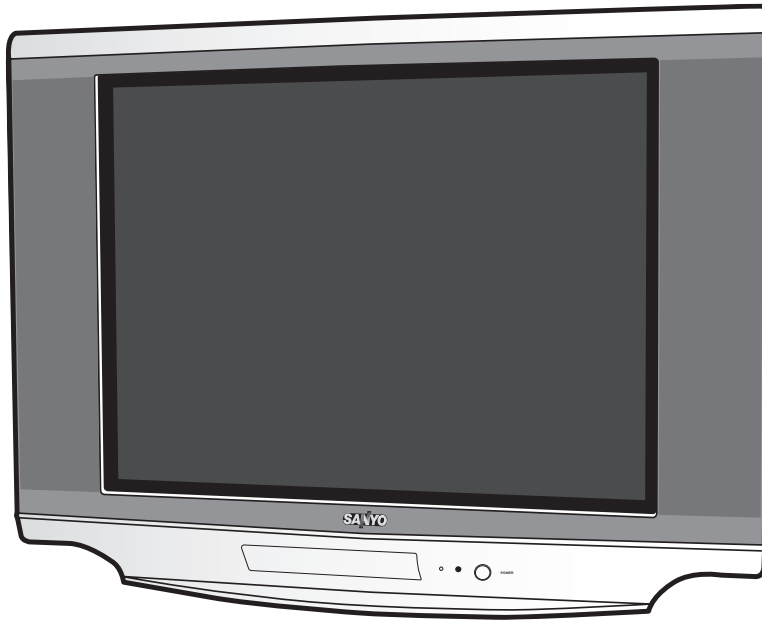


*FILE NO.*

**Model No. CP29YS2**

(Australia/New Zealand)

**Service Ref. No. CP29YS2-00  
CP29YS2-50**



Power Source ..... AC220-240V, 50Hz/60Hz.  
Colour System ..... PAL/NTSC4.43/NTSC/PAL-60Hz  
Television System ..... B/G, D/K, I, M/M  
Channel Coverage ..... VHF: E2 - E12,R1 - R12,K1 - K9,J1 - J12,A2 - A13  
                                0 - 11, 5A  
                                UHF: 21 - 69, A14 - A69, J13 - J62, 28 - 69  
                                CATV: S1-S41, X, Y, Z, Z+1, Z+2

Video IF ..... 38.0MHz  
Aerial Input Impedance .. 75Ω  
Ext. Terminals

Video inputs: Phono jack x 2 (1Vp - p, 75Ω)  
DVD Input: Component Video Jack-Y × 1 (1.0Vp-p, impedance 75Ω)  
             Component Video Jack CB/CR × 1 (0.7Vp-p, impedance 75Ω)  
Audio inputs: Phono jack (L/R) x 2 (436mVrms, more than 40KΩ)  
Video monitor outputs: Phono jack x 1 (1Vp - p, 75Ω)  
Audio monitor outputs: Phono jack (L/R) x 1 (436mVrms, less than 600Ω)

Sound Output (RMS) .... 7.5W + 7.5W  
Speaker size ..... 6 cm × 12 cm × 2 pcs  
Dimensions ..... 763 (W) × 578 (H) × 417 (D)mm  
Weight approx. .... 38.2 Kg

*Specifications subject to change without notice.*

Service Ref. No. CP29YS2-00 is electrically the same as Service Ref. No. CP29YS2-50.

The difference between Service Ref. No.  
CP29YS2-00 and CP29YS2-50 are as follow:

- 1) Destination CP29YS2-00...Australia  
CP29YS2-50...New Zealand

Give complete "SERVICE REF. NO." for parts order or servicing. It is shown on the rating plate at the cabinet back of the unit.

This T.V. receiver will not work properly in foreign countries where the television transmission system and power source differ from the design specifications. Refer to the specification table.

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# Safety Notice

## SAFETY PRECAUTIONS

- 1: An isolation transformer should be connected in the power line between the receiver and the AC line when a service is performed on the primary of the converter transformer of the set.

2: Comply with all caution and safety-related notes provided on the cabinet back, inside the cabinet, on the chassis or the picture tube.
- 3: When replacing a chassis in the cabinet, always be certain that all the protective devices are installed properly, such as, control knobs, adjustment covers or shields, barriers, isolation resistor-capacitor networks etc.. Before returning any television to the customer, the service technician must be sure that it is completely safe to operate without danger of electrical shock.

## X-RADIATION PRECAUTION

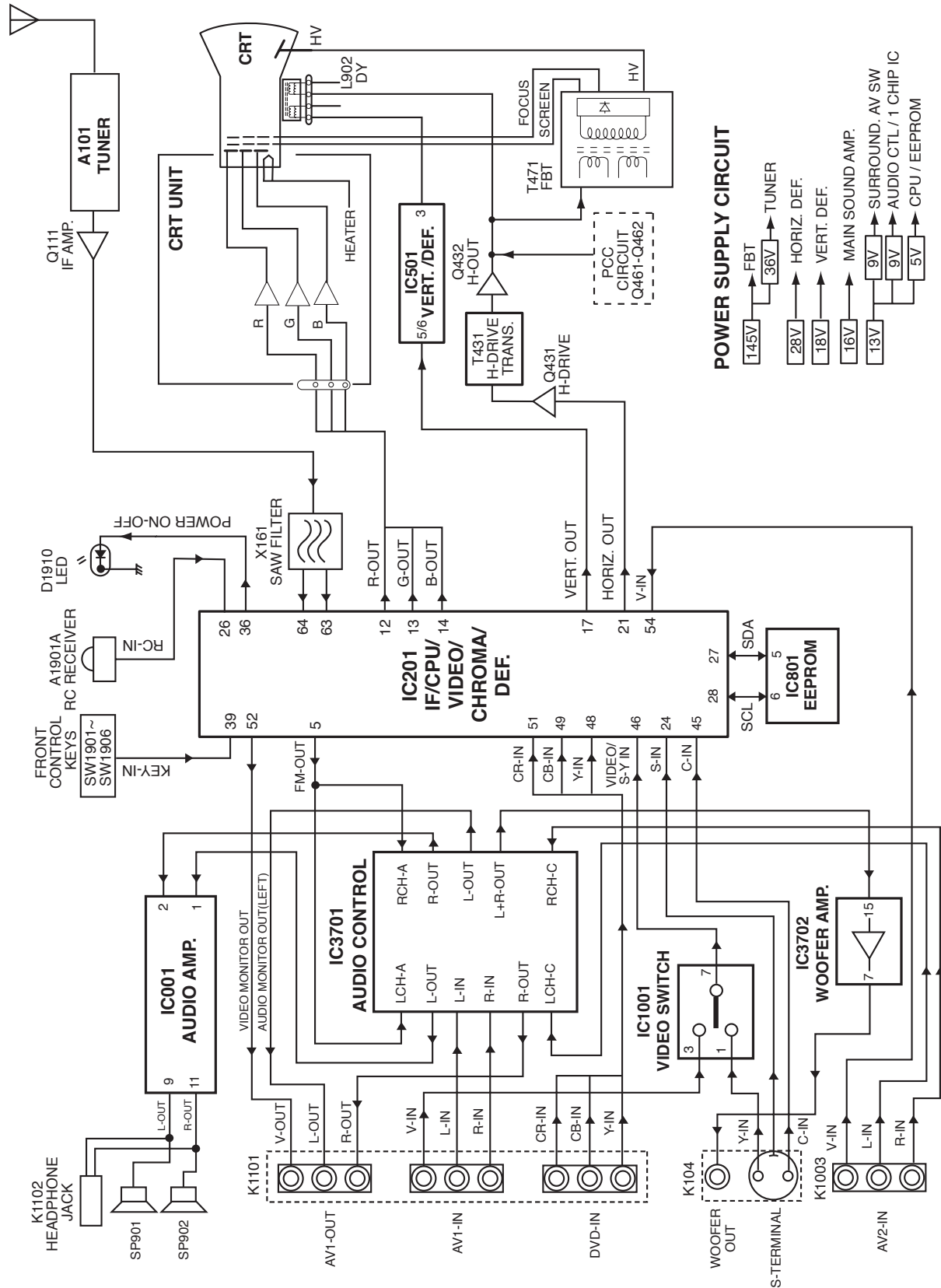
The primary source of X-RADIATION in television receiver is the picture tube. The picture tube is specially constructed to limit X-RADIATION emissions. For continued X-RADIATION protection, the replacement tube must be the same type as the original including suffix letter. Excessive high voltage may produce potentially hazardous X - RADIATION. To avoid such hazards, the high voltage must be maintained within specified limit. Refer to this service manual, high voltage adjustment for specific high voltage limit. If high voltage exceeds specified limits, take necessary corrective action. Carefully follow the instructions for + B1 volt power supply adjustment, and high voltage check to maintain the high voltage within the specified limits.

## PRODUCT SAFETY NOTICE

Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by mark ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that only parts designated on the parts list in this manual be used for component replacement designated by mark ⚠ . No deviations from resistance wattage or voltage ratings may be made for replacement items designated by mark ⚠ .

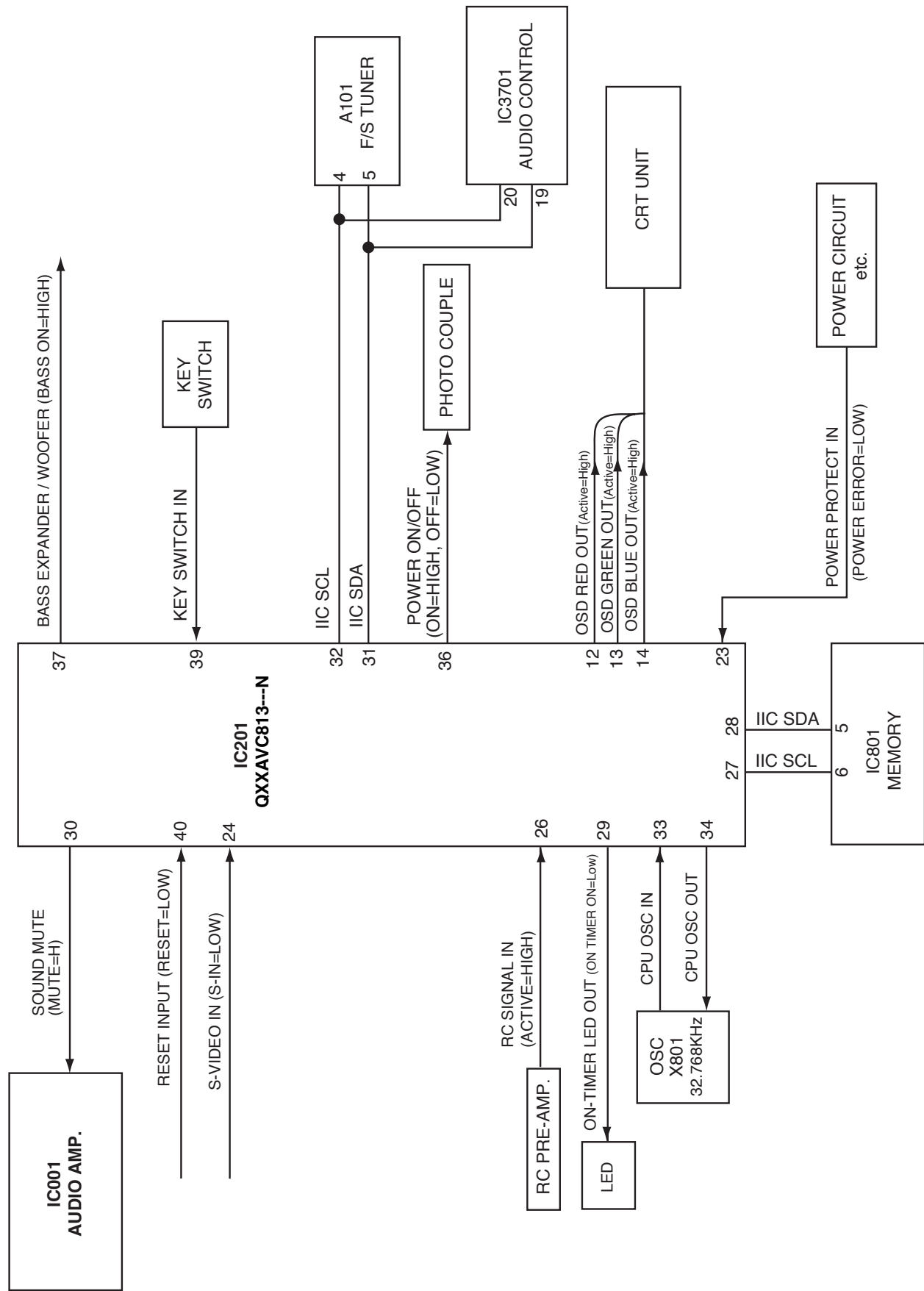
# Chassis Block Diagrams

## MAIN SIGNAL PROCESSING CIRCUIT



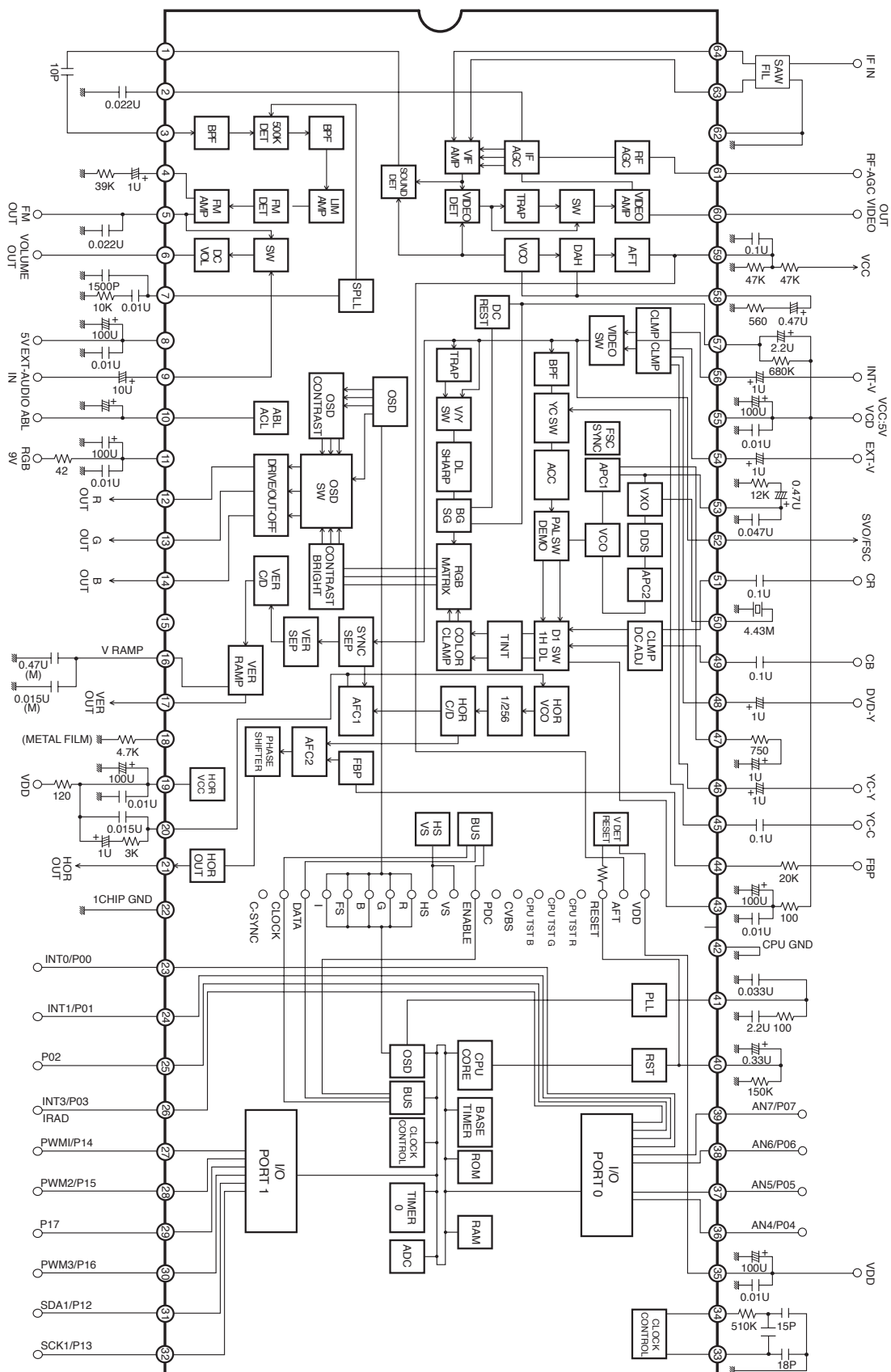
# Chassis Block Diagrams

## SYSTEM CONTROL



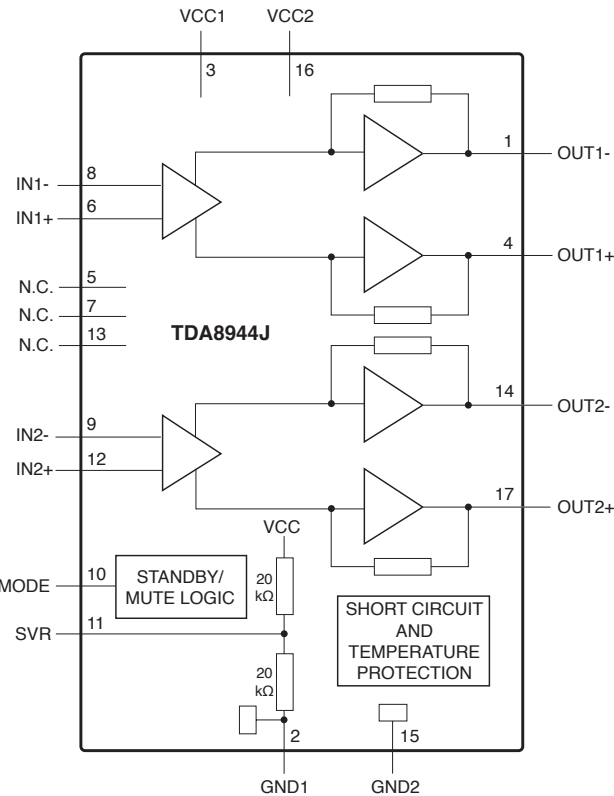
# IC Block Diagrams

IC201 < CPU/IF/Video/Chroma/Def. > LA76938NDE56T5-E

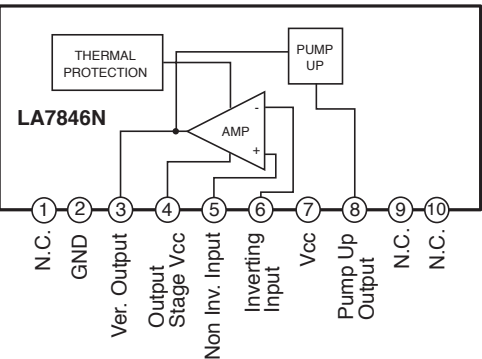


# IC Block Diagrams

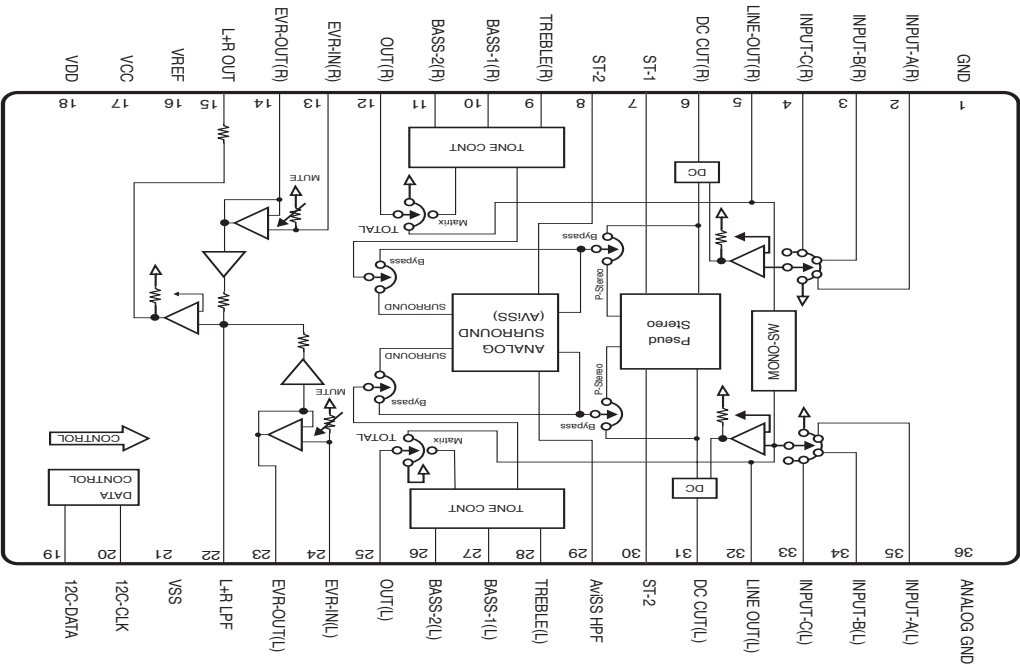
IC001 < Audio AMP.> LA42072-E



IC501 < Vertical Output >LA7846N



IC3701 < AUDIO Control > LV1116NV-TLM-E



# IC201 Port Function

| Pin No. | Function Name            | Function                                            |
|---------|--------------------------|-----------------------------------------------------|
| 1       | SIFout                   | SIF Output (NICAM)                                  |
| 2       | IFAGC-F                  | IF AGC Filter                                       |
| 3       | SIF-IN                   | SIF Input                                           |
| 4       | FM-F                     | Filter for the DC loop of FM detector               |
| 5       | FMout                    | FM detector output                                  |
| 6       | Aud out                  | Audio output                                        |
| 7       | SNDAPCF                  | Snd VCO frequency is locked at 500kHz from SIF      |
| 8       | IF-Vcc                   | DC Supply pin for IF circuit                        |
| 9       | VM/Ext-A-IN              | External audio signal input                         |
| 10      | ABL                      | Auto Beam Limiter function                          |
| 11      | RGB Vcc                  | Vcc input pin of RGB output block function          |
| 12      | R-Out                    | R signal output pin function                        |
| 13      | G-Out                    | G signal output pin function                        |
| 14      | B-Out                    | B signal output pin function                        |
| 15      | NC                       | Not Connected                                       |
| 16      | Vramp                    | To generate a ramp waveform for the reference V-out |
| 17      | V-out                    | Output pin of vertical synchronization ramp signal  |
| 18      | Iref                     | Producing reference current function                |
| 19      | H-Vcc                    | Vcc of Horizontal deflection and BUS interface      |
| 20      | AFC-F                    | AFC Filter pin of horizontal VCO function           |
| 21      | H-out                    | Horizontal output pin                               |
| 22      | VCD-GND                  | Video Chroma Deflection GND                         |
| 23      | Power Fail IN            | Power Fail Input function                           |
| 24      | S-TERM IN                | S-Video input                                       |
| 25      | STATUS IN                | Factory PC mode status (L=ON)                       |
| 26      | Remote IN                | Remote Control signal receiver                      |
| 27      | P14/PWM1                 |                                                     |
| 28      | P15/PWM2                 |                                                     |
| 29      | ON-TIMER LED OUT         | On timer led out function                           |
| 30      | MUTE OUT                 | Mute out function                                   |
| 31      | IIC SDA1                 | IIC-Bus Data Line                                   |
| 32      | IIC SCK1                 | IIC-Bus Clock Line                                  |
| 33      | X ' tal                  | Crystal Oscillator                                  |
| 34      | X ' tal                  | Crystal Oscillator                                  |
| 35      | 5V                       | Supply (5V)                                         |
| 36      | Power Out                | Power On/Off signal output                          |
| 37      | Bass Expander ON/OFF OUT | Bass Expander On/Off function                       |
| 38      | VIF M OUT /Bilingual Out | VIF M Out/Bilingual Out function                    |
| 39      | AD KEY IN                | Key signal input                                    |
| 40      | RESET                    | RESET pin function                                  |
| 41      | FILT                     | FILT pin function                                   |
| 42      | GND                      | Ground                                              |

| Pin No. | Function Name | Function                                             |
|---------|---------------|------------------------------------------------------|
| 43      | CCD-Vcc       | Vcc (5V) pin for 1H delay-line                       |
| 44      | FBP-IN        | Fly Back Pulse Input                                 |
| 45      | YC-C          | Y/C-C Input function                                 |
| 46      | YC-Y          | Y/C-Y Input function                                 |
| 47      | C-APC2        | AFC filter pin of chroma VCO. (3.58MHz)              |
| 48      | DVD-Y         | DVD-Y Input                                          |
| 49      | CB-IN         | C <sub>B</sub> Input (for DVD)                       |
| 50      | X ' tal       | 4.43MHz Crystal                                      |
| 51      | CR-IN         | C <sub>R</sub> Input (for DVD)                       |
| 52      | SVO/FSC       | Selected Video Output or FSC Output                  |
| 53      | C-APC-F       | Chroma APC Filter                                    |
| 54      | Ext-Video-IN  | Ext Video Input & Y Input in S-VHS mode              |
| 55      | VCD-Vcc       | Video Chroma Deflection VCC                          |
| 56      | Int-Video-IN  | Int. Video Input & Chroma Signal Input in S-VHS mode |
| 57      | Blk-F         | Black peak level detection in black stretch circuit. |
| 58      | PIF-APC-F     | APC filter pin for PLL circuit function.             |
| 59      | AFT           | Automatic Fine Tuning Output pin                     |
| 60      | Video out     | Video Output pin                                     |
| 61      | RF AGC        | RF AGC Output pin                                    |
| 62      | IF-GND        | Ground of IF circuit                                 |
| 63      | VIF IN        | PIF input pin                                        |
| 64      | VIF IN        | PIF input pin                                        |

# Service Information

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## ■ Protection Circuit

This TV set has a built-in power supply protection circuit.

It is provided to protect the TV set in case of a power supply circuit malfunctions. When something abnormality occurs during TV reception, the TV set goes to the stand-by mode.

When an abnormality occurs during TV reception, it causes pin 23 of the CPU to go continually Low for about one second. The CPU detects that this has occurred and outputs the signal from pin 36 to switch off the power supply lines.

## Releasing the protective circuit and restoring power supply

To release the protective circuit and restore power supply, turn the power to the TV set OFF and then ON again via either the main power switch or the ON-OFF button on the remote control. This will work only if the power supply trouble was temporary. If there is permanent trouble such as a damaged circuit, power cannot be restored and the circuit will have to be repaired.

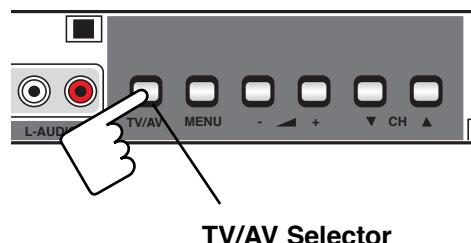
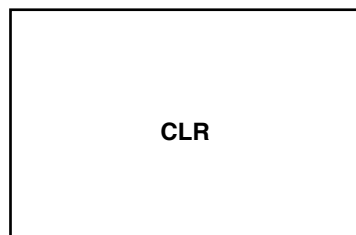


# Service Adjustments with Replacing Memory IC(IC801)

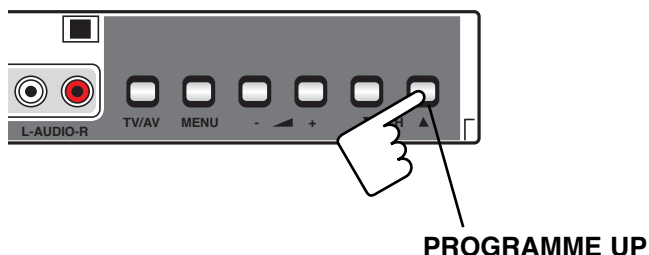
Note: The CPU (IC201) and memory IC (IC801) store the service adjustments data and controls data for each circuit. When the Memory IC(IC801) is replaced, some of the service adjustments should be readjusted to obtain the best performance. The necessary service adjustments are carried out by using the RC handset. Please set up the TV set with following steps [1] to [2].

## [1] Initializing Procedure

1. Put a new memory IC.
2. Turn on the TV set.
3. Press and hold the **TV/AV Selector** on the TV set for more than 2 seconds. The following picture appears on the screen.



4. Press the **PROGRAMME UP** on the TV set while the above On-Screen Display is still on the screen. The following picture appears on the screen.



This completes the initialization of memory IC.

Following shows the initialized contents of memory data by this procedure.

- |                     |                |
|---------------------|----------------|
| - Plug & Play       | : No executed  |
| - Inhibit Data      | : Cancelled    |
| - Ch Skip Data      | : Cancelled    |
| - Sound Volume Data | : 10/63 steps. |
| - Volume Lock       | : OFF          |
| - Tuning Lock       | : OFF          |
| - Music Mode        | : OFF          |
| - AV Start          | : OFF          |
| - Colour System     | : AUTO         |

## [2] Required Service Adjustments

Readjust the following service adjustments.

| <u>Adjustments</u>    | <u>Service Mode No. &amp; Item</u> |
|-----------------------|------------------------------------|
| RF AGC                | Item 01, RF AGC                    |
| Horizontal centre     | Item 02, H-PHA                     |
| Vertical size         | Item 05, V-SIZ                     |
| Vertical linearity    | Item 06, V-LIN                     |
| Vertical S-Correction | Item 07, V-SCO                     |
| Gray scale            | Item 30-33, 35-37                  |

Further adjustment please refer to page 14 and 15.

# Service Adjustments with Replacing Memory IC(IC801)

Following table shows the initial values which have been stored in the CPU ROM, and items for the service adjustments.

## Service mode adjustments table in CPU ROM

| No. | ITEM          | DATA RANGE | INITIAL SETUP DATA | DESCRIPTION                                |
|-----|---------------|------------|--------------------|--------------------------------------------|
| 01  | RFAGC         | 0~63       | 28                 | RF AGC Adj.                                |
| 02  | H-PHA         | 0~31       | 13                 | H-Phase (H-Centering) Adj. (50Hz)          |
| 03  | V-POS         | 0~63       | 43                 | V-Position (V-Centering) Adj. (50Hz)Fixed. |
| 04  | V-SHIFT       | 0~15       | 3                  | V-Phase Adj. (50Hz)                        |
| 05  | V-SIZ         | 0~127      | 33                 | V-Size Adj. (50Hz)                         |
| 06  | V-LIN         | 0~31       | 10                 | V-Linearity Adj. (50Hz)                    |
| 07  | V-SCO         | 0~31       | 22                 | Vertical S-Correction Adj. (50Hz)          |
| 08  | V-TRANS       | 0~1        | 0                  | Data transmission between V Retrace        |
| 09  | V-RES         | 0~1        | 0                  | Vertical Reset Timing.                     |
| 10  | H-P60         | -16~+15    | +4                 | H-Phase Adj. (60Hz) difference val.        |
| 11  | V-S60         | -64~+63    | -1                 | V-size Adj. (60Hz) difference val.         |
| 12  | V-SHIF60      | -16~+15    | -1                 | V-Phase Adj. (60Hz) difference val.        |
| 13  | OSDHP         | 0~255      | 23                 | OSD H-Position Adj.                        |
| 14  | OSDC          | 0~7        | 4                  | OSD Contrast Adj.                          |
| 15  | V-SCP         | 0~7        | 7                  | V-Size COMP Adj.                           |
| 16  | H-SCP         | 0~7        | 7                  | H-Size COMP Adj.                           |
| 17  | EWDC          | 0~63       | 35                 | H-Width / H-Size adj.                      |
| 18  | EWAMP         | 0~63       | 29                 | EW Parabola / Width ratio                  |
| 19  | EWILT         | 0~63       | 36                 | EW Trapezium correction                    |
| 20  | EWTOP         | 0~15       | 9                  | EW Corner Top                              |
| 21  | EWBTM         | 0~15       | 12                 | EW Corner Bottom                           |
| 22  | EWCNPSW       | 0~3        | 0                  | Select control range for corner corr.      |
| 23  | EWTEST        | 0~7        | 0                  | Select EW DAC test mode                    |
| 24  | EWDC60        | -32~+31    | +4                 | H-Width / H-Size Adj. NTSC (60Hz)          |
| 25  | EWAMP60       | -32~+31    | -1                 | EW Parabola/Width ratio NTSC (60 Hz)       |
| 26  | EWILT60       | -32~+31    | +3                 | EW Trapezium correction NTSC (60 Hz)       |
| 27  | EWTOP60       | -16~+15    | 0                  | EW Corner Top NTSC (60Hz)                  |
| 28  | EWBTM60       | -16~+15    | -1                 | EW Corner bottom NTSC (60Hz)               |
| 29  | SBIAS         | 0~255      | 63                 | Sub Bias Adj.                              |
| 30  | RBIAS         | 0~255      | 0                  | Red Bias Adj.                              |
| 31  | GBIAS         | 0~255      | 0                  | Green Bias Adj.                            |
| 32  | BBIAS         | 0~255      | 0                  | Blue Bias Adj.                             |
| 33  | RDRIV         | 0~127      | 64                 | Red Drive Adj.                             |
| 34  | GDRIV         | 0~15       | 8                  | Green Drive Adj.                           |
| 35  | BDRIV         | 0~127      | 64                 | Blue Drive Adj.                            |
| 36  | 1 Line Appear |            |                    | White Balance Adj.                         |
| 37  | DRV           |            |                    | White Balance Adj.                         |
| 38  | B-YD          | 0~31       | 23                 | B-Y DC Level                               |
| 39  | R-YD          | 0~31       | 22                 | R-Y DC Level                               |
| 40  | B-YDN         | -16~+15    | 0                  | NTSC B-Y DC Level Adj.                     |
| 41  | R-YDN         | -16~+15    | 0                  | NTSC R-Y DC Level Adj.                     |
| 42  | SBDC          | -16~+15    | -2                 | SECAM B-Y DC Level Adj.                    |
| 43  | SRDC          | -16~+15    | -8                 | SECAM R-Y DC Level Adj.                    |
| 44  | B-YDD         | -16~+15    | +4                 | DVD B-Y DC Level                           |
| 45  | R-YDD         | -16~+15    | 0                  | DVD R-Y DC Level                           |

| No. | ITEM      | DATA RANGE | INITIAL SETUP DATA | DESCRIPTION                            |
|-----|-----------|------------|--------------------|----------------------------------------|
| 46  | RGBTEMP   | 0~1        | 0                  | RGB Temp. SW                           |
| 47  | RGBTEST   | 0~1        | 0                  | RGB Test                               |
| 48  | EXTRGBC   | 0~1        | 0                  | External RGB Contrast                  |
| 49  | RGBTEST   | 0~1        | 0                  | RGB Test                               |
| 50  | HALFTONE  | 0~3        | 0                  | Halftone Color                         |
| 51  | G-YA      | 0~1        | 0                  | G-Y Angle                              |
| 52  | GYAMP     | 0~15       | 8                  | G-Y Amplitude Adj.                     |
| 53  | RBBG      | 0~15       | 8                  | R-Y / B-Y Gain Balance                 |
| 54  | RBAG      | 0~15       | 8                  | R-Y / B-Y Angle                        |
| 55  | G-YAN     | 0~1        | 0                  | NTSC G-Y Angle                         |
| 56  | GYAMPN    | -8~+7      | 0                  | NTSC G-Y Amplitude Adj.                |
| 57  | RBBGN     | -16~+15    | 0                  | NTSC R-Y / B-Y Gain Balance            |
| 58  | RBAGN     | -16~+15    | 0                  | NTSC R-Y / B-Y Angle                   |
| 59  | RBBGDN    | -16~+15    | +10                | DVD NTSC R-Y / B-Y Gain Balance        |
| 60  | RBAGDN    | -16~+15    | +10                | DVD NTSC R-Y / B-Y Angle               |
| 61  | VOLFIL    | 0~1        | 0                  | DAC Volume filter disable              |
| 62  | APCOFFSET | 0~1        | 0                  | Align APC Offset Current               |
| 63  | IF-AGC    | 0~1        | 0                  | IF AGC defeat                          |
| 64  | OVERMOD   | 0~1        | 0                  | Select Over Modulation Circuit Type    |
| 65  | COGV      | 0~3        | 2                  | Coring Gain                            |
| 66  | BLKS      | 0~3        | 3                  | Blk. Str. Start (w/ defeat)            |
| 67  | BLKG      | 0~3        | 3                  | Blk. Str. Gain                         |
| 68  | BRTA      | 0~1        | 0                  | Br. Abl. Def.                          |
| 69  | BRST      | 0~1        | 0                  | Mid. Stp. Def.                         |
| 70  | BRTH      | 0~7        | 0                  | Bright Abl. Threshold                  |
| 71  | WPL       | 0~3        | 2                  | White Peak Limit Op. Point (w/ defeat) |
| 72  | YGAM      | 0~3        | 0                  | Y Gamma Start                          |
| 73  | PRS       | 0~3        | 0                  | Pre-shoot AV Adj.                      |
| 74  | ORS       | 0~3        | 2                  | Over-shoot AV Adj.                     |
| 75  | DCREST    | 0~3        | 0                  | Select Luminance DC Restoration        |
| 76  | RFCO      | 0~3        | 1                  | RF Coring Gain Difference              |
| 77  | PRSN      | 0~3        | 0                  | Pre-shoot RF Adj.                      |
| 78  | ORSN      | 0~3        | 2                  | Over-shoot RF Adj.                     |
| 79  | CTRAP     | 0~7        | 4                  | Chroma Trap control                    |
| 80  | CBPF      | 0~3        | 0                  | Chroma BPF control                     |
| 81  | CBPFN     | 0~3        | 1                  | Chroma BPF control NTSC                |
| 82  | CBPFAVN   | 0~3        | 0                  | Chroma BPF control AV NTSC             |
| 83  | TINT      | -16~+15    | 0                  | Tint RF                                |
| 84  | TINT443   | -16~+15    | +4                 | Tint (NTSC4.43)                        |
| 85  | SHRF      | -32~+31    | 0                  | RF Sharpness                           |
| 86  | SH Adj    | -32~+31    | 0                  | Sharpness Adjustment                   |
| 87  | COL TEST  | 0~1        | 1                  | Color Test                             |
| 88  | COL NTSC  | -32~+31    | -20                | Color NTSC (difference from PAL)       |
| 89  | CODP      | -16~+15    | -10                | DVD PAL Color                          |
| 90  | CODN      | -16~+15    | -20                | DVD NTSC Color                         |

# Service Adjustments with Replacing Memory IC(IC801)

| No. | ITEM     | DATA RANGE | INITIAL SETUP DATA | DESCRIPTION                                  |
|-----|----------|------------|--------------------|----------------------------------------------|
| 91  | TINTDN   | -16~+15    | -7                 | DVD NTSC Tint                                |
| 92  | YTH      | 0~3        | 0                  | Select Y signal sensitivity for Blue Streeth |
| 93  | YGAIN    | 0~3        | 0                  | Select Blue stretching gain w/ defeat        |
| 94  | RWIDTH   | 0~3        | 0                  | R Width                                      |
| 95  | ROFFSET  | 0~3        | 0                  | R Offset                                     |
| 96  | BWIDTH   | 0~3        | 0                  | B Width                                      |
| 97  | BOFFSET  | 0~3        | 0                  | B Offset                                     |
| 98  | VOLUM    | 0~127      | 127                | Volume Control                               |
| 99  | DEEM     | 0~1        | 0                  | De-emphasis TC                               |
| 100 | VIFSW    | 0~3        | 0                  | VIF System SW                                |
| 101 | SIFSW    | 0~3        | 1                  | SIF System SW                                |
| 102 | V-LVL    | 0~7        | 4                  | Video Level                                  |
| 103 | V-LVLOFS | 0~3        | 1                  | Video Level Offset                           |
| 104 | FMGAIN   | 0~1        | 0                  | FM Gain                                      |
| 105 | IFOM-S   | 0~1        | 0                  | Over Modulation SW                           |
| 106 | IFMN-S   | 0~1        | 1                  | Audio Monitor SW Monitor or FM               |
| 107 | IFTRPS   | 0~1        | 1                  | IC Inside SIF Trap SW ON-OFF                 |
| 108 | IFMLVL   | 0~15       | 0                  | IF Over Modulation Level Adj.                |
| 109 | IFTEST1  | 0~1        | 0                  | IF Test 1                                    |
| 110 | TRAPT    | 0~7        | 4                  | Sound Trapt Test                             |
| 111 | H-FRQ    | 0~63       | 20                 | Horizontal Freq.                             |
| 112 | FBTS     | 0~1        | 0                  | FBPBLK SW                                    |
| 113 | COOP     | 0~7        | 7                  | Color Killer Option                          |
| 114 | HBLKL    | 0~7        | 7                  | H-Blanking Control Left                      |
| 115 | HBLKR    | 0~7        | 1                  | H-Blanking Control Right                     |
| 116 | AFCRF    | 0~1        | 0                  | RF AFC Gain & Gate Adj.                      |
| 117 | VSURF    | 0~1        | 0                  | RF Vsync. Separation sensitivity             |
| 118 | CDMRF    | 0~7        | 0                  | RF Vertical count down circuit Adj.          |
| 119 | AFCAV    | 0~1        | 1                  | AV AFC Gain & Gate Adj.                      |
| 120 | VSUAV    | 0~1        | 0                  | AV Vsync separation sensitivity              |
| 121 | CDMAV    | 0~7        | 0                  | AV vertical count down circuit Adj.          |
| 122 | HLVDRF   | 0~1        | 1                  | H-Lock Vdet                                  |
| 123 | HLVDAV   | 0~1        | 1                  | H-Lock Vdet                                  |
| 124 | VTEST    | 0~3        | 0                  | Select Vertical DAC test mode                |
| 125 | VCO ADJ  | 0~15       | 8                  | IF VCO free run Freq. Adj.                   |
| 126 | C.VCOADJ | 0~7        | 4                  | Control free run Freq. of chroma VCD         |
| 127 | VCOFREQ  | 0~255      | 100                | ES Sample IF VCO Freq. Adj.                  |
| 128 | CROSS-BW | 0~3        | 0                  | Pattern Output                               |
| 129 | AVNCON   | 0~127      | 64                 | AV non-signal Contrast                       |
| 130 | AVNBRI   | 0~127      | 64                 | AV non-signal Brightness                     |
| 131 | VMDELAY  | 0~3        | 0                  | Select Delay of VM out                       |
| 132 | VMGAIN   | 0~7        | 0                  | Select VM Gain of VM out                     |
| 133 | SYNSEP   | 0~7        | 4                  | Select Sync. Sep Treshold Level              |
| 134 | SCMKILON | 0~1        | 0                  | Enable Killer Circuit (Service Mode only)    |
| 135 | SCMKILOF | 0~1        | 0                  | Disable Killer Circuit (Service Mode only)   |

| No. | ITEM     | DATA RANGE | INITIAL SETUP DATA | DESCRIPTION                             |
|-----|----------|------------|--------------------|-----------------------------------------|
| 136 | SCM TEST | 0~1        | 0                  | SECAM DC Level Adj.                     |
| 137 | BELL SW  | 0~1        | 1                  | Enable BELL Filter Adj.                 |
| 138 | EQU SW   | 0~1        | 0                  | Enable EQUALIZER Circuit Adj.           |
| 139 | BELLADJ  | 0~15       | 3                  | BELL Filter Adj.                        |
| 140 | EQU ADJ  | 0~15       | 0                  | EQUALIZER Filter Adj.                   |
| 141 | POMT     | 0~127      | 25                 | Power Mute Time                         |
| 142 | CHMT     | 0~31       | 8                  | Ch Mute Time                            |
| 143 | SYST     | 0~15       | 5                  | System                                  |
| 144 | S-STE    | 0~3        | 1                  | AV Stereo/Mono Option                   |
| 145 | VOLTBL   | 0~1        | 1                  | Volume Table Select                     |
| 146 | MPP      | 0~1        | 0                  | MPP Function on/off Option              |
| 147 | TUNER    | 0~1        | 0                  | Tuner Option                            |
| 148 | BOOSTER  | 0~1        | 0                  | Booster Option (LNA Tuner)              |
| 149 | OPT AVIN | 0~3        | 3                  | AV1/AV2/AV3 Option                      |
| 150 | OPT POS  | 0~1        | 1                  | 255 Position Option                     |
| 151 | LANGUAGE | 0~1        | 1                  | Language Option                         |
| 152 | OPT COL  | 0~1        | 1                  | Color System Option                     |
| 153 | OPT SIF  | 0~1        | 1                  | SIF System Option                       |
| 154 | OPT BASS | 0~3        | 2                  | Bass Expander Option                    |
| 155 | OPT SURR | 0~1        | 1                  | Surround Option                         |
| 156 | OPT BLBK | 0~1        | 1                  | Blue Back Option                        |
| 157 | 1LINEMOD | 0~1        | 0                  | Color Output Data Option at 1 Line Mode |
| 158 | OPT VM   | 0~1        | 0                  | Select VM Out or Ext Audio In           |
| 159 | OPT ERGB | 0~1        | 1                  | Select Video In or RGB In               |
| 160 | AUDGAIN  | 0~7        | 1                  | Gain Control LV1116                     |
| 161 | L/RGAIN  | 0~7        | 6                  | L/R Output Gain Control LV111           |
|     |          |            |                    |                                         |
| 300 | R00      | 0~255      | 82                 | ROM Correction                          |
| 301 | R01      | 0~255      | 244                | ROM Correction                          |
| 302 | R02      | 0~255      | 84                 | ROM Correction                          |
| 303 | R03      | 0~255      | 249                | ROM Correction                          |
| 304 | R04      | 0~255      | 173                | ROM Correction                          |
| 305 | R05      | 0~255      | 101                | ROM Correction                          |
| 306 | R06      | 0~255      | 0                  | ROM Correction                          |
| 307 | R07      | 0~255      | 0                  | ROM Correction                          |
| 308 | R08      | 0~255      | 7                  | ROM Correction                          |
| 309 | R09      | 0~255      | 19                 | ROM Correction                          |
| 310 | R10      | 0~255      | 2                  | ROM Correction                          |
| 311 | R11      | 0~255      | 136                | ROM Correction                          |
| 312 | R12      | 0~255      | 224                | ROM Correction                          |
| 313 | R13      | 0~255      | 3                  | ROM Correction                          |
| 314 | R14      | 0~255      | 33                 | ROM Correction                          |
| 315 | R15      | 0~255      | 82                 | ROM Correction                          |
| 316 | R16      | 0~255      | 246                | ROM Correction                          |
| 317 | R17      | 0~255      | 33                 | ROM Correction                          |

**Notes:** The initial value that the CPU writes down the CPU ROM data to the memory when replaced the memory IC. TV set may not operate correctly with this initial value. It is required to set up the fine adjustment for service adjustments described in the above.

## Service Adjustments with Replacing Memory IC(IC801)

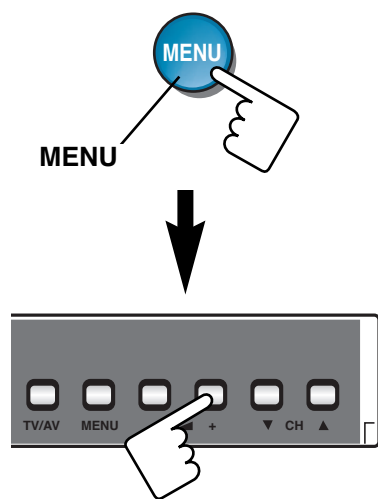
| No. | ITEM | DATA RANGE | INITIAL SETUP DATA | DESCRIPTION    |
|-----|------|------------|--------------------|----------------|
| 318 | R18  | 0~255      | 83                 | ROM Correction |
| 319 | R19  | 0~255      | 1                  | ROM Correction |
| 320 | R20  | 0~255      | 0                  | ROM Correction |
| 321 | R21  | 0~255      | 0                  | ROM Correction |
| 322 | R22  | 0~255      | 0                  | ROM Correction |
| 323 | R23  | 0~255      | 0                  | ROM Correction |
| 324 | R24  | 0~255      | 34                 | ROM Correction |
| 325 | R25  | 0~255      | 153                | ROM Correction |
| 326 | R26  | 0~255      | 100                | ROM Correction |
| 327 | R27  | 0~255      | 33                 | ROM Correction |
| 328 | R28  | 0~255      | 173                | ROM Correction |
| 329 | R29  | 0~255      | 85                 | ROM Correction |
| 330 | R30  | 0~255      | 0                  | ROM Correction |
| 331 | R31  | 0~255      | 0                  | ROM Correction |
| 332 | R32  | 0~255      | 0                  | ROM Correction |
| 333 | R33  | 0~255      | 0                  | ROM Correction |
| 334 | R34  | 0~255      | 0                  | ROM Correction |
| 335 | R35  | 0~255      | 0                  | ROM Correction |
| 336 | R36  | 0~255      | 0                  | ROM Correction |
| 337 | R37  | 0~255      | 0                  | ROM Correction |
| 338 | R38  | 0~255      | 0                  | ROM Correction |
| 339 | R39  | 0~255      | 0                  | ROM Correction |
| 340 | R40  | 0~255      | 0                  | ROM Correction |
| 341 | R41  | 0~255      | 136                | ROM Correction |
| 342 | R42  | 0~255      | 224                | ROM Correction |
| 343 | R43  | 0~255      | 4                  | ROM Correction |
| 344 | R44  | 0~255      | 223                | ROM Correction |
| 345 | R45  | 0~255      | 0                  | ROM Correction |
| 346 | R46  | 0~255      | 1                  | ROM Correction |
| 347 | R47  | 0~255      | 2                  | ROM Correction |
| 348 | R48  | 0~255      | 255                | ROM Correction |
| 349 | R49  | 0~255      | 0                  | ROM Correction |
| 350 | R50  | 0~255      | 33                 | ROM Correction |
| 351 | R51  | 0~255      | 84                 | ROM Correction |
| 352 | R52  | 0~255      | 251                | ROM Correction |
| 353 | R53  | 0~255      | 0                  | ROM Correction |
| 354 | R54  | 0~255      | 0                  | ROM Correction |
| 355 | R55  | 0~255      | 0                  | ROM Correction |
| 356 | R56  | 0~255      | 0                  | ROM Correction |
| 357 | R57  | 0~255      | 0                  | ROM Correction |
| 358 | R58  | 0~255      | 0                  | ROM Correction |
| 359 | R59  | 0~255      | 0                  | ROM Correction |
| 360 | R60  | 0~255      | 0                  | ROM Correction |
| 361 | R61  | 0~255      | 0                  | ROM Correction |
| 362 | R62  | 0~255      | 0                  | ROM Correction |

| No. | ITEM | DATA RANGE | INITIAL SETUP DATA | DESCRIPTION    |
|-----|------|------------|--------------------|----------------|
| 363 | R63  | 0~255      | 0                  | ROM Correction |
| 364 | R64  | 0~255      | 0                  | ROM Correction |
| 365 | R65  | 0~255      | 0                  | ROM Correction |
| 366 | R66  | 0~255      | 0                  | ROM Correction |
| 367 | R67  | 0~255      | 0                  | ROM Correction |
| 368 | R68  | 0~255      | 0                  | ROM Correction |
| 369 | R69  | 0~255      | 0                  | ROM Correction |
| 370 | R70  | 0~255      | 0                  | ROM Correction |
| 371 | R71  | 0~255      | 0                  | ROM Correction |
| 372 | R72  | 0~255      | 0                  | ROM Correction |
| 373 | R73  | 0~255      | 1                  | ROM Correction |
| 374 | R74  | 0~255      | 205                | ROM Correction |
| 375 | R75  | 0~255      | 0                  | ROM Correction |
| 376 | R76  | 0~255      | 0                  | ROM Correction |
| 377 | R77  | 0~255      | 109                | ROM Correction |

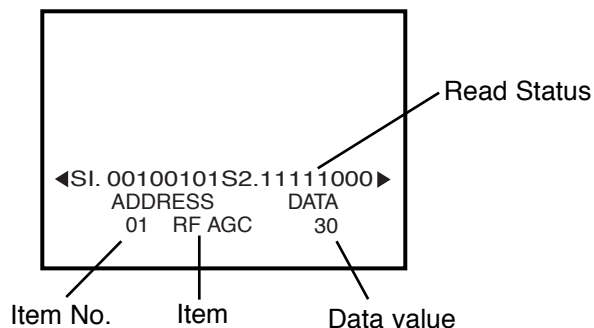
# Service Adjustments with Replacing Memory IC(IC801)

## [Entering to Service Mode]

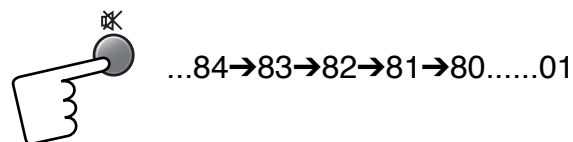
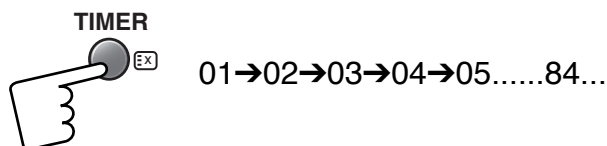
1. Press and hold the **MENU** button on the Remote Control and press the **VOLUME (+)** button on the TV set. Following setting items appears on the screen.



Display for [RF AGC] RF AGC adjustment

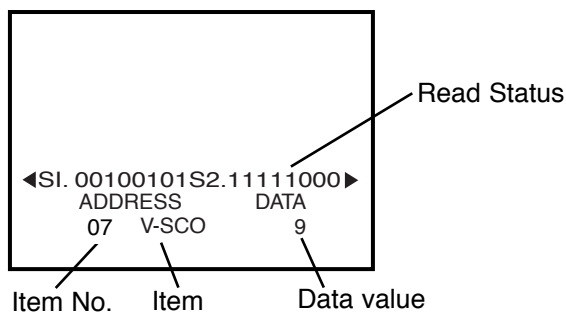


2. Select item by pressing the **TIMER** (Item No. UP) or **SOUND MUTE** (Item No. DOWN) button on the remote control handset.

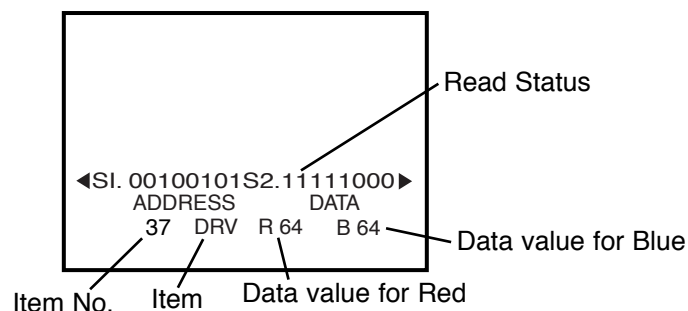


### Example

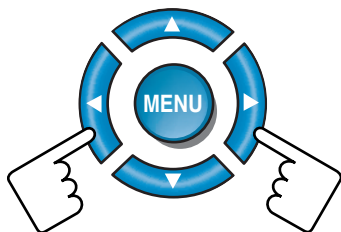
Display for [V-SCO] V-S Correction adjustment



Display for [DRV] White balance adjustment



3. Adjust data value by pressing the **VOLUME +** or **VOLUME -** button on the remote control handset.



To return to normal TV mode, press the **MENU** button on the TV set or the remote control handset.

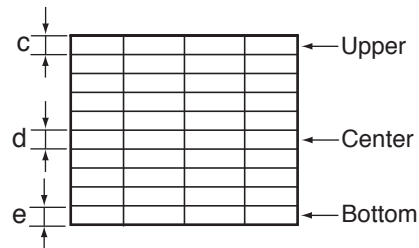
# Service Mode Adjustments

Following adjustments should be carried out when the memory IC is replaced. How to enter the service mode and adjust values, please refer to "Entering to Service mode" on page 13.

## Item 01 [RF AGC] AGC

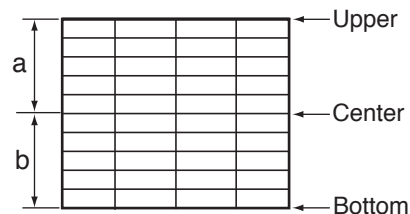
NOTE: Do not attempt this adjustment with weak signal.

- (1) Tune the receiver to most clearest (or strongest) VHF station in your area. Set the brightness and contrast controls to maximum. Set the colour control to minimum.
- (2) Select [RF AGC] in the service mode.
- (3) Change value until the snow noise just disappears.
- (4) Exit from service mode.



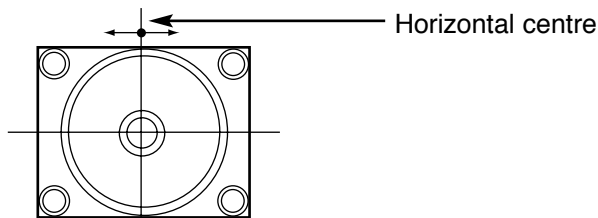
## Item 06 [V-LIN] VERTICAL LINEARITY

- (1) Receive a crosshatch pattern.
- (2) Select a picture mode of NATURAL by pressing the PICTURE MODE button.
- (3) Select [V-LIN] in the service mode.
- (4) Adjust Vertical Linearity so that the difference of "a" and "b" becomes less than 3mm by pressing VOLUME + or - button.
- (5) Exit from service mode.



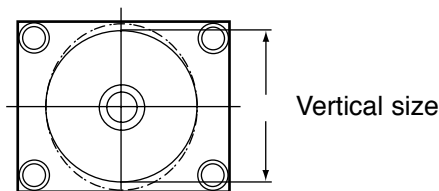
## Item 02 [H-PHA] HORIZONTAL CENTRE

- (1) Receive a monochrome circular pattern.
- (2) Set the brightness and contrast to normal.
- (3) Select [H-PHA] in the service mode.
- (4) Change value to be optimum horizontal centre position.
- (5) Exit from service mode.



## Item 05 [V-SIZ] VERTICAL SIZE

- (1) Receive a monochrome circular pattern.
- (2) Set the brightness and contrast to maximum.
- (3) Select [V-SIZ] in the service mode.
- (4) Change value to be optimum vertical size.
- (5) Exit from service mode.



## Item 07 [V-SCO] V-S CORRECTION

- (1) Receive a crosshatch pattern.
- (2) Select a picture mode of NATURAL by pressing the PICTURE MODE button.
- (3) Select [V-SCO] in the service mode.
- (4) Adjust Vertical S-letter Correction so that the difference of "c", "d" and "e" becomes less than 2 mm by pressing the VOLUME + or - button.
- (5) Confirm Vertical Linearity and adjust Vertical Center then Vertical Size.
- (6) Exit from service mode.

## Item 18 ~ 21 [PCC] PCC Adjustment

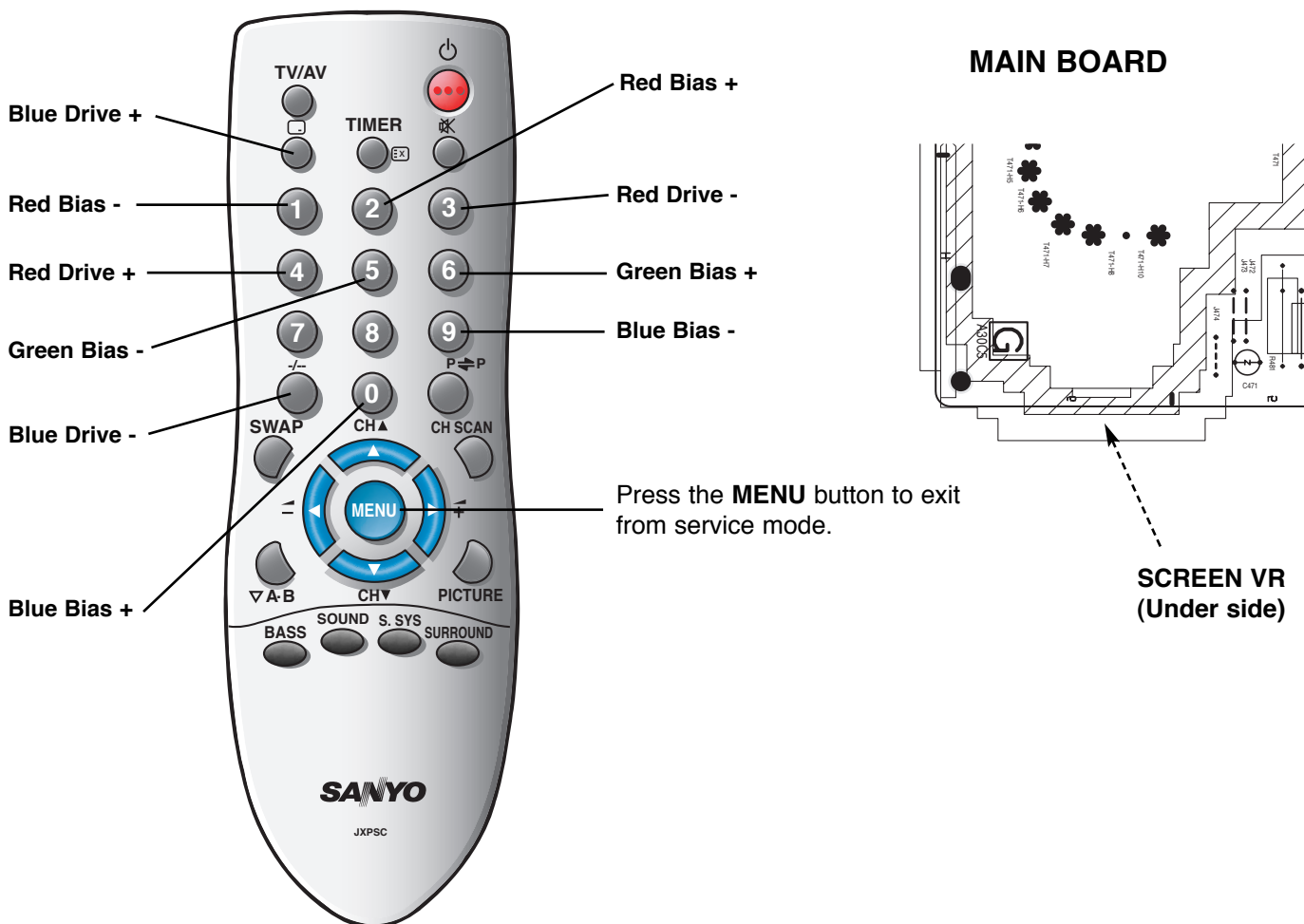
- (1) Receive a crosshatch pattern.
- (2) Select a picture mode of NATURAL by pressing the PICTURE MODE button.
- (3) Select [EWAMP] in the service mode.
- (4) Adjust Vertical Lines to be adequately straight.
- (5) Select [EWTILT] in the service mode.
- (6) Adjust Vertical Lines to be adequately parallel each other.
- (7) Select [EWTOP] in the service mode.
- (8) Adjust Left and Right top corner so that vertical lines more straight.
- (9) Select [EWBTM] in the service mode.
- (10) Adjust Left and Right bottom corner so that vertical lines more straight.

# Service Mode Adjustments

## Items 30-33, 35-37 GREY SCALE

- (1) Receive a monochrome circular pattern.
- (2) Set the brightness and colour to normal, contrast to maximum.
- (3) Enter to the service mode.
- (4) Select No. 30 RBIAS (Red Bias), No. 31 GBIAS (Green Bias), and No. 32 BBIAS (Blue Bias) and set each data to 0 by pressing the VOLUME + or - key.
- (5) Select No. 33 RDRIV (Red Drive) and No. 35 BDRIV (Blue Drive) and set each data to 64 by pressing the VOLUME + or - key.
- (6) Turn Screen Control on the FBT (T471) to minimum (fully counter-clock-wise).
- (7) Select No. 36 (1-line appear).
- (8) Advance Screen Control clockwise to obtain just visible one colour line. If line does not appear, place this control to maximum (fully clockwise).
- (9) Raise each Bias Level with 1, 2, 5, 6, 9 and 0 keys to obtain just visible white line.
- (10) Select No. 37 DRV (Drive Adjustments).
- (11) Adjust Red and Blue Drive Levels alternately with 3, 4, -/-- or RECALL key to produce normal black and white picture in highlight areas.
- (12) Check for proper grayscale at all brightness levels. To turn off the TV Service Menu display, press the MENU key.

**Note:** If the Grayscale adjustment is made after picture tube replacement, check the High Voltage



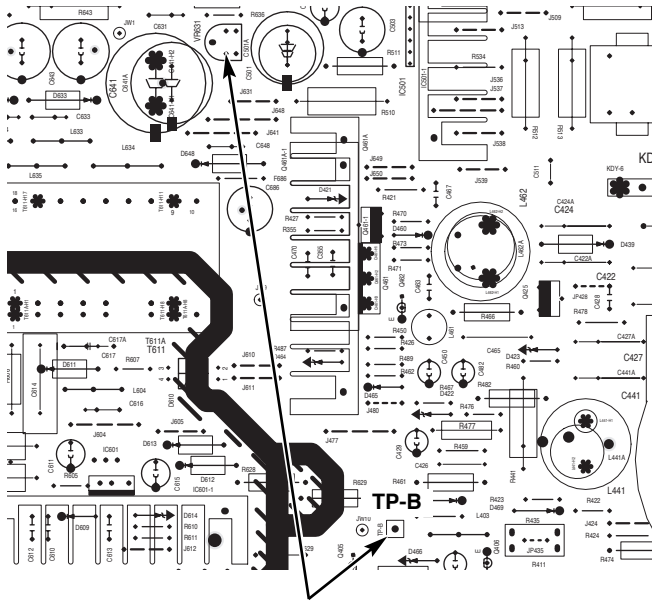
# Service Adjustments

Following adjustments are not required to readjust when replacing the memory IC.

## B-VOLTAGE SUPPLY CHECKING

- (1) Connect DC meter to TP-B and the ground.
- (2) Tune the receiver to an active channel and synchronized picture. Select NATURAL picture mode by pressing the **PICTURE MODE** button on the remote control.
- (3) Adjust B-voltage to be  $145 \pm 0.5V$  DC by using VR631.

### MAIN BOARD



### B-Voltage Supply Adjustment

## HIGH VOLTAGE CHECK

**Note:** +B (+145V) Voltage Check and Grayscale Adjustment must be completed before attempting High Voltage Check.

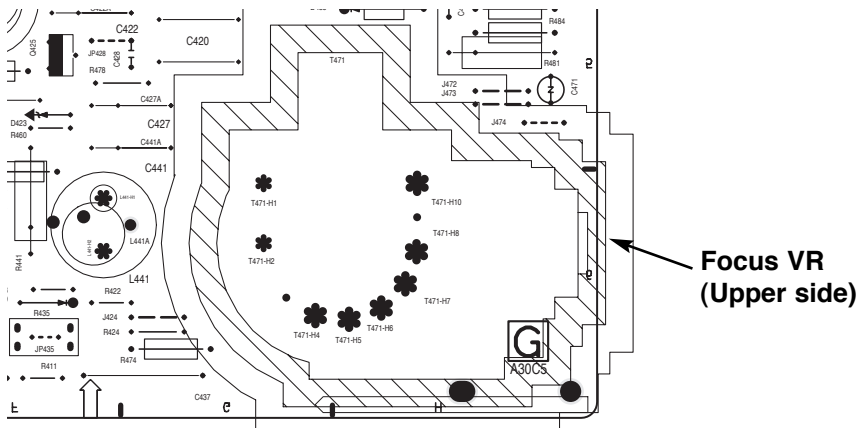
- (1) Connect high voltage voltmeter negative lead to ground, and connect + lead to anode of picture tube.
- (2) Tune receiver to an active channel and confirm TV is operating properly.
- (3) Maximize the beam current by adjusting the contrast and brightness controls to maximum. Confirm high voltage is within 28.0 KV and 30.0 KV at maximum beam current.
- (4) Eliminate the beam current by adjusting the contrast and brightness controls to minimum. Confirm high voltage does not exceed 31.5 KV at zero beam current.

If reading is not within range, check horizontal circuit.  
No high-voltage adjustment is provided on this chassis.

## FOCUS ADJUSTMENT

- (1) Receive the monochrome circular pattern.
- (2) Set the brightness to normal and contrast to maximum.
- (3) Adjust the focus control on the F.B.T. for the best focus on the screen centre.

### MAIN BOARD



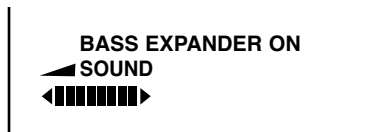


# Special Function

The following special functions can be set up on this TV set.

## (1) Volume Lock setting

With this function, a maximum sound volume limit can be set at any level.



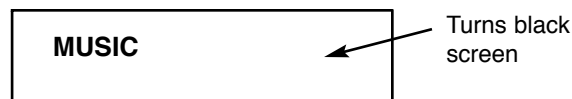
## (2) Tuning Lock setting

Once TUNING LOCK is switched on, further channel tuning (Pre-set) is not possible. The Channel Swapping function also is not possible.



## (3) Music Mode setting

When Music Mode is ON, Programme position from "247" to "255" and "0" are set Music Mode. Only sound is provided and any picture is not on the screen under Music Mode.



## (4) AV Start setting

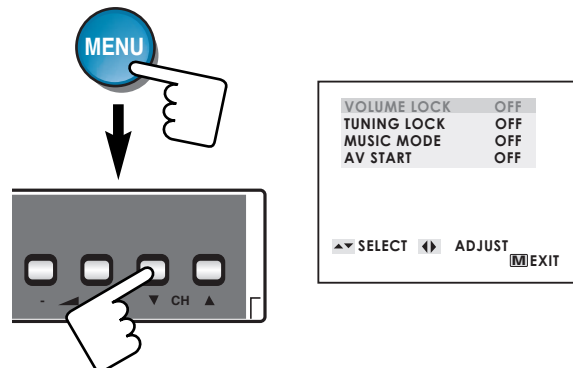
Set AV-START to ON and every time the TV set is switched on, AV1 position will be the initial programme position.



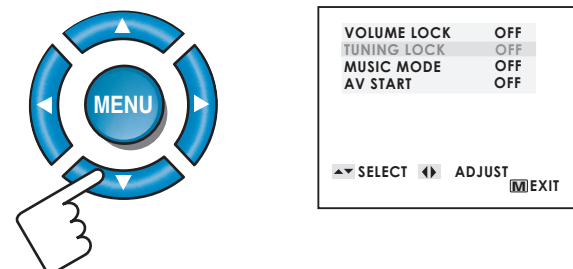
## How to set the special function:

**Note:** When making the VOLUME LOCK setting, set the desired maximum sound volume by pressing the **VOLUME +** or **-** button before entering Special Function setting mode.

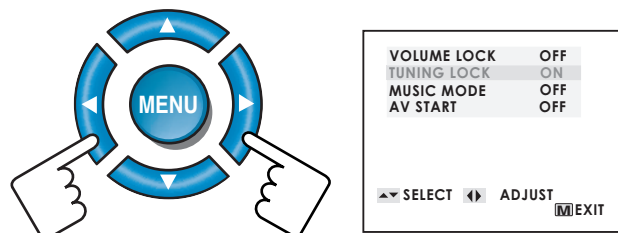
- 1 To enter into the special function setting mode, press and hold the **MENU** button of the remote control, then press the **PROGRAMME DOWN** button on the TV set.



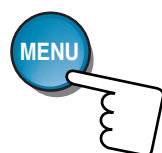
- 2 Select an item of the special functions by pressing the **PROGRAMME UP** or **DOWN** button on the remote control or the TV set.



- 3 Set the selected special function "ON" by pressing the **VOLUME +** or **-** button. To cancel, set to "OFF".



- 4 Press the **MENU** button of the remote control to return to the normal TV mode.



# Purity and Convergence Adjustment

**CAUTION:** The Convergence and Purity adjustments have been made at the factory. Readjustment should be made only after picture tube or deflection yoke replacement, following the steps below:

**Signals:** Use a pattern generator which can output red, green, blue and white raster and crosshatch pattern signals.

**Procedure:** Carry out purity adjustment first, and then carry out convergence adjustment.

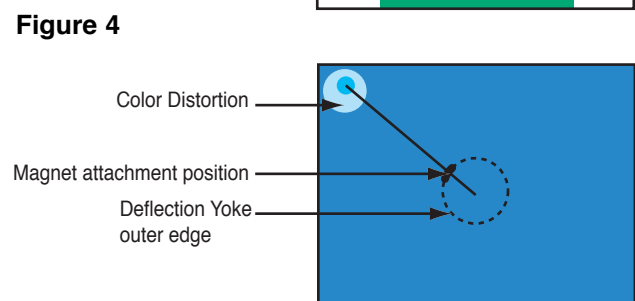
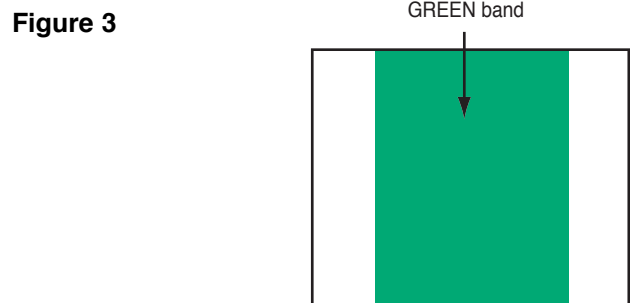
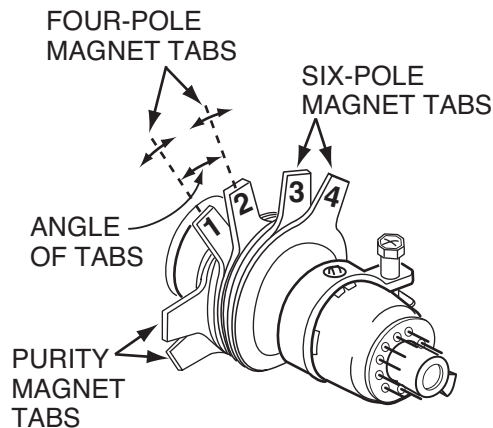
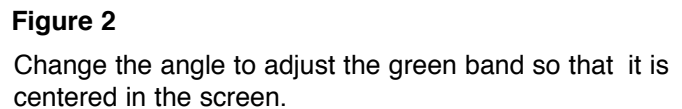
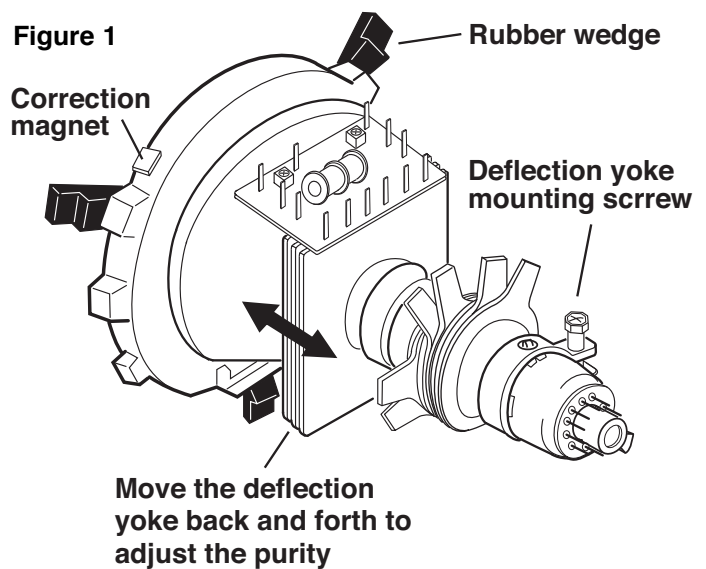
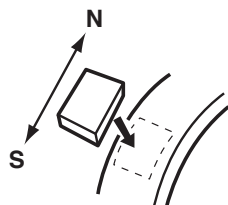
**Preparation:** The deflection yoke may have several correction magnets attached to its outer edge. If replacing the picture tube, the positions of the magnets can be changed and they can be re-used, so remove these magnets and keep them safely so that they do not get lost.

## PURITY ADJUSTMENTS

1. Place the picture so that its front faces west.
2. Insert the power plug into a wall outlet, and then turn on the power for the TV and de-magnetize the TV using its own degaussing circuit.
3. Loosen the screw which is holding the deflection yoke (with integrated purity magnets), and then move the deflection yoke forward as far as it will go. Remove the rubber wedge at this time.
4. Turn off the red and blue raster so that only the green raster is on.
5. Adjust the angle between the tabs (wings) on purity magnets to center the vertical green belt in the picture tube screen. (See Figures 2 and 3.)

**NOTE:** This adjustment can only be carried out by changing the angle, not by rotating the tabs up and down.

6. Gently move the deflection yoke back to the position where the green band fills the whole of the picture tube screen, and then tighten the screw to secure the deflection yoke in place.
7. If there is any color distortion around the edges, correct it by attaching magnets to the outer edge of the deflection yoke. The magnets should be attached so that the line running from the position of the distortion to the center of the picture tube intersects the deflection yoke. The colors on the magnets indicate the north and south poles of the magnets. Attach the magnets in whichever direction causes the distortion to disappear. (See Figures 1 and 4. The south and north pole positions are shown as a guide.)
8. Switch the screen to red and blue rasters and check that there is no color distortion. If there is any distortion, adjust the angles of purity magnets tabs or the forward-back position of the deflection yoke, or change the attachment positions of the correction magnets.



# Purity and Convergence Adjustment

## CONVERGENCE ADJUSTMENT

Preparation: After carrying out purity adjustment and before proceeding to convergence adjustment, provisionally insert the rubber wedge so that there is no vertical or sideways play in the deflection yoke.

Signals: Display a crosshatch pattern.

### 1. Red/blue center adjustment

Adjust the angle between the tabs (1) and (2) in Figure 5 and rotate them together until the lines of the red and blue crosshatch patterns (vertical and horizontal lines) are superimposed in the center of the screen.

### 2. Green and red/blue center adjustment

Adjust the angle between the tabs (3) and (4) in Figure 5 and rotate them together until the lines of the green crosshatch pattern are superimposed with the red/blue crosshatch pattern (vertical and horizontal lines) which were superimposed in step 1).

### 3. Vertical lines at screen center (Red and Blue)

Use the VR2 control (see Figure 8) at the top of the deflection yoke to correct the vertical line convergence at the center of the screen. (See Figure 9.)

### 4. Vertical lines at screen top and bottom

Use the VR1 control (see Figure 8) at the top of the deflection yoke to correct the vertical line convergence at the top and bottom of the screen. (See Figure 10.)

### 5. Horizontal lines at screen top and bottom

Rotate the Deflection yoke to the left or right to correct the horizontal line convergence at the top and bottom of the screen. (See Figure 11.)

If vertical lines are intersecting at the top and bottom, use a screwdriver to adjust the Balance coil at the top of the deflection yoke. (See Figure 12.)

Figure 8

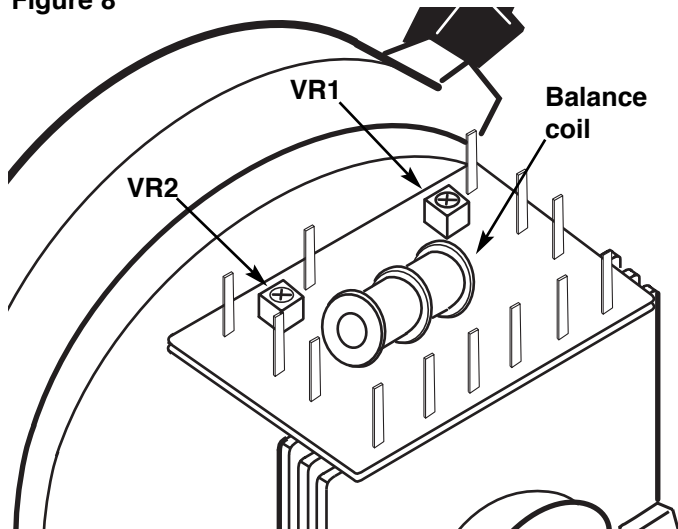


Figure 5

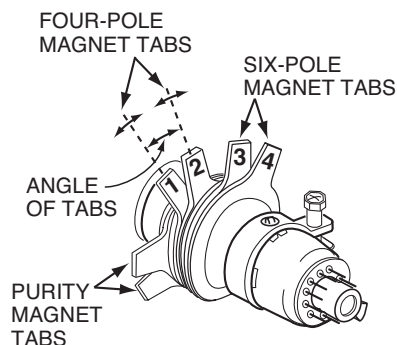
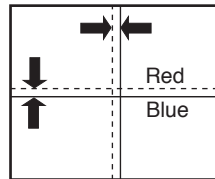
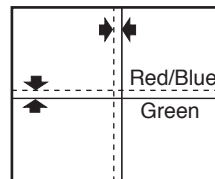


Figure 6



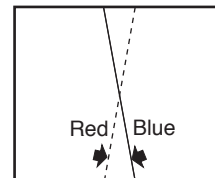
Adjust the angle rotation of tabs (1) and (2) to align the vertical and horizontal lines.

Figure 7



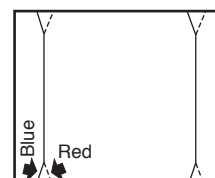
Adjust the angle and rotation of tabs (3) and (4) to align the vertical and horizontal lines.

Figure 9



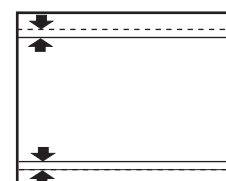
Use the VR2 control to correct.

Figure 10



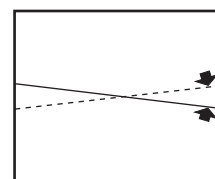
Use the VR1 control to correct.

Figure 11



Rotate the DY to correct.

Figure 12

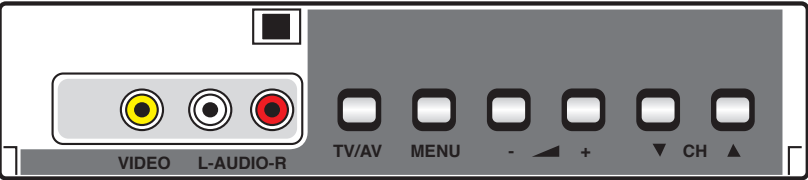
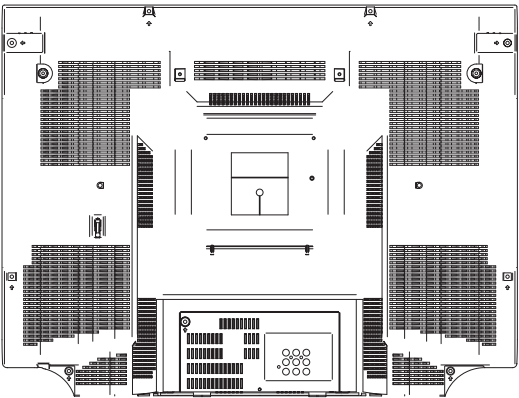
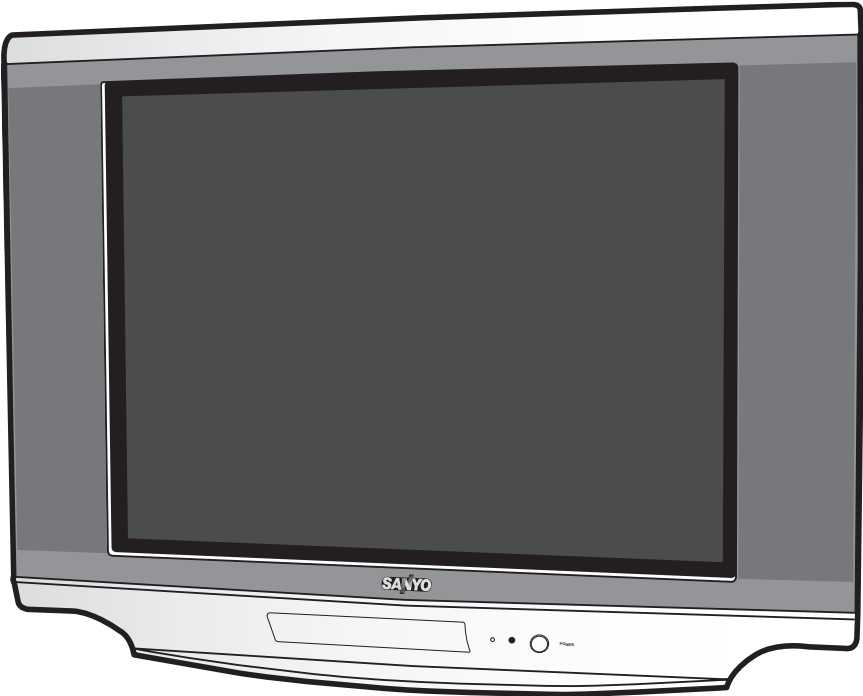


Use the Balance coil to correct

# Cabinet Parts List

BB5V/BB5W

Note: Parts order must contain Service Ref. No., Part No., and descriptions.



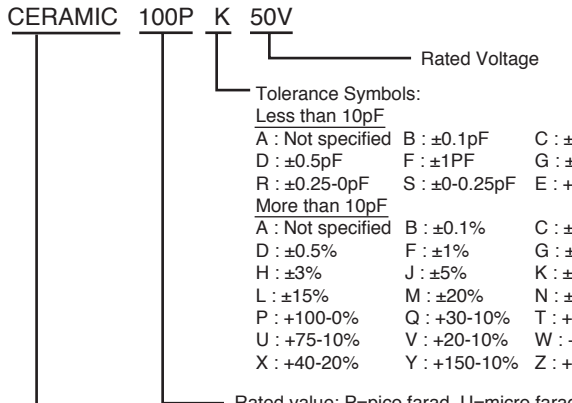
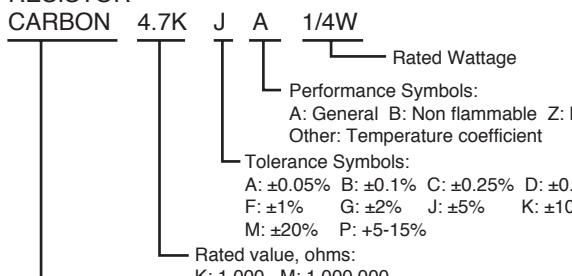
| Key No. | Part No.     | Description                       | Key No. | Part No. | Description |
|---------|--------------|-----------------------------------|---------|----------|-------------|
| 1       | 610 334 6533 | BUTTON POWER-BB4A                 |         |          |             |
|         | 610 229 8406 | SPRING-E3HA<br>(for power button) |         |          |             |
| 2       | 610 334 6601 | DEC IND-BB4A                      |         |          |             |
| 3       | 610 336 4612 | ASSY,CABINET FR-BB5A              |         |          |             |
| 3-a     | 610 334 6540 | CABINET FRONT-BB5A                |         |          |             |
| 3-b     | 610 334 6472 | DOOR-BB4A                         |         |          |             |
| 4       | 610 334 6564 | DEC SHEET FRONT-BB4A              |         |          |             |
| 5       | 610 104 2505 | LATCH PUSH,7.9X6.9BK              |         |          |             |
| or      | 645 019 2449 | LATCH PUSH,7.9X6.9BK              |         |          |             |
| 6       | 645 069 2185 | BADGE,SANYO*43.5X10L43.5          |         |          |             |
| 7       | 610 334 6427 | CABINET BACK-BB5A                 |         |          |             |
| 8       | 645 071 1145 | ASSY,REMOCON JXPSC                |         |          |             |
| or      | 652 002 0634 | REMOCON,JXPSG                     |         |          |             |
| 9       | 610 313 3393 | RC-BATTERY LID-JXPLA              |         |          |             |
|         | 610 336 9211 | INSTRUCTION MANUAL-BA6V-A         |         |          |             |

# Chassis Electrical Parts List

BB5V/BB5W

Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by a  $\Delta$  mark in this parts list and the circuit diagram show components whose value have special significance to product safety. It is particularly recommended that only parts specified on the following parts list be used for components replacement pointed out by the mark.

Note: Parts order must contain Service Ref. No., Part No., and descriptions. The main PCB unit will be supplied without tuner and flyback transformer. They should be ordered separately.

| Ref. No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Part No. | Description | Ref. No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Part No. | Description |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------|
| <b>NOTES:</b><br>Read description in the Capacitor and Resistor as follows:<br><br><b>CAPACITOR</b><br>CERAMIC 100P K 50V<br> <p>Rated Voltage</p> <p>Tolerance Symbols:<br/>           Less than 10pF<br/>           A : Not specified B : <math>\pm 0.1\text{pF}</math> C : <math>\pm 0.25\text{pF}</math><br/>           D : <math>\pm 0.5\text{pF}</math> F : <math>\pm 1\text{pF}</math> G : <math>\pm 2\text{pF}</math><br/>           R : <math>\pm 0.25\text{-}0\text{pF}</math> S : <math>\pm 0\text{-}0.25\text{pF}</math> E : <math>\pm 0\text{-}1\text{pF}</math><br/>           More than 10pF<br/>           A : Not specified B : <math>\pm 0.1\%</math> C : <math>\pm 0.25\%</math><br/>           D : <math>\pm 0.5\%</math> F : <math>\pm 1\%</math> G : <math>\pm 2\%</math><br/>           H : <math>\pm 3\%</math> J : <math>\pm 5\%</math> K : <math>\pm 10\%</math><br/>           L : <math>\pm 15\%</math> M : <math>\pm 20\%</math> N : <math>\pm 30\%</math><br/>           P : <math>\pm 100\text{-}0\%</math> Q : <math>\pm 30\text{-}10\%</math> T : <math>\pm 50\text{-}10\%</math><br/>           U : <math>\pm 75\text{-}10\%</math> V : <math>\pm 20\text{-}10\%</math> W : <math>\pm 100\text{-}10\%</math><br/>           X : <math>\pm 40\text{-}20\%</math> Y : <math>\pm 150\text{-}10\%</math> Z : <math>\pm 80\text{-}20\%</math></p> <p>Rated value: P=pico farad, U=micro farad</p> <p>Material:<br/>           CERAMIC..... Ceramic<br/>           MT-PAPER..... Metallized Paper<br/>           POLYESTER..... Polyester<br/>           MT-POLYEST.....Metallized Polyester<br/>           POLYPRO..... Polypropylene<br/>           MT-POLYPRO.....Metallized Polypropylene<br/>           COMPO FILM..... Composite film<br/>           MT-COMPO.....Metallized Composite<br/>           STYRENE.....Styrene<br/>           TA-SOLID..... Tantalum Solid<br/>           AL-SOLID..... Aluminium Solid<br/>           ELECT..... Electrolytic<br/>           NP-ELECT..... Non-polarised Electrolytic<br/>           OS-SOLID..... Aluminium Solid with Organic Semiconductive Electrolytic<br/>           DL-ELECT..... Double Layered Electrolytic</p><br><b>RESISTOR</b><br>CARBON 4.7K J A 1/4W<br> <p>Rated Wattage</p> <p>Performance Symbols:<br/>           A: General B: Non flammable Z: Low noise<br/>           Other: Temperature coefficient</p> <p>Tolerance Symbols:<br/>           A: <math>\pm 0.05\%</math> B: <math>\pm 0.1\%</math> C: <math>\pm 0.25\%</math> D: <math>\pm 0.5\%</math><br/>           F: <math>\pm 1\%</math> G: <math>\pm 2\%</math> J: <math>\pm 5\%</math> K: <math>\pm 10\%</math><br/>           M: <math>\pm 20\%</math> P: <math>\pm 5\text{-}15\%</math></p> <p>Rated value, ohms:<br/>           K: 1,000, M: 1,000,000</p> <p>Material:<br/>           CARBON..... Carbon<br/>           MT-FILM..... Metal Film<br/>           OXIDE-MT..... Oxide Metal Film<br/>           SOLID..... Composition<br/>           MT-GLAZE..... Metal Glaze<br/>           WIRE WOUND... Wire Wound<br/>           CERAMIC RES.. Ceramic<br/>           FUSIBLE RES.... Fusible</p> |          |             | <b>OUT OF CIRCUIT BOARD</b><br><br><b>PICTURE TUBE</b><br>$\Delta$ Q901 4140147700 CRT A68QFZ893X600<br>Q901B1 6102904154 DY SPACER-F8LZ<br>6102337891 DY SPACER E2HA<br>6101170154 DY SPACER-D4AK<br>Q901B2 6102904154 DY SPACER-F8LZ<br>6102337891 DY SPACER E2HA<br>6101170154 DY SPACER-D4AK<br>Q901B3 6102904154 DY SPACER-F8LZ<br>6102337891 DY SPACER E2HA<br>6101170154 DY SPACER-D4AK<br>Q901B4 6102904154 DY SPACER-F8LZ<br>6102337891 DY SPACER E2HA<br>6101170154 DY SPACER-D4AK<br><br><b>COIL</b><br>$\Delta$ L901 6450854712 ASSY, COIL, DEGAUSSING<br><br><b>MISCELLANEOUS</b><br>SP901 6520018341 SPEAKER, 8<br>SP902 6520018341 SPEAKER, 8<br>$\Delta$ W901 6450930201 CORD, POWER-2.0MK-A5003<br>W903 6103052182 ASSY, WIRE GND CONNECTOR C<br><br><b>6103355740 ASSY,PWB,MAIN BB5V</b><br><b>1AA0B10S249MA</b><br><br><b>TRANSISTOR</b><br>Q002 4051648016 TR KTA1504S-GR-RTK<br>4051345925 TR 2SA1037AK-T146-R<br>4051472215 TR 2SA1037AK-S-T146<br>4050020318 TR 2SA1037K T146 R<br>4050020417 TR 2SA1037K T146 S<br>4050026726 TR 2SA1179-M6-TB<br>4050026924 TR 2SA1179-M7-TB<br>4051631513 TR 2SA1179N-M6-TB<br>4051739615 TR 2SA1235A1E<br>4051739714 TR 2SA1235A1F<br>Q1001 4051648016 TR KTA1504S-GR-RTK<br>4051345925 TR 2SA1037AK-T146-R<br>4051472215 TR 2SA1037AK-S-T146<br>4050020318 TR 2SA1037K T146 R<br>4050020417 TR 2SA1037K T146 S<br>4050026726 TR 2SA1179-M6-TB<br>4050026924 TR 2SA1179-M7-TB<br>4051631513 TR 2SA1179N-M6-TB<br>4051739615 TR 2SA1235A1E<br>4051739714 TR 2SA1235A1F<br>Q1002 4051648016 TR KTA1504S-GR-RTK<br>4051345925 TR 2SA1037AK-T146-R<br>4051472215 TR 2SA1037AK-S-T146<br>4050020318 TR 2SA1037K T146 R<br>4050020417 TR 2SA1037K T146 S |          |             |

| Ref. No. | Part No.   | Description         | Ref. No. | Part No.   | Description        |
|----------|------------|---------------------|----------|------------|--------------------|
| Q1003    | 4050026726 | TR 2SA1179-M6-TB    | Q631     | 4050144618 | TR 2SC2412K T146 S |
|          | 4050026924 | TR 2SA1179-M7-TB    |          | 4050158724 | TR 2SC2812-L6-TB   |
|          | 4051631513 | TR 2SA1179N-M6-TB   |          | 4050158922 | TR 2SC2812-L7-TB   |
|          | 4051739615 | TR 2SA1235A1E       |          | 4051631612 | TR 2SC2812N-L6-TB0 |
|          | 4051739714 | TR 2SA1235A1F       |          | 4051739813 | TR 2SC3928A1R      |
|          | 4051648016 | TR KTA1504S-GR-RTK  |          | 4051739912 | TR 2SC3928A1S      |
|          | 4051345925 | TR 2SA1037AK-T146-R |          | 4051648412 | TR KTC3875S-GR-RTK |
|          | 4051472215 | TR 2SA1037AK-S-T146 |          | 4050144519 | TR 2SC2412K T146 R |
|          | 4050020318 | TR 2SA1037K T146 R  |          | 4050144618 | TR 2SC2412K T146 S |
|          | 4050020417 | TR 2SA1037K T146 S  |          | 4050158724 | TR 2SC2812-L6-TB   |
|          | 4050026726 | TR 2SA1179-M6-TB    |          | 4050158922 | TR 2SC2812-L7-TB   |
|          | 4050026924 | TR 2SA1179-M7-TB    |          | 4051631612 | TR 2SC2812N-L6-TB0 |
| Q111     | 4051631513 | TR 2SA1179N-M6-TB   | Q632     | 4051739813 | TR 2SC3928A1R      |
|          | 4051739615 | TR 2SA1235A1E       |          | 4051739912 | TR 2SC3928A1S      |
|          | 4051739714 | TR 2SA1235A1F       |          | 4051648412 | TR KTC3875S-GR-RTK |
|          | 4052187712 | TR KTC3879S-Y       |          | 4050144519 | TR 2SC2412K T146 R |
| Q122     | 4050159721 | TR 2SC2814-F4-TB    | Q641     | 4050144618 | TR 2SC2412K T146 S |
|          | 4051648412 | TR KTC3875S-GR-RTK  |          | 4050158724 | TR 2SC2812-L6-TB   |
|          | 4050144519 | TR 2SC2412K T146 R  |          | 4050158922 | TR 2SC2812-L7-TB   |
|          | 4050144618 | TR 2SC2412K T146 S  |          | 4051631612 | TR 2SC2812N-L6-TB0 |
| Q424     | 4050158724 | TR 2SC2812-L6-TB    | Q642     | 4051739813 | TR 2SC3928A1R      |
|          | 4050158922 | TR 2SC2812-L7-TB    |          | 4051739912 | TR 2SC3928A1S      |
|          | 4051631612 | TR 2SC2812N-L6-TB0  |          | 4051648412 | TR KTC3875S-GR-RTK |
|          | 4051739813 | TR 2SC3928A1R       |          | 4050144519 | TR 2SC2412K T146 R |
|          | 4051739912 | TR 2SC3928A1S       |          | 4050144618 | TR 2SC2412K T146 S |
|          | 4051648412 | TR KTC3875S-GR-RTK  |          | 4050158724 | TR 2SC2812-L6-TB   |
|          | 4050144519 | TR 2SC2412K T146 R  |          | 4050158922 | TR 2SC2812-L7-TB   |
|          | 4050144618 | TR 2SC2412K T146 S  |          | 4051631612 | TR 2SC2812N-L6-TB0 |
|          | 4050158724 | TR 2SC2812-L6-TB    |          | 4051739813 | TR 2SC3928A1R      |
|          | 4050158922 | TR 2SC2812-L7-TB    |          | 4051739912 | TR 2SC3928A1S      |
|          | 4051631612 | TR 2SC2812N-L6-TB0  |          | 4050893011 | TR 2SC4487-S       |
|          | 4051739813 | TR 2SC3928A1R       |          | 4050893110 | TR 2SC4487-T       |
| Q425     | 4051739912 | TR 2SC3928A1S       | Q643     | 4050222514 | TR 2SD1347-S       |
|          | 4060121408 | TR 2SK2010-CTV-YA14 |          | 4050222613 | TR 2SD1347-T       |
| Q431     | 4050180517 | TR 2SC3332-R        | Q645     | 4051413515 | TR KTA1266-Y-T     |
|          | 4050180616 | TR 2SC3332-S        |          | 4050061816 | TR 2SA933S-R       |
| Q432     | 4051571304 | TR 2SD2634-YB       | Q661     | 4051648412 | TR KTC3875S-GR-RTK |
| Q439     | 4051648412 | TR KTC3875S-GR-RTK  |          | 4050144519 | TR 2SC2412K T146 R |
|          | 4050144519 | TR 2SC2412K T146 R  |          | 4050144618 | TR 2SC2412K T146 S |
| Q461     | 4050144618 | TR 2SC2412K T146 S  |          | 4050158724 | TR 2SC2812-L6-TB   |
|          | 4050158724 | TR 2SC2812-L6-TB    |          | 4050158922 | TR 2SC2812-L7-TB   |
|          | 4050158922 | TR 2SC2812-L7-TB    |          | 4051631612 | TR 2SC2812N-L6-TB0 |
|          | 4051631612 | TR 2SC2812N-L6-TB0  |          | 4051739813 | TR 2SC3928A1R      |
|          | 4051739813 | TR 2SC3928A1R       |          | 4051739912 | TR 2SC3928A1S      |
|          | 4051739912 | TR 2SC3928A1S       |          | 4052144200 | TR KTC2026-Y-U/P   |
|          | 4050296307 | TR 2SB817-E         |          | 4050599903 | TR 2SD1913-R-RA    |
|          | 4051413317 | TR KTC3198-GR-T     |          | 4050600005 | TR 2SD1913-S-RA    |
|          | 4050118411 | TR 2SC1740S-Q       | Q681     | 4051413317 | TR KTC3198-GR-T    |
|          | 4050118510 | TR 2SC1740S-R       |          | 4050118411 | TR 2SC1740S-Q      |
|          | 4050118619 | TR 2SC1740S-S       |          | 4050118510 | TR 2SC1740S-R      |
|          | 4050122012 | TR 2SC1815-GR       |          | 4050118619 | TR 2SC1740S-S      |
| Q491     | 4050122111 | TR 2SC1815-O        | Q683     | 4050122012 | TR 2SC1815-GR      |
|          | 4050207511 | TR 2SC945A-PA       |          | 4050122111 | TR 2SC1815-O       |
|          | 4050207719 | TR 2SC945A-QA       |          | 4050207511 | TR 2SC945A-PA      |
|          | 4050207917 | TR 2SC945A-RA       |          | 4050207719 | TR 2SC945A-QA      |
|          | 4051648016 | TR KTA1504S-GR-RTK  |          | 4050207917 | TR 2SC945A-RA      |
|          | 4051345925 | TR 2SA1037AK-T146-R |          | 4052197711 | TR KTB985-B-AT/P   |
|          | 4051472215 | TR 2SA1037AK-S-T146 |          | 4050890010 | TR 2SA1707-S       |
|          | 4050020318 | TR 2SA1037K T146 R  |          | 4050890119 | TR 2SA1707-T       |
|          | 4050020417 | TR 2SA1037K T146 S  |          | 4050096917 | TR 2SB985-S        |
|          | 4050026726 | TR 2SA1179-M6-TB    |          | 4050097013 | TR 2SB985-T        |
|          | 4050026924 | TR 2SA1179-M7-TB    | Q684     | 4051413317 | TR KTC3198-GR-T    |
|          | 4051631513 | TR 2SA1179N-M6-TB   |          | 4050118411 | TR 2SC1740S-Q      |
| Q503     | 4051739615 | TR 2SA1235A1E       |          | 4050118510 | TR 2SC1740S-R      |
|          | 4051739714 | TR 2SA1235A1F       |          | 4050118619 | TR 2SC1740S-S      |
|          | 4051648412 | TR KTC3875S-GR-RTK  |          | 4050122012 | TR 2SC1815-GR      |
|          | 4050144519 | TR 2SC2412K T146 R  |          | 4050122111 | TR 2SC1815-O       |

| Ref. No.                  | Part No.   | Description             | Ref. No. | Part No.   | Description             |
|---------------------------|------------|-------------------------|----------|------------|-------------------------|
| Q886                      | 4050207511 | TR 2SC945A-PA           | C1001    | 4011057919 | MT-GLAZE 0.000 ZA 1/16W |
|                           | 4050207719 | TR 2SC945A-QA           |          | 4011506011 | MT-GLAZE 0.000 ZA 1/10W |
|                           | 4050207917 | TR 2SC945A-RA           |          | 4011057919 | MT-GLAZE 0.000 ZA 1/16W |
|                           | 4051648412 | TR KTC3875S-GR-RTK      | C1002    | 4040968504 | ELECT 10U M 50V         |
|                           | 4050144519 | TR 2SC2412K T146 R      |          | 4040848905 | ELECT 10U M 50V         |
|                           | 4050144618 | TR 2SC2412K T146 S      |          | 4031957748 | ELECT 10U M 50V         |
|                           | 4050158724 | TR 2SC2812-L6-TB        | C1003    | 4040968504 | ELECT 10U M 50V         |
|                           | 4050158922 | TR 2SC2812-L7-TB        |          | 4040848905 | ELECT 10U M 50V         |
|                           | 4051631612 | TR 2SC2812N-L6-TB0      |          | 4031957748 | ELECT 10U M 50V         |
|                           | 4051739813 | TR 2SC3928A1R           | C1004    | 4040968504 | ELECT 10U M 50V         |
|                           | 4051739912 | TR 2SC3928A1S           |          | 4040848905 | ELECT 10U M 50V         |
| <b>INTEGRATED CIRCUIT</b> |            |                         |          | 4031957748 | ELECT 10U M 50V         |
| IC001                     | 4095732105 | IC LA42072-E            | C1005    | 4040968504 | ELECT 10U M 50V         |
| IC201                     | 4106203501 | IC LA76938NDE56T5-E     |          | 4040848905 | ELECT 10U M 50V         |
| IC202                     | 4092415407 | IC BA178M05T            |          | 4031957748 | ELECT 10U M 50V         |
|                           | 4094636701 | IC KIA7805API           | C1006    | 4040971900 | ELECT 220U M 16V        |
|                           | 4092654806 | IC L78M05CV             |          | 4040848004 | ELECT 220U M 16V        |
| IC3701                    | 4095922734 | IC LV1116NV-TLM-E       |          | 4032006722 | ELECT 220U M 16V        |
|                           | 4093740607 | IC LA7846N              | C1007    | 4040968504 | ELECT 10U M 50V         |
|                           | 4105643100 | IC STR-W6754(LF2003)    |          | 4040848905 | ELECT 10U M 50V         |
| IC651                     | 4092415407 | IC BA178M05T            |          | 4031957748 | ELECT 10U M 50V         |
|                           | 4094636701 | IC KIA7805API           | C1008    | 4040968504 | ELECT 10U M 50V         |
|                           | 4092654806 | IC L78M05CV             |          | 4040848905 | ELECT 10U M 50V         |
| IC801                     | 4096760701 | IC LE24C161-E-C         |          | 4031957748 | ELECT 10U M 50V         |
|                           | 4104958007 | IC AT24C16A-10PU-2.7    | C1009    | 4032070317 | CERAMIC 1U Z 16V        |
|                           | 4106374607 | IC LE24C162-E           |          | 4032789615 | CERAMIC 1U Z 16V        |
|                           | 4094594506 | IC 24LC16B/P            |          | 4040848301 | ELECT 470U M 16V        |
| <b>CAPACITOR</b>          |            |                         | C101     | 4031768621 | ELECT 470U M 16V        |
| C001                      | 4040972303 | ELECT 1K U M 25V        |          | 4033670417 | CERAMIC 0.1U K 50V      |
|                           | 4040848400 | ELECT 1000U M 25V       |          | 4033670417 | CERAMIC 0.1U K 50V      |
|                           | 4031977340 | ELECT 1000U M 25V       | C1012    | 4032070317 | CERAMIC 1U Z 16V        |
| C002                      | 4040968504 | ELECT 10U M 50V         |          | 4032789615 | CERAMIC 1U Z 16V        |
|                           | 4040848905 | ELECT 10U M 50V         | C104     | 4040973508 | ELECT 47U M 50V         |
|                           | 4031957748 | ELECT 10U M 50V         |          | 4040849308 | ELECT 47U M 50V         |
| C003                      | 4031133815 | CERAMIC 1000P K 50V     |          | 4032001727 | ELECT 47U M 50V         |
|                           | 4031737914 | CERAMIC 1000P Z 50V     | C106     | 4040973102 | ELECT 22U M 50V         |
|                           | 4033565119 | CERAMIC 0.047U K 50V    |          | 4040875406 | ELECT 22U M 50V         |
| C004                      | 4032247016 | CERAMIC 0.047U Z 50V    |          | 4032001529 | ELECT 22U M 50V         |
|                           | 4031303119 | CERAMIC 0.047U K 50V    | C107     | 4031133815 | CERAMIC 1000P K 50V     |
|                           | 4033565119 | CERAMIC 0.047U K 50V    |          | 4032152211 | CERAMIC 0.01U K 50V     |
| C005                      | 4032247016 | CERAMIC 0.047U Z 50V    |          | 4032152211 | CERAMIC 0.01U K 50V     |
|                           | 4031133815 | CERAMIC 1000P K 50V     | C114     | 4032152211 | CERAMIC 0.01U K 50V     |
|                           | 4031737914 | CERAMIC 1000P Z 50V     |          | 4032844314 | CERAMIC 0.022U K 50V    |
| C006                      | 4030700919 | CERAMIC 0.1U K 50V      |          | 4032246613 | CERAMIC 0.022U Z 50V    |
|                           | 4033670417 | CERAMIC 0.1U K 50V      | C121     | 4032152211 | CERAMIC 0.01U K 50V     |
|                           | 4033053517 | CERAMIC 0.1U Z 50V      |          | 4040971702 | ELECT 100U M 16V        |
| C007                      | 4030700919 | CERAMIC 0.1U K 50V      |          | 4040847809 | ELECT 100U M 16V        |
|                           | 4033670417 | CERAMIC 0.1U K 50V      | C122     | 4031957837 | ELECT 100U M 16V        |
|                           | 4033053517 | CERAMIC 0.1U Z 50V      |          | 4011506011 | MT-GLAZE 0.000 ZA 1/10W |
| C008                      | 4030700919 | CERAMIC 0.1U K 50V      |          | 4011057919 | MT-GLAZE 0.000 ZA 1/16W |
|                           | 4033670417 | CERAMIC 0.1U K 50V      | C123     | 4033363517 | CERAMIC 0.47U K 16V     |
|                           | 4033053517 | CERAMIC 0.1U Z 50V      |          | 4032844314 | CERAMIC 0.022U K 50V    |
| C009                      | 4030700919 | CERAMIC 0.1U K 50V      |          | 4031552111 | CERAMIC 1500P K 50V     |
|                           | 4033670417 | CERAMIC 0.1U K 50V      | C132     | 4032152211 | CERAMIC 0.01U K 50V     |
|                           | 4033053517 | CERAMIC 0.1U Z 50V      |          | 4031571914 | CERAMIC 10P D 50V       |
| C010                      | 4030700919 | CERAMIC 0.1U K 50V      |          | 4011506011 | MT-GLAZE 0.000 ZA 1/10W |
|                           | 4033670417 | CERAMIC 0.1U K 50V      |          | 4011057919 | MT-GLAZE 0.000 ZA 1/16W |
|                           | 4033053517 | CERAMIC 0.1U Z 50V      | C138     | 4040973102 | ELECT 22U M 50V         |
| C011                      | 4040967903 | ELECT 10U M 16V         |          | 4040875406 | ELECT 22U M 50V         |
|                           | 4040847700 | ELECT 10U M 16V         |          | 4032001529 | ELECT 22U M 50V         |
|                           | 4032007927 | ELECT 10U M 16V         | C201     | 4032152211 | CERAMIC 0.01U K 50V     |
| C012                      | 4040973102 | ELECT 22U M 50V         |          | 4031793217 | POLYESTER 0.015U J 50V  |
|                           | 4040875406 | ELECT 22U M 50V         |          | 4032152211 | CERAMIC 0.01U K 50V     |
|                           | 4032001529 | ELECT 22U M 50V         | C203     | 4040968306 | ELECT 100U M 25V        |
| C013                      | 4041072002 | ELECT 470U M 16V        |          | 4040897200 | ELECT 100U M 25V        |
|                           | 4040848301 | ELECT 470U M 16V        |          | 4031957936 | ELECT 100U M 25V        |
|                           | 4031768621 | ELECT 470U M 16V        |          |            |                         |
| C014                      | 4011506011 | MT-GLAZE 0.000 ZA 1/10W |          |            |                         |

| Ref. No. | Part No.   | Description          | Ref. No. | Part No.   | Description             |
|----------|------------|----------------------|----------|------------|-------------------------|
| C210A    | 6450332272 | CORE, PIPE           |          | 4040849209 | ELECT 4.7U M 50V        |
| C210TM   | 4040971900 | ELECT 220U M 16V     |          | 4032001420 | ELECT 4.7U M 50V        |
|          | 4040848004 | ELECT 220U M 16V     | C3716    | 4040973300 | ELECT 4.7U M 50V        |
|          | 4032006722 | ELECT 220U M 16V     |          | 4040849209 | ELECT 4.7U M 50V        |
| C212     | 4031554214 | CERAMIC 15P J 50V    |          | 4032001420 | ELECT 4.7U M 50V        |
| C215TM   | 4040968405 | ELECT 1U M 50V       | C3717    | 4031577312 | CERAMIC 6800P K 50V     |
|          | 4040848806 | ELECT 1U M 50V       | C3718    | 4033423310 | CERAMIC 0.1U K 25V      |
|          | 4032001123 | ELECT 1U M 50V       | C3719    | 4030718112 | CERAMIC 2200P K 50V     |
| C224     | 4032052818 | CERAMIC 0.047U K 25V |          | 4031134119 | CERAMIC 2200P K 50V     |
| C225     | 4033145915 | CERAMIC 0.47U K 16V  |          | 4031737518 | CERAMIC 2200P Z 50V     |
|          | 4033363517 | CERAMIC 0.47U K 16V  | C3720    | 4030700919 | CERAMIC 0.1U K 50V      |
| C226     | 4040972709 | ELECT 0.47U M 50V    |          | 4033670417 | CERAMIC 0.1U K 50V      |
|          | 4040848707 | ELECT 0.47U M 50V    | C3721    | 4030700919 | CERAMIC 0.1U K 50V      |
|          | 4032002625 | ELECT 0.47U M 50V    |          | 4033670417 | CERAMIC 0.1U K 50V      |
| C227     | 4032152211 | CERAMIC 0.01U K 50V  | C3722    | 4032070317 | CERAMIC 1U Z 16V        |
| C231     | 4032560848 | MT-COMPO 0.47U J 50V |          | 4032789615 | CERAMIC 1U Z 16V        |
| C232     | 4033670417 | CERAMIC 0.1U K 50V   | C3723    | 4032989619 | CERAMIC 0.1U K 16V      |
| C233     | 4040968504 | ELECT 10U M 50V      | C3724    | 4032070317 | CERAMIC 1U Z 16V        |
|          | 4040848905 | ELECT 10U M 50V      |          | 4032789615 | CERAMIC 1U Z 16V        |
|          | 4031957748 | ELECT 10U M 50V      | C3726    | 4032989619 | CERAMIC 0.1U K 16V      |
| C234     | 4032152211 | CERAMIC 0.01U K 50V  | C3728    | 4030700919 | CERAMIC 0.1U K 50V      |
| C236     | 4032070317 | CERAMIC 1U Z 16V     |          | 4033670417 | CERAMIC 0.1U K 50V      |
|          | 4032789615 | CERAMIC 1U Z 16V     | C420     | 4040775102 | MT-POLYPRO 8900P H 1.5K |
| C243     | 4032152211 | CERAMIC 0.01U K 50V  | C422     | 4040869405 | POLYPRO 0.018U J 400V   |
| C244TM   | 4040968009 | ELECT 1000U M 16V    |          | 4030833914 | POLYPRO 0.018U J 400V   |
|          | 4040847908 | ELECT 1000U M 16V    | C423     | 4040775102 | MT-POLYPRO 8900P H 1.5K |
|          | 4032006930 | ELECT 1000U M 16V    | C424     | 4030833419 | POLYPRO 0.015U J 400V   |
| C245     | 4032070317 | CERAMIC 1U Z 16V     | C426     | 4031801625 | MT-POLYEST 0.1U K 400V  |
|          | 4032789615 | CERAMIC 1U Z 16V     |          | 4034631615 | MT-POLYEST 0.1U K 400V  |
| C247     | 4040972907 | ELECT 2.2U M 50V     | C427     | 4033466822 | MT-POLYPRO 0.2U J 250V  |
|          | 4040849001 | ELECT 2.2U M 50V     |          | 4033710618 | MT-POLYPRO 0.2U J 250V  |
|          | 4032001222 | ELECT 2.2U M 50V     |          | 4033726510 | MT-POLYPRO 0.2U J 250V  |
| C273     | 4033423310 | CERAMIC 0.1U K 25V   | C428     | 4031149519 | CERAMIC 1000P K 500V    |
| C291     | 4040968207 | ELECT 47U M 16V      | C429     | 4040968504 | ELECT 10U M 50V         |
|          | 4040848202 | ELECT 47U M 16V      |          | 4040848905 | ELECT 10U M 50V         |
|          | 4032006623 | ELECT 47U M 16V      |          | 4031957748 | ELECT 10U M 50V         |
| C355     | 4031032257 | CERAMIC 100P K 50V   | C432     | 4031149519 | CERAMIC 1000P K 500V    |
| C358     | 4032070317 | CERAMIC 1U Z 16V     | C433     | 4041059904 | CERAMIC 3900P K 500V    |
|          | 4032789615 | CERAMIC 1U Z 16V     |          | 4032753329 | CERAMIC 3900P K 500V    |
| C3701    | 4032070317 | CERAMIC 1U Z 16V     | C434     | 4041087303 | ELECT 330U M 35V        |
|          | 4032789615 | CERAMIC 1U Z 16V     |          | 4041075508 | ELECT 330U M 35V        |
| C3702    | 4040973300 | ELECT 4.7U M 50V     |          | 4032003632 | ELECT 330U M 35V        |
|          | 4040849209 | ELECT 4.7U M 50V     | C437     | 4031879703 | MT-POLYEST 2.2U J 250V  |
|          | 4032001420 | ELECT 4.7U M 50V     |          | 4031589206 | MT-POLYEST 2.2U K 250V  |
| C3703    | 4031552418 | CERAMIC 5600P K 50V  | C439     | 4033145915 | CERAMIC 0.47U K 16V     |
| C3704    | 4032152211 | CERAMIC 0.01U K 50V  | C441     | 4033726312 | MT-POLYPRO 0.15U J 250V |
| C3705    | 4031134119 | CERAMIC 2200P K 50V  | C463     | 4030617534 | POLYESTER 4700P J 50V   |
|          | 4031737518 | CERAMIC 2200P Z 50V  |          | 4031791213 | POLYESTER 4700P J 50V   |
| C3706    | 4033670417 | CERAMIC 0.1U K 50V   | C465     | 4031589127 | MT-POLYEST 2.2U K 100V  |
| C3707    | 4030700919 | CERAMIC 0.1U K 50V   |          | 4034398528 | MT-POLYEST 2.2U K 100V  |
|          | 4033670417 | CERAMIC 0.1U K 50V   | C468     | 4040973102 | ELECT 22U M 50V         |
| C3708    | 4032070317 | CERAMIC 1U Z 16V     |          | 4040875406 | ELECT 22U M 50V         |
|          | 4032789615 | CERAMIC 1U Z 16V     |          | 4032001529 | ELECT 22U M 50V         |
| C3710    | 4032070317 | CERAMIC 1U Z 16V     | C469     | 4040968504 | ELECT 10U M 50V         |
|          | 4032789615 | CERAMIC 1U Z 16V     |          | 4040848905 | ELECT 10U M 50V         |
| C3711    | 4040973300 | ELECT 4.7U M 50V     |          | 4031957748 | ELECT 10U M 50V         |
|          | 4040849209 | ELECT 4.7U M 50V     | C470     | 4031789319 | POLYESTER 0.01U J 50V   |
|          | 4032001420 | ELECT 4.7U M 50V     |          | 4031793811 | POLYESTER 0.01U K 50V   |
| C3712    | 4041086207 | ELECT 2200U M 16V    | C471     | 4040565208 | NP-ELECT 2.2U M 100V    |
|          | 4040936909 | ELECT 2200U M 16V    |          | 4040847007 | NP-ELECT 2.2U M 100V    |
|          | 4031937443 | ELECT 2200U M 16V    | C482     | 4041106905 | ELECT 0.47U M 160V      |
| C3713    | 4040973300 | ELECT 4.7U M 50V     | C486     | 4040981602 | ELECT 33U M 250V        |
|          | 4040849209 | ELECT 4.7U M 50V     | C491     | 4034164915 | CERAMIC 680P K 500V     |
|          | 4032001420 | ELECT 4.7U M 50V     | C501A    | 4033683100 | ELECT 3300U M 25V       |
| C3714    | 4032070317 | CERAMIC 1U Z 16V     | C502A    | 4033683100 | ELECT 3300U M 25V       |
|          | 4032789615 | CERAMIC 1U Z 16V     | C503     | 4040968603 | ELECT 220U M 35V        |
| C3715    | 4040973300 | ELECT 4.7U M 50V     |          | 4040849407 | ELECT 220U M 35V        |



| Ref. No. | Part No.   | Description              | Ref. No.        | Part No.   | Description           |
|----------|------------|--------------------------|-----------------|------------|-----------------------|
| C504     | 4032003533 | ELECT 220U M 35V         | C634            | 4040861508 | CERAMIC 470P K 1K     |
|          | 4030725615 | CERAMIC 2700P K 50V      |                 | 4032475003 | CERAMIC 470P K 1K     |
|          | 4031577114 | CERAMIC 2700P K 50V      |                 | 4034084510 | CERAMIC 470P K 1K     |
| C505     | 4034223711 | CERAMIC 82P J 500V       | C635            | 4032753012 | CERAMIC 0.047U K 16V  |
|          | 4034223315 | CERAMIC 82P J 500V       | C636            | 4040968504 | ELECT 10U M 50V       |
| C506     | 4034612208 | MT-COMPO 0.47U J 100V    |                 | 4040848905 | ELECT 10U M 50V       |
| C507     | 4034616117 | POLYESTER 0.0027U J 100V |                 | 4031957748 | ELECT 10U M 50V       |
|          | 4033073317 | POLYESTER 2700P K 100V   | C637            | 4033670417 | CERAMIC 0.1U K 50V    |
| C510     | 4040973102 | ELECT 22U M 50V          | C639            | 4032321102 | CERAMIC 1000P K 2K    |
|          | 4040875406 | ELECT 22U M 50V          | C640            | 4040968801 | ELECT 470U M 35V      |
|          | 4032001529 | ELECT 22U M 50V          |                 | 4040849506 | ELECT 470U M 35V      |
| C512     | 4032560907 | MT-COMPO 0.82U J 50V     |                 | 4032002130 | ELECT 470U M 35V      |
| C529     | 4041082704 | NP-ELECT 10U M 16V       | C641            | 4040739005 | ELECT 220U M 160V     |
|          | 4040902102 | ELECT 10U M 16V          |                 | 4040973706 | ELECT 220U M 160V     |
| C535     | 4030095718 | CERAMIC 100P J 50V       | C643            | 4040968801 | ELECT 470U M 35V      |
|          | 4031573611 | CERAMIC 100P J 50V       |                 | 4040849506 | ELECT 470U M 35V      |
|          | 4040881704 | MT-POLYEST 0.22U K 250V  |                 | 4032002130 | ELECT 470U M 35V      |
| △C601    | 4040888802 | MT-POLYEST 0.22U M 275V  | C644            | 4040972303 | ELECT 1K U M 25V      |
|          | 4040941804 | MT-POLYEST 0.22U K 275V  |                 | 4040848400 | ELECT 1000U M 25V     |
|          | 4040796503 | MT-POLYEST 0.068U M 250V |                 | 4031977340 | ELECT 1000U M 25V     |
| △C602    | 4040920700 | MT-POLYEST 0.068U M 275V | C645            | 4041087006 | ELECT 2200U M 25V     |
|          | 4041144501 | MT-POLYEST 0.068U K 275V |                 | 4040886600 | ELECT 2200U M 25V     |
|          | 4040846307 | CERAMIC 1000P K 1K       |                 | 4031943840 | ELECT 2200U M 25V     |
| C603     | 4030766707 | CERAMIC 1000P K 1K       | C649            | 4040973508 | ELECT 47U M 50V       |
|          | 4033128225 | CERAMIC 1000P K 1K       |                 | 4040849308 | ELECT 47U M 50V       |
|          | 4040846307 | CERAMIC 1000P K 1K       |                 | 4032001727 | ELECT 47U M 50V       |
| C604     | 4030766707 | CERAMIC 1000P K 1K       | C650            | 4032006524 | ELECT 33U M 16V       |
|          | 4033128225 | CERAMIC 1000P K 1K       |                 | 4041071906 | ELECT 470U M 10V      |
|          | 4033991017 | CERAMIC 1000P K 1K       |                 | 4040847601 | ELECT 470U M 10V      |
| C609     | 4040787600 | ELECT 270U M 400V        |                 | 4032008221 | ELECT 470U M 10V      |
|          | 4040961901 | ELECT 270U M 400V        | C661            | 4040968504 | ELECT 10U M 50V       |
|          | 4041061105 | ELECT 270U M 400V        |                 | 4040848905 | ELECT 10U M 50V       |
| C610     | 4041138104 | ELECT 270U M 400V        |                 | 4031957748 | ELECT 10U M 50V       |
|          | 4032769112 | POLYESTER 470P J 50V     | C662            | 4040971900 | ELECT 220U M 16V      |
|          | 4040968405 | ELECT 1U M 50V           |                 | 4040848004 | ELECT 220U M 16V      |
| C611     | 4040848806 | ELECT 1U M 50V           |                 | 4032006722 | ELECT 220U M 16V      |
|          | 4032001123 | ELECT 1U M 50V           | C663            | 4040972303 | ELECT 1K U M 25V      |
|          | 4030569734 | POLYESTER 0.01U J 50V    |                 | 4040848400 | ELECT 1000U M 25V     |
| C612     | 4031789319 | POLYESTER 0.01U J 50V    |                 | 4031977340 | ELECT 1000U M 25V     |
|          | 4031792715 | POLYESTER 2200P J 50V    | C686            | 4040972303 | ELECT 1K U M 25V      |
|          | 4030840318 | POLYPRO 0.022U J 630V    |                 | 4040848400 | ELECT 1000U M 25V     |
| C614     | 4041087907 | ELECT 22U M 35V          |                 | 4031977340 | ELECT 1000U M 25V     |
|          | 4040875802 | ELECT 22U M 35V          | C691            | 4040968405 | ELECT 1U M 50V        |
|          | 4032003226 | ELECT 22U M 35V          |                 | 4040848806 | ELECT 1U M 50V        |
| C616     | 4032468708 | CERAMIC 1000P K 2K       |                 | 4032001123 | ELECT 1U M 50V        |
|          | 4040862109 | CERAMIC 470P K 2K        | C801            | 4031397316 | CERAMIC 18P J 50V     |
|          | 4032454404 | CERAMIC 470P K 2K        | C802            | 4031397316 | CERAMIC 18P J 50V     |
| △C626    | 4040733904 | CERAMIC 1000P K 250V     | C803            | 4032152211 | CERAMIC 0.01U K 50V   |
|          | 4040732105 | CERAMIC 1000P M 250V     | C805            | 4040971702 | ELECT 100U M 16V      |
|          | 4040713302 | CERAMIC 1000P M 400V     |                 | 4040847809 | ELECT 100U M 16V      |
| △C627    | 4040978503 | CERAMIC 1000P K 400V     |                 | 4031957837 | ELECT 100U M 16V      |
|          | 4040735106 | CERAMIC 470P K 250V      | C842            | 4033423310 | CERAMIC 0.1U K 25V    |
|          | 4040714507 | CERAMIC 470P K 400V      | C863            | 4032070317 | CERAMIC 1U Z 16V      |
| △C628    | 4040978909 | CERAMIC 470P K 400V      |                 | 4032789615 | CERAMIC 1U Z 16V      |
|          | 4040735106 | CERAMIC 470P K 250V      |                 | 4040972907 | ELECT 2.2U M 50V      |
|          | 4040714507 | CERAMIC 470P K 400V      | C893            | 4040849001 | ELECT 2.2U M 50V      |
| △C629    | 4040978909 | CERAMIC 470P K 400V      |                 | 4032001222 | ELECT 2.2U M 50V      |
|          | 4040733904 | CERAMIC 1000P K 250V     |                 | 4032815017 | CERAMIC 0.033U K 25V  |
|          | 4040732105 | CERAMIC 1000P M 250V     | <b>RESISTOR</b> |            |                       |
| C632     | 4040713302 | CERAMIC 1000P M 400V     |                 |            |                       |
|          | 4040978503 | CERAMIC 1000P K 400V     |                 |            |                       |
|          | 4040861508 | CERAMIC 470P K 1K        | R001            | 4010273033 | CARBON 56K JA 1/6W    |
| C633     | 4032475003 | CERAMIC 470P K 1K        | R002            | 4010273033 | CARBON 56K JA 1/6W    |
|          | 4034084510 | CERAMIC 470P K 1K        | R003            | 4012566014 | MT-GLAZE 27K JA 1/10W |
|          | 4040861508 | CERAMIC 470P K 1K        |                 | 4011053416 | MT-GLAZE 27K JA 1/16W |
|          | 4032475003 | CERAMIC 470P K 1K        | R004            | 4012566014 | MT-GLAZE 27K JA 1/10W |
|          | 4034084510 | CERAMIC 470P K 1K        |                 | 4011053416 | MT-GLAZE 27K JA 1/16W |
|          |            |                          | R005            | 4010247440 | CARBON 10K JA 1/6W    |

| Ref. No. | Part No.   | Description             | Ref. No. | Part No.   | Description             |
|----------|------------|-------------------------|----------|------------|-------------------------|
| R007     | 4010257835 | CARBON 2.2K JA 1/6W     |          | 4011050415 | MT-GLAZE 100 JA 1/16W   |
| R009     | 4011506219 | MT-GLAZE 1K JA 1/10W    | R108     | 4012567219 | MT-GLAZE 18K JA 1/10W   |
|          | 4011050514 | MT-GLAZE 1K JA 1/16W    |          | 4011052112 | MT-GLAZE 18K JA 1/16W   |
| R010     | 4010255435 | CARBON 2.2 JA 1/6W      | R109     | 4012566618 | MT-GLAZE 68K JA 1/10W   |
| R011     | 4010255435 | CARBON 2.2 JA 1/6W      |          | 4011058213 | MT-GLAZE 68K JA 1/16W   |
| R012     | 4010255435 | CARBON 2.2 JA 1/6W      | R111     | 4011506219 | MT-GLAZE 1K JA 1/10W    |
| R013     | 4010255435 | CARBON 2.2 JA 1/6W      |          | 4011050514 | MT-GLAZE 1K JA 1/16W    |
| R014     | 4011624012 | MT-GLAZE 560 JA 1/10W   | R112     | 4011624111 | MT-GLAZE 5.6K JA 1/10W  |
|          | 4011055915 | MT-GLAZE 560 JA 1/16W   |          | 4011056011 | MT-GLAZE 5.6K JA 1/16W  |
| R015     | 4012556510 | MT-GLAZE 100 JA 1/10W   | R114     | 4011523216 | MT-GLAZE 330 JA 1/10W   |
|          | 4011050415 | MT-GLAZE 100 JA 1/16W   |          | 4011054017 | MT-GLAZE 330 JA 1/16W   |
| R1002    | 4011506219 | MT-GLAZE 1K JA 1/10W    | R115     | 4010272135 | CARBON 56 JA 1/6W       |
|          | 4011050514 | MT-GLAZE 1K JA 1/16W    | R116     | 4012564119 | MT-GLAZE 56 JA 1/10W    |
| R1003    | 4012567219 | MT-GLAZE 18K JA 1/10W   |          | 4011055816 | MT-GLAZE 56 JA 1/16W    |
|          | 4011052112 | MT-GLAZE 18K JA 1/16W   | R121     | 4012567318 | MT-GLAZE 6.8K JA 1/10W  |
| R1004    | 4011506219 | MT-GLAZE 1K JA 1/10W    |          | 4011056615 | MT-GLAZE 6.8K JA 1/16W  |
|          | 4011050514 | MT-GLAZE 1K JA 1/16W    | R122     | 4011506110 | MT-GLAZE 2.2K JA 1/10W  |
| R1005    | 4012567219 | MT-GLAZE 18K JA 1/10W   |          | 4011052815 | MT-GLAZE 2.2K JA 1/16W  |
|          | 4011052112 | MT-GLAZE 18K JA 1/16W   | R124     | 4011505915 | MT-GLAZE 10K JA 1/10W   |
| R1006    | 4011506110 | MT-GLAZE 2.2K JA 1/10W  |          | 4011050613 | MT-GLAZE 10K JA 1/16W   |
|          | 4011052815 | MT-GLAZE 2.2K JA 1/16W  | R125     | 4010261337 | CARBON 27K JA 1/6W      |
| R1007    | 4011505816 | MT-GLAZE 100K JA 1/10W  | R126     | 4011506219 | MT-GLAZE 1K JA 1/10W    |
|          | 4011050712 | MT-GLAZE 100K JA 1/16W  |          | 4011050514 | MT-GLAZE 1K JA 1/16W    |
| R1008    | 4011506110 | MT-GLAZE 2.2K JA 1/10W  | R130     | 4011506011 | MT-GLAZE 0.000 ZA 1/10W |
|          | 4011052815 | MT-GLAZE 2.2K JA 1/16W  |          | 4011057919 | MT-GLAZE 0.000 ZA 1/16W |
| R1009    | 4011505816 | MT-GLAZE 100K JA 1/10W  | R132     | 4011623619 | MT-GLAZE 470 JA 1/10W   |
|          | 4011050712 | MT-GLAZE 100K JA 1/16W  |          | 4011055212 | MT-GLAZE 470 JA 1/16W   |
| R101     | 4011506011 | MT-GLAZE 0.000 ZA 1/10W | R140     | 4011624012 | MT-GLAZE 560 JA 1/10W   |
|          | 4011057919 | MT-GLAZE 0.000 ZA 1/16W |          | 4011055915 | MT-GLAZE 560 JA 1/16W   |
| R1010    | 4012562719 | MT-GLAZE 75 JA 1/10W    | R141     | 4011624012 | MT-GLAZE 560 JA 1/10W   |
|          | 4011134412 | MT-GLAZE 75 JA 1/16W    |          | 4011055915 | MT-GLAZE 560 JA 1/16W   |
| R1011    | 4011505816 | MT-GLAZE 100K JA 1/10W  | R176     | 4011505915 | MT-GLAZE 10K JA 1/10W   |
|          | 4011050712 | MT-GLAZE 100K JA 1/16W  |          | 4011050613 | MT-GLAZE 10K JA 1/16W   |
| R1012    | 4011506219 | MT-GLAZE 1K JA 1/10W    | R1902    | 4012560418 | MT-GLAZE 12K JA 1/10W   |
|          | 4011050514 | MT-GLAZE 1K JA 1/16W    |          | 4011051115 | MT-GLAZE 12K JA 1/16W   |
| R1013    | 4012567219 | MT-GLAZE 18K JA 1/10W   | R1903    | 4011624111 | MT-GLAZE 5.6K JA 1/10W  |
|          | 4011052112 | MT-GLAZE 18K JA 1/16W   |          | 4011056011 | MT-GLAZE 5.6K JA 1/16W  |
| R1014    | 4011506219 | MT-GLAZE 1K JA 1/10W    | R1904    | 4012567615 | MT-GLAZE 3.9K JA 1/10W  |
|          | 4011050514 | MT-GLAZE 1K JA 1/16W    |          | 4011054611 | MT-GLAZE 3.9K JA 1/16W  |
| R1015    | 4012567219 | MT-GLAZE 18K JA 1/10W   | R1905    | 4011506110 | MT-GLAZE 2.2K JA 1/10W  |
|          | 4011052112 | MT-GLAZE 18K JA 1/16W   |          | 4011052815 | MT-GLAZE 2.2K JA 1/16W  |
| R1016    | 4012562719 | MT-GLAZE 75 JA 1/10W    | R1906    | 4011622810 | MT-GLAZE 1.8K JA 1/10W  |
|          | 4011134412 | MT-GLAZE 75 JA 1/16W    |          | 4011052013 | MT-GLAZE 1.8K JA 1/16W  |
| R1018    | 4012562719 | MT-GLAZE 75 JA 1/10W    | R1907    | 4010246730 | CARBON 100 JA 1/6W      |
|          | 4011134412 | MT-GLAZE 75 JA 1/16W    | R1911    | 4010257439 | CARBON 220 JA 1/6W      |
| R102     | 4011506011 | MT-GLAZE 0.000 ZA 1/10W | R1912    | 4012567516 | MT-GLAZE 390 JA 1/10W   |
|          | 4011057919 | MT-GLAZE 0.000 ZA 1/16W |          | 4011054512 | MT-GLAZE 390 JA 1/16W   |
| R1020    | 4012562719 | MT-GLAZE 75 JA 1/10W    | R1913    | 4011622919 | MT-GLAZE 220 JA 1/10W   |
|          | 4011134412 | MT-GLAZE 75 JA 1/16W    |          | 4011052716 | MT-GLAZE 220 JA 1/16W   |
| R1021    | 4012562719 | MT-GLAZE 75 JA 1/10W    | R210     | 4012556411 | MT-GLAZE 3K JA 1/10W    |
|          | 4011134412 | MT-GLAZE 75 JA 1/16W    |          | 4011053713 | MT-GLAZE 3K JA 1/16W    |
| R1026    | 4011506219 | MT-GLAZE 1K JA 1/10W    | R211     | 4010251338 | CARBON 150 JA 1/6W      |
|          | 4011050514 | MT-GLAZE 1K JA 1/16W    | R212     | 4010251338 | CARBON 150 JA 1/6W      |
| R1027    | 4010246938 | CARBON 1K GA 1/6W       | R215     | 4011506011 | MT-GLAZE 0.000 ZA 1/10W |
|          | 4010247034 | CARBON 1K JA 1/6W       |          | 4011057919 | MT-GLAZE 0.000 ZA 1/16W |
| R1028    | 4011506219 | MT-GLAZE 1K JA 1/10W    | R224     | 4012567615 | MT-GLAZE 3.9K JA 1/10W  |
|          | 4011050514 | MT-GLAZE 1K JA 1/16W    |          | 4011054611 | MT-GLAZE 3.9K JA 1/16W  |
| R1029    | 4011506219 | MT-GLAZE 1K JA 1/10W    | R225     | 4012560418 | MT-GLAZE 12K JA 1/10W   |
|          | 4011050514 | MT-GLAZE 1K JA 1/16W    |          | 4011051115 | MT-GLAZE 12K JA 1/16W   |
| R103     | 4010618111 | OXIDE-MT 39K JA 1W      | R226     | 4012566014 | MT-GLAZE 27K JA 1/10W   |
| R1030    | 4011624012 | MT-GLAZE 560 JA 1/10W   |          | 4011053416 | MT-GLAZE 27K JA 1/16W   |
|          | 4011055915 | MT-GLAZE 560 JA 1/16W   | R227     | 4012561712 | MT-GLAZE 33K JA 1/10W   |
| R1031    | 4011506219 | MT-GLAZE 1K JA 1/10W    |          | 4011054215 | MT-GLAZE 33K JA 1/16W   |
|          | 4011050514 | MT-GLAZE 1K JA 1/16W    | R228     | 4010254933 | CARBON 180K JA 1/6W     |
| R106     | 4012556510 | MT-GLAZE 100 JA 1/10W   | R229     | 4012567110 | MT-GLAZE 680K JA 1/10W  |
|          | 4011050415 | MT-GLAZE 100 JA 1/16W   |          | 4011056714 | MT-GLAZE 680K JA 1/16W  |
| R107     | 4012556510 | MT-GLAZE 100 JA 1/10W   | R230     | 4010246730 | CARBON 100 JA 1/6W      |

| Ref. No. | Part No.   | Description             | Ref. No. | Part No.   | Description            |
|----------|------------|-------------------------|----------|------------|------------------------|
| R231     | 4011506110 | MT-GLAZE 2.2K JA 1/10W  | R474     | 4010071134 | CARBON 1K JA 1/2W      |
|          | 4011052815 | MT-GLAZE 2.2K JA 1/16W  | R475     | 4010095843 | CARBON 330 JA 1/2W     |
| R232     | 4011506110 | MT-GLAZE 2.2K JA 1/10W  | R476     | 4010254230 | CARBON 1.8K JA 1/6W    |
|          | 4011052815 | MT-GLAZE 2.2K JA 1/16W  | R477     | 4010623016 | OXIDE-MT 47K JA 1W     |
| R233     | 4011506110 | MT-GLAZE 2.2K JA 1/10W  | R478     | 4010246730 | CARBON 100 JA 1/6W     |
|          | 4011052815 | MT-GLAZE 2.2K JA 1/16W  | R479     | 4010272630 | CARBON 5.6K JA 1/6W    |
| R234     | 4012560012 | MT-GLAZE 120 JA 1/10W   | R481     | 4010690414 | OXIDE-MT 6.8 JA 2W     |
|          | 4011050910 | MT-GLAZE 120 JA 1/16W   | R482     | 4010104812 | CARBON 470K JA 1/2W    |
| R235     | 4012560012 | MT-GLAZE 120 JA 1/10W   | R487     | 4010279332 | CARBON 820K JA 1/6W    |
|          | 4011050910 | MT-GLAZE 120 JA 1/16W   | R488     | 4010578019 | OXIDE-MT 1 JA 1W       |
| R236     | 4012560012 | MT-GLAZE 120 JA 1/10W   | R489     | 4010248031 | CARBON 1M JA 1/6W      |
|          | 4011050910 | MT-GLAZE 120 JA 1/16W   | R490     | 4010088627 | CARBON 220K JA 1/2W    |
| R243     | 4010666112 | OXIDE-MT 220 JA 2W      | R491     | 4012560418 | MT-GLAZE 12K JA 1/10W  |
| R244     | 4012566311 | MT-GLAZE 47K JA 1/10W   |          | 4011051115 | MT-GLAZE 12K JA 1/16W  |
|          | 4011055410 | MT-GLAZE 47K JA 1/16W   | R492     | 4012560418 | MT-GLAZE 12K JA 1/10W  |
| R245     | 4012566311 | MT-GLAZE 47K JA 1/10W   |          | 4011051115 | MT-GLAZE 12K JA 1/16W  |
|          | 4011055410 | MT-GLAZE 47K JA 1/16W   | R493     | 4011623619 | MT-GLAZE 470 JA 1/10W  |
| R280     | 4010246730 | CARBON 100 JA 1/6W      |          | 4011055212 | MT-GLAZE 470 JA 1/16W  |
| R286     | 4012651710 | MT-GLAZE 4.7K FA 1/10W  | R494     | 4011623619 | MT-GLAZE 470 JA 1/10W  |
|          | 4012039914 | MT-GLAZE 4.7K FA 1/16W  |          | 4011055212 | MT-GLAZE 470 JA 1/16W  |
| R290     | 4010686219 | OXIDE-MT 5.6 JA 2W      | R495     | 4012556510 | MT-GLAZE 100 JA 1/10W  |
| R340     | 4012566014 | MT-GLAZE 27K JA 1/10W   |          | 4011050415 | MT-GLAZE 100 JA 1/16W  |
|          | 4011053416 | MT-GLAZE 27K JA 1/16W   | R501     | 6450788130 | PROTECTOR,1.5A 125V    |
| R350     | 4010276638 | CARBON 75 JA 1/6W       | R502     | 4010578019 | OXIDE-MT 1 JA 1W       |
| R351     | 4010256531 | CARBON 20K JA 1/6W      | R503     | 4011523216 | MT-GLAZE 330 JA 1/10W  |
| R355     | 4010127059 | CARBON 10K JA 1/4W      |          | 4011054017 | MT-GLAZE 330 JA 1/16W  |
| R357     | 4010526525 | MT-FILM 1K FA 1/6W      | R504     | 4010279332 | CARBON 820K JA 1/6W    |
| R358     | 4011506011 | MT-GLAZE 0.000 ZA 1/10W | R505     | 6450788130 | PROTECTOR,1.5A 125V    |
|          | 4011057919 | MT-GLAZE 0.000 ZA 1/16W | R510     | 4012691518 | OXIDE-MT 0.56 JA 2W    |
| R3701    | 4012567615 | MT-GLAZE 3.9K JA 1/10W  | R511     | 4010069329 | CARBON 10 JA 1/2W      |
|          | 4011054611 | MT-GLAZE 3.9K JA 1/16W  | R512     | 4010666112 | OXIDE-MT 220 JA 2W     |
| R3702    | 4012567615 | MT-GLAZE 3.9K JA 1/10W  | R513     | 4010666112 | OXIDE-MT 220 JA 2W     |
|          | 4011054611 | MT-GLAZE 3.9K JA 1/16W  | R516     | 4010251932 | CARBON 15K JA 1/6W     |
| R3703    | 4033423310 | CERAMIC 0.1U K 25V      | R517     | 4012565918 | MT-GLAZE 2.7K JA 1/10W |
| R3704    | 4010257439 | CARBON 220 JA 1/6W      |          | 4011053317 | MT-GLAZE 2.7K JA 1/16W |
| R3705    | 4010257439 | CARBON 220 JA 1/6W      | R534     | 4010529120 | MT-FILM 1.5K FA 1/6W   |
| R3720    | 4012560418 | MT-GLAZE 12K JA 1/10W   | R536     | 4010498119 | MT-FILM 56K FA 1/4W    |
|          | 4011051115 | MT-GLAZE 12K JA 1/16W   | R537     | 4010950429 | MT-FILM 47K FA 1/6W    |
| R3722    | 4012560418 | MT-GLAZE 12K JA 1/10W   | R538     | 4010950429 | MT-FILM 47K FA 1/6W    |
|          | 4011051115 | MT-GLAZE 12K JA 1/16W   | R603     | 4011015810 | OXIDE-MT 0.68 JA 2W    |
| R421     | 4010486849 | MT-FILM 4.7K FA 1/4W    | R604     | 4011808412 | OXIDE-MT 0.47 JA 2W    |
| R422     | 4010202835 | CARBON 47K JA 1/4W      | R606     | 4010632919 | OXIDE-MT 68K JA 1W     |
|          | 4010202954 | CARBON 47K JA 1/4W      | R607     | 4010246433 | CARBON 10 JA 1/6W      |
| R423     | 4010192958 | CARBON 39K JA 1/4W      | R609     | 4010246730 | CARBON 100 JA 1/6W     |
|          | 4010193054 | CARBON 39K JA 1/4W      | R610     | 4010247034 | CARBON 1K JA 1/6W      |
| R424     | 4010247034 | CARBON 1K JA 1/6W       | R611     | 4010251635 | CARBON 1.5K JA 1/6W    |
| R426     | 4010247440 | CARBON 10K JA 1/6W      | R612     | 4010082615 | CARBON 180K JA 1/2W    |
| R431     | 4011506219 | MT-GLAZE 1K JA 1/10W    | R613     | 4010088627 | CARBON 220K JA 1/2W    |
|          | 4011050514 | MT-GLAZE 1K JA 1/16W    | △R628    | 4020008602 | SOLID 5.6M KA 1/2W     |
| R432     | 4011623619 | MT-GLAZE 470 JA 1/10W   |          | 4020976604 | CARBON 5.6M KA 1/2W    |
|          | 4011055212 | MT-GLAZE 470 JA 1/16W   | △R629    | 4020008602 | SOLID 5.6M KA 1/2W     |
| R433     | 4010071134 | CARBON 1K JA 1/2W       |          | 4020976604 | CARBON 5.6M KA 1/2W    |
| R434     | 4010606415 | OXIDE-MT 27 JA 1W       | R635     | 4010075815 | CARBON 120K JA 1/2W    |
| R435     | 4020803702 | OXIDE-MT 6.8 JB 7W      | R636     | 4010272630 | CARBON 5.6K JA 1/6W    |
| R437     | 4010247034 | CARBON 1K JA 1/6W       | R637     | 4011505915 | MT-GLAZE 10K JA 1/10W  |
| R438     | 4011523216 | MT-GLAZE 330 JA 1/10W   |          | 4011050613 | MT-GLAZE 10K JA 1/16W  |
|          | 4011054017 | MT-GLAZE 330 JA 1/16W   | R638     | 4011623718 | MT-GLAZE 4.7K JA 1/10W |
| R441     | 4010648712 | OXIDE-MT 1K JA 2W       |          | 4011055311 | MT-GLAZE 4.7K JA 1/16W |
| R459     | 4010270537 | CARBON 470K JA 1/6W     | R639     | 4011506219 | MT-GLAZE 1K JA 1/10W   |
| R460     | 4010247440 | CARBON 10K JA 1/6W      |          | 4011050514 | MT-GLAZE 1K JA 1/16W   |
| R461     | 4010072319 | CARBON 100K JA 1/2W     | R640     | 4011505915 | MT-GLAZE 10K JA 1/10W  |
| R462     | 4010530017 | MT-FILM 18K FA 1/6W     |          | 4011050613 | MT-GLAZE 10K JA 1/16W  |
| R466     | 4010610818 | OXIDE-MT 3.9 JA 1W      | R641     | 4012567318 | MT-GLAZE 6.8K JA 1/10W |
| R467     | 4010278335 | CARBON 820 JA 1/6W      |          | 4011056615 | MT-GLAZE 6.8K JA 1/16W |
| R470     | 4010224154 | CARBON 68K JA 1/4W      | R642     | 4010247737 | CARBON 100K JA 1/6W    |
| R471     | 4010529120 | MT-FILM 1.5K FA 1/6W    | R643     | 4021104006 | FUSIBLE RES 1.5 J- 2W  |
| R473     | 4010275235 | CARBON 680 JA 1/6W      | R645     | 4010145251 | CARBON 15K JA 1/4W     |



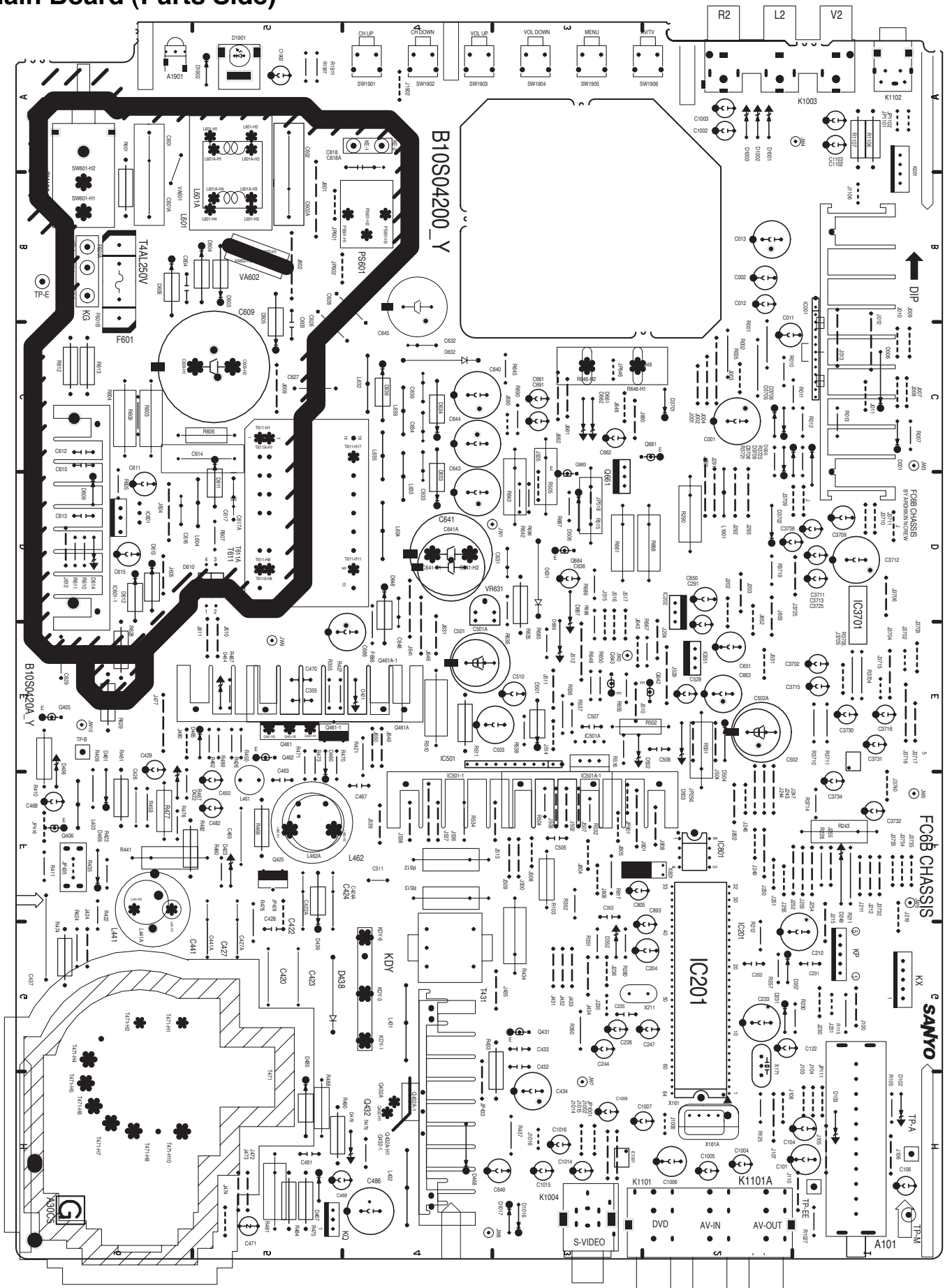
| Ref. No. | Part No.   | Description               | Ref. No. | Part No.   | Description             |
|----------|------------|---------------------------|----------|------------|-------------------------|
| D1008    | 4072505817 | ZENER DIODE KDZ10V        |          | 4070124426 | DIODE 1SS133            |
|          | 4072065618 | ZENER DIODE UDZS-TE-1710B |          | 4070134336 | DIODE 1S2076A           |
| D1009    | 4072505817 | ZENER DIODE KDZ10V        | D468     | 4080093204 | DIODE 1N4148            |
|          | 4072065618 | ZENER DIODE UDZS-TE-1710B |          | 4070124426 | DIODE 1SS133            |
| D1010    | 4072505817 | ZENER DIODE KDZ10V        |          | 4070134336 | DIODE 1S2076A           |
|          | 4072065618 | ZENER DIODE UDZS-TE-1710B | D469     | 4070077415 | DIODE EU1               |
| D1011    | 4072505817 | ZENER DIODE KDZ10V        |          | 4080614102 | DIODE EU1               |
|          | 4072065618 | ZENER DIODE UDZS-TE-1710B | D470     | 4070639425 | ZENER DIODE MTZJ8.2A    |
| D1012    | 4072505817 | ZENER DIODE KDZ10V        | D476     | 4070638329 | ZENER DIODE MTZJ11C     |
|          | 4072065618 | ZENER DIODE UDZS-TE-1710B |          | 4070541827 | ZENER DIODE RD11EB3     |
| D102     | 4070995620 | ZENER DIODE MTZJ6.8A      | D485     | 4070077415 | DIODE EU1               |
|          | 4070574013 | ZENER DIODE RD6.8EB1      |          | 4080614102 | DIODE EU1               |
|          | 4080478506 | ZENER DIODE MTZJ6.8A      | D491TM   | 4070639722 | ZENER DIODE MTZJ9.1C    |
| D103     | 4072568911 | ZENER DIODE HZS33-2-TA    |          | 4070579820 | ZENER DIODE RD9.1EB3    |
|          | 4071000224 | ZENER DIODE MTZJ36A       |          | 4080480301 | ZENER DIODE MTZJ9.1C-52 |
|          | 4070562317 | ZENER DIODE RD36EB1       | D501     | 4070057328 | DIODE EM01Z             |
|          | 4080476106 | ZENER DIODE MTZJ36A       |          | 4070058632 | DIODE ERA15-02-V1       |
| D106     | 4072505817 | ZENER DIODE KDZ10V        | D502     | 4080093204 | DIODE 1N4148            |
|          | 4072065618 | ZENER DIODE UDZS-TE-1710B |          | 4070124426 | DIODE 1SS133            |
| D107     | 4072505817 | ZENER DIODE KDZ10V        |          | 4070134336 | DIODE 1S2076A           |
|          | 4072065618 | ZENER DIODE UDZS-TE-1710B | D503     | 4070995323 | ZENER DIODE MTZJ5.6B    |
| D122     | 4071661118 | DIODE 1SS356-TW11         | D506     | 4070057328 | DIODE EM01Z             |
| D1901    | 4071166504 | LED SLP-181B-51           |          | 4070058632 | DIODE ERA15-02-V1       |
|          | 4080512408 | LED 204HD                 | D603     | 4070066310 | DIODE ERC05-10BV1       |
|          | 4080626907 | LED BT-202YX-31           |          | 4070096921 | DIODE RM11C             |
| D1901A   | 6102645064 | HOLDER LED-S2CP           |          | 4080614003 | DIODE ERC05-10B         |
|          | 6102737929 | HOLDER LED-S4KF           | D604     | 4070066310 | DIODE ERC05-10BV1       |
|          | 6103039954 | HOLDER LED-C4LA           |          | 4070096921 | DIODE RM11C             |
| D234     | 4072505817 | ZENER DIODE KDZ10V        |          | 4080614003 | DIODE ERC05-10B         |
|          | 4072065618 | ZENER DIODE UDZS-TE-1710B | D605     | 4070066310 | DIODE ERC05-10BV1       |
| D235     | 4072505817 | ZENER DIODE KDZ10V        |          | 4070096921 | DIODE RM11C             |
|          | 4072065618 | ZENER DIODE UDZS-TE-1710B |          | 4080614003 | DIODE ERC05-10B         |
| D236     | 4072505817 | ZENER DIODE KDZ10V        | D606     | 4070066310 | DIODE ERC05-10BV1       |
|          | 4072065618 | ZENER DIODE UDZS-TE-1710B |          | 4070096921 | DIODE RM11C             |
| D237     | 4072128818 | DIODE KDS160-RTK          |          | 4080614003 | DIODE ERC05-10B         |
|          | 4071490817 | DIODE 1SS355-TE-17        | D609     | 4080093204 | DIODE 1N4148            |
| D238     | 4072128818 | DIODE KDS160-RTK          | △D610    | 4072348701 | PHOTO COUPLE PC123X5YFZ |
|          | 4071490817 | DIODE 1SS355-TE-17        |          | 4072303908 | PHOTO COUPLE PC123Y52   |
| D249     | 4070996023 | ZENER DIODE MTZJ9.1B      |          | 4072317707 | PC TLP421F(D4-BL)       |
|          | 4070579711 | ZENER DIODE RD9.1EB2      | D611     | 4071468113 | DIODE EG01C             |
| D352     | 4070638626 | ZENER DIODE MTZJ5.1A      |          | 4080618803 | DIODE EG01C             |
|          | 4070569811 | ZENER DIODE RD5.6EB1      | D612     | 4070077415 | DIODE EU1               |
|          | 4080477004 | ZENER DIODE MTZJ5.1C-52   |          | 4080614102 | DIODE EU1               |
| D357     | 4080093204 | DIODE 1N4148              | D613     | 4070077415 | DIODE EU1               |
|          | 4070124426 | DIODE 1SS133              |          | 4080614102 | DIODE EU1               |
|          | 4070134336 | DIODE 1S2076A             | D614     | 4070995422 | ZENER DIODE MTZJ6.2B    |
| D3701    | 4070058632 | DIODE ERA15-02-V1         | D631     | 4070098806 | DIODE RU3AM             |
|          | 4080537104 | DIODE ERA15-02            | D632     | 4071662303 | DIODE ERC91-02          |
| D421     | 4070997228 | ZENER DIODE MTZJ16A       | D633     | 4072105710 | DIODE RN1Z              |
|          | 4070547027 | ZENER DIODE RD16EB1       | D634     | 4072105710 | DIODE RN1Z              |
|          | 4080475208 | ZENER DIODE MTZJ16A-52    | D639     | 4072105710 | DIODE RN1Z              |
| D422     | 4070995026 | ZENER DIODE MTZJ4.7A      | D648     | 4072105710 | DIODE RN1Z              |
| D423     | 4070996627 | ZENER DIODE MTZJ-T-7212B  | D661     | 4070995224 | ZENER DIODE MTZJ5.1B    |
|          | 4080482305 | ZENER DIODE MTZJ12B       |          | 4070568012 | ZENER DIODE RD5.1EB2    |
| D438     | 4070958001 | DIODE ERD07-15L           |          | 4080476700 | ZENER DIODE MTZJ5.1B    |
|          | 4080584306 | DIODE ERD07-15            |          | 4080477004 | ZENER DIODE MTZJ5.1C-52 |
| D439     | 4070064128 | DIODE ERB44-04V1          | D662     | 4070995224 | ZENER DIODE MTZJ5.1B    |
| D461     | 4080093204 | DIODE 1N4148              |          | 4070568012 | ZENER DIODE RD5.1EB2    |
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|          | 4070134336 | DIODE 1S2076A             |          | 4080477004 | ZENER DIODE MTZJ5.1C-52 |
| D464     | 4070995828 | ZENER DIODE MTZJ7.5A      | D681     | 4072128818 | DIODE KDS160-RTK        |
|          | 4080478803 | ZENER DIODE MTZJ7.5A      |          | 4071490817 | DIODE 1SS355-TE-17      |
| D465     | 4080093204 | DIODE 1N4148              | D686     | 4070995521 | ZENER DIODE MTZJ6.2C    |
|          | 4070124426 | DIODE 1SS133              |          | 4070572831 | ZENER DIODE RD6.2EB3    |
|          | 4070134336 | DIODE 1S2076A             |          | 4080478209 | ZENER DIODE MTZJ6.2C-52 |
| D466     | 4070638626 | ZENER DIODE MTZJ5.1A      | D687     | 4070638923 | ZENER DIODE MTZJ5.6C    |
| D467     | 4080093204 | DIODE 1N4148              |          | 4080477608 | ZENER DIODE MTZJ5.6C    |



| Ref. No.                                              | Part No.   | Description               | Ref. No.             | Part No.   | Description            |
|-------------------------------------------------------|------------|---------------------------|----------------------|------------|------------------------|
| D688                                                  | 4072128818 | DIODE KDS160-RTK          |                      | 4050670008 | TR 2SC2688(1)-L        |
|                                                       | 4071490817 | DIODE 1SS355-TE-17        |                      | 4050670107 | TR 2SC2688(1)-M        |
| D850                                                  | 4072505817 | ZENER DIODE KDZ10V        | Q721                 | 4051648016 | TR KTA1504S-GR-RTK     |
|                                                       | 4072065618 | ZENER DIODE UDZS-TE-1710B |                      | 4051345925 | TR 2SA1037AK-T146-R    |
| D851                                                  | 4072505817 | ZENER DIODE KDZ10V        |                      | 4051472215 | TR 2SA1037AK-S-T146    |
|                                                       | 4072065618 | ZENER DIODE UDZS-TE-1710B |                      | 4050020318 | TR 2SA1037K T146 R     |
| D852                                                  | 4072505817 | ZENER DIODE KDZ10V        |                      | 4050020417 | TR 2SA1037K T146 S     |
|                                                       | 4072065618 | ZENER DIODE UDZS-TE-1710B |                      | 4050026726 | TR 2SA1179-M6-TB       |
| D853                                                  | 4072505817 | ZENER DIODE KDZ10V        |                      | 4050026924 | TR 2SA1179-M7-TB       |
|                                                       | 4072065618 | ZENER DIODE UDZS-TE-1710B |                      | 4051739615 | TR 2SA1235A1E          |
| D857                                                  | 4072505817 | ZENER DIODE KDZ10V        |                      | 4051739714 | TR 2SA1235A1F          |
|                                                       | 4072065618 | ZENER DIODE UDZS-TE-1710B |                      |            |                        |
| <b>MISCELLANEOUS</b>                                  |            |                           | <b>CAPACITOR</b>     |            |                        |
| △ F601                                                | 4240059507 | FUSE 250V 4A              | C703                 | 4030737311 | CERAMIC 470P K 50V     |
|                                                       | 4230288603 | FUSE 250V 4A              |                      | 4031576612 | CERAMIC 470P K 50V     |
| F601A                                                 | 6450705434 | HOLDER,FUSE               | C705                 | 4030737311 | CERAMIC 470P K 50V     |
| F601B                                                 | 6450705434 | HOLDER,FUSE               |                      | 4031576612 | CERAMIC 470P K 50V     |
| A101                                                  | 6450904059 | TUNER, U/V                | C707                 | 4030737311 | CERAMIC 470P K 50V     |
| A1901                                                 | 6450476228 | UNIT,REMOCON RECEIVER     |                      | 4031576612 | CERAMIC 470P K 50V     |
|                                                       | 6450794124 | UNIT,REMOCON RECEIVER     | C708                 | 4034139814 | CERAMIC 680P K 1K      |
|                                                       | 6450820465 | UNIT,REMOCON RECEIVER     | C710                 | 4041093205 | ELECT 10U M 250V       |
| K1003                                                 | 6520015401 | JACK,RCA-3                |                      | 4034517810 | ELECT 10U M 250V       |
| K1101                                                 | 6520016187 | JACK,RCA-9                |                      | 4033531411 | ELECT 10U M 250V       |
| △ PS601                                               | 4080465407 | TH PTDCA1BF4R5Q200        | <b>RESISTOR</b>      |            |                        |
| SW1901                                                | 6450034701 | SWITCH,PUSH 1P-1TX1       | R701                 | 4012559016 | MT-GLAZE 82 JA 1/10W   |
|                                                       | 6450194887 | SWITCH,PUSH 1P-1TX1       |                      | 4011057216 | MT-GLAZE 82 JA 1/16W   |
| SW1902                                                | 6450034701 | SWITCH,PUSH 1P-1TX1       | R702                 | 4011622711 | MT-GLAZE 180 JA 1/10W  |
|                                                       | 6450194887 | SWITCH,PUSH 1P-1TX1       |                      | 4011051917 | MT-GLAZE 180 JA 1/16W  |
| SW1903                                                | 6450034701 | SWITCH,PUSH 1P-1TX1       | R704                 | 4012559016 | MT-GLAZE 82 JA 1/10W   |
|                                                       | 6450194887 | SWITCH,PUSH 1P-1TX1       |                      | 4011057216 | MT-GLAZE 82 JA 1/16W   |
| SW1904                                                | 6450034701 | SWITCH,PUSH 1P-1TX1       | R705                 | 4011622711 | MT-GLAZE 180 JA 1/10W  |
|                                                       | 6450194887 | SWITCH,PUSH 1P-1TX1       |                      | 4011051917 | MT-GLAZE 180 JA 1/16W  |
| SW1905                                                | 6450034701 | SWITCH,PUSH 1P-1TX1       | R707                 | 4012559016 | MT-GLAZE 82 JA 1/10W   |
|                                                       | 6450194887 | SWITCH,PUSH 1P-1TX1       |                      | 4011057216 | MT-GLAZE 82 JA 1/16W   |
| SW1906                                                | 6450034701 | SWITCH,PUSH 1P-1TX1       | R708                 | 4011622711 | MT-GLAZE 180 JA 1/10W  |
|                                                       | 6450194887 | SWITCH,PUSH 1P-1TX1       |                      | 4011051917 | MT-GLAZE 180 JA 1/16W  |
| △ SW601                                               | 6450590061 | SWITCH, POWER 1P-1TX1     | R711                 | 4010654614 | OXIDE-MT 12K JA 2W     |
| △ VA601                                               | 4071712008 | VARIATOR ERZV14D471       | R712                 | 4010654614 | OXIDE-MT 12K JA 2W     |
|                                                       | 4072471300 | VARIATOR SVC471D-07ABW7   | R713                 | 4010654614 | OXIDE-MT 12K JA 2W     |
| VA602                                                 | 4080613204 | TH ICL B57238S0100M000    | R715                 | 4010091528 | CARBON 2.7K JA 1/2W    |
| VR631                                                 | 6450035524 | VR, SEMI, 1K N            | R716                 | 4010091528 | CARBON 2.7K JA 1/2W    |
| X161                                                  | 4210121906 | SAW F TSF6376BL           | R717                 | 4010091528 | CARBON 2.7K JA 1/2W    |
|                                                       | 4210115202 | SAW F TSF6376Y            | R723                 | 4011624012 | MT-GLAZE 560 JA 1/10W  |
| X211                                                  | 6450248818 | OSC,CRYSTAL 4.433619MHZ   |                      | 4011055915 | MT-GLAZE 560 JA 1/16W  |
|                                                       | 6450820052 | OSC,CRYSTAL 4.433619MHZ   | R724                 | 4011622414 | MT-GLAZE 1.2K JA 1/10W |
|                                                       | 6520010154 | OSC,CRYSTAL 4.433619MHZ   |                      | 4011051016 | MT-GLAZE 1.2K JA 1/16W |
| X801                                                  | 6450041938 | OSC,CRYSTAL 32.768KHZ     | R732                 | 4010246433 | CARBON 10 JA 1/6W      |
|                                                       |            |                           | R743                 | 4011623718 | MT-GLAZE 4.7K JA 1/10W |
|                                                       |            |                           |                      | 4011055311 | MT-GLAZE 4.7K JA 1/16W |
| <b>6103355733 ASSY,PWB,CRT BB5V<br/>1AA0B10S249MB</b> |            |                           | <b>COIL</b>          |            |                        |
|                                                       |            |                           | L702                 | 6450079863 | INDUCTOR,220U K        |
| <b>TRANSISTOR</b>                                     |            |                           | <b>MISCELLANEOUS</b> |            |                        |
| Q701                                                  | 4050416507 | TR 2SC2621-D-RA           | △ K701L              | 6450262005 | SOCKET,CRT 8P          |
|                                                       | 4050416705 | TR 2SC2621-E-RA           |                      | 6450317699 | SOCKET,CRT 8P          |
|                                                       | 4050669903 | TR 2SC2688(1)-K           |                      | 6520017726 | SOCKET,CRT 8P          |
|                                                       | 4050670008 | TR 2SC2688(1)-L           |                      |            |                        |
|                                                       | 4050670107 | TR 2SC2688(1)-M           |                      |            |                        |
| Q703                                                  | 4050416507 | TR 2SC2621-D-RA           |                      |            |                        |
|                                                       | 4050416705 | TR 2SC2621-E-RA           |                      |            |                        |
|                                                       | 4050669903 | TR 2SC2688(1)-K           |                      |            |                        |
|                                                       | 4050670008 | TR 2SC2688(1)-L           |                      |            |                        |
|                                                       | 4050670107 | TR 2SC2688(1)-M           |                      |            |                        |
| Q705                                                  | 4050416507 | TR 2SC2621-D-RA           |                      |            |                        |
|                                                       | 4050416705 | TR 2SC2621-E-RA           |                      |            |                        |
|                                                       | 4050669903 | TR 2SC2688(1)-K           |                      |            |                        |

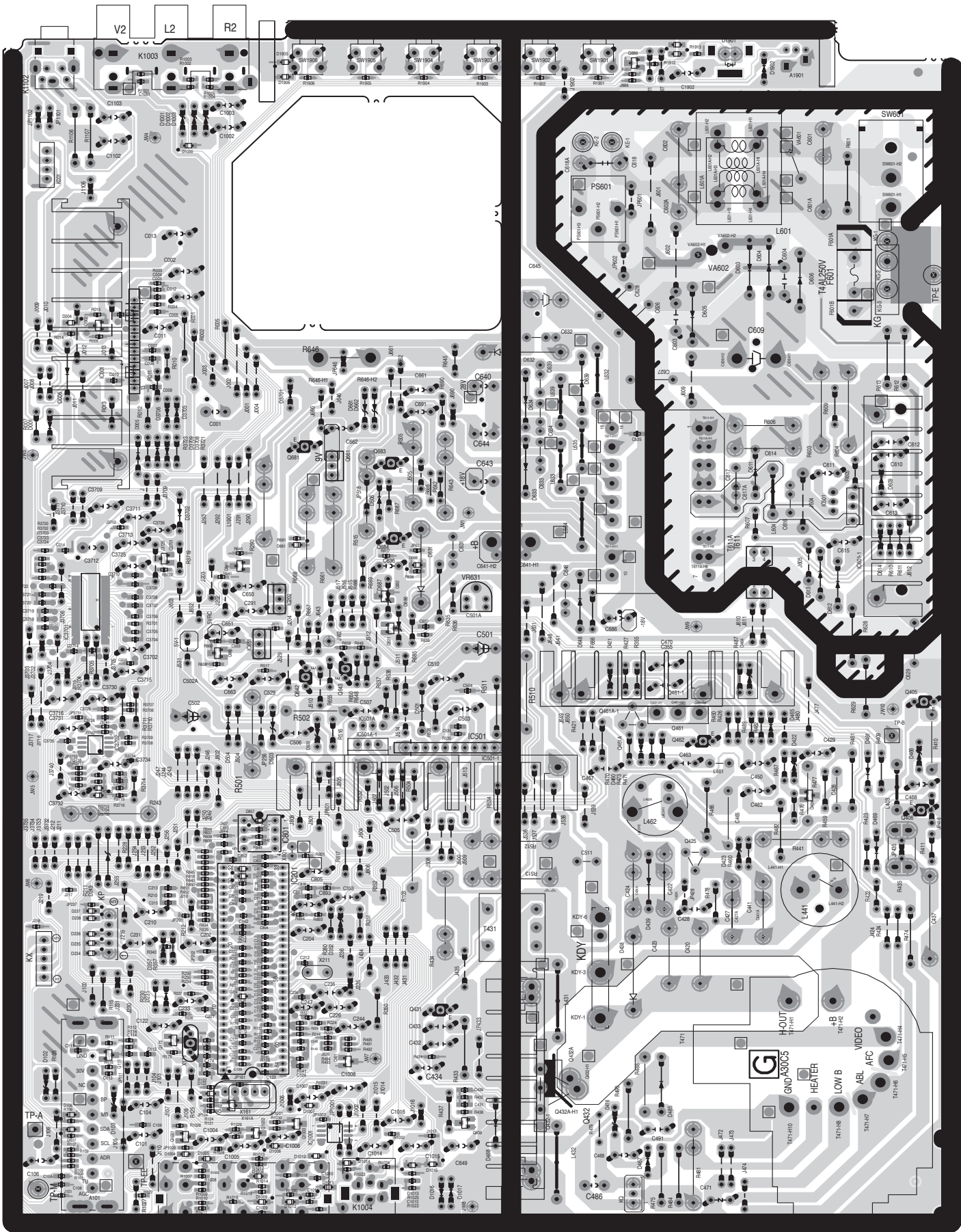
# Component Locations

## Main Board (Parts Side)



# Component Locations

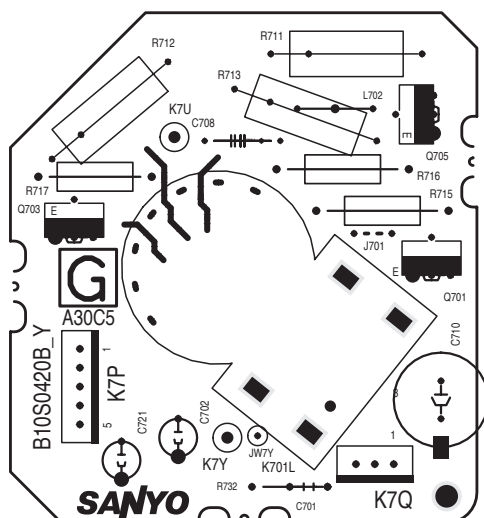
## Main Board (Solder Side)



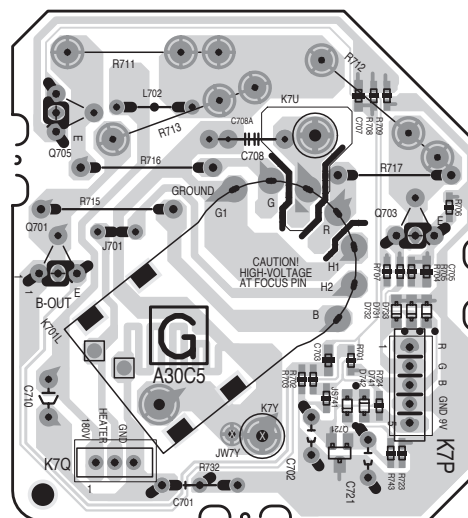


# Component Locations

## CRT Board (Parts Side)



## CRT Board (Solder Side)

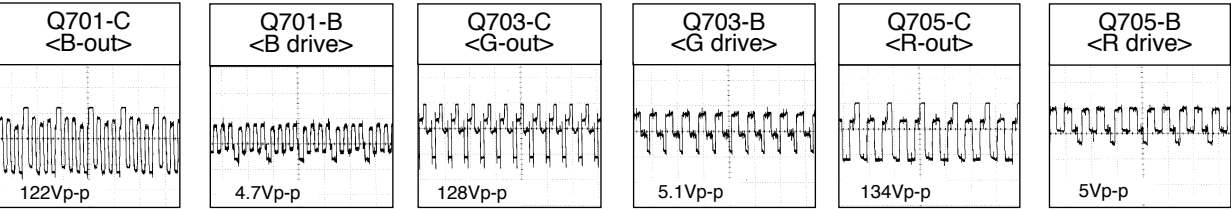


# Voltages and Waveforms Charts

|                                        |       |     |      |       |       |                    |       |      |       |     |       |      |       |     |      |     |      |
|----------------------------------------|-------|-----|------|-------|-------|--------------------|-------|------|-------|-----|-------|------|-------|-----|------|-----|------|
| <b>IC001 (AUDIO AMP.)</b>              |       |     |      |       |       |                    |       |      |       |     |       |      |       |     |      |     |      |
| Pin-1                                  | 14.5V | 2   | 0V   | 3     | GND   | 4                  | 0V    | 5    | 3.4V  | 6   | 2.2V  | 7    | 15.1V | 8   | 7.2V | 9   | 7.2V |
| 10                                     | GND   | 11  | 7.2V | 12    | 7.2V  | 13                 | 2.2V  |      |       |     |       |      |       |     |      |     |      |
| <b>IC501 (VERT. OUT)</b>               |       |     |      |       |       |                    |       |      |       |     |       |      |       |     |      |     |      |
| Pin-1                                  | NC    | 2   | 0V   | 3     | 15.4V | 4                  | 35.3V | 5    | 20.2V | 6   | 20.3V | 7    | 36.9V | 8   | 1.4V | 9   | NC   |
| 10                                     | NC    |     |      |       |       |                    |       |      |       |     |       |      |       |     |      |     |      |
| <b>IC601 (POWER)</b>                   |       |     |      |       |       |                    |       |      |       |     |       |      |       |     |      |     |      |
| Pin-1                                  | 32V   | 2   | N.C. | 3     | GND   | 4                  | 19.6V | 5    | 0V    | 6   | 1.2V  | 7    | 0.5V  |     |      |     |      |
| <b>IC651 (5VRC)</b>                    |       |     |      |       |       |                    |       |      |       |     |       |      |       |     |      |     |      |
| Pin-1                                  | 11.2V | 2   | GND  | 3     | 5V    | <b>IC202 (5V1)</b> |       |      |       |     |       |      |       |     |      |     |      |
|                                        |       |     |      | Pin-1 |       |                    |       | 7.1V | 2     | GND | 3     | 4.9V |       |     |      |     |      |
| <b>IC1001 (VIDEO SWITCH)</b>           |       |     |      |       |       |                    |       |      |       |     |       |      |       |     |      |     |      |
| Pin-1                                  | 4.6V  | 2   | 3.7V | 3     | 4.6V  | 4                  | 0V    | 5    | 0     | 6   | 8.9V  | 7    | 3.8V  | 8   | GND  |     |      |
| <b>IC3702 (WOOFER AMP.)</b>            |       |     |      |       |       |                    |       |      |       |     |       |      |       |     |      |     |      |
| Pin-1                                  | 4.6V  | 2   | 4.6V | 3     | 4.6V  | 4                  | GND   | 5    | 4.6V  | 6   | 4.6V  | 7    | 4.6V  | 8   | 8.2V |     |      |
| <b>IC801 (MEMORY)</b>                  |       |     |      |       |       |                    |       |      |       |     |       |      |       |     |      |     |      |
| Pin-1                                  | GND   | 2   | GND  | 3     | GND   | 4                  | GND   | 5    | 4.9V  | 6   | 4.9V  | 7    | 0V    | 8   | 0V   |     |      |
| <b>IC3701 (AUDIO CONTROL)</b>          |       |     |      |       |       |                    |       |      |       |     |       |      |       |     |      |     |      |
| Pin-1:                                 | GND   | 2:  | 4.1V | 3:    | 4.1V  | 4:                 | 4.1V  | 5:   | 3.5V  | 6:  | 4.1V  | 7:   | 4.1V  | 8:  | 4.1V | 9:  | 4.1V |
| 10:                                    | 4.1V  | 11: | 4.1V | 12:   | 4.1V  | 13:                | 4.1V  | 14:  | 4.1V  | 15: | 4.0V  | 16:  | 4.2V  | 17: | 8.3V | 18: | 3.0V |
| 19:                                    | 3.5V  | 20: | 3V   | 21:   | 0V    | 22:                | 4.1V  | 23:  | 4.1V  | 24: | 4.1V  | 25:  | 4.1V  | 26: | 4.1V | 27: | 4.1V |
| 28:                                    | 4.1V  | 29: | 4.7V | 30:   | 4.1V  | 31:                | 4.1V  | 32:  | 3.5V  | 33: | 4.1V  | 34:  | 4.1V  | 35: | 4.2V | 36: | 4.1V |
| <b>IC201 (CPU/IF/VIDEO/CHROMA/DEF)</b> |       |     |      |       |       |                    |       |      |       |     |       |      |       |     |      |     |      |
| Pin-1:                                 | 2.5V  | 2:  | 2.6V | 3:    | 3V    | 4:                 | 2.3V  | 5:   | 2.4V  | 6:  | 2.4V  | 7:   | 2V    | 8:  | 5V   | 9:  | 2.4V |
| 10:                                    | 3.4V  | 11: | 8.4V | 12:   | 3.2V  | 13:                | 3.2V  | 14:  | 3.2V  | 15: | 1.2V  | 16:  | 2V    | 17: | 2.4V | 18: | 1.7V |
| 19:                                    | 5V    | 20: | 2.7V | 21:   | 2.7V  | 22:                | GND   | 23:  | 5V    | 24: | 5V    | 25:  | 5V    | 26: | 4.8V | 27: | 5V   |
| 28:                                    | 5V    | 29: | 5V   | 30:   | 0V    | 31:                | 4.3V  | 32:  | 4V    | 33: | 0.4V  | 34:  | 2.5V  | 35: | 5V   | 36: | 4.9V |
| 37:                                    | 0V    | 38: | 5V   | 39:   | 0V    | 40:                | 3.9V  | 41:  | 3.3V  | 42: | GND   | 43:  | 4.5V  | 44: | 1.4V | 45: | 2.4V |
| 46:                                    | 2.6V  | 47: | 2.4V | 48:   | 2.5V  | 49:                | 0V    | 50:  | 2.8V  | 51: | 0V    | 52:  | 2.6V  | 53: | 3.2V | 54: | 2.6V |
| 55:                                    | 5V    | 56: | 2.8V | 57:   | 0V    | 58:                | 2.5V  | 59:  | 2.4V  | 60: | 2.3V  | 61:  | 1.8V  | 62: | GND  | 63: | 2.9V |
| 64:                                    | 2.9V  |     |      |       |       |                    |       |      |       |     |       |      |       |     |      |     |      |

## CRT Board

|             |             |             |
|-------------|-------------|-------------|
| <b>Q701</b> | <b>Q703</b> | <b>Q705</b> |
| E 2.7V      | E 2.6V      | E 2.6V      |
| C 118V      | C 126V      | C 124V      |
| B 2.8V      | B 2.6V      | B 2.7V      |

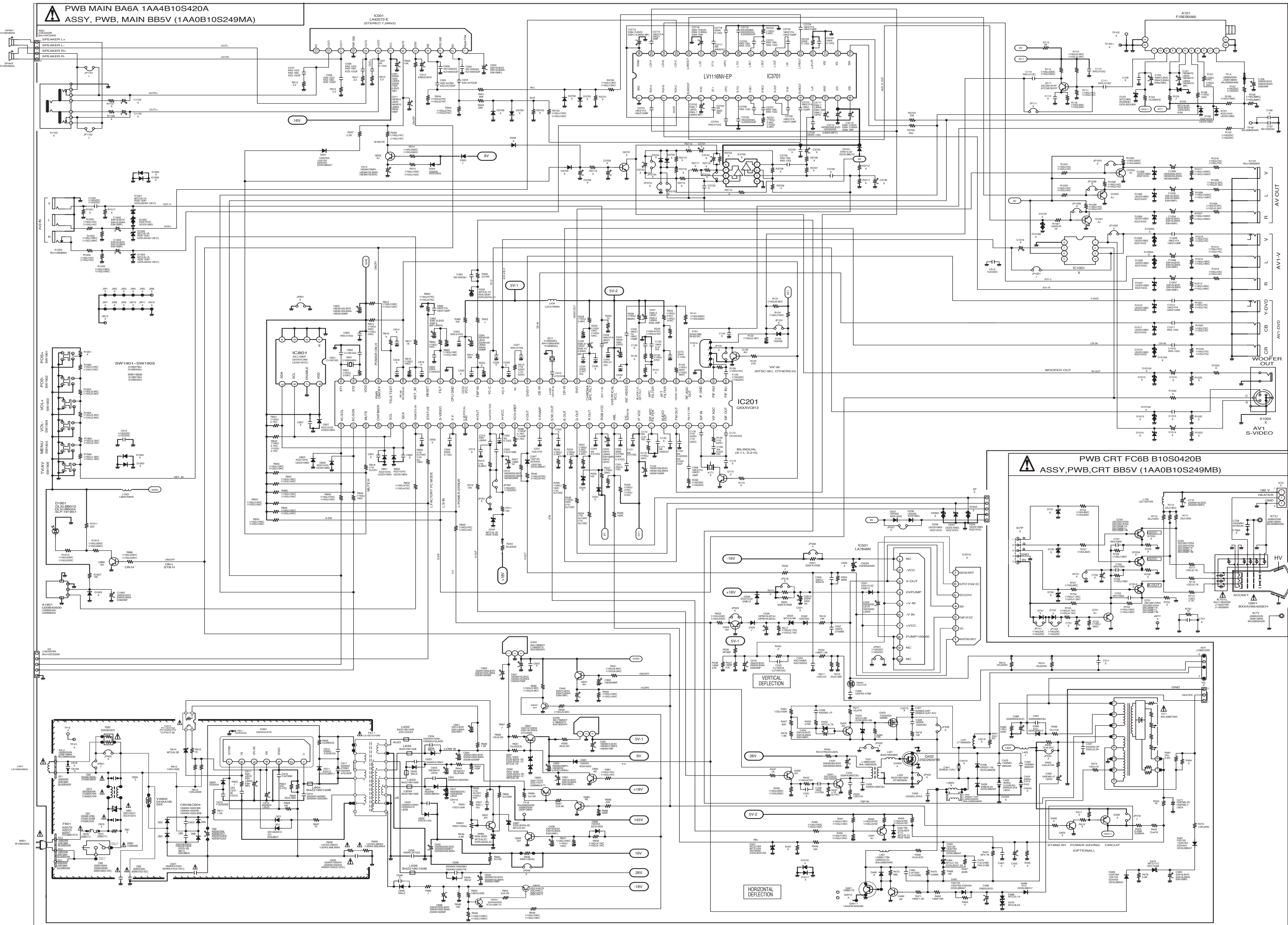






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SANYO Electric Co., Ltd.  
Printed in Indonesia



LIST OF REPLACEABLE TRANSISTORS

| 2SA4003 TYPE | 141H CODE | 2SA4003 | 2SA1015 | 2SA664 |
|--------------|-----------|---------|---------|--------|
| AB           | 7720011   | R       | YGR     | R      |
| AC           | 7720012   | QR      | UYGR    | QR     |

2SA1015R CHIP TYPE

| 141H CODE | 2SA1179 | 2SA1037 |
|-----------|---------|---------|
| AJ        | 7720021 | MEMY    |
|           |         | R3      |

2SC1145R CHIP TYPE

| 141H CODE | 2SC1145R | 2SC945A | 2SC1815 |
|-----------|----------|---------|---------|
| AD        | 7720013  | QRJ5    | QAPX    |
| AE        | 7720020  | QRJ5    | QAPX    |

2SC2413R CHIP TYPE

| 141H CODE | 2SC2413 | 2SC2413K |
|-----------|---------|----------|
| AF        | 7720027 | ULY7     |
|           |         | R3       |

LIST OF REPLACEABLE DIODES

| 141H CODE | DIODE NAME                             |
|-----------|----------------------------------------|
| R         | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A |
| AA        | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A |
| R         | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A |
| R         | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A |

#### DIFFERENCE PARTS LIST :

| MODEL | G12    | MAIN UNIT     | CRT UNIT      |
|-------|--------|---------------|---------------|
| BB5V  | G1200V | 1AA0B10S249MA | 1AA0B10S249MB |
| BB5V  | G1200V | 1AA0B10S249MA | 1AA0B10S249MB |
| BB5A  | G1200V | 1AA0B10S249MA | 1AA0B10S249MB |
| BB5V  | G1200V | 1AA0B10S249MA | 1AA0B10S249MB |
| BB5V  | G1200V | 1AA0B10S249MA | 1AA0B10S249MB |
| BB5V  | G1200V | 1AA0B10S249MA | 1AA0B10S249MB |
| BB5V  | G1200V | 1AA0B10S249MA | 1AA0B10S249MB |
| BB5V  | G1200V | 1AA0B10S249MA | 1AA0B10S249MB |

| LOC  | G1200V                                 | G1200V                                 | G1200V                                 |
|------|----------------------------------------|----------------------------------------|----------------------------------------|
| CR01 | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A |
| CR01 | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A |

| LOC | 1AA0B10S249MA | 1AA0B10S249MA | 1AA0B10S249MA |
|-----|---------------|---------------|---------------|
| N/A | N/A           | N/A           | N/A           |

| LOC  | 1AA0B10S249MA                          | 1AA0B10S249MA                          | 1AA0B10S249MA                          | 1AA0B10S249MA                          |
|------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| CR01 | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A |
| CR01 | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A | 1E100A, 1E101A, 1E102A, 1E103A, 1E104A |

**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.

**COLOUR TELEVISION**

**SANYO FC6-B**

CHASSIS SERIES

SERVICE **CP29YS2-00**

REF. NO. **CP29YS2-50**

**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  $\Delta$  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 NOTICE:**

- All resistance value 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  $\mu$ F and more than 1 are pF.
- All capacitance rated voltages are 50V unless otherwise noted.
- All inductance values are in  $\mu$ H.
- Voltage readings take with a "VTVM" are from point indicated chassis ground. Voltage readings taken by using PAL colour bar signal are with all controls at normal position. Some voltage may vary with signal strength.
- Waveform were taken with PAL colour bar and controls adjusted for normal picture. Waveforms were taken by using a wide band oscilloscope and a low capacity probe.
- This circuit diagram covers a basic or representative chassis only. There may be some components or partial circuit differences between the actual chassis and the circuit diagram.
- Parts specified with "X" are not installed in this model.
- Parts specified with "J" are just jumper wires.

11. Expression of capacitance and resistance in circuit diagram.

**Capacitance (Example)**

1000 C M 2000 D

Characteristic Capacitance value (220pF)  
Allowable error ( $\pm 20\%$ )  
Kind (Ceramic)  
Rated voltage (1,000V)

**Resistance (Example)**

1/2 N J 1/2

Resistance value (1.2 $\Omega$ )  
Allowable error ( $\pm 5\%$ )  
Kind (M. carbon)  
Rated wattage (1/2W)

J =  $\pm 5\%$   
K =  $\pm 10\%$   
M =  $\pm 20\%$   
T, A, U, D: Electrolytic  
C, K, B: Ceramic  
F: Mylar film  
M, N: Polypropylene  
Z: Metalized paper  
D: Carbon  
N: Metalized carbon  
S: Oxidized metalized  
W: Wire winding  
C: Solid

**TRANSISTOR, DIODE AND INTEGRATED CIRCUIT TERMINAL GUIDE**

C: COLLECTOR  
B: BASE  
E: EMITTER

A: ANODE  
K: KATHODE

CHIP COMPONENTS  
TRANSISTOR  
DIODE  
RESISTOR

**PARTICULAR PARTS SYMBOL**

FUSIBLE RESISTOR  
NON POLED ELECTRIC CAPACITOR  
POSISTER

# Notice



- ☐ CORRECTION      ☐ ADD INFORMATION  
☐ SERVICE FLASH    ☒ PRODUCTION CHANGE  
☐                              ☐ DISCONTINUE PART

FILE NO.

**REVISION-1**

Please add this notice to the Manuals listed below.

|                                                  |                                                                            |
|--------------------------------------------------|----------------------------------------------------------------------------|
| <b>Category:</b> <u>Colour Television</u>        | <b>Chassis Series:</b> <u>FC6-B</u>                                        |
| <b>Model:</b> <u>CP29YS2</u>                     | <b>Efective from:</b> <b>Service Ref. No.</b> <u>CP29YS2-01</u>            |
| <b>Destination:</b> <u>Australia/New Zealand</u> | <b>Reference No:</b> <u>SM3010261</u> <b>Issue Date:</b> <u>Jun., 2007</u> |

Give complete "SERVICE REF. No. " for parts order or servicing. It is shown on the rating label at the cabinet back of the unit. Refer to SM3010261 (Issue date: Jun., 2007) Service Manual for all the item not given in this notice.

## Differences (CRT change)

The reason of change.    A: Misprint    B: Quality Reliabilities    C: Standardization  
D: Design

| Page & Section | Ref. No. |              | Part No.         | Description           | Q'ty | Interchange-ability | Reason |
|----------------|----------|--------------|------------------|-----------------------|------|---------------------|--------|
| Page 21        | Q901     | Old          | 414 014 7700     | CRT A68QFZ893X600     | 1    | NO                  | D      |
|                |          | New          | 414 015 1608     | CRT-AS A68QGX893X300  | 1    | NO                  |        |
|                | --       | Old          | 610 335 5740     | ASSY, PWB, MAIN BB5V  | 1    | NO                  | D      |
|                |          | New          | 610 341 9145     | ASSY, PWB, MAIN BB5VS | 1    | NO                  |        |
| Page 22        | Q432     | Old          | 405 157 1304     | TR 2SD2634-YB         | 1    | NO                  | D      |
|                |          | New          | NOT USED         |                       |      |                     |        |
|                | Q432A    | Old          | NOT USED         |                       |      |                     | D      |
|                |          | New          | 406 018 2102     | TR TT2190LS-YB11      | 1    | NO                  |        |
|                | Q461     | Old          | 405 029 6307     | TR 2SB817-E           | 1    | NO                  | D      |
|                |          | New          | 405 064 7406     | TR 2SB1274-R-RA       | 1    | NO                  |        |
| Page 23        | IC501    | Old          | 409 374 0607     | IC LA7846N            | 1    | NO                  | D      |
|                |          | New          | 409 669 7908     | IC LA78141-E          | 1    | NO                  |        |
| Page 24        | C210     | Old          | NOT USED         |                       |      |                     | D      |
|                |          | New          | 404 097 1801     | ELECT 100U M 16V      | 1    | NO                  |        |
|                |          |              | 404 084 7809     | ELECT 100U M 16V      |      |                     |        |
|                |          |              | 403 195 7837     | ELECT 100U M 16V      |      |                     |        |
|                | C210A    | Old          | 645 033 2272     | CORE, PIPE            | 1    | NO                  | D      |
|                |          | New          | NOT USED         |                       |      |                     |        |
|                | C210TM   | Old          | 404 097 1900     | ELECT 220U M 16V      | 1    | NO                  | D      |
|                |          |              | 404 084 8004     | ELECT 220U M 16V      |      |                     |        |
|                |          | 403 200 6722 | ELECT 220U M 16V |                       |      |                     |        |
|                | New      | NOT USED     |                  |                       |      |                     |        |

**FILE WITH ORIGINAL SERVICE MANUAL.**

Product Code: 113011316



| Page & Section | Ref. No. |              | Part No.                | Description             | Q'ty | Interchange-ability | Reason |
|----------------|----------|--------------|-------------------------|-------------------------|------|---------------------|--------|
| Page 24        | C420     | Old          | 404 077 5102            | MT-POLYPRO 8900P H 1.5K | 1    | NO                  | D      |
|                |          | New          | 404 117 8407            | MT-POLYPRO 9100P J 1.5K | 1    | NO                  |        |
|                |          |              | 404 084 5201            | MT-POLYPRO 9100P H 1.5K |      |                     |        |
|                |          |              | 404 095 8802            | MT-POLYPRO 9100P H 1.5K |      |                     |        |
|                | C422     | Old          | 404 086 9405            | POLYPRO 0.018U J 400V   | 1    | NO                  | D      |
|                |          |              | 403 083 3914            | POLYPRO 0.018U J 400V   | 1    | NO                  |        |
|                |          | New          | 404 086 9306            | POLYPRO 0.015U J 400V   |      |                     |        |
|                |          |              | 403 083 3419            | POLYPRO 0.015U J 400V   |      |                     |        |
|                | C423     | Old          | 404 077 5102            | MT-POLYPRO 8900P H 1.5K | 1    | NO                  | D      |
|                |          | New          | 404 117 8407            | MT-POLYPRO 9100P J 1.5K | 1    | NO                  |        |
|                |          |              | 404 084 5201            | MT-POLYPRO 9100P H 1.5K |      |                     |        |
|                |          |              | 404 095 8802            | MT-POLYPRO 9100P H 1.5K |      |                     |        |
| C424           | Old      | 404 086 9405 | POLYPRO 0.018U J 400V   | 1                       | NO   | D                   |        |
|                |          | 403 083 3914 | POLYPRO 0.018U J 400V   | 1                       | NO   |                     |        |
|                | New      | 404 086 9306 | POLYPRO 0.015U J 400V   |                         |      |                     |        |
|                |          | 403 083 3419 | POLYPRO 0.015U J 400V   |                         |      |                     |        |
| C441           | Old      | 403 372 6312 | MT-POLYPRO 0.15U J 250V | 1                       | NO   | D                   |        |
|                | New      | 403 372 6510 | MT-POLYPRO 0.2U J 250V  | 1                       | NO   |                     |        |
| Page 25        | C505     | Old          | 403 422 3711            | CERAMIC 82P J 500V      | 1    | NO                  | D      |
|                |          |              | 403 422 3315            | CERAMIC 82P J 500V      |      |                     |        |
|                | New      | NOT USED     |                         |                         |      |                     |        |
|                | C506     | Old          | 403 461 2208            | MT-COMPO 0.47U J 100V   | 1    | NO                  | D      |
|                |          | New          | 403 256 4826            | MT-COMPO 0.1U J 100V    | 1    | NO                  |        |
|                | C511     | Old          | NOT USED                |                         | 1    | NO                  | D      |
|                |          | New          | 403 064 1212            | POLYESTER 0.1U K 100V   |      |                     |        |
|                |          |              | 403 276 9726            | POLYESTER 0.1U K 100V   |      |                     |        |
|                | R003     | Old          | 401 256 6014            | MT-GLAZE 27K JA 1/10W   | 1    | NO                  | D      |
|                |          |              | 401 105 3416            | MT-GLAZE 27K JA 1/16W   | 1    | NO                  |        |
|                |          | New          | 401 162 3015            | MT-GLAZE 22K JA 1/10W   |      |                     |        |
|                |          |              | 401 105 2914            | MT-GLAZE 22K JA 1/10W   |      |                     |        |
| R004           | Old      | 401 256 6014 | MT-GLAZE 27K JA 1/10W   | 1                       | NO   | D                   |        |
|                |          | 401 105 3416 | MT-GLAZE 27K JA 1/16W   | 1                       | NO   |                     |        |
|                | New      | 401 162 3015 | MT-GLAZE 22K JA 1/10W   |                         |      |                     |        |
|                |          | 401 105 2914 | MT-GLAZE 22K JA 1/10W   |                         |      |                     |        |
| Page 27        | R243     | Old          | 401 066 6112            | OXIDE-MT 220 JA 2W      | 1    | NO                  | D      |
|                |          | New          | 401 065 2818            | OXIDE-MT 120 JA 2W      | 1    | NO                  |        |
|                | R422     | Old          | 401 020 2835            | CARBON 47K JA 1/4W      | 1    | NO                  | D      |
|                |          |              | 401 020 2954            | CARBON 47K JA 1/4W      | 1    | NO                  |        |
|                |          | New          | 401 018 4834            | CARBON 33K JA 1/4W      |      |                     |        |
|                |          |              | 401 018 4943            | CARBON 33K JA 1/4W      |      |                     |        |
|                | R467     | Old          | 401 027 8335            | CARBON 820 JA 1/6W      | 1    | NO                  | D      |
|                |          | New          | 401 026 1030            | CARBON 2.7K JA 1/6W     | 1    | NO                  |        |
|                | R476     | Old          | 401 025 4230            | CARBON 1.8K JA 1/6W     | 1    | NO                  | D      |
|                |          | New          | 401 027 2303            | CARBON 560 JA 1/6W      | 1    | NO                  |        |
|                | R476     | Old          | 401 025 4230            | CARBON 1.8K JA 1/6W     | 1    | NO                  | D      |
|                |          | New          | 401 027 2303            | CARBON 560 JA 1/6W      | 1    | NO                  |        |
|                | R481     | Old          | 401 069 0414            | OXIDE-MT 6.8 JA 2W      | 1    | NO                  | D      |
|                |          | New          | 401 064 5711            | OXIDE-MT 1.8 JA 2W      | 1    | NO                  |        |
|                | R489     | Old          | 401 024 8031            | CARBON 1M JA 1/6W       | 1    | NO                  | D      |
|                |          | New          | 401 027 3231            | CARBON 560K KA 1/6W     | 1    | NO                  |        |
|                | R504     | Old          | 401 027 9332            | CARBON 820K JA 1/6W     | 1    | NO                  | D      |
|                |          | New          | NOT USED                |                         |      |                     |        |
| R510           | Old      | 401 269 1518 | OXIDE-MT 0.56 JA 2W     | 1                       | NO   | D                   |        |
|                | New      | 401 064 3400 | OXIDE-MT 0.82 JA 2W     | 1                       | NO   |                     |        |



| Page & Section | Ref. No. |     | Part No.     | Description         | Q'ty | Interchange-ability | Reason |
|----------------|----------|-----|--------------|---------------------|------|---------------------|--------|
| Page 27        | R603     | Old | 401 101 5810 | OXIDE-MT 0.68 JA 2W | 1    | NO                  | D      |
|                |          | New | 401 064 1812 | OXIDE-MT 0.39 JA 2W | 1    | NO                  |        |
|                | R604     | Old | 401 180 8412 | OXIDE-MT 0.47 JA 2W | 1    | NO                  | D      |
|                |          | New | 401 101 5810 | OXIDE-MT 0.68 JA 2W | 1    | NO                  |        |
|                | R607     | Old | 401 024 6433 | CARBON 10 JA 1/6W   | 1    | NO                  | D      |
|                |          | New | 401 026 3737 | CARBON 33 JA1/6W    | 1    | NO                  |        |
|                | R611     | Old | 401 025 1635 | CARBON 1.5K JA 1/6W | 1    | NO                  | D      |
|                |          | New | 401 024 9305 | CARBON 1.2K JA 1/6W | 1    | NO                  |        |
|                | R636     | Old | 401 027 2630 | CARBON 5.6K JA 1/6W | 1    | NO                  | D      |
|                |          | New | 401 027 5532 | CARBON 6.8K JA 1/6W | 1    | NO                  |        |
| Page 28        | R646TM   | Old | NOT USED     |                     |      |                     | D      |
|                |          | New | 401 064 2106 | OXIDE-MT 0.47 JA 2W | 1    | NO                  |        |
|                | T471     | Old | 652 001 6644 | TRANS,FLYBACK       | 1    | NO                  | D      |
|                |          | New | 652 002 4816 | TRANS,FLYBACK       | 1    | NO                  |        |
|                | T611     | Old | 645 093 3394 | TRANS,POWER,PULSE   | 1    | NO                  | D      |
|                |          | New | 645 095 6027 | TRANS,POWER,PULSE   | 1    | NO                  |        |

## Service Adjustment with Replacing Memory IC (IC801)

| No  | ITEM     | DATA RANGE | INITIAL SETUP DATA |     | DESCRIPTION                           |
|-----|----------|------------|--------------------|-----|---------------------------------------|
|     |          |            | OLD                | NEW |                                       |
| 01  | RF AGC   | 0~63       | 28                 | 23  | RF AGC Adj.                           |
| 03  | V-POS    | 0~63       | 43                 | 42  | V-Position (V-Centering) Adj. (50Hz)  |
| 04  | V-SHIFT  | 0~15       | 3                  | 7   | V-Phase Adj. (50Hz)                   |
| 05  | V-SIZ    | 0~127      | 33                 | 32  | V-Size Adj. (50Hz)                    |
| 06  | V-LIN    | 0~31       | 10                 | 11  | V-Linearity Adj. (50Hz)               |
| 07  | V-SCO    | 0~31       | 22                 | 15  | Vertical S-Correction Adj. (50Hz)     |
| 10  | H-P60    | -16~+15    | +4                 | +3  | H-Phase Adj. (60Hz) difference val.   |
| 11  | V-S60    | -64~+63    | -1                 | 0   | V-size Adj. (60Hz) difference val.    |
| 14  | OSDC     | 0~7        | 4                  | 5   | OSD Contrast Adj.                     |
| 15  | V-SCP    | 0~7        | 7                  | 5   | V-Size COMP Adj.                      |
| 17  | EWDC     | 0~63       | 35                 | 46  | H-Width / H-Size adj.                 |
| 18  | EWAMP    | 0~63       | 29                 | 26  | EW Parabola / Width ratio             |
| 19  | EWTILT   | 0~63       | 36                 | 30  | EW Trapezium correction               |
| 20  | EWTOP    | 0~15       | 9                  | 5   | EW Corner Top                         |
| 21  | EWBTM    | 0~15       | 12                 | 4   | EW Corner Bottom                      |
| 22  | EWCNRSW  | 0~3        | 0                  | 2   | Select control range for corner corr. |
| 24  | EWDC60   | -32~+31    | +4                 | +2  | H-Width / H-Size Adj. NTSC (60Hz)     |
| 25  | EWAMP60  | -32~+31    | -1                 | +1  | EW Parabola/Width ratio NTSC (60 Hz)  |
| 26  | EWTILT60 | -32~+31    | +3                 | +4  | EW Trapezium correction NTSC (60 Hz)  |
| 27  | EWTOP60  | -16~+15    | 0                  | -1  | EW Corner Top NTSC (60Hz)             |
| 28  | EWBTM60  | -16~+15    | -1                 | +1  | EW Corner Bottom NTSC (60Hz)          |
| 30  | RBIAS    | 0~255      | 0                  | 50  | Red Bias Adj.                         |
| 114 | HBLKL    | 0~7        | 7                  | 6   | H-Blanking Control Left               |
| 152 | OPT COL  | 0~1        | 1                  | 0   | Color System Option                   |

