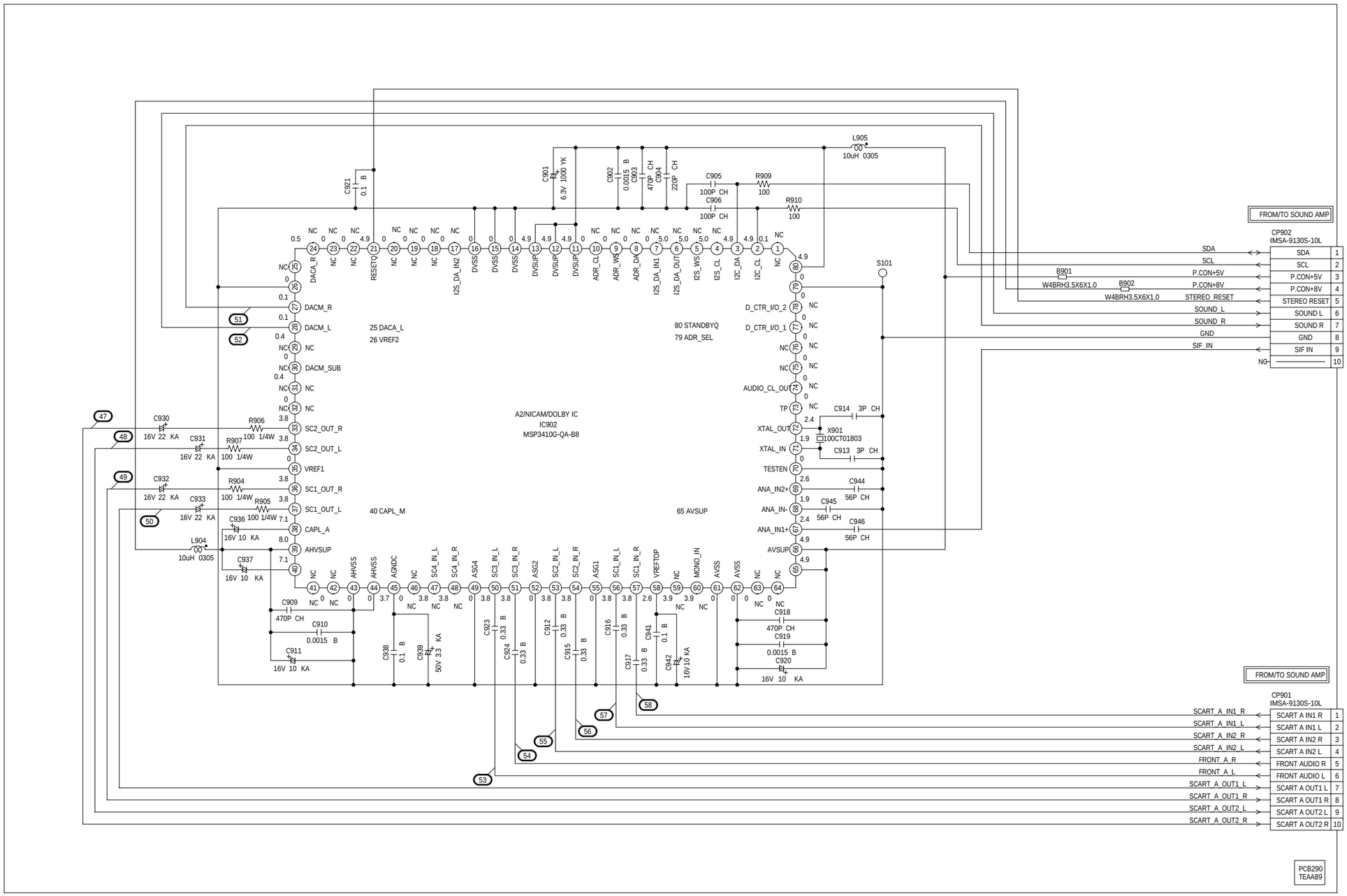
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: DIGITAL TRANSISTOR

STEREO SCHEMATIC DIAGRAM

(STEREO PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

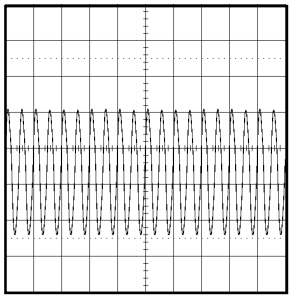
NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

WAVEFORMS

MICON/TUNER

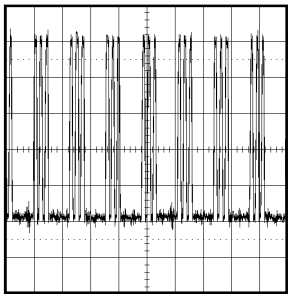
0.5µs
1.00V

1



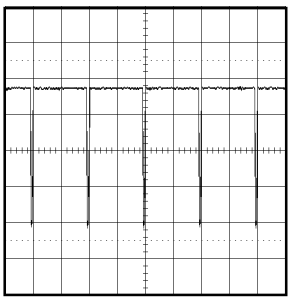
50µs
100mV

6



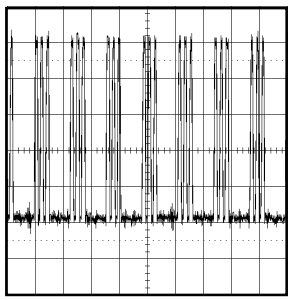
10ms
1.00V

2



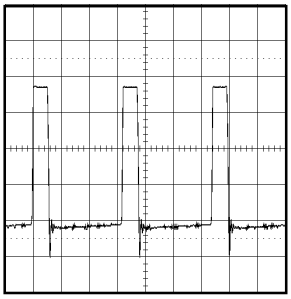
50µs
100mV

7



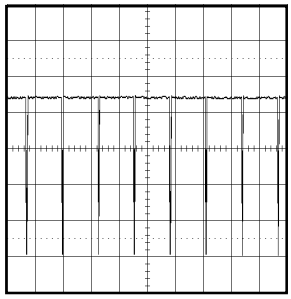
20µs
1.00V

3



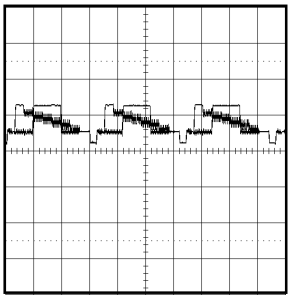
50µs
0.50V

8



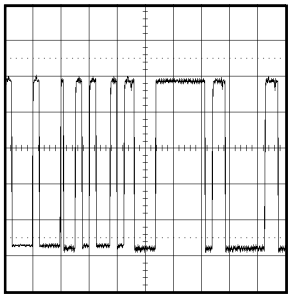
20µs
1.00V

4



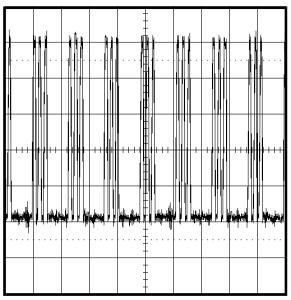
0.2ms
1.00V

9



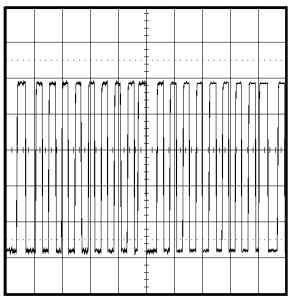
50µs
100mV

5



0.2ms
1.00V

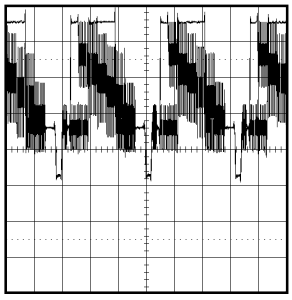
10



IF/CHROMA

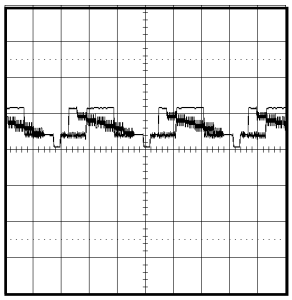
20µs
0.50V

11



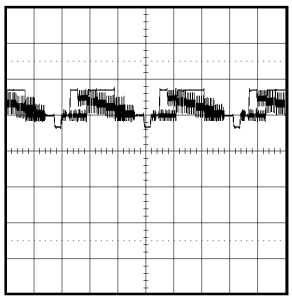
20µs
1.00V

13



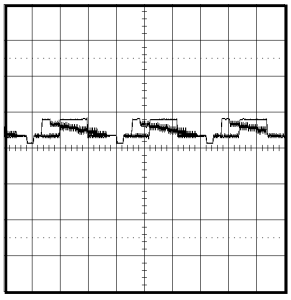
20µs
1.00V

14



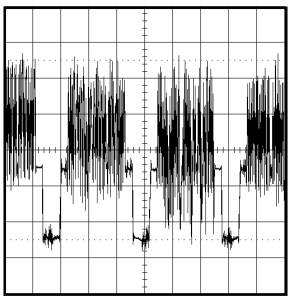
20µs
1.00V

15



20µs
100mV

16



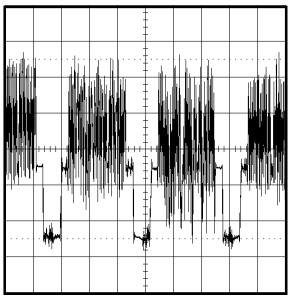
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

DEFLECTION/CRT

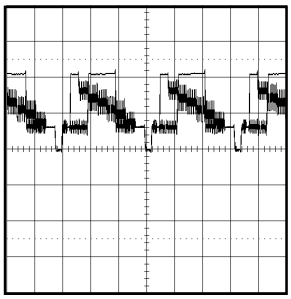
20µs
1.00V

17



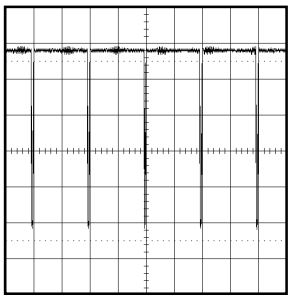
20µs
1.00V

22



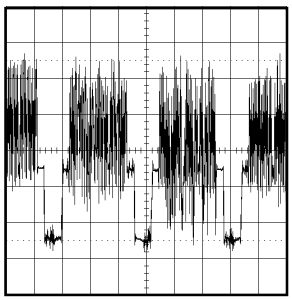
10ms
1.00V

33



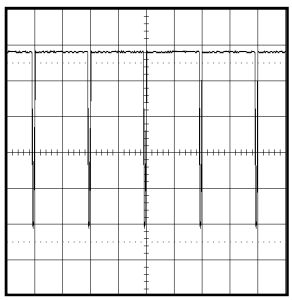
20µs
100mV

18



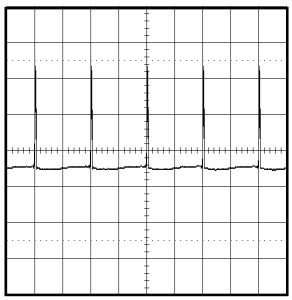
10ms
1.00V

23



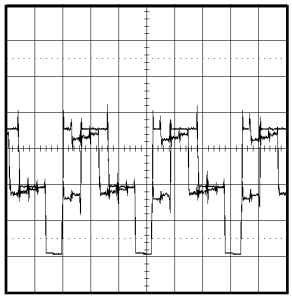
10ms
10.0V

34



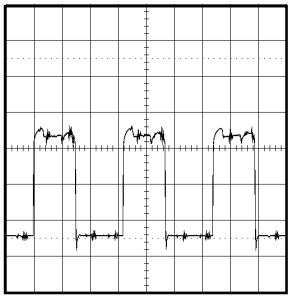
20µs
1.00V

19



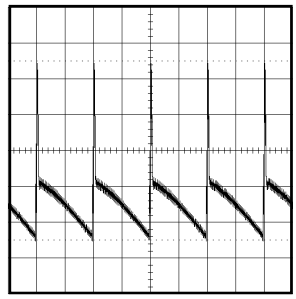
20µs
200mV

24



10ms
10.0V

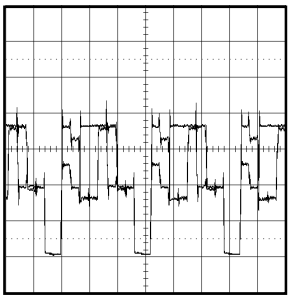
35



21PIN

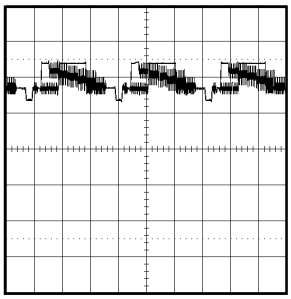
20µs
1.00V

20



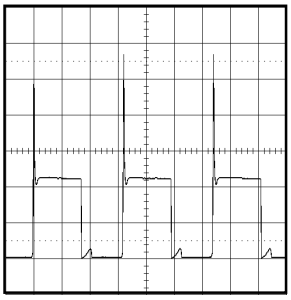
20µs
1.00V

26



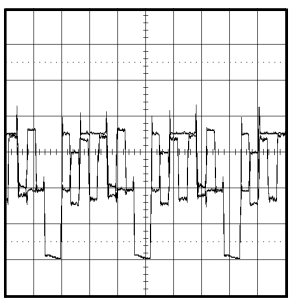
20µs
10.0V

36



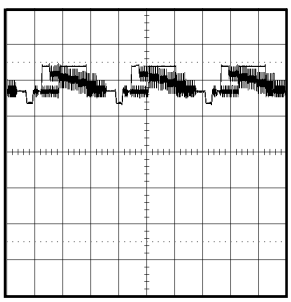
20µs
1.00V

21



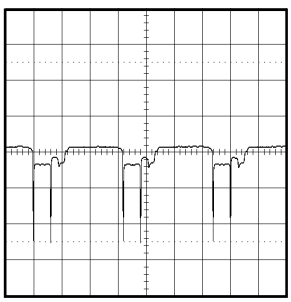
20µs
1.00V

27



20µs
5.0V

37

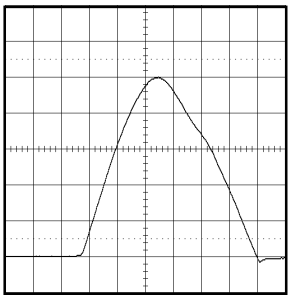


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

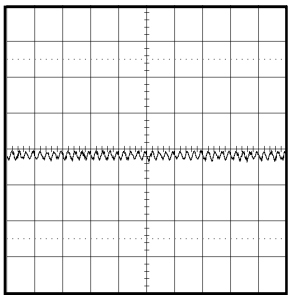
2µs
200V

38



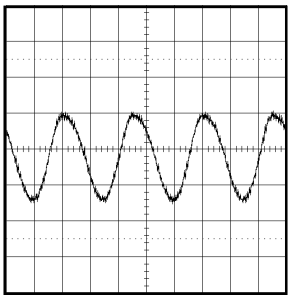
2ms
0.50V

43



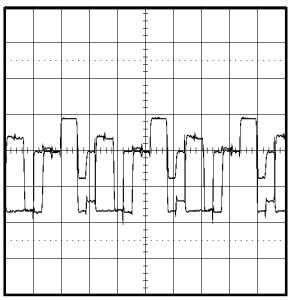
0.2ms
0.50V

49



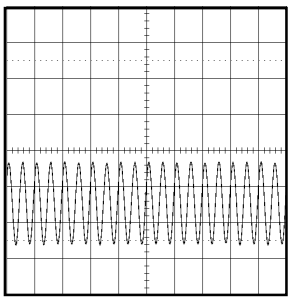
20µs
50V

39



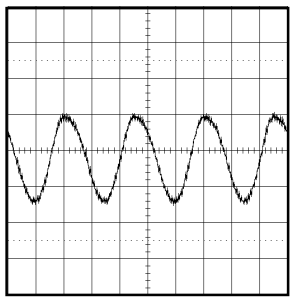
0.2ms
5.0V

44



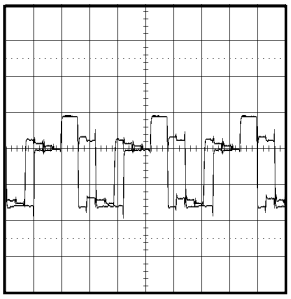
0.2ms
0.50V

50



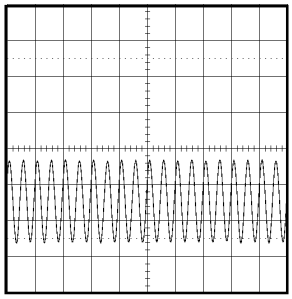
20µs
50V

40



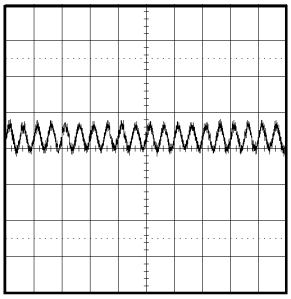
0.2ms
5.0V

45



0.2ms
100mV

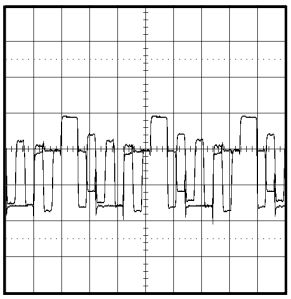
51



STEREO

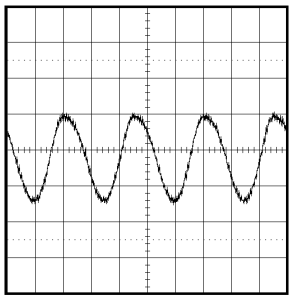
20µs
50V

41



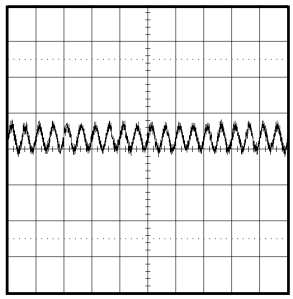
0.2ms
0.50V

47



0.2ms
100mV

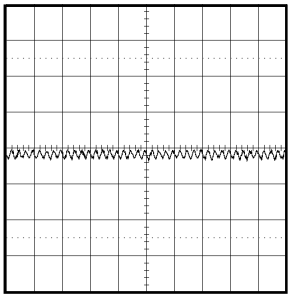
52



SOUND AMP

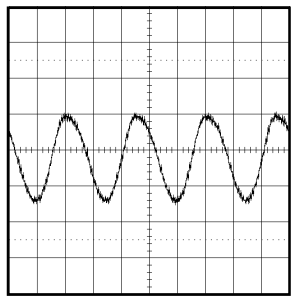
2ms
0.50V

42



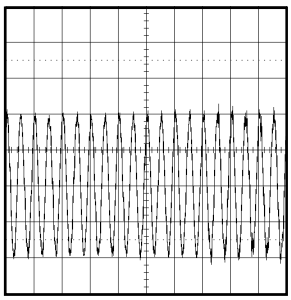
0.2ms
0.50V

48



0.2ms
200mV

53

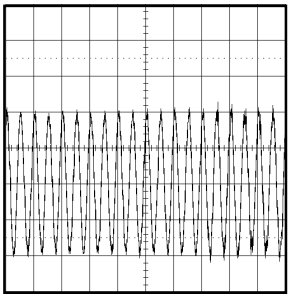


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

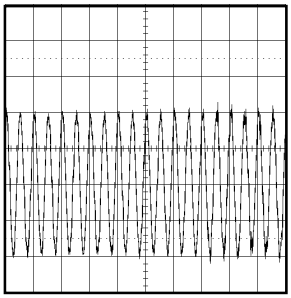
0.2ms
200mV

54



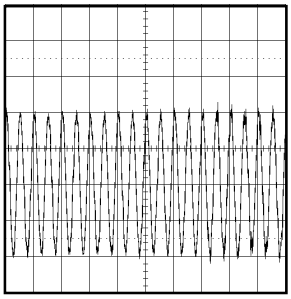
0.2ms
200mV

55



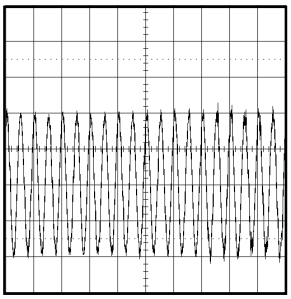
0.2ms
200mV

56



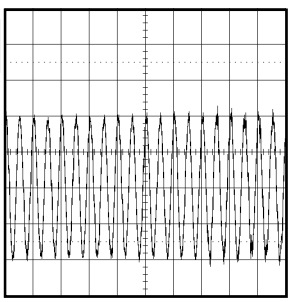
0.2ms
200mV

57



0.2ms
200mV

58



NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.