

COLOUR TELEVISION

SANYO

CHASSIS SERIES **EB6**

MODEL NUMBER **CE32WN5F-C**

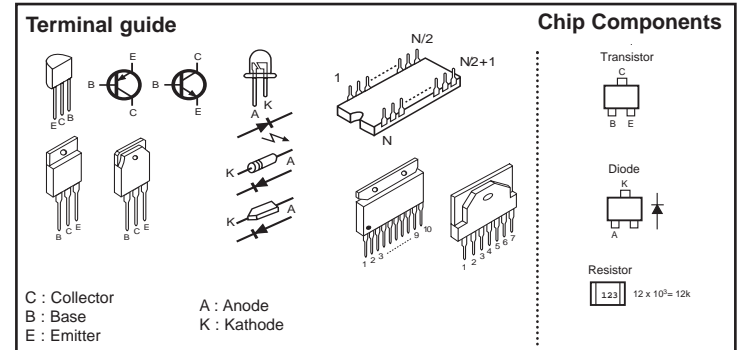
SERVICE REF.NO. **CE32WN5F-C-00**

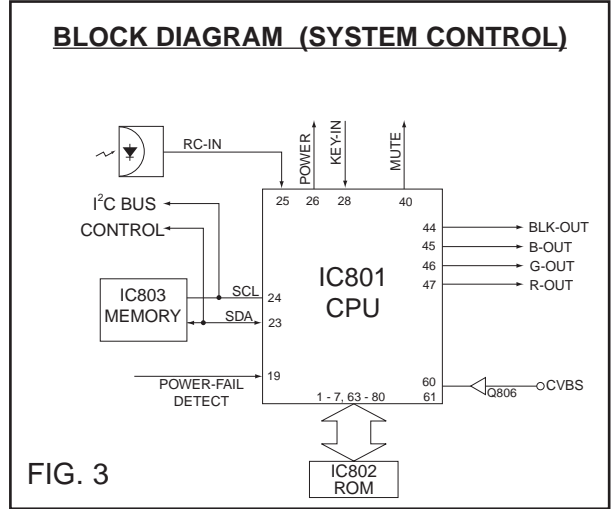
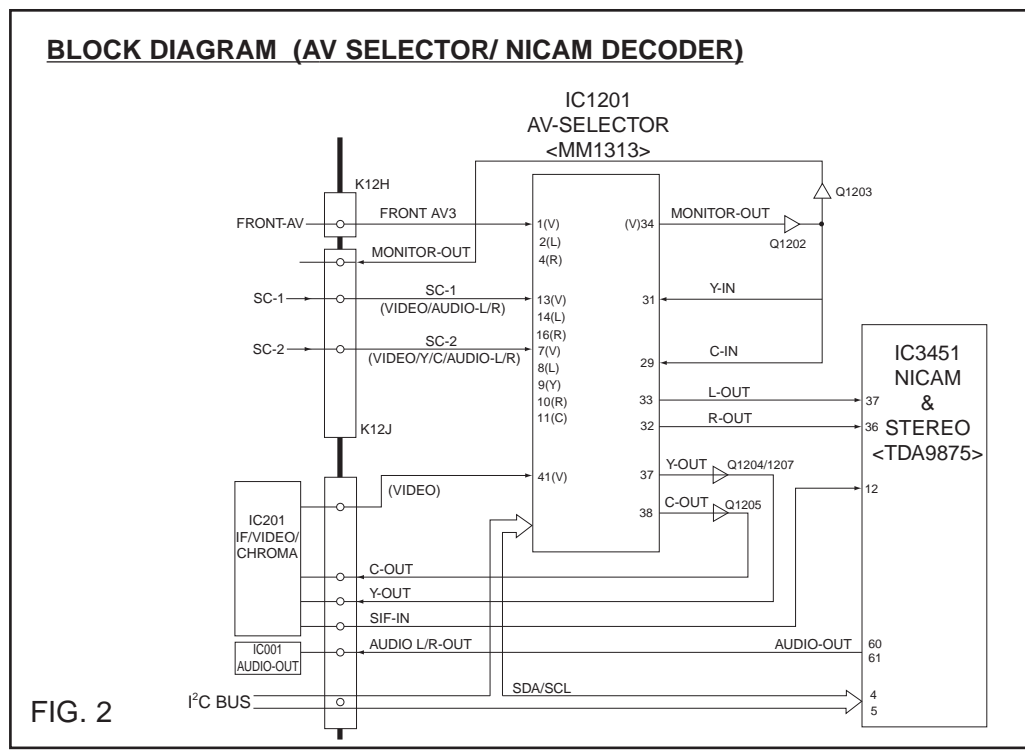
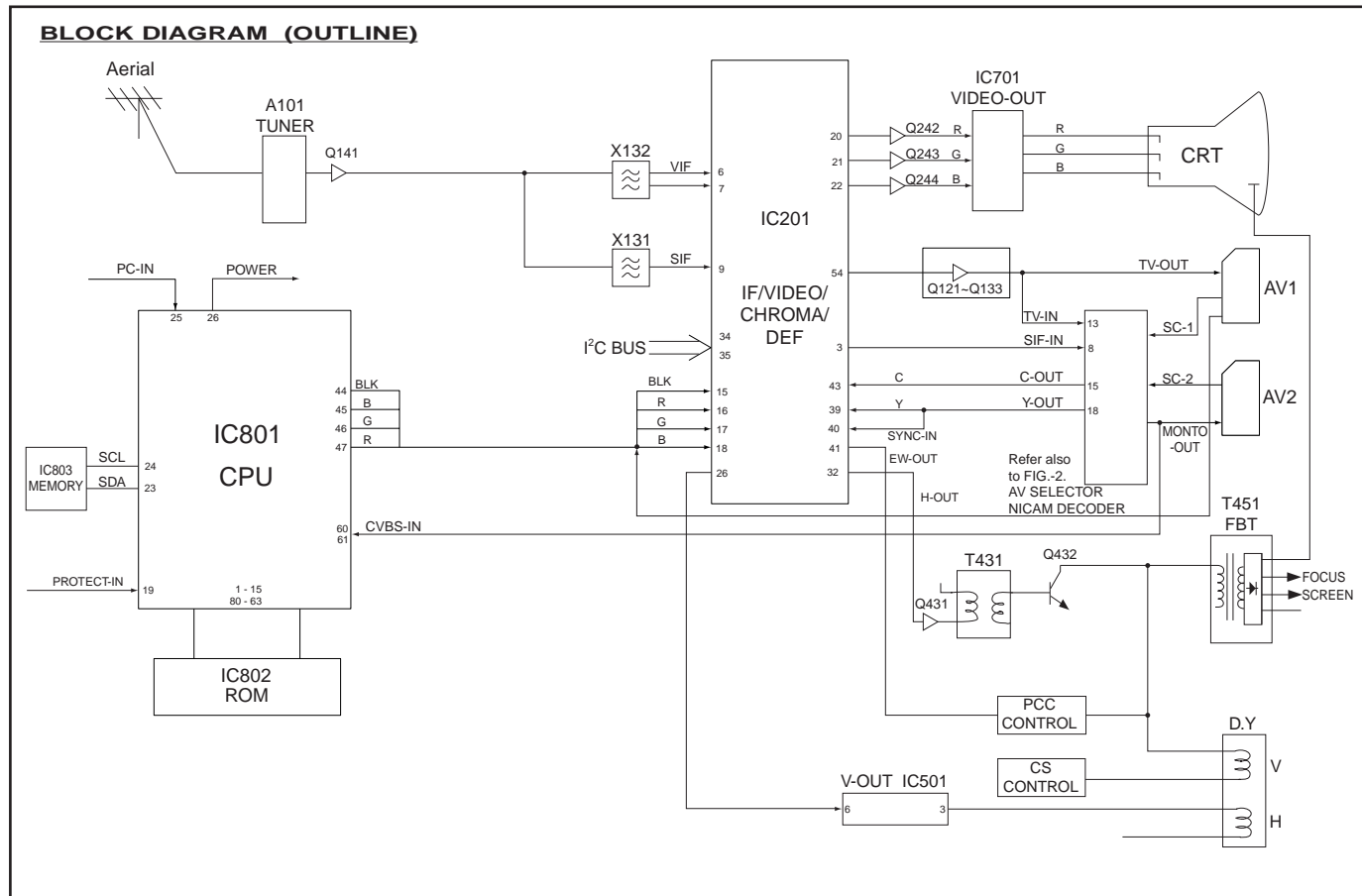
The service Precaution:
The area enclosed by this line () is directly connected with AC mains voltage. When servicing the area, connect an isolating transformer between TV receiver and AC line to eliminate hazard of electric shock.

Product safety notice:
Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by a mark Δ in this circuit diagram show components whose values have special significance to product safety. It is particularly recommended that only parts specified on the part service manual be used for components replacement pointed out by the mark.

- Circuit diagram notes :**
- All resistance values are in ohms, K=1,000, M=1,000,000.
 - All resistance rated wattages are 1/6W unless otherwise noted.
 - Excepting electrolytic capacitors, all capacitance values of less than 1 are expressed in μ F and more than 1 are pF.
 - All capacitance rated voltages are 50V unless otherwise noted.
 - All inductance values are in μ H.
 - Voltage readings taken at a digital voltmeter are from point indicated chassis ground. Voltage readings taken by using a colour bar signal are with all controls at normal position. Some voltages may vary with signal strength.
 - Waveforms were taken with colour bar and controls adjusted for normal picture. Waveforms were taken by using a wide band oscilloscope and a low capacity probe.

- Expression of capacitance and resistance in circuit diagram.**
- Capacitance (Example)**
1000 C M 2000 D
- Characteristic
 - Capacitance value (220pF)
 - Tolerance ($\pm 20\%$)
 - Kind (Ceramic)
 - Rated voltage (1,000V)
- Resistance (Example)**
1/2 N J 1.2
- Resistance value (1.2 Ω)
 - Tolerance ($\pm 5\%$)
 - Kind (M.carbon)
 - Rated wattage (1/2W)





OPTION SETTING

[After replacing the Memory IC (IC803)]
The memory IC, IC803, stores the option data of TV set and service adjustments data for each circuit, therefore, when the memory IC is replaced, it should be performed following setting and SERVICE ADJUSTMENT on next page.

To enter to the Option Mode
+ Press and hold the FOK button on the remote control and P button on the front panel of the TV. The option window will appear on the screen. Enter the settings as shown below.

OPTION	ON	OFF	DESCRIPTION
ON-TIMER	ON	OFF	On-timer available, default ON
PLUG & PLAY	ON	OFF	Plug & Play mode, default ON
WELCOME TEXT	ON	OFF	Display message when first set up, default OFF
CODE TEST	ON	OFF	For factory use, default OFF
WIDE	ON	OFF	Wide Screen Signaling available, default ON
OPTION	ON	OFF	Destination option, default 4 LANGUAGE
4 LANGUAGE	ON	OFF	Language selection, default 4 LANGUAGE
3/12/13 Mode	ON	OFF	Teletext mode, default OFF
AV13 OPTION	ON	OFF	Front AV disable, default ON
SIF OPTION	ON	OFF	Television system, default BG 1 L'
AUTO VOLUME	ON	OFF	Auto volume, default ON

To set the option mode
+ Highlight the desired option item by using the PA or P button.
+ To switch the option mode, use the Volume (LEFT) or Volume + (RIGHT) button.
+ The data which is set in the option mode is stored into the memory IC automatically.

Following table shows the available option items and default setting mode.

Exit from the Service Mode
+ Press the RECALL button.

SERVICE ADJUSTMENTS

Note: Some items of the service adjustments for this chassis are controlled by the CPU, IC801, and the adjustments are carried out by using the RC handset.

[After replacing the Memory IC (IC803)]
The memory IC, IC803, stores the service adjustments data for each circuit, therefore, when the memory IC is replaced, it should be performed "OPTION SETTING" on previous page and the following adjustments, refer to further adjustment on page 14.

ADJUSTABLE SERVICE ADJUSTMENT

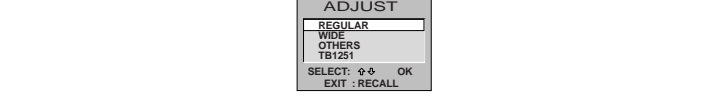
Item No.	OSD	Description
1	AGC	AGC Adjustment
2	CUT	Cut-Off Drive Adjustment
3	GRY	G-Drive Adjustment
4	GRY	B-Drive Adjustment
7	HBP	H-Blanking Phase Adjustment
8	OSD	OSD Positioning Adjustment

WIDE

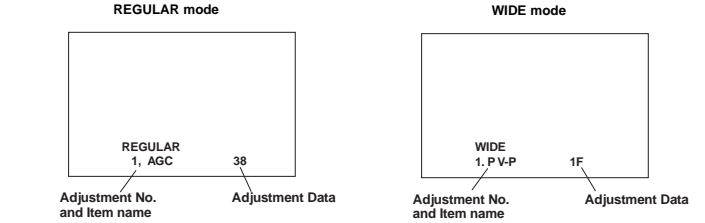
Item No.	OSD	Description
1	P-V-P	Vertical Centre Adjustment
2	H-P-H	Horizontal Centre Adjustment
5	P-V-S	Vertical Size Adjustment
6	P-H-S	Horizontal Size Adjustment
7	P-PCC	Pos. Adjustment
8	P-TRP	Trapezoid Distortion Adjustment
10	P-CNR	Corner Adjustment

IMPORTANT NOTICE
Do not attempt to adjust service adjustments not listed on the above otherwise it may cause loss of performance and product safety.

To enter to the Service Mode
+ Press and hold the GREEN button on the remote control and then press the P button inside of the door. The adjustment window will appear on the screen.



To select the mode and service item and change data value
+ Highlight the desired adjustment mode by using the PA or P button and then press the FOK button.
+ To select the adjustment item, use the PA or P button.
+ To change the service data, use the Volume (LEFT) or Volume + (RIGHT) button.
+ The data which is set in the service mode is stored into the memory IC automatically.



Exit from the Service Mode
+ Press the RECALL button or turn off the TV set by using the Mains switch.

INITIALISATION OF MEMORY IC

To initialise the memory IC (IC803), press and hold the NORMAL button on the remote control and then press the PA button on the front panel of the TV set, and then turn the Mains switch Off and On. Now the initialisation is completed.
When initialised the memory IC, all of the setting data (option data and service adjustment data) stored in the IC are reset to the default value. So it is necessary to set the option settings and readjust the service adjustments listed on left page.

ADJUSTMENTS

IMPORTANT NOTICE
Do not attempt to adjust the following service adjustments except when adjustments are required in servicing otherwise it may cause loss of performance and product safety.

B VOLTAGE ADJUSTMENT
1. Receive white raster pattern.
2. Set controls to normal.
3. Connect digital voltmeter to test point TP-B and GND.
4. Adjust voltage to 145 ±0.2V by using VR641.

AGC ADJUSTMENT
1. Input and tune an RF signal which is UHF ch31 551.25MHz with 63dBµV/75 dB terminated signal gain.
2. Connect digital voltmeter to test point TP-A and GND.
3. Set controls to normal.
4. Enter to the service mode and select mode "REGULAR", and select item no. 1 "REGULAR 1 AGC".
5. Press the LEVEL+ or LEVEL- button to adjust voltage to be 3.2Vcc.

+12V ADJUSTMENT
1. Receive white raster pattern.
2. Set controls to normal.
3. Connect digital voltmeter to pin 9 of IC3051 and GND.
4. Adjust voltage to 12 ±0.2V by using VR3051.

FOCUS ADJUSTMENT
By using FOCUS VR, adjust focus control for well defined scanning lines.

TRAPEZOID ADJUSTMENT
1. Receive cross hatch pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "WIDE", and select item no. 7 "WIDE 7 P PCC".
3. Press the LEVEL+ or LEVEL- button to adjust the vertical line to be straight.

SCREEN ADJUSTMENT
1. Receive black & white pattern.
2. Enter to the service mode and select mode "REGULAR", and select item no. 2 "REGULAR 2 CUT". The horizontal line will appear on the screen.
3. Set the SCREEN VR for one colour to be just visible.
4. Using the numeric buttons shown set each colour to minimum by decreasing to the point where any further decrease resets the adjustment to maximum value.

BIAS ADJUSTMENT
5. By using the buttons 1, 2, 4, 5, 7, 8 on the remote control, adjust the line to be white.

The key allocation is as follows:

CORNER ADJUSTMENT
1. Receive cross hatch pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "WIDE", and select item no. 10 "WIDE 10 P CNR".
3. Press the LEVEL+ or LEVEL- button to correct the distortion of the vertical line around the corners.

HORIZONTAL ADJUSTMENT
HORIZONTAL CENTRING ADJUSTMENT
1. Receive circular pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "WIDE", and select item no. 2 "WIDE 2 P H-P".
3. Press the LEVEL+ or LEVEL- button to adjust the horizontal centre.

HORIZONTAL WIDTH ADJUSTMENT
1. Receive circular pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "WIDE", and select item no. 5 "WIDE 5 P V-S".
3. Press the LEVEL+ or LEVEL- button to adjust the horizontal width.

HIGH-VOLTAGE CONFIRMATION
1. Receive circular pattern and set screen mode to "FULL".
2. Set controls to normal.
3. Connect high-voltage meter to the anode of CRT and GND.
4. Confirm that voltage is 30.5±1.0kV for 32" model. Confirm that voltage is 29.5±1.0kV for 28" model.

VERTICAL ADJUSTMENT
VERTICAL CENTRING ADJUSTMENT
1. Receive circular pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "WIDE", and select item no. 1 "WIDE 1 P V-P".
3. Press the LEVEL+ or LEVEL- button to adjust the vertical centre.

CPU PORT FUNCTIONS

Pin No.	Function Name	Function	IN/OUT
1	MMU0	External memory 0	OUT
2	MMU1	External memory 1	OUT
3	ADDR10	Address bus 10	OUT
4	DSN	Data Strobe	OUT
5	ADDR11	Address bus 11	OUT
6	ADDR9	Address bus 9	OUT
7	ADDR8	Address bus 8	OUT
8	R_WN	Read Write Strobe	OUT
9	GND		
10	VDD	Power Supply	IN
11	OSC-IN	Clock Input	IN
12	OSC-OUT	Clock Output	OUT
13	ADDR13	Address bus 13	OUT
14	ADDR14	Address bus 14	OUT
15	MMU1	External memory 1	OUT
16	MMU2	External memory 2	OUT
17	MMU4	External memory 4	OUT
18	MMU5	External memory 5	OUT
19	P3_7CS0	Protected - Power failure detect input	IN
20	P3_BASN	Dobby CLK(L)	OUT
21	P3_5	Dobby Strobe 3D	OUT
22	P3_4	PITARS switch	OUT
23	PS1	IC BUS SDA	IN/OUT
24	PS0	IC BUS SCL	OUT
25	P2.0	Remote Control Signal Input	IN
26	P2.3	Power Relay & LED Drive On-L	OUT
27	P2.4	SUB CPU SO	OUT
28	P2.2	Key switch input	OUT
29	PO.1	SUB CPU CLK	OUT
30	PO.0	SUB CPU SI	IN
31	PA.7	THRESHOLD switch	OUT
32	PA.6	#RAMU(Caption) switch	OUT
33	PA.5	On-Timer LED Drive On-L	OUT
34	VDD		IN
35	GND		
36	P2.1	AV1 Scart function input	IN
37	P2.2	AV2 Scart function input	IN
38	P2.5	RF AGC input	IN
39	PA.4	H-Blank On/Off	OUT
40	PA.3	AMP Mute Mute On: H	OUT
41	PA.2	Dobby RO	OUT
42	PA.1	H-Blank Phase	OUT
43	PA.0	Stereo output SDR: H	OUT
44	FB	BLK Output for OSD (Active H)	OUT
45	B	Blue Output for OSD (Active H)	OUT
46	G	Green Output for OSD (Active H)	OUT
47	R	Red Output for OSD (Active H)	OUT
48	V-SYNC	V-Sync Input (Active H)	IN
49	H-SYNC	H-Sync Input (Active H)	IN
50	WSCK	VPSWSS Slicer Line PLL	IN
51	VSDF	VPSWSS Slicer Line PLL	IN
52	VDD-A	Analogue Power Supply	IN
53	PXFMM	Pixel Frequency Multiplier	IN
54	RESET	Reset Input (Active L)	IN
55	MCFM	Pixel Frequency Multiplier	IN
56	JTRST0		
57	TXCF		
58	CVBS2		
59	TEST0		
60	CVBS1	Video signal input	IN
61	CVBS2	Video signal input	IN
62	OSD-A		
63	DAT3	Data bus 3	IN
64	DAT4	Data bus 4	IN
65	DAT5	Data bus 5	IN
66	DAT6	Data bus 6	IN
67	DAT7	Data bus 7	IN
68	DAT2	Data bus 2	IN
69	DAT1	Data bus 1	IN
70	DAT0	Data bus 0	IN
71	ADDR0	Address bus 0	OUT
72	ADDR1	Address bus 1	OUT
73	ADDR2	Address bus 2	OUT
74	ADDR3	Address bus 3	OUT
75	ADDR4	Address bus 4	OUT
76	ADDR5	Address bus 5	OUT
77	ADDR6	Address bus 6	OUT
78	ADDR7	Address bus 7	OUT
79	ADDR12	Address bus 12	OUT
80	ADDR15	Address bus 15	OUT