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# SERVICE MANUAL

**CHASSIS** : Mitsubishi

**DOCUMENT** : SM-20PM

**DATE** : 08/08/2005

**This manual is the latest at the time of print, and does not include the modification which may be made after the printing, by the constant improvement of product.**

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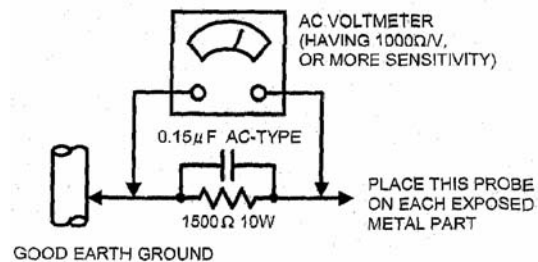
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# 1. SAFETY

1. The design of this product contains special hardware, many circuits and components especially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. Electrical components having such features are identified by shading on the schematics and by ( ! ) on the parts list in Service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards
4. **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.** Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE: ( ) side GND, ISOLATED (NEUTRAL): ( ) side GND and EARTH: ( ) side GND. Don't short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND at the same time. If above note will not be kept, a fuse or any parts will be broken.
5. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
6. The high voltage applied to the picture tube must conform to that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10k $\Omega$  2W resistor to the anode button.
8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred,

# PRECAUTIONS

- those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.
9. Isolation Check  
(Safety for Electrical Shock Hazard)  
After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
  10. The surface of the TV screen is coated with a thin film which can easily be damaged. Be very careful with it when handle the TV. Should the TV screen become soiled, wipe it with a soft dry cloth. Never rub it forcefully. Never use any cleaner or detergent on it.
    - (1) Dielectric Strength Test  
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.  
(...Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)  
This method of test requires test equipment not generally found in the service trade.
    - (2) Leakage Current Check  
Plug the AC line cord directly into the AC outlet (do not use line isolation transformers during this check). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).  
However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).  
●Alternate Check Method  
Plug the AC line cord directly into the AC outlet ( do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500 $\Omega$  10W resistor paralleled by a 0.15 $\mu$ F AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).  
However, in tropical area, this must not exceed 0.3V AC (r.m.s.).  
This corresponds to 0.2mA AC (r.m.s.)



## 一、Enter Factory Menu

- 1) Entrance of factory controller: Use factory key to enter/switch/exit factory mode. Entrance of common controller: When main menu appears, enter code 6483, which is equivalent to factory key.
- 2) Specification: Factory mode includes three kinds: FACTORY: for factory aging; B/W BALANCE: for adjustment of black and white balance; ADJUST: for all adjustments of factory.

Pressing factory key (or pressing 6483 when main menu appears) will display the following:

Common state → FACTORY → B/W BALANCE → ADJUST

## 二、Factory Explanation

- 1、 **FACTORY** (Aging mode): This mode is used for factory aging, in which TV set will not be turned off if there is no signal.
- 2、 **Adjustment of B/W BALANCE**: Press factory key to enter into B/W BALANCE and set value as table 1; press "MUTE" key to enter horizontal line, and then adjust grid potentiometer to make the horizontal line to bright up; adjust CUT R, CUT G AND CUT B (See table 2) to make the line turn white; and then adjust grid potentiometer to make the line disappear. Press "MUTE" key to exit the line and dark balance is OK. Fine tuning DRI R and DRI B to make the white to become pure white; and B/W BALANCE is OK.

Table 1

OSD Indication	Explanation	14"-21"	25"-34"
DRI R	Adjust range of output R (0~127)	60	60
DRI B	Adjust range of output B (0~127)	63	63
CUT R	Adjust base level of output R (0~255)	100	100
CUT G	Adjust base level of output G (0~255)	100	100
CUT B	Adjust base level of output B (0~255)	100	100
BRI	Adjust brightness of horizontal line (0~255)	108	120
SIG	8 second built-in signal		

Table 2

Key Name	1	2	3	
Function	CUT R+	CUT G+	CUT B+	
Key Name	4	5	6	
Function	CUT R-	CUT G-	CUT B-	

Note: BRI is only for adjusting voltage of grid, not for SUB-brightness; so please set BRI value as the above table. It is better not to make any changes. If it needs to make change, please make it within the range 14"-21": 100-120; 25"-34": 110-130.

### 3、ADJUSTMENT

Explanation of adjustments and settings: There are 11 pages for adjustments and settings from “SERVCJ0” to “SERVCJ9” and “AUTO VCJ”. It is available to turn down the page with MUTE key and swiftly arrive the set page with 0-9 keys. Use P+/P- to select the adjusted item; and use VOL+ or VOL- to make set adjustment.

#### 0) Page SERVCJ0

No.	Name	Explanation	
0	H PH	Line center (range: 0~31)	
1	V SH	Vertical center (range: 0-7)	
2	V SI	Vertical range (range: 0-63)	
3	V SC	Vertical correction SC (range: 0-63) (effective only when choosing M61264)	
4	V LI	Vertical linearity (range: 0-63) (effective only when choosing M61264)	
5	N H PH	Deviation amount of line center in NTSC (range: -31~+31)	
6	N V SH	Deviation amount of vertical center in NTSC (range: -7~+7)	
7	N V SI	Deviation amount of line center in NTSC (range: -63~+63)	
8	N V SC	Deviation amount of vertical correction SC in NTCS (range: -63~+63) (effective only when choosing M61264)	
9	N V LI	Deviation amount of vertical linearity in NTCS (range: -63~+63) (effective only when choosing M61264)	

#### 1) SERVCJ1

No.	Name	Explanation	
			30
0	AGC	RF.AGC adjustment (range: 0~127)	1
1	H T	Half-transparent switch (0: off; 1: on)	
2	AUDIO	Audio output (range: 0~127); effective only when the value of PWM OPT of SERVCJ4 is more than 0.	100
3	YDL	Time delay adjustment of brightness (0~7)	2
4	VDL	V delay adjustment L (0~3) (effective only in YUV mode)	0
5	UDL	U delay adjustment (0~3) (effective only in YUV mode)	0
6	YUV TINT	YUV tincture adjustment (0~127) (effective only in YUV mode)	50

#### 2) Page SERVCJ2 (effective only in M61260)

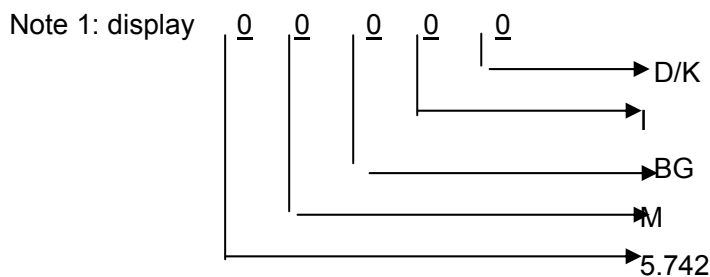
No.	Name	Explanation	
0	S BL R	Adjustment of SECAM R-Y signal (0~31)	16
1	S BL B	Adjustment of SECAM B-Y signal (0~31)	16
2	S YDL	Time delay compensation of SECAM (0: off 1: on)	0
3	S BPG	Time delay option of SECAM BGP (0~3)	0

3) Page SERVCJ3

No.	Name	Explanation	
0	IC	Option of decoding CMOS chip (M61260/M61264/M61266)	M61264
1	SEA CHACK	Checking of automatic channel searching when TV set is turned on. (0: no 1: yes)	1
2	CAL	Option of calendar (1: yes/ 0: no)	1
3	GAME	Option of game (0: no /1: yes)	1
4	ZOOM	Option of ZOOM (1: yes/ 0: no)	1
5	LOCK	Option of child lock (1: yes/ 0: no)	0
6	CURT	Option of screen stretching (0: no / 1: on / 2: off / 3: both)	3
7	WOO	Option of bass (0: no 1: base switch 2: digital control)	0
8	SAVER	Option of screen protection (0: no 1: yes 2: uper line LOGO 3: two line LOGO)	1

4) Page SERVCJ4

0	HP	Left/right of OSD (range: 0~60)	28
1	VP	Up/down of OSD (range: 0~60)	29
2	Z1	Vertical range data when screen is enlarged (range: 0~63)	58
3	Z2	Vertical range data when screen is widened (range: 0~63)	30
4	CURT TIM	Time option of black screen before stretching screen when TV set is turned on (range: 0~30 seconds)	4
5	PWM	Volume option (0: inner volume control;, 1: 1-circuit PWM output; 2:2-circuit PWM number, 3: IC control of acoustics)	0
6	AV	AV option (0: 1-circuit AV 1: 2-circuit AV 2: 1-circuit AV, 1-circuit YUV 3: 2-circuit AV, 1-circuit YUV)	0
7	S SYS	Option of sound system (see note 1)	01111
8	POW	Option of turning-on state (0: direct turning on 1: turning on after standby 2: memory turning on)	2



As shown in the fig., the sound will be opened when each of the corresponding sound system is in 1 position; and closed when in 0.

5) Page SERVCJ5

0	V FREQ	Option of middle frequency: 38.0MHZ、38.9MHZ、39.5MHZ、45.75MHZ、34.47MHZ	38.0
1	V VCO	Tuning of middle frequency: when tuning, AFT of the last line in the menu is in OK mode.	26
2	V GAIN	Scale control of video output (0~7)	7
3	H VCO	Tuning of horizontal frequency (range: 0~7)	3
4	C TR	limiting of color waves (0 ~ 3) (ineffective when tuning in terminal S or YUV input)	0

6) Page SERVCJ6

0	BS SW	black level extending switch: 0: on/1: off	0
1	BS CHAG	(0~3) controlling of extending scale of black level (0~3)	2
2	BS DIS	(0~3) controlling of extending scale of black level (0~3)	0
3	BS GAIN	Gaining switch of black level extending: 0: normal、1: enhance	0
4	GAMMA	(0~3) Correction of curve GAMMA (0~3)	0
5	A SW	limiting switch of automatic contrast: 0: control of automatic contrast, 1: limiting of automatic contrast.	0
6	A GAIN	ABCL gaining switch 0: low, 1: high	0
7	OM DET	Checking of modulation: 0: off, 1: on	0
8	M/N	ption of PAL-N, PAL-M 0: off, 1: on	0

7) Page SERVCJ7

0	D OSD	OSD digit 1: off 0: on	0
1	OSD L	Output scale of OSD digit: 0: low 1: high	1
2	S DOWN	Sync cutting mode: 0: 50%, 1: 40%, 2: 30%, 3: 25%	2
3	R MIX	Adjustment of matrix R: 0: normal 1: enhance	1
4	VS Y DET	Switch of sync time testing: 0: 11.5us 1: 20.5us	0
5	BLACK SCR	Option of screen blackening	1
6	VOL CHOICE	Option of acoustics curves: 0: standard 1: customer	0

8) Page SERVCJ8

0	SUB CONT	Sub-contrast 0~29	18
1	SUB BRI	Sub-brightness 0~105	20
2	SUB COL	Sub-color 0~27	18

3	SUB SHA	Sub-sharpness 0~13	13
4	SUB TI	Sub-tincture 0~27	10
5	SA BR	Screen protection and brightness of blueness in no-signal mode 0~255	138
6	LAN CHOICE	Language option: 0: only English, 1: Chinese, English	1
7	TUNER CHOICE	TUNER OPTION: 0: VS TUNER, 1: FS TUNER	0

9) Page SERVCJ9 (effective only in choosing M61266)

0	Cr ADJ	Adjustment of base level Cr (0~15)	
1	Cb ADJ	Adjustment of base level Cb (0~15)	
2	SIF45 GAIN	Attenuation of output scale of NTSC acoustics (0: 0dB 1: -6dB)	
3	SIF PAL	enhancing of PAL SNR (0: OFF 1: ON)	
4	SIF PAL INV	Polarity switch of SIF PAL (0: NORMAL 1: INVERT)	
5	AMF	Testing switch of weak radio-frequency signal (0: OFF 1: ON)	
6	AMF VTH	Level adjustment of weak radio-frequency signal testing	
7	AMF CUR	reduce filtering current of MF AGC (0: NORMAL 1: CURRENT REDUCED)	
8	AMF HYS	Switch HYS (0: OFF 1: ON)	

10) Page AUTO VCJ: This menu automatically adjusts VIF VCO and S TRAP; and save the adjusted data in EEPROM. Pressing volume key begins the automatic adjustment and it will return to original mode 2~3 seconds after adjustment.

Note 1: the adjusted datum will be shown in SER VCJ5.

Note 2: Adjusting will not affect any keys.

0	S TRAP	
1	VIF VCO	

### 三、 Explanation of Special Function

1. Enter factory LOGO set: press “LOGO” key will directly enter into adjusting mode; or in “AV” indication for common controller in AV state, successively input 6483 will also enter into adjusting mode.
2. Setting of factory LOGO: There are two lines for factory LOGO, the 1<sup>st</sup> of which is “Double Happiness” or defined by customer; the 2<sup>nd</sup> of which is for customer to define (it is available for customer to set not more than 13 characters). And customer may set switch, font, color, up/down position and left/right position. If “LOGO” in the menu is set in “ON” position, the screen will show the equivalent “LOGO” when there is on signal in POWER-ON state.

- The setting menu of factory logo is displayed on two screens, which are available to adjust the 1<sup>st</sup> line and 2<sup>nd</sup> line of the LOGO separately. After entering the setting menu, press POS+/POS to



choose different options. Yellow block will appear when displaying item is selected, and then use VOL+/VOL- key to adjust the selected item.

- Adjustment of the selected item: use RECALL key to select the shown item in 1<sup>st</sup> or 2<sup>nd</sup> line, when yellow block indicates the current selectable character, use VOL+/VOL key to adjust the selected character.
- It is available to use “0” key to eliminate the current set character.
- On setting menu, press DISPLAY key to indicate adjustment effect, and re-press DISPLAY key to return LOGO set menu. Factory LOGO set is in “to gain what is seen”; and the other items, color, font, position in the displaying lines are completely the same in normal display. So, while adjusting, it is available to see the adjusted effect.
- Setting of items in two lines. Do not set overlapping (even if one line is set in OFF position) so as to prevent abnormal display.
- When adjusting V POS, the menu probably may flash, but this will not affect LOGO display when TV set is turned on.

3. Note: After setting, change screen protection mode through factory setting item. Please see Page SERVCJ3 for details.

#### 6-2、Realization of factory automatic adjustment

Note: There is no any effect for any key in BUS OPEN mode.

Pin 13 of CPU is the automatic adjustment ENABLE terminal; high level should be kept in normal working state. When the terminal is connected to low level, CPU will transfer the control of BUS LINE to automatic equipment (automatically enter into “BUS OPEN” mode); and the automatic equipment will send data to decoding CMOS chip through BUS LINE to implement adjustment. Then it will save the adjusted data in the address of equivalent EEPROM and recover the high level in ENABLE terminal. CPU returns to normal working state. The concerned data of automatic decoding piece and EEPROM address are as follows:

Address of EEPROM:           written address: A0H     read address:   A1H

Address of decoding piece:   written address: BAH     read address:   BBH

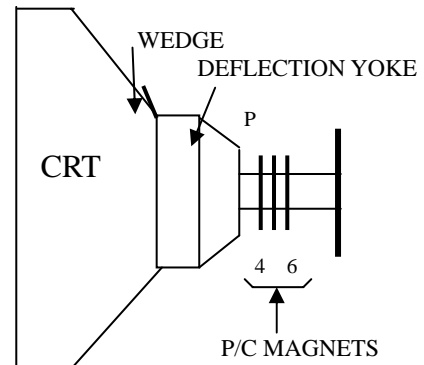
Name	Sub-address in the equivalent EEPROM	Sub-address in the equivalent decoding piece	Max value
R.DIR	3BH	0BH	7FH
B.DIR	3CH	0CH	7FH
R.CUTOFF	3DH	0DH	FFH
G.CUTOFF	3EH	0EH	FFH
B.CUTOFF	3FH	0FH	FFH

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## **PURITY / CONVERGENCE ADJUSTMENT**

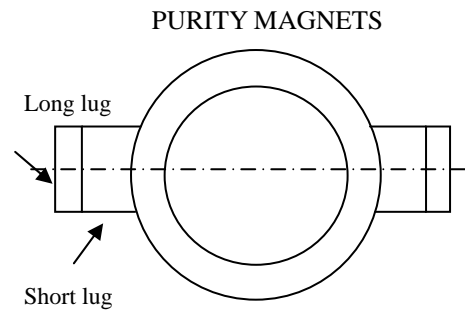
## PURITY ADJUSTMENT

1. Demagnetize CRT with the demagnetizer.
2. Loosen the retainer screw of the deflection yoke.
3. Remove the wedges.
4. Input a green raster signal from the signal generator, and turn the screen to green raster.
5. Move the deflection yoke backward.
6. Bring the long lug of the purity magnets on the short lug and position them horizontally. (Fig2)
7. Adjust the gap between two lugs so that the GREEN RASTER will come into the centre of the screen. (Fig. 3)
8. Move the deflection yoke forward, and fix the position of the deflection yoke so that the whole screen will become green.
9. Insert the wedge to the top side of the deflection yoke so that it will not move.
10. Input a crosshatch signal.
11. Verify that the screen is horizontal.
12. Input red and blue raster signals, and make sure that purity is properly adjusted.



P: PURITY MAGNET  
 4: 4-POLES (convergence magnets)  
 6: 6-POLES (convergence magnets)

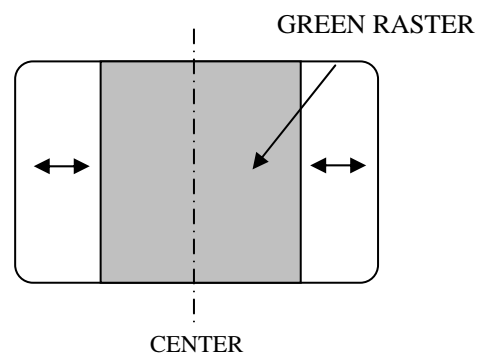
**Fig. 1**



Bring the long lug over the short lug and position them horizontally.

**Fig. 2**

(FRONT VIEW)

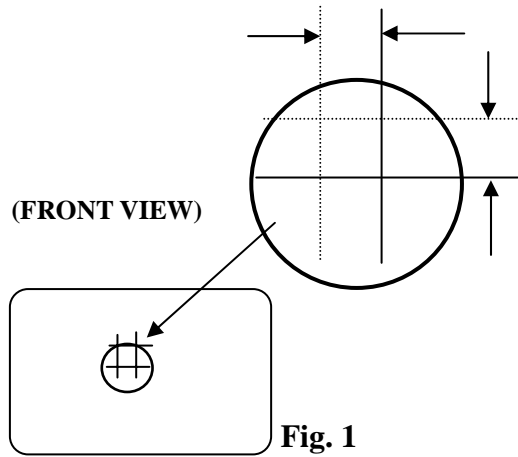


CENTER

**Fig. 3**

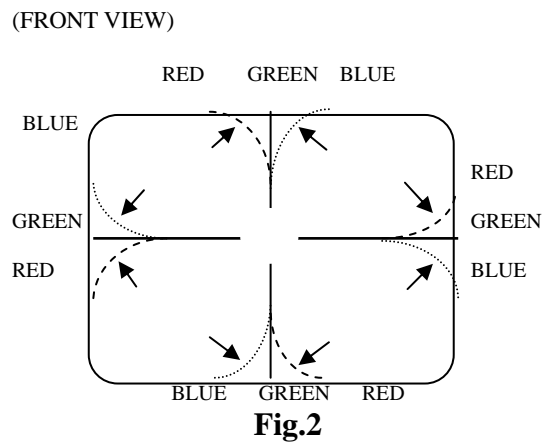
**STATIC CONVERGENCE ADJUSTMENT**

1. Input a crosshatch signal.
2. Using 4-pole convergence magnets overlap the red and blue lines in the center of the screen (Fig. 1) and turn them to magenta (red/blue).
3. Using 6-pole convergence magnets overlap the magenta (red/blue) and green lines in the center of the screen and turn them to white.
4. Repeat 2 and 3 above, and make the best convergence.

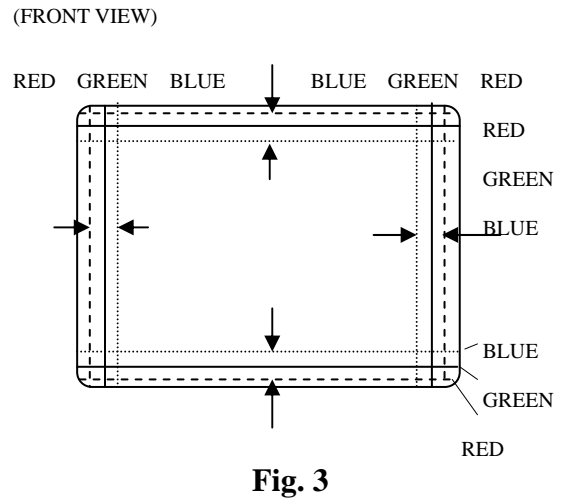


**DYNAMIC CONVERGENCE ADJUSTMENT**

1. Move the deflection yoke up and down and overlap lines in the periphery. (Fig. 2)
2. Move the deflection yoke left to right and overlap lines in the periphery. (Fig. 3)
3. Repeat 1 and 2 above, and make the best convergence.



After adjustment, fix the wedge at the original position.  
Fasten the retainer screw of the deflection yoke.  
Fix the 6 magnets with glue.



## List of Parts

14" ~ 21"

	Description	Q'ty	Location				
1	HZ5C2(5.1V)	4	VD902	VD110	VD111	VD452	
2	6.2V 1W/IN4735A	1	VD561				
3	HZ7C2(7.5V)	1	VD519				
4	HZ9A2(8.2V)	4	VD601	VD602	VD603	VD904	
5	UPC574/CW574	1	VD101				
6	IN4148	13	VD133	VD203	VD514	VD516	VD518
			VD537	VD538	VD903	VD914	
			VD600	VD607	VD608	VD609	
7	IN4002(10L)	1	VD451				
8	IN4002(12.5L)	1	VD135				
9	FR154(12.5L)	2	VD448	VD517			
10	FR154(12.5LH)	3	VD553	VD554	VD555		
11	FR157(12.5LH)	1	VD552				
12	HER308(20LH)	1	VD551				
13	RL207(12.5L)	4	VD503	VD504	VD505	VD506	
14	2SA1015Y	1	V600				
15	2SC1815Y	3	V102	V553	V604		
16	2SC1815GR	1	V191				
17	2SC1674/2SC388A	1	V101				
18	HSB772P/3CA8772/B764	1	V511				
19	2SC2383-O	4	V901	V132	V133	V701	
20	HBF422	3	V651	V652	V653		
21	2SC3807	1	V512				
22	2SC5296/TT2190	1	V413				
23	ST1802/2S5297	1	V513				
24	PC817B/Q817/F817	1	N501				
25	ATME24C08/24LC08	1	N602				
26	AN5522/ST9302	1	N451 (N401)				
27	TDA2003	1	N301				
28	M37160M8-058FP or M37160M8-063FP or M37160M8-064FP	1	N601				
29	M61266	1	N101				
30	F3828H(38MHz)	1	Z101				
31	JA18B-4.43MHZ(S)	1	Z601				
32	CBB21-250V-684J	1	C441				
33	CBB62-250V-224K	1	C501				
34	CBB81-1.6KV-103J	1	C436				
35		2	C605	C606			
36	CC1-SL-50V-181J	1	C604				
37	CC1-50V-101J	1	C719				
38	CC1-50V-221J	2	C601	C715			
39	CT1-50V-471K	3	C122	C713	C621		
40	CT1-50V-331K	2		C622	C623		

41	CT1-50V-102K	3	C119	C611	C721		
42	CT1-50V-103Z	17	C101	C102	C115	C116	C121
			C198	C205	C207	C211	C315
			C629	C708	C711	C716	C718
			C903	C905			
43	CT1-500V-471K	3	C553	C554	C555		
44	CT1-500V-102K	1	C930				
45	CT1-500V-392K	1	C931				
46	CT81-B-1KV-471K	2	C551	C552			
47	CT81-B-1KV-102K	2	C503	C505			
48	CT81-B-2KV-681K	1	C516				
49	CT81-B-2KV-102K	1	C630				
50	CT7-400VAC-222M	1	C535				
51	CL11-100V-222K	1	C306				
52	CL11-100V-472K	1	C312				
53	CL11-100V-103K	3	C124	C901	C906		
54	CL11-100V-153K	1	C603				
55	CL11-100V-333K	1	C456				
56	CL11-100V-104K	5	C307		C438	C451	
				C203	C363		
57	CL21X-63V/100V-153J	2	C515	C517			
58	CL21X-100V/63V-104J	3	C117	C401	C514		
	CL21X-100V/63V-224J	3	C108	C118	C191		
59	CL21X-100V/63V-474J	1	C433				
60	CL21X-100V/63V-334J	1	C402				
61	CD110-16V-10UF-M	5	C110	C131	C144	C1	C808
62	CD110-16V-47UF-M	2	C628	C923			
63	CD110-16V-100UF-M	7	C104	C114	C212	C814	C904
			C380	C600			
64	CD110-16V-220UF-M	2	C206	C706			
65	CD110-16V-470UF-M	1	C130				
66	CD110-16V-1000UF-M	1	C564				
67	CD110-25V-470UF-M	2	C565	C362			
68	CD110-25V-1000UF-M	2	C455	C316			
69	CD110-35V-47UF-M	1	C932				
70	CD110-35V-100UF-M	1	C452				
71	CD110-35V-470UF-M	1	C563				
72	CD110-35V-1000UF-M	1	C453				
73	CD110-50V-0.22UF-M	1	C125				
74	CD110-50V-0.47UF-M	1	C123				
75	CD110-50V-1UF-M	7	C165	C304	C308		C366
			C602	C902	C215		
76	CD110-50V-3.3UF-M	1	C454				
77	CD110-50V-4.7UF-M	7	C105	C106	C107	C109	C113
			C303	C309			
78	CD110-160V-100UF+20%	1	C561				
79	CD110-250V-4.7UF-M(Φ5)	1	C444				
80	CD110-250V-22UF-M	1	C562				
81	CD293-400V-100UF-M	1	C507				

82	JLC-96-37UH/YDD-37UH	1	L401				
83	LGA0307-151K	1	L600				
84	LGA0307-1R2K	1	L101				
85	LGA0307-100K	2	L133	L644			
86	LGA0307-100K	1	L103				
87	LGA0307-330K	1	L601				
88	LGA0410-180K(12.5)	1	R599				
89	RJ-1/4W-2.2K-1%	1	R526				
90	RT-1/6W-1-J	1	R453				
91	RT-1/6W-2.2-J	1	R362				
92	RT-1/6W-27-J	1	R102				
93	RT-1/6W-33-J	1	R611				
94	RT-1/6W-56-J	3	R621	R622	R623		
95	RT-1/6W-82-J	1	R823				
96	RT-1/6W-100-J	12	R105	R114	R126	R129	R198
			R203	R204	R722	R824	
			R671	R672	R673		
97	RT-1/6W-180-J	3	R604	R605	R606		
98	RT-1/6W-220-J	2	R110	W230			
99	RT-1/6W-270-J	1	R107				
100	RT-1/6W-470-J	2	R115	R117			
	RT-1/6W-560-J	1	R454				
101	RT-1/6W-330-J	3	R631	R632	R633		
102	RT-1/6W-1K-J	5	R104	R112	R205	R517	R716
103	RT-1/6W-1.8K-J	2	R523	R310			
104	RT-1/6W-2.2K-J	8		R601	R602	R603	R727
			R545	R641	R642	R643	
105	RT-1/6W-4.7K-J	6	R101	R103	R119	R712	R816
			R111				
106	RT-1/6W-5.6K-J	2	R511	R553			
107	RT-1/6W-6.8K-J	5	R307	R614	R724	R725	R901
108	RT-1/6W-10K-J	6	R113	R120	R600	R711	R903
			W165				
109	RT-1/6W-12K-J	1	R461				
	RT-1/6W-15K-J	1	R462				
110	RT-1/6W-22K-J	6	R457	R515	R556	R719	R720
			R723				
111	RT-1/6W-47K-J	3	R207	R211	R730		
112	RT-1/6W-100K-J	1	R815				
113	RT-1/4W-3.3-J	1	RR452				
114	RT-1/4W-4.7-J	1	R363				
115	RT-1/4W-22-J	1	R519				
116	RT-1/4W-100-J	1	R800				
117	RT-1/4W-150-J	1	R914				
118	RT-1/4W-220-J	1	R361				
119	RT-1/4W-270-J	1	R938				
120	RT-1/4W-470-J	1	W161				

121	RT-1/4W-1K-J	2	R180	R930			
122	RT-1/4W-1.2K-J	2	R917	R936			
123	RT-1/4W-2.2K-J	2	R906	R726			
124	RT-1/4W-4.7K-J	3	R312	R701	R702		
125	RT-1/4W-10K-J	4	R116	R703	R713	R902	
126	RT-1/4W-15K-J	3	R121	R522	R560		
127	RT-1/4W-22K-J	1	R731				
128	RT-1/4W-120K-J	1	R904				
129	RT-1/4W-1M-J	1	R907				
130	RT-1/2W-270-J	1	R466				
131	RT-1/2W-1K-J	1	R443				
132	RT-1/2W-2.7K-J	3	R691	R692	R693		
133							
134	RT-1/2W-22K-J	2	R440	R448			
135	RT-1/2W-100K-J	1	R552				
136	RT-1/2W-120K-J	2	R520	R521			
137	RT-1/2W-150K-J	1	R554				
138	RT-1/2W-220K-J	2	R501	R558			
139	RY(15)-1/2W-1K-J	1	R441				
140	RY(15)-1/2W-1.8-J	1	R452				
141	RY(20)-1W-12-J	1	R142				
142	RY(20)-1W-39-J	1	R709				
143	RY-1W-47K-J	1	R555				
144	RY-2W-1-J(17.5LH)	1	R562				
145	RY-2W-1.5-J(17.5LH)	1	R437				
146	RY-2W-12-J(17.5LH)	2	R133	R134			
147	RY-2W-270-J(15LH)	1	R436				
148	RY-2W-12K-J(20LH)	4	R551				
			R681	R682	R683		
149	RY-3W-68-J(20LH)	2	R525A	R524			
150	RXG-5W-8.2-J	1	VD436				
151	RS11-1/2W-12M-K	1	R531				
152	MF72-2-7-M	1	R502				
153	MZ72-14RM	1	RT501				
154	WI06-2-2K-M	1	RP551				
155	ET-5G1E-CV100(063Y)(38MHz) /ET-5CE-V01	1	U101				
156	21" BSC24-01N4006E	1	T471				
	14" BSC24-01N4010G/ BSC24-01N4010GA						
157	JBC-145-UU10.5	1	T901				
158	BCK40-45-1275	1	T511				
159	JLF-98-UF16	1	L501				
160	T3.15AL250VAC	1	FUSE				
161	Fuse Clip	2	FUSE				
162	GZS10-2-108C	1	CRT				
163	TJC1-1A	1	GND				
164	TJC1-2A	2	XS501	XS502			
165	TJC2-5A(DY)	1	XS901				
166	TJC2-5A(L=7)	1	XS408				



167	TJC3-2A	3	XS303	XS302	XS703		
168	TJC3-3A	2	XS702		XS803		
169	TJC3-4A	2	XS402	XS701			
170	TJC3-5A	1	XS601				
171	YG-2A	1	XP451				
172	TJC3-4Y-450mm	1	XP602				
173	TJC3-5Y-450mm	1	XP601				
174	21MMT1	1	V513				
175	21MMHV2	1	V413				
176	21MMB1-1	1	N301				
	Bare Wire						
182	5mm	24	W130	W176	W199	W203	W212
			W214	W231	W309	W360	W366
			W429	W439	W504	W515	C810
			C936	L430	R580	XS1	W112(1)-W213(3)
			W600	W601	W602	W606	
183	7.5mm	18	W1	W132	W133	W134	W151
			W168	W170	W174	W178	W179
			W184	W185	W192	W206	
			W511	R308	W152	R820	
184	10mm	16	L502*2	W147	W148		W155
			W164	W172	W173	W181	W182
			W183		W204	W431	W507
			R416	W603			
185	12mm	1	C807(-)-R818(8)				
186	12.5mm	6	W137	W149	W162	W177	W201
			W190				
187	14mm	1	N801(2)-W210)				
188	15mm	11	W100	W131	W135	W153	W157
			W158	W159	W186	W187	W209
			W438				
189	16mm	1	R814 (4) -W211 (1)				
190	17.5mm	5	W141	W142	W156		W188
			W189				
191	20mm	5	W143	W154	W169	W202	N301:1-9
1	RT-1/6W-1.5K-J	1	R1015				
2	RT-1/6W-2.4K-J	1	R702				
3	RT-1/6W-3.6K-J	1	R701				
4	RT-1/6W-3.9K-J	1	R703				
5	RT-1/6W-6.2K-J	1	R704				
6	RT-1/6W-12K-J	1	R705				
7	CD110-16V-47UF-M	1	C1101				
8	BRM-1040/FPS-6038-T53 /MIM-5383K4 /MIM-5383J2/ MIM-5383K4-F-5	1	RM				

25" ~ 34"

Item #	Description	Q'ty	Location				
			VD902	VD110	VD111		
1	HZ5C2(5.1V)	3	VD902	VD110	VD111		
2	6.2V 1W/1N4735A	1	VD561				
3	HZ7C2(7.5V)	2	VD519	VD452			
4	HZ9A2(8.2V)	4	VD601	VD602	VD603	VD904	
5	UPC574/CW574	1	VD101				
6	IN4148	13	VD133	VD203	VD514	VD516	VD518
			VD537	VD538	VD903	VD914	VD600
			VD607	VD608	VD609		
7	IN4002(10L)	1	VD451				
8	IN4002(12.5L)	1	VD135				
9	FR154(12.5L)	2	VD448	VD517			
10	FR154(12.5LH)	3	VD553	VD554	VD555		
11	FR157(12.5LH)	1	VD552				
12	FR305(12.5LH)	1	VD436				
13	BY228(20LH)	1	VD435				
14	SF36(20LH)	1	VD551				
15	RL207(12.5L)	4	VD503	VD504	VD505	VD506	
17	2SA1015Y	1		V600			
18	2SC1815Y	7	V102	V110	V201		V553
			V604	V830	V831		
19	2SC1815GR	1	V191				
20	2SC1674/2SC388A	1	V101				
21	HSB772P	1	V511				
22	2SC2383-O	4	V901	V132	V133	V701	
23	2SC2688	3	V651	V652	V653		
24	2SC3807	1	V512				
25	2SC5296	1	V413				
26	2SC4460-M	1	V513				
27	D2012	1	V303				
29	LTV817B	1	N501				
30	ATME24C08/24LC08	1	N602				
31	TDA8177	1	N451				
32	AN7522	1	N301				
33	M37160M8-058FP/M37160M8H-051FP or M37160M8-063FP or M37160M8-064FP	1	N601				
34	M61266	1	N101				
35	MC14053B/HEF4053/CD4053/HCF4053	1	N801				
37	F3828H	1	Z101				
38	JA18B-4.43MHZ(S)	1	Z601				
39	CBB21-630V-473J	1	C433				
40	CBB21-400V-684J	1	C441				
41	CBB62-250VAC-224K	1	C502				
42	CBB81-1.6KV-103J	1	C436				
43	CBB81-1.6KV-822J	1	C439				
44	CC1-SL-50V-181J	1	C604				
45	CC1-50V-101J	1	C719				

46	CC1-50V-221J	2	C601	C715			
47	CC1-50V-22PF-J	2	C605	C606			
	CT1-50V-331K	2	C622	C623			
48	CT1-50V-471K	3	C122	C621			C713
49	CT1-50V-102K	3	C119	C611	C721		
50	CT1-50V-103Z	18	C101	C102	C115	C116	C121
			C198	C205	C207	C211	C315
			C629	C708	C711	C716	C718
			C800	C903	C905		
51	CT1-500V-471K	3	C553	C554	C555		
52	CT1-500V-102K	1	C930				
53	CT1-500V-392K	1	C931				
54							
55	CT81-B-1KV-471K	2	C551	C552			
56	CT81-B-1KV-102K	4	C503	C505	C504	C506	
57							
58	CT81-B-2KV-102K	2	C630	C516			
59							
60	CT7-400VAC-472M	1	C535				
62	CL11-100V-222K	1	C306				
63	CL11-100V-472K	2	C311	C312			
64	CL11-100V-103K	3	C124	C901	C906		
	CL11-100V-153K	1	C603				
66	CL11-100V-333K	1	C456				
67	CL11-100V-104K	3	C203	C307			C438
	CL21X-63V/100V-153J	2	C515	C517			
68	CL21X-100V/63V-104J	3	C117	C401	C514		
69	CL21X-100V/63V-224J	3	C108	C118	C191		
70	CL21X-100V/63V-334J	1	C402				
71	CL21X-100V/63V-474J	1	C451				
	CL21X-100V/63V-224J						
72	CD71S-50V-10UF-M	1	C302				
73	CD71-160V-4.7UF-M	1	C444				
74	CD110-16V-10UF-M	15	C1	C110	C131	C144	C314
			C704	C801	C802	C807	C808
			C809	C810	C811	C812	C896
75	CD110-16V-47UF-M	2	C628	C923			
76	CD110-16V-100UF-M	6	C104	C114	C212	C814	C904
			C600				
77	CD110-16V-220UF-M	2	C206	C706			
78	CD110-16V-470UF-M	1	C130				
79	CD110-16V-1000UF-M	3	C564	C316		C565	
80	CD110-25V-2200UF-M	1	C455				
81	CD110-35V-47UF-M	1			C932		
82	CD110-35V-100UF-M	1	C452				
83	CD110-35V-470UF-M	1	C563				
84	CD110-35V-1000UF-M	1	C453				

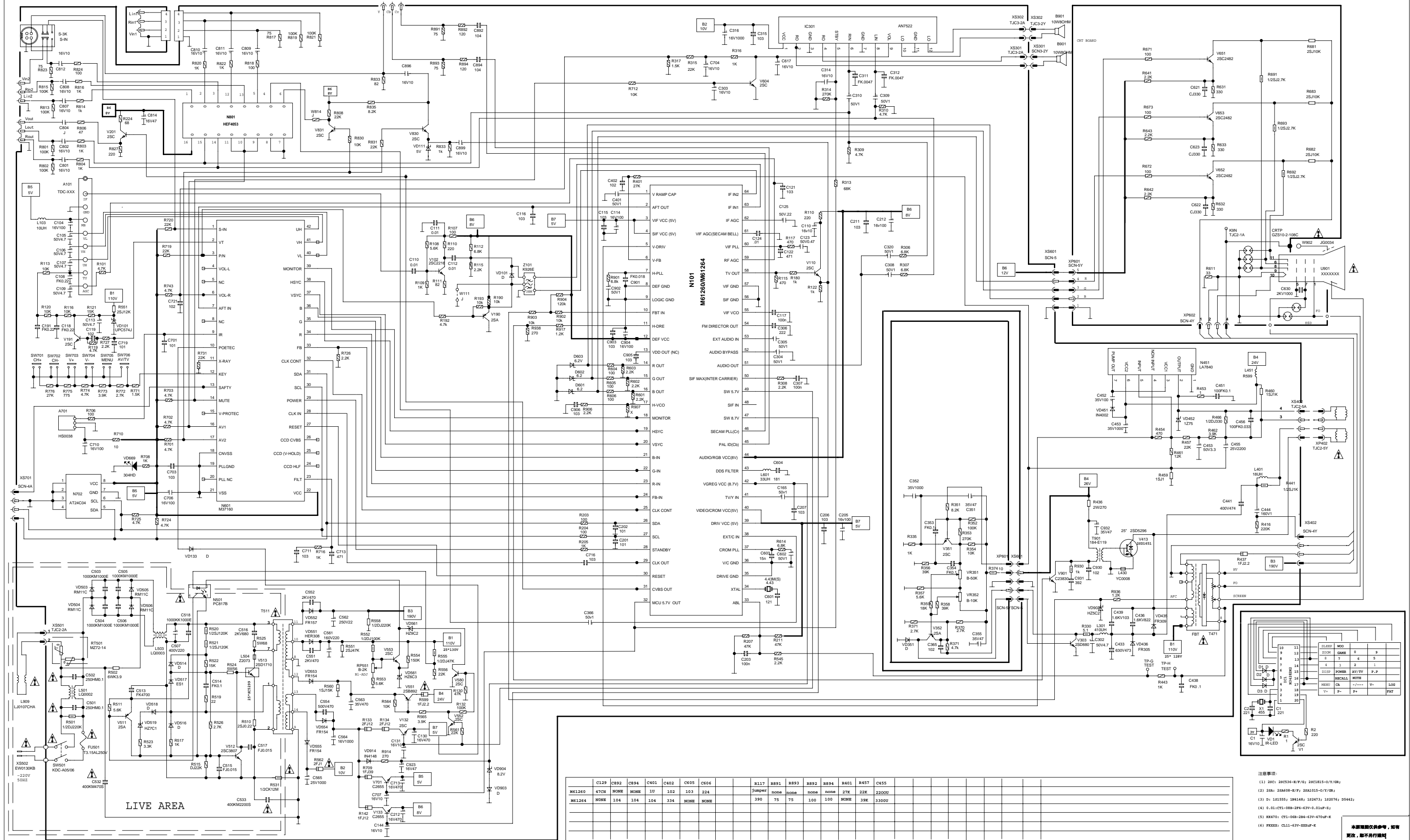
85	CD110-50V-0.22UF-M	1	C125				
86	CD110-50V-0.47UF-M	1	C123				
87	CD110-50V-1UF-M	8	C165	C304	C308	C320	C366
			C602	C617	C902		
88	CD81-50V-4.7UF-M (105°C)	1	C454				
89	CD110-50V-4.7UF-M	8	C105	C106	C107	C109	C113
			C303	C309	C310		
90	CD110-160V-220UF-M	1	C561				
91	CD110-250V-22UF-M	1	C562				
92	CD293-400V-220UF-M	1	C507				
94	18UH	1	L401				
95	410UH	1	L301				
96	LGA0307-151K	1	L600				
97	LGA0307-1R2K	1	L101				
98	LGA0307-100K	2	L133	L644			
99	LGA0307-100K	1	L103				
100	LGA0307-330K	1	L601				
101	LGA0410-180K(12.5)	1	R599				
102	RJ-1/6W-22K±1%	1	R457				
103	RJ-1/6W-15K±1%	1	R462				
104	RJ-1/4W-2.2K±1%	1	R526				
105	RT-1/6W-1-J	1	R453				
106	RT-1/6W-27-J	1	R102				
107	RT-1/6W-33-J	1	R611				
108	RT-1/6W-56-J	3	R621	R622	R623		
109	RT-1/6W-68-J	1	R806				
110	RT-1/6W-82-J	3	R817	R823	R890		
111	RT-1/6W-100-J	14	R105	R114	R126	R129	R198
			R203	R204	R671	R672	R673
			R722	R818	R824	R833	
112	RT-1/6W-180-J	3	R604	R605	R606		
113	RT-1/6W-220-J	2	R110	W230			
114	RT-1/6W-270-J	1	R107				
115	RT-1/6W-470-J	3	R115	R117	R454		
116	RT-1/6W-300-J	3	R631	R632	R633		
117	RT-1/6W-1K-J	9	R104	R112	R205	R222	R316
			R517	R716	R803	R804	
118	RT-1/6W-1.5K-J	1	R317				
119	RT-1/6W-1.8K-J	1	R523				
120	RT-1/6W-2.2K-J	11	R111		R601	R602	R603
			R641	R642	R643	R727	R306
			R307	R545			
122	RT-1/6W-3.3K-J	1	R835				
123	RT-1/6W-4.7K-J	12	R101	R103	R119	R309	R310
			R712	R743	R814	R816	R820
			R822		R553		
124	RT-1/6W-5.6K-J	1	R511				
125	RT-1/6W-6.8K-J	4	R614	R724	R725	R901	
126							

127	RT-1/6W-10K-J	6	R113	R120	R600	R711	R903
				W165			
128	RT-1/6W-12K-J	1	R461				
129							
130	RT-1/6W-22K-J	9	R315		R515	R556	R719
			R720	R723	R808	R832	R211
131							
132	RT-1/6W-47K-J	2	R207	R730			
133	RT-1/6W-68K-J	1	R313				
134	RT-1/6W-100K-J	6	R801	R802	R813	R815	R819
			R821				
135	RT-1/6W-270K-J	1	R314				
136	RT-1/6W-8.2M-J	1	R300				
137	RT-1/4W-22-J	1	R519				
138	RT-1/4W-22-J	1	R224				
139	RT-1/4W-100-J	1	R800				
140	RT-1/4W-150-J	1	R914				
141	RT-1/4W-270-J	1	R938				
142	RT-1/4W-470-J	1	W161				
143	RT-1/4W-1K-J	2	R180	R930			
144	RT-1/4W-1.2K-J	2	R917	R936			
145	RT-1/4W-2.2K-J	2	R906	R726			
146	RT-1/4W-4.7K-J	3	R312	R701	R702		
147	RT-1/4W-10K-J	5	R116	R703	R713	R830	R902
148	RT-1/4W-15K-J	4	R121	R522	R560	R440	
149	RT-1/4W-22K-J	2	R731	R831			
150	RT-1/4W-120K-J	1	R904				
151	RT-1/4W-1M-J	1	R907				
153	RT-1/2W-3.3-J	1	RR452				
154	RT-1/2W-270-J	1	R466				
155	RT-1/2W-1K-J	1	R443				
156	RT-1/2W-2.7K-J	3	R691	R692	R693		
157	RT-1/2W-22K-J	1	R448				
158	RT-1/2W-100K-J	1	R552				
159	RT-1/2W-120K-J	2	R520	R521			
160	RT-1/2W-150K-J	1	R554				
161	RT-1/2W-220K-J	2	R501	R558			
163	RY(15)-1/2W-1K-J	1	R441				
164	RY(15)-1W-1.2-J	1	R452				
165	RY(20)-1W-12-J	1	R142				
166	RY(15)-1W-5.1-J	1	R330				
167	RY(20)-1W-39-J	1	R709				
168	RY-1W-47K-J	1	R555				
169	RY-1W-560-J(15LH)	1	R463				
170	RY(17.5)-2W-1-J	1	R562				
171	RY(17.5)-2W-1.5-J	1	R437				
172	RY(17.5)-2W-12-J	2	R133	R134			
173	RY(15)-2W-270-J	1	R436				
174	RY(20)-2W-10K-J	3	R681	R682	R683		

175	RY-2W-15K-J(20LH)	1	R551				
176	RS11-1/2W-12M-K	1	R531				
177	RXG-7W-2.2-J	1	R502				
178	RY-2W-1-J	1	R580				
179	RXG-5W-22-J(15)	1	R524				
180	RXG-5W-39-J(15)	1	R525A				
181	MZ73-14RM	1	RT501				
182	WI06-2-2K-M	1	RP551				
185	ET-5G1E-CV100(063Y)/ET-5CE-V01	1	U101				
186	BSC26-01N4010A	1	T471				
187	JBC-184-E119	1	T901				
188	BCK40-45-1243-1	1	T511				
189	JLF-148-ET24	2	L501	L502			
190	T3.15AL250VAC	1	FUSE				
191	Fuse Clip	2	FUSE				
192	SW-3K	1	S-IN				
193	GZS10-2-108C	1	CRT				
194	AV6-14	1	AV2				
197	TJC1-1A	1	GND				
198	TJC1-2A	2	XS501	XS502A			
199	TJC2-5A(DY)	1	XS901				
200	TJC2-5A(L=7)	1	XS408				
201	TJC3-2A	4	XS301	XS302	XS703	XS1	
202	TJC3-3A	2	XS702	XS102			
203	TJC3-4A	3	XS402	XS701	XS803		
204	TJC3-5A	1	XS601				
205	YG-2A	1	XP451				
207	TJC3-4Y-500mm	1	XP602				
208	TJC3-5Y-500mm	1	XP601				
	Bare Wire						
223	5MM	23	W130	W176	W199	W203	W212
			W214	W231	W360	W366	W429
			W439	W504	W515	W600	W601
			W602	W606	C804	C936	W210
			W310	W362	C362		
224	7.5MM	19	W1	W132	W133	W134	W151
			W168	W170	W174	W178	W179
			W184	W185	W192	W206	W512
			W152	W211	W604		R308
225	10MM	14		W147	W148	W603	W155
			W164	W172	W173	W181	W182
			W183	W204	W431	W507	R416
226	12.5MM	8	W137	W149	W162	W177	W201
			W171	L430	W190		
227	15MM	13	W100	W131	W135	W153	W157
			W158	W159	W186	W187	W209
			W438	W160	W208		
228	17.5MM	5	W141	W142	W156	W188	W189

229	20MM	4	W143	W154	W169	W202	
230	RT-1/6W-1.5K-J	1	R1015				
231	RT-1/6W-2.4K-J	1	R702				
232	RT-1/6W-3.6K-J	1	R701				
233	RT-1/6W-3.9K-J	1	R703				
234	RT-1/6W-6.2K-J	1	R704				
235	RT-1/6W-12K-J	1	R705				
236	CD110-16V-47UF-M	1	C1101				
237	BRM-1040/FPS-6038-T53 /MIM-5383K4 /MIM-5383J2/MIM-5383K4-F-5	1	RM				

# 彩色电视机电路电原理图



	C129	C892	C894	C401	C402	C605	C606		R117	R891	R893	R892	R894	R401	R457	C455	
M61260	47K	NONE	NONE	10	102	103	224		Jumper	390	75	75	100	100	27K	22K	22000
M61264	NONE	104	104	104	334	NONE	NONE										33000

- 注意事项:
- (1) 25C: 28C136-S/P/D; 28C1815-0/T/G/B;
  - (2) 28A: 28A608-S/P; 28A1015-0/T/G/B;
  - (3) D: 181555; 18M144; 182473; 182076; 182076; D5442;
  - (4) 0.01: CT1-08B-284-63V-0.01uF-S;
  - (5) KK470: CT1-08B-284-63V-470uF-E;
  - (6) FKX31: CL11-63V-330uF-E

本图仅供参考, 如有更改, 恕不另行通知