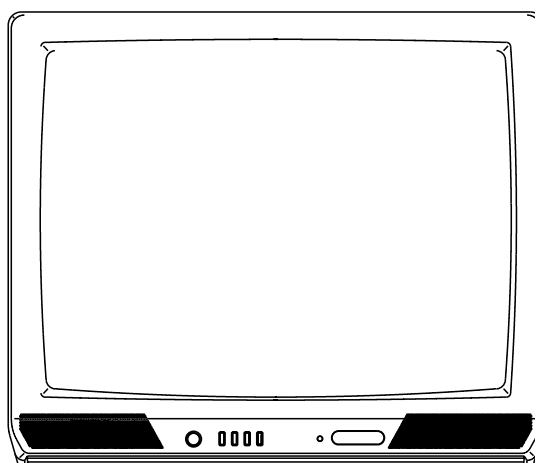


DURABRAND

DBTV2500

SERVICE MANUAL

COLOR TELEVISION RECEIVER



ORIGINAL
MFR'S VERSION B

DURABRAND

DBTV2500

SERVICE MANUAL

COLOR TELEVISION RECEIVER

**REVISION 1
MFR'S VERSION D**

MFR'S VERSION	IC101
B	OEC7044A
D	OEC7045A

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 1 second.

Set Key	Remocon Key	Operations
VOL. (-) MIN	0	Releasing of V-CHIP PASSWORD.
VOL. (-) MIN	1	Initialization of the factory. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	6	POWER ON total hours is displayed on the screen. Refer to the "CONFIRMATION OF USING HOURS". Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "NOTE FOR THE REPLACING OF 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 USING HOURS

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

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 1 second.
3. After the confirmation of using hours, turn off the power.

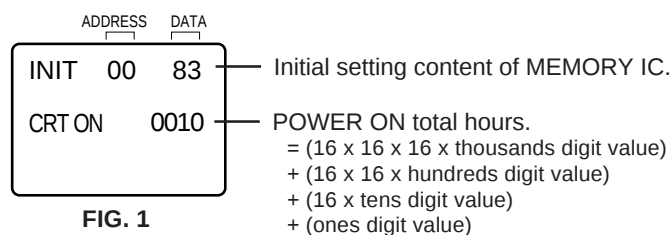


FIG. 1

NOTE FOR THE REPLACING OF 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.

ADDRESS	INI 00	INI 01	INI 02	INI 03	INI 04	INI 05	INI 06	INI 07	INI 08	INI 09	INI 0A
DATA	A0	01	A2	09	02	63	24	18	A1	21	44

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 1 second. ADDRESS and DATA should appear as FIG 1.
3. ADDRESS is now selected and should "blink". Using the SET + or - keys on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press ENTER to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using SET + or - until required DATA value has been selected.
6. Pressing ENTER 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. The unit will now have the correct DATA for the new MEMORY IC.

ELECTRICAL ADJUSTMENTS

1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

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.
Inferior silicon grease can damage IC's and transistors.
- When replacing IC's and transistors, use only specified silicon grease (YG6260M).
Remove all old silicon before applying new silicon.

Prepare the following measurement tools for electrical adjustments.

1. Synchro Scope
2. Digital Voltmeter

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 1 second to appear the adjustment mode on the screen as shown in **Fig. 1-1**.

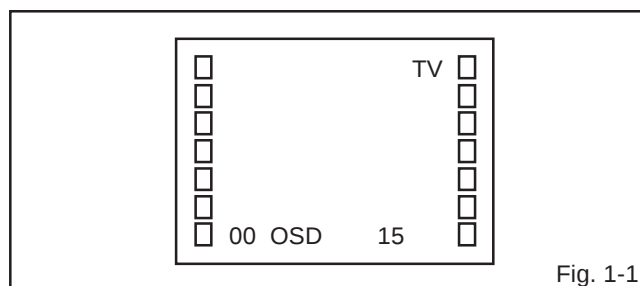


Fig. 1-1

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

NO.	FUNCTION	NO.	FUNCTION
00	OSD H	13	BRIGHTNESS
01	CUT OFF	14	CONTRAST
02	RF DELAY	15	COLOR
03	VIF VCO	16	TINT
04	H VCO	17	SHARPNESS
05	H PHASE	18	FM LEVEL
06	V SIZE	19	LEVEL
07	V SHIFT	20	SEPARATION 1
08	R DRIVE	21	SEPARATION 2
09	B DRIVE	22	TEST MONO
10	R BIAS	23	TEST STEREO
11	G BIAS	24	X-RAY TEST
12	B BIAS		

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: RF AGC DELAY

1. Receive an 80dB monoscope pattern.
2. Connect the digital voltmeter to **TP001**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(02)** on the remote control to select "RF DELAY".
4. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is $1.80 \pm 0.05V$.

2-2: CUT OFF

1. Adjust the unit to the following settings.
R.DRIVE=10, B.DRIVE=10, R.BIAS=64, G.BIAS=64, B.BIAS=64, BRIGHTNESS=126, CONTRAST=100.
2. Place the set with Aging Test for more than 15 minutes.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(01)** on the remote control to select "CUT OFF".
4. Adjust the **Screen Volume** until a dim raster is obtained.

2-3: WHITE BALANCE

NOTE: Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 10 minutes.
2. Receive the with 100% signal 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 **(10)** on the remote control to select "R.BIAS".
5. Using the VOL. UP/DOWN button on the remote control, adjust the R.BIAS.
6. Press the CH. UP/DOWN button on the remote control to select the "R.DRIVE", "B.DRIVE", "G.BIAS" or "B.BIAS".
7. Using the VOL. UP/DOWN button on the remote control, adjust the R.DRIVE, B.DRIVE, G.BIAS or B.BIAS.
8. Perform the above adjustments 6 and 7 until the white color is looked like a white.

2-4: FOCUS

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

2-5: SUB TINT/SUB COLOR

1. Receive the color bar pattern.
2. Connect the synchro scope to **TP023**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(16)** on the remote control to select "TINT".
4. Press the VOL. UP/DOWN button on the remote control until the waveform becomes as shown in **Fig. 2-1**.
5. Connect the synchro scope to **TP022**.
6. Press the CH DOWN button once to set to "COLOR" mode.
7. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 110% of the white level. (**Refer to Fig. 2-2**)

ELECTRICAL ADJUSTMENTS

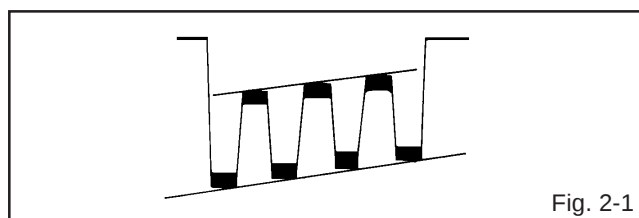


Fig. 2-1

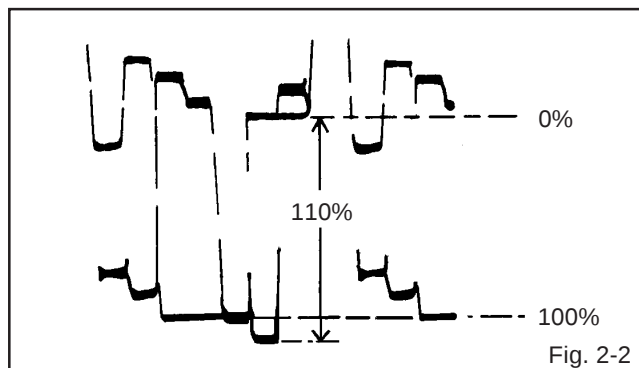


Fig. 2-2

2-6: HORIZONTAL PHASE

1. Receive the center cross signal 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 **(05)** on the remote control to select "H.PHASE".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

2-7: VERTICAL SIZE

NOTE: Adjust after performing adjustments in section 2-6

1. Receive the crosshatch signal 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 **(06)** on the remote control to select "V.SIZE".
4. Press the VOL. UP/DOWN button on the remote control until the rectangle on the center of the screen becomes square.
5. Receive a broadcast and check if the picture is normal.

2-8: VERTICAL SHIFT

NOTE: Adjust after performing adjustments in section 2-7

1. Receive the crosshatch signal 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 **(07)** on the remote control to select "V.SHIFT".
4. Press the VOL. UP/DOWN button on the remote control until the horizontal line becomes fit to the notch of the shadow mask.

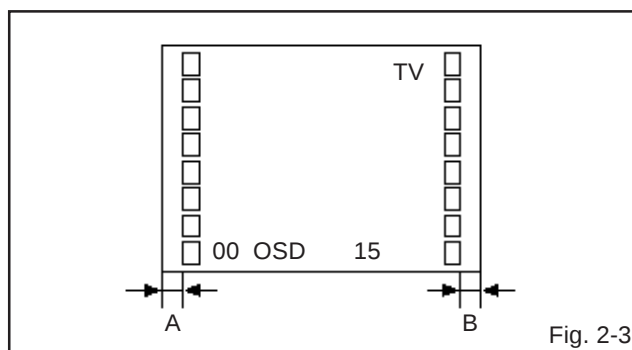


Fig. 2-3

2-9: OSD HORIZONTAL

1. Activate the adjustment mode display of **Fig. 1-1**.
2. Press the VOL. UP/DOWN button on the remote control until the difference of A and B becomes minimum. (**Refer to Fig. 2-3**)

2-10: VERTICAL VCO

1. Place the set with Aging Test for more than 15 minutes.
2. Receive an 80dB monoscope pattern.
3. Connect the digital voltmeter between the **pin 5 of CP601**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(03)** on the remote control to select "VIF VCO".
5. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is 2.5V.

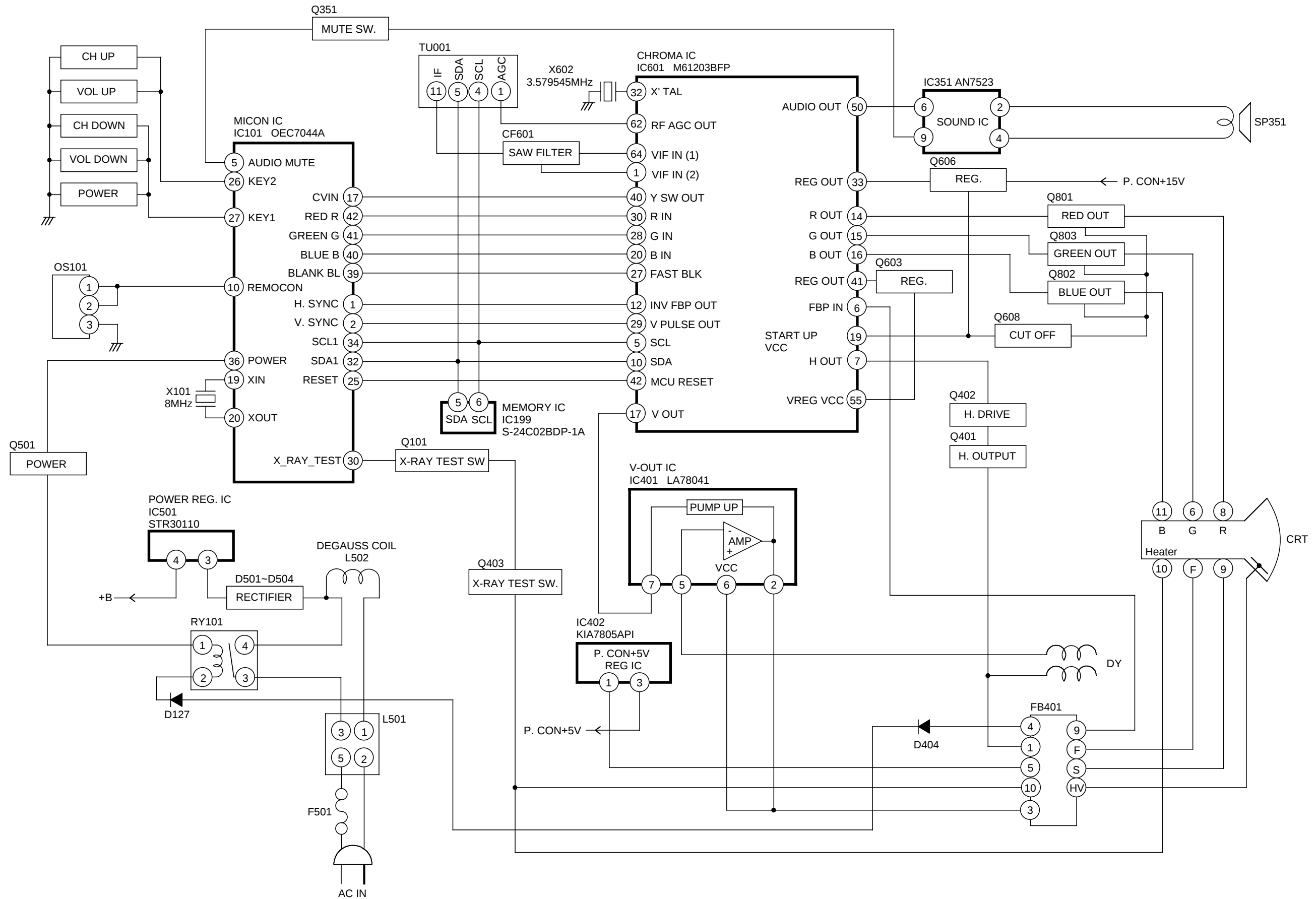
2-11: SUB BRIGHTNESS

1. Receive the black pattern*. (RF Input)
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(13)** on the remote control to select "BRIGHTNESS".
3. Press the VOL. UP/DOWN button on the remote control until the screen begin to shine.

2-12: SUB CONTRAST

1. Receive the color bar pattern.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(14)** on the remote control to select "CONTRAST".
3. Press the VOL. UP/DOWN button on the remote control until the nit for more than 200 nit.

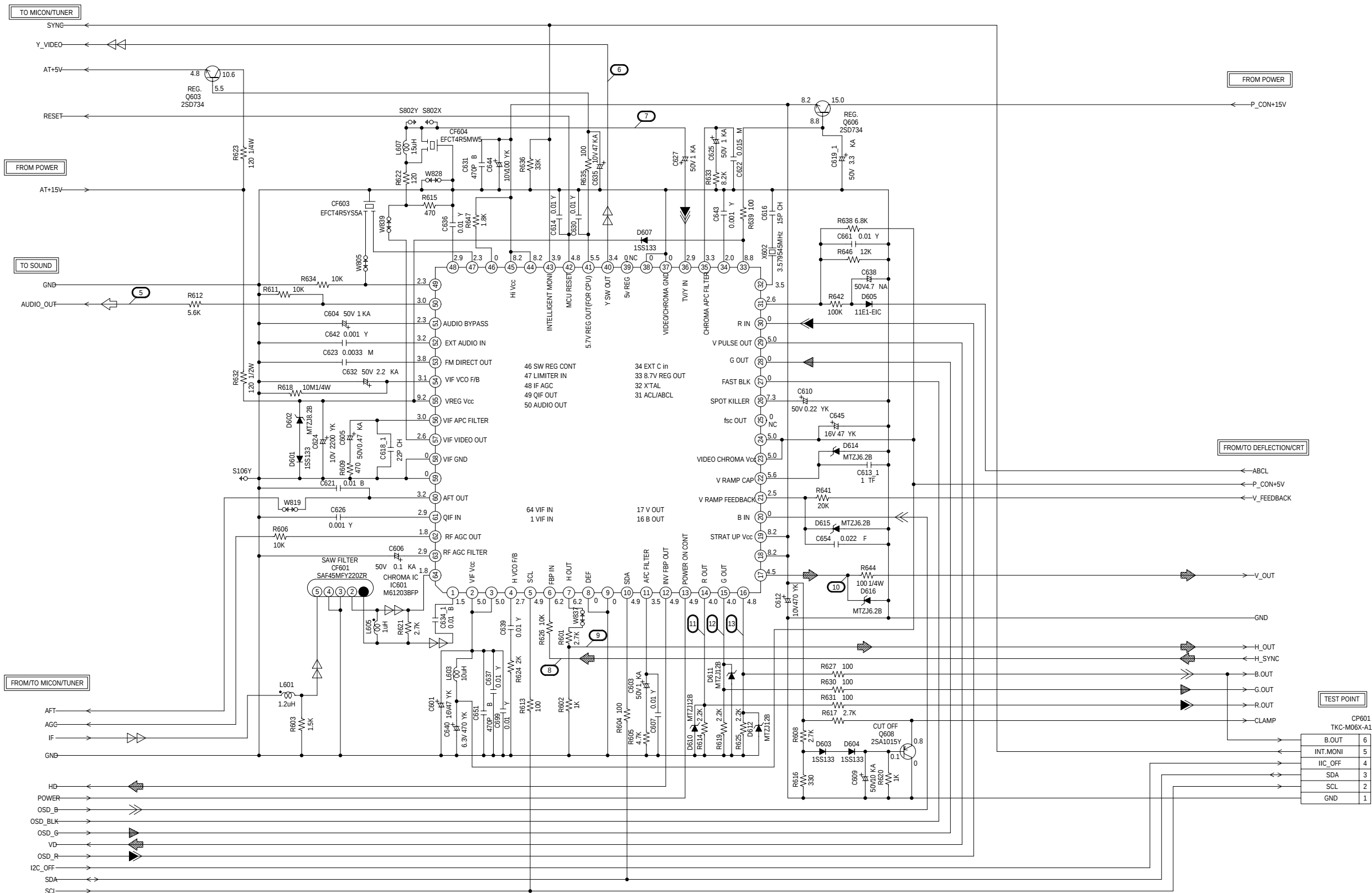
BLOCK DIAGRAM



(MAIN PCB)



CHROMA SCHEMATIC DIAGRAM
(MAIN PCB)



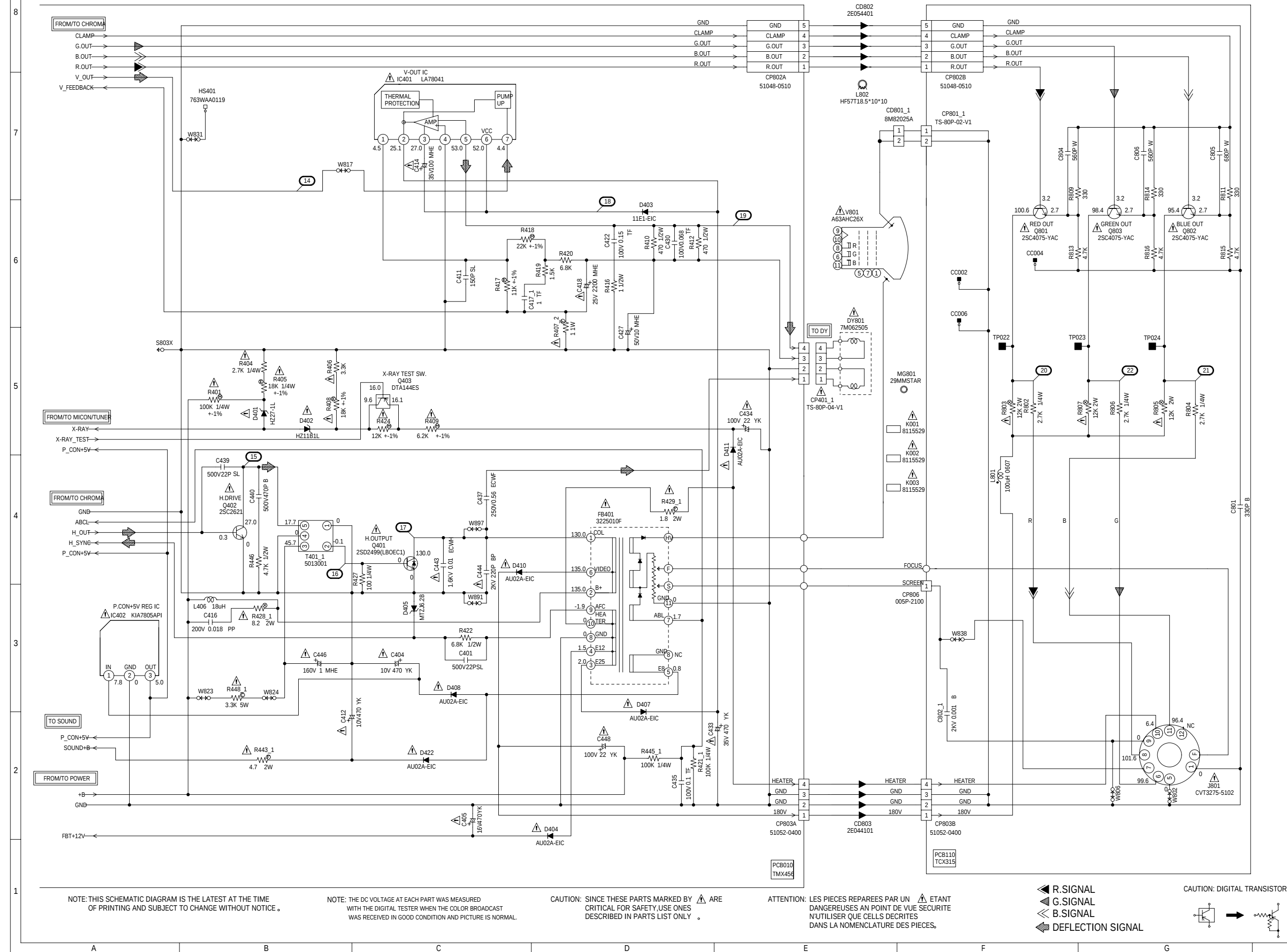
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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.

- DEFLECTION SIGNAL
- AUDIO SIGNAL
- LUMINANCE SIGNAL
- TUNER VIDEO SIGNAL
- R.SIGNAL
- G.SIGNAL
- B.SIGNAL

PCB010
TMX458

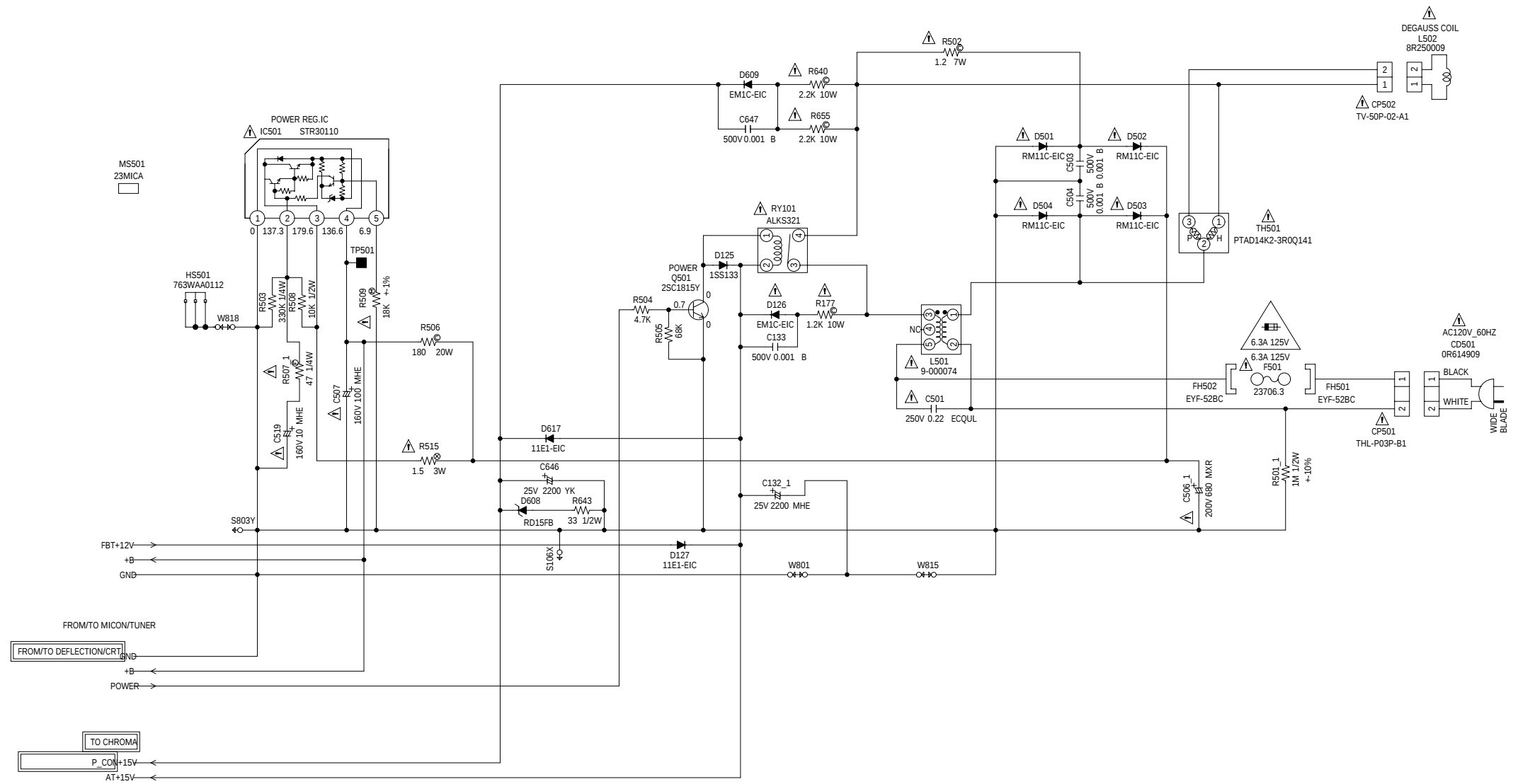
DEFLECTION/CRT SCHEMATIC DIAGRAM (MAIN PCB)



POWER SCHEMATIC DIAGRAM
(MAIN PCB)



CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 6.3A 125V (F501)
FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCENDIE N'UTILISER QUE DES FUSIBLE DE MEME
TYPE 6.3A 125V (F501).



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.

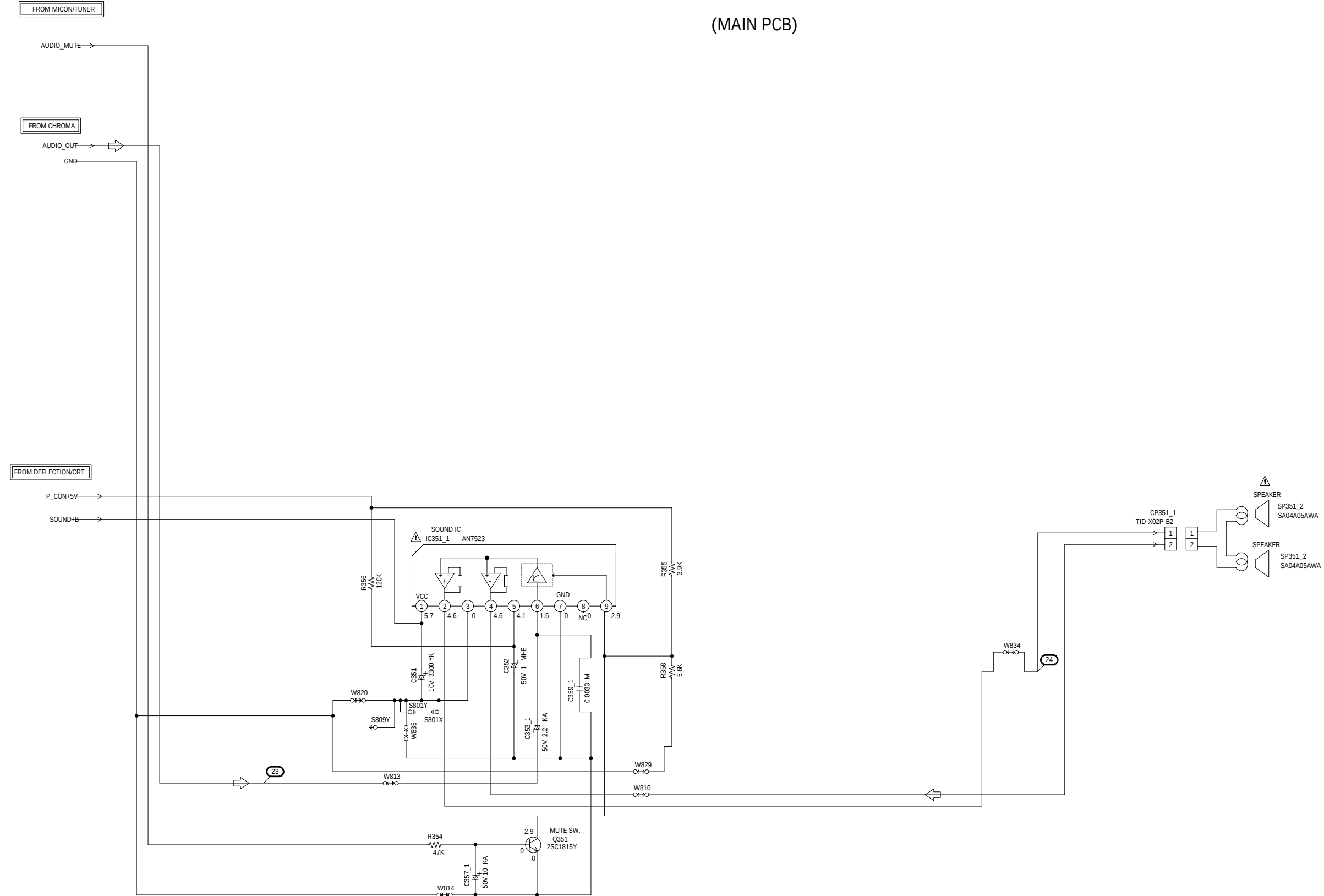
CAUTION: SINCE THESE PARTS MARKED BY  ARE
CRITICAL FOR SAFETY, USE ONES
DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIECES REPARÉES PAR UN  ÉTANT
DANGEREUSES AN POINT DE VUE SECURITE
N'UTILISER QUE CELLS DECRITES
DANS LA NOMENCLATURE DES PIECES.

PCB010
TMX456

SOUND 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: SINCE THESE PARTS MARKED BY  ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY .

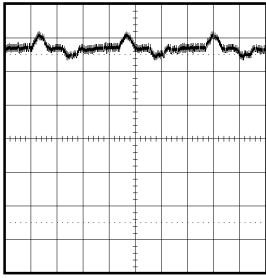
ATTENTION: LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

← AUDIO SIGNAL

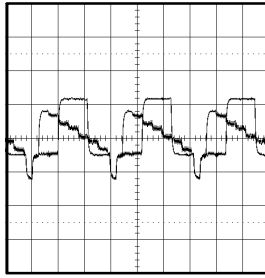
PCB010
TMX456

WAVEFORMS

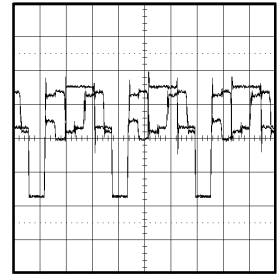
MICON/TUNER



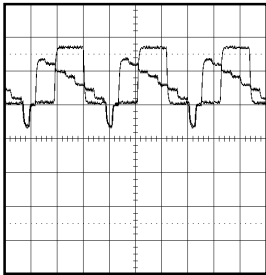
① 200mV 5ms/div



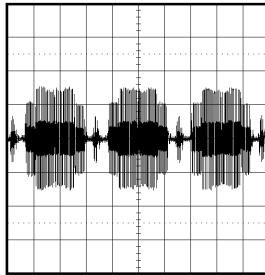
⑥ 0.5V 20μs/div



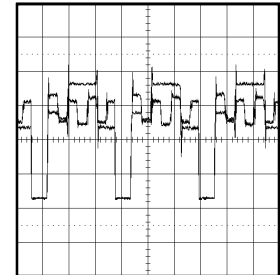
⑪ 1V 20μs/div



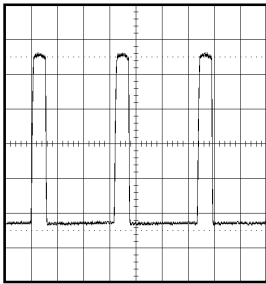
② 0.5V 20μs/div



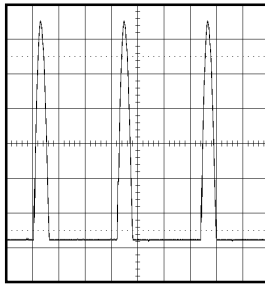
⑦ 200mV 20μs/div



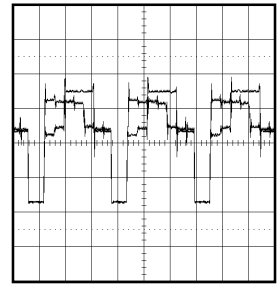
⑫ 1V 20μs/div



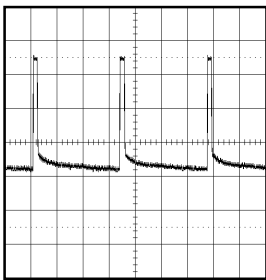
③ 200mV 20μs/div



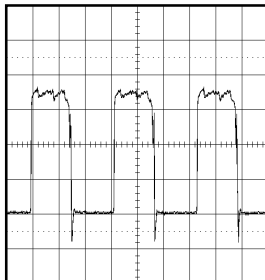
⑧ 20V 20μs/div



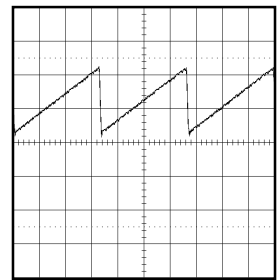
⑬ 1V 20μs/div



④ 200mV 5ms/div

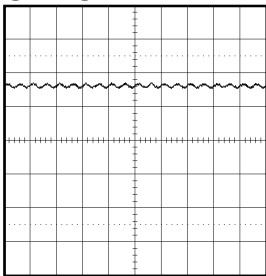


⑨ 200mV 20μs/div

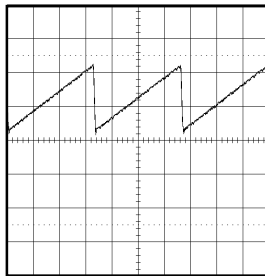


⑭ 0.5V 5ms/div

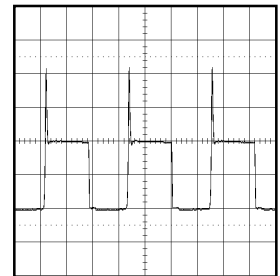
CHROMA



⑤ 0.5V 2ms/div



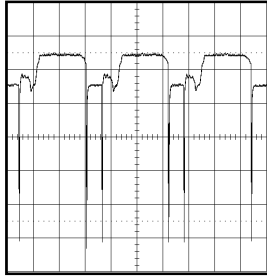
⑩ 0.5V 5ms/div



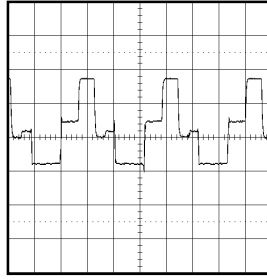
⑮ 20V 20μs/div

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

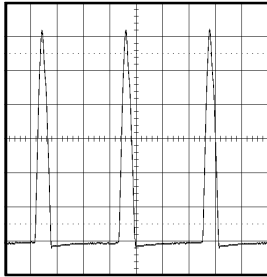
WAVEFORMS



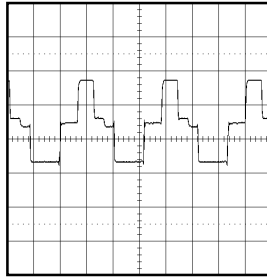
①⑥ 2V 20 μ s/div



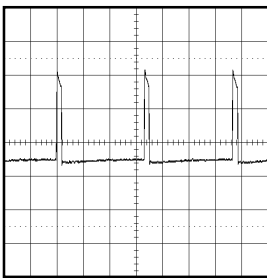
②① 50V 20 μ s/div



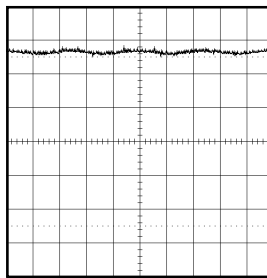
①⑦ 200V 20 μ s/div



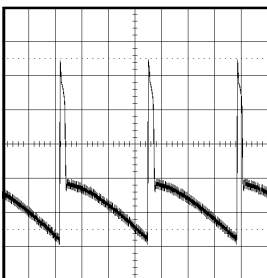
②② 50V 20 μ s/div



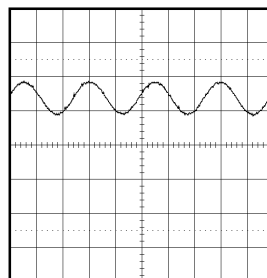
①⑧ 10V 5ms/div



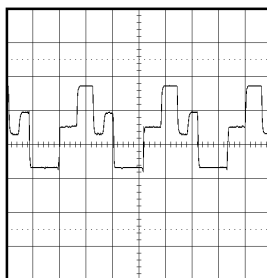
②③ 0.5V 1ms/div



①⑨ 10V 5ms/div



②④ 1V 1ms/div



②⑤ 50V 20 μ s/div

SOUND

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

MECHANICAL EXPLODED VIEW

