SKYWORTH®

SERVICE MANUAL

COLOUR TELEVISION PAL/SECAM BG/DK /NTSC PLAYBACK

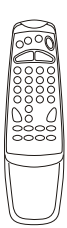
CHASSIS : 5N11

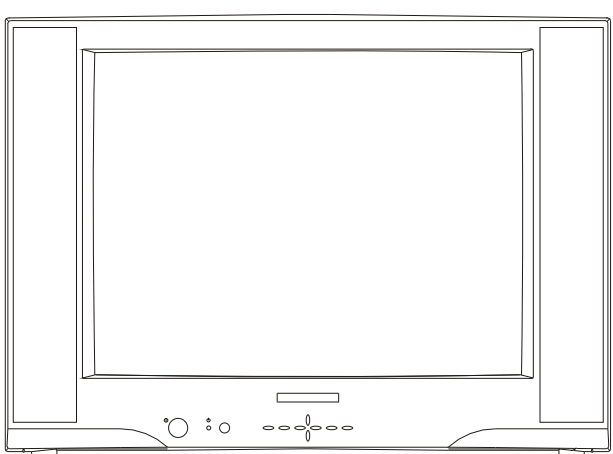
MODEL: 2522, 2588, 25F1, 2998, 2922, 2929, 29F1, 3423, 3498, 3898,L25, D25, L29, D29, L34,

Elenberg

29" COLOUR TELEVISION

- **ON SCREEN DISPLAY**
- **REMOTE CONTROL**
- **HYPERBAND TUNER**
- **S-VIDEO IN**
- **SIDE AV IN**





29D77
MANUAL

SPECIFICATIONS

Receiving System	: B/G , DK , M
Colour System	: PAL / SECAM / NTSC
Picture Tube	: 74cm (29") diagonal
Ext. Antenna	: 75 Ohm Coaxial Cable
Ext. In/Out	: Peritelevision(Scart Jack), Side AV-in, S-Video
Speaker	: 16 Ohm (6W) x 4 , 8 Ohm (10W) x 2 TWEETER, Woofer:4Ohm(20W) x 1
Audio Output	: 8W x 2 MAX;10W (Woofer)
Power Consumption	: AC 90-260V 50/60Hz, 150W
Dimension	: 770(W) x 478(D) x 593(H)mm
Net Weight	: 44 kg

REMOTE CONTROL

Transmitting System	: Infrared
Power Supply	: DC 3V (1.5 x 2)
Dimension	: 60(W) x 200(L) x 24(D)mm
Net Weight	: 100 g

Design and specifications are subject to change without prior notice.

SPECIFICATIONS

Thank you very much for your purchase of this product-the most natural Colour Television Receiver.

To enjoy your set to the full from the very beginning, read this manual carefully and keep it handy for ready reference.

INSTALLATION

- Locate the receiver in the room where direct light does not strike the screen.

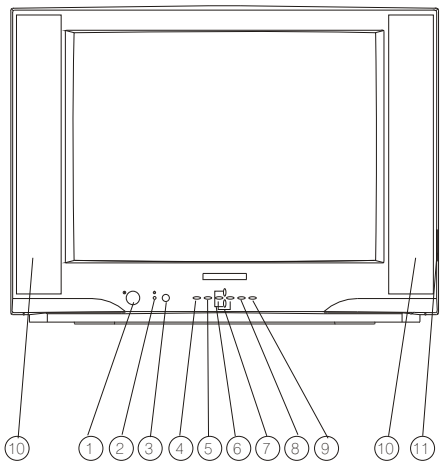
  Total darkness or a reflection on the picture screen can cause eyestrain. Soft and indirect lighting is recommended for comfortable viewing.
- Allow enough space between the receiver and the wall to permit ventilation.
- Avoid excessively warm locations to prevent possible damage to the cabinet or premature component failure.
- This TV receiver can be connected to AC 90-260 Volts. 50/60 Hz. Never connect to DC supply or any other power supply.
- Do not install the receiver in a location near heat sources such as radiator, air ducts, direct sunlight, or in a place somewhere like close compartment and close area.
- Do not cover the ventilation openings when using the set.

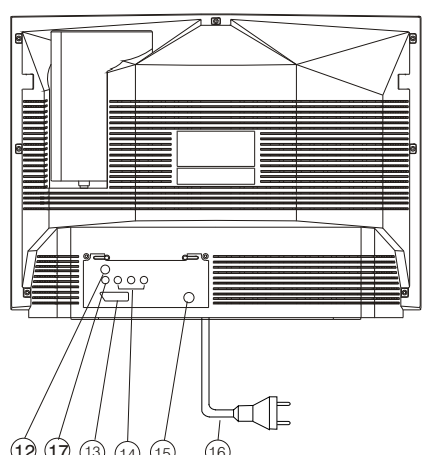
CAUTION

Never tamper with any components inside your set, or any other adjustment controls not mentioned in this manual. All television receivers are high voltage instruments. Your PICTURE TUBE is highly evacuation. If broken, glass fragments will be violently expelled. Scratching, chipping or undue pressure is dangerous and should be avoided. When you clean up dust or stick of a water drop on the PICTURE TUBE FACE or CABINET, the power cord should be pulled out from the plug receptacle, then wipe the receiver with dried soft cloth. During thunder and lighting, unplug the power cord and antenna cord to prevent your TV set from damage. All "inside work" on your receiver should be performed only by the TV service personnel.

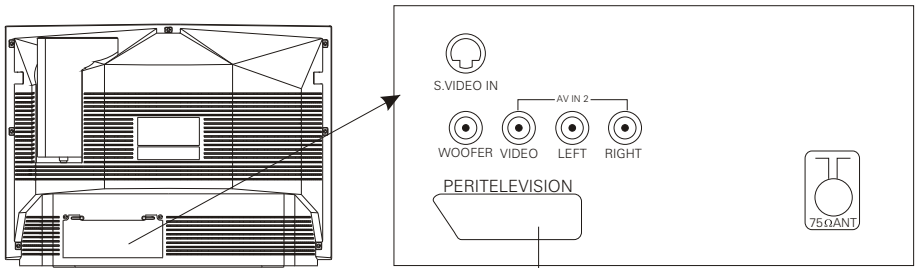
CONTROL LOCATION

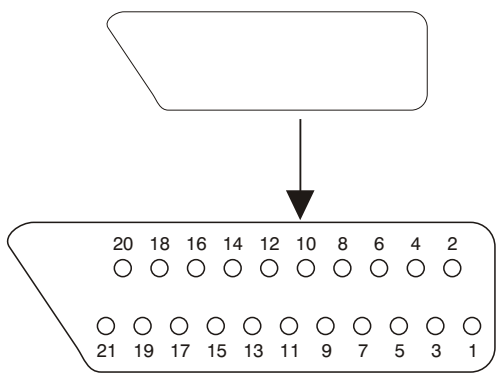
1. Main Switch
2. Power Indicator
3. Remote Sensor
4. AV/TV Button
5. Sound Mode Button
6. Program Down/Up Button
7. Volume Down / Up Button
8. Picture Mode Button
9. Menu Button
10. Speakers
11. Side AV In(Option)
12. S-Video In
13. Peritelevision(Scart Jack)
14. AV In 2
15. Antenna Input Socket (75 Ohm)
16. AC Power Cord
17. WOOFER OUT





INPUT AND OUTPUT TERMINALS (PERITELEVISION)





1. Audio Out
   Right channel "Stereo"
2. Audio In
   Right channel "Stereo"
3. Audio Out
   Left channel "Stereo"
4. Ground "Audio"
5. Ground of luminance signal "Blue"
6. Audio In
   Left channel "Stereo" or Monophonograph
7. Luminance signal input "Blue"
8. Video switching voltage
9. Ground of luminance signal "Green"
10. No Connection
11. Luminance signal input "Green"
12. No Connection
13. Ground of luminance signal "Red"
14. Ground
15. Luminance signal input "Red
16. R.G.B. switching voltage
17. Ground "Video"
18. Ground of switching input
19. Video Out
20. Video In
21. Ground chassis

The TV set can be connected to the following appliances: video-tape recorder, video camera, tape recorder and audio amplifier, etc.....
*Please keep AC cord unplugged when connecting TV system.

TUNING PROCEDURE

STEP 1

Push the Power "ON/OFF" Switch to the ON Position, the "POWER" Indicator will light up. A few seconds later the picture(or blue screen) will appear The program number is display on the top right-hand corner of the screen.

STEP 2

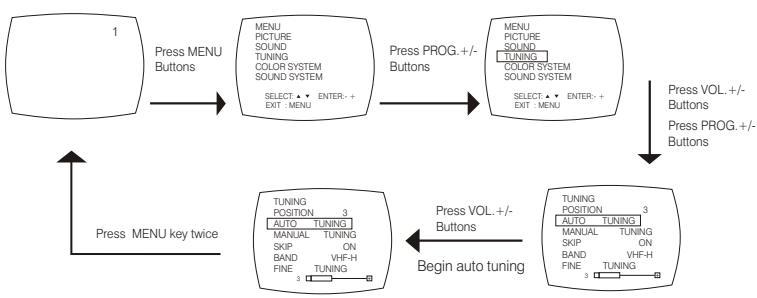
FULL AUTO SEARCHING

1. Press the MENU key on your TV set (or remote handset) .If it is in AV state, it will not display "TUNING" .

2.You can select "TUNING" by pressing PROG.+/-buttons .Then press VOL.+/-buttons to enter into TUNING submenu .

3.Press PROG.+/- Buttons to select "AUTO TUNING " then press VOL. +/- Button to automatically search and memory all the broadcasting TV stations in your area. When presetting is complete, the initial position number will reappear.

4. Press the MENU key twice to go back to the normal TV mode.



Remark: You 'd better select correct color and sound system for the first channel before searching.

TO SKIP A PROGRAM

You may skip any program number by following the steps below:

1.Select the program number to be skipped by pressing PROG+/- button or direct select buttons .

2.According to above mentioned steps, open the TUNING menu.

3.Press PROG+/- Buttons to select "SKIP", then select "ON" with VOL.+/- Buttons.

4.Press the MENU key twice to go back to the normal TV mode.

STEP 3

MANUAL TUNING

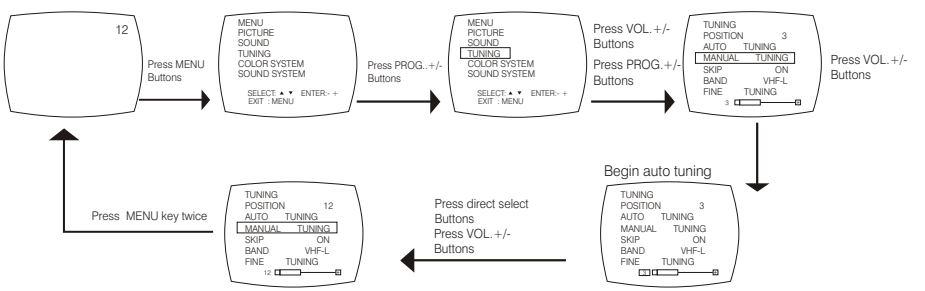
1.According to above mentioned steps, open the TUNING menu.

2.Move to "MANUAL TUNING"with PROG+/- buttons.

3.Press VOL.+/-buttons , the search is being carried out. When a TV station signal is received , the character stops flicker and the current item moves to program number item.

4. Enter new program number with direct select buttons. Press VOL.+/-to store the program , then the current menu item jumps to "MANUAL TUNING" automatically .

5.Then press VOL. +/- button to continue search.



STEP 4

FINE TUNING

To tune in to weak stations manual tuning must be used.

1. Select the program number you want to fine-tune with the PROG +/- buttons or direct select buttons.

2. According to above mentioned steps, open the TUNING menu.

3. Select "FINE TUNE" with PROG+/- button.

4. Press VOL. +/- buttons until the best possible picture and sound are obtained, while "FINE TUNE" flickers.

5. Move to program number item with PROG+/- buttons.

6. Enter new program number with direct select buttons. Store the program with VOL.+/-buttons .

TO SELECT BAND

1.According to above mentioned steps, open the TUNING menu.

2.Select "BAND" submenu with PROG.+/-buttons .

3. Press VOL. +/- buttons , you can select VHF-L, VHF-H and UHF band.

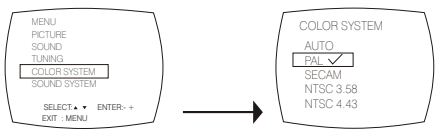
OPERATION INSTRUCTIONS

TO SELECT COLOR SYSTEM

If the color system setting is incorrect, the color of the channel will be abnormal.

1.According to above mentioned steps, open the COLOR SYSTEM menu.

2.Select the correct color system with PROG.+/- buttons ,press VOL+/- to choose .



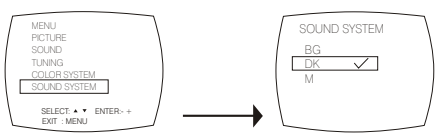
TO SELECT SOUND SYSTEM

If the sound system setting is incorrect, the sound and colour of the channel will be abnormal.

1.According to above mentioned steps, open the SOUND SYSTEM menu.

2.Select the correct sound system with PROG+/- buttons.

3. Move green symbol " ✓ " to the sound system which you just select by pressing VOL. +/- buttons.



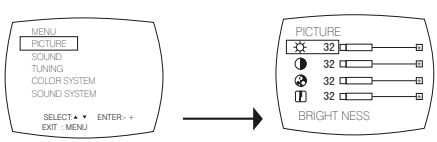
TO ADJUST THE PICTURE

1.According to above mentioned steps, open the PICTURE menu.

2.Choose the item to be adjusted with PROG+/- buttons.

3.Adjust the image quality with VOL.+/- Buttons.

4.Press the MENU key twice to go back to the normal TV mode. Meanwhile, the picture mode has been stored.It is stored in picture mode " PERSONAL ".



TO ADJUST THE SOUND(OPTION)

1.According to above mentioned steps, open the SOUND menu.

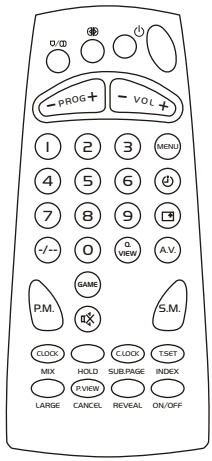
2.Choose the item to be adjusted with PROG+/- buttons.

3.Adjust the sound quality with VOL.+/- Buttons.

4.Press the MENU key twice to go back to the normal TV mode. Meanwhile, the sound mode has been stored. It is stored in sound mode "DEFINE".



LOCATION OF CONTROL (REMOTE HANDSET UNIT)



POWER (STAND BY) BUTTON (⏻)

Press this button to turn the TV set off (Standby mode). Press Program Up/Down Button, picture and sound will appear on within a few seconds.

PROGRAM SELECTION BUTTONS (0-9, -/--)

Push the number for your desired program and the program indicator will be displayed on the screen.

To select a one-digit position number: press the -/-- button to display - and press 0-9 to select a number 0-9.

To select a two-digit position number: press the -/-- button to display -- and press 0-9 to select a number 10-99.

If you set provides up to 256 channels, press the -/-- button to display --- and press 0-9 to select a number 100-256.(Option)

Press the number keys to select teletext pages in teletext mode.(Option)

VOLUME UP/DOWN BUTTONS (VOL+/-)

Press Volume Up/Down Buttons to adjust sound level.

PROGRAM UP/DOWN BUTTON (PROG +/-)

Press the Program Up Button to select the program forwards.

Press the Program Down Button to select the program backwards.

(Use this button for Page Up/Down to increase/decrease page number in TELETEXT mode.)

MENU BUTTON

To use"MENU" button for the tuning procedure, please refer to page 4-6 for the details.

SLEEP BUTTON (⏲)

This key is used to set the sleep timer from in 10 minutes step up to two hours. When the preset time runs to 0. TV set will go into stand by mode. To switch off this function, press this key step by step until '0' is displayed on screen.

LOCATION OF CONTROL (REMOTE HANDSET UNIT)

RECALL BUTTON( )

Press this button sequential to recall for the program number, system etc on the screen.

QUICK VIEW BUTTON (Q. VIEW)

Press this button to return to the previously viewed program.

AV MODE BUTTON (A.V.)

Press this button to display external video signal such as VCR or CD video player.

*Remark: AV 1 → AV 2(option) → AV 3(option) → S-Video(option) → TV

If external video signal is from SCART,the AV mode will be AV 1 compulsively.

MUTE BUTTON( )

Press once to mute the sound, press again to return to previously set sound level.

GAME BUTTON (OPTION)

You can play the game on the TV set using these buttons .

PICTURE MODE BUTTON (P.M.)

Press this button to select the desired picture mode. RICH, PERSONAL, SOFT and STANDARD can be selected cyclically.

SOUND MODE BUTTON(S.M.)

Press this button to select the desired sound mode. DEFINE, SPEECH, MUSIC and THEATER can be selected cyclically.

STEREO/MONO DUALI/II BUTTON ( ) (OPTION)

The third line on the top right corner of the screen automatically changes to green when a NICAM broadcast is received.

As stereo program is received. You can select "STEREO" , "MONO" or "FM" by pressing the ST/MO/I/II button.

As bilingual program is received. You can select "DUAL- 1", "DUAL- 2" or "FM' by pressing the ST/MO/I/II button.

Remark: FM : Standard mode STEREO : Stereo mode MONO : Mono mode

DUAL-1 : multi sound channel for language 1 DUAL-2 : multi sound channel for language 2

SURROUND MODE BUTTON ( ) (OPTION)

The surround has OFF and ON modes . You can press the button to select the mode.

LOCATION OF CONTROL (REMOTE HANDSET UNIT)

BROADCASTING TELETEXT CONTROLLED BY THE FINAL EIGHT KEYS ON THE LOWER PLACE OF REMOTE CONTROL UNIT.(This function is optional .)

ON/OFF BUTTON (OPTION)

Press this button to display TELETEXT signal.

MIX BUTTON (Mix) (OPTION)

This button permits mixing teletext page with TV signal. Press TV or Teletext Button to return to TV or Teletext Mode.

Note: To avoid mixing of External R.G.B. while viewing Teletext. Disconnect scart plug or switch off External R.G.B. Source.

HOLD BUTTON (HOLD) / STORE (OPTION)

Sub-pages will scroll automatically. Press "HOLD" button to hold a sub-page. To release the page, press "HOLD" again.

SUBPAGE BUTTON (SUBPAGE) (OPTION)

Some pages attach sub-page, press "SUB-PAGE" button to view the sub-pages.

INDEX BUTTON (INDEX) (OPTION)

Press "INDEX" button to obtain the index page.

REVEL BUTTON (REVEAL) (OPTION)

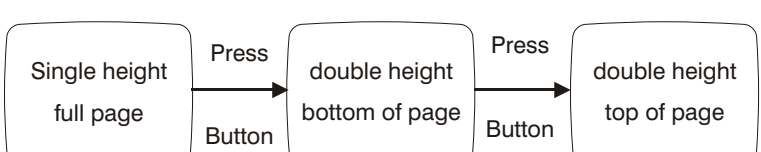
Sometimes the answers of quizes, jokes etc are hidden. Press "REVEAL" button to reveal the hidden information.

CANCEL BUTTON (CANCEL) (OPTION)

If you want to watch TV but not cancel the TELETEXT mode completely. Press the "CANCEL" button. When the last selected page is updated, the page number will be appeared at the top of the TV screen. Press the "TEXT" button to reveal the page.

LARGE BUTTON (LARGE) (OPTION)

The top or bottom half of any page can be enlarged by pressing this button.



LOCATION OF CONTROL (REMOTE HANDSET UNIT)

WHEN THE TELETEXT SIGNAL IS OFF, THE MIX BUTTON HAVE THE FUNCTION OF CLOCK, THE SUB.PAGE BUTTON HAVE THE FUNCTION OF CHILD LOCK , THE INDEX BUTTON HAVE THE FUNCTION OF TIME SET AND THE CANCEL BUTTON HAVE THE FUNCTION OF PROGRAM VIEW.

CLOCK BUTTON (CLOCK)

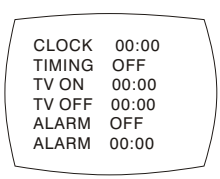
Press the button once, the currently time is displayed on the top left corner of the screen. Then you can press the VOL-button to set hour ,and the VOL+button to set minute. Press this button again , the time disappears.

CHILD LOCK BUTTON (C.LOCK)

This key functions as childlock.
Press the key once, you only watch the currently channel (the currently channel can not be changed), and all the buttons can not be used excepting the STAND BY Button and the SUB.PAGE Button .
Press it again, you will lock all the channels ,you only see the blue screen ,and all the buttons can not be used excepting the STAND BY button and the SUB.PAGE Button .
Press the key third time , all the channels will be unlocked .

TIME SET BUTTON (T.SET)

Entering the time menu by pressing the button .



THE SETTING OF CLOCK
You can adjust the currently time by this item. Press the VOL.-button set hour , and the VOL.+button set minute .
THE SETTING OF THE TV ON/OFF
1. TIMING
Press the PROG+/-buttons to select the TIME item ,and set "TIMING ON" by the VOL+/- buttons. Then you can set the time of TV ON and TV OFF .
2.TV ON
Set the time when the TV set turn on .
3.TV OFF
Set the time when the TV set turn off .
THE ALARM SETTING
Set " ALARM ON" by the VOL+/-bottons .
Select "ALARM 00:00" item by the PROG+/-buttons. Set the awake time that you want .For example, you set the time is 15:00, then " ALARM 15:00:00" will be display on the screen at 15:00 for awaking you.
The time will disappear from the screen in a minute.

PROGRAM VIEW BUTTON (P.VIEW)

Press the Button once, all the channels will be automatically switched through over. When the TV set switches to the channel you want, you can press the button again to exit this mode.

BATTERY INSTALLATION (REMOTE CONTROL UNIT)

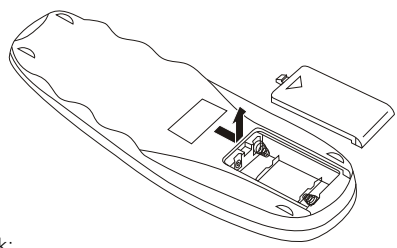
1. Remove the battery cover.

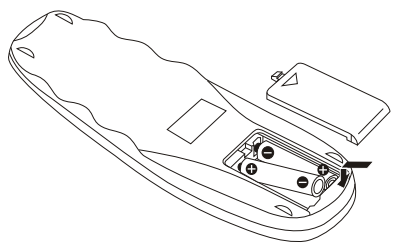
2. Insert the 2 UM3-AA 1.5V batteries making sure the polarity (+ or -) of the batteries matches the polarity marks inside the unit.

3. Replace the battery cover.

Replace with new batteries when the TV set begins to show the following symptoms:

Operation is unsteady or erratic. Sometimes the TV set does not function with Remote Control Unit.





Remark:
1) Alkaline Batterie Recommended
2) Remove batteries when they are exhausted or if the remote control is not to be used for a long time.

THE CAUSES OF INTERFERENCE

Incorporated in your TV receiver are the most up-to-date devices to eliminate interference. Local radiation however, can create disturbances which visibly affect your picture. Proper installation, a good aerial are your best safe-guards against these disturbances.

RF INTERFERENCE

Moving ripples across the screen are caused by nearby transmitting or receiving-short-wave radio equipment.

DIATHERMY

Herringbone pattern and partial picture loss can result from the operation of diathermy equipment from a nearby doctor's surgery or hospital.

SNOW

Weak TV signals from long distant stations result in an instead picture and give the effect of falling snow. An antenna adjustment or antenna amplifier may be needed.

GHOST

Multiple image caused by TV signals reflected back from surrounding buildings, hills, aircraft, etc. is minimized by correct aerial positioning.

CAR IGNITION

Nearby cars and electrical motors can cause small streaks across the picture or make the picture roll.

SERVICE TIPS

BEFORE CALLING FOR SERVICE, HAVE YOU CHECKED (●) THE FOLLOWING CHART ON SYMPTOMS AND SOLUTIONS?

Symptoms / Solution	Try different channel, if OK, probably station trouble	Check aerial connections on back of set	Check aerial for broken wires	Re-orient aerial (if indoor type)	Probably local interference, such as an appliance	Adjust fine tuning control	Adjust brightness control	Adjust contrast control	Check if station is broadcasting colour	Adjust colour control	Check if system switch is correct	Check if on/off switch is "on"	Check Batteries in Remote control
No picture, no sound	●	●	●		●					●	●		
Poor sound, picture OK	●			●	●	●				●			
Poor picture, sound OK	●	●	●	●	●	●	●			●			
Weak picture	●	●	●	●		●				●			
Blurred picture	●		●	●		●				●			
Double image	●	●	●	●		●							
Lines in picture	●		●	●	●	●							
Distorted picture	●		●	●		●				●			
Weak reception on some channels	●	●	●	●	●	●				●			
Horizontal bars			●	●	●								
Picture rolls vertically	●		●	●	●					●			
Poor colour	●	●	●	●	●	●	●	●	●	●			
No colour	●	●	●	●		●			●	●			
Misoperation of Remote control													●
No Remote control													●
On Screen Display Control outside the screen										●			

ALIGNMENT INSTRUCTION (5N11)

CHASSIS ADJUSTMENT

1. EEPROM partial initializing

1-1 Go to the function set menu (there are two ways;)

a. Press VOL+ key and VOL- key on the control board at the same time and switch on power switch, then go to the function set menu.

b. After TV is on, press "factory" key (See Note 1) twin, then go to the function set menu.

1-2 Press 'PM' key and 'SM' key on the control board at the same time until the “INITIAL PART OK ” apears, this means the memory having been partially initialized. Operate repeatedly if the picture has no change.

All of the TV set EEPROM must be partially initialized before exfactory or after change of the Chroma IC NN5198 / NN5199 or fully EEPROM initialized after change of the EEPROM 24C04(OR 24C08,24C16,Note 4).

2. search and storage

COMPLETE MACHINE GENERAL ADJUSTMENT

1. Screen Voltage Adjustment.
   1-1 Press 'screen' key (See Note 1);
   1-2 Adjust the screen knob of FBT to get a horizontal faintness beam line;
   1-3 Press 'screen' key again or 'stand by' key to go to the normal work status;

2. Focus Voltage Adjustment.
   2-1 Receive monoscope pattern. Set picture mode to standard status;
   2-2 Adjust the focus knob of FBT to get the clearest picture.

3. horizontal center adjustment
   3-1 Receive monoscope pattern;
   3-2 Press 'factory' key (See Note 1)one time and go to system parameter adjustment menu;
   3-3 Press 'MENU' key, go to horizontal and vertical parameter adjustment menu;
   3-4 Select 'H POSITION" by pressing 'PROG+' key and 'PROG-' key. Press 'VOL+' key and 'VOL-' key to obtain the horizontal center of the pattern at the center of CRT screen.
   3-5 Exit system parameter adjustment menu by pressing 'factory' key twin.
4. PAL system vertical pincushion adjustment
   4-1 Receive PAL system cross hatch pattern signal;
   4-2 Press 'factory' key one time, go to system parameter adjustment menu;
   4-3 Press 'MENU' key, go to horizontal and vertical parameter adjustment menu;
   4-4 Select 'V LINE' and 'V SCURVE' by pressing 'PROG+' key and 'PROG-' key; press 'VOL+' key and 'VOL-' key and adjust corresponding parameter to obtain picture's vertical pin cushion a good status.

5. PAL system vertical size and vertical center adjustment
   5-1 Continue operation 3. Select 'V HEIGHT" and 'V POSITION', press 'VOL+' key and 'VOL-' key adjust corresponding parameter to obtain picture's vertical size and vertical center adjustment a good status.
   5-2 Exit system parameter adjustment menu by pressing 'factory' key twin.

6. White Balance adjustment

   For Factory Auto Computer adjustment

   6-1 Receive white balance test signal;

   6-2 Set picture "MILD" mode.

   6-3 Insert the special plug into CN002, press adjustment key which belongs to white balance adjustment equipment and go to auto white balance adjustment;

   6-4 After adjustment well, remove the pug.

   For Factory Auto Computer adjustment

   6-5 Press 'factory' key one time and go to system parameter adjustment menu;

   6-5 Press "MENU" key once, then go to the White Balance adjustment menu;

   6-6 Press 'Prog +' key and 'Prog -' key to select the R, G, B cutoff and R, B Driver.

   6-7 Press 'VOL+' key and 'VOL-' key to change. Or using the below direct key

   6-8 Key: **0** for SUB-BRIGHT, **1** for CUTOFF-R, **2** for CUTOFF-G,
   3 for CUTOFF-B, **4** for DRIVER-R, **5** for DRIVER-B
   Recall for toggle the SubBright adjustment (Min. contrast, some CPU version is not work)

7. Sub-bright adjustment

   7-1 Receive PHILIPS signal;

   7-2 Set picture "RICH" mode.

   7-3 Press 'factory' key one time and go to system parameter adjustment menu;

   7-4 Press digital key '0', select 'SUB-BRIGHT';

   7-5 Press 'VOL+' key and 'VOL-' key until Grey scale signal can be secerned;

   7-6 Exit system parameter adjustment menu by pressing 'factory' key twin.

8. RF AGC adjustment

   8-1 Receive 60dBuV monoscope pattern;

   8-2 Press 'factory' key one time and go to system parameter adjustment menu;

   8-3 Press 'PROG+' key and 'PROG-' key , select ' RF AGC ';

   8-4 Press 'VOL+' key and 'VOL-' key to change the value of 'RF AGC' until picture's noise disturbing disappears just;

   8-5 Exit system parameter adjustment menu by pressing 'factory' key twin.

9. NTSC system horizontal and vertical adjustment

   Receive NTSC system cross hatch pattern. Adjust same as PAL system's.

10. warm up mode

    10-1 Switch on power switch and Press 'factory' key one time; switch off power switch and switch on power switch again, at this time there is no signal white raster and won't switch off automatically. TV receiver can be sent to warm up line.

    10-2 Before exit warm up line, press 'factory' key three times continue, at this time exit warm up mode , there is no signal and will appear LOGO pattern.

NOTES:

1. Connect the remote IC PIN7 and PIN16 through a jiggle switch on the USER remote handset , this switch is defined as "screen" key; Connect the remote IC PIN8 and PIN16 through a jiggle switch on the USER remote handset , this switch is defined as "factory" key,
2. On the product line's alignment service we must use special memorizer that has been well written data.
3. If having no special memorizer that has been well written data when servicing out of factory, we can use blank new EEPROM. EEPROM will be automatically totally initialized after main power switch is on. Most parameters are free-alignment after initialized; only need adjust the several parameters of function set parameter and system parameter adjustment menu.
4. If no blank new EEPROM or no special memorizer that has been well written data, we can use memorizer that has been written data instead, but must be totally initialized; the operation is as following:
    1. After TV is on, press "factory" key twin， then go to the function set menu;
    2. Press 'AV/TV' key and 'P.M' key on the control board,the TV turns off automatically; this means the memory having been totally initialized. Operate repeatedly if the picture has no change;
    3. Switch off and exit;
    4. After initialized, adjust the several parameters of function set parameter and system parameter adjustment menu.
5. the parameters of function set parameter and system parameter adjustment menu **mustn't** be adjusted;
    1. system parameter adjustment menu (This is coming from the NN5198/ NN5199)
        AFT
        VIF VCO
        H VCO
        VIFDET NEG
        VIFDET INT
        VIFDET EXT
    2. the ninth digital and the tenth digital of function set parameter
        These parameters must be IC interior values. If the above parameters have been changed, we must partially initialize the EEPROM.

6. two different initializing
    1. fully initialize: initialize the EEPROM's most work data and preset default value. Including: work parameter of NN5199, horizontal and vertical parameter, OPTION parameter (via. function set parameter), picture mode parameter, volume mode parameter and white balance parameter.
    2. partially initialize: only initialize work parameter of NN5199 and the ninth digital and the tenth digital of function set parameter(via. ISUD0, ISUD1,ISUD3,ISUD4,ISUD5),preset as interior values.

7. If use 25” or above Pure Flat tube , must adjust horizontal size and pincushion distortion as following:
    1. Receive 60dBuV PAL system monoscope pattern;
    2. Press 'factory' key one time and go to system parameter adjustment menu;
    3. Press 'MENU' key and select ' Position Menu ' as below

V POSITION	for adjust vertical position	00 to 07
H POSITION	for adjust Horizontal position	00 to 1F
V EHT	for adjust vertical shape	00 to 0F
H EHT	for adjust Horizontal shape	00 to 0F

4. Press 'MENU' key and select ' geometry Menu ' as below;

V-AMP	for adjust vertical size	00 to 7F .
V_LINE	for adjust vertical linearity	00 to 3F.
V_SC3	for adjust vertical S-correction X^3	00 to 3F.
H-AMP	for adjust Horizontal size	00 to 3F.
EW-PARA	for adjust Pincushion	00 to 3F.
EW-COR	for adjust Pincushion corner	00 to 0F.
TRAPEZ	for adjust trapezium	00 to 3F.
V_SC5	for adjust vertical S-correction X^5	00 to 0F.

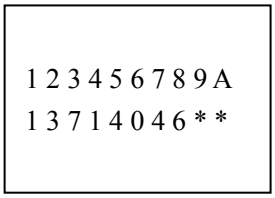
5. Receive 60dBuV NTSC system monoscope pattern;

   5.1 Repeat the above step 7.2 to 7.4.

6. Exit system parameter adjustment menu by pressing 'factory' key twin.

8. Option Code

1. Press 'factory' key twin and go to Option Code Menu



The first digit 8 Digit is set by Factory. The last two digit “9” and “A” is the random data from NN5198/NN5199.

OPTION 1 (Sopdata1)(number 1 and 2)

```
x x x x |x x x x ---> Sharp Peak frequency 3/4Mhz (0/1) (For NN5198)
| | | | | +------> SuperWoofer sound setting ON/OFF
| | | | +--------> RGB limit ON/OFF
| | | +----------> Reserved for internal using, must be zero
| | +------------> Ntsc decoder ON/OFF (include 3.58 & 4.43)
| +--------------> Secam decoder ON/OFF
+----------------> YUV ON/OFF
+----------------> NTSC QSS
```

OPTION 2 (Sopdata2)(number 3 and 4)

```
x x x x| x x x x ---> Two av source only
| | | | | +------> Three av source
| | | | +--------> S-video source support
| | | +----------> Reserved for internal using, must be zero
| | +------------> M decoder ON/OFF
| +--------------> I decoder ON/OFF
+----------------> BG decoder ON/OFF
+----------------> Reserved for internal using, must be zero
```

OPTION 3 (Sopdata3)

```
x x x x x x x x ---> Tuner LNA
| | | | | | +------> Hold on when no signal
```

| | | | | +--------> VIF VCO 38MHz or 38.9MHz selection
| | | | +----------> Reserved for internal using, must be zero
| | | +------------> Game avaliable
| | +--------------> Gamma Correction ON/OFF (0/1) (For NN5198)
| +----------------> RGB Gain 0.56/0.83 (0/1) (For NN5198)
+------------------> Reserved for internal using, must be zero

OPTION 4 (Sopdata4)(number 7 and 8)
x x x x |x x x x ---> Multi-language OSD ON/OFF
| | | | | | +------> LOGO enable ON/OFF
| | | | | +--------> LOGO define ON/OFF
| | | | +----------> Reserved for internal using, must be zero
| | | +------------> BBE sound ON/OFF
| | +--------------> QSS sw ON/OFF
| +----------------> SIF Internal/External (1/0) (For NN5198)
+------------------> Reserved for internal using, must be zero

OPTION 5 (Dwork3)(number 9 and A)
x x x x |x x x x ---> ISUD0
| | | | | | +------> ISUD1
| | | | | +--------> PAL_M/N ON/OFF
| | | | +----------> Reserved for internal using, must be zero
| | | +------------> ISUD3
| | +--------------> ISUD4
| +----------------> ISUD5
+------------------> Reserved for internal using, must be zero

CUSTOM LOG (TO BE ADD)

COLOUR PURITY AND CONVERGENCE ADJUSTMENT

I. COLOUR PURITY ADJUSTMENT (See Fig.1)

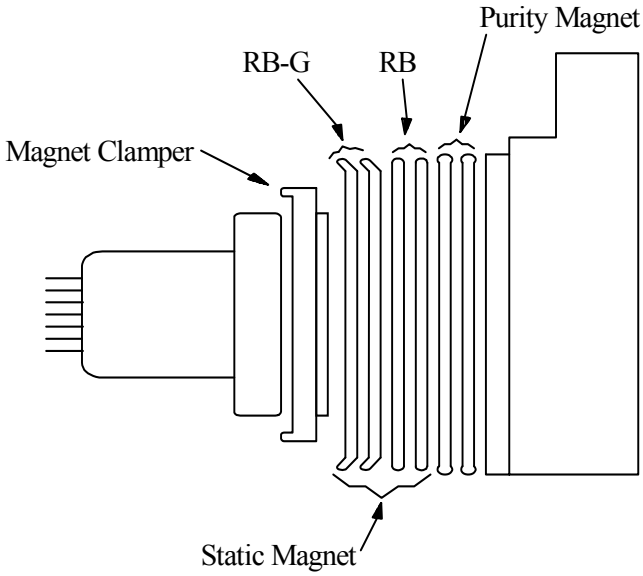
BEFORE ANY ADJUSTMENTS DESCRIBED BELOW ARE ATTEMPTED,V-HIGH, B+ VOLTAGE AND FOCUSING ADJUSTMENT MUST BE COMPLETED .

1. Place the TV receiver facing NORTH or SOUTH ,
2. Plug in TV receiver and turn it on .
3. Operate the TV receiver over 30 minutes.
1. Fully degauss the TV receiver by using and external degaussing coil
2. Receive a crosshatch pattern and adjust the static convergence control roughly.
3. Loosen the clamp screw of the deflection yoke and pull the deflection yoke towards you.
4. Enter into ADJUST MENU .set the values of C-R,C-G,C-B to “00”.
5. Adjust the purity magnets so that green field is obtained at the center of the screen.
6. Slowly push the deflection yoke toward bell of CRT and set it where a uniform green field is obtained.
7. Tighten the clamp screw of the deflection yoke.

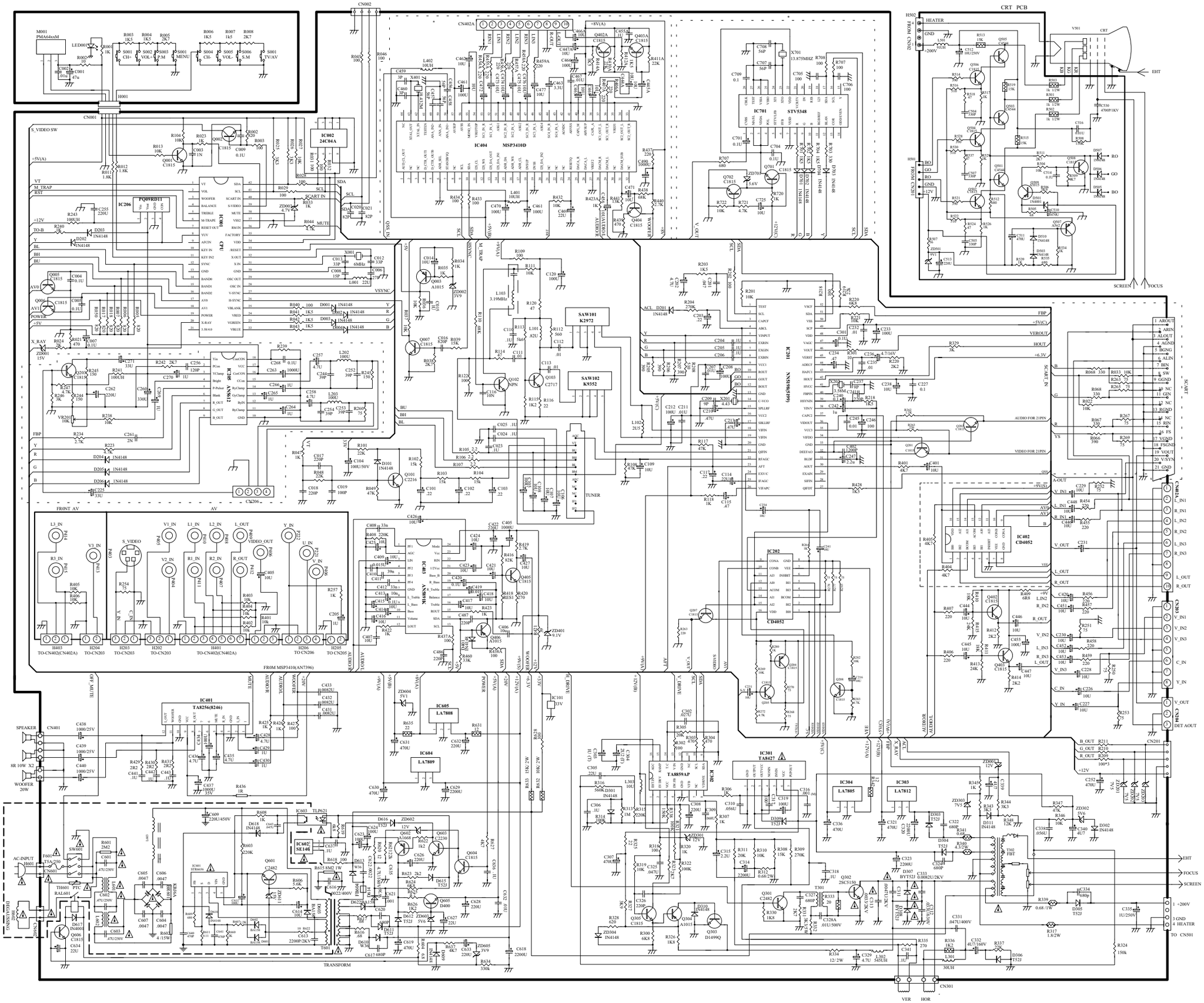
II. CONVERGENCE ADJUSTMENT (See Fig.1)

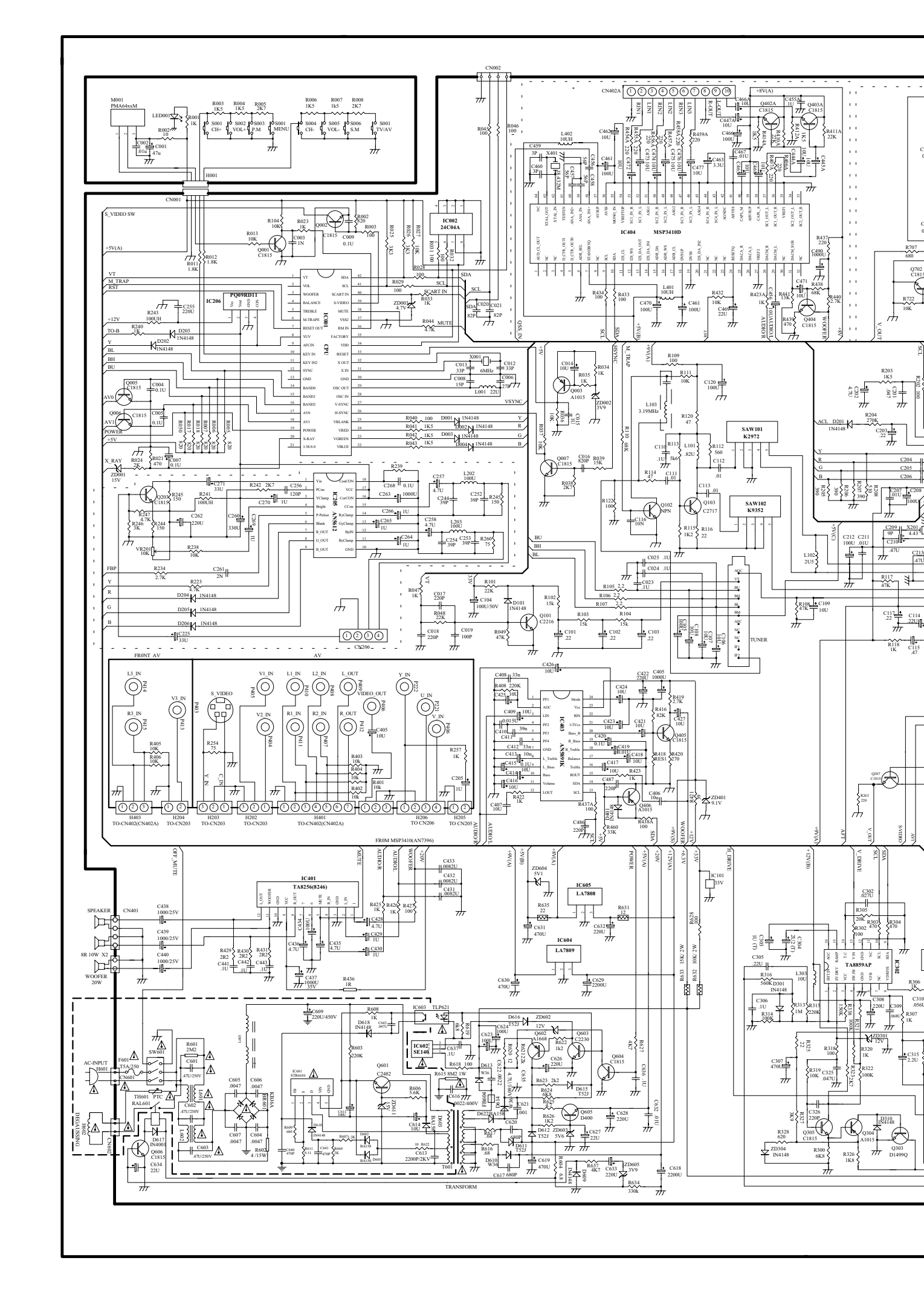
1. Receive a dotted pattern.
2. Unfix the convergence magnet clamped and align red with blue dots at the center of the screen by rotating.(R,B)static convergence magnets.
3. Align Red/Blue with green dots at the center of the screen by rotating (RB-G) static convergence magnet.
4. Fix the convergence magnets by turning the clamped.
5. Remove the DY wedges and slightly tilt the deflection yoke horizontally and vertically to obtain the good overall convergence.
6. Fix the deflection yoke by wedges.

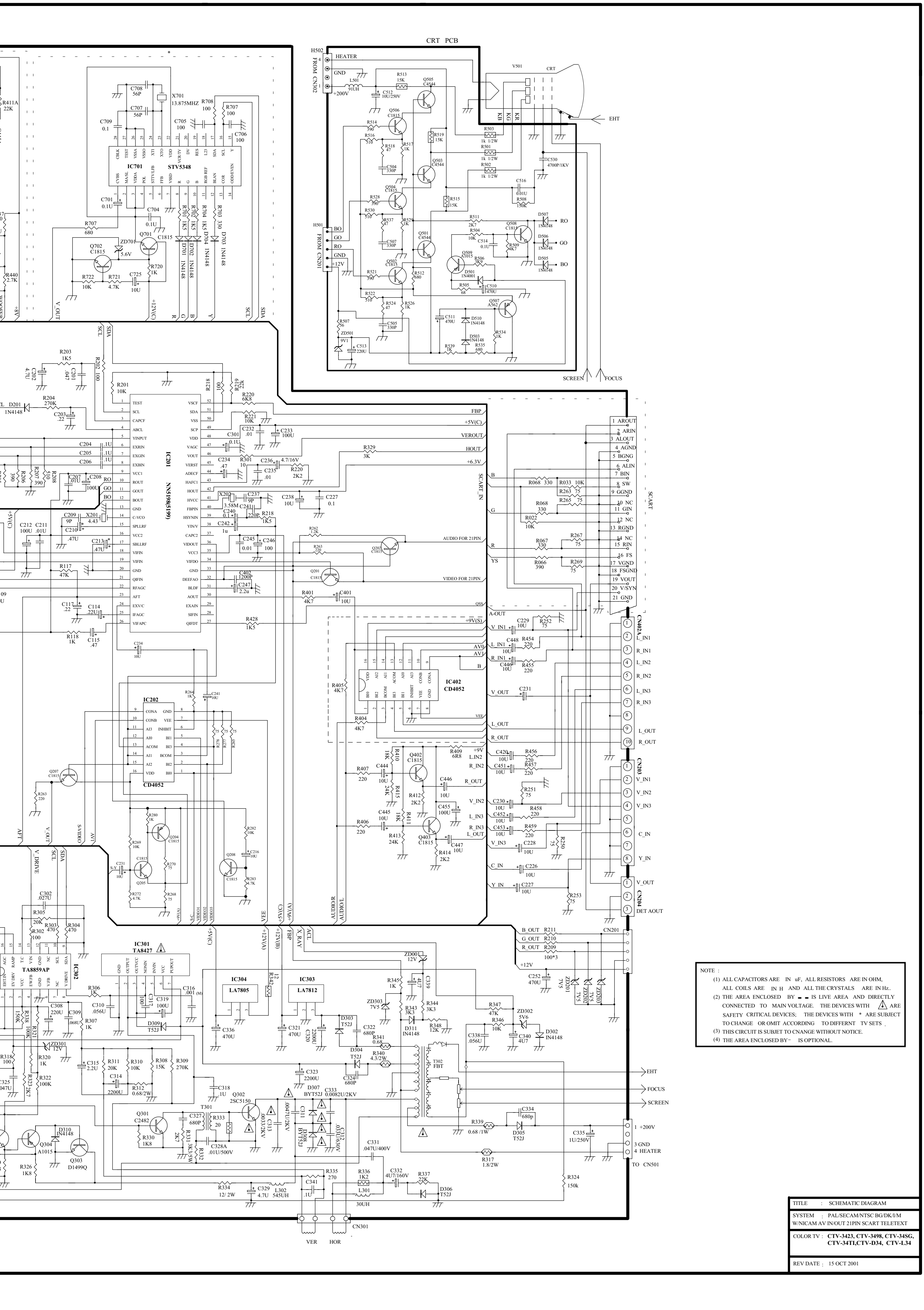
7. If purity error is found, follow “PURITY ADJUSTMENT” instructions.



(FIG.1)


CRT PCB
FROM POWER CN2
HEATER
GND
-200V
+12V
HS01
BO
GO
RO
GND
+12V
FROM MCU CN211
SCREEN
FOCUS
EHT
RO
GO
BO
CRT
V501
IC701
STV5348
IC404
MSP3410D
IC206
PQ09RD11
IC201
AV5612
IC202
CD4052
IC402
CD4052
IC301
TA8427
IC304
LA7805
IC303
LA7812
IC401
TA8256(8246)
IC605
LA7808
IC604
LA7809
IC602
SE140
IC603
AN5691K
IC302
NSN9863F99
SAW101
K2972
SAW102
K9352
TUNER
TRANSFORM
AC-INPUT
SPEAKER
WOOFER
8R 10W X2
FROM MSP3410(AN7396)
SCART
TO CN501
TO CN201
TO CN206
TO CN203
TO CN402(CN402A)
TO CN401
TO CN301
VER
HOR
CN001
CN002
CN206
CN203
CN402A
CN401
CN301
CN501
CN201
CN602
CN603
H001
H401
H402
H403
H203
H204
H205
H206
S_VIDEO SW
+5V(A)
+12V
TO-B
Y
BL
BH
BU
VT
M_TRAP
RST
SCL
SDA
SCART IN
MUTE
OSD IN
VSYNC
X_RAY
POWER
AV0
AV1
FBP
R
G
B
VIDEO FOR 21PIN
AUDIO FOR 21PIN
FBP
+5V(C)
VEROUT
HOUT
+6.3V
+9V(S)
+12V
AUDIOR
AUDIOL
TITLE : SCHEMATIC DIAGRAM
SYSTEM : PAL/SECAM/NTSC BG/DK/I/M
W/NICAM AV IN/OUT 21PIN SCART TELETEXT
COLOR TV : CTV-3423, CTV-3498, CTV-345G, CTV-34TI,CTV-D34, CTV-L34
REV DATE : 15 OCT 2001
NOTE :
(1) ALL CAPACITORS ARE IN uF, ALL RESISTORS ARE IN OHM, ALL COILS ARE IN H AND ALL THE CRYSTALS ARE IN Hz..
(2) THE AREA ENCLOSED BY ▬ ▬ IS LIVE AREA AND DIRECTLY CONNECTED TO MAIN VOLTAGE. THE DEVICES WITH ⚠ ARE SAFETY CRITICAL DEVICES; THE DEVICES WITH * ARE SUBJECT TO CHANGE OR OMIT ACCORDING TO DIFFERNT TV SETS .
(3) THIS CIRCUIT IS SUBJET TO CNANGE WITHOUT NOTICE.
(4) THE AREA ENCLOSED BY ▬ IS OPTIONAL.

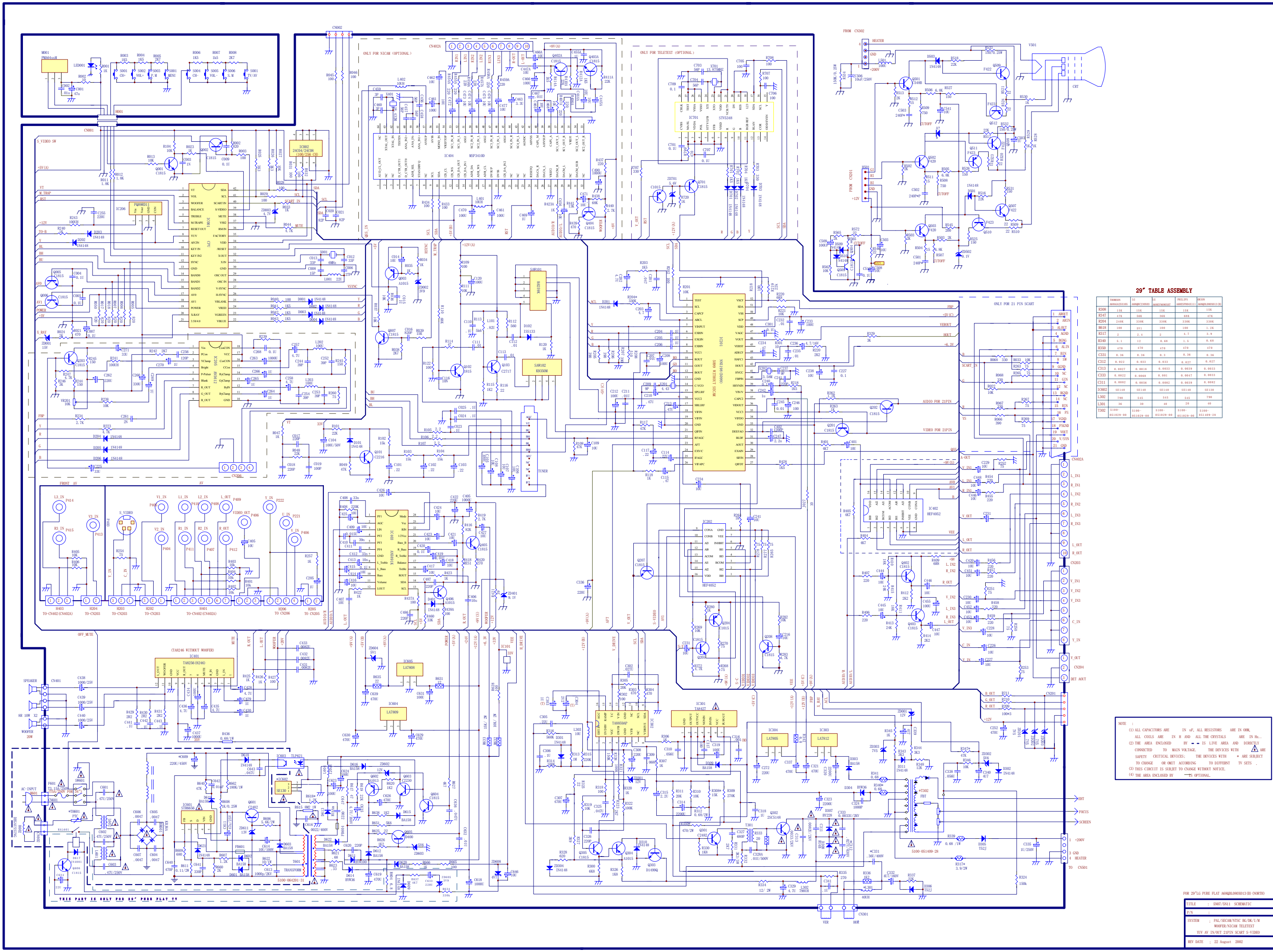

M001
PMA65xxM
LED001
R001 1K
R002 10
C002 .01u
C001 47u
R003 1K5
R004 1K5
R005 2K7
S001 CH+
S002 VOL+
S003 P.M
S001 MENU
R006 1K5
R007 1k5
R008 2K7
S004 CH-
S005 VOL-
S006 S.M
S001 TV/AV
H001
CN001
CN002
S_VIDEO SW
+5V(A)
VT
M_TRAP
RST
TO-B
Y
BL
BH
BU
AV0
AV1
POWER
+5V
X_RAY
FBP
R
G
B
+12V
IC206
PQ09RD11
IC001
CPU
IC002
24C04A
IC404
MSP3410D
SCART IN
MUTE
SDA
SCL
VSYNC
IC206
AN5612
IC401
TA8256(8246)
IC403
AN5693K
IC605
LA7808
IC604
LA7809
IC602
SE146
IC603
TLP621
IC101
TA8859AP
SPEAKER
8R 10W X2
WOOFER
20W
CN401
AC-INPUT
CN601
SW601
TH601
RAL601
PTC
F601
T5A/250
DEGAUSSING
TRANSFORM
H401
TO-CN402(CN402A)
H403
TO-CN402(CN402A)
H204
TO-CN203
H203
TO-CN203
H202
TO-CN203
H206
TO CN206
H205
TO CN205
CN206
FR0NT_AV
AV
FR0M MSP3410(AN7396)
TUNER
SAW101
K2972
SAW102
K9352
OFF_MUTE
MUTE
AUDIOR
AUDIOL
WOOFER
POWER
SCL
SDA
V_DRIVE



NOTE :

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(2) THE AREA ENCLOSED BY - - IS LIVE AREA AND DIRECTLY CONNECTED TO MAIN VOLTAGE. THE DEVICES WITH ⚠ ARE SAFETY CRITICAL DEVICES; THE DEVICES WITH * ARE SUBJECT TO CHANGE OR OMIT ACCORDING TO DIFFERNT TV SETS .
(3) THIS CIRCUIT IS SUBJET TO CNANGE WITHOUT NOTICE.
(4) THE AREA ENCLOSED BY - IS OPTIONAL.

TITLE :	SCHEMATIC DIAGRAM
SYSTEM :	PAL/SECAM/NTSC BG/DK/I/M W/NICAM AV IN/OUT 21PIN SCART TELETEXT
COLOR TV :	**CTV-3423, CTV-3498, CTV-34SG, CTV-34TI,CTV-D34, CTV-L34**
REV DATE :	15 OCT 2001



29" TABLE ASSEMBLY

	THOMSON A68AGA25X105	LG A68QBC230X03	LG A68KYN690X07	PHILIPS A68ESF004X111	ORION A68QDL080X013(B)
R308	15K	15K	15K	15K	15K
R347	47K	56K	36K	68K	47K
R204	240K	330K	330K	330K	330K
R618	100	5V1	100	100	1.2K
R317	2	2.4	2	4.7	3.9
R340	5.1	12	0.68	1.5	0.68
R350	470	470	470	470	470
C331	0.36	0.36	0.3	0.36	0.36
C312	0.022	0.033	0.033	0.027	0.027
C313	0.0027	0.0018	0.0033	0.0039	0.0033
C333	0.0022	0.0068	0.001	0.0047	0.0033
C311	0.0082	0.0056	0.0082	0.0039	0.0082
IC602	SE140	SE140	SE140	SE140	SE130
L302	790	545	545	545	790
L301	36	30	40	20	40
T302	5100-051029-00	5100-051029-00	5100-051029-00	5100-051029-00	5100-051409-28

NOTE :

(1) ALL CAPACITORS ARE IN uF, ALL RESISTORS ARE IN OHM, ALL COILS ARE IN H AND ALL THE CRYSTALS ARE IN Hz..

(2) THE AREA ENCLOSED BY - - IS LIVE AREA AND DIRECTLY CONNECTED TO MAIN VOLTAGE. THE DEVICES WITH ⚠ ARE SAFETY CRITICAL DEVICES; THE DEVICES WITH * ARE SUBJECT TO CHANGE OR OMIT ACCORDING TO DIFFERNT TV SETS .

(3) THIS CIRCUIT IS SUBJET TO CNANGE WITHOUT NOTICE.

(4) THE AREA ENCLOSED BY —— IS OPTIONAL.

FOR 29"LG PURE FLAT A68QDL080X013(B)(NORTH)

TITLE	: 5N07/5N11 SCHEMATIC
P/N	:
SYSTEM	: PAL/SECAM/NTSC BG/DK/I/M WOOFER/NICAM TELETEXT YUV AV IN/OUT 21PIN SCART S-VIDEO
REV DATE	: 22 August 2002