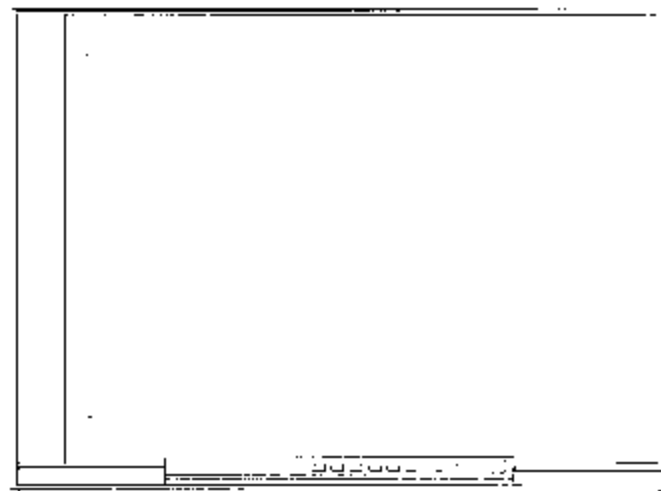


SERVICE MANUAL

Color Television Receiver

Model: **-CX** Series
 -AX Series
 -AXT Series
 -AXT1 Series
 -EXT1 Series



ADJUSTMENT MANUAL

I. TEST NOTE

1. Please follow the pointed test steps and choose the right test equipment to conduct adjustment. Otherwise good effect of TV set could not be obtained. Pointed bias voltage value should be ensured during test to get satisfied test result.
2. To adjust MCU installed in the chassis, you should write master slice's data into memory of this MCU before installing, and no any data except this test manual listed is admitted to be modified without designer's agree.

II. TEST EQUIPMENT

1. DC (14V)
2. Oscilloscope
3. Vacuum Voltmeter
4. Multi-meter (Internal resistance: DC $\geq 20K\Omega/V$ AC $\geq 5K\Omega/V$)
5. High voltage Meter 30KV
6. Ammeter (0.5 grade, DC 3mA)
7. Degaussing Coil
8. PHILIP Picture Signal Generator (PH5518)

III. MANUAL OF FACTORY MODE MENU

1. Presses MENU button on the remote control once, and then press RECALL button three times to enter FACTORY mode.
2. Presses MENU button select the different menu you want to adjust.
3. Press P+/P- buttons to select desired adjust item.
4. Presses V+/V- buttons to adjust selected item value.
5. Automatic adjust, yellow color shows adjustment is OK when automatic adjust ended.
6. Presses REC ALL button again to exit FACTORY MODE.
7. Following is the main factory menu and their main function.
 - 1). Factory 1 is white balance adjust menu.
Rc 128 Gc 128 Bc 128 Rd 32 Gd 32 Bd 32
 - 2). Factory 2 is multi adjust menu.

PIF-VCO	06	Use for PIF adjust
PIF-VCO-f	50	Use for PIF adjust
TUNER AGC	36	Use for tuner age adjust
H-shift	37	adjust H-center
V-size	42	14", 21" vertical size adjust
V-shift	10	no use
 - 3). Factory 3 is function setting menu, you don't need to adjust the value. Please check it as the same as below while produce.

	14"	21"	29"	
sound	none	none	use bass(or no bass)	sound function setting
Max-Snd-sys	03	03	03	the max sound if setting
Max-bright	39	50	50	the max brightness setting
Max-contr	49	63	63	the max contrast setting
Max-color	63	63	63	the max color setting
Max-sharp	12	12	12	the max sharpness setting
IF-38-45	38MHz	38MHz	38MHz	PIF frequency setting
APR	00	00	00	automatic RGB peak regulation
Sub-bright	08	08	08	sub-brightness setting
Bell-Filter	00	00	00	bell-filter setting
Band-Ps-Shift	00	00	00	bell-filter setting
Bleck-stretch	02	02	02	bleck-stretch setting
Caculator	YES	YES	YES	caculator on off setting

Remote control	remctr 1	remctr 1	remctr 1	remote control setting
Audio out	AV	AV	AV	(for - AXT1, - AX series)
	TV	TV	TV	(for - AXT series) AV audio out setting
Av num	02	02	02	the max av - in numbers setting.

- 4). Factory 4 is teletext setting menu. The value is fixed, you don't need to change it.
Only use for-AXT. -AXT1 series.

Primary 1	01	English		
Primary 2	15	Russian	04	French
Primary 3	02	Swedish		
Primary 4	07	Turkish	- 15	502
Primary 5	00	German		
Primary 6	06	Spanish		
Primary 7	03	Italian		
Primary 8	18	Arabic		
Secondary 1	01			
Secondary 2	01	Russian	04	French
Secondary 3	02			
Secondary 4	07			
Secondary 5	00			
Secondary 6	06			
Secondary 7	03			
Secondary 8	18			
X26language 1	00			
X26language 2	02	Russian	00	French
X26language 3	00			
X26language 4	00			
X26language 5	00			
X26language 6	00			
X26language 7	00			
X26language 8	08			

- 5.) Factory 5 is H, V. Adjust menu. (Only use for 29", 34")

Ver-size	42	vertical size setting
Ver-shift	21	vertical center setting
S-correct	05	for vertical S-correct setting
C-correct	15	for vertical C-correct setting
Hor-width	19	Hor. Size setting
E/W correct	10	E/W Correct setting
E/W corner	00	E/W corner setting
Tapezium	08	for tapezium setting

IV. POWER AND VOLTAGE ADJUSTMENT

1. Receive Television Broadcast Signal, adjust BRIGHTNESS & CONTRAST to get the standard picture.
2. Check if AC is normal (AC 130V--240V 50/60Hz).
3. Adjust RP901 until the voltage between VD904 cathode a chassis GND is standard voltage $\pm 0.5V$ (standard voltage indicated in BOM).

V. PIF VCO ADJUSTMENT

1. Use PHILIP Pictrue Signal Generator (PH5518) input 38 MHz signal (80dBu) to tuner IF out pin.
2. Enter factory 2 menu and select PIFVCO menu press AV on remote controller to automatically adjust the pifvco. The vco value will display on the screen after adjustment ended.

VI. RF AGC AUTOMATIC ADJUSTMENT

1. Receive PAL signal (VHF channel).
2. Set the signal strength to 55dB μ V.

3. Enter FACTORY2 MODE to select TUNER-AGC, and presses AV to adjust RF AGC automatically, RF AGC value will display after adjustment ended.

VII. WHITE BALANCE ADJUSTMENT

NOTE: Must set BULE BACK as OFF before the unit aging.

1. Set TV to STANDARD mode.
2. Press AV to enter AV mode.
3. Enter FACTORY MODE.
4. Enter factory 1, and select Rc 128 menu, presses AV button on remote to get horizontal light line on the screen, adjust SCREEN potentiometer till horizontal light line shows R. G. B. Color, presses AV button again to return to normal status.
5. Input 'Left-Black & Right-White' signal for white balance adjustment.
6. Connect the XS602 plug that is on main board to control socket of the automatic test system.
7. Turn on Color Analyzer CA 100 and adjust its zero point.
8. Run program (A:amb.exe).
9. Presses Space-Bar button or switch on the control socket to adjust white balance automatically. If OK, TICK sound will prompt.
10. Enter factory3, select sub-bright menu to adjust the sub-brightness to a good level.

VIII. FOCUS ADJUSTMENT

1. Set CONTRAST control to maximum position and BRIGHTNESS control to middle position.
2. Adjust FOCUS control (on FBT) to obtain the sharpest and clearest picture on CRT.

IX. GEOMETRIC DISTORTION ADJUST (29", 34" SERIES)

Receive the black and white PAL Five-circles signal and set the picture as standard status input signal 80dBu V, enter factory5 mode to confirm 50Hz field amplitude and adjust the following items:

FACTORY MODE

Ver-size	42	Vertical Size
Ver-shift	21	
S-Correct	05	
C-Correct	15	
Hor-Width	19	
E/W Correct	00	
E/W conner	00	
Tapezium	08	

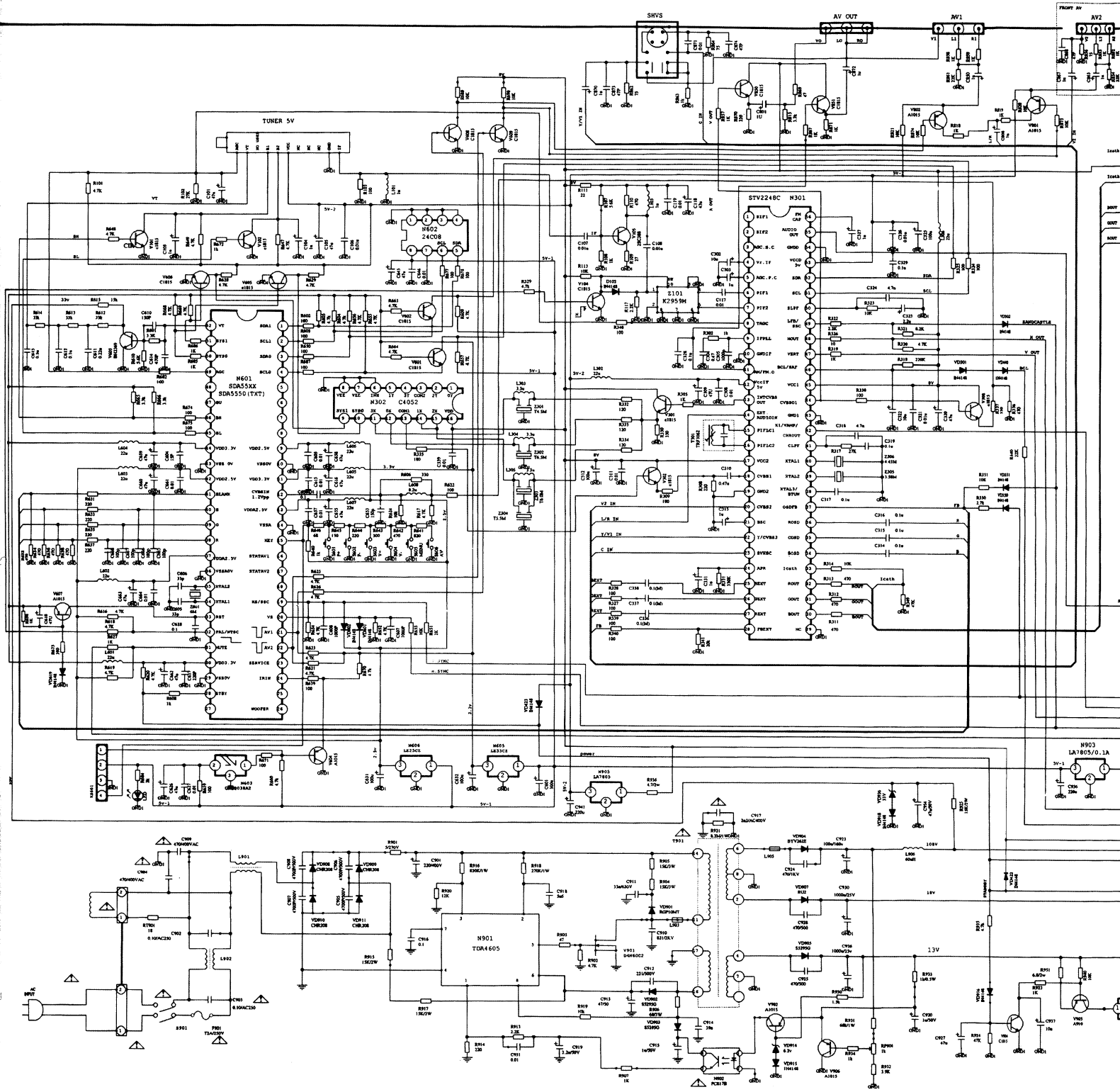
X. CHARACTER POSITION ADJUSTMENT

1. Receive the PAL Five-Circle pattern signal.
2. Enter FACTORY2 MODE to select H-Shift, press V+/V- buttons to adjust the symmetrical position.

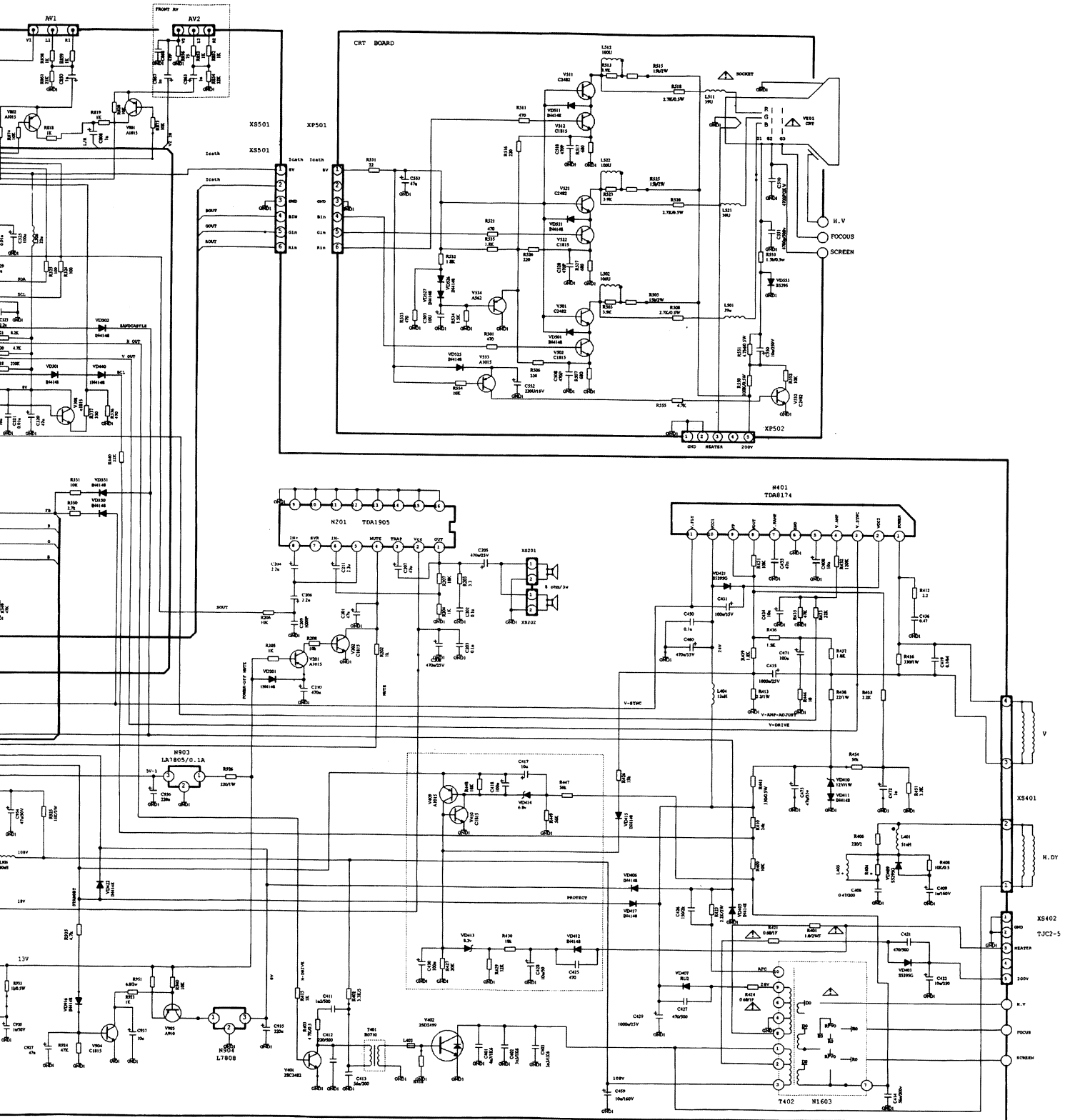
XI. HIGH VOLTAGE TEST

1. Check if the power qualifies is standard voltage before adjusting high voltage.
2. Connect a precise High Voltage Meter to second anode of CRT.
3. Turn on the receiver, adjust BRIGHTNESS and CONTRAST to minimum (electron beam is zero).
4. High voltage being measured should below 30 Kilovolt (14", 16" & 21") or 32 Kilovolt (29").

14" 21" AXT1, EXT1, AX, CX, SERIES COLOUR

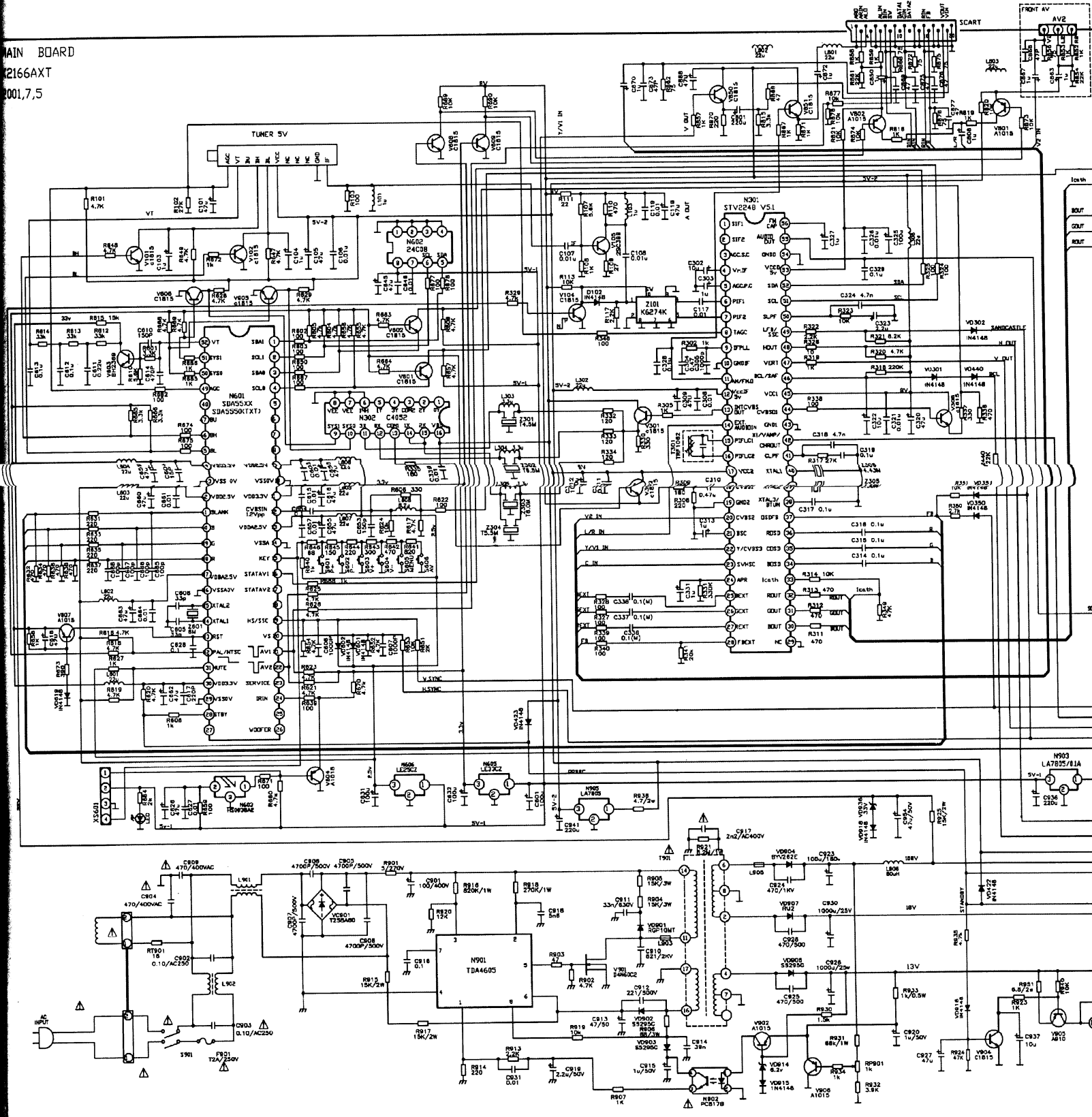


ES COLOUR TV BASIC CIRCUIT DIAGRAM



14" 21" AXT (SCA

MAIN BOARD
2166AXT
001,7,5



"AXT (SCART)

