



SERVICE MANUAL

BA-6 CHASSIS

| <u>MODEL NAME</u> | <u>REMOTE COMMANDER</u> | <u>DESTINATION</u> | <u>CHASSIS NO.</u> |
|---|-------------------------|--------------------|--------------------|
|  KV-27FA310 | RM-Y180 | US | SCC-S61U-A |
|  KV-27FA310 | RM-Y180 | CANADA | SCC-S59Q-A |
| KV-27FS120 | RM-Y195 | US | SCC-S61N-A |
| KV-27FS120 | RM-Y195 | CANADA | SCC-S59J-A |
| KV-29FA310 | RM-Y180 | LATIN NORTH | SCC-S60V-A |
| KV-29FA310 | RM-Y180 | LATIN SOUTH | SCC-S60W-A |
| KV-29FS120 | RM-Y195 | LATIN NORTH | SCC-S73D-A |
| KV-29FS120 | RM-Y195 | LATIN SOUTH | SCC-S73E-A |

ORIGINAL MANUAL ISSUE DATE: 3/2004

 :UPDATED ITEM

| REVISION DATE | SUBJECT |
|---------------|---|
| 3/2004 | No revisions or updates are applicable at this time. |
| 8/2004 | Reissue entire manual |
| | Added KV-27FA310 model for US and Canada |
| 7/2005 | Updated A Board Schematic to correct Y signal. Replaced Page 38 |

TRINITRON® COLOR TELEVISION
SONY®

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| KV-29FS120 | RM-Y195 | LATIN SOUTH | SCC-S73E-A |



KV-27FS120




KV-29FA310

TRINITRON® COLOR TELEVISION

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SPECIFICATIONS

| | KV-27FS120 | KV-29FS120 (L. NORTH) | KV-29FS120 (L. SOUTH) | KV-27FA310 & KV-29FA320 (L. NORTH) | KV-29FA320 (L. SOUTH) |
|--|--|--------------------------|--------------------------|--|--------------------------|
| Power Requirements | 120V, 60Hz | | 220V, 50/60Hz | 120V, 60Hz | 220V, 50/60Hz |
| Number of Inputs/Outputs | | | | | |
| Video ¹⁾ | 3 | | | 3 | |
| S Video ²⁾ | 1 | | | 1 | |
| Y, P_B, P_R ³⁾ | 1 | | | 1 | |
| Audio ⁴⁾ | 2 | | | 2 | |
| Speaker Output (W) | 10W x 2 | | | 7W x 3 | |
| Subwoofer | N/A | | | 20W | |
| Power Consumption (W) | | | | | |
| In Use (Max) | 180W | | 175W | 220W | 215W |
| In Standby (Max) ⁵⁾ | 1W | | 1W | 1W | 1W |
| Dimensions (W x H x D) | | | | | |
| mm | 768 x 589 x 497 mm | | | 784 x 678 x 520.5 mm | |
| in | 30 ^{1/4} x 23 ^{1/4} x 19 ^{5/8} in | | | 30 ^{7/8} x 26 ^{3/4} x 20 ^{1/2} in | |
| Mass | | | | | |
| kg | 45.2 kg | | | 50 kg | |
| lbs | 99 lbs 10 oz | | | 110 lbs 4 oz | |

Television system

American TV standard, NTSC

Channel coverage

VHF: 2-13/ UHF: 14-69/ CATV: 1-125

Picture tube

FD Trinitron[®] tube

Visible screen size

27-inch picture measured diagonally

Actual screen size

29-inch measured diagonally

Supplied Accessories

Remote Commander RM-Y195
(All Except KV-27FA310/29FA310 Only)
Remote Commander RM-Y180
(KV-27FA310/29FA310 Only)
Two Size AA (R6) Batteries

- 1) 1 Vp-p 75 ohms unbalanced, sync negative
2) Y: 1 Vp-p 75 ohms unbalanced, sync negative
C: 0.286 Vp-p (Burst signal), 75 ohms
3) Y: 1.0 Vp-p, 75 ohms, sync negative; PB: 0.7 Vp-p, 75 ohms;
PR Vp-p, 75 ohms.
4) 500 mVrms (100% modulation), Impedance: 47 kilohms
5) This specification is the maximum wattage.

TruSurround[™] by SRS (●)

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● SRS (SOUND RETRIEVAL SYSTEM)

The ● SRS (SOUND RETRIEVAL SYSTEM) is manufactured by Sony Corporation under license from SRS Labs, Inc. It is covered by U.S. Patent No. 4,748,669. Other U.S. and foreign patents pending.

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WARNINGS AND CAUTIONS

CAUTION


Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield, or carbon painted on the CRT, after removing the anode.

WARNING!!

An isolation transformer should be used during any service to avoid possible shock hazard, because of live chassis. The chassis of this receiver is directly connected to the AC power line.



SAFETY-RELATED COMPONENT WARNING!!

Components identified by shading and  mark on the schematic diagrams, exploded views, and in the parts list are critical for safe operation. Replace these components with Sony parts whose part numbers appear as shown in this manual or in supplements published by Sony. Circuit adjustments that are critical for safe operation are identified in this manual. Follow these procedures whenever critical components are replaced or improper operation is suspected.


ATTENTION!!

Après avoir déconnecté le cap de l'anode, court-circuiter l'anode du tube cathodique et celui de l'anode du cap au châssis métallique de l'appareil, ou la couche de carbone peinte sur le tube cathodique ou au blindage du tube cathodique.

Afin d'éviter tout risque d'électrocution provenant d'un châssis sous tension, un transformateur d'isolement doit être utilisé lors de tout dépannage. Le châssis de ce récepteur est directement raccordé à l'alimentation du secteur.



ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

Les composants identifiés par une trame et par une marque  sur les schémas de principe, les vues explosées et les listes de pièces sont d'une importance critique pour la sécurité du fonctionnement. Ne les remplacer que par des composants Sony dont le numéro de pièce est indiqué dans le présent manuel ou dans des suppléments publiés par Sony. Les réglages de circuit dont l'importance est critique pour la sécurité du fonctionnement sont identifiés dans le présent manuel. Suivre ces procédures lors de chaque remplacement de composants critiques, ou lorsqu'un mauvais fonctionnement suspecte.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or touching high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

Leakage Test

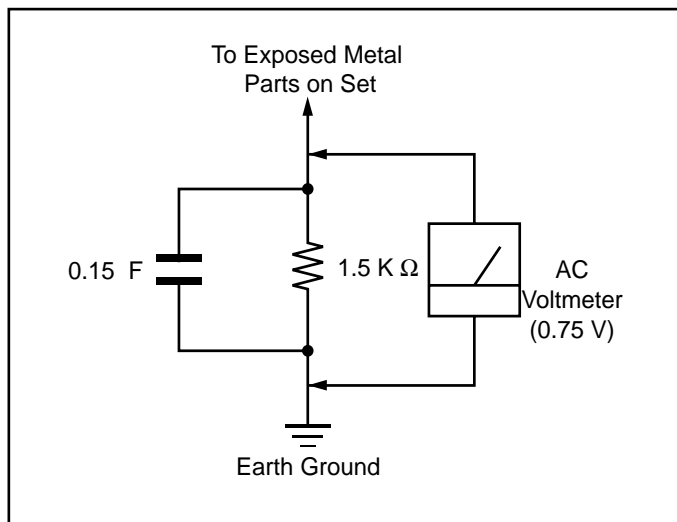


Figure A. Using an AC voltmeter to check AC leakage.

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63TRD are examples of passive VOMs that are suitable. Nearly all battery-operated digital multimeters that have a 2 VAC range are suitable (see Figure A).

How to Find a Good Earth Ground

A cold-water pipe is a guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms.

If a cold-water pipe is not accessible, connect a 60- to 100-watt trouble- light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side on the line; the lamp should light at normal brilliance if the screw is at ground potential (see Figure B).

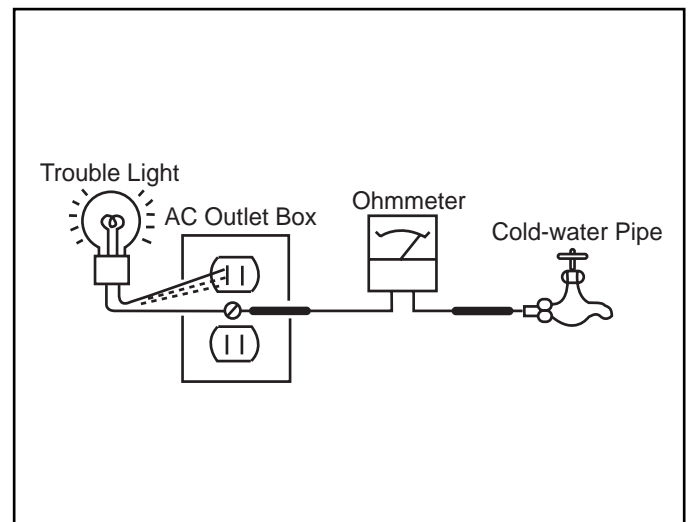


Figure B. Checking for earth ground.

SELF-DIAGNOSTIC FUNCTION



The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER LED will automatically begin to flash. The number of times the LED flashes translates to a probable source of the problem. A definition of the STANDBY/TIMER LED flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the Remote Commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

Diagnostic Test Indicators

When an error occurs, the STANDBY/TIMER LED will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the LED will identify the first of the problem areas.

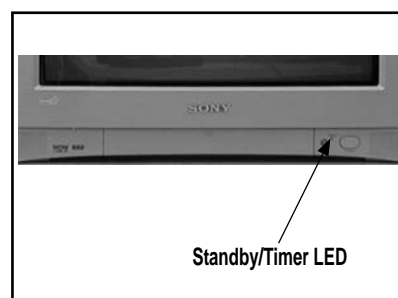
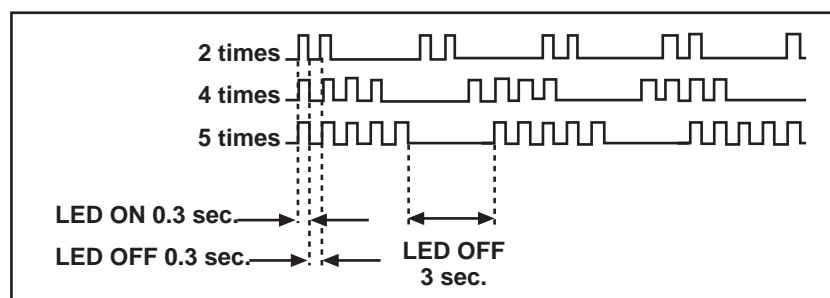
Results for all of the following diagnostic items are displayed on screen. No error has occurred if the screen displays a "0".

| Diagnostic Item Description | No. of times STANDBY/ TIMER lamp flashes | Self-Diagnostic Display/ Diagnostic Result | Probable Cause Location | Detected Symptoms |
|-----------------------------|--|--|---|--|
| Power does not turn on | Does not light | ————— | <ul style="list-style-type: none"> Power cord is not plugged in. Fuse is burned out (F601). (A Board) | <ul style="list-style-type: none"> Power does not come on. No power is supplied to the TV. AC Power supply is faulty. |
| +B overcurrent (OCP)* | 2 times | 2:0 or 2:1 | <ul style="list-style-type: none"> H.OUT (Q505) is shorted. (A Board) IC2751 is shorted. (CW Board) | <ul style="list-style-type: none"> Power does not come on. Load on power line is shorted. |
| I-Prot | 4 times | 4:0 or 4:1 | <ul style="list-style-type: none"> +13V is not supplied. (A Board) IC545 is faulty. (A Board) | <ul style="list-style-type: none"> Has entered standby state after horizontal raster. Vertical deflection pulse is stopped. Power line is shorted or power supply is stopped. |
| IK (AKB) | 5 times | 5:0 or 5:1 | <ul style="list-style-type: none"> IC001 is faulty. (A Board) Screen (G2) is improperly adjusted.** | <ul style="list-style-type: none"> No raster is generated. CRT Cathode current detection reference pulse output is small. |

*If a +B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously. The symptom that is diagnosed first by the microcontroller is displayed on the screen.

**Refer to Screen (G2) Adjustments in Section 2-4. of this manual.

Display of Standby/Timer LED Flash Count



| Diagnostic Item | Flash Count* |
|-----------------|--------------|
| +B Overcurrent | 2 times |
| I-Prot | 4 times |
| IK (AKB) | 5 times |

*One flash count is not used for self-diagnostic.

Stopping the Standby/Timer LED Flash

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER LAMP from flashing.

Self-Diagnostic Screen Display

For errors with symptoms such as “power sometimes shuts off” or “screen sometimes goes out” that cannot be confirmed, it is possible to bring up past occurrences of failure on the screen for confirmation.

To Bring Up Screen Test

In standby mode, press buttons on the Remote Commander sequentially, in rapid succession, as shown below:

Display → Channel 5 → Sound Volume → Power ON



Note that this differs from entering the Service Mode (Sound Volume +).

Self-Diagnostic Screen Display

| SELF DIAGNOSTIC | | |
|-----------------|--------|-----|
| 2: | +B OCP | 0 |
| 3: | +B OVP | N/A |
| 4: | VSTOP | 0 |
| 5: | AKB | 1 |
| 101: | WDT | N/A |

Numeral “0” means that no fault was detected.

Numeral “1” means a fault was detected one time only.

Handling of Self-Diagnostic Screen Display

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to “0”.

Unless the result display is cleared to “0”, the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

Clearing the Result Display

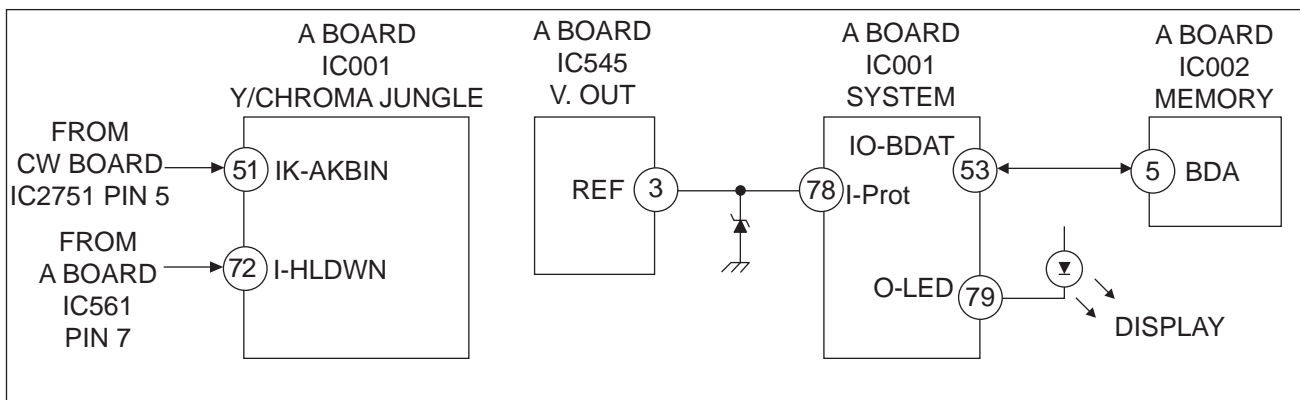
To clear the result display to “0”, press buttons on the Remote Commander sequentially when the diagnostic screen is displayed, as shown below:

Channel 8 → ENTER

Quitting the Self-Diagnostic Screen

To quit the entire self-diagnostic screen, turn off the power switch on the Remote Commander or the main unit.

Self-Diagnostic Circuit



+B overcurrent (OCP)

Occurs when an overcurrent on the +B (135V) line is detected by pin 72 of IC001 (A Board). If the voltage of pin 72 of IC001 (A Board) is less than 1V when V.SYNC is more than seven verticals in a period, the unit will automatically turn off.

I-Prot

Occurs when an absence of the vertical deflection pulse is detected by pin 78 of IC001 (A Board). Power supply will shut down when waveform interval exceeds 2 seconds.

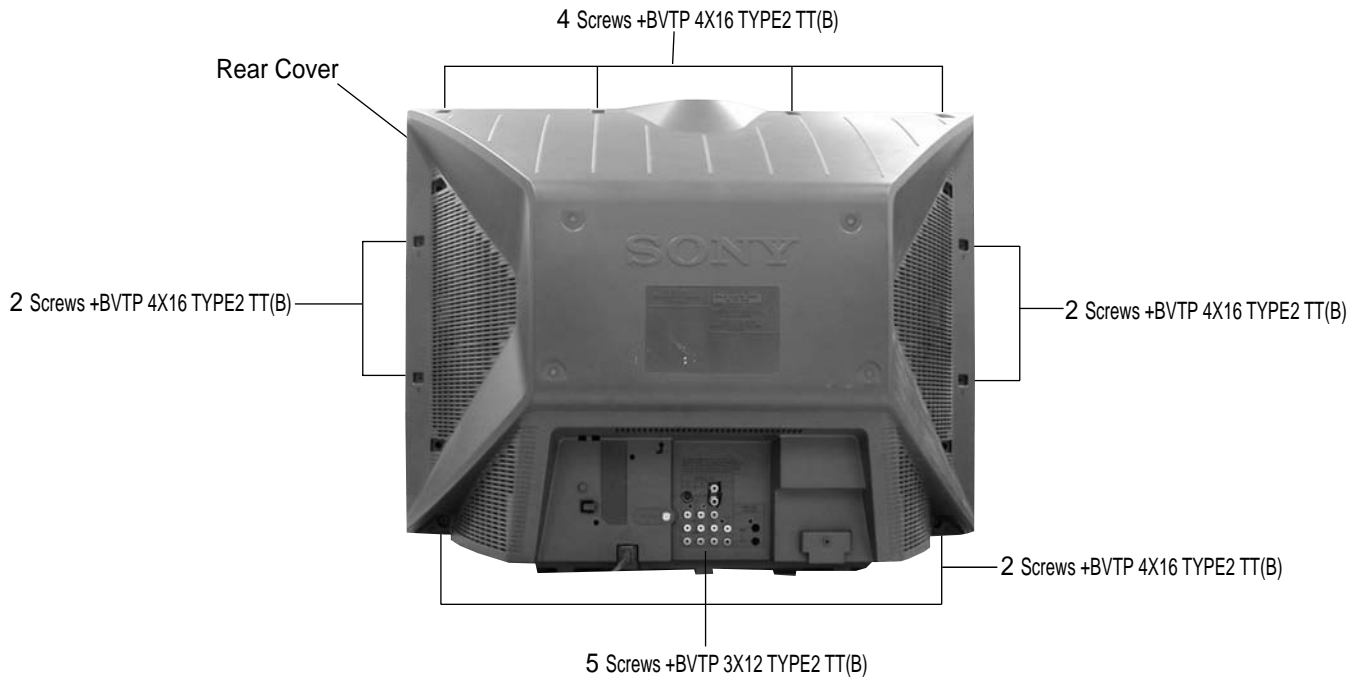
IK (AKB)

If the RGB levels* do not balance within 2 seconds after the power is turned on, this error will be detected by IC001 (A Board). TV will stay on, but there will be no picture.

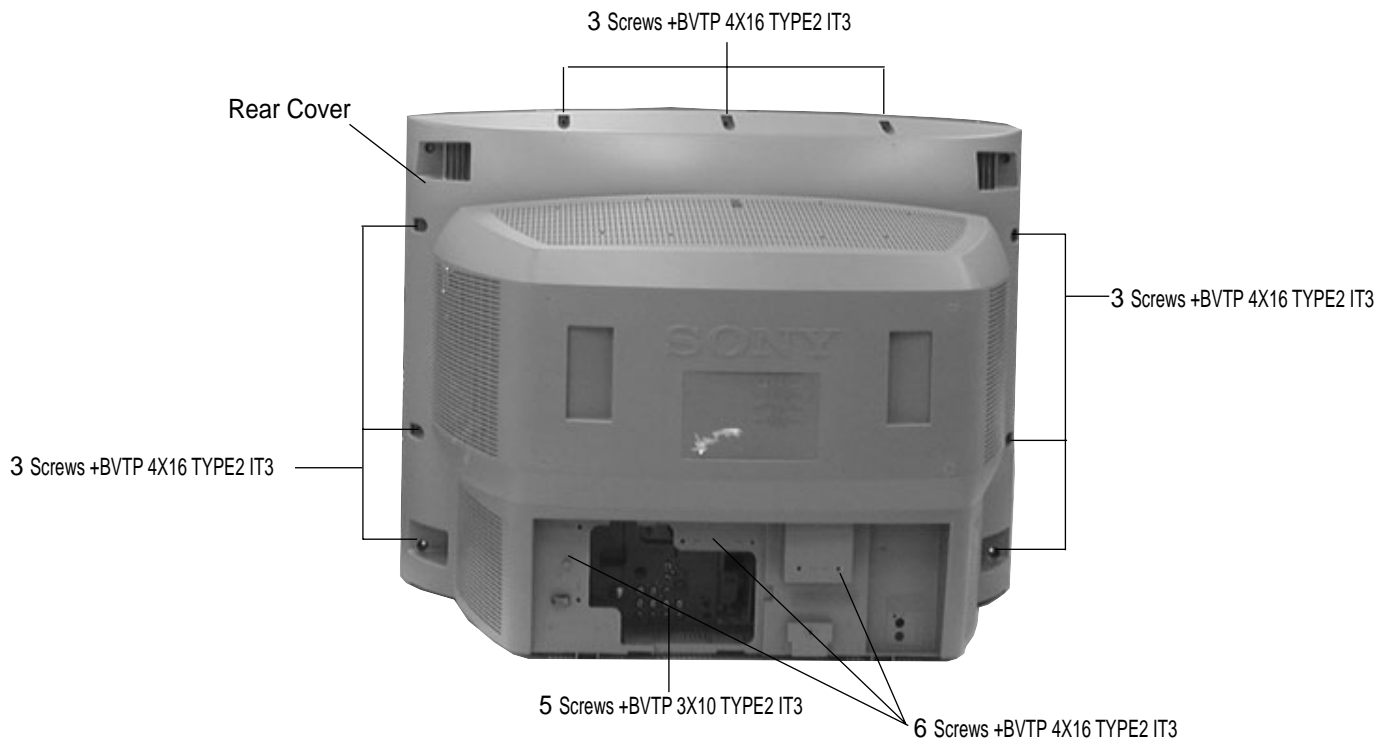
*(Refers to the RGB levels of the AKB detection Ref pulse that detects 1K).

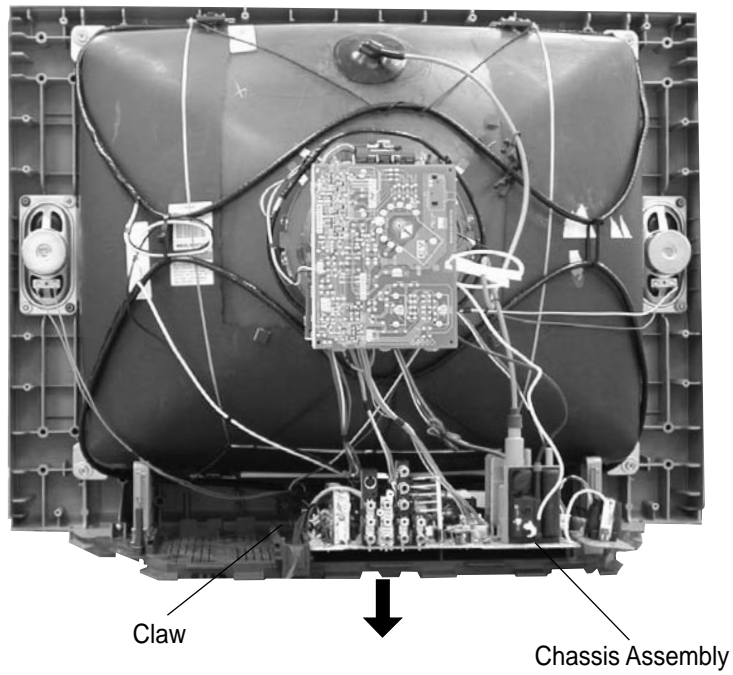
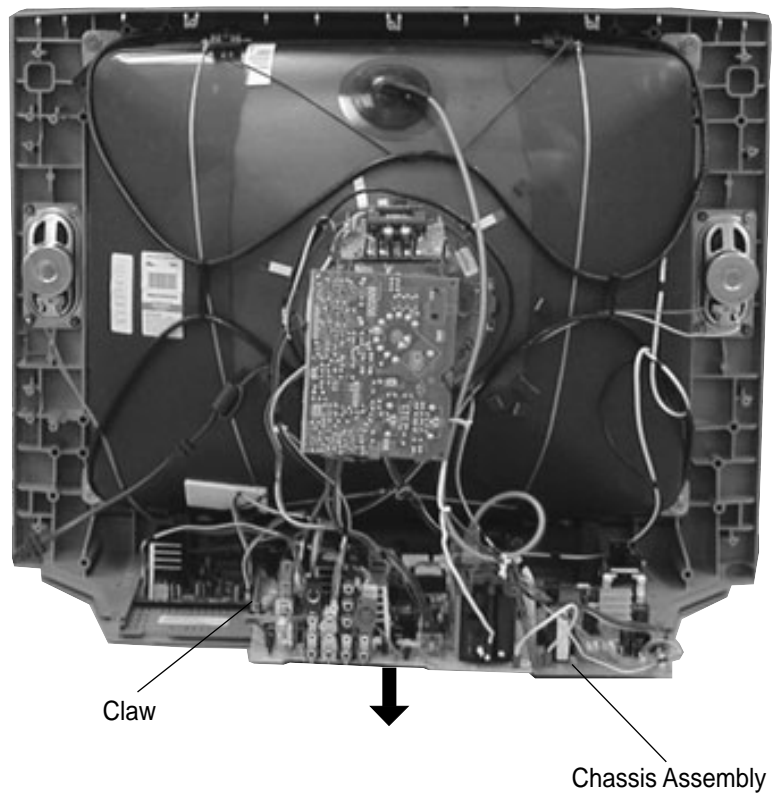
SECTION 1: DISASSEMBLY

1-1. REAR COVER REMOVAL (ALL EXCEPT KV-27FA310/29FA310)



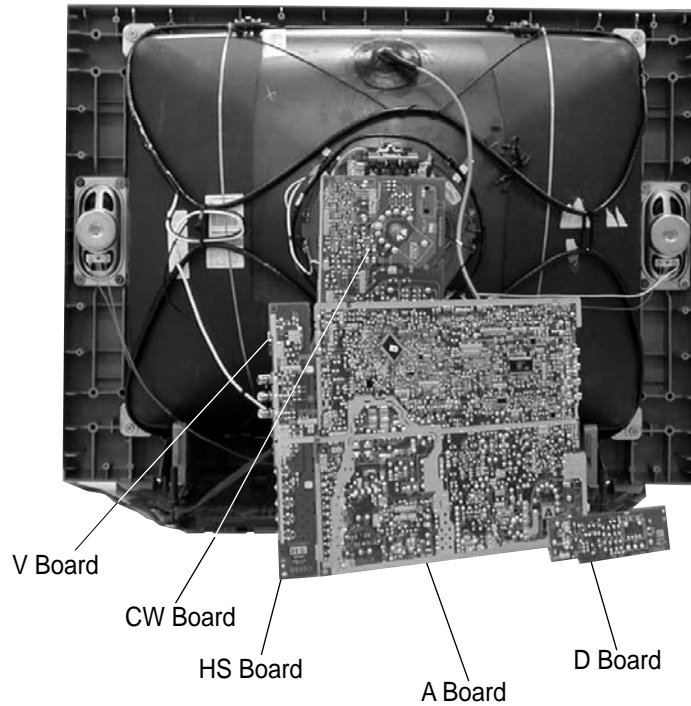
1-2. REAR COVER REMOVAL (KV-27FA310/29FA310 ONLY)



1-3. CHASSIS ASSEMBLY REMOVAL (ALL EXCEPT KV-27FA310/29FA310)**1-4. CHASSIS ASSEMBLY REMOVAL (KV-27FA310/29FA310 ONLY)**

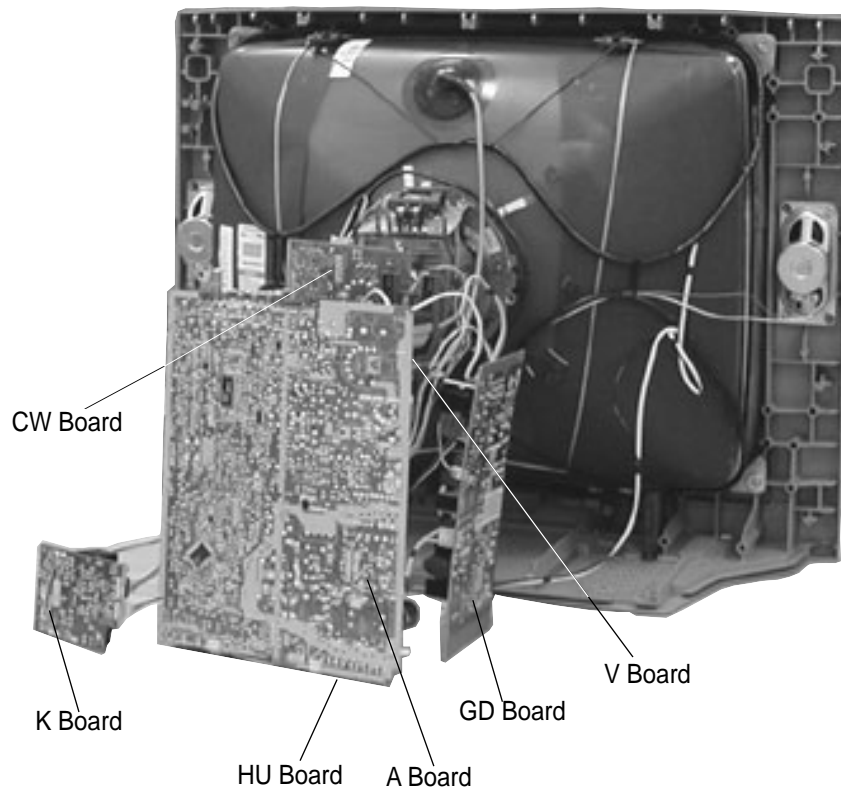
1-5. SERVICE POSITION (ALL EXCEPT KV-27FA310/29FA310)

- ① Press on catch tab to release A Board.
- ② Disconnect cables as needed to allow A Board to be removed.



1-6. SERVICE POSITION (KV-27FA310/29FA310 ONLY)

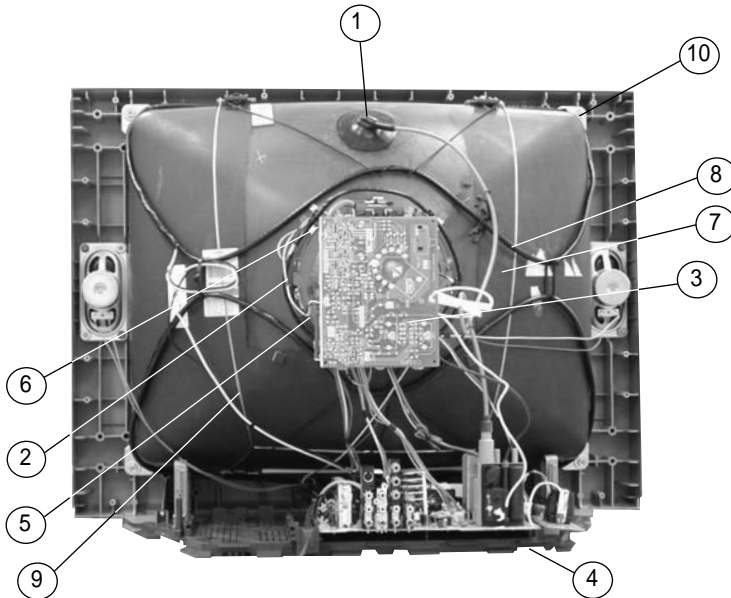
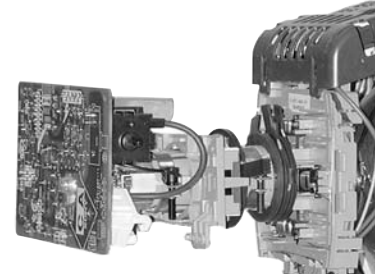
- ① Press on catch tab to release A Board.
- ② Disconnect cables as needed to allow A Board to be removed.



1-7. PICTURE TUBE REMOVAL

WARNING: BEFORE REMOVING THE ANODE CAP

High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT before attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.



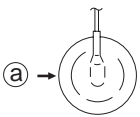
1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the deflection yoke, neck assembly, degaussing coils and CRT grounding strap.
3. Remove the CW Board from the CRT.
4. Remove the chassis assembly.
5. Loosen the neck assembly fixing screw and remove.
6. Loosen the deflection yoke fixing screw and remove.
7. Place the set with the CRT face down on a cushion and remove the degaussing coil holders.
8. Remove the degaussing coils.
9. Remove the CRT grounding strap and spring tension devices.
10. Unscrew the four CRT fixing screws [located on each CRT corner] and remove the CRT [Take care not to handle the CRT by the neck].

ANODE CAP REMOVAL PROCEDURE

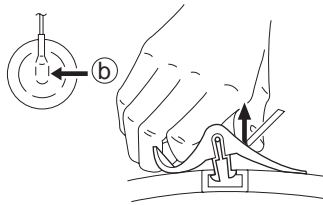
WARNING: High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT **before** attempting to remove the anode cap. Short between anode and coated earth ground strap of CRT.

NOTE: After removing the anode cap, short circuit the anode of the picture tube and the anode cap to either the metal chassis, CRT shield, or carbon painted on the CRT.

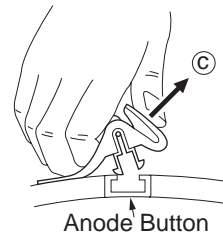
REMOVAL PROCEDURES



Turn up one side of the rubber cap in the direction indicated by arrow (a) .



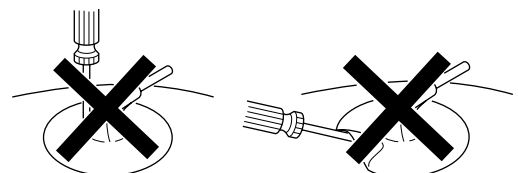
Use your thumb to pull the rubber cap firmly in the direction indicated by arrow (b) .



When one side of the rubber cap separates from the anode button, the anode cap can be removed by turning the rubber cap and pulling it in the direction of arrow (c) .

HOW TO HANDLE AN ANODE CAP

1. Do not use sharp objects which may cause damage to the surface of the anode cap.
2. To avoid damaging the anode cap, do not squeeze the rubber covering too hard. A material fitting called a shatter-hook terminal is built into the rubber.
3. Do not force turn the foot of the rubber cover. This may cause the shatter-hook terminal to protrude and damage the rubber.



SECTION 2: SET-UP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

These adjustments should be performed with rated power supply voltage unless otherwise noted.

Set the controls as follows unless otherwise noted:

VIDEO MODE: Pro

PICTURE CONTROL: Normal

BRIGHTNESS CONTROL: Normal

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G2)
5. White Balance

Note Test Equipment Required:

1. Color Bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital Multimeter

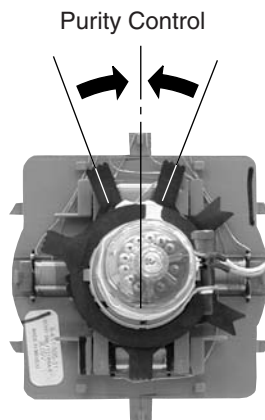
2-1. BEAM LANDING

Before beginning adjustment procedure:

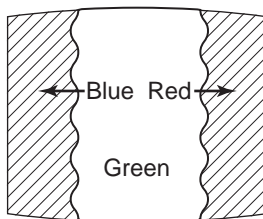
1. Feed in the white pattern signal.

Adjustment Procedure

1. Input a raster signal with the pattern generator.
2. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown below:

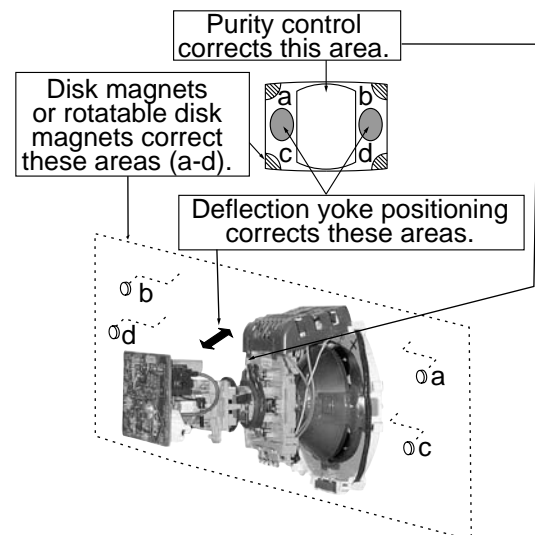
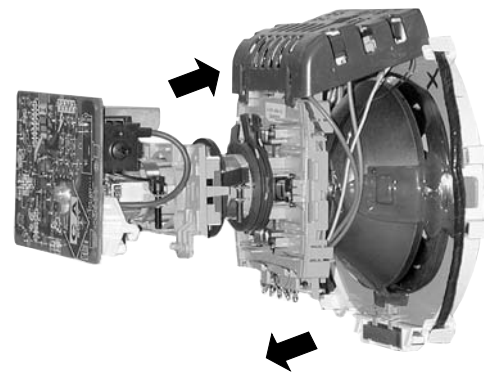


3. Turn the raster signal of the pattern generator to green.
4. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are even on both sides.



5. Move the deflection yoke forward, and adjust so that the entire screen becomes green.

6. Switch over the raster signal to red and blue and confirm the condition.
7. When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.
8. If landing at the corner is not right, adjust by using the disk magnets.



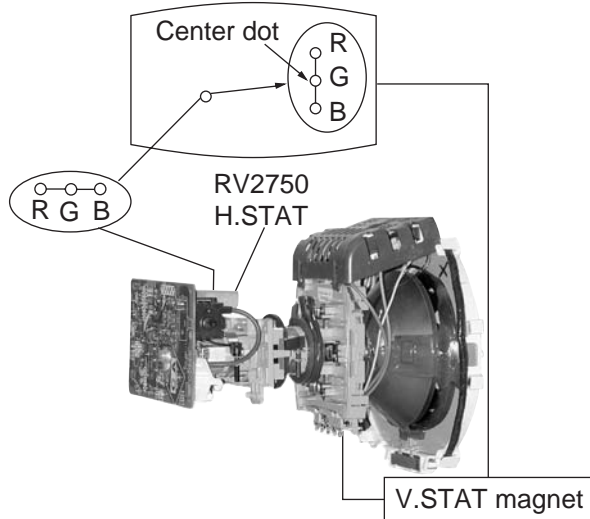
2-2. CONVERGENCE

Before starting convergence adjustments:

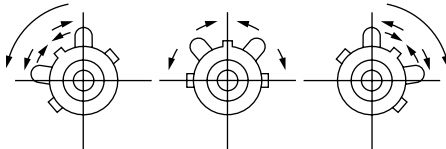
1. Perform FOCUS, VLIN and VSIZE adjustments.
2. Set BRIGHTNESS control to minimum.
3. Feed in dot pattern.

Vertical Static Convergence

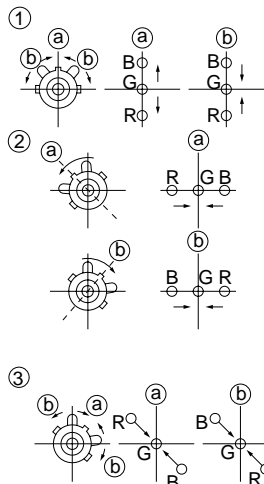
1. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen.



2. Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.



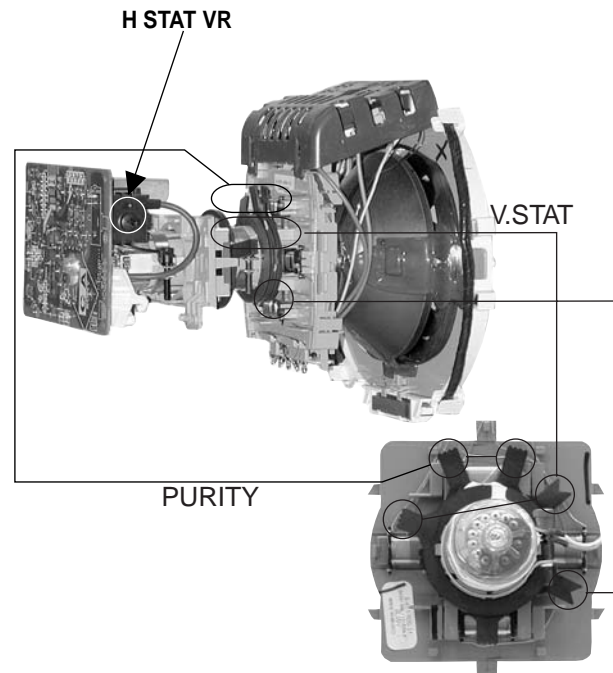
When the V. STAT magnet is moved in the direction of arrow a and b, red, green, and blue dots move as shown below:



Horizontal Static Convergence

If the blue dot does not converge with the red and green dots, perform the following:

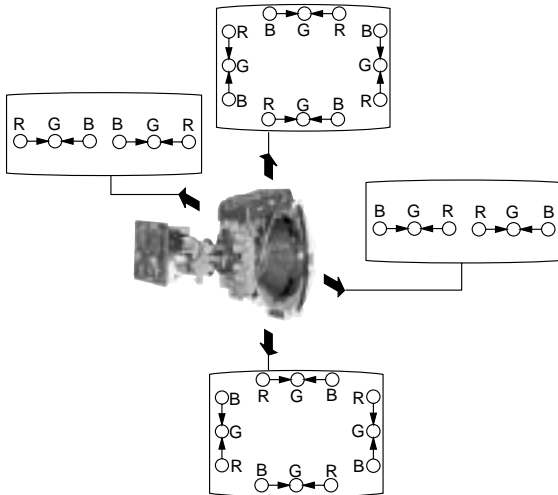
1. Move H STAT VR magnet (a) to correct insufficient H.Static convergence.



Dynamic Convergence Adjustment

Before performing this adjustment, perform Horizontal and Vertical Static Convergence Adjustment.

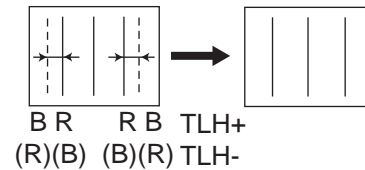
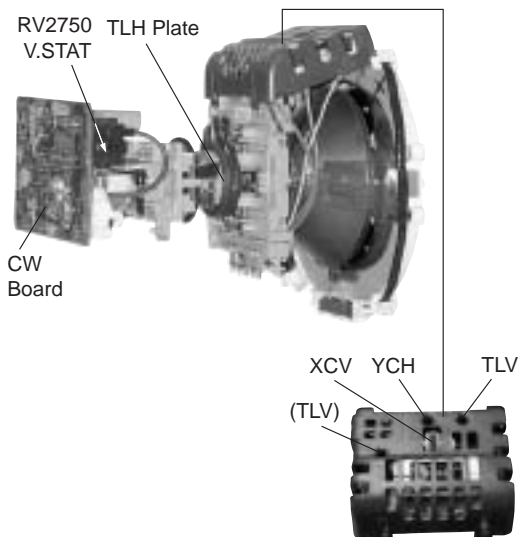
1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below:



4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

TLH Plate Adjustment

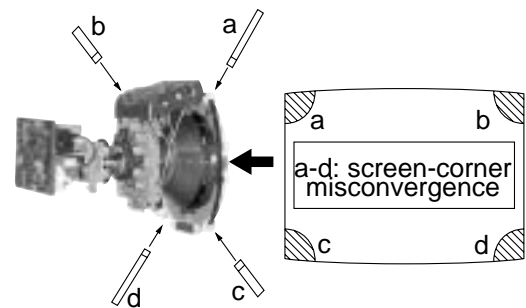
1. Input crosshatch pattern.
2. Adjust PICTURE QUALITY to standard, PICTURE and BRIGHTNESS to 50%, and OTHER to standard.
3. Adjust the Horizontal Convergence of red and blue dots by tilting the TLH plate on the deflection yoke.



4. Adjust XCV core to balance X axis.
 5. Adjust YCH VR to balance Y axis.
 6. Adjust vertical red and blue convergence with V.TILT (TLV VR.)
- Note: Perform adjustment 3-6 while tracking items 1 and 2.

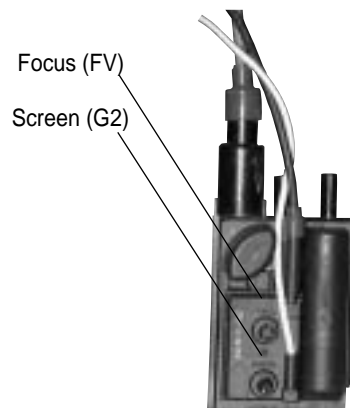
Screen-Corner Convergence

1. Affix a permalloy assembly corresponding to the misconverged areas:



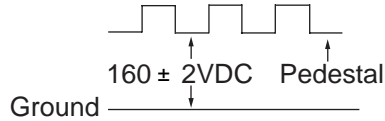
2-3. FOCUS

1. Adjust FOCUS control for best pictures.



2-4. SCREEN (G2)

1. Input a dot pattern.
2. Set the PICTURE and BRIGHTNESS controls at minimum and COLOR control at normal.
3. Adjust SBRT, GCUT, BCUT in service mode with an oscilloscope as shown below so that voltages on the red, green, and blue cathodes are $160 \pm 2\text{VDC}$.



4. Observe the screen and adjust SCREEN (G2) VR in FBT to obtain the faintly visible background of dot signal.

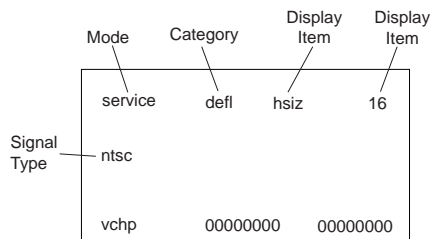
2-5. METHOD OF SETTING THE SERVICE ADJUSTMENT MODE

Service Mode Procedure

1. Standby mode (power off).
2. Press **Display** → Channel **5** → Sound Volume **+** → Power on the Remote Commander (press each button within a second).

Service Adjustment Mode On

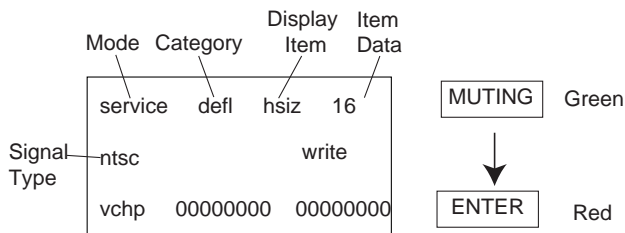
1. The CRT displays the time being adjusted.



2. Press **1** or **4** on the Remote Commander to select the time.
3. Press **3** or **6** on the Remote Commander to change the data.
4. Press **MUTING** then **ENTER** to save into the memory.

Service Adjustment Mode Memory

Turn the set off then on to exit Service Adjustment Mode.






2-6. WHITE BALANCE ADJUSTMENTS

1. Input an entire white signal with burst.
2. Set to Service Adjustment Mode.
3. Set the PICTURE and BRIGHTNESS to minimum.
4. Adjust with SBRT if necessary.
5. Select GCUT and BCUT with **1** and **4**.
6. Adjust with **3** and **6** for the best white balance.
7. Set the PICTURE and BRIGHTNESS to maximum.
8. Select GDRV and BDRV with **1** and **4**.
9. Adjust with **3** and **6** for the best white balance.
10. Press **MUTING** then **ENTER** to save into the memory.

SECTION 3: SAFETY RELATED ADJUSTMENTS

3-1. R564 CONFIRMATION METHOD (HV HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components which are marked with  on the schematic diagram:

| Part Replaced () | Adjustment () |
|--|--|
| DY, T585, CRT, IC001, IC561, IC600, IC604, C506, C507, C508, C510, C511, C513, C514, L588, D566, D567, D568, PH602, R526, R564, R565, R566, R851, T510, T511.....A Board | HV HOLD-DOWN R564 |


Preparation Before Confirmation

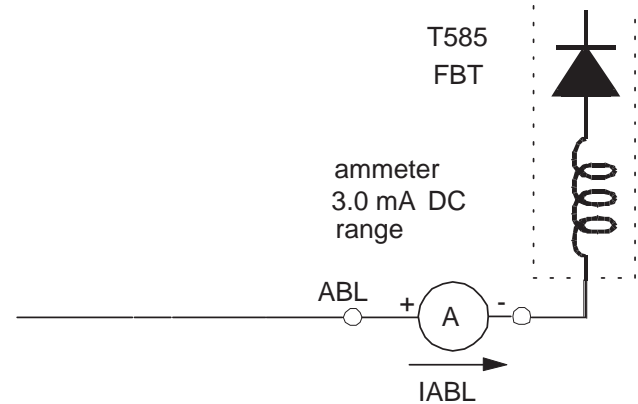
1. Using a Variac, apply AC input voltage: 120 ± 2 VAC.
2. Turn the POWER switch ON.
3. Input a white signal and set the PICTURE and BRIGHTNESS controls to maximum.
4. Confirm that the voltage between C566 (+) or TP30 and ground is more than 99VDC.

Hold-Down Operation Confirmation


1. Connect the current meter between Pin 11 of the FBT (T585) and the PWB land where Pin 11 would normally attach (See Figure 1 on the next page).
2. Input a dot signal and adjust the ABL current to follow with the PICTURE and BRIGHTNESS control: $IABL = 140 \pm 100\mu A$.
3. Confirm the voltage of A Board TP-23 is 135.6 ± 1.0 VDC.
4. Connect the digital voltmeter and the DC power supply via Diode 1SS119 to C566 (+) and ground (See Figure 1 on next page).
5. Increase the DC power voltage gradually until the picture blanks out.
6. Turn DC power source off immediately.
7. Read the digital voltmeter indication (Standard $\leq 114.6 + 0VDC / - 0.3DC$).
8. Input 100 IRE White Signal and adjust the ABL current to follow with the PICTURE and BRIGHTNESS control: $IABL = 1820\mu A \pm 200\mu A$.
9. Repeat steps 4 through 7.

Hold-Down Readjustment

If the setting indicated in Step 2 of Hold-Down Operation Confirmation cannot be met, readjustment should be performed by altering the resistance value of R564 component marked with .



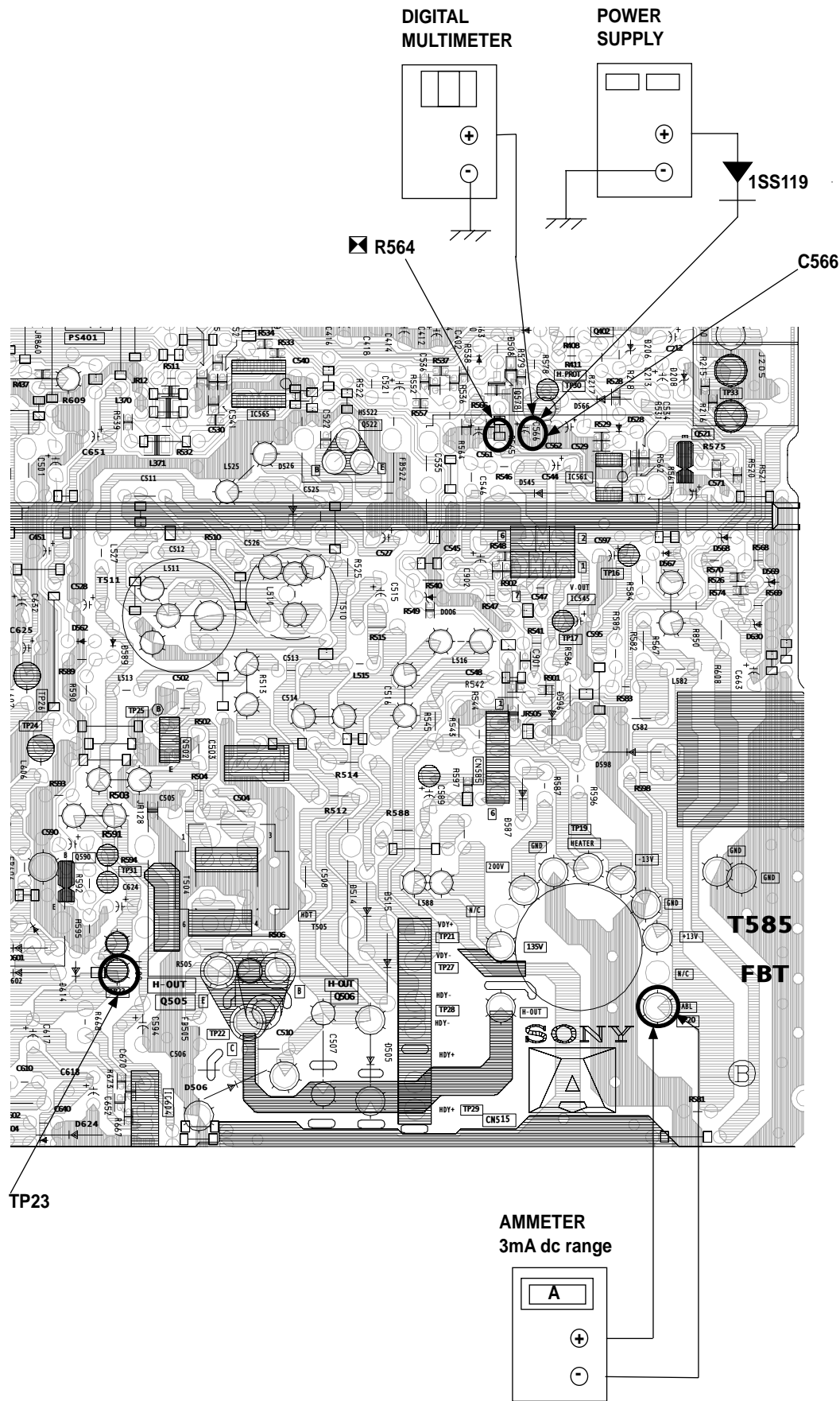
3-2. B+ VOLTAGE CONFIRMATION AND ADJUSTMENT

Note: The following adjustments should always be performed when replacing the following components, which are marked with  on the schematic diagram on the A Board:

A BOARD:  IC604, PH602

1. Using a Variac, apply AC input voltage: $130 + 2.0 / - 0.0$ VAC.
2. Input a DOT pattern at Q.C.
3. Set the PICTURE and the BRIGHTNESS controls to minimum.
4. Confirm the voltage of A Board between TP-23 & Ground is $=135.6 \pm 1$ VDC.
5. If step 4 is not satisfied, replace the components listed above, then repeat steps 1 through 3.

FIGURE 1



SECTION 4: CIRCUIT ADJUSTMENTS

Electrical Adjustments by Remote Commander

Use the Remote Commander (RM-Y180, RM-Y195) to perform the circuit adjustments in this section.

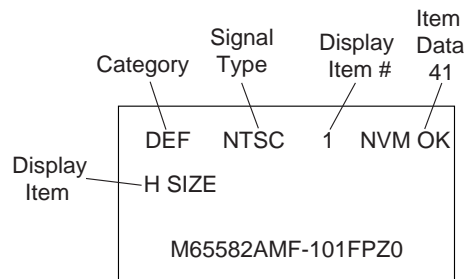
Test Equipment Required: 1. Pattern generator 2. Frequency counter 3. Digital multimeter 4. Audio oscillator

4-1. SETTING THE SERVICE ADJUSTMENT MODE

- Standby mode (Power off).
- Press the following buttons on the remote commander within a second of each other:
Display → **Channel 5** → **Sound Volume +** → **Power**

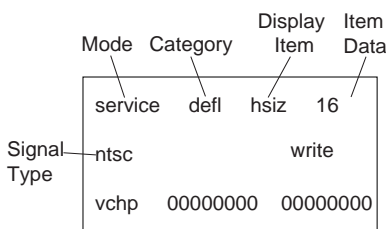
Service Adjustment Mode On

- The CRT displays the item being adjusted.

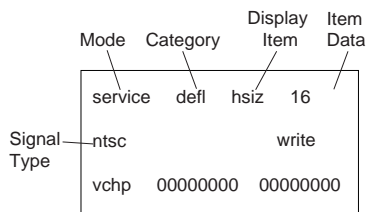


- Press **1** or **4** on the Remote Commander to select the item.
- Press **3** or **6** on the Remote Commander to change the data.
- Press **MUTING** then **ENTER** to write into memory.

Service Adjustment Mode Memory



- Press **8** then **ENTER** on the Remote Commander to initialize.



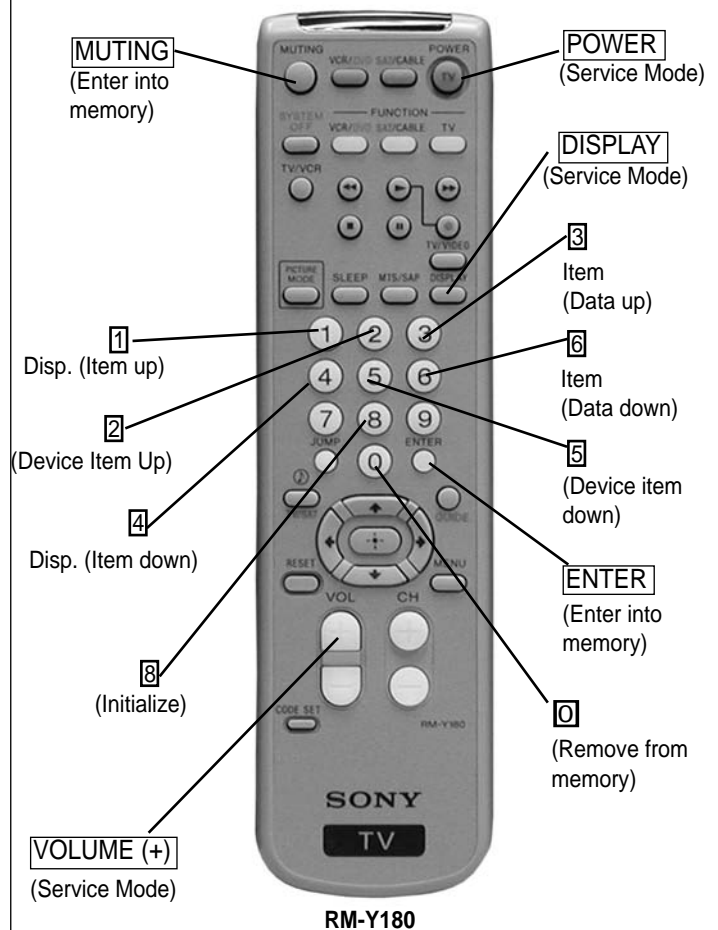
Carry out Step 1 when adjusting IDs 0-7 and when replacing and adjusting IC002

- Press **MUTING** then **ENTER** to write into memory.
- Turn set off then on to exit Service Adjustment Mode.

4-2. MEMORY WRITE CONFIRMATION METHOD

- After adjustment, pull out the plug from the AC outlet, then replace the plug in the AC outlet again.
- Turn the power switch ON and set to Service Mode.
- Call the adjusted items again to confirm they were adjusted.

4-3. REMOTE ADJUSTMENT BUTTONS AND INDICATORS



4-4. SERVICE DATA LISTS

| Service Group | Fix/Var | No. | Name | Description | NTSC Init Data |
|---------------|---------|-----|------|---|----------------|
| VERSION | Fix | 0 | VER | Microprocessor version information | = |
| DEF | VAR | 1 | HSIZ | H-SIZE (EW DC : YUV OFFSET) | 47 |
| | VAR | 2 | HPOS | H POSITION: YUV OFFSET | 36 |
| | VAR | 3 | VSIZ | V RAMP SIZE: YUV OFFSET | 28 |
| | VAR | 4 | VPOS | V POSITION (RAMP DC) NOT USEFUL: YUV OFFSET | 37 |
| | VAR | 5 | VLIN | V LINEARITY | 32 |
| | VAR | 6 | SCOR | S CORRECTION | 49 |
| | VAR | 7 | VBOW | BOW | 31 |
| | VAR | 8 | VANG | ANGLE | 37 |
| | VAR | 9 | TRAP | EW TRAPESIUM | 24 |
| | VAR | 10 | PAMP | PARABOLA (EW PIN) | 49 |
| | VAR | 11 | UPIN | UPPER CORNER (UPPER PIN) | 31 |
| | VAR | 12 | LPIN | LOWER CORNER (LOWER PIN) | 30 |
| | VAR | 13 | TROT | TROT | 109 |
| | VAR | 14 | HBLK | FBPBLK (H BLK MODE SELECT) | 0 |
| | VAR | 15 | RBLK | HBLK R POS (HBLK REAR TIMING: YUV OFFSET) | 15 |
| | VAR | 16 | LBLK | HBLK F POS (HBLK FRONT TIMING: YUV OFFSET) | 41 |
| | FIX | 17 | VLK | VLK POS (V BLK WIDTH) | 0 |
| | FIX | 18 | HMSK | Macro OFF (TOP VEND [WHEN MACROVISION] PREVENT OFF) | 0 |
| | FIX | 19 | HDW | IIC_HOUT_DUTY (H PULSE WIDTH [25u/19u] | 1 |
| | FIX | 20 | AFC | H AFC Gain (AFC GAIN) | 0 |
| | FIX | 21 | AFC1 | H Charge pump (AFC1 TIME CONSTANT) | 3 |
| | FIX | 22 | AFCW | AFC1 PULLIN (AFC1 PULL IN WIDE) | 0 |
| | FIX | 23 | CDMD | V CD MODE (V DET WINDOW SW TIMING) | 1 |
| | FIX | 24 | HSS | SYNC SLICE LVL(H) (SYNC SLICE LEVEL [H sepa]) | 0 |
| | FIX | 25 | VSS | SYNC SLICE LVL(L) (SYNC SLICE LEVEL [V sepa]) | 3 |
| | FIX | 26 | SLDN | AUTO SLICE DOWN (AUTO SLICE LEVEL DOWN) | 0 |
| | FIX | 27 | SLUP | AUTO SLICE UP (AUTO SLICE LEVEL UP) | 0 |
| | FIX | 28 | JPSW | VJPSW (JUMP SW) | 0 |
| | FIX | 29 | HOSC | H VCO FOR OFFSET ADJUST OFFSET | 7 |
| | FIX | 30 | EHT | EHT | 4 |
| | FIX | 31 | EHTG | EHT GAIN (EHT MODE) | 1 |

| Service Group | Fix/ Var | No. | Name | Item name & (Description) | NTSC Init Data |
|---------------|----------|-----|------|-----------------------------|----------------|
| 16 : 9 | VAR | 1 | VSIZ | V RAMP SIZE | 48 |
| | VAR | 2 | VPOS | V POSITION (RAMP DC) | 40 |
| | VAR | 3 | VLIN | V LINEARITY | 26 |
| | VAR | 4 | SCOR | S CORRECTION | 24 |
| | VAR | 5 | TRAP | EW TRAPESIUM | 22 |
| | VAR | 6 | PAMP | PARABOLA (EW PIN) | 24 |
| | VAR | 7 | UPIN | UPPER CORNER (UPPER PIN) | 31 |
| | VAR | 8 | LPIN | LOWER CORNER (LOWER PIN) | 31 |
| | VAR | 9 | ABLG | ABL GAIN | 15 |
| | VAR | 10 | SCON | SUB CONTRAST LEVEL | 13 |
| | VAR | 11 | VPW | JUMP PULSE WIDTH | 1 |

| Service Group | Fix/ Var | No. | Name | Item name & (Description) | NTSC Init Data | Video | YUV | 16:09 |
|---------------|----------|-----|------|---|----------------|-------|-----|-------|
| VP1 | VAR | 1 | RDRV | R DRIVE | 64 | 64 | 64 | N/A |
| | VAR | 2 | GDRV | G DRIVE: GDOF OFFSET (only Color Temp. "Warm") | 45 | 45 | 48 | N/A |
| | VAR | 3 | BDRV | B DRIVE: BDOF OFFSET (only Color Temp. "Warm") | 45 | 45 | 44 | N/A |
| | VAR | 4 | RCUT | HARDWARE AKB (R) CMP DATA | 120 | 120 | 120 | N/A |
| | VAR | 5 | GCUT | HARDWARE AKB (G) CMP DATA | 91 | 91 | 90 | N/A |
| | VAR | 6 | BCUT | HARDWARE AKB (B) CMP DATA | 87 | 87 | 105 | N/A |
| | VAR | 7 | SCON | SUB CONTRAST LEVEL | 19 | 19 | 19 | N/A |
| | VAR | 8 | SHUE | SUB TINT (HUE) | 7 | 7 | 7 | N/A |
| | VAR | 9 | SCOL | SUB COLOR LEVEL | 14 | 14 | 24 | N/A |
| | VAR | 10 | SBRT | SUB BRIGHTNESS | 13 | 13 | 15 | N/A |
| | FIX | 11 | RON | R OUTPUT ON (0:R OUTPUT OFF 1:R OUTPUT ON) | 1 | | | |
| | FIX | 12 | GON | G OUTPUT ON (0:R OUTPUT OFF 1:R OUTPUT ON) | 1 | | | |
| | FIX | 13 | BON | B OUTPUT ON (0:R OUTPUT OFF 1:R OUTPUT ON) | 1 | | | |
| | FIX | 14 | BLLV | BLUE STRETCH (00:NO<->11:DEEP) only Color Temp "Cool" | 1 | | | |
| | FIX | 15 | MTRX | MATRIX RATIO SELECT | 0 | | | |
| | FIX | 16 | AXIS | R-Y PHASE SELECT | 52 | | | |
| | VAR | 17 | SSHO | SUB SHARPNESS GAIN (OVER) RF/VIDEO | 10 | 25 | 25 | N/A |
| | VAR | 18 | SSHP | SUB SHARPNESS GAIN (PRE) RF/VIDEO | 15 | 30 | 30 | N/A |
| | VAR | 19 | SHPF | SHARPNESS FOR (00:2 CLK <-> 11:5 CLK) | 1 | 0 | 0 | N/A |
| | FIX | 20 | SHCL | SHARPNESS CORING LEVEL | 0 | | | |
| | FIX | 21 | SHMX | SHARPNESS LIMITER LEVEL | 15 | | | |
| | FIX | 22 | ACLV | ACL GAIN | 0 | | | |
| | FIX | 23 | AKBD | AKB SELF DIAGNOSTIC COUNTER (@1 SEC) | 2 | | | |
| | FIX | 24 | AKBS | AKB SWITCH (0:AKB OFF 1:H/W AKB ON) | 1 | | | |
| | FIX | 25 | REFP | AKB REFPLS TIMING | 0 | | | |
| | FIX | 26 | YNRC | YNR LIMITER LEVEL | 15 | | | |
| | FIX | 27 | BKON | BLACK STRETCH ON | 1 | | | |
| | FIX | 28 | BKAT | BLACK STRETCH DETECTOR TIME CONSTANT1 | 15 | | | |
| | FIX | 29 | BKRC | BLACK STRETCH DETECTOR TIME CONSTANT2 | 4 | | | |
| | FIX | 30 | BKDP | BLACK STRETCH DEPTH | soft cont'l | | | |
| | FIX | 31 | BKSP | BLKSTPNT BLACK STRETCH POINT | 2 | | | |

| Service Group | Fix/ Var | No. | Name | Item name & (Description) | NTSC Init Data | Video | YUV | 16:09 |
|---------------|----------|-----|------|---|----------------|-------|-----|-------|
| VP2 | FIX | 1 | VMOF | VM GAIN(Off) (VM LEVEL AT "OFF" SETTING) | 2 | | | |
| | FIX | 2 | VMLO | VM GAIN(Low) (VM LEVEL AT "LOW" SETTING) | 4 | | | |
| | FIX | 3 | VMHI | VM GAIN(High) (VM LEVEL AT "HIGH" SETTING) | 7 | | | |
| | FIX | 4 | VMDL | VM DELAY (VM DELAY) | 6 | | | |
| | FIX | 5 | VMPL | VM POL (VM POLARITY) | 0 | | | |
| | FIX | 6 | VMWD | VM WIDTH (VM WIDTH) | 0 | | | |
| | FIX | 7 | VMCL | VM CORING LEVEL (VM CORING LEVEL) | 0 | | | |
| | FIX | 8 | VMMX | VM MAX (VM LIMITER LEVEL) | 15 | | | |
| | FIX | 9 | CKLV | KILLER LEVEL (VM COLOR KILLER VTH) | 1 | 1 | 0 | N/A |
| | FIX | 10 | CKON | FORCE KILLER (FORCE KILLER) | 0 | | | |
| | FIX | 11 | ALFA | ALFA (ADAPTIVE DET SENSITIVITY) | 2 | | | |
| | FIX | 12 | YCMD | MANEXP (YC SEPA FORCE SELECT [00:ADAPTIVE 01:H 10:V 11:HV]) | 0 | | | |
| | FIX | 13 | VACL | V APERTURE CORING LV (V APERTURE CORING LEVEL) | 0 | | | |
| | FIX | 14 | VAGA | V APERTURE GAIN (V APERTURE GAIN LEVEL) | soft cont'l | | | |
| | FIX | 15 | VAMX | V APERTURE MAX GAIN (V APERTURE LIMITER LEVEL) | 5 | | | |
| | FIX | 16 | GAMM | GAMMA (GAMMA [00:NO <-> 11:DEEP]) | soft cont'l | | | |
| | FIX | 17 | YDLY | Y DELAY (Y DELAY TIME) | 1 | 1 | 3 | N/A |
| | FIX | 18 | CDLY | C DELAY (C DELAY TIME) | 0 | | | |
| | FIX | 19 | YOFF | Y Mute (Y OUTPUT MUTE) | 0 | | | |
| | FIX | 20 | CBPF | SAW FILTER(7.2MHzBPF) (C BPF FOR HI) | 0 | | | |
| | FIX | 21 | BGPP | BGP POS (BGP [FOR C DECODER] TIMING) | 9 | 9 | 28 | N/A |
| | VAR | 22 | GDOF | G DRIVE OFFSET only Color Temp. "Warm" | 9 | | | |
| | VAR | 23 | BDOF | B DRIVE OFFSET only Color Temp. "Warm" | 14 | | | |
| | VAR | 24 | GCOF | G CUT CMP DATA OFFSET only Color Temp. "Warm" | 11 | | | |
| | VAR | 25 | BCOF | B CUT CMP DATA OFFSET only Color Temp. "Warm" | 28 | | | |
| | VAR | 26 | DCTV | DCTRAN VTH<6:0> (DCTTRANSFER VTH) | 30 | | | |
| | FIX | 27 | DCTG | DCTRAN GAIN<4:0> (DCTTRANSFER GAIN) | soft cont'l | | | |

| Service Group | Fix/ Var | No. | Name | Item name & (Description) | NTSC Init Data |
|---------------|----------|-----|------|-------------------------------------|----------------|
| NR | VAR | 1 | SCOL | SUB COLOR LEVEL | 14 |
| | VAR | 2 | SHCL | SHARPNESS CORING LEVEL | 15 |
| | VAR | 3 | SHMX | SHARPNESS LIMITER LEVEL | 7 |
| | FIX | 4 | YNRC | YNR LIMITER LEVEL | 7 |
| | FIX | 5 | VMHI | VM LEVEL AT " HIGH " SETTING | 10 |
| | FIX | 6 | VMCL | VM CORING LEVEL | 0 |
| | FIX | 7 | VMMX | VM LIMITER LEVEL | 7 |
| | FIX | 8 | VAMX | V APERTURE LIMITER LEVEL | 0 |
| | FIX | 9 | GAMM | GAMMA (00: NO < - > 11:DEEP) | 0 |
| | FIX | 10 | YNRS | YNR ON | 1 |
| | FIX | 11 | WSTH | WEAK SIGNAL VTH | 7 |
| | FIX | 12 | WSVA | WEAK SIGNAL VIDEO ATT | 0 |
| | FIX | 13 | WSCA | WEAK SIGNAL CHROMA ATT | 5 |
| | FIX | 14 | NRCH | THRNZV1(NOISE DET TIME CONSTANT) | 0 |
| | FIX | 15 | NRCL | THRNZV2 (NOISE DET TIME CONSTANT) | 16 |
| | FIX | 16 | NRVL | THRNZH1 (NOISE DET VTH) | 2 |
| | FIX | 17 | NRVH | THRNZH2 (NOISE DET VTH) | 0 |
| | FIX | 18 | IPNC | DETNZ STATUS COUNTER | 2 |
| | FIX | 19 | IPNV | DETECTION PERIOD | 10 |

| Service Group | Fix/ Var | No. | Name | Item name & (Description) | NTSC BA6 DATA (DEC) | | | |
|---------------|----------|-----|------|-------------------------------|------------------------|-----------------|-------------------|-----------------|
| | | | | | PALLET = VIVID | PALLET = STD | PALLET = MOVIE | PALLET = PRO |
| PALLET | FIX | 1 | VPIC | PICTURE | 63 | 50 | 37 | 31 |
| | FIX | 2 | VBRI | BRIGHTNESS | 27 | 30 | 31 | 31 |
| | FIX | 3 | VCOL | COLOR | 37 | 32 | 31 | 31 |
| | FIX | 4 | VHUE | HUE | 31 | 31 | 31 | 31 |
| | FIX | 5 | VSHA | SHARPNESS | 31 | 32 | 31 | 21 |
| | FIX | 6 | VVM | VM | 2 | 1 | 0 | 0 |
| | FIX | 7 | VTRI | COLOR TEMP | 0 | 1 | 2 | 1 |
| | FIX | 8 | VAPA | APERTURE G | 5 | 5 | 3 | 0 |
| | FIX | 9 | VGMA | GAMMA | 3 | 1 | 0 | 0 |
| | FIX | 10 | VDCT | DCT LV | 23 | 15 | 2 | 2 |
| | FIX | 11 | VBKP | BLACK STRETCH DEPTH (VIDEO) | 3 | 3 | 4 | 7 |
| | FIX | 12 | TBKD | BLACK STRETCH DEPTH (TUNER) | 3 | 3 | 4 | 7 |

| Service Group | Fix/ Var | No. | Name | Item name & (Description) | NTSC Init Data |
|---------------|----------|-----|------------------|--|----------------|
| > | FIX | 1 | YNRS | YNR SW (YNR ON) | 0 |
| | FIX | 2 | YTHR | Y THR 2D (Y SIGNAL THROUGH 2DYCS) | 0 |
| | FIX | 3 | Y2D | Y2D Fix (Y SIGNAL GENERATE from 2DYCS) | 0 |
| | FIX | 4 | 2DFX | C BPF Fix (C SIGNAL GENERATE from H/V BPF only | 1 |
| | FIX | 5 | CLPS | CLAMP CONTROL SW (0: CLAMP OFF. 1: CLAMP AUTO. 2: CLAMP ON] | 1 |
| | FIX | 6 | VLPF | VIDEO LPF (Y_LPF [ANALOG] for adjust) | 3 |
| | FIX | 7 | CLPF | CHROMA LPF (C_LPF [ANALOG] for adjust) | 3 |
| | FIX | 8 | BPFB | YCS HBBPF BACK (YCS HBBPF SELECT [BACK]) | 1 |
| | FIX | 9 | BPFF | YCS HBBPF FRONT (YCS HBBPF SELECT [FRONT]) | 1 |
| | FIX | 10 | BKTS | BS T2 IFON (BLACK STRETCH RECOVER TIME OUT | 0 |
| | FIX | 11 | VMG ₂ | VMGAIN ₂ (MODULATOR FEEDBACK GAIN CONTROL | 3 |
| | FIX | 12 | CLPT | CLAMP KEEP TIMER (CLAMP AUTO ON KEEP TIMER COUNT [@ 100 MS]) | 15 |

| Service Group | Fix/ Var | No. | Name | Item name & (Description) | A8 Init Data | Video | YUV | 16:09 |
|---------------|----------|-----|------|---|--------------|-------|-----|-------|
| C | FIX | 1 | A1FL | AMP OFF1 L (ANALOG ACC hysteresis) | 90 | 0 | 1 | N/A |
| | FIX | 2 | A1ON | AMP ON (ANALOG ACC AMP ON LEVEL) | 4 | | | |
| | FIX | 3 | ACCS | ACC SW (ACC ON/OFF) | 0 | | | |
| | FIX | 4 | AASL | AVE SEL (C DECODER TIME CONSTANT [32, 16, 8, 1H]) | 2 | 0 | 1 | N/A |
| | FIX | 5 | BASL | B2AVE SEL (ACC TIME CONSTANT) | 0 | | | |
| | FIX | 6 | XFFR | FREE RUN (VCXO FORCE FREERUN) | 0 | | | |
| | FIX | 7 | A2ON | AMP2 ON Thresh (ABL VTH) | 4 | | | |
| | FIX | 8 | A3ON | AMP3 ON Thresh (ACL VTH) | 4 | | | |
| | FIX | 9 | A2FL | AMP2 OFF Thresh L (AMP2 OFF LEVEL LOWER) | 64 | | | |
| | FIX | 10 | A3FL | AMP3 OFF Thresh L (AMP3 OFF LEVEL LOWER) | 64 | | | |
| | FIX | 11 | AXTH | AXIS HYS (AXS HYS) | 30 | | | |
| | FIX | 12 | ACTH | ROM HYS (ROM HYS) | 10 | | | |
| | FIX | 13 | AVAV | AVE SEL AV (AVE SEL AV) | 3 | | | |
| | FIX | 14 | B2TH | B2COMP (B2COMP) | 0 | | | |
| | FIX | 15 | ACCP | ACC COMP (ACC COMP) | 0 | | | |

| Service Group | Fix/ Var | No. | Name | Item name & (Description) | NTSC Init Data | Video | YUV | 16:09 |
|---------------|----------|-----|------|--|-------------------|-------|-----|-------|
| RGB | FIX | 1 | AMUT | RGB POWER ON MUTE (RGB POWER ON MUTE) | 0 | | | |
| | FIX | 2 | PMUT | RGB Mute before OSD (RGB MUTE [EXCEPT OSD] | 1 | | | |
| | FIX | 3 | CORL | CUTOFF R L (R CUTOFF LOWER) | 212 | | | |
| | FIX | 4 | CORH | CUTOFF R H (R CUTOFF UPPER) | 0 | | | |
| | FIX | 5 | COGL | CUTOFF G L (G CUTOFF LOWER WHEN TEMP IS "COOL" AND "NEUTRAL" | 197 | | | |
| | FIX | 6 | COGH | CUTOFF G H (G CUTOFF LOWER WHEN TEMP IS "COOL" AND "NEUTRAL" | 0 | | | |
| | FIX | 7 | COBL | CUTOFF B L (B CUT OFF LOWER WHEN TEMP IS "COOL" AND "NEUTRAL" | 176 | | | |
| | FIX | 8 | COBH | CUTOFF B H (B CUT OFF LOWER WHEN TEMP IS "COOL" AND "NEUTRAL" | 0 | | | |
| | FIX | 9 | ABLS | ABL SEL (ABL SELECT) | 0 | | | |
| | FIX | 10 | ALSP | ACL SPEED (ACL SPEED) | 0 | | | |
| | FIX | 11 | ALRS | ACL SPE (ACL RECOVER SPEED) | 2 | | | |
| | FIX | 12 | ALAS | ACL ASPE (ACL ATTACK SPEED) | 9 | | | |
| | FIX | 13 | ABLG | ABL GAIN (ABL GAIN) | 5 | | | |
| | FIX | 14 | ALS2 | ACLASPE2 (ACL ATTACK SPEED [2]) | 2 | | | |
| | FIX | 15 | AKBM | AKB MODE (AKB MODE) | 0 | | | |
| | FIX | 16 | AKBP | AKB P[5:0] (AKB PULSE HEIGHT) | 16 | | | |
| | FIX | 17 | OSDL | OSD LIMIT (OSD LIMMIT SELECT) | 0 | | | |
| | FIX | 18 | UVIN | Y/U/V UVINV (U/V INVERT) | 0 | | | |
| | FIX | 19 | UVG | U/V GAIN (U/V OFFSET CANCELER ON) | 0 | | | |
| | FIX | 20 | UOFS | U IN OFFSET (U IN OFF SET) | 15 | | | |
| | FIX | 21 | VOFS | V IN OFFSET (V IN OFFSET) | 12 | | | |
| | FIX | 22 | AALG | ANA ACL GAIN (ANALOG ACL GAIN CONTROL) | 0 | | | |
| | FIX | 23 | AALS | ANA ACL ON (ANALOG ACL ON/OFF CONTROL) | 1 | | | |
| | FIX | 24 | UVDE | UV_DITHER_EN (UVIN DITHER ENABLE) | 0 | 0 | 1 | N/A |
| | FIX | 25 | UVDT | UV_DITHER_TEST (UVIN DITHER TEST) | 0 | 0 | 6 | N/A |

| Service Group | Fix/ Var | No. | Name | Item name & (Description) | NTSC Init Data | Video | YUV | 16:09 |
|---------------|----------|-----|------|---|----------------|-------|-----|-------|
| DEFD | FIX | 1 | HFFR | AFC FREE RUN (AFC1 FORCE FREE RUN) | 0 | | | |
| | FIX | 2 | HFUP | HFREE UP (H FREE RUN FREQUENCY UP [700 Hz] | 0 | | | |
| | FIX | 3 | JSWW | VJP WIDTH (JUMP PULSE WIDTH) | 0 | | | |
| | FIX | 4 | EWCL | V/EW DAC CLK CONTROL (EW/VRAMP DA CLOCK SELECT) | 0 | 0 | 0 | N/A |
| | FIX | 5 | XF0A | FREE RUN OFFSET (VCXO FREE RUN ADJUST) | 0 | | | |
| | FIX | 6 | BGST | BG START (BGP [FOR PLL] TIMING) | 16 | 16 | 1 | N/A |
| | FIX | 7 | XPHA | VCXO CTL (VXCO PHASE ADJUST) | 10 | | | |
| | FIX | 8 | HRMP | Ramp Slew Rate (AFC2 TIME CONSTANT) | 3 | | | |
| | FIX | 9 | RPLU | Ref Charge pump (REF PLL TIME CONSTANT) | 3 | | | |
| | FIX | 10 | RPLB | Ref VCO (REF PLL TIME CONSTANT) | 1 | | | |
| | FIX | 11 | XF0B | VCXO FREE RUN (VXCO Fo ADJUST) | 0 | | | |
| | FIX | 12 | RPLS | REF FB SW (REF VCO FB LOOP SELECT) | 0 | | | |
| | FIX | 13 | SSM | Sync Sepa Mask (SyncSepaMasking CONTROL) | 0 | | | |
| | FIX | 14 | VSAG | V-sag (V-SAG prevent ON) | 0 | | | |
| | FIX | 15 | AFC2 | AFC2 Gain (AFC2 GAIN CONTROL) | 3 | | | |
| | FIX | 16 | VRFL | V RAMP FIL OFF (V RAMP FILTER SWITCHING OFF) | 1 | | | |
| | FIX | 17 | SSLP | LPY SYNC (LFP pre SYNC SEPA ON/OFF | 1 | | | |
| | FIX | 18 | XPLU | B PLL Change pump (ACP TIME CONSTANT) | 1 | | | |
| | FIX | 19 | 8FSC | 8FSC SEL (8fsCLK Skew OFF) | 1 | 1 | 0 | N/A |
| | FIX | 20 | 4FS2 | 4FSC SEL2 (4fsCLK Skew OFF) | 1 | 1 | 0 | N/A |
| | FIX | 21 | CDM2 | V_CD_MODE2 (V_LOGIC SW) | 1 | | | |
| | FIX | 22 | BGPC | Add. FTN BGP C (BGP C) | 0 | | | |
| | FIX | 23 | MHDL | Add. FTN BGP SEL (BBP SEL) | 1 | | | |
| | FIX | 24 | BFRE | V FREE (FORCE V FREE RUN) | 0 | | | |
| | FIX | 25 | HRPP | AFC2 RAMP POS (FRAMP RRAMP H OUT CONTROL RANGE | 8 | | | |
| | FIX | 26 | DSCK | CLOCK SEL (DS DAC CLK SW 2) | 1 | 1 | 1 | 0 |
| | FIX | 27 | VBHK | VBK HALFKIL (V BLK HALF KILL) | 0 | | | |
| | FIX | 28 | VPW | V PLS WIDTH (V Pulse Wide) | 1 | | | |
| | FIX | 29 | DTH | D THRESHOLD LEVEL (DITHER THRESHOLD LEVEL CONTROL AT IIC AUTOD= ON | 0 | | | |
| | FIX | 30 | SLON | LPF SYNC ON (LPF SYNC ON) | 1 | | | |

| Service Group | Fix/ Var | No. | Name | Item name & (Description) | NTSC Init Data | Video | YUV | 16:09 |
|---------------|----------|-----|------|--|----------------|-------|-----|-------|
| DEFD | FIX | 31 | VSSW | SYNC SLICE LVL(V)_W (SYNC SLICE LEVEL [V] Wide Window | 0 | | | |
| | FIX | 32 | AF2S | AFC2_SEL (ADC2 TIMING SW) | 0 | | | |
| | FIX | 33 | VSL2 | V_SYNC_LPF_2 (DIGITAL V_SINC_LPF [Fall]) | 0 | | | |
| | FIX | 34 | VSL1 | V_SYNC_LPF_1 (DIGITAL V_SINC_LPF [Rise]) | 1 | | | |
| | FIX | 35 | VYUV | YUV VSIZE OFFSET (YUV V-SIZE OFFSET) | 8 | | | |
| | FIX | 36 | VYVP | YUV VPOS OFFSET (YUV V-POSITION OFFSET) | 8 | | | |
| | FIX | 37 | VYHS | YUV HSIZE OFFSET (YUV H-SIZE OFFSET) | 8 | | | |
| | FIX | 38 | VYHP | YUV HPOS OFFSET (YUV H-POSITION OFFSET) | 7 | | | |
| | FIX | 39 | VSHE | V-SHRINK MODE (V-SHRINK MODE for AV) | 0 | | | |
| | FIX | 40 | VYRB | YUV RBLK (YUV RBLK OFFSET) | 7 | | | |
| | FIX | 41 | VYLB | YUV LBLK (YUV LBLK OFFSET) | 7 | | | |

| Service Group | Fix/ Var | No. | Name | Item name & (Description) | NTSC Init Data | Video | YUV | 16:09 |
|---------------|----------|-----|------|--|----------------|-------|-----|-------|
| OTHER | FIX | 1 | PCLP | pedestal CLAMP ON/OFF (SYNC TIP/PEDESTAL CLAMP SELECT) | 0 | | | |
| | FIX | 2 | VRT | VRT Voltage (ADC REFERENCE [00:1.15Vpp 01:1.25 Vpp 10:1.35 Vpp 11:1.45 Vpp]) | 1 | | | |
| | FIX | 3 | 14HI | INV 14H CLK (4fsc [Skew] CLK POLARITY) | 0 | 0 | 0 | N/A |
| | FIX | 4 | 14HD | 14H CLK DLY (4fscCLK [Skew] CLK DELAY ADJUST) | 0 | 0 | 0 | N/A |
| | FIX | 5 | DSI | INV DS CLK (8fscCLK POLARITY) | 0 | 0 | 0 | N/A |
| | FIX | 6 | DSD | DS CLK DLY (8fscCLK DELAY ADJUST) | 0 | 0 | 0 | N/A |
| | FIX | 7 | ADCD | AD CLK DLY (ADC CLK DELAY ADJUSTO) | 0 | 0 | 1 | N/A |
| | FIX | 8 | 4FSC | 4FSC SW (AD/LOGIC CLK SWAP) | 0 | | | |
| | FIX | 9 | WSTH | WEAK_SIG_VTH (WEAK_SIGNAL VTH) | 0 | | | |
| | FIX | 10 | WSVA | WEAK SIG VIDEO ATT (WEAK SIGNAL VIDEO ATT) | 0 | 0 | 0 | N/A |
| | FIX | 11 | WSCA | WEAK SIG CHROMA ATT (WEAK SIGNAL CHROMA ATT) | 0 | 0 | 0 | N/A |
| | FIX | 12 | VREF | VREF_SEL (AD REFERENCE SELECT [VZ]) | 0 | | | |

| Service Group | Fix/ Var | No. | Name | Item name & (Description) | NTSC Init Data |
|---------------|----------|-----|------|-----------------------------|----------------|
| OSD | FIX | 1 | HT | HT (HALF TONE LEVEL) | 0 |
| | FIX | 2 | OSLR | OSD LVL R (R OSD LEVEL) | 25 |
| | FIX | 3 | OSLG | OSD LVL G (G OSD LEVEL) | 25 |
| | FIX | 4 | OSDC | OSD COMP (OSD COMP) | 0 |
| | FIX | 5 | OSLB | OSD LVL B (B OSD LEVEL) | 25 |

| Service Group | Fix/ Var | No. | Name | Item name & (Description) | NTSC Init Data |
|---------------|----------|-----|------|--|----------------|
| H/W AKB | FIX | 1 | HRIL | H/W AKB R INI DATA L (H/W AKB RED OUTPUT LOWER) | soft cont'l |
| | FIX | 2 | HRIH | H/W AKB R INI DATA H (H/W AKB RED OUTPUT UPPER) | soft cont'l |
| | FIX | 3 | HGIL | H/W AKB G INI DATA L (H/W AKB GREEN OUTPUT LOWER) | soft cont'l |
| | FIX | 4 | HGIH | H/W AKB G INI DATA H (H/W AKB GREEN OUTPUT UPPER) | soft cont'l |
| | FIX | 5 | HBIL | H/W AKB B INI DATA L (H/W AKB BLUE OUTPUT LOWER) | soft cont'l |
| | FIX | 6 | HBIH | H/W AKB B INI DATA H (H/W AKB BLUE OUTPUT UPPER) | soft cont'l |
| | FIX | 7 | HLM1 | AKB_LIM1<7:0> (H/W AKB LIM1) | 6 |
| | FIX | 8 | HLM2 | AKB_LIM2<7:0> (H/W AKB LIM2) | 12 |
| | FIX | 9 | HLM3 | AKA_LIM3<7:0> (H/W AKB LIM3) | 21 |
| | FIX | 10 | HAD1 | AKB_ADD1<7:0> (H/W AKB SPEED1) | 2 |
| | FIX | 11 | HAD2 | AKB_ADD2<7:0> (H/W AKB SPEED2) | 6 |
| | FIX | 12 | HAKE | AKB_EN (H/W AKB MANUAL [MCU] / HARD | 1 |
| | FIX | 13 | HASP | AKB_SPEED (H/W AKB SPEED) | 3 |
| | FIX | 14 | HERL | AKB_SWERR<7:0> (H/W AKB ERROR DET THRESH) | 40 |
| | FIX | 15 | HLMC | AKB_ERRC<7:0> (H/W AKB ERROR DET TIME) | 20 |
| | FIX | 16 | HPWL | AKBSWPON<7:0> (H/W AKB POWER ON TRESH) | 4 |
| | FIX | 17 | HPWC | AKB_PWERRC (H/W AKB POWER ON TIME) | 90 |
| | FIX | 18 | Hfmt | H/W AKB2 HOLD TIMER (H/W AKB2 HOLD TIMER (@ 100 MSEC) [0: No hold] | 20 |
| | FIX | 19 | SPMT | AKB POW ON MUTE EXIT (AKB POWER ON MUTE EXIT TIMMER) | 120 |

| Service Group | Fix/Var | No. | Name | Item name & (Description) | NTSC | |
|------------------------|---------|-----|------|--|---------|------------|
| | | | | | 29FA310 | 27/29FS120 |
| AUDIO PROCE SSOR | VAR | 1 | SBAL | SBAL (SUB BALANCE) | 4 | 4 |
| | VAR | 2 | SBAS | SBAS (SUB BASS) | 0 | 0 |
| | VAR | 3 | STRE | STRE (SUB TREBLE) | 6 | 0 |
| | VAR | 4 | SRL | SRL (SURROUND LEVEL) | 0 | 0 |
| | VAR | 5 | BBOL | BBOL (SURROUND OFF-BBE LOW) | 8 | 6 |
| | VAR | 6 | BBOH | BBOH (SURROUND OFF-BBE HIGH) | 4 | 5 |
| | VAR | 7 | BBSL | BBSL (SIMULATE BBE LOW) | 2 | 4 |
| | VAR | 8 | BBSH | BBSH (SIMULATE BBE HIGH) | 4 | 4 |
| | VAR | 9 | BBGL | BBGL (WOW GAME BBE LOW) | 6 | 0 |
| | VAR | 10 | BBGH | BBGH (WOW GAME BBE HIGH) | 4 | 0 |
| | VAR | 11 | BBTL | BBTL (SRS BBE LOW) | 0 | 6 |
| | VAR | 12 | BBTH | BBTH (SRS BBE HIGH) | 0 | 4 |
| | VAR | 13 | BBDL | BBDL (Audio Processor Prologic BBE Low for DOLBY) | 6 | 0 |
| | VAR | 14 | BBDH | BBDH (Audio Processor Prologic BBE High for DOLBY) | 4 | 0 |
| | VAR | 15 | VFIX | VFIX (AUDIO OUTPUT FIX DATA) | 0 | 243 |
| | VAR | 16 | AGCL | AGCL (AGC LEVEL) | 2 | 2 |
| | VAR | 17 | VCOF | RF OFFSET DATA | 9 | 9 |

| Service Group | Fix/Var | No. | Name | Item name & (Description) | NTSC | |
|---------------|---------|-----|------|---------------------------------------|---------|------------|
| | | | | | 29FA310 | 27/29FS120 |
| AP2 | VAR | 1 | BBEL | SUB AUDIO PROCESSOR PROLOGIC BBE LOW | 9 | 0 |
| | VAR | 2 | BBEH | SUB AUDIO PROCESSOR PROLOGIC BBE HIGH | 9 | 0 |
| | VAR | 3 | BBOL | SURROUND OFF-BBE LOW | 9 | 0 |
| | VAR | 4 | BBSL | SIMULATE BBE LOW | 5 | 0 |
| | VAR | 5 | BBGL | WOW GAME BBE LOW | 10 | 0 |
| | VAR | 6 | AGCL | SUB AUDIO PROCESSOR AGC LEVEL | 2 | 0 |
| | VAR | 7 | DDOF | DOLBY OFFSET DATA | 15 | 0 |

| Service Group | Fix/Var | No. | Name | Item name & (Description) | NTSC Init Data |
|----------------|---------|-----|------|---|----------------|
| MICROPROCESSOR | FIX | 1 | DISP | DISP (OSD HORIZONTAL OFFSET) | 55 |
| | FIX | 2 | CCHP | CCHP (FOR TILT DATA CALCULATION) | 80 |
| | FIX | 3 | HRLW | HRLW (LOW LIMIT OF H-PULSE COUNTING WINDOW [RF] | 16 |
| | FIX | 4 | HRHG | HRHG (HIGH LIMIT OF H-PULSE COUNTING WINDOW [RF] | 64 |
| | FIX | 5 | HSDT | HSDTCT (H-PULSE DETECTION [S-VIDEO] | 8 |
| | FIX | 6 | STPI | STPI (GRADUAL CONTRAST INCREASE STARTING LEVEL) | 40 |
| | FIX | 7 | RAPI | RAPI (GRADUAL CONTRAST INCREASE Vsync COUNTER) | 10 |

| Service Group | Fix/Var | No. | Name | Item name & (Description) | NTSC Init Data |
|---------------|---------|-----|------|-----------------------------|----------------|
| Feature | VAR | | ID0 | Language related | 81 |
| | VAR | | ID1 | Video related | 31 |
| | VAR | | ID2 | Audio related | 113 |
| | VAR | | ID3 | Miscellaneous | 130 |
| | VAR | | ID4 | Miscellaneous | 32 |
| | VAR | | ID5 | Miscellaneous | 24 |
| | VAR | | ID6 | Miscellaneous | 48 |
| | VAR | | ID7 | Miscellaneous | 69 |

4-5. ID MAP TABLE

| Model | Destination | ID-O | ID-1 | ID-2 | ID-3 | ID-4 | ID-5 | ID-6 | ID-7 |
|------------|-------------|------|------|------|------|------|------|------|------|
| KV-27FA310 | US | 81 | 31 | 17 | 130 | 32 | 24 | 48 | 69 |
| KV-27FA310 | CND | 81 | 31 | 17 | 130 | 32 | 24 | 48 | 69 |
| KV-27FS120 | US | 89 | 31 | 17 | 34 | 0 | 24 | 0 | 5 |
| KV-27FS120 | CND | 89 | 31 | 17 | 50 | 0 | 24 | 0 | 5 |
| KV-29FS120 | L NORTH | 81 | 31 | 17 | 130 | 32 | 24 | 48 | 69 |
| KV-29FS120 | L SOUTH | 81 | 31 | 17 | 130 | 32 | 24 | 48 | 69 |
| KV-29FA310 | L NORTH | 81 | 31 | 113 | 130 | 32 | 24 | 48 | 69 |
| KV-29FA310 | L SOUTH | 81 | 31 | 113 | 130 | 32 | 24 | 48 | 69 |

4-6. A BOARD ADJUSTMENTS

H. Frequency (Free Run) Check

1. Input a TV mode (RF) with no signal.
2. Connect a frequency counter to base of Q502 (TP-25 H. DRIVE) on the A Board.
3. Check H. Frequency for 15735 ± 200 Hz.

V. Frequency (Free Run) Check

1. Select video 1 with no signal input.
2. Set the conditions for a standard setting.
3. Connect the frequency counter to TP-27 (V OUT) or CN515 pin ⑥ (V DY+) and ground on the A Board.
4. Check that V. Frequency shows 60 ± 4 Hz.

Drive (SCON)

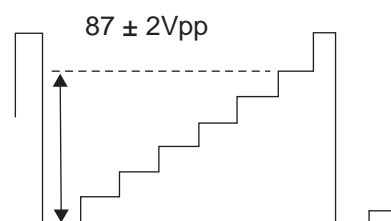
1. Input a color-bar signal and set the level to 75%.
2. Set in Pro mode + PICTURE MAX.
3. Activate the Service Adjustment Mode.
4. Set GON and BON items. Using ③ and ⑥ set each to the following values. Leave RON set to "1".

| Mode | Category | Display Item | Item Data |
|---------|----------|--------------|-----------|
| service | video | rdrv | 26 |
| ntsc | | | |
| vchp | | 00000000 | 00000000 |

R ON: ON (1)
G ON: OFF (0)
B ON: OFF (0)

5. Connect an oscilloscope probe to CW Board, JW2704 (KR).
6. Select SCON with ① and ④.

7. Adjust the value of SCON with ③ and ⑥ for 87 ± 2 Vpp.



8. Reset GON and BON values to "1".

R ON: ON (1)
G ON: ON (1)
B ON: ON (1)

9. Press [MUTING] then [ENTER] to save into the memory.

Display Position Adjustment (DISP)

1. Input a color-bar signal.
2. Set to Service Adjustment Mode.
3. Select DISP with ① and ④.
4. Adjust values of DISP with ③ and ⑥ to adjust characters to the center.
5. Press [MUTING] then [ENTER] to save into the memory.
6. Check to see if the text is displayed on the screen.

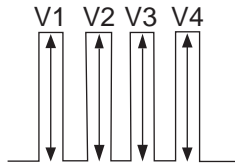
| Mode | Category | Display Item | Item Data |
|---------|----------|--------------|-----------|
| service | micro | disp | 48 |
| ntsc | | | |
| vchp | | 00000000 | 00000000 |

Sub Bright Adjustment (SBRT)

1. Input a monoscope signal.
2. Activate the Service Adjustment Mode.
3. Set the PICTURE and BRIGHTNESS to minimum.
4. Select the SBRT item with **1** and **4**.
5. Adjust the values of SBRT with **3** and **6** to obtain a faintly visible 20 IRE mark, after that increase +3 steps.
6. Press **MUTING** then **ENTER** to save into the memory.

Sub Hue, Sub Color Adjustment (SHUE, SCOL)

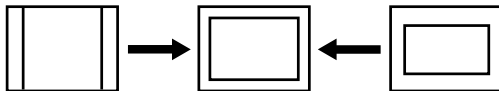
1. Input color-bar signal at 75%.
2. Activate the Service Adjustment Mode.
3. Set (PIC) to Max and (COL) to 50%.
4. Connect an oscilloscope probe to CW Board, JW7408 (Blue Out).
5. Select the SHUE and SCOL item with **1** and **4**.
6. While showing the SHUE item, adjust the waveform with **3** and **6** until the second and third bars show the same level ($V2 = V3 < 0.15V_{p-p}$). Set Sub Hue -2 Step.
7. While showing the SCOL item, adjust the waveform with **3** and **6** until the first and fourth bars show the same level ($V1 = V4 < 0.15V_{p-p}$). Set Sub Col + 2 Step.



8. Press **MUTING** then **ENTER** to save into the memory.

V. Size Adjustment (VSIZ)

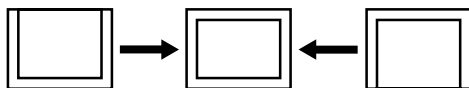
1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the VSIZ item with **1** and **4**.
4. Adjust value of VSIZ with **3** and **6** for the best vertical size.
5. Press **MUTING** then **ENTER** to save into the memory.



V. Center Adjustment (VPOS)

Perform this adjustment after performing H. Frequency (Free Run) Check.

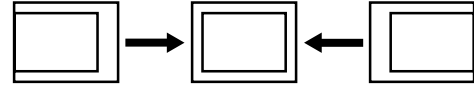
1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the VPOS item with **1** and **4**.
4. Adjust value of VPOS with **3** and **6** for the best vertical center.
5. Press **MUTING** then **ENTER** to save into the memory.



H. Center Adjustment (HPOS)

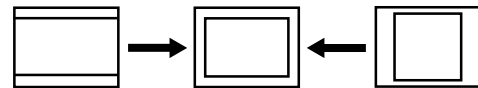
Perform this adjustment after performing H. Frequency (Free Run) Check.

1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select the HPOS item with **1** and **4**.
4. Adjust the value of HPOS with **3** and **6** for the best horizontal center.
5. Press **MUTING** then **ENTER** to save into the memory.



H. Size Adjustment (HSIZ)

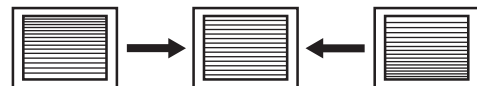
1. Input a monoscope signal.
2. Activate the Service Adjustment Mode.
3. Select HSIZ with **1** and **4**.
4. Adjust with **3** and **6** for the best horizontal size.
5. Press **MUTING** then **ENTER** to save into the memory.



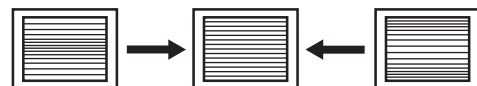
V. Linearity (VLIN), V. Correction (SCOR), PIN Amp (PAMP), and Horizontal Trapezoid (HTRP) Adjustments

1. Input a crosshatch signal.
2. Activate the Service Adjustment Mode.
3. Select VLIN, SCOR, PAMP, and HTRP with **1** and **4**.
4. Adjust with **3** and **6** for the best horizontal size.
5. Press **MUTING** then **ENTER** to save into the memory.

V LINEARITY (VLIN)



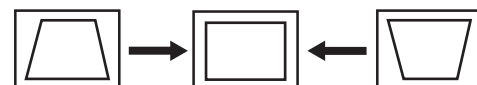
V CORRECTION (SCOR)



PIN AMP (PAMP)

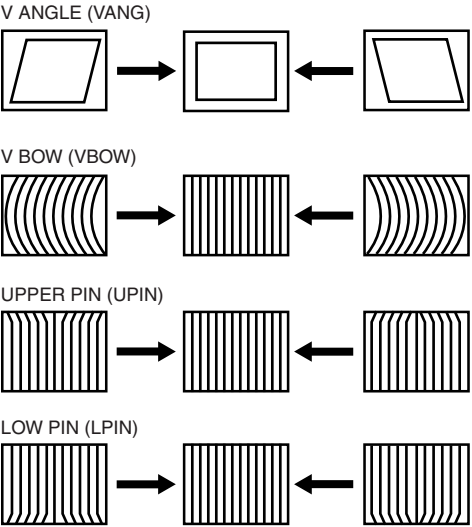


HORIZONTAL TRAPEZOID (HTRP)



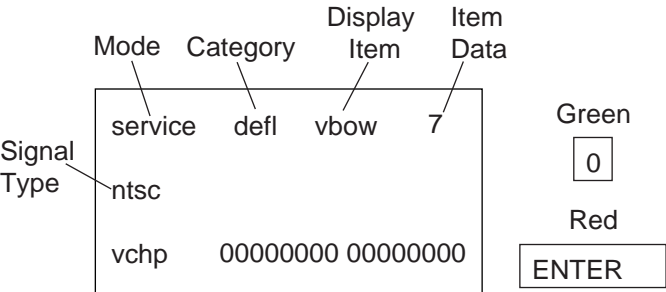
V. Angle (VANG), V. Bow (VBOW), Upper PIN (UPIN) and Low PIN (LPIN) Adjustments

- 1. Input a crosshatch signal.
- 2. Activate the Service Adjustment Mode.
- 3. Select VANG, VBOW, UPIN, and LPIN with [1] and [4].
- 4. Adjust with [3] and [6] for the best picture.
- 5. Press [MUTING] then [ENTER] to save into the memory.



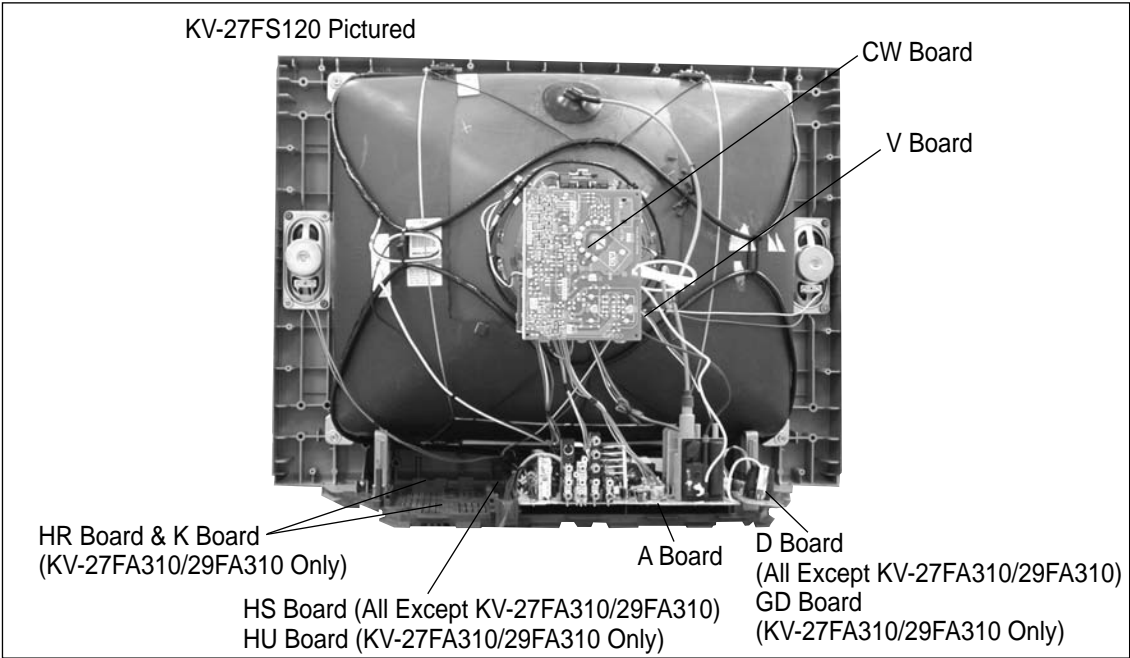
Service Adjustment Mode Memory

- 1. After completing all adjustments, press [0] then [ENTER].
- Read From Memory



SECTION 5: DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



5-2. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM INFORMATION

All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.

All electrolytics are in 50V unless otherwise specified.

All resistors are in ohms. $k=1000$, $M=1000k$

Indication of resistance, which does not have one for rating electrical power, is as follows: Pitch : 5mm Rating electrical power :

$\frac{1}{4}$ W in resistance, $\frac{1}{10}$ W and $\frac{1}{8}$ W in chip resistance.

: nonflammable resistor.

: fusible resistor.

Δ : internal component.

: panel designation and adjustment for repair.

\perp : earth ground

: earth-chassis

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

Readings are taken with a color-bar signal input.

Readings are taken with a 10M digital multimeter.

Voltages are DC with respect to ground unless otherwise noted.

Voltage variations may be noted due to normal production tolerances.

All voltages are in V.

S : Measurement impossibility.

: B-line. (Actual measured value may be different).

: signal path. (RF)

Circled numbers are waveform references.

The components identified by shading and Δ symbol are critical for safety. Replace only with part number specified.

The symbol indicates a fast operating fuse and is displayed on the component side of the board. Replace only with fuse of the same rating as marked.

Les composants identifiés par un trame et une marque Δ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

Le symbole indique une fusible a action rapide. Doit etre remplace par une fusible de meme yaleur, comme maque.

REFERENCE INFORMATION

RESISTOR


: RN METAL FILM
: RC SOLID
: FPRD NONFLAMMABLE CARBON
: FUSE NONFLAMMABLE FUSIBLE
: RW NONFLAMMABLE WIREWOUND
: RS NONFLAMMABLE METAL OXIDE
: RB NONFLAMMABLE CEMENT
: \otimes ADJUSTMENT RESISTOR



COIL

: LF-8L MICRO INDUCTOR



CAPACITOR

: TA TANTALUM
: PS STYROL
: PP POLYPROPYLENE
: PT MYLAR
: MPS METALIZED POLYESTER
: MPP METALIZED POLYPROPYLENE
: ALB BIPOLAR
: ALT HIGH TEMPERATURE
: ALR HIGH RIPPLE

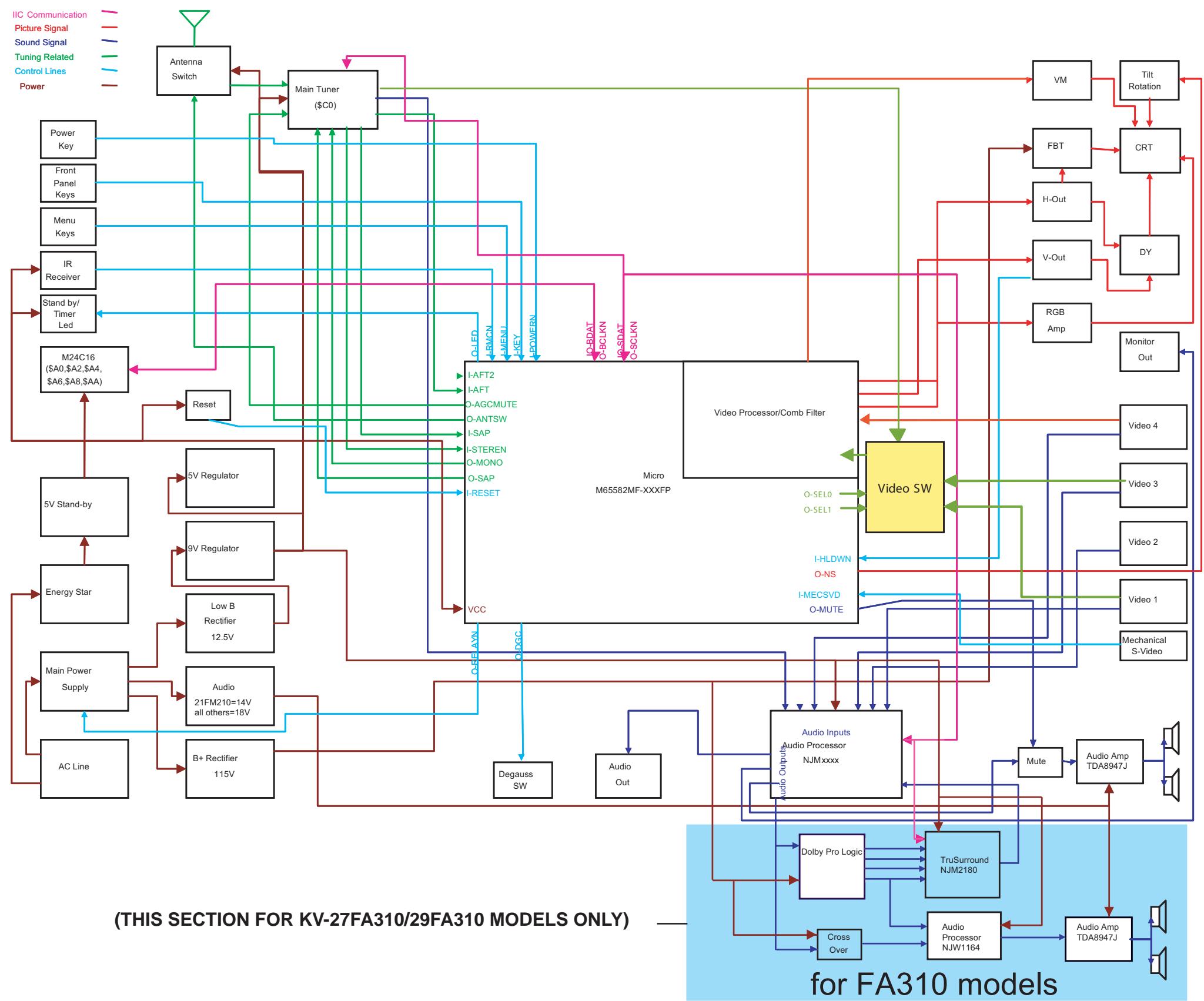
The components identified by  in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be necessary, replace only with the value originally used.

When replacing components identified by , make the necessary adjustments as indicated. If the results do not meet the specified value, change the component identified by  and repeat the adjustment until the specified value is achieved.
(Refer to Section 3: Safety Related Adjustments on Page 17.)

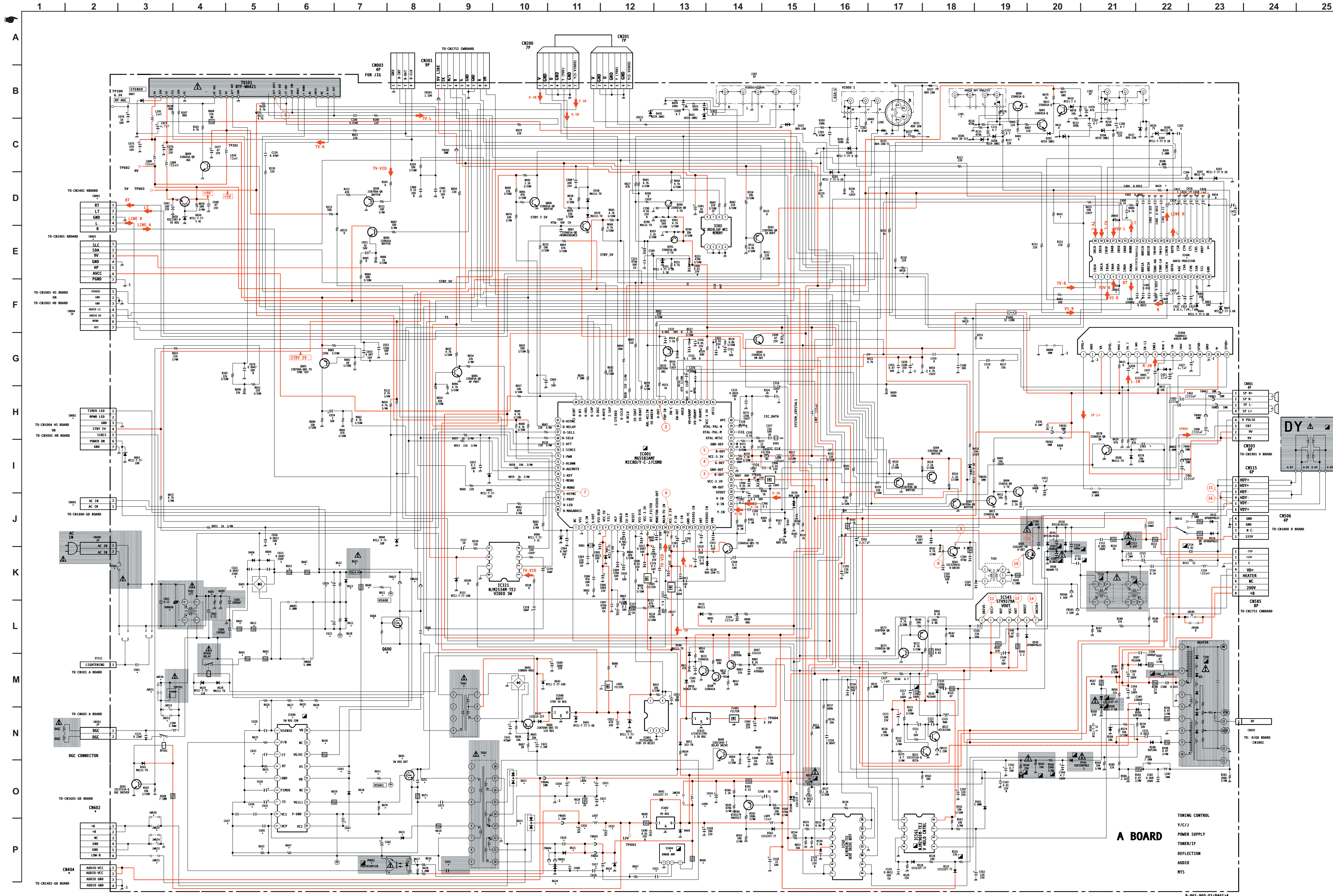
When replacing the parts listed in the table below, it is important to perform the related adjustments.

| Part Replaced () | Adjustment () |
|--|--|
| DY, T585, CRT, IC001, IC561, IC600, IC604, C506, C507, C508, C510, C511, C513, C514, L588, D566, D567, D568, PH602, R526, R564, R565, R566, R851, T510, T511.....A Board | HV HOLD-DOWN R564 |

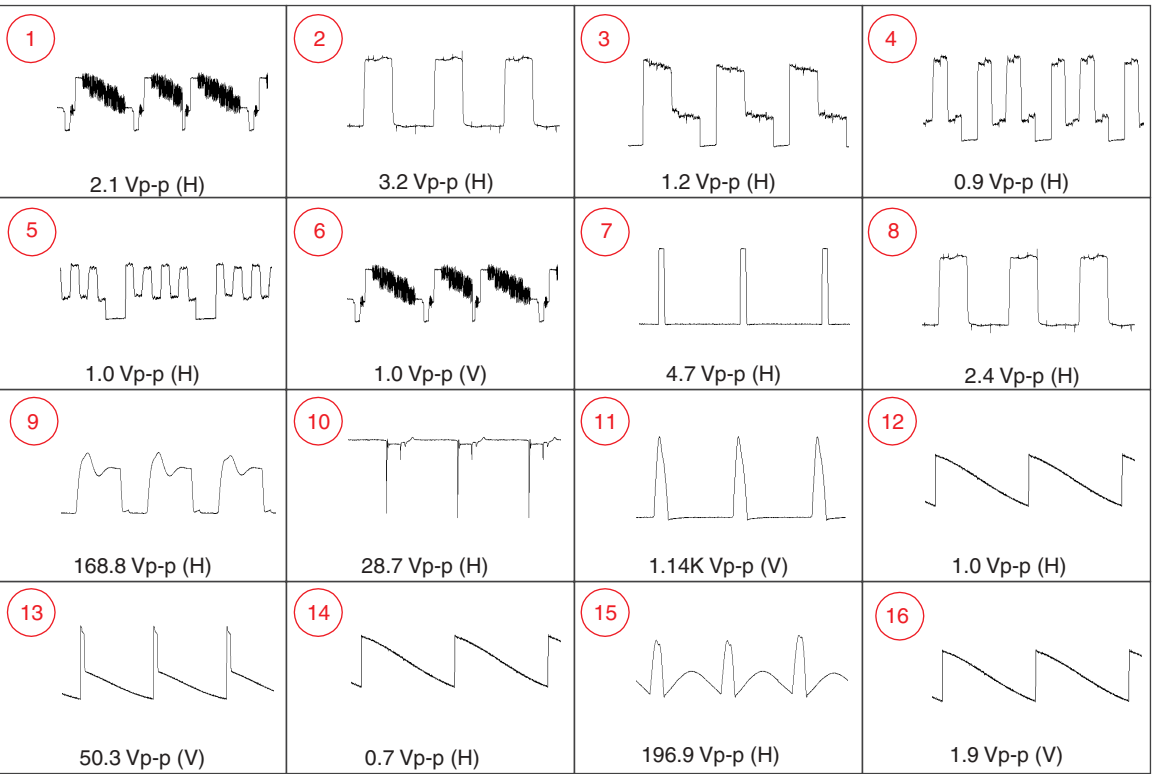
5.3. BLOCK DIAGRAM AND SCHEMATICS



A BOARD SCHEMATIC DIAGRAM



A BOARD WAVEFORMS



A BOARD IC VOLTAGE LIST

| IC001 | | | | IC003 | | | | IC561 | | | | IC603 | | | |
|-------|------|-----|------|-------|------|----|-----|-------|------|-----|-------|-------|------|--|--|
| PIN | VOLT | | | PIN | VOLT | | | PIN | VOLT | | | PIN | VOLT | | |
| 1 | N/C | 46 | 2.3 | 1 | N/C | 27 | 4.5 | 1 | 0.1 | I | 12.0 | | | | |
| 2 | GND | 47 | 1.0 | 2 | GND | 28 | 4.5 | 2 | 3.4 | G | GND | | | | |
| 3 | 2.2 | 48 | N/C | 3 | 2.2 | 29 | 4.5 | 3 | 2.3 | O | 9.0 | | | | |
| 4 | 2.2 | 49 | 0.5 | 4 | 2.2 | 30 | 4.5 | 4 | GND | | | | | | |
| 5 | GND | 50 | 1.2 | 5 | GND | 31 | 4.5 | 5 | 9.2 | PIN | VOLT | | | | |
| 6 | 5.0 | 51 | 2.0 | 6 | 5.0 | 32 | 4.5 | 6 | 10.2 | 1 | 133.7 | | | | |
| 7 | 0.0 | 52 | 1.5 | 7 | 0.0 | 33 | 4.5 | 7 | 0.1 | 2 | N/C | | | | |
| 8 | 2.0 | 53 | 4.8 | 8 | 2.0 | 34 | N/C | 8 | 13.5 | 3 | 2.5 | | | | |
| 9 | 0.3 | 54 | 4.8 | 9 | 0.3 | 35 | N/C | | | | | | | | |
| 10 | 2.1 | 55 | 4.8 | 10 | 2.1 | 36 | N/C | | | | | | | | |
| 11 | 5.0 | 56 | 4.8 | 11 | 5.0 | 37 | 4.5 | | | | | | | | |
| 12 | GND | 57 | N/C | 12 | GND | 38 | 4.5 | | | | | | | | |
| 13 | 3.3 | 58 | 5.2 | 13 | 3.3 | 39 | 4.5 | | | | | | | | |
| 14 | 3.1 | 59 | 0.0 | 14 | 3.1 | 40 | 4.5 | | | | | | | | |
| 15 | 1.0 | 60 | 0.0 | 15 | 1.0 | 41 | 4.5 | | | | | | | | |
| 16 | 1.5 | 61 | 0.0 | 16 | 1.5 | 42 | 4.5 | | | | | | | | |
| 17 | 3.3 | 62 | 0.0 | 17 | 3.3 | 43 | 4.5 | | | | | | | | |
| 18 | 0.5 | 63 | 1.4 | 18 | 0.5 | 44 | 4.5 | | | | | | | | |
| 19 | 1.1 | 64 | 4.9 | 19 | 1.1 | 45 | 4.5 | | | | | | | | |
| 20 | GND | 65 | 4.9 | 20 | GND | 46 | 4.5 | | | | | | | | |
| 21 | 0.5 | 66 | 0.0 | 21 | 0.5 | 47 | 4.5 | | | | | | | | |
| 22 | 1.7 | 67 | 0.1 | 22 | 1.7 | 48 | 4.5 | | | | | | | | |
| 23 | 0.5 | 68 | 0.1 | 23 | 0.5 | 49 | 4.5 | | | | | | | | |
| 24 | 0.5 | 69 | 2.4 | 24 | 0.5 | 50 | 4.5 | | | | | | | | |
| 25 | 0.5 | 70 | 5.0 | 25 | 0.5 | 51 | 4.5 | | | | | | | | |
| 26 | 0.0 | 71 | 5.0 | 26 | 0.0 | 52 | 4.5 | | | | | | | | |
| 27 | 0.0 | 72 | 0.1 | 27 | 0.0 | 53 | 4.5 | | | | | | | | |
| 28 | 2.1 | 73 | 0.0 | 28 | 2.1 | 54 | 4.5 | | | | | | | | |
| 29 | 2.7 | 74 | 5.0 | 29 | 2.7 | 55 | 4.5 | | | | | | | | |
| 30 | 3.3 | 75 | 5.0 | 30 | 3.3 | 56 | 4.5 | | | | | | | | |
| 31 | 2.9 | 76 | 5.0 | 31 | 2.9 | 57 | 4.5 | | | | | | | | |
| 32 | GND | 77 | 0.1 | 32 | GND | 58 | 4.5 | | | | | | | | |
| 33 | 2.8 | 78 | 0.0 | 33 | 2.8 | 59 | 4.5 | | | | | | | | |
| 34 | 3.3 | 79 | 4.9 | 34 | 3.3 | 60 | 4.5 | | | | | | | | |
| 35 | 2.9 | 80 | 4.9 | 35 | 2.9 | 61 | 4.5 | | | | | | | | |
| 36 | GND | | | 36 | GND | | | | | | | | | | |
| 37 | 1.8 | PIN | VOLT | 37 | 1.8 | | | | | | | | | | |
| 38 | 0.0 | 1 | GND | 38 | 0.0 | 1 | GND | | | | | | | | |
| 39 | 0.1 | 2 | GND | 39 | 0.1 | 2 | GND | | | | | | | | |
| 40 | 2.0 | 3 | GND | 40 | 2.0 | 3 | GND | | | | | | | | |
| 41 | 1.6 | 4 | GND | 41 | 1.6 | 4 | GND | | | | | | | | |
| 42 | 3.3 | 5 | 4.8 | 42 | 3.3 | 5 | 4.8 | | | | | | | | |
| 43 | N/C | 6 | 4.8 | 43 | N/C | 6 | 4.8 | | | | | | | | |

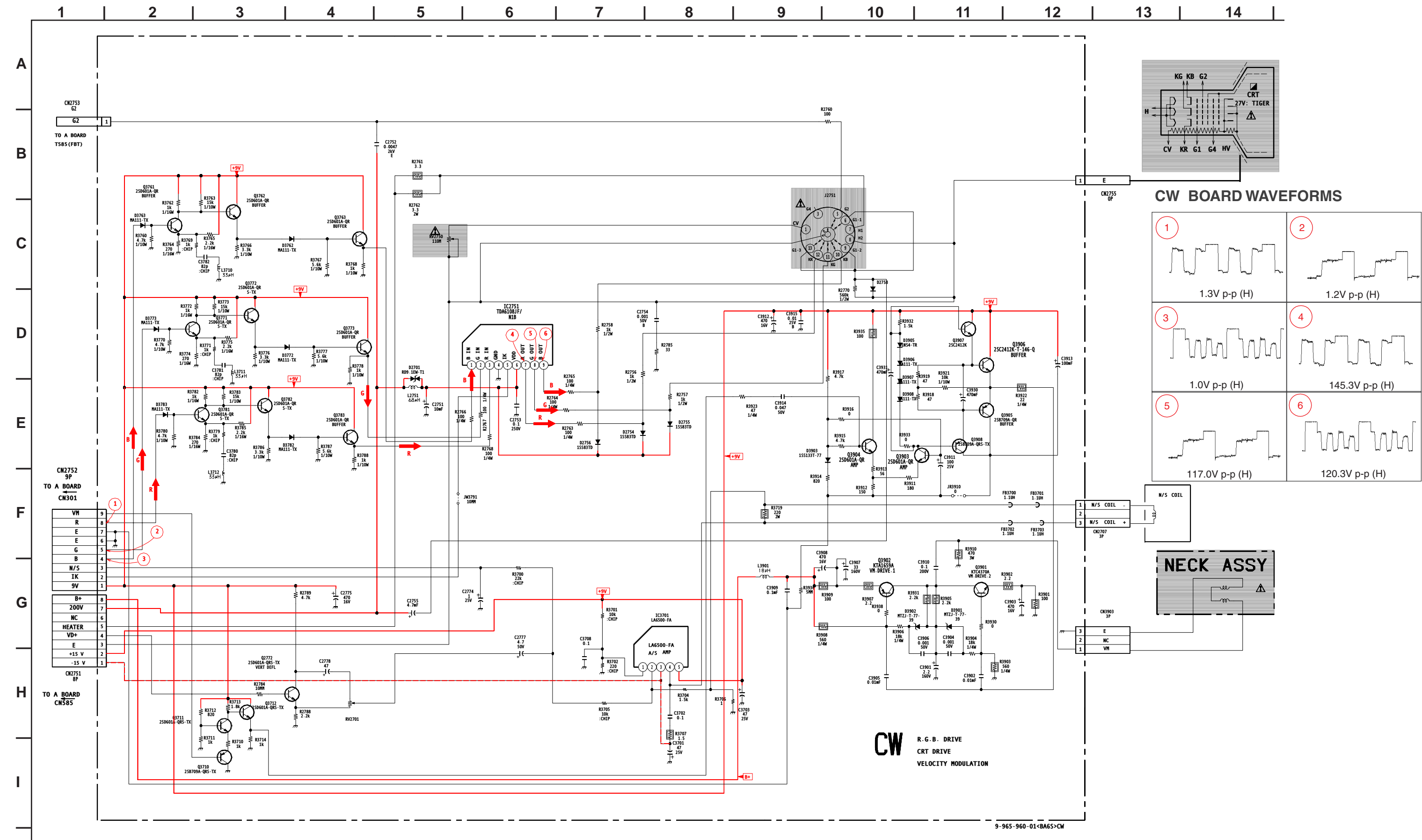
A BOARD TRANSISTOR VOLTAGE LIST

| Q002 | | | Q411 | | | Q501 | | | Q600 | | |
|------|-----|-----|-------|-------|-------|------|-----|-----|-------|-------|-------|
| B | C | E | B | C | E | B | C | E | D | G | S |
| 0.0 | 2.0 | GND | 0.0 | 5.8 | GND | 0.0 | 0.0 | GND | 313.0 | 160.0 | 156.0 |
| 0.0 | 3.8 | 9.0 | 0.1 | 0.1 | GND | 0.0 | 0.0 | GND | 155.0 | 4.9 | 0.0 |
| 5.1 | 0.8 | 5.0 | 0.0 | 14.3 | GND | 0.0 | 0.0 | GND | | | |
| 0.0 | 0.0 | GND | 0.0 | 74.1 | GND | 0.0 | 0.0 | GND | | | |
| 0.0 | 2.6 | GND | 2.9 | 0.0 | 9.0 | 0.0 | 0.0 | GND | | | |
| 0.0 | 5.2 | GND | 0.0 | 0.0 | GND | 0.0 | 0.0 | GND | | | |
| 1.8 | 9.0 | 2.4 | 0.0 | 131.8 | 0.0 | 0.0 | 0.0 | GND | | | |
| 3.6 | 2.1 | 3.6 | 0.0 | 3.8 | GND | 0.0 | 0.0 | GND | | | |
| 3.6 | GND | 2.8 | 0.1 | -2.1 | 0.0 | 0.0 | 0.0 | GND | | | |
| 3.6 | GND | 2.9 | 0.0 | 0.0 | GND | 0.0 | 0.0 | GND | | | |
| 3.6 | GND | 3.0 | 1.5 | GND | 1.5 | 0.0 | 0.0 | GND | | | |
| 5.5 | GND | 4.9 | 0.0 | 2.6 | GND | 0.0 | 0.0 | GND | | | |
| 0.0 | 3.3 | 0.0 | 2.6 | 0.0 | 2.6 | 0.0 | 0.0 | GND | | | |
| 0.8 | 1.5 | 1.9 | 0.0 | 0.5 | GND | 0.0 | 0.0 | GND | | | |
| 0.6 | 3.3 | 1.5 | 133.7 | 0.0 | 134.2 | 0.0 | 0.0 | GND | | | |
| 0.0 | 0.1 | GND | 30.6 | 11.6 | 30.2 | 0.0 | 0.0 | GND | | | |
| 0.0 | 0.1 | GND | 0.0 | 6.7 | GND | 0.0 | 0.0 | GND | | | |
| 0.0 | 0.0 | GND | 5.8 | 9.0 | 5.0 | 0.0 | 0.0 | GND | | | |

A [TUNING CONTROL, Y/C/J, POWER SUPPLY, TUNER/IF, DEFLECTION, AUDIO, MTS]

| DIODE | | D230 | C1 | D507 | F8 | D603 | F7 | IC002 | C5 | Q303 | C5 | Q522 | E10 |
|-------|-----|------|-----|-------|-----|-------|-----|-------------|-----|------|-----|------|-----|
| D002 | B3 | D231 | B13 | D508 | D11 | D604 | G3 | IC003 | B3 | Q304 | D6 | Q531 | F7 |
| D003 | G1 | D232 | B13 | D510 | I10 | D605 | G3 | IC321 | B11 | Q305 | C6 | Q533 | C7 |
| D004 | I1 | D234 | D5 | D513 | F7 | D606 | G3 | IC400 | C10 | Q306 | B9 | Q572 | D7 |
| D005 | A3 | D235 | D12 | D514 | H10 | D611 | J8 | IC401 | C10 | Q316 | C3 | Q573 | D6 |
| D006 | B6 | D236 | D5 | D515 | H10 | D612 | I2 | IC404 | B8 | Q390 | D7 | Q578 | D11 |
| D007 | B11 | D237 | C12 | D525 | D11 | D613 | 14 | IC545 | F11 | Q391 | C7 | Q590 | H8 |
| D045 | B7 | D317 | B11 | D526 | E10 | D614 | I8 | IC561 | E12 | Q400 | C11 | Q600 | I4 |
| D046 | B9 | D321 | B11 | DIODE | | D615 | I7 | IC565 | E9 | Q401 | D11 | Q601 | I5 |
| D047 | B9 | D351 | C6 | D528 | E12 | D618 | I5 | IC600 | H5 | Q403 | A7 | Q604 | E8 |
| D050 | B2 | D390 | D8 | D545 | E11 | D620 | E6 | IC603 | D7 | Q404 | C8 | Q608 | D5 |
| D051 | D4 | D401 | C8 | D558 | D6 | D621 | H7 | IC604 | I9 | Q411 | C7 | Q650 | A10 |
| D052 | B2 | D405 | B7 | D559 | C7 | D624 | J8 | IC608 | B2 | Q412 | A13 | Q860 | C7 |
| D200 | C12 | D412 | A13 | D562 | F8 | D628 | E5 | IC633 | C3 | Q420 | B7 | | |
| D201 | B13 | D414 | A13 | D563 | D11 | D629 | E5 | TRANSISTORS | | Q421 | B6 | | |
| D202 | A1 | D420 | B6 | D566 | E12 | D631 | H6 | Q002 | B6 | Q501 | E6 | | |
| D203 | A1 | D430 | D11 | D567 | F12 | D641 | D7 | Q004 | A12 | Q502 | G8 | | |
| D204 | B12 | D431 | D12 | D568 | F13 | D642 | C2 | Q005 | A12 | Q503 | F7 | | |
| D205 | C12 | D432 | D9 | D569 | F13 | D644 | D7 | Q006 | D7 | Q504 | F8 | | |
| D206 | C11 | D500 | G7 | D587 | G11 | D645 | C2 | Q008 | D3 | Q505 | I9 | | |
| D207 | A11 | D501 | E6 | D589 | F8 | D650 | B10 | Q009 | B11 | Q506 | I10 | | |
| D208 | D12 | D505 | I10 | D596 | G12 | IC | | Q300 | D5 | Q519 | C7 | | |
| D209 | A1 | D506 | I9 | D598 | G12 | IC001 | B4 | Q301 | C6 | Q521 | E12 | | |

CW BOARD SCHEMATIC DIAGRAM



CW BOARD IC VOLTAGE LIST

| IC3701 | |
|--------|-------|
| PIN | VOLT |
| 1 | 0.3 |
| 2 | 0.3 |
| 3 | -15.0 |
| 4 | 0.5 |
| 5 | 15.0 |
| IC2751 | |
| PIN | VOLT |
| 1 | 2.0 |
| 2 | 2.0 |
| 3 | 2.4 |
| 4 | GND |
| 5 | 3.7 |
| 6 | 200.0 |
| 7 | 136.0 |
| 8 | 142.0 |
| 9 | 140.0 |

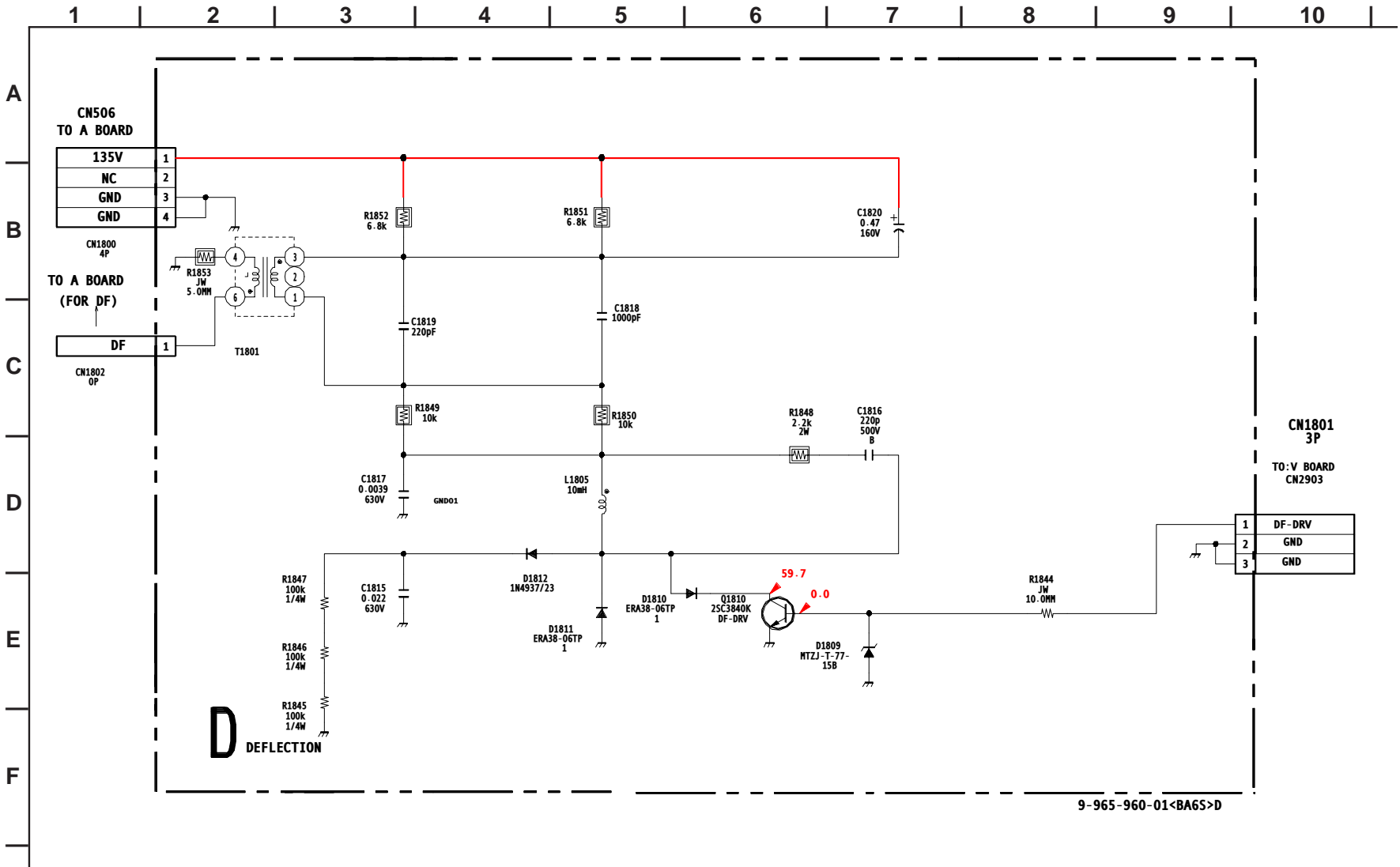
All voltages are in V.

CW BOARD TRANSISTOR VOLTAGE LIST

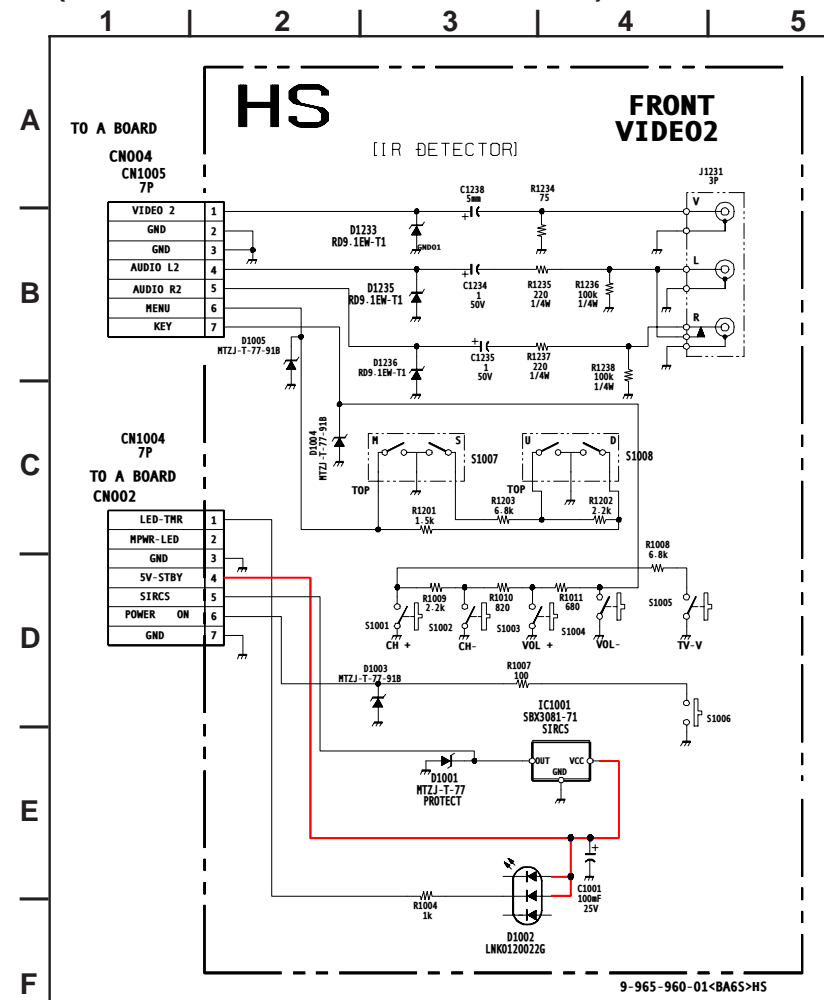
| | B | C | E | | B | C | E |
|-------|-----|-----|-----|-------|-------|------|-------|
| Q2772 | 1.5 | 7.1 | 0.9 | Q3781 | 2.2 | 3.9 | 2.9 |
| Q3710 | 1.8 | 0.0 | 2.5 | Q3782 | 3.3 | 9.0 | 3.9 |
| Q3711 | 5.0 | 5.6 | 4.4 | Q3783 | 2.1 | 9.0 | 2.7 |
| Q3712 | 0.0 | 0.0 | 0.0 | Q3901 | 0.9 | 67.0 | 0.4 |
| Q3761 | 2.2 | 3.8 | 2.9 | Q3902 | 134.0 | 67.0 | 134.0 |
| Q3762 | 3.1 | 9.0 | 3.8 | Q3903 | 1.8 | 5.4 | 2.4 |
| Q3763 | 2.0 | 9.0 | 2.6 | Q3904 | 1.8 | 9.0 | 2.4 |
| Q3771 | 2.2 | 3.8 | 2.9 | Q3905 | 5.7 | GND | 5.4 |
| Q3772 | 3.2 | 9.0 | 3.8 | Q3906 | 5.7 | 9.0 | 6.1 |
| Q3773 | 2.0 | 9.0 | 2.6 | Q3907 | 5.3 | 9.1 | 5.9 |
| | | | | Q3908 | 4.9 | 0.0 | 5.3 |

All voltages are in V.

D BOARD SCHEMATIC DIAGRAM (ALL EXCEPT KV-27FA310/29FA310)



HS BOARD SCHEMATIC DIAGRAM (ALL EXCEPT KV-27FA310/29FA310)



V BOARD TRANSISTOR VOLTAGE LIST

| | B | C | E |
|--------------|-----|-----|-----|
| Q2801 | 0 | 3.1 | GND |
| Q2802 | 0 | GND | 4.1 |
| Q2803 | 6.6 | 0 | 7.2 |
| Q2804 | 7.4 | 6.6 | 8.0 |
| Q2805 | 3.5 | 1.8 | 4.2 |
| Q2808 | 8.6 | 4.3 | 9.0 |
| Q2812 | 1.3 | GND | 2.0 |

| | D | G | S |
|-------|-----|-----|-----|
| Q2807 | 9.5 | 6.3 | GND |

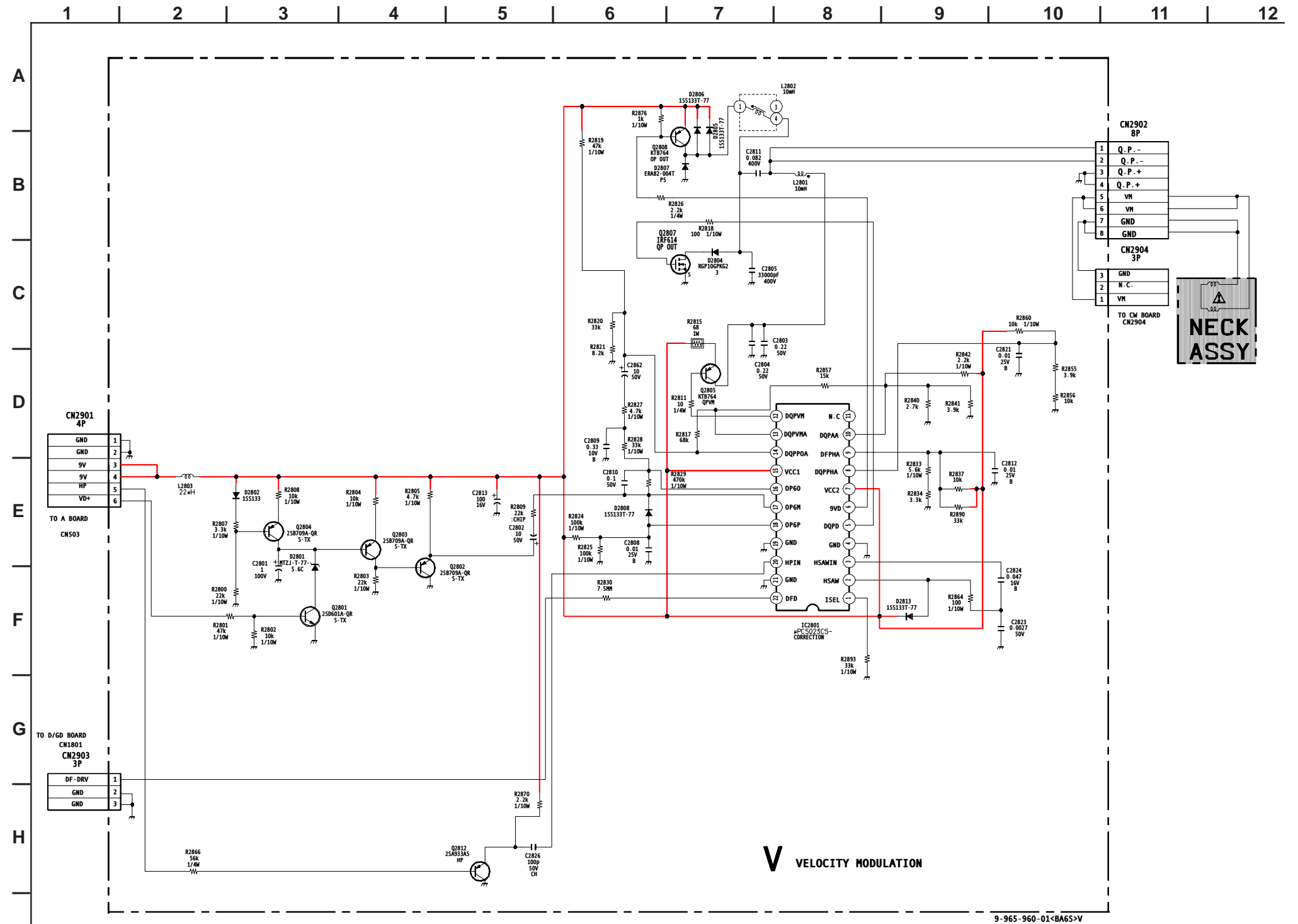
All voltages are in V.

V BOARD IC VOLTAGE LIST

| IC2801 | | 11 | N/C |
|--------|------|----|------|
| PIN | VOLT | 12 | 3..5 |
| 1 | 7.4 | 13 | 3.8 |
| 2 | 2.3 | 14 | 4.5 |
| 3 | 4.8 | 15 | 9.0 |
| 4 | GND | 16 | 4.6 |
| 5 | 6.3 | 17 | 4.6 |
| 6 | 4.5 | 18 | 4.5 |
| 7 | 9.0 | 19 | GND |
| 8 | 5.8 | 20 | 4.8 |
| 9 | 4.6 | 21 | GND |
| 10 | 4.8 | 22 | 0.3 |

All voltages are in V.

V BOARD SCHEMATIC DIAGRAM



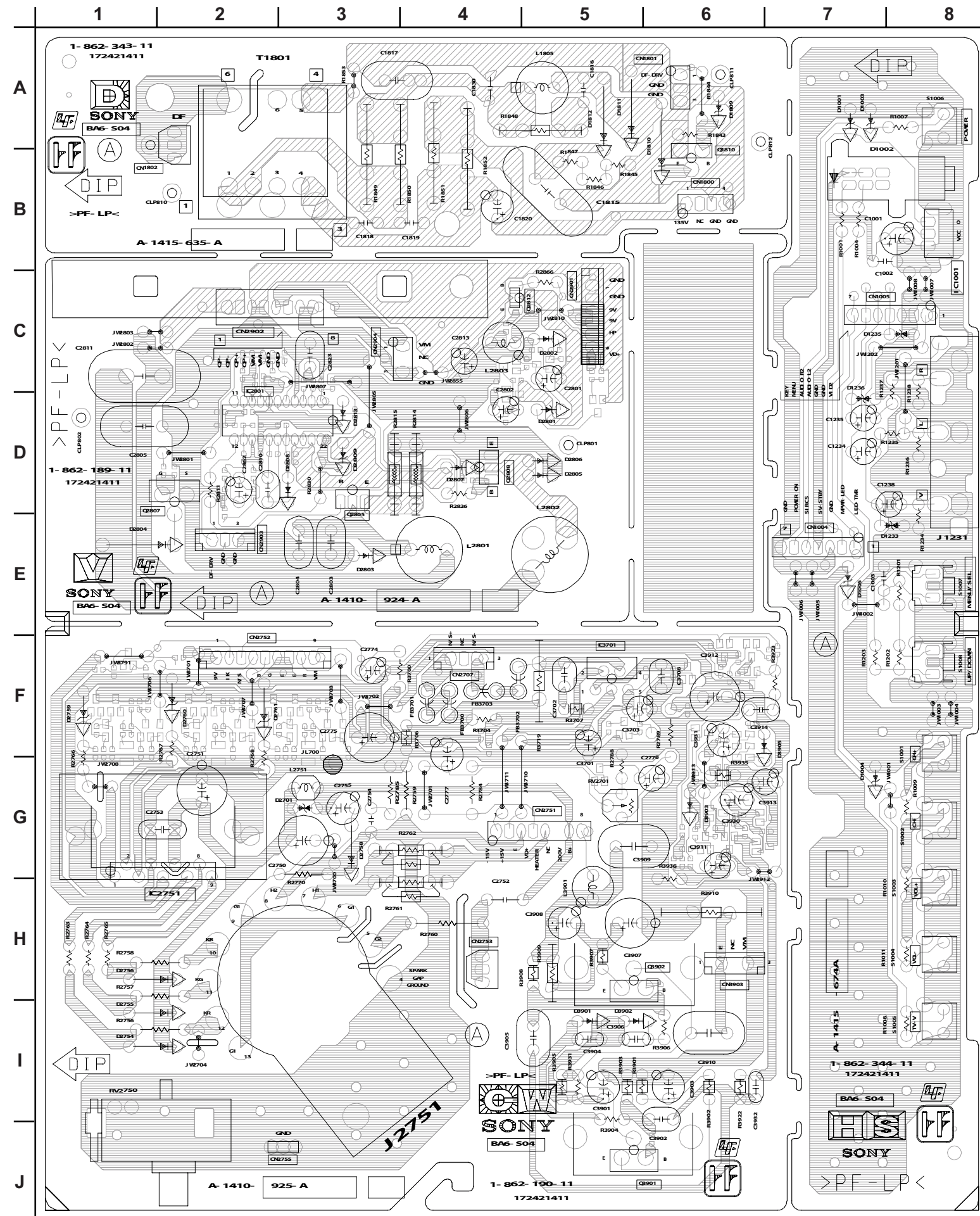
CW [RGB DRIVE, CRT DRIVE, VELOCITY MODULATION]

D [DEFLECTION] (ALL EXCEPT KV-27FA310/29FA310)

HS [IR DETECTOR, FRONT VIDEO2] (ALL EXCEPT KV-27FA310/29FA310)

V [VELOCITY MODULATION]

COMPONENT SIDE



CW

[RGB DRIVE, CRT DRIVE, VELOCITY MODULATION]

D

[DEFLECTION] (ALL EXCEPT KV-27FA310/29FA310)

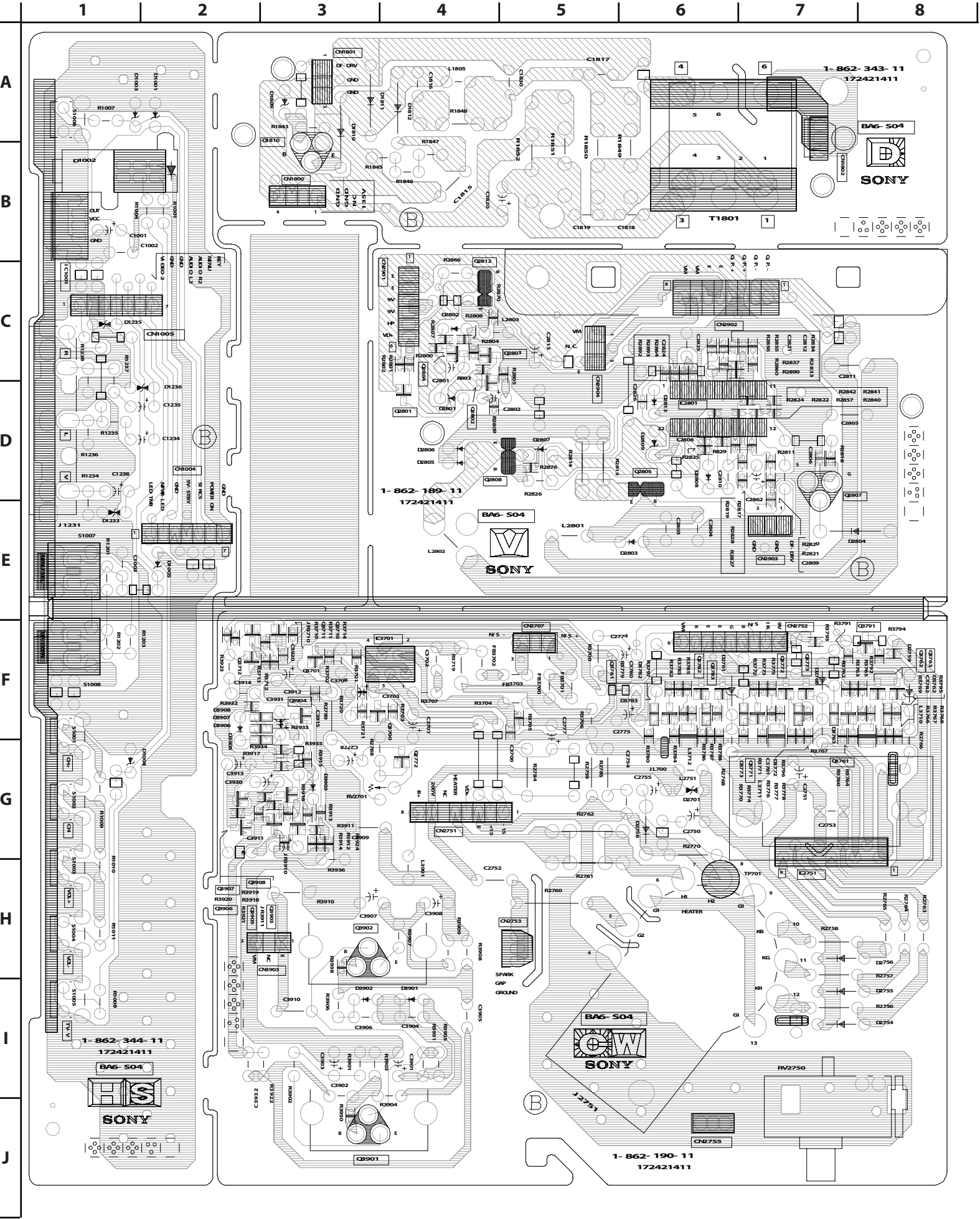
HS

[IR DETECTOR, FRONT VIDEO2] (ALL EXCEPT KV-27FA310/29FA310)

V

[VELOCITY MODULATION]

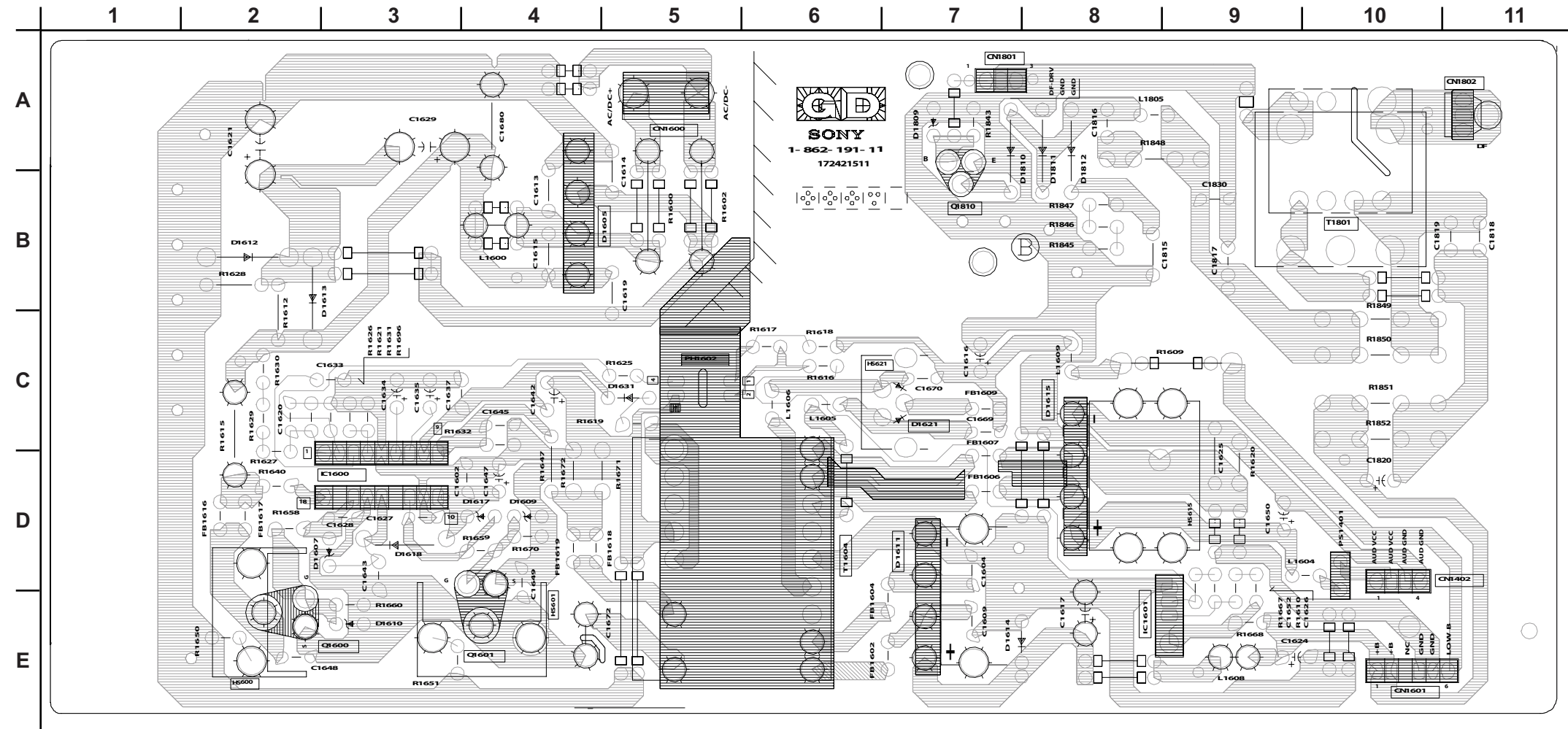
CONDUCTOR SIDE



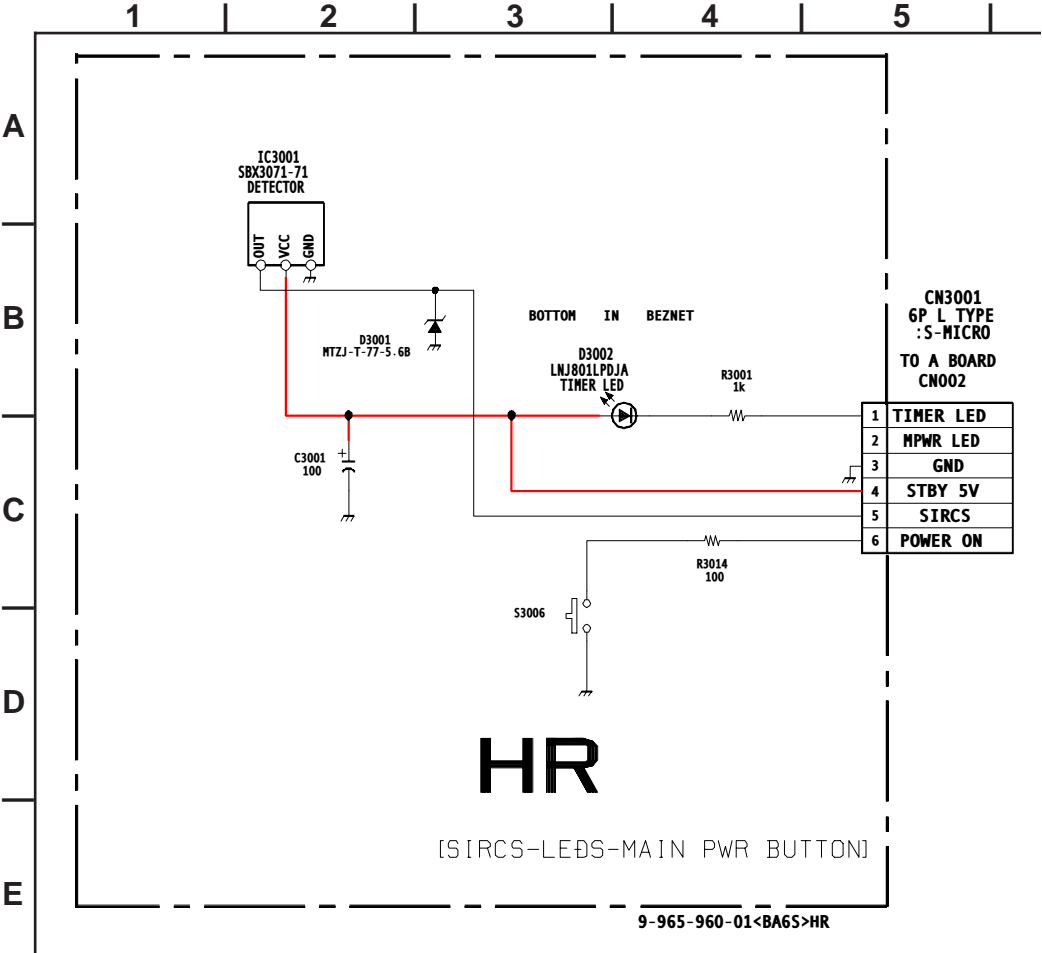




CONDUCTOR SIDE (KV-27FA310/29FA310 ONLY)



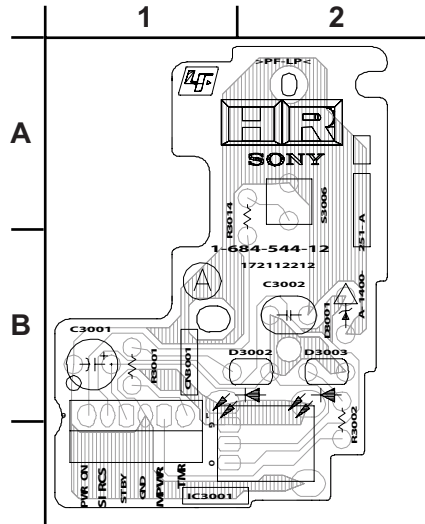
HR BOARD SCHEMATIC DIAGRAM (KV-27FA310/29FA310 ONLY)





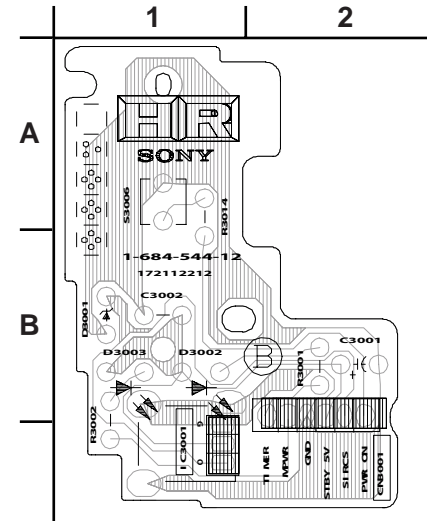
[SIRC, LEDS, MAIN POWER BUTTON]

COMPONENT SIDE (KV-27FA310/29FA310 ONLY)

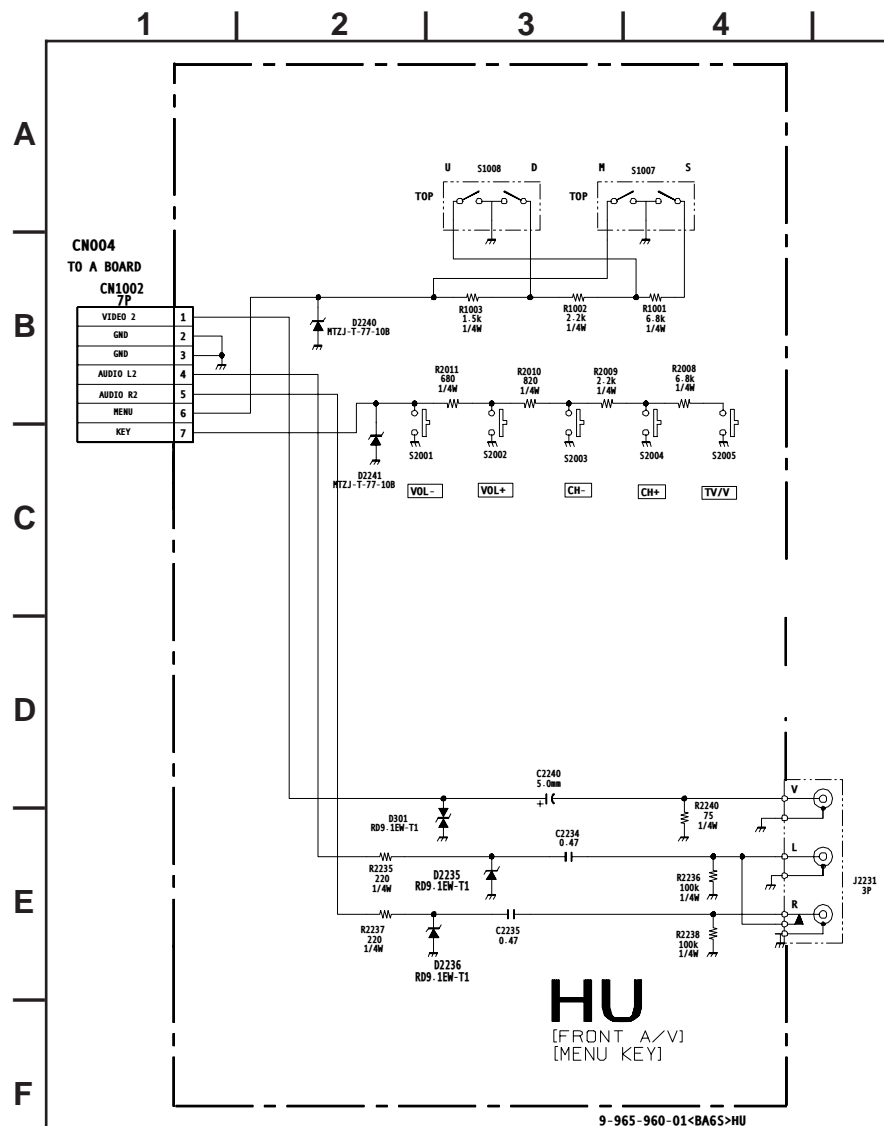


[SIRC, LEDS, MAIN POWER BUTTON]

CONDUCTOR SIDE (KV-27FA310/29FA310 ONLY)

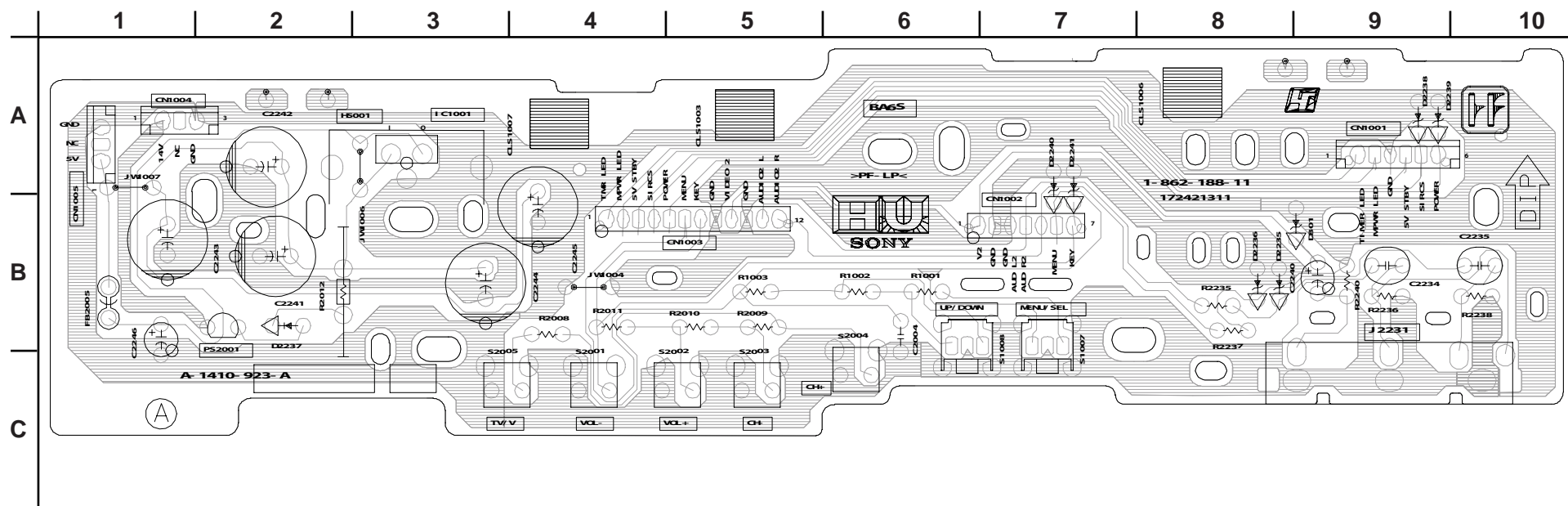


HU BOARD SCHEMATIC DIAGRAM (KV-27FA310/29FA310 ONLY)





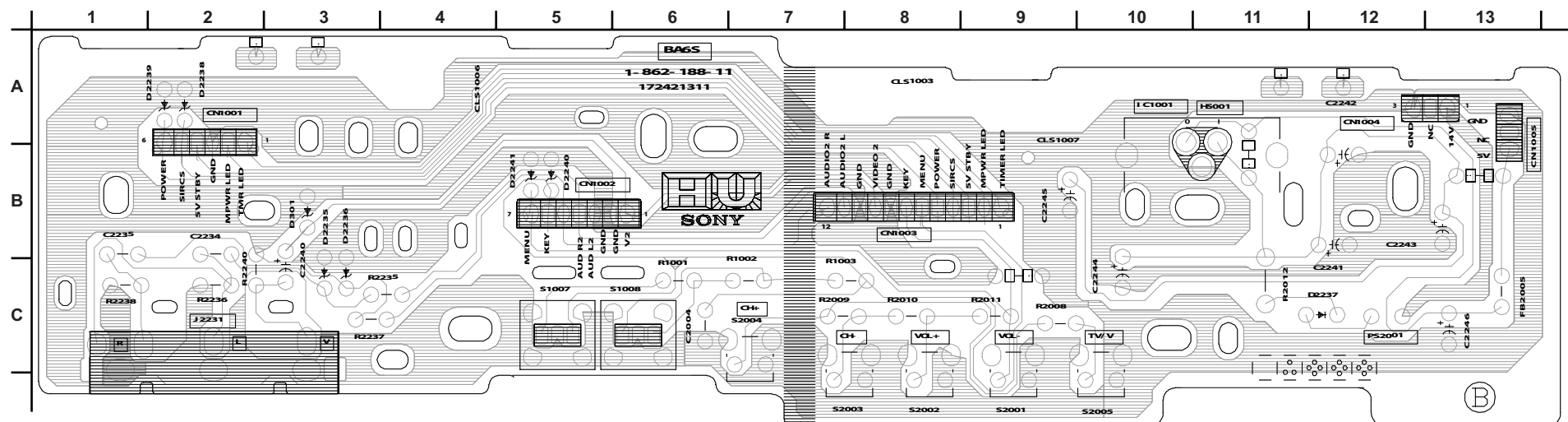
[FRONT AV, MENU KEY]

COMPONENT SIDE (KV-27FA310/29FA310 ONLY)

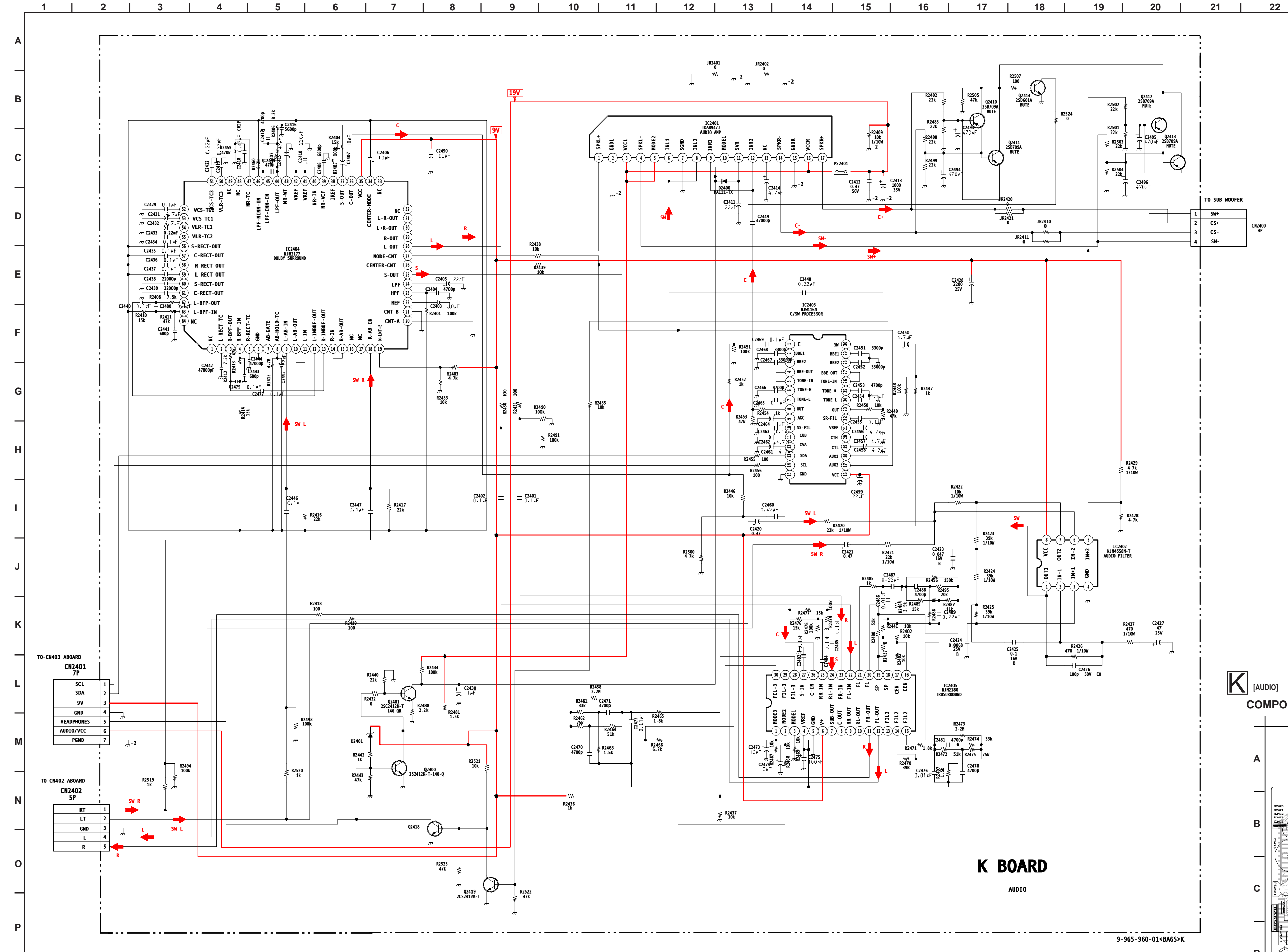


[FRONT A/V, MENU KEY]

CONDUCTOR SIDE (KV-27FA310/29FA310 ONLY)



K BOARD SCHEMATIC DIAGRAM (KV-27FA310/29FA310 ONLY)



K BOARD IC VOLTAGE LIST

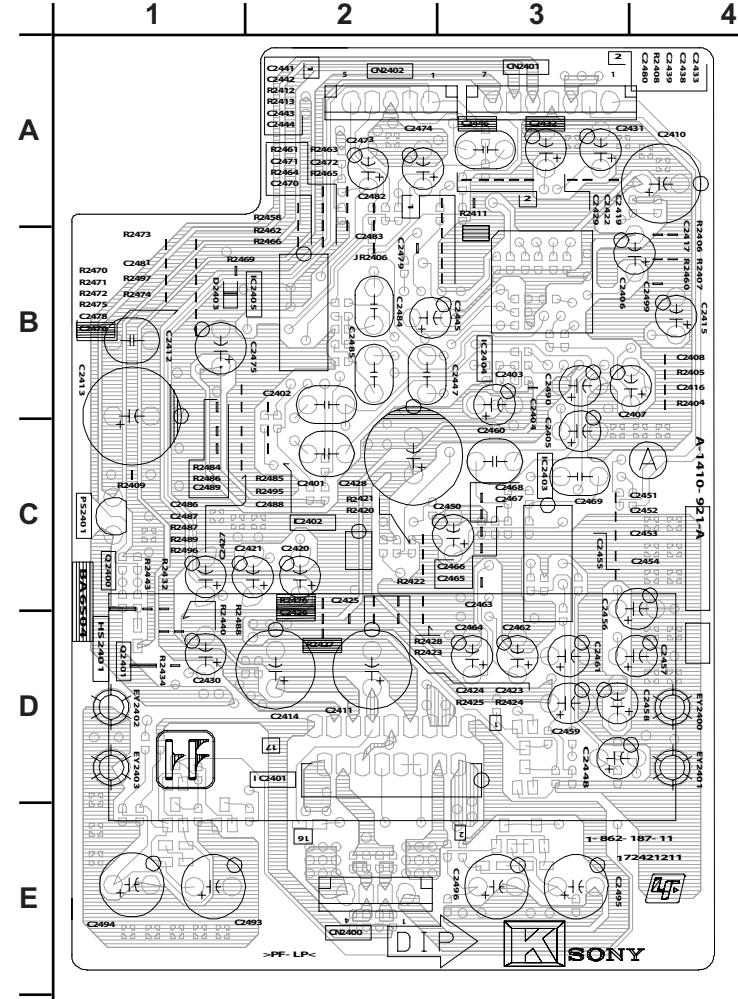
| IC2401 | | IC2403 | | 28 | 4.5 | 25 | 4.0 | 54 | 4.0 | 17 | 4.5 |
|--------|------|--------|------|--------|------|----|------|--------|------|------------------------|-----|
| PIN | VOLT | PIN | VOLT | 29 | 4.5 | 26 | 4.0 | 55 | 4.0 | 18 | 4.5 |
| 1 | 8.3 | 1 | 4.5 | 30 | 4.5 | 27 | 4.37 | 56 | 4.0 | 19 | 4.5 |
| 2 | GND | 2 | 4.5 | IC2404 | | 28 | 4.0 | 57 | 4.0 | 20 | 4.5 |
| 3 | 19.6 | 3 | 4.5 | PIN | VOLT | 29 | 4.0 | 58 | 4.0 | 21 | 4.5 |
| 4 | 8.3 | 4 | 4.5 | 1 | n/c | 30 | n/c | 59 | 4.0 | 22 | 4.5 |
| 5 | 19.6 | 5 | 4.5 | 2 | 4.0 | 31 | n/c | 60 | 4.0 | 23 | 4.5 |
| 6 | 3.2 | 6 | 4.5 | 3 | 4.0 | 32 | n/c | 61 | 4.0 | 24 | 4.5 |
| 7 | GND | 7 | 4.5 | 4 | 4.0 | 33 | n/c | 62 | 4.0 | 25 | 4.5 |
| 8 | 0.0 | 8 | 4.5 | 5 | 4.0 | 34 | 4.0 | 63 | 4.0 | 26 | 4.5 |
| 9 | 3.2 | 9 | 1.0 | 6 | GND | 35 | 9.0 | 64 | n/c | 27 | 4.5 |
| 10 | 9.1 | 10 | 4.5 | 7 | n/c | 36 | 4.0 | IC2405 | | 28 | 4.5 |
| 11 | 9.7 | 11 | 3.4 | 8 | 3.8 | 37 | 4.0 | PIN | VOLT | 29 | 4.5 |
| 12 | 3.2 | 12 | 3.3 | 9 | 4.0 | 38 | 1.45 | 1 | 7.7 | 30 | 4.5 |
| 13 | 3.3 | 13 | 4.5 | 10 | 4.0 | 39 | 4.0 | 2 | 4.6 | All voltages are in V. | |
| 14 | 8.3 | 14 | 4.5 | 11 | 4.0 | 40 | 4.0 | 3 | 0.0 | | |
| 15 | GND | 15 | GND | 12 | 4.0 | 41 | 4.0 | 4 | 4.5 | | |
| 16 | 19.6 | 16 | 9.0 | 13 | 4.0 | 42 | 4.0 | 5 | 0.0 | | |
| 17 | 8.3 | 17 | 4.9 | 14 | 4.0 | 43 | 4.0 | 6 | 9.0 | | |
| IC2402 | | 18 | 0.0 | 15 | 4.0 | 44 | 4.0 | 7 | n/c | | |
| PIN | VOLT | 19 | 3.88 | 16 | n/c | 45 | 4.0 | 8 | n/c | | |
| 1 | 4.5 | 20 | 3.88 | 17 | n/c | 46 | 4.0 | 9 | n/c | | |
| 2 | 4.5 | 21 | 4.5 | 18 | 4.0 | 47 | 0.0 | 10 | n/c | | |
| 3 | 4.5 | 22 | 4.5 | 19 | 5.8 | 48 | n/c | 11 | 4.5 | | |
| 4 | GND | 23 | 4.5 | 20 | GND | 49 | n/c | 12 | 4.5 | | |
| 5 | 4.5 | 24 | 4.5 | 21 | GND | 50 | 4.0 | 13 | 4.5 | | |
| 6 | 4.5 | 25 | 4.5 | 22 | 4.0 | 51 | 3.0 | 14 | 4.5 | | |
| 7 | 4.5 | 26 | 4.5 | 23 | 2.65 | 52 | 3.0 | 15 | 4.5 | | |
| 8 | 9.0 | 27 | 4.5 | 24 | 4.0 | 53 | 3.0 | 16 | 4.5 | | |

K BOARD TRANSISTOR VOLTAGE LIST

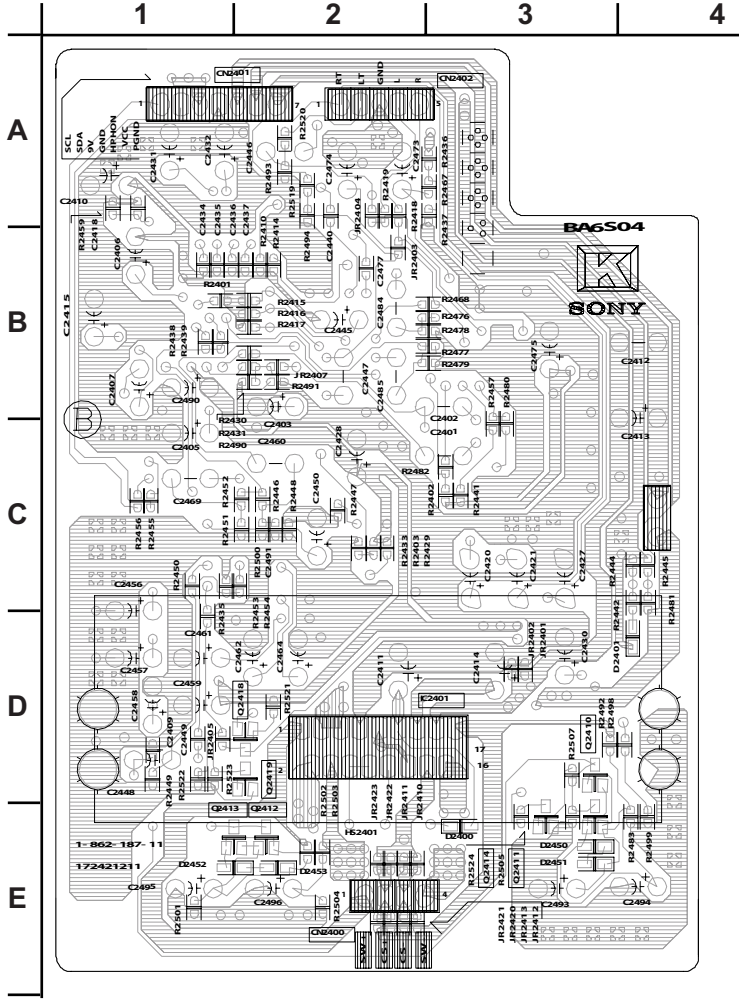
| | B | C | E |
|------------------------|-----|------|-----|
| Q2400 | 0.7 | 0.0 | GND |
| Q2401 | 0.0 | 17.9 | 0.0 |
| Q2410 | 4.8 | 0.0 | 4.8 |
| Q2411 | 4.8 | 0.0 | 4.8 |
| Q2412 | 4.8 | 0.0 | 4.9 |
| Q2413 | 4.8 | 0.0 | 4.9 |
| Q2414 | 0.0 | 0.2 | GND |
| Q2418 | 0.0 | 0.7 | GND |
| Q2419 | 0.0 | 0.0 | GND |
| All voltages are in V. | | | |



COMPONENT SIDE (KV-27FA310/29FA310 ONLY)



CONDUCTOR SIDE (KV-27FA310/29FA310 ONLY)



5-4. SEMICONDUCTORS


| | | | | |
|---|--|---|----------------|---|
| 2SB709A-QRS-TX 2SD601A-QRS-TX | 2SB734-T-34 2SC3209LK-TP | 2SA1309A-QRSTA 2SC3311A-QRSTA 2SD2144S-TP-UVW | 2SC3840K | 2SA1837 |
| 2SA10910-TPE2 | IRF614 | 2SK2663 | 2SC4793 | 2SD2578-YB |
| ERA38-06TP1 ERA82-004TP5 1SS133T-77 D1NS0R-TA MTZJ-T-77-12C MTZJ-T-77-15B MTZJ-T-77-33B MTZJ-T-77-39 | RU-1P ERC06-15S EGP20DPKG23 MTZJ-T-77-5.1C MTZJ-T-77-5.6C MTZJ-T-77-7.5A MTZJ-T-77-10B MTZJ-T-77-30D RGP10-GPKG3 RGP02-17PKG23 RGP15GPKG23 | ERB44-06TP1 1SS83TD GP08DPKG23 RGP10GPKG23 RU4AM-T3 | RD9.1EW-T1 | MA111-TX UDZ-TE-17.5.1B UDZ-TE-17.91B |
| D2SB60A-F04 | DAP202K-T-146 | D4SB60L-F | | |
| D5LC20U | TF541M | | | |


SECTION 6: EXPLODED VIEWS

Components not identified by a part number or description are not stocked because they are seldom required for routine service.

The component parts of an assembly are indicated by the reference numbers in the far right column of the parts list and within the dotted lines of the diagram.

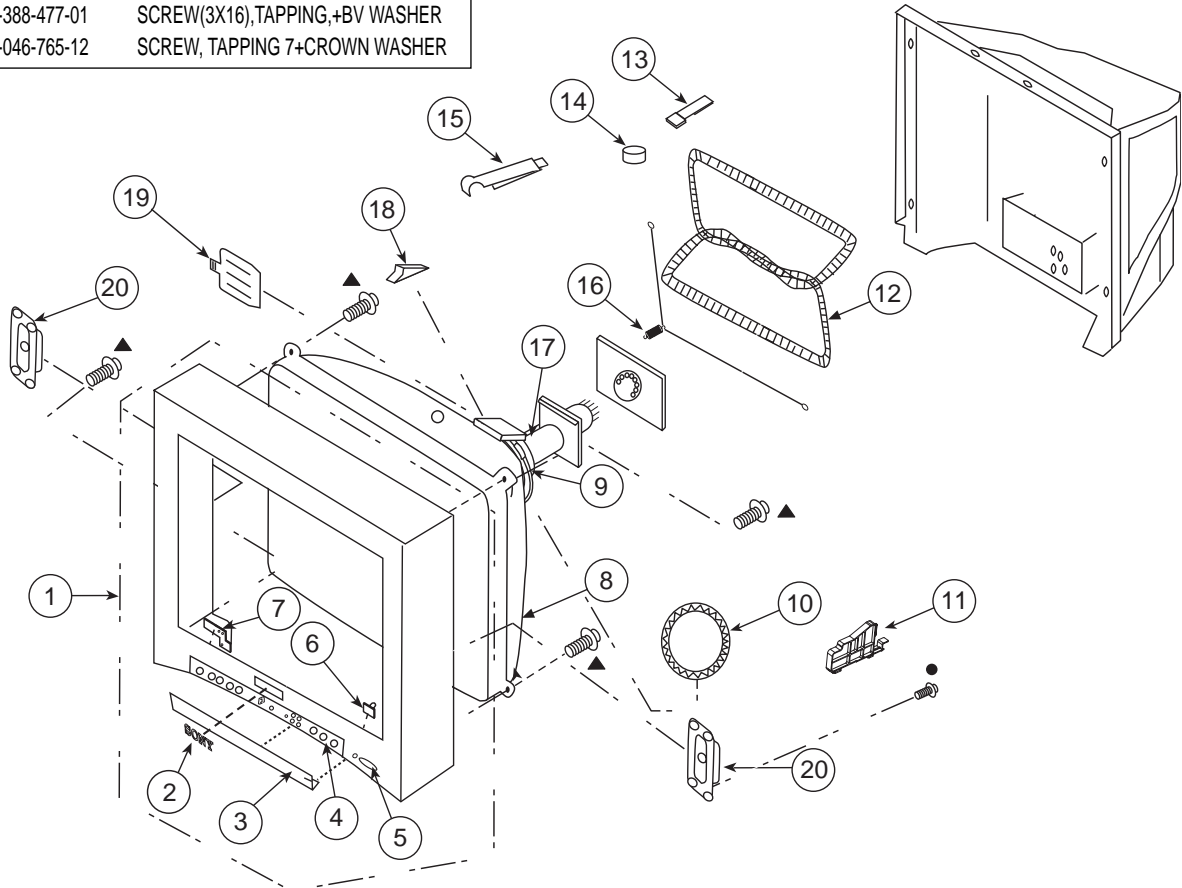
* Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.








NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.


NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


6-1. PICTURE TUBE (KV-27FS120/29FS120 ONLY)

- 4-388-477-01 SCREW(3X16),TAPPING,+BV WASHER
- ▲ 4-046-765-12 SCREW, TAPPING 7+CROWN WASHER



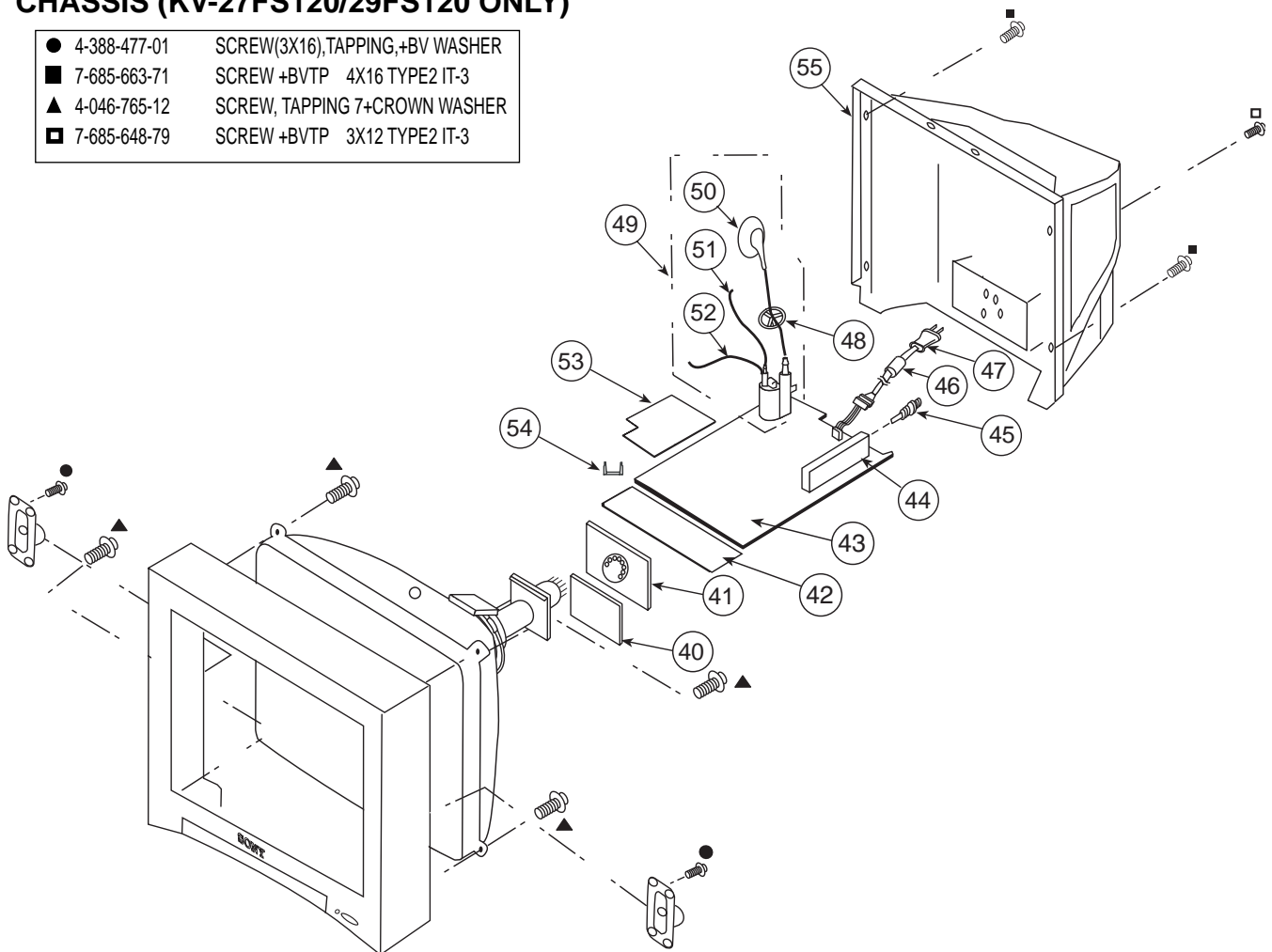
| REF. NO. | PART NO. | DESCRIPTION | [ASSEMBLY INCLUDES] | REF. NO. | PART NO. | DESCRIPTION | [ASSEMBLY INCLUDES] |
|---|--------------|---|---------------------|--|--------------|--|---------------------|
| 1 | X-4043-163-1 | BEZNET, ASSY | [2-7] | 11 | 4-089-062-02 | SUPPORTER, CRT | |
| 2 | 4-046-160-31 | EMBLEM, SONY NO.9 | |  12 | 1-419-156-21 | COIL, DEGAUSSING (ALL EXCEPT KV-29FS120 L. SOUTH) | |
| 3 | 4-089-056-11 | DOOR | |  12 | 1-419-523-21 | COIL, DEGAUSSING (KV-29FS120 L. SOUTH ONLY) | |
| 4 | 4-089-016-01 | LABEL, DOOR | | 13 | 4-083-414-01 | PIECE A(110), CONV CORRECT | |
| 5 | 4-089-057-11 | BUTTON, POWER | | 14 | 1-452-885-11 | MAGNET, LANDING | |
| 6 | 4-089-058-01 | GUIDE, LED | | * 15 | 4-062-970-12 | CLIP (29RSN), DGC | |
| * 7 | 4-083-303-01 | SPRING, METAL | | 16 | 4-036-329-01 | SPRING (B), TENSION | |
|  8 | 8-735-082-05 | CRT 29RSN(SDP) (ALL EXCEPT KV-29FS120 L. SOUTH) | |  17 | 8-453-011-11 | NECK ASSEMBLY 299-M | |
|  8 | 8-735-083-05 | CRT 29RSN(SDP)(SOUTH) (KV-29FS120 L. SOUTH ONLY) | | 18 | 4-053-005-01 | SPACER, DY | |
|  9 | 8-451-494-41 | DY Y29RSA-V | | 19 | 4-081-170-01 | PLATE, TLH CORRECTION | |
|  10 | 1-452-896-11 | COIL, NA ROTATION (RT-200) | | 20 | 1-825-206-11 | LOUDSPEAKER (6X12CM) | |









NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.


NOTE: Les composants identifiés par un triangle et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


6-2. CHASSIS (KV-27FS120/29FS120 ONLY)

| | | |
|---|--------------|--------------------------------|
| ● | 4-388-477-01 | SCREW(3X16),TAPPING,+BV WASHER |
| ■ | 7-685-663-71 | SCREW +BVTP 4X16 TYPE2 IT-3 |
| ▲ | 4-046-765-12 | SCREW, TAPPING 7+CROWN WASHER |
| ▣ | 7-685-648-79 | SCREW +BVTP 3X12 TYPE2 IT-3 |



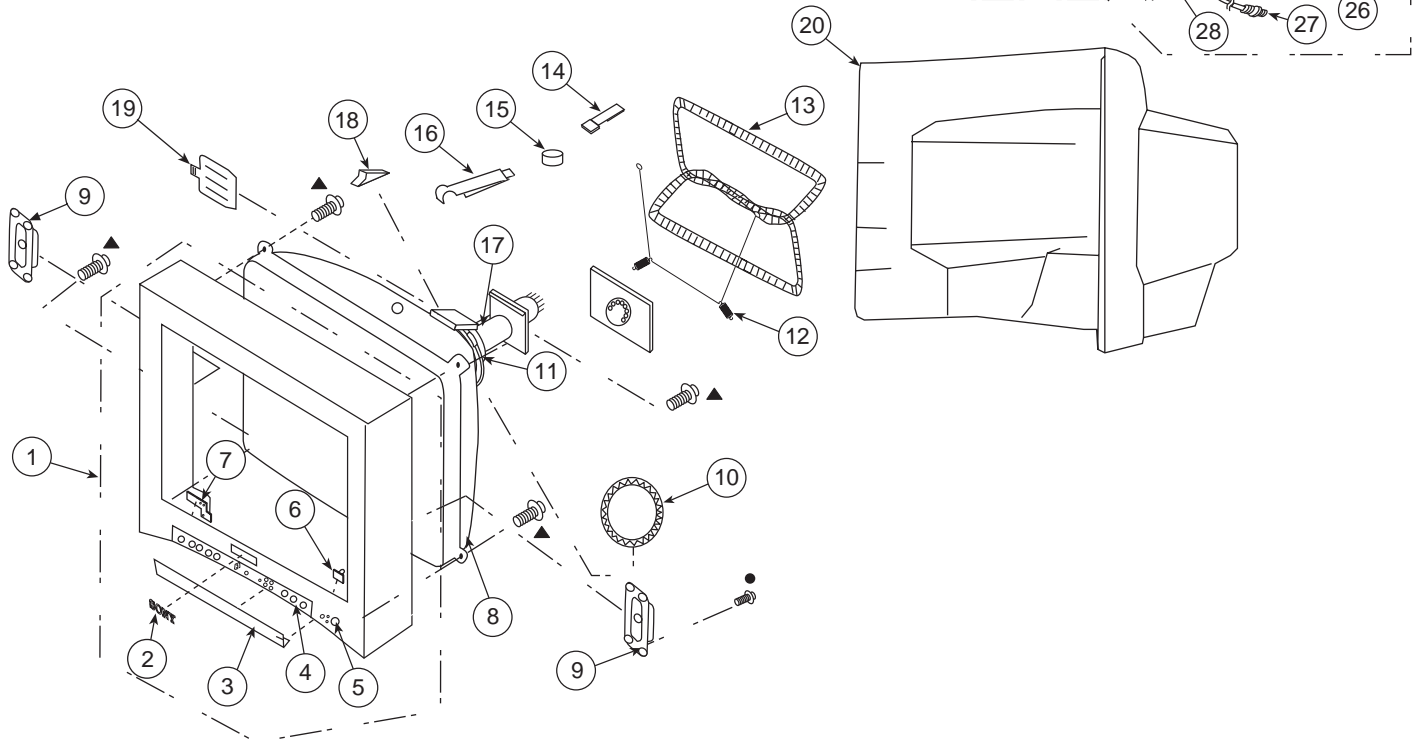
| REF. NO. | PART NO. | DESCRIPTION | [ASSEMBLY INCLUDES] | REF. NO. | PART NO. | DESCRIPTION | [ASSEMBLY INCLUDES] |
|---|--------------|--|---------------------|--|--------------|----------------------------------|---------------------|
| * 40 | A-1410-924-A | V BOARD, MOUNTED | |  47 | 1-824-069-11 | CORD, AC POWER (WITH CONNECTOR) | |
| * 41 | A-1410-925-A | CW BOARD, MOUNTED | | | | (ALL EXCEPT KV-29FS120 L. SOUTH) | |
| * 42 | A-1415-674-A | HS BOARD, MOUNTED | |  47 | 1-757-840-12 | CORD, POWER (WITH CONNECTOR) | |
| * 43 | A-1052-931-A | A BOARD, COMPLETE | | | | (KV-29FS120 L. SOUTH ONLY) | |
| | | (KV-29FS120 L. SOUTH ONLY) | | 48 | 4-084-918-01 | HOLDER, HV CABLE | |
| | | The high-voltage leads associated with the FBT on the A board are not included and must be ordered separately. (See 50-52) | |  49 | 1-453-310-21 | FBT ASSY NX-4521//X4J4 | [50-52] |
| * 43 | A-1302-967-A | A BOARD, COMPLETE | |  50 | 1-251-374-14 | CAP ASSY, HIGH-VOLTAGE | |
| | | (ALL EXCEPT KV-29FS120 L. SOUTH) | |  51 | 1-900-800-65 | CONNECTOR ASSY, FOCUS LEAD | |
| | | The high-voltage leads associated with the FBT on the A board are not included and must be ordered separately. (See 50-52) | |  52 | 1-900-803-22 | WIRE ASSY, G2 LEAD | |
|  44 | 8-598-593-50 | TUNER, FSS BTF-WA421 | | * 53 | A-1415-635-A | D BOARD, MOUNTED | |
|  45 | 1-766-374-11 | PLUG, F-PIN | | * 54 | 3-696-606-02 | HINGE, VI | |
| 46 | 1-500-586-11 | FILTER, CLAMP (FERRITE CORE) | | 55 | 4-089-050-32 | COVER, REAR | |
| | | (KV-29FS120 L. SOUTH ONLY) | | | | | |









NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.


NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.


6-3. PICTURE TUBE (KV-27FA310/29FA310 ONLY)

| | |
|----------------|--------------------------------|
| ● 4-388-477-01 | SCREW(3X16),TAPPING,+BV WASHER |
| ▲ 4-046-765-12 | SCREW, TAPPING 7+CROWN WASHER |
| ☆ 7-685-663-71 | SCREW +BVTP 4X16 TYPE2 IT-3 |
| ★ 7-685-661-14 | SCREW +BVTP 4X12 TYPE2 IT-3 |
| ○ 4-384-096-01 | SCREW (4X16), TAPPING, +P |



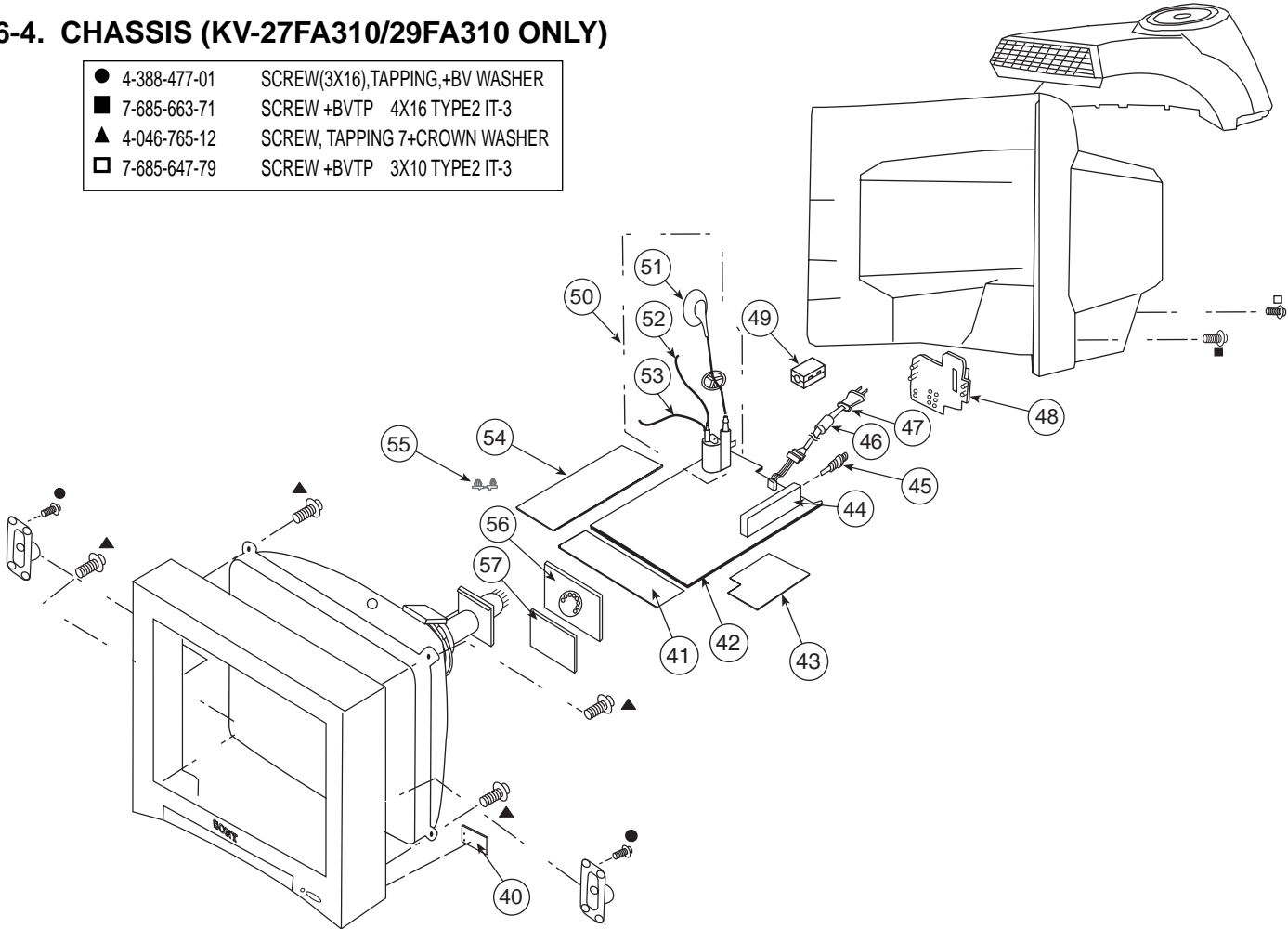
| REF. NO. | PART NO. | DESCRIPTION | [ASSEMBLY INCLUDES] | REF. NO. | PART NO. | DESCRIPTION | [ASSEMBLY INCLUDES] |
|---|--------------|--|---------------------|--|--------------|--|---------------------|
| 1 | X-4043-169-2 | BEZNET ASSY (KV-27FA310 ONLY) | [2-7] |  13 | 1-419-523-21 | COIL, DEGAUSSING (KV-29FA310 L. SOUTH ONLY) | |
| 1 | X-4043-169-1 | BEZNET ASSY (KV-29FA310 ONLY) | [2-7] | 14 | 4-083-414-01 | PIECE A(110), CONV CORRECT | |
| 2 | 4-046-160-31 | EMBLEM, SONY NO.9 | | 15 | 1-452-885-11 | MAGNET, LANDING | |
| * 3 | 4-087-375-31 | DOOR, CONTROL | | * 16 | 4-062-970-12 | CLIP (29RSN), DGC | |
| 4 | 4-087-376-21 | LABEL, FRONT TERMINAL | |  17 | 8-453-011-11 | NECK ASSEMBLY 299-M | |
| 5 | 4-087-150-41 | BUTTON, POWER | | 18 | 4-053-005-01 | SPACER, DY | |
| 6 | 4-087-156-01 | GUIDE, LIGHT | | 19 | 4-081-170-01 | PLATE, TLH CORRECTION | |
| 7 | 4-087-374-11 | SPRING, DOOR | | 20 | 4-093-996-12 | COVER, REAR (KV-27FA310 ONLY) | |
|  8 | 8-735-082-05 | CRT 29RSN(SDP) M68LNH050X (KV-27FA310 & KV-29FA310 L. NORTH ONLY) | | 20 | 4-093-996-11 | COVER, REAR (KV-29FA310 ONLY) | |
|  8 | 8-735-083-05 | CRT 29RSN(SDP)(SOUTH) (KV-29FA310 L. SOUTH ONLY) | | 21 | A-1606-603-A | SPEAKER ASSY (29) | [22-28] |
| 9 | 1-825-417-21 | LOUDSPEAKER (16X12CM) | | * 22 | 4-101-820-01 | GRILLE, CENTER (W29) | |
|  10 | 1-452-896-11 | COIL, NA ROTATION (RT-200) | | 23 | 1-825-809-11 | LOUDSPEAKER (19.2CMX4.2CM) | |
|  11 | 8-451-494-41 | DY Y29RSA-V | | 24 | 1-825-807-11 | LOUDSPEAKER (13CM) | |
| 12 | 4-036-329-01 | SPRING (B), TENSION | | * 25 | X-2022-510-1 | TOP ASSY (W29), COVER | |
|  13 | 1-419-156-22 | COIL, DEGAUSSING (KV-27FA310 ONLY) | | * 26 | 4-101-830-01 | COVER, BOTTOM (W29) | |
|  13 | 1-419-156-21 | COIL, DEGAUSSING (KV-29FA310 L. NORTH ONLY) | | * 27 | 1-828-903-11 | CONNECTION CABLE | |
| | | | | * 28 | 4-068-528-41 | FOOT | |









NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.


6-4. CHASSIS (KV-27FA310/29FA310 ONLY)


- 4-388-477-01
- SCREW(3X16),TAPPING,BV WASHER
-
- 7-685-663-71
- SCREW +BVTP 4X16 TYPE2 IT-3
- ▲
- 4-046-765-12
- SCREW, TAPPING 7+CROWN WASHER
-
- 7-685-647-79
- SCREW +BVTP 3X10 TYPE2 IT-3




| REF. NO. | PART NO. | DESCRIPTION | [ASSEMBLY INCLUDES] | REF. NO. | PART NO. | DESCRIPTION | [ASSEMBLY INCLUDES] |
|---|--------------|--|---------------------|--|--------------|--|---------------------|
| * 40 | A-1415-629-A | HR (VAR) BOARD, MOUNTED | |  47 | 1-757-840-12 | CORD, POWER (WITH CONNECTOR) (KV-29FA310 L. SOUTH ONLY) | |
| *.. 41 | A-1415-631-A | HU (VAR) BOARD, MOUNTED | | * 48 | 4-087-877-41 | TERMINAL BRACKET | |
| * 42 | A-1302-880-A | A BOARD, COMPLETE (KV-27FA310 & KV-29FA310 L. NORTH ONLY) | | 49 | 1-500-082-11 | CLAMP, SLEEVE FERRITE | |
| | | The high-voltage leads associated with the FBT on the A board are not included and must be ordered separately. (See 51-53) | |  50 | 1-453-310-21 | FBT ASSY NX-4521//X4J4 | [51-53] |
| * 42 | A-1302-954-A | A BOARD, COMPLETE (KV-29FA310 L. SOUTH ONLY) | |  51 | 1-251-374-14 | CAP ASSY, HIGH-VOLTAGE | |
| | | The high-voltage leads associated with the FBT on the A board are not included and must be ordered separately. (See 51-53) | |  52 | 1-900-800-65 | CONNECTOR ASSY, FOCUS LEAD | |
| * 43 | A-1410-921-A | K BOARD, MOUNTED | |  53 | 1-900-803-22 | WIRE ASSY, G2 LEAD | |
|  44 | 8-598-593-50 | TUNER, FSS BTF-WA421 | | * 54 | A-1410-927-A | GD (COM) BOARD, MOUNTED | |
|  45 | 1-766-374-11 | PLUG, F-PIN | | * 55 | 4-076-951-01 | HINGE, PWB | |
| 46 | 1-500-586-11 | FILTER, CLAMP (FERRITE CORE) (KV-29FA310 L. SOUTH ONLY) | | * 56 | A-1410-925-A | CW BOARD, MOUNTED | |
|  47 | 1-824-069-11 | CORD, AC POWER (WITH CONNECTOR) (KV-27FA310 & KV-29FA310 L. NORTH ONLY) | | * 57 | A-1410-924-A | V BOARD, MOUNTED | |

SECTION 7: ELECTRICAL PARTS LIST

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components in this manual identified by the following symbol:  indicate parts that have been carefully factory-selected to satisfy regulations regarding X-ray radiation for each set.

Should replacement be required for one of these components, replace only with the value originally used.






* Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.

RESISTORS

- All resistors are in ohms
- F : nonflammable
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.



When ordering parts by reference number, please include the board name.


| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|--|----------------|--|----------|-----|-----|----------|--------------|--------------|----------|-----|-----|
|  | * A-1052-931-A | A BOARD, COMPLETE (KV-29FS120LS ONLY) | | | | C023 | 1-126-935-11 | ELECT | 470μF | 20% | 16V |
| | * A-1302-880-A | A BOARD, COMPLETE (KV-27FA310/29FA310LN ONLY) | | | | C033 | 1-162-970-11 | CERAMIC CHIP | 0.01μF | 10% | 25V |
| | * A-1302-954-A | A BOARD, COMPLETE (KV-29FA310LS ONLY) | | | | C041 | 1-126-964-11 | ELECT | 10μF | 20% | 50V |
| | * A-1302-967-A | A BOARD, COMPLETE (KV-27FS120/29FS120LN ONLY) | | | | C047 | 1-164-315-11 | CERAMIC CHIP | 470pF | 5% | 50V |
| | | | | | | C048 | 1-104-665-11 | ELECT | 100μF | 20% | 25V |
|  | 1-533-223-11 | FUSE HOLDER | 0A | 0V | | C049 | 1-126-960-11 | ELECT | 1μF | 20% | 50V |
| * | 4-374-846-11 | COVER, CAPACITOR, CAP TYPE | | | | C051 | 1-126-964-11 | ELECT | 10μF | 20% | 50V |
| | 4-382-854-11 | SCREW (M3X10), P, SW (+) | | | | C052 | 1-164-230-11 | CERAMIC CHIP | 220pF | 5% | 50V |
| The high-voltage leads associated with the FBT on the A board are not included and must be ordered separately. Order the following leads when requesting this A Board: | | | | | | C053 | 1-165-176-11 | CERAMIC CHIP | 0.047μF | 10% | 16V |
|  | 1-251-374-14 | CAP ASSY, HIGH-VOLTAGE | | | | C054 | 1-126-960-11 | ELECT | 1μF | 20% | 50V |
|  | 1-900-803-22 | WIRE ASSY, G2 LEAD | | | | C056 | 1-162-966-11 | CERAMIC CHIP | 0.0022μF | 10% | 50V |
|  | 1-900-800-65 | CONNECTOR ASSY, FOCUS LEAD | | | | C057 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V |
| CAPACITOR | | | | | | C064 | 1-165-176-11 | CERAMIC CHIP | 0.047μF | 10% | 16V |
| C003 | 1-162-919-11 | CERAMIC CHIP | 22pF | 5% | 50V | C074 | 1-126-964-11 | ELECT | 10μF | 20% | 50V |
| C004 | 1-162-923-11 | CERAMIC CHIP | 47pF | 5% | 50V | C075 | 1-126-935-11 | ELECT | 470μF | 20% | 16V |
| C005 | 1-162-966-11 | CERAMIC CHIP | 0.0022μF | 10% | 50V | C076 | 1-104-665-11 | ELECT | 100μF | 20% | 25V |
| C006 | 1-126-942-61 | ELECT | 1000μF | 20% | 25V | C077 | 1-126-947-11 | ELECT | 47μF | 20% | 35V |
| C007 | 1-164-315-11 | CERAMIC CHIP | 470pF | 5% | 50V | C079 | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10% | 50V |
| C008 | 1-126-956-91 | ELECT | 0.1μF | 20% | 50V | C080 | 1-128-934-91 | CERAMIC CHIP | 0.33μF | 20% | 10V |
| C009 | 1-164-230-11 | CERAMIC CHIP | 220pF | 5% | 50V | C081 | 1-128-934-91 | CERAMIC CHIP | 0.33μF | 20% | 10V |
| C010 | 1-126-960-11 | ELECT | 1μF | 20% | 50V | C090 | 1-162-970-11 | CERAMIC CHIP | 0.01μF | 10% | 25V |
| C011 | 1-162-964-11 | CERAMIC CHIP | 0.001μF | 10% | 50V | C091 | 1-126-947-11 | ELECT | 47μF | 20% | 35V |
| C012 | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10% | 50V | C092 | 1-126-947-11 | ELECT | 47μF | 20% | 35V |
| C014 | 1-126-960-11 | ELECT | 1μF | 20% | 50V | C094 | 1-162-970-11 | CERAMIC CHIP | 0.01μF | 10% | 25V |
| C015 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V | C095 | 1-126-947-11 | ELECT | 47μF | 20% | 35V |
| C019 | 1-126-956-91 | ELECT | 0.1μF | 20% | 50V | C096 | 1-162-970-11 | CERAMIC CHIP | 0.01μF | 10% | 25V |
| C021 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V | C097 | 1-126-947-11 | ELECT | 47μF | 20% | 35V |
| C022 | 1-126-964-11 | ELECT | 10μF | 20% | 50V | C098 | 1-162-970-11 | CERAMIC CHIP | 0.01μF | 10% | 25V |
| | | | | | | C099 | 1-126-947-11 | ELECT | 47μF | 20% | 35V |
| | | | | | | C100 | 1-126-956-91 | ELECT | 0.1μF | 20% | 50V |
| | | | | | | C115 | 1-164-739-11 | CERAMIC CHIP | 560pF | 5% | 50V |
| | | | | | | C116 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V |
| | | | | | | C200 | 1-125-891-11 | CERAMIC CHIP | 0.47μF | 10% | 10V |
| | | | | | | C202 | 1-125-891-11 | CERAMIC CHIP | 0.47μF | 10% | 10V |
| | | | | | | C203 | 1-125-891-11 | CERAMIC CHIP | 0.47μF | 10% | 10V |


NOTE: The components identified by shading and \triangle mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.








| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|----------|--------------|--------------|----------------|-----|-----|------------------|---------------------------------------|--------------|---------------|-----|-------|
| C204 | 1-216-864-11 | SHORT CHIP | | | | C419 | 1-125-891-11 | CERAMIC CHIP | 0.47 μ F | 10% | 10V |
| C205 | 1-216-864-11 | SHORT CHIP | | | | C420 | 1-126-960-11 | ELECT | 1 μ F | 20% | 50V |
| C206 | 1-126-963-11 | ELECT | 4.7 μ F | 20% | 50V | C421 | 1-126-965-91 | ELECT | 22 μ F | 20% | 50V |
| C207 | 1-126-963-11 | ELECT | 4.7 μ F | 20% | 50V | C422 | 1-126-960-11 | ELECT | 1 μ F | 20% | 50V |
| C212 | 1-126-963-11 | ELECT | 4.7 μ F | 20% | 50V | C423 | 1-126-963-11 | ELECT | 4.7 μ F | 20% | 50V |
| C213 | 1-126-963-11 | ELECT | 4.7 μ F | 20% | 50V | C424 | 1-125-891-11 | CERAMIC CHIP | 0.47 μ F | 10% | 10V |
| C220 | 1-125-891-11 | CERAMIC CHIP | 0.47 μ F | 10% | 10V | C430 | 1-126-963-11 | ELECT | 4.7 μ F | 20% | 50V |
| C301 | 1-126-956-91 | ELECT | 0.1 μ F | 20% | 50V | C431 | 1-126-963-11 | ELECT | 4.7 μ F | 20% | 50V |
| C302 | 1-126-956-91 | ELECT | 0.1 μ F | 20% | 50V | C436 | 1-107-826-11 | CERAMIC CHIP | 0.1 μ F | 10% | 16V |
| C303 | 1-126-956-91 | ELECT | 0.1 μ F | 20% | 50V | C450 | 1-126-943-11 | ELECT | 2200 μ F | 20% | 25V |
| C304 | 1-126-956-91 | ELECT | 0.1 μ F | 20% | 50V | C451 | 1-126-959-11 | ELECT | 0.47 μ F | 20% | 50V |
| C305 | 1-107-826-11 | CERAMIC CHIP | 0.1 μ F | 10% | 16V | C452 | 1-126-960-11 | ELECT | 1 μ F | 20% | 50V |
| C306 | 1-107-826-11 | CERAMIC CHIP | 0.1 μ F | 10% | 16V | C457 | 1-127-715-91 | CERAMIC CHIP | 0.22 μ F | 10% | 16V |
| C307 | 1-107-826-11 | CERAMIC CHIP | 0.1 μ F | 10% | 16V | | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | |
| C313 | 1-126-956-91 | ELECT | 0.1 μ F | 20% | 50V | C457 | 1-165-176-11 | CERAMIC CHIP | 0.047 μ F | 10% | 16V |
| C317 | 1-126-964-11 | ELECT | 10 μ F | 20% | 50V | | (KV-27FA310/29FA310 ONLY) | | | | |
| C318 | 1-126-964-11 | ELECT | 10 μ F | 20% | 50V | C458 | 1-127-715-91 | CERAMIC CHIP | 0.22 μ F | 10% | 16V |
| C319 | 1-126-964-11 | ELECT | 10 μ F | 20% | 50V | | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | |
| C325 | 1-162-967-11 | CERAMIC CHIP | 0.0033 μ F | 10% | 50V | C458 | 1-165-176-11 | CERAMIC CHIP | 0.047 μ F | 10% | 16V |
| C326 | 1-164-505-11 | CERAMIC CHIP | 2.2 μ F | | 16V | | (KV-27FA310/29FA310 ONLY) | | | | |
| C328 | 1-162-970-11 | CERAMIC CHIP | 0.01 μ F | 10% | 25V | C460 | 1-126-943-11 | ELECT | 2200 μ F | 20% | 25V |
| C330 | 1-162-970-11 | CERAMIC CHIP | 0.01 μ F | 10% | 25V | C461 | 1-126-943-11 | ELECT | 2200 μ F | 20% | 25V |
| C337 | 1-162-919-11 | CERAMIC CHIP | 22pF | 5% | 50V | C462 | 1-126-943-11 | ELECT | 2200 μ F | 20% | 25V |
| C351 | 1-164-315-11 | CERAMIC CHIP | 470pF | 5% | 50V | C463 | 1-126-943-11 | ELECT | 2200 μ F | 20% | 25V |
| C370 | 1-162-968-11 | CERAMIC CHIP | 0.0047 μ F | 10% | 50V | C470 | 1-126-935-11 | ELECT | 470 μ F | 20% | 16V |
| C390 | 1-162-970-11 | CERAMIC CHIP | 0.01 μ F | 10% | 25V | C501 | 1-126-959-11 | ELECT | 0.47 μ F | 20% | 50V |
| C400 | 1-128-934-91 | CERAMIC CHIP | 0.33 μ F | 20% | 10V | C502 | 1-102-112-00 | CERAMIC | 330pF | 10% | 50V |
| C401 | 1-164-227-11 | CERAMIC CHIP | 0.022 μ F | 10% | 25V | C503 | 1-106-383-00 | MYLAR | 0.047 μ F | 10% | 200V |
| C402 | 1-164-174-11 | CERAMIC CHIP | 0.0082 μ F | 10% | 25V | C504 | 1-102-228-00 | CERAMIC | 470pF | 10% | 500V |
| C403 | 1-162-967-11 | CERAMIC CHIP | 0.0033 μ F | 10% | 50V | C505 | 1-102-228-00 | CERAMIC | 470pF | 10% | 500V |
| C404 | 1-162-967-11 | CERAMIC CHIP | 0.0033 μ F | 10% | 50V | \triangle C506 | 1-117-214-11 | CERAMIC | 0.001 μ F | 10% | 2KV |
| C405 | 1-164-677-11 | CERAMIC CHIP | 0.033 μ F | 10% | 16V | \triangle C507 | 1-127-717-21 | FILM | 19000pF | 3% | 1.2KV |
| C406 | 1-164-677-11 | CERAMIC CHIP | 0.033 μ F | 10% | 16V | \triangle C508 | 1-129-722-00 | FILM | 0.047 μ F | 5% | 630V |
| C407 | 1-162-965-11 | CERAMIC CHIP | 0.0015 μ F | 10% | 50V | C509 | 1-126-964-11 | ELECT | 10 μ F | 20% | 50V |
| C408 | 1-162-965-11 | CERAMIC CHIP | 0.0015 μ F | 10% | 50V | \triangle C510 | 1-162-116-00 | CERAMIC | 680pF | 10% | 2KV |
| C409 | 1-127-715-91 | CERAMIC CHIP | 0.22 μ F | 10% | 16V | C511 | 1-109-844-11 | FILM | 0.68 μ F | 5% | 400V |
| C410 | 1-127-715-91 | CERAMIC CHIP | 0.22 μ F | 10% | 16V | C512 | 1-104-987-11 | MYLAR | 0.001 μ F | 5% | 200V |
| C411 | 1-128-934-91 | CERAMIC CHIP | 0.33 μ F | 20% | 10V | \triangle C513 | 1-106-383-00 | MYLAR | 0.047 μ F | 10% | 200V |
| C412 | 1-126-960-11 | ELECT | 1 μ F | 20% | 50V | C514 | 1-115-521-11 | FILM | 0.82 μ F | 5% | 250V |
| C413 | 1-126-963-11 | ELECT | 4.7 μ F | 20% | 50V | C515 | 1-107-649-11 | ELECT | 2.2 μ F | 20% | 250V |
| C414 | 1-126-961-11 | ELECT | 2.2 μ F | 20% | 50V | C516 | 1-117-412-11 | FILM | 0.24 μ F | 5% | 250V |
| C415 | 1-126-963-11 | ELECT | 4.7 μ F | 20% | 50V | C519 | 1-216-864-11 | SHORT CHIP | | | |
| C416 | 1-126-960-11 | ELECT | 1 μ F | 20% | 50V | C520 | 1-126-965-91 | ELECT | 22 μ F | 20% | 50V |
| C418 | 1-126-963-11 | ELECT | 4.7 μ F | 20% | 50V | C521 | 1-126-960-11 | ELECT | 1 μ F | 20% | 50V |


NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un triangle et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|----------|-------------------------------|--------------|----------|-----|-------|--|--------------|--------------|----------|-----|------|
| C522 | 1-102-244-00 | CERAMIC | 220pF | 10% | 500V |  C602 | 1-165-529-11 | MYLAR | 0.22μF | 10 | 275V |
| C523 | 1-165-529-11 | MYLAR | 0.22μF | 10 | 275V |  C603 | 1-165-529-11 | MYLAR | 0.22μF | 10 | 275V |
| C525 | 1-164-646-11 | CERAMIC | 2200pF | 10% | 500V |  C605 | 1-117-699-11 | CERAMIC | 0.001μF | 20% | 250V |
| C526 | 1-102-244-00 | CERAMIC | 220pF | 10% | 500V | C609 | 1-126-942-61 | ELECT | 1000μF | 20% | 25V |
| C527 | 1-107-645-11 | ELECT | 22μF | 20% | 200V | C610 | 1-164-645-11 | CERAMIC | 1000pF | 10% | 500V |
| | | | | | | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C529 | 1-164-690-91 | CERAMIC CHIP | 0.0022μF | 5% | 50V | C611 | 1-126-971-11 | ELECT | 470μF | 20% | 50V |
| C534 | 1-162-966-11 | CERAMIC CHIP | 0.0022μF | 10% | 50V | C612 | 1-126-961-11 | ELECT | 2.2μF | 20% | 50V |
| C536 | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10% | 50V | C613 | 1-161-964-91 | CERAMIC | 0.0047μF | | 250V |
| C537 | 1-162-964-11 | CERAMIC CHIP | 0.001μF | 10% | 50V | C615 | 1-161-964-91 | CERAMIC | 0.0047μF | | 250V |
| C539 | 1-162-970-11 | CERAMIC CHIP | 0.01μF | 10% | 25V | C616 | 1-126-943-11 | ELECT | 2200μF | 20% | 25V |
| | | | | | | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C542 | 1-162-966-11 | CERAMIC CHIP | 0.0022μF | 10% | 50V | C617 | 1-107-935-11 | ELECT | 330μF | 20% | 100V |
| C543 | 1-102-106-00 | CERAMIC CHIP | .0001μF | | 50V | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| | (KV-27FA310/29FA310 ONLY) | | | | | C618 | 1-107-935-11 | ELECT | 330μF | 20% | 100V |
| C544 | 1-126-967-11 | ELECT | 47μF | 20% | 50V | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C545 | 1-126-969-11 | ELECT | 220μF | 20% | 50V | | | | | | |
| C546 | 1-137-194-81 | FILM | 0.47μF | 5% | 50V | C620 | 1-162-970-11 | CERAMIC CHIP | 0.01μF | 10% | 25V |
| C549 | 1-101-821-00 | CERAMIC | 0.0022μF | | 500V | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C550 | 1-104-666-11 | ELECT | 220μF | 20% | 25V | C621 | 1-117-893-11 | ELECT | 470μF | 20% | 250V |
| C551 | 1-126-960-11 | ELECT | 1μF | 20% | 50V | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C552 | 1-126-964-11 | ELECT | 10μF | 20% | 50V | C621 | 1-117-894-11 | ELECT | 560μF | 20% | 250V |
| | | | | | | (KV-27FA310/29FA310 ONLY) | | | | | |
| C553 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V | C624 | 1-107-636-11 | ELECT | 10μF | 20% | 160V |
| C554 | 1-162-970-11 | CERAMIC CHIP | 0.01μF | 10% | 25V | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C555 | 1-101-821-00 | CERAMIC | 0.0022μF | | 500V | C625 | 1-126-964-11 | ELECT | 10μF | 20% | 50V |
| C558 | 1-162-318-11 | CERAMIC | 0.001μF | 10% | 500V | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C559 | 1-216-864-11 | SHORT CHIP | | | | | | | | | |
| C560 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | C629 | 1-117-893-11 | ELECT | 470μF | 20% | 250V |
| C561 | 1-126-963-11 | ELECT | 4.7μF | 20% | 50V | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C562 | 1-104-666-11 | ELECT | 220μF | 20% | 25V | C629 | 1-117-894-11 | ELECT | 560μF | 20% | 250V |
| C563 | 1-162-970-11 | CERAMIC CHIP | 0.01μF | 10% | 25V | (KV-27FA310/29FA310 ONLY) | | | | | |
| C566 | 1-107-635-11 | ELECT | 4.7μF | 20% | 160V |  C631 | 1-113-896-11 | CERAMIC | 220pF | 10% | 250V |
| | | | | | | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C571 | 1-104-665-11 | ELECT | 100μF | 20% | 25V | C632 | 1-126-967-11 | ELECT | 47μF | 20% | 50V |
| C581 | 1-136-161-00 | FILM | 0.047μF | 5% | 50V | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C582 | 1-106-387-00 | MYLAR | 0.068μF | 10% | 200V | C633 | 1-136-479-11 | FILM | 0.001μF | 5% | 100V |
| C585 | 1-104-666-11 | ELECT | 220μF | 20% | 25V | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C588 | 1-137-417-11 | MYLAR | 0.015μF | 10% | 100V | C634 | 1-126-947-11 | ELECT | 47μF | 20% | 35V |
| | | | | | | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C589 | 1-128-560-11 | ELECT | 22μF | 20% | 100V | C635 | 1-126-963-11 | ELECT | 4.7μF | 20% | 50V |
| C590 | 1-126-964-11 | ELECT | 10μF | 20% | 50V | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C594 | 1-123-024-21 | ELECT | 33μF | | 160V | C636 | 1-127-715-91 | CERAMIC CHIP | 0.22μF | 10% | 16V |
| C595 | 1-104-666-11 | ELECT | 220μF | 20% | 25V | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C597 | 1-104-666-11 | ELECT | 220μF | 20% | 25V | C637 | 1-127-715-91 | CERAMIC CHIP | 0.22μF | 10% | 16V |
| | | | | | | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | | |
| C600 | 1-126-964-11 | ELECT | 10μF | 20% | 50V | C638 | 1-104-665-11 | ELECT | 100μF | 20% | 25V |
| C601 | 1-117-703-11 | CERAMIC | 0.0047μF | | 250V | | | | | | |
| | (KV-29FS120LS/29FA310LS ONLY) | | | | | | | | | | |


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NOTE: Les composants identifiés per un trame et une marque  sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.



| REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|------------------|--------------|--|---------|-------|-------|
| C640 | 1-164-645-11 | CERAMIC (KV-27FS120/29FS120LN/29FS120LS ONLY) | 1000pF | 10% | 500V |
| C642 | 1-126-969-11 | ELECT (KV-27FS120/29FS120LN/29FS120LS ONLY) | 220µF | 20% | 50V |
| C643 | 1-130-777-00 | MYLAR (KV-27FS120/29FS120LN/29FS120LS ONLY) | 0.1µF | 5% | 100V |
| C645 | 1-162-964-11 | CERAMIC CHIP (KV-27FS120/29FS120LN/29FS120LS ONLY) | 0.001µF | 10% | 50V |
| C647 | 1-126-947-11 | ELECT (KV-27FS120/29FS120LN/29FS120LS ONLY) | 47µF | 20% | 35V |
| C648 | 1-104-330-91 | CERAMIC (KV-27FS120/29FS120LN/29FS120LS ONLY) | 470pF | 10% | 1KV |
| C650 | 1-126-942-61 | ELECT (KV-27FS120/29FS120LN/29FS120LS ONLY) | 1000µF | 20% | 25V |
| C651 | 1-126-942-61 | ELECT (KV-27FS120/29FS120LN/29FS120LS ONLY) | 1000µF | 20% | 25V |
| C652 | 1-164-227-11 | CERAMIC CHIP (KV-27FS120/29FS120LN/29FS120LS ONLY) | 0.022µF | 10% | 25V |
| C655 | 1-104-330-91 | CERAMIC (KV-27FS120/29FS120LN/29FS120LS ONLY) | 470pF | 10% | 1KV |
| C660 | 1-126-947-11 | ELECT | 47µF | 20% | 35V |
| C661 | 1-104-665-11 | ELECT | 100µF | 20% | 25V |
| C665 | 1-104-665-11 | ELECT | 100µF | 20% | 25V |
| C672 | 1-137-756-22 | FILM (KV-27FS120/29FS120LN/29FS120LS ONLY) | 22000pF | 3% | 800V |
| C673 | 1-126-963-11 | ELECT | 4.7µF | 20% | 50V |
| * ⚠ C680 | 1-117-699-11 | CERAMIC | 0.001µF | 20% | 250V |
| C690 | 1-162-970-11 | CERAMIC CHIP | 0.01µF | 10% | 25V |
| C901 | 1-218-712-11 | METAL CHIP | 6.8K | 0.50% | 1/10W |
| CONNECTOR | | | | | |
| * CN002 | 1-564-510-11 | PLUG, CONNECTOR (KV-27FS120/29FS120LN/29FS120LS ONLY) | 7P | | |
| * CN002 | 1-564-509-11 | PLUG, CONNECTOR (KV-27FA310/29FA310 ONLY) | 6P | | |
| * CN003 | 1-560-124-00 | PLUG, CONNECTOR (2.5MM) | 4P | | |
| * CN004 | 1-564-510-11 | PLUG, CONNECTOR | 7P | | |
| * CN401 | 1-564-507-11 | PLUG, CONNECTOR | 4P | | |
| * CN404 | 1-564-507-11 | PLUG, CONNECTOR (KV-27FA310/29FA310 ONLY) | 4P | | |
| * CN501 | 1-573-963-11 | PIN, CONNECTOR (PC BOARD) | 3P | | |
| * CN506 | 1-564-507-11 | PLUG, CONNECTOR (KV-27FS120/29FS120LN/29FS120LS ONLY) | 4P | | |

| REF. NO. | PART NO. | DESCRIPTION | VALUES |
|--------------|--------------|---|-------------|
| * CN515 | 1-580-798-11 | CONNECTOR PIN (DY) | 6P |
| * CN585 | 1-564-511-11 | PLUG, CONNECTOR | 8P |
| * ⚠ CN600 | 1-580-843-11 | PIN, CONNECTOR (POWER) | |
| * CN601 | 1-580-843-11 | PIN, CONNECTOR (POWER) (KV-27FA310/29FA310 ONLY) | |
| * CN602 | 1-564-509-11 | PLUG, CONNECTOR (KV-27FA310/29FA310 ONLY) | 6P |
| DIODE | | | |
| D002 | 8-719-109-89 | DIODE | RD5.6ESB2 |
| D003 | 8-719-110-17 | DIODE | RD10ESB2 |
| D004 | 8-719-110-17 | DIODE | RD10ESB2 |
| D005 | 8-719-110-17 | DIODE | RD10ESB2 |
| D006 | 8-719-921-44 | DIODE | MTZJ-5.1C |
| D007 | 8-719-982-22 | DIODE | MTZJ-30D |
| D046 | 8-719-109-89 | DIODE | RD5.6ESB2 |
| D047 | 8-719-109-89 | DIODE | RD5.6ESB2 |
| D050 | 8-719-510-02 | DIODE | D1NS4 |
| D051 | 6-500-175-01 | DIODE | 1E3-TB |
| D052 | 8-719-109-89 | DIODE | RD5.6ESB2 |
| D200 | 8-719-929-15 | DIODE | HZS9.1NB2 |
| D201 | 8-719-929-15 | DIODE | HZS9.1NB2 |
| D202 | 8-719-929-15 | DIODE | HZS9.1NB2 |
| D203 | 8-719-929-15 | DIODE | HZS9.1NB2 |
| D204 | 8-719-929-15 | DIODE | HZS9.1NB2 |
| D205 | 8-719-929-15 | DIODE | HZS9.1NB2 |
| D206 | 8-719-070-62 | DIODE | PDZ9.1B-115 |
| D207 | 8-719-404-50 | DIODE | MA111-TX |
| D208 | 8-719-929-15 | DIODE | HZS9.1NB2 |
| D209 | 8-719-404-50 | DIODE | MA111-TX |
| D230 | 8-719-108-12 | DIODE | RD9.1EW |
| D231 | 8-719-108-12 | DIODE | RD9.1EW |
| D232 | 8-719-108-12 | DIODE | RD9.1EW |
| D234 | 8-719-108-12 | DIODE | RD9.1EW |
| D235 | 8-719-108-12 | DIODE | RD9.1EW |
| D236 | 8-719-108-12 | DIODE | RD9.1EW |
| D237 | 8-719-108-12 | DIODE | RD9.1EW |
| D317 | 8-719-108-12 | DIODE | RD9.1EW |
| D321 | 8-719-110-17 | DIODE | RD10ESB2 |
| D351 | 8-719-109-66 | DIODE | RD3.3ESB2 |
| D390 | 8-719-404-50 | DIODE | MA111-TX |
| D401 | 8-719-921-63 | DIODE | MTZJ-7.5B |
| D405 | 8-719-991-33 | DIODE | 1SS133T-77 |

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NOTE: Les composants identifiés per un trame et une marque  sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.





| REF. NO. | PART NO. | DESCRIPTION | VALUES |
|----------|---|-------------|-------------|
| D412 | 1-216-864-11 | SHORT CHIP | |
| D414 | 8-719-921-63 | DIODE | MTZJ-7.5B |
| D430 | 8-719-929-15 | DIODE | HZS9.1NB2 |
| D431 | 8-719-929-15 | DIODE | HZS9.1NB2 |
| D500 | 8-719-404-50 | DIODE | MA111-TX |
| D501 | 8-719-404-50 | DIODE | MA111-TX |
| D505 | 8-719-081-00 | DIODE | BY228/A52A/ |
| D506 | 8-719-312-10 | DIODE | RU4AM-T3 |
| D507 | 8-719-991-33 | DIODE | 1SS133T-77 |
| D508 | 8-719-404-50 | DIODE | MA111-TX |
| D510 | 8-719-081-00 | DIODE | BY228/A52A/ |
| D513 | 8-719-404-50 | DIODE | MA111-TX |
| D514 | 8-719-908-03 | DIODE | GP08D |
| D515 | 8-719-908-03 | DIODE | GP08D |
| D525 | 8-719-991-33 | DIODE | 1SS133T-77 |
| D526 | 8-719-074-25 | DIODE | PG104R |
| D528 | 8-719-991-33 | DIODE | 1SS133T-77 |
| D545 | 8-719-908-03 | DIODE | GP08D |
| D558 | 8-719-404-50 | DIODE | MA111-TX |
| D559 | 8-719-404-50 | DIODE | MA111-TX |
| D562 | 8-719-991-33 | DIODE | 1SS133T-77 |
| D566 | 8-719-979-84 | DIODE | EGP20DPKG23 |
| D567 | 8-719-991-33 | DIODE | 1SS133T-77 |
| D568 | 8-719-921-63 | DIODE | MTZJ-7.5B |
| D569 | 8-719-921-44 | DIODE | MTZJ-5.1C |
| D587 | 8-719-074-25 | DIODE | PG104R |
| D589 | 8-719-991-33 | DIODE | 1SS133T-77 |
| D596 | 8-719-979-85 | DIODE | EGP20G |
| D598 | 8-719-979-85 | DIODE | EGP20G |
| D603 | 8-719-064-12 | DIODE | S1NB60-4062 |
| D604 | 6-500-890-01 (KV-27FS120/29FA310LN/29FS120LN ONLY) | DIODE | 1N5406G-EB |
| D605 | 8-719-510-53 (KV-29FS120LS/29FA310LS ONLY) | DIODE | D4SB60L |
| D606 | 6-500-890-01 (KV-27FS120/29FA310LN/29FS120LN ONLY) | DIODE | 1N5406G-EB |
| D611 | 8-719-510-73 (KV-27FS120/29FS120LS/29FS120LN ONLY) | DIODE | S3L20UF4 |
| D612 | 8-719-068-00 (KV-27FS120/29FA310LN/29FS120LN ONLY) | DIODE | ERC04-06SE |
| D613 | 8-719-068-00 (KV-27FS120/29FA310LN/29FS120LN ONLY) | DIODE | ERC04-06SE |

| REF. NO. | PART NO. | DESCRIPTION | VALUES |
|--------------|---|-------------|-------------|
| D614 | 8-719-057-52 (KV-27FS120/29FS120LN/29FS120LS ONLY) | DIODE | EZ0150AV1 |
| D615 | 6-500-177-01 (KV-27FS120/29FS120LN/29FS120LS ONLY) | DIODE | MA7D50 |
| D618 | 8-719-979-64 (KV-27FS120/29FS120LN/29FS120LS ONLY) | DIODE | UF4005PKG23 |
| D620 | 8-719-911-19 | DIODE | 1SS119-25 |
| D621 | 8-719-510-37 (KV-27FS120/29FS120LN/29FS120LS ONLY) | DIODE | D5LC20U |
| D624 | 8-719-510-73 (KV-27FS120/29FS120LN/29FS120LS ONLY) | DIODE | S3L20UF4 |
| D628 | 8-719-404-50 | DIODE | MA111-TX |
| D629 | 8-719-110-31 | DIODE | RD12ESB2 |
| D631 | 6-500-175-01 (KV-27FS120/29FS120LN/29FS120LS ONLY) | DIODE | 1E3-TB |
| D641 | 8-719-991-33 | DIODE | 1SS133T-77 |
| D642 | 8-719-982-22 | DIODE | MTZJ-30D |
| D644 | 8-719-110-31 | DIODE | RD12ESB2 |
| D645 | 8-719-109-89 | DIODE | RD5.6ESB2 |
| D650 | 8-719-109-89 | DIODE | RD5.6ESB2 |
| FUSE | | | |
| F601 | 1-532-506-51 (KV-29FS120LS/29FA310LS ONLY) | FUSE | 6.3A 250V |
| F601 | 1-576-193-11 (KV-27FS120/29FA310LN/29FS120LN ONLY) | FUSE | 6.3A 125V |
| FERRITE BEAD | | | |
| FB301 | 1-410-397-21 | FERRITE | 1.1μH |
| FB505 | 1-410-397-21 | FERRITE | 1.1μH |
| FB506 | 1-410-397-21 | FERRITE | 1.1μH |
| FB522 | 1-410-397-21 | FERRITE | 1.1μH |
| FB601 | 1-410-397-21 (KV-27FS120/29FS120LN/29FS120LS ONLY) | FERRITE | 1.1μH |
| FB602 | 1-410-397-21 (KV-27FS120/29FS120LN/29FS120LS ONLY) | FERRITE | 1.1μH |
| FB603 | 1-410-397-21 (KV-27FS120/29FS120LN/29FS120LS ONLY) | FERRITE | 1.1μH |
| FB604 | 1-410-397-21 (KV-27FS120/29FS120LN/29FS120LS ONLY) | FERRITE | 1.1μH |
| FB605 | 1-410-397-21 | FERRITE | 1.1μH |
| FB616 | 1-469-578-11 (KV-27FS120/29FS120LN/29FS120LS ONLY) | FERRITE | 1.1μH |





| REF. NO. | PART NO. | DESCRIPTION | VALUES | REF. NO. | PART NO. | DESCRIPTION | VALUES |
|----------|--------------|--|--|-----------------------|--------------|---|-------------|
| FB617 | 1-469-578-11 | FERRITE | 1.1μH (KV-27FS120/29FS120LN/29FS120LS ONLY) | CHIP CONDUCTOR | | | |
| | | | | JR2 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR6 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR7 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR12 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR44 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR102 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR128 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR201 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR207 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR209 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR211 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR212 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR213 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR214 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR215 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR216 | 1-216-864-11 | SHORT CHIP (KV-27FS120/29FS120LN/29FS120LS ONLY) | |
| | | | | JR255 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR301 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR302 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR303 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR304 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR305 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR306 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR310 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR311 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR312 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR315 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR317 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR401 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR411 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR485 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR486 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR504 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR585 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR586 | 1-216-864-11 | SHORT CHIP | |
| | | | | JR1502 | 1-216-864-11 | SHORT CHIP | |
| | | | | JUMPER WIRE | | | |
| | | | | JW57 | 1-249-409-11 | CARBON | 220 5% 1/4W |
| IC001 | 6-804-178-01 | IC | M65582AUF-XXXFP | | | | |
| IC002 | 6-704-004-01 | IC | BR24L16F-WE2 | | | | |
| IC003 | 8-759-352-91 | IC | PST9143NL | | | | |
| IC321 | 8-759-353-00 | IC | NJM2534M(TE2) | | | | |
| IC400 | 6-703-190-01 | IC | NJW1134AGK1-TE2 (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | |
| IC400 | 6-706-033-01 | IC | W1172JK1-TE (KV-27FA310/29FA310 ONLY) | | | | |
| IC404 | 6-705-054-01 | IC | TDA8947J | | | | |
| IC545 | 8-759-696-71 | IC | STV9379A | | | | |
| IC561 | 8-759-700-07 | IC | NJM2903M | | | | |
| IC565 | 8-759-700-44 | IC | NJM2902M | | | | |
| IC600 | 6-705-810-01 | IC | MCZ3001DB (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | |
| IC603 | 6-705-818-01 | IC | MC7809CF (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | |
| IC603 | 6-705-466-01 | IC | BA90BC0T (KV-27FA310/29FA310 ONLY) | | | | |
| IC604 | 8-749-012-13 | IC | DM-58 (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | |
| IC608 | 8-759-450-47 | IC | BA05T | | | | |
| IC633 | 6-703-080-01 | IC | LF33CV | | | | |
| | | | | JACK | | | |
| J200 | 1-794-119-11 | TERMINAL BLOCK, S | 4P | | | | |
| J202 | 1-794-118-11 | JACK BLOCK, PIN | 3P | | | | |
| * J203 | 1-817-461-11 | PIN JACK BLOCK | 5P | | | | |
| J205 | 1-794-116-11 | JACK BLOCK, PIN | 2P (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | | |
| J205 | 1-818-352-11 | PIN JACK W/ DIN CONNECTOR (KV-27FA310/29FA310 ONLY) | | | | | |

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.




| REF. NO. | PART NO. | DESCRIPTION | VALUES | REF. NO. | PART NO. | DESCRIPTION | VALUES |
|--|---------------------------------------|------------------------|----------------|---------------------------------------|--------------|-------------|-------------------|
| COIL | | | | Q009 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| L002 | 1-239-803-11 | ENCAPSULATED COMPONENT | | Q300 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| L003 | 1-239-803-11 | ENCAPSULATED COMPONENT | | Q301 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX |
| L004 | 1-239-803-11 | ENCAPSULATED COMPONENT | | Q303 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX |
| L005 | 1-239-803-11 | ENCAPSULATED COMPONENT | | Q304 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX |
| L006 | 1-414-273-11 | INDUCTOR | 100μH | Q305 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX |
| L007 | 1-414-273-11 | INDUCTOR | 100μH | Q306 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX |
| L008 | 1-414-857-11 | INDUCTOR | 100μH | Q316 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| L009 | 1-414-857-11 | INDUCTOR | 100μH | Q390 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| L010 | 1-414-267-21 | INDUCTOR | 10μH | Q391 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| L011 | 1-239-803-11 | ENCAPSULATED COMPONENT | | Q400 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| L101 | 1-414-229-11 | FERRITE | 0μH | Q401 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| L513 | 1-406-677-11 | INDUCTOR | 10MH | Q404 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| L515 | 1-412-552-11 | INDUCTOR | 2.2MH | Q411 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| L516 | 1-419-714-11 | INDUCTOR | 100μH | Q412 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| L525 | 1-409-955-31 | INDUCTOR | 8MH | Q501 | 8-729-423-33 | TRANSISTOR | 2SC3311A-QRSTA |
| L527 | 1-410-397-21 | FERRITE | 1.1μH | Q502 | 8-729-140-50 | TRANSISTOR | 2SC3209LK |
|  L588 | 1-412-523-41 | INDUCTOR | 6.8μH | Q503 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX |
| L606 | 1-412-525-31 | INDUCTOR | 10μH | Q504 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | Q505 | 6-550-107-01 | TRANSISTOR | 2SD2645-YB |
| L607 | 1-412-525-31 | INDUCTOR | 10μH | Q521 | 8-729-423-33 | TRANSISTOR | 2SC3311A-QRSTA |
| | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | Q522 | 8-729-053-87 | TRANSISTOR | KTC4370A |
| L608 | 1-412-533-21 | INDUCTOR | 47μH | Q531 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | Q533 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX |
| L608 | 1-410-397-21 | INDUCTOR | 1.1μH | Q572 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| | (KV-27FA310/29FA310 ONLY) | | | Q573 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX |
| L609 | 1-412-525-31 | INDUCTOR | 10μH | Q578 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| PHOTO COUPLER | | | | Q590 | 6-550-362-01 | TRANSISTOR | KTA1279 |
|  PH602 | 8-749-010-64 | PHOTO COUPLER | PC123F2 | Q600 | 8-729-053-36 | TRANSISTOR | 2SK2640-01MR-F122 |
| | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | |
| IC LINK | | | | Q601 | 8-729-053-36 | TRANSISTOR | 2SK2640-01MR-F122 |
| PS401 | 1-576-337-21 | IC LINK | 2.7A 50V | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | |
| TRANSISTOR | | | | Q604 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX |
| Q002 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q | Q608 | 8-729-922-37 | TRANSISTOR | 2SD2144S-UVW |
| Q004 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q | Q650 | 6-550-409-01 | TRANSISTOR | KSC2383-O |
| Q005 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX | RESISTOR | | | |
| Q006 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q | R002 | 1-216-864-11 | SHORT CHIP | |
| Q008 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q | R003 | 1-216-821-11 | METAL CHIP | 1K 5% 1/10W |
| | | | | R004 | 1-216-817-11 | METAL CHIP | 470 5% 1/10W |
| | | | | R005 | 1-400-427-21 | FERRITE | 0μH |
| | | | | R006 | 1-216-829-11 | METAL CHIP | 4.7K 5% 1/10W |




| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|----------|--------------|-------------|--------|-------|-------|----------|--------------|-------------|--------|----|-------|
| R007 | 1-400-427-21 | FERRITE | 0μH | | | R085 | 1-216-864-11 | SHORT CHIP | | | |
| R015 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R086 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R027 | 1-218-732-11 | METAL CHIP | 47K | 0.50% | 1/10W | R087 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R028 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | R088 | 1-216-864-11 | SHORT CHIP | | | |
| R029 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | R090 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W |
| R030 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | R091 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W |
| R031 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W | R092 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W |
| R032 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W | R093 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W |
| R033 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | R094 | 1-414-229-11 | FERRITE | 0μH | | |
| R035 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W | R095 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W |
| R037 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R096 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R038 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | R098 | 1-216-839-11 | METAL CHIP | 33K | 5% | 1/10W |
| R039 | 1-216-815-11 | METAL CHIP | 330 | 5% | 1/10W | R101 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R040 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R102 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W |
| R041 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R103 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R042 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W | R105 | 1-216-864-11 | SHORT CHIP | | | |
| R043 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W | R107 | 1-414-229-11 | FERRITE | 0μH | | |
| R044 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R108 | 1-414-229-11 | FERRITE | 0μH | | |
| R045 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R109 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R047 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | R110 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R048 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R111 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R049 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R112 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R050 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | R115 | 1-216-817-11 | METAL CHIP | 470 | 5% | 1/10W |
| R051 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R116 | 1-216-853-11 | METAL CHIP | 470K | 5% | 1/10W |
| R052 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W | R200 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W |
| R053 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | R202 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R054 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | R203 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R055 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R210 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R056 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R211 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R057 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R212 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R058 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | R213 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R059 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R215 | 1-216-853-11 | METAL CHIP | 470K | 5% | 1/10W |
| R060 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | R216 | 1-216-853-11 | METAL CHIP | 470K | 5% | 1/10W |
| R061 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | R217 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R062 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | R218 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W |
| R063 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R220 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W |
| R070 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | R221 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R072 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | R222 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R076 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W | R227 | 1-218-285-11 | METAL CHIP | 75 | 5% | 1/10W |
| R080 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R229 | 1-218-285-11 | METAL CHIP | 75 | 5% | 1/10W |
| R081 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W | R230 | 1-218-285-11 | METAL CHIP | 75 | 5% | 1/10W |
| R082 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/10W | R250 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R083 | 1-216-847-11 | METAL CHIP | 150K | 5% | 1/10W | R251 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R084 | 1-216-819-11 | METAL CHIP | 680 | 5% | 1/10W | R303 | 1-216-863-11 | METAL CHIP | 3.3M | 5% | 1/10W |









| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|----------|--------------|-------------|--------|-------|-------|----------|--------------|---------------------------------------|--------|-------|-------|
| R305 | 1-218-285-11 | METAL CHIP | 75 | 5% | 1/10W | R405 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R308 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | R406 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W |
| R309 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R407 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W |
| R310 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | R408 | 1-216-864-11 | SHORT CHIP | | | |
| R311 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W | R409 | 1-216-864-11 | SHORT CHIP | | | |
| R312 | 1-218-867-11 | METAL CHIP | 6.8K | 0.50% | 1/10W | R410 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R313 | 1-216-864-11 | SHORT CHIP | | | | R411 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R314 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R415 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R315 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W | | | (KV-27FA310/29FA310 ONLY) | | | |
| R316 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W | R418 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| | | | | | | | | (KV-27FA310/29FA310 ONLY) | | | |
| R317 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W | R419 | 1-216-864-11 | SHORT CHIP | | | |
| R318 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W | | | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | |
| R319 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W | R420 | 1-216-864-11 | SHORT CHIP | | | |
| R320 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W | | | (KV-27FS120/29FS120LN/29FS120LS ONLY) | | | |
| R321 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W | R421 | 1-216-864-11 | SHORT CHIP | | | |
| R322 | 1-218-684-11 | METAL CHIP | 470 | 0.50% | 1/10W | R422 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R323 | 1-215-415-00 | METAL | 560 | 1% | 1/4W | R427 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W |
| R324 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | R429 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W |
| R325 | 1-216-864-11 | SHORT CHIP | | | | R430 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R326 | 1-400-427-21 | FERRITE | 0μH | | | R431 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R328 | 1-400-427-21 | FERRITE | 0μH | | | R433 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R330 | 1-218-285-11 | METAL CHIP | 75 | 5% | 1/10W | R434 | 1-216-864-11 | SHORT CHIP | | | |
| R335 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W | R442 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R337 | 1-216-801-11 | METAL CHIP | 22 | 5% | 1/10W | R450 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R338 | 1-216-864-11 | SHORT CHIP | | | | R477 | 1-216-819-11 | METAL CHIP | 680 | 5% | 1/10W |
| R339 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W | R478 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R351 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R479 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R352 | 1-216-853-11 | METAL CHIP | 470K | 5% | 1/10W | R499 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R363 | 1-218-285-11 | METAL CHIP | 75 | 5% | 1/10W | R501 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R364 | 1-218-285-11 | METAL CHIP | 75 | 5% | 1/10W | R502 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R370 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W | R503 | 1-215-919-11 | METAL OXIDE | 2.2K | 5% | 3W |
| R371 | 1-216-849-11 | METAL CHIP | 220K | 5% | 1/10W | R504 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R372 | 1-216-827-11 | METAL CHIP | 3.3K | 5% | 1/10W | R507 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R382 | 1-216-863-11 | METAL CHIP | 3.3M | 5% | 1/10W | R510 | 1-260-328-11 | CARBON | 1K | 5% | 1/2W |
| R390 | 1-216-864-11 | SHORT CHIP | | | | R513 | 1-215-908-00 | METAL OXIDE | 33 | 5% | 3W |
| R391 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R514 | 1-215-910-00 | METAL OXIDE | 68 | 5% | 3W |
| R392 | 1-216-818-11 | METAL CHIP | 560 | 5% | 1/10W | R515 | 1-215-882-00 | METAL OXIDE | 22 | 5% | 2W |
| R393 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W | R517 | 1-216-839-11 | METAL CHIP | 33K | 5% | 1/10W |
| R394 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R520 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R400 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R521 | 1-216-819-11 | METAL CHIP | 680 | 5% | 1/10W |
| R401 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W | R522 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R402 | 1-216-864-11 | SHORT CHIP | | | | R524 | 1-218-867-11 | METAL CHIP | 6.8K | 0.50% | 1/10W |
| R403 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W | R525 | 1-215-884-11 | METAL OXIDE | 47 | 5% | 2W |
| R404 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W | | | | | | |

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.


A component identified by this  symbol indicates that it has been carefully factory-selected to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.




| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|---|--------------|-------------|--------|-------|-------|--|---------------------------------------|-------------|--------|-------|-------|
| R526 | 1-218-724-11 | METAL CHIP | 22K | 0.50% | 1/10W | R583 | 1-249-377-11 | CARBON | 0.47 | 5% | 1/4W |
| R527 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W | R584 | 1-215-451-00 | METAL | 18K | 1% | 1/4W |
| R528 | 1-216-816-11 | METAL CHIP | 390 | 5% | 1/10W | R585 | 1-215-447-00 | METAL | 12K | 1% | 1/4W |
| R529 | 1-218-720-11 | METAL CHIP | 15K | 0.50% | 1/10W | R586 | 1-218-855-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R530 | 1-218-865-11 | METAL CHIP | 5.6K | 0.50% | 1/10W | R587 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R533 | 1-218-712-11 | METAL CHIP | 6.8K | 0.50% | 1/10W | R588 | 1-215-882-00 | METAL OXIDE | 22 | 5% | 2W |
| R534 | 1-218-720-11 | METAL CHIP | 15K | 0.50% | 1/10W | R589 | 1-247-895-91 | CARBON | 470K | 5% | 1/4W |
| R535 | 1-218-865-11 | METAL CHIP | 5.6K | 0.50% | 1/10W | R590 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R536 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R591 | 1-216-363-00 | METAL OXIDE | 0.33 | 5% | 2W |
| R537 | 1-216-855-11 | METAL CHIP | 680K | 5% | 1/10W | R592 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R539 | 1-216-864-11 | SHORT CHIP | | | | R593 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R540 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | R594 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R542 | 1-215-445-00 | METAL | 10K | 1% | 1/4W | R595 | 1-247-895-91 | CARBON | 470K | 5% | 1/4W |
| R543 | 1-216-368-11 | METAL OXIDE | 0.82 | 5% | 2W | R596 | 1-249-377-11 | CARBON | 0.47 | 5% | 1/4W |
| R544 | 1-249-389-11 | CARBON | 4.7 | 5% | 1/4W | R597 | 1-216-849-11 | METAL CHIP | 220K | 5% | 1/10W |
| R545 | 1-215-890-11 | METAL OXIDE | 470 | 5% | 2W | R598 | 1-249-377-11 | CARBON | 0.47 | 5% | 1/4W |
| R546 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W | R601 | 1-240-262-11 | CEMENTED | 0.68 | 5% | 10W |
| R547 | 1-215-445-00 | METAL | 10K | 1% | 1/4W | | (KV-27FS120/29FA310LN/29FS120LN ONLY) | | | | |
| R548 | 1-218-720-11 | METAL CHIP | 15K | 0.50% | 1/10W | R601 | 1-202-968-11 | CEMENTED | 1.2 | 5% | 10W |
| R549 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W | | (KV-29FS120LS/29FA310LS ONLY) | | | | |
| R550 | 1-216-817-11 | METAL CHIP | 470 | 5% | 1/10W | R602 | 1-240-262-11 | CEMENTED | 0.68 | 5% | 10W |
| R551 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | | (KV-27FS120/29FA310LN/29FS120LN ONLY) | | | | |
| R553 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | R602 | 1-202-968-11 | CEMENTED | 1.2 | 5% | 10W |
| R554 | 1-216-827-11 | METAL CHIP | 3.3K | 5% | 1/10W | | (KV-29FS120LS/29FA310LS ONLY) | | | | |
| R555 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |  R603 | 1-219-513-11 | METAL | 4.7M | 5% | 1/2W |
| R556 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W | | (KV-27FS120/29FA310LN/29FS120LN ONLY) | | | | |
| R557 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W | R604 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R560 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | R605 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R561 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R606 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R562 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | R607 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/10W |
| R563 | 1-218-871-11 | METAL CHIP | 10K | 0.50% | 1/10W | R608 | 1-215-924-00 | METAL OXIDE | 15K | 5% | 3W |
|   R564 | 1-218-730-11 | METAL CHIP | 39K | 0.50% | 1/10W | R609 | 1-202-962-11 | CEMENTED | 3.3 | 5% | 10W |
|  R565 | 1-218-716-11 | METAL CHIP | 10K | 0.50% | 1/10W | R611 | 1-240-262-11 | CEMENTED | 0.68 | 5% | 10W |
|  R566 | 1-215-469-00 | METAL | 100K | 1% | 1/4W | | (KV-27FS120/29FA310LN/29FS120LN ONLY) | | | | |
| R567 | 1-215-927-00 | METAL OXIDE | 47K | 5% | 3W | R611 | 1-202-968-11 | CEMENTED | 1.2 | 5% | 10W |
| R568 | 1-215-399-00 | METAL | 120 | 1% | 1/4W | | (KV-29FS120LS/29FA310LS ONLY) | | | | |
| R569 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | R612 | 1-260-131-11 | CEMENTED | 470K | 5% | 1/2W |
| R570 | 1-218-716-11 | METAL CHIP | 10K | 0.50% | 1/10W | | (KV-29FS120LS/29FA310LS ONLY) | | | | |
| R572 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R613 | 1-240-262-11 | CEMENTED | 0.68 | 5% | 10W |
| R573 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | | (KV-27FS120/29FA310LN/29FS120LN ONLY) | | | | |
| R574 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R613 | 1-202-968-11 | CEMENTED | 1.2 | 5% | 10W |
| R575 | 1-249-389-11 | CARBON | 4.7 | 5% | 1/4W | | (KV-29FS120LS/29FA310LS ONLY) | | | | |
| R578 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | R614 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W |
| R581 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | | | | | | |











NOTE: Les composants identifiés per un trame et une marque  sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

| REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|--------------------|--------------|--|--------|-------|-------|
| R615 | 1-202-933-61 | FUSIBLE (KV-27FS120/29FS120LN/29FS120LS ONLY) | 0.1 | 10% | 1/2W |
| R616 | 1-216-821-11 | METAL CHIP (KV-27FS120/29FS120LN/29FS120LS ONLY) | 1K | 5% | 1/10W |
| R617 | 1-216-821-11 | METAL CHIP (KV-27FS120/29FS120LN/29FS120LS ONLY) | 1K | 5% | 1/10W |
| R619 | 1-249-389-11 | CARBON (KV-27FS120/29FS120LN/29FS120LS ONLY) | 4.7 | 5% | 1/4W |
| R620 | 1-216-353-00 | METAL OXIDE | 2.2 | 5% | 1W |
| R625 | 1-249-413-11 | CARBON (KV-27FS120/29FS120LN/29FS120LS ONLY) | 470 | 5% | 1/4W |
| R626 | 1-218-716-11 | METAL CHIP (KV-27FS120/29FS120LN/29FS120LS ONLY) | 10K | 0.50% | 1/10W |
| R627 | 1-215-481-00 | METAL (KV-27FS120/29FS120LN/29FS120LS ONLY) | 330K | 1% | 1/4W |
| R628 | 1-260-131-11 | CEMENTED (KV-29FS120LS/29FA310LS ONLY) | 470K | 5% | 1/2W |
| R629 | 1-215-481-00 | METAL (KV-27FS120/29FS120LN/29FS120LS ONLY) | 330K | 1% | 1/4W |
| R630 | 1-215-481-00 | METAL (KV-27FS120/29FS120LN/29FS120LS ONLY) | 330K | 1% | 1/4W |
| R631 | 1-218-718-11 | METAL CHIP (KV-27FS120/29FS120LN/29FS120LS ONLY) | 12K | 0.50% | 1/10W |
| R632 | 1-216-809-11 | METAL CHIP (KV-27FS120/29FS120LN/29FS120LS ONLY) | 100 | 5% | 1/10W |
| R634 | 1-215-905-11 | METAL OXIDE | 10 | 5% | 3W |
| R640 | 1-249-417-11 | CARBON (KV-27FS120/29FS120LN/29FS120LS ONLY) | 1K | 5% | 1/4W |
| R641 | 1-202-968-11 | CEMENTED (KV-29FS120LS/29FA310LS ONLY) | 1.2 | 5% | 10W |
| R641 | 1-240-262-11 | CEMENTED (KV-27FS120/29FA310LN/29FS120LN ONLY) | 0.68 | 5% | 10W |
| R647 | 1-216-811-11 | METAL CHIP (KV-27FS120/29FS120LN/29FS120LS ONLY) | 150 | 5% | 1/10W |
| R650 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R651 | 1-249-441-11 | CARBON (KV-27FS120/29FS120LN/29FS120LS ONLY) | 100K | 5% | 1/4W |
| R652 | 1-249-441-11 | CARBON (KV-27FS120/29FS120LN/29FS120LS ONLY) | 100K | 5% | 1/4W |
| R658 | 1-249-393-11 | CARBON (KV-27FS120/29FS120LN/29FS120LS ONLY) | 10 | 5% | 1/4W |
| R659 | 1-249-393-11 | CARBON (KV-27FS120/29FS120LN/29FS120LS ONLY) | 10 | 5% | 1/4W |
| R660 | 1-216-833-11 | METAL CHIP (KV-27FS120/29FS120LN/29FS120LS ONLY) | 10K | 5% | 1/10W |
| R667 | 1-216-833-11 | METAL CHIP (KV-27FS120/29FS120LN/29FS120LS ONLY) | 10K | 5% | 1/10W |
| R668 | 1-249-418-11 | CARBON (KV-27FS120/29FS120LN/29FS120LS ONLY) | 1.2K | 5% | 1/4W |
| R670 | 1-216-833-11 | METAL CHIP (KV-27FS120/29FS120LN/29FS120LS ONLY) | 10K | 5% | 1/10W |
| R671 | 1-243-979-71 | METAL OXIDE (KV-27FS120/29FS120LN/29FS120LS ONLY) | 0.1 | 5% | 2W |
| R680 | 1-216-864-11 | SHORT CHIP | | | |
| R687 | 1-202-968-11 | CEMENTED (KV-29FS120LS/29FA310LS ONLY) | 1.2 | 5% | 10W |
| R687 | 1-240-262-11 | CEMENTED (KV-27FS120/29FA310LN/29FS120LN ONLY) | 0.68 | 5% | 10W |
| R699 | 1-218-265-11 | METAL CHIP (KV-29FS120LS/29FA310LS ONLY) | 8.2M | 5% | 1W |
| R801 | 1-218-716-11 | METAL CHIP | 10K | 0.50% | 1/10W |
| R802 | 1-218-714-11 | METAL CHIP | 8.2K | 0.50% | 1/10W |
| R803 | 1-218-719-11 | METAL CHIP | 13K | 0.50% | 1/10W |
| R812 | 1-218-716-11 | METAL CHIP | 10K | 0.50% | 1/10W |
| R813 | 1-218-716-11 | METAL CHIP | 10K | 0.50% | 1/10W |
| R814 | 1-218-736-11 | METAL CHIP | 68K | 0.50% | 1/10W |
| R815 | 1-218-732-11 | METAL CHIP | 47K | 0.50% | 1/10W |
| R850 | 1-215-453-00 | METAL | 22K | 1% | 1/4W |
| R851 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R852 | 1-218-889-11 | METAL CHIP | 56K | 0.50% | 1/10W |
| R862 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W |
| R890 | 1-216-843-11 | METAL CHIP | 68K | 5% | 1/10W |
| R893 | 1-216-864-11 | SHORT CHIP | | | |
| R901 | 1-218-714-11 | METAL CHIP | 8.2K | 0.50% | 1/10W |
| RELAY | | | | | |
| RY501 | 1-755-198-11 | RELAY, AC POWER | | | |
| RY600 | 1-755-395-11 | RELAY (AC POWER) | | | |
| SWITCH | | | | | |
| SW515 | 1-572-707-11 | SWITCH, LEVER | | | |
| TRANSFORMER | | | | | |
| T505 | 1-433-836-11 | TRANSFORMER, HORIZONTAL DRIVE | | | |
| T510 | 1-437-610-11 | TRANSFORMER, FERRITE (PMT) | | | |
| T511 | 1-433-850-11 | TRANSFORMER, HORIZONTAL LINEAR | | | |

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.





| REF. NO. | PART NO. | DESCRIPTION | VALUES | REF. NO. | PART NO. | DESCRIPTION | VALUES |
|---|--------------|--|-----------------|----------|--------------|----------------------|-----------------|
|  T585 | 1-453-310-21 | FBT ASSY NX-4521//X4J4 | | C2777 | 1-126-963-11 | ELECT | 4.7μF 20% 50V |
|  T601 | 1-435-617-11 | TRANSFORMER, LINE FILTER | | C2778 | 1-126-947-11 | ELECT | 47μF 20% 35V |
|  T602 | 1-435-675-11 | TRANSFORMER, STANDBY (KV-27FS120/29FA310LN/29FS120LN ONLY) | | C3701 | 1-126-947-11 | ELECT | 47μF 20% 35V |
|  T602 | 1-435-676-11 | TRANSFORMER, STANDBY (KV-29FS120LS/29FA310LS ONLY) | | C3702 | 1-136-497-81 | FILM | 0.1μF 5% 50V |
|  T603 | 1-439-898-21 | CONVERTER TRANSFORMER (KV-27FS120/29FS120LN/29FS120LS ONLY) | | C3703 | 1-126-947-11 | ELECT | 47μF 20% 35V |
| THERMISTOR | | | | C3708 | 1-136-497-81 | FILM | 0.1μF 5% 50V |
|  THP501 | 1-804-313-11 | THERMISTOR, PTC (KV-27FS120/29FA310LN/29FS120LN ONLY) | | C3780 | 1-162-926-11 | CERAMIC CHIP | 82pF 5% 50V |
|  THP501 | 1-803-540-11 | THERMISTOR, PTC (KV-29FS120LS/29FA310LS ONLY) | | C3781 | 1-162-926-11 | CERAMIC CHIP | 82pF 5% 50V |
| TUNER | | | | C3782 | 1-162-926-11 | CERAMIC CHIP | 82pF 5% 50V |
|  TU101 | 8-598-593-50 | TUNER, FSS BTF-WA421 | | C3901 | 1-107-667-11 | ELECT | 2.2μF 20% 400V |
| VARISTOR | | | | C3902 | 1-107-364-11 | MYLAR | 0.01μF 10% 200V |
|  VDR600 | 1-810-974-21 | VARISTOR (KV-27FS120/29FA310LN/29FS120LN ONLY) | | C3903 | 1-126-935-11 | ELECT | 470μF 20% 16V |
|  VDR600 | 1-803-967-11 | VARISTOR (KV-29FS120LS/29FA310LS ONLY) | | C3904 | 1-130-471-00 | MYLAR | 0.001μF 5% 50V |
| CRYSTAL | | | | C3905 | 1-107-364-11 | MYLAR | 0.01μF 10% 200V |
| X001 | 1-795-006-21 | VIBRATOR, CRYSTAL | | C3906 | 1-130-471-00 | MYLAR | 0.001μF 5% 50V |
| X301 | 1-781-377-21 | VIBRATOR, CRYSTAL | | C3907 | 1-107-638-11 | ELECT | 33μF 20% 160V |
| CONNECTOR | | | | C3908 | 1-126-935-11 | ELECT | 470μF 20% 16V |
| CAPACITOR | | | | C3909 | 1-104-999-11 | MYLAR | 0.1μF 5% 200V |
| C2751 | 1-107-652-11 | ELECT | 10μF 20% 250V | C3910 | 1-104-999-11 | MYLAR | 0.1μF 5% 200V |
| C2752 | 1-162-114-00 | CERAMIC | 0.0047μF 2KV | C3911 | 1-104-665-11 | ELECT | 100μF 20% 25V |
| C2753 | 1-137-528-11 | MYLAR | 0.1μF 10% 250V | C3912 | 1-126-935-11 | ELECT | 470μF 20% 16V |
| C2754 | 1-102-074-00 | CERAMIC | 0.001μF 10% 50V | C3913 | 1-126-933-11 | ELECT | 100μF 20% 16V |
| C2755 | 1-107-651-11 | ELECT | 4.7μF 20% 250V | C3914 | 1-130-491-00 | MYLAR | 0.047μF 5% 50V |
| C2774 | 1-126-960-11 | ELECT | 1μF 20% 50V | C3915 | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 25V |
| C2775 | 1-126-935-11 | ELECT | 470μF 20% 16V | C3930 | 1-104-655-91 | ELECT | 470μF 20% 6.3V |
| DIODE | | | | C3931 | 1-104-655-91 | ELECT | 470μF 20% 6.3V |
| CONNECTIONS | | | | CN2707 | 1-564-506-11 | PLUG, CONNECTOR 3P | |
| DIODE | | | | * CN2752 | 1-564-512-11 | PLUG, CONNECTOR 9P | |
| CONNECTIONS | | | | CN2753 | 1-785-879-11 | CONNECTOR, ONE TOUCH | |
| CONNECTIONS | | | | CN2755 | 1-695-915-11 | TAB (CONTACT) | |
| CONNECTIONS | | | | * CN3903 | 1-564-506-11 | PLUG, CONNECTOR 3P | |
| DIODE | | | | D2701 | 8-719-108-12 | DIODE | RD9.1EW |
| CONNECTIONS | | | | D2754 | 8-719-901-83 | DIODE | 1SS83 |
| CONNECTIONS | | | | D2755 | 8-719-901-83 | DIODE | 1SS83 |
| CONNECTIONS | | | | D2756 | 8-719-901-83 | DIODE | 1SS83 |
| CONNECTIONS | | | | D2758 | 8-719-074-25 | DIODE | PG104R |
| CONNECTIONS | | | | D3762 | 8-719-404-50 | DIODE | MA111-TX |
| CONNECTIONS | | | | D3763 | 8-719-404-50 | DIODE | MA111-TX |
| CONNECTIONS | | | | D3772 | 8-719-404-50 | DIODE | MA111-TX |




* **A-1410-925-A CW BOARD, MOUNTED**


4-382-854-11 SCREW (M3X10), P, SW (+)


NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.







| REF. NO. | PART NO. | DESCRIPTION | VALUES | REF. NO. | PART NO. | DESCRIPTION | VALUES |
|--|--------------|-------------|----------------|-----------------|--------------|-------------|----------------|
| D3773 | 8-719-404-50 | DIODE | MA111-TX | Q3762 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| D3782 | 8-719-404-50 | DIODE | MA111-TX | Q3763 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| D3783 | 8-719-404-50 | DIODE | MA111-TX | Q3771 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| D3901 | 8-719-110-86 | DIODE | RD39ESB | Q3772 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| D3902 | 8-719-110-86 | DIODE | RD39ESB | Q3773 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| D3903 | 8-719-991-33 | DIODE | 1SS133T-77 | Q3781 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| D3905 | 8-719-510-02 | DIODE | D1NS4 | Q3782 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| D3906 | 8-719-404-50 | DIODE | MA111-TX | Q3783 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| D3907 | 8-719-404-50 | DIODE | MA111-TX | Q3901 | 8-729-053-87 | TRANSISTOR | KTC4370A |
| D3908 | 8-719-404-50 | DIODE | MA111-TX | Q3902 | 6-550-247-01 | TRANSISTOR | KTA1659A |
| FERRITE BEAD | | | | Q3903 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| FB3700 | 1-410-397-21 | FERRITE | 1.1μH | Q3904 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| FB3701 | 1-410-397-21 | FERRITE | 1.1μH | Q3905 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX |
| FB3702 | 1-410-397-21 | FERRITE | 1.1μH | Q3906 | 8-729-120-28 | TRANSISTOR | 2SC1623-L5L6 |
| FB3703 | 1-410-397-21 | FERRITE | 1.1μH | Q3907 | 8-729-120-28 | TRANSISTOR | 2SC1623-L5L6 |
| IC | | | | Q3908 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX |
| IC2751 | 8-759-562-43 | IC | TDA6108JF/N1B | RESISTOR | | | |
| IC3701 | 8-759-803-42 | IC | LA6500-FA | R2756 | 1-260-328-11 | CARBON | 1K 5% 1/2W |
| JACK | | | | R2757 | 1-260-328-11 | CARBON | 1K 5% 1/2W |
|  J2751 | 1-451-544-11 | SOCKET, CRT | | R2758 | 1-260-328-11 | CARBON | 1K 5% 1/2W |
| CHIP CONDUCTOR | | | | R2760 | 1-260-087-11 | CARBON | 100 5% 1/2W |
| JR3910 | 1-216-864-11 | SHORT CHIP | | R2761 | 1-216-375-00 | METAL OXIDE | 3.3 5% 2W |
| COIL | | | | R2762 | 1-216-375-00 | METAL OXIDE | 3.3 5% 2W |
| L2751 | 1-408-613-31 | INDUCTOR | 68μH | R2763 | 1-247-807-31 | CARBON | 100 5% 1/4W |
| L3710 | 1-410-387-11 | INDUCTOR | 33μH | R2764 | 1-247-807-31 | CARBON | 100 5% 1/4W |
| L3711 | 1-410-387-11 | INDUCTOR | 33μH | R2765 | 1-247-807-31 | CARBON | 100 5% 1/4W |
| L3712 | 1-410-387-11 | INDUCTOR | 33μH | R2766 | 1-247-807-31 | CARBON | 100 5% 1/4W |
| L3901 | 1-412-528-11 | INDUCTOR | 18μH | R2767 | 1-247-807-31 | CARBON | 100 5% 1/4W |
| TRANSISTOR | | | | R2768 | 1-247-807-31 | CARBON | 100 5% 1/4W |
| Q2772 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q | R2770 | 1-260-132-11 | CARBON | 560K 5% 1/2W |
| Q3710 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX | R2785 | 1-249-399-11 | CARBON | 33 5% 1/4W |
| Q3711 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q | R2788 | 1-249-421-11 | CARBON | 2.2K 5% 1/4W |
| Q3712 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q | R2789 | 1-249-425-11 | CARBON | 4.7K 5% 1/4W |
| Q3761 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q | R3700 | 1-249-433-11 | CARBON | 22K 5% 1/4W |
| | | | | R3701 | 1-216-833-11 | METAL CHIP | 10K 5% 1/10W |
| | | | | R3702 | 1-216-813-11 | METAL CHIP | 220 5% 1/10W |
| | | | | R3704 | 1-249-419-11 | CARBON | 1.5K 5% 1/4W |
| | | | | R3705 | 1-216-833-11 | METAL CHIP | 10K 5% 1/10W |
| | | | | R3706 | 1-249-381-11 | CARBON | 1 5% 1/4W |
| | | | | R3707 | 1-249-383-11 | CARBON | 1.5 5% 1/4W |
| | | | | R3710 | 1-216-821-11 | METAL CHIP | 1K 5% 1/10W |
| | | | | R3711 | 1-218-692-11 | METAL CHIP | 1K 0.50% 1/10W |


NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.




| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|----------|--------------|-------------|--------|-------|-------|---|--------------|---------------------------|-----------|-------|-------|
| R3712 | 1-218-690-11 | METAL CHIP | 820 | 0.50% | 1/10W | R3914 | 1-216-820-11 | METAL CHIP | 820 | 5% | 1/10W |
| R3713 | 1-216-824-11 | METAL CHIP | 1.8K | 5% | 1/10W | R3915 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R3714 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | R3916 | 1-216-864-11 | SHORT CHIP | | | |
| R3719 | 1-215-888-00 | METAL OXIDE | 220 | 5% | 2W | R3917 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R3760 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R3918 | 1-216-805-11 | METAL CHIP | 47 | 5% | 1/10W |
| R3762 | 1-218-692-11 | METAL CHIP | 1K | 0.50% | 1/10W | R3919 | 1-216-805-11 | METAL CHIP | 47 | 5% | 1/10W |
| R3763 | 1-216-835-11 | METAL CHIP | 15K | 5% | 1/10W | R3921 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R3764 | 1-218-678-11 | METAL CHIP | 270 | 0.50% | 1/10W | R3922 | 1-249-397-11 | CARBON | 22 | 5% | 1/4W |
| R3765 | 1-218-700-11 | METAL CHIP | 2.2K | 0.50% | 1/10W | R3923 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R3766 | 1-216-827-11 | METAL CHIP | 3.3K | 5% | 1/10W | R3930 | 1-216-864-11 | SHORT CHIP | | | |
| R3767 | 1-216-830-11 | METAL CHIP | 5.6K | 5% | 1/10W | R3931 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R3768 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | R3932 | 1-218-696-11 | METAL CHIP | 1.5K | 0.50% | 1/10W |
| R3769 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | R3933 | 1-216-864-11 | SHORT CHIP | | | |
| R3770 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R3935 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R3771 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | R3938 | 1-216-864-11 | SHORT CHIP | | | |
| R3772 | 1-218-692-11 | METAL CHIP | 1K | 0.50% | 1/10W | VARIABLE RESISTOR | | | | | |
| R3773 | 1-216-835-11 | METAL CHIP | 15K | 5% | 1/10W | RV2701 | 1-238-019-11 | RES, ADJ, CARBON 47K | | | |
| R3774 | 1-218-678-11 | METAL CHIP | 270 | 0.50% | 1/10W |  RV2750 | 1-241-656-11 | RES, ADJ, METAL FILM 110M | | | |
| R3775 | 1-218-700-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |  | | | | | |
| R3776 | 1-216-827-11 | METAL CHIP | 3.3K | 5% | 1/10W | * A-1415-635-A D BOARD, MOUNTED | | | | | |
| R3777 | 1-216-830-11 | METAL CHIP | 5.6K | 5% | 1/10W | (ALL EXCEPT KV-27FA310/29FA310) | | | | | |
| R3778 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |  1-900-807-96 WIRE ASSY, G2 LEAD 180 | | | | | |
| R3779 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | CAPACITOR | | | | | |
| R3780 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | C1815 | 1-129-718-00 | FILM | 0.022μF | 5% | 630V |
| R3782 | 1-218-692-11 | METAL CHIP | 1K | 0.50% | 1/10W | C1816 | 1-102-244-00 | CERAMIC | 220pF | 10% | 500V |
| R3783 | 1-216-835-11 | METAL CHIP | 15K | 5% | 1/10W | C1817 | 1-129-709-91 | FILM | 0.0039μF | 5% | 630V |
| R3784 | 1-218-678-11 | METAL CHIP | 270 | 0.50% | 1/10W | C1818 | 1-164-645-11 | CERAMIC | 1000pF | 10% | 500V |
| R3785 | 1-218-700-11 | METAL CHIP | 2.2K | 0.50% | 1/10W | C1819 | 1-102-244-00 | CERAMIC | 220pF | 10% | 500V |
| R3786 | 1-216-827-11 | METAL CHIP | 3.3K | 5% | 1/10W | C1820 | 1-109-954-11 | ELECT | 0.47μF | 20% | 160V |
| R3787 | 1-216-830-11 | METAL CHIP | 5.6K | 5% | 1/10W | DIODE | | | | | |
| R3788 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | D1809 | 8-719-110-41 | DIODE | RD15ESB2 | | |
| R3901 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | D1810 | 8-719-970-87 | DIODE | ERA38-06 | | |
| R3902 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W | D1811 | 8-719-970-87 | DIODE | ERA38-06 | | |
| R3903 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W | D1812 | 8-719-081-93 | DIODE | 1N4937/23 | | |
| R3904 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W | | | | | | |
| R3905 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | | | | | | |
| R3906 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W | | | | | | |
| R3907 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W | | | | | | |
| R3908 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W | | | | | | |
| R3909 | 1-260-316-51 | CARBON | 100 | 5% | 1/2W | | | | | | |
| R3910 | 1-215-915-11 | METAL OXIDE | 470 | 5% | 3W | | | | | | |
| R3911 | 1-216-812-11 | METAL CHIP | 180 | 5% | 1/10W | | | | | | |
| R3912 | 1-216-811-11 | METAL CHIP | 150 | 5% | 1/10W | | | | | | |
| R3913 | 1-216-806-11 | METAL CHIP | 56 | 5% | 1/10W | | | | | | |


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| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|--|--------------|----------------------------|------------|-----|------|---------------------|--------------|-------------|-------------|-----|------|
| <u>COIL</u> | | | | | | C1643 | 1-136-165-00 | FILM | 0.1μF | 5% | 50V |
| L1805 | 1-406-677-11 | INDUCTOR | 10MH | | | C1645 | 1-136-479-11 | FILM | 0.001μF | 5% | 100V |
| <u>TRANSISTOR</u> | | | | | | C1647 | 1-126-947-11 | ELECT | 47μF | 20% | 35V |
| Q1810 | 8-729-043-95 | TRANSISTOR | 2SC3840(3) | | | C1648 | 1-164-143-11 | CERAMIC | 0.001μF | 10% | 1KV |
| <u>RESISTOR</u> | | | | | | C1649 | 1-164-143-11 | CERAMIC | 0.001μF | 10% | 1KV |
| R1845 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | C1650 | 1-100-120-51 | ELECT | 1000μF | 20% | 35V |
| R1846 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | C1652 | 1-137-374-11 | MYLAR | 0.047μF | 5% | 50V |
| R1847 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | C1669 | 1-164-625-11 | CERAMIC | 680pF | 10% | 500V |
| R1848 | 1-215-894-11 | METAL OXIDE | 2.2K | 5% | 2W | C1670 | 1-164-625-11 | CERAMIC | 680pF | 10% | 500V |
| R1849 | 1-215-923-00 | METAL OXIDE | 10K | 5% | 3W | C1672 | 1-165-953-11 | FILM | 47000pF | 3% | 800V |
| R1850 | 1-215-923-00 | METAL OXIDE | 10K | 5% | 3W | C1680 | 1-117-228-71 | MYLAR | 2.2μF | 10% | 450V |
| R1851 | 1-215-922-11 | METAL OXIDE | 6.8K | 5% | 3W | C1815 | 1-129-718-00 | FILM | 0.022μF | 5% | 630V |
| R1852 | 1-215-922-11 | METAL OXIDE | 6.8K | 5% | 3W | C1816 | 1-102-244-00 | CERAMIC | 220pF | 10% | 500V |
| <u>TRANSFORMER</u> | | | | | | C1817 | 1-129-709-91 | FILM | 0.0039μF | 5% | 630V |
| T1801 | 1-433-533-12 | TRANSFORMER, FERRITE (DFT) | | | | C1818 | 1-164-645-11 | CERAMIC | 1000pF | 10% | 500V |
| <u>CONNECTOR</u> | | | | | | C1819 | 1-102-244-00 | CERAMIC | 220pF | 10% | 500V |
| * A-1410-927-A GD (COM) BOARD, MOUNTED | | | | | | C1820 | 1-109-954-11 | ELECT | 0.47μF | 20% | 160V |
| (KV-27FA310/29FA310 ONLY) | | | | | | <u>DIODE</u> | | | | | |
| ⚠ 1-900-807-96 WIRE ASSY, G2 LEAD 180 | | | | | | D1611 | 8-719-062-40 | DIODE | D4SBL20μF3 | | |
| 4-382-854-11 SCREW (M3X10), P, SW (+) | | | | | | D1614 | 8-719-057-52 | DIODE | EZ0150AV1 | | |
| <u>CAPACITOR</u> | | | | | | D1615 | 8-719-062-40 | DIODE | D4SBL20μF3 | | |
| C1602 | 1-137-150-11 | FILM | 0.01μF | 5% | 100V | D1618 | 8-719-979-64 | DIODE | μF4005PKG23 | | |
| C1604 | 1-164-625-11 | CERAMIC | 680pF | 10% | 500V | D1621 | 6-500-181-01 | DIODE | MA6D50 | | |
| C1609 | 1-164-625-11 | CERAMIC | 680pF | 10% | 500V | D1631 | 6-500-175-01 | DIODE | 1E3-TB | | |
| C1616 | 1-126-943-11 | ELECT | 2200μF | 20% | 25V | D1809 | 8-719-110-41 | DIODE | RD15ESB2 | | |
| C1617 | 1-123-024-21 | ELECT | 33μF | | 160V | D1810 | 8-719-970-87 | DIODE | ERA38-06 | | |
| C1620 | 1-137-150-11 | FILM | 0.01μF | 5% | 100V | D1811 | 8-719-970-87 | DIODE | ERA38-06 | | |
| C1624 | 1-107-636-11 | ELECT | 10μF | 20% | 160V | D1812 | 8-719-081-93 | DIODE | 1N4937/23 | | |
| C1633 | 1-136-479-11 | FILM | 0.001μF | 5% | 100V | <u>FERRITE BEAD</u> | | | | | |
| C1634 | 1-126-964-11 | ELECT | 10μF | 20% | 50V | FB1602 | 1-410-397-21 | FERRITE | 1.1μH | | |
| C1635 | 1-126-963-11 | ELECT | 4.7μF | 20% | 50V | FB1604 | 1-410-397-21 | FERRITE | 1.1μH | | |
| C1637 | 1-136-165-00 | FILM | 0.1μF | 5% | 50V | FB1609 | 1-410-397-21 | FERRITE | 1.1μH | | |
| C1642 | 1-126-969-11 | ELECT | 220μF | 20% | 50V | FB1616 | 1-410-397-21 | FERRITE | 1.1μH | | |
| | | | | | | FB1617 | 1-410-397-21 | FERRITE | 1.1μH | | |

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| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | | REF. NO. | PART NO. | DESCRIPTION | VALUES | | | |
|----------------------|--------------|---------------|-----------------|-----|--|--|---|--------------|-------------|--------|----|------|--|
| IC | | | | | | | R1660 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| IC1600 | 6-705-810-01 | IC | MCZ3001DB | | | | R1667 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| IC1601 | 8-749-012-13 | IC | DM-58 | | | | R1668 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W | |
| COIL | | | | | | | R1670 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| L1600 | 1-406-977-21 | INDUCTOR | 100µH | | | | R1671 | 1-243-979-71 | METAL OXIDE | 0.1 | 5% | 2W | |
| L1604 | 1-412-525-31 | INDUCTOR | 10µH | | | | R1672 | 1-243-979-71 | METAL OXIDE | 0.1 | 5% | 2W | |
| L1608 | 1-412-529-81 | INDUCTOR | 22µH | | | | R1845 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| L1805 | 1-406-677-11 | INDUCTOR | 10MH | | | | R1846 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| PHOTO COUPLER | | | | | | | R1847 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| PH1602 | 8-749-924-35 | PHOTO COUPLER | ON3171-R | | | | R1848 | 1-215-894-11 | METAL OXIDE | 2.2K | 5% | 2W | |
| IC LINK | | | | | | | R1849 | 1-215-923-00 | METAL OXIDE | 10K | 5% | 3W | |
| PS1401 | 1-576-337-21 | IC LINK | 2.7A | 50V | | | R1850 | 1-215-923-00 | METAL OXIDE | 10K | 5% | 3W | |
| TRANSISTOR | | | | | | | R1851 | 1-215-922-11 | METAL OXIDE | 6.8K | 5% | 3W | |
| Q1600 | 8-729-052-32 | TRANSISTOR | IRFIB7N50A-LF31 | | | | R1852 | 1-215-922-11 | METAL OXIDE | 6.8K | 5% | 3W | |
| Q1601 | 8-729-052-32 | TRANSISTOR | IRFIB7N50A-LF31 | | | | <div><div><div><div><div></div><div>HR</div><div></div></div><div><div></div><div></div><div></div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div>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| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|--|--------------|-----------------|-------------|-----|------|--|--------------|-----------------|----------|----|------|
| <u>RESISTOR</u> | | | | | | R1009 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R3001 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | R1010 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |
| R3014 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W | R1011 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| <u>SWITCH</u> | | | | | | R1201 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| S3006 | 1-786-338-12 | SWITCH, TACTILE | | | | R1202 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| <div><div>HS</div></div> | | | | | | R1203 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| <div><div>*A-1415-674-AHS BOARD, MOUNTED</div><div>(ALL EXCEPT KV-27FA310/29FA310)</div></div> | | | | | | R1234 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W |
| <u>CAPACITOR</u> | | | | | | R1235 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| C1001 | 1-104-665-11 | ELECT | 100µF | 20% | 25V | R1236 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| C1234 | 1-126-960-11 | ELECT | 1µF | 20% | 50V | R1237 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| C1235 | 1-126-960-11 | ELECT | 1µF | 20% | 50V | R1238 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| <u>DIODE</u> | | | | | | <u>SWITCH</u> | | | | | |
| D1001 | 8-719-929-15 | DIODE | HZS9.1NB2 | | | S1001 | 1-692-431-21 | SWITCH, TACTILE | | | |
| D1002 | 8-719-070-80 | DIODE | LNK0120022G | | | S1002 | 1-692-431-21 | SWITCH, TACTILE | | | |
| D1003 | 8-719-929-15 | DIODE | HZS9.1NB2 | | | S1003 | 1-692-431-21 | SWITCH, TACTILE | | | |
| D1004 | 8-719-109-89 | DIODE | RD5.6ESB2 | | | S1004 | 1-692-431-21 | SWITCH, TACTILE | | | |
| D1005 | 8-719-109-89 | DIODE | RD5.6ESB2 | | | S1005 | 1-692-431-21 | SWITCH, TACTILE | | | |
| <div><div>HU</div></div> | | | | | | S1006 | 1-692-431-21 | SWITCH, TACTILE | | | |
| D1233 | 8-719-108-12 | DIODE | RD9.1EW | | | S1007 | 1-762-816-11 | SWITCH, TACTILE | | | |
| D1235 | 8-719-108-12 | DIODE | RD9.1EW | | | S1008 | 1-762-816-11 | SWITCH, TACTILE | | | |
| D1236 | 8-719-108-12 | DIODE | RD9.1EW | | | <div><div>*A-1415-631-AHU (VAR) BOARD, MOUNTED</div><div>(KV-27FA310/29FA310 ONLY)</div></div> | | | | | |
| <u>IC</u> | | | | | | <u>CAPACITOR</u> | | | | | |
| IC1001 | 8-742-212-20 | HYB IC | SBX3081-71 | | | C2234 | 1-137-194-81 | FILM | 0.47µF | 5% | 50V |
| <u>JACK</u> | | | | | | C2235 | 1-137-194-81 | FILM | 0.47µF | 5% | 50V |
| J1231 | 1-794-048-11 | JACK, PIN 3P | | | | <u>DIODE</u> | | | | | |
| <u>RESISTOR</u> | | | | | | D301 | 8-719-108-12 | DIODE | RD9.1EW | | |
| R1004 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | D2235 | 8-719-108-12 | DIODE | RD9.1EW | | |
| R1007 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W | D2236 | 8-719-108-12 | DIODE | RD9.1EW | | |
| R1008 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | D2240 | 8-719-110-17 | DIODE | RD10ESB2 | | |
| | | | | | | D2241 | 8-719-110-17 | DIODE | RD10ESB2 | | |
| | | | | | | <u>JACK</u> | | | | | |
| | | | | | | J2231 | 1-794-048-11 | JACK, PIN 3P | | | |



| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|------------------|--------------|-----------------|----------|-----|------|----------|--------------|--------------|----------|-----|-----|
| RESISTOR | | | | | | C2414 | 1-126-963-11 | ELECT | 4.7μF | 20% | 50V |
| R1001 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | C2415 | 1-126-967-11 | ELECT | 47μF | 20% | 50V |
| R1002 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | C2416 | 1-164-172-11 | CERAMIC CHIP | 0.0056μF | 10% | 25V |
| R1003 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | C2417 | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10% | 50V |
| R2008 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | C2418 | 1-125-891-11 | CERAMIC CHIP | 0.47μF | 10% | 10V |
| R2009 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | C2419 | 1-127-715-91 | CERAMIC CHIP | 0.22μF | 10% | 16V |
| R2010 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W | C2420 | 1-126-959-11 | ELECT | 0.47μF | 20% | 50V |
| R2011 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W | C2421 | 1-126-959-11 | ELECT | 0.47μF | 20% | 50V |
| R2235 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | C2422 | 1-127-715-91 | CERAMIC CHIP | 0.22μF | 10% | 16V |
| R2236 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | C2423 | 1-165-176-11 | CERAMIC CHIP | 0.047μF | 10% | 16V |
| R2237 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | C2424 | 1-162-969-11 | CERAMIC CHIP | 0.0068μF | 10% | 25V |
| R2238 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | C2425 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V |
| R2240 | 1-247-804-11 | CARBON | 75 | 5% | 1/4W | C2426 | 1-162-927-11 | CERAMIC CHIP | 100pF | 5% | 50V |
| SWITCH | | | | | | C2427 | 1-126-947-11 | ELECT | 47μF | 20% | 35V |
| S1007 | 1-762-816-11 | SWITCH, TACTILE | | | | C2428 | 1-126-943-11 | ELECT | 2200μF | 20% | 25V |
| S1008 | 1-762-816-11 | SWITCH, TACTILE | | | | C2429 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V |
| S2001 | 1-692-431-21 | SWITCH, TACTILE | | | | C2430 | 1-126-960-11 | ELECT | 1μF | 20% | 50V |
| S2002 | 1-692-431-21 | SWITCH, TACTILE | | | | C2431 | 1-126-963-11 | ELECT | 4.7μF | 20% | 50V |
| S2003 | 1-692-431-21 | SWITCH, TACTILE | | | | C2432 | 1-126-963-11 | ELECT | 4.7μF | 20% | 50V |
| S2004 | 1-692-431-21 | SWITCH, TACTILE | | | | C2433 | 1-127-715-91 | CERAMIC CHIP | 0.22μF | 10% | 16V |
| S2005 | 1-692-431-21 | SWITCH, TACTILE | | | | C2434 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V |
| CAPACITOR | | | | | | C2435 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V |
| C2401 | 1-130-495-00 | MYLAR | 0.1μF | 5% | 50V | C2436 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V |
| C2402 | 1-130-495-00 | MYLAR | 0.1μF | 5% | 50V | C2437 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V |
| C2403 | 1-126-964-11 | ELECT | 10μF | 20% | 50V | C2438 | 1-164-227-11 | CERAMIC CHIP | 0.022μF | 10% | 25V |
| C2404 | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10% | 50V | C2439 | 1-164-227-11 | CERAMIC CHIP | 0.022μF | 10% | 25V |
| C2405 | 1-126-965-91 | ELECT | 22μF | 20% | 50V | C2440 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V |
| C2406 | 1-126-964-11 | ELECT | 10μF | 20% | 50V | C2441 | 1-115-412-11 | CERAMIC CHIP | 680pF | 5% | 25V |
| C2407 | 1-126-964-11 | ELECT | 10μF | 20% | 50V | C2442 | 1-165-176-11 | CERAMIC CHIP | 0.047μF | 10% | 16V |
| C2408 | 1-162-969-11 | CERAMIC CHIP | 0.0068μF | 10% | 25V | C2443 | 1-115-412-11 | CERAMIC CHIP | 680pF | 5% | 25V |
| C2410 | 1-126-969-11 | ELECT | 220μF | 20% | 50V | C2444 | 1-165-176-11 | CERAMIC CHIP | 0.047μF | 10% | 16V |
| C2411 | 1-126-965-91 | ELECT | 22μF | 20% | 50V | C2445 | 1-126-965-91 | ELECT | 22μF | 20% | 50V |
| C2412 | 1-137-194-81 | FILM | 0.47μF | 5% | 50V | C2446 | 1-130-495-00 | MYLAR | 0.1μF | 5% | 50V |
| C2413 | 1-100-120-51 | ELECT | 1000μF | 20% | 35V | C2447 | 1-130-495-00 | MYLAR | 0.1μF | 5% | 50V |
| | | | | | | C2448 | 1-137-190-91 | FILM | 0.22μF | 5% | 50V |
| | | | | | | C2449 | 1-165-176-11 | CERAMIC CHIP | 0.047μF | 10% | 16V |
| | | | | | | C2450 | 1-126-963-11 | ELECT | 4.7μF | 20% | 50V |
| | | | | | | C2451 | 1-162-967-11 | CERAMIC CHIP | 0.0033μF | 10% | 50V |
| | | | | | | C2452 | 1-164-677-11 | CERAMIC CHIP | 0.033μF | 10% | 16V |
| | | | | | | C2453 | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10% | 50V |
| | | | | | | C2454 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V |
| | | | | | | C2455 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V |
| | | | | | | C2456 | 1-126-963-11 | ELECT | 4.7μF | 20% | 50V |
| | | | | | | C2457 | 1-126-963-11 | ELECT | 4.7μF | 20% | 50V |

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A-1410-921-A K BOARD, MOUNTED
(KV-27FA310/29FA310 ONLY)

4-382-854-11 SCREW (M3X10), P, SW (+)



| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|------------------|--------------|-----------------|----------|-----|-----|----------|--------------|-----------------------|----------------|-------------|--|
| C2458 | 1-126-963-11 | ELECT | 4.7μF | 20% | 50V | | | DIODE | | | |
| C2459 | 1-126-965-91 | ELECT | 22μF | 20% | 50V | D2400 | 8-719-404-50 | DIODE | MA111-TX | | |
| C2460 | 1-137-194-81 | FILM | 0.47μF | 5% | 50V | D2401 | 8-719-070-60 | DIODE | PDZ7.5B-115 | | |
| C2461 | 1-126-963-11 | ELECT | 4.7μF | 20% | 50V | | | IC | | | |
| C2462 | 1-126-963-11 | ELECT | 4.7μF | 20% | 50V | IC2401 | 6-705-054-01 | IC | TDA8947J | | |
| C2463 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V | IC2402 | 8-759-100-96 | IC | UPC4558G2 | | |
| C2464 | 1-126-960-11 | ELECT | 1μF | 20% | 50V | IC2403 | 6-706-034-01 | IC | NJW1164M-TE2 | | |
| C2465 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V | IC2404 | 8-759-165-01 | IC | NJM2177AFG1 | | |
| C2466 | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10% | 50V | IC2405 | 8-759-686-15 | IC | NJM2180M (TE2) | | |
| C2467 | 1-164-677-11 | CERAMIC CHIP | 0.033μF | 10% | 16V | | | CHIP CONDUCTOR | | | |
| C2468 | 1-162-967-11 | CERAMIC CHIP | 0.0033μF | 10% | 50V | JR2401 | 1-216-864-11 | SHORT CHIP | | | |
| C2469 | 1-130-495-00 | MYLAR | 0.1μF | 5% | 50V | JR2402 | 1-216-864-11 | SHORT CHIP | | | |
| C2470 | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10% | 50V | JR2410 | 1-216-864-11 | SHORT CHIP | | | |
| C2471 | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10% | 50V | JR2411 | 1-216-864-11 | SHORT CHIP | | | |
| C2472 | 1-162-970-11 | CERAMIC CHIP | 0.01μF | 10% | 25V | JR2420 | 1-216-864-11 | SHORT CHIP | | | |
| C2473 | 1-126-964-11 | ELECT | 10μF | 20% | 50V | JR2421 | 1-216-864-11 | SHORT CHIP | | | |
| C2474 | 1-126-964-11 | ELECT | 10μF | 20% | 50V | | | IC LINK | | | |
| C2475 | 1-126-968-11 | ELECT | 100μF | 20% | 50V | PS2401 | 1-576-337-21 | IC LINK | 2.7A | 50V | |
| C2476 | 1-162-970-11 | CERAMIC CHIP | 0.01μF | 10% | 25V | | | TRANSISTOR | | | |
| C2477 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V | Q2400 | 8-729-120-28 | TRANSISTOR | 2SC1623-L5L6 | | |
| C2478 | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10% | 50V | Q2401 | 8-729-120-28 | TRANSISTOR | 2SC1623-L5L6 | | |
| C2479 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V | Q2410 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX | | |
| C2480 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V | Q2411 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX | | |
| C2481 | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10% | 50V | Q2412 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX | | |
| C2482 | 1-107-826-11 | CERAMIC CHIP | 0.1μF | 10% | 16V | Q2413 | 8-729-424-02 | TRANSISTOR | 2SB709A-QRS-TX | | |
| C2484 | 1-130-495-00 | MYLAR | 0.1μF | 5% | 50V | Q2414 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q | | |
| C2485 | 1-130-495-00 | MYLAR | 0.1μF | 5% | 50V | Q2418 | 8-729-120-28 | TRANSISTOR | 2SC1623-L5L6 | | |
| C2486 | 1-162-970-11 | CERAMIC CHIP | 0.01μF | 10% | 25V | Q2419 | 8-729-120-28 | TRANSISTOR | 2SC1623-L5L6 | | |
| C2487 | 1-127-715-91 | CERAMIC CHIP | 0.22μF | 10% | 16V | | | RESISTOR | | | |
| C2488 | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10% | 50V | R2401 | 1-216-845-11 | METAL CHIP | 100K | 5% 1/10W | |
| C2489 | 1-127-715-91 | CERAMIC CHIP | 0.22μF | 10% | 16V | R2402 | 1-216-833-11 | METAL CHIP | 10K | 5% 1/10W | |
| C2490 | 1-104-665-11 | ELECT | 100μF | 20% | 25V | R2403 | 1-216-829-11 | METAL CHIP | 4.7K | 5% 1/10W | |
| C2493 | 1-126-935-11 | ELECT | 470μF | 20% | 16V | R2404 | 1-216-835-11 | METAL CHIP | 15K | 5% 1/10W | |
| C2494 | 1-126-935-11 | ELECT | 470μF | 20% | 16V | R2405 | 1-218-895-11 | METAL CHIP | 100K | 0.50% 1/10W | |
| C2495 | 1-126-935-11 | ELECT | 470μF | 20% | 16V | R2406 | 1-218-714-11 | METAL CHIP | 8.2K | 0.50% 1/10W | |
| C2496 | 1-126-935-11 | ELECT | 470μF | 20% | 16V | R2407 | 1-216-835-11 | METAL CHIP | 15K | 5% 1/10W | |
| C2499 | 1-164-315-11 | CERAMIC CHIP | 470pF | 5% | 50V | | | | | | |
| CONNECTOR | | | | | | | | | | | |
| * CN2401 | 1-564-510-11 | PLUG, CONNECTOR | 7P | | | | | | | | |
| * CN2402 | 1-564-508-11 | PLUG, CONNECTOR | 5P | | | | | | | | |



| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|----------|--------------|-------------|--------|-------|-------|----------|--------------|-------------|--------|-------|-------|
| R2408 | 1-218-868-11 | METAL CHIP | 7.5K | 0.50% | 1/10W | R2454 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R2409 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R2455 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R2410 | 1-216-835-11 | METAL CHIP | 15K | 5% | 1/10W | R2456 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R2411 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W | R2457 | 1-216-864-11 | SHORT CHIP | | | |
| R2412 | 1-218-868-11 | METAL CHIP | 7.5K | 0.50% | 1/10W | R2458 | 1-216-861-11 | METAL CHIP | 2.2M | 5% | 1/10W |
| R2413 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W | R2459 | 1-216-853-11 | METAL CHIP | 470K | 5% | 1/10W |
| R2414 | 1-216-835-11 | METAL CHIP | 15K | 5% | 1/10W | R2460 | 1-218-714-11 | METAL CHIP | 8.2K | 0.50% | 1/10W |
| R2415 | 1-220-397-11 | METAL CHIP | 4.7M | 5% | 1/10W | R2461 | 1-216-839-11 | METAL CHIP | 33K | 5% | 1/10W |
| R2416 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W | R2462 | 1-218-296-11 | METAL CHIP | 75K | 5% | 1/10W |
| R2417 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W | R2463 | 1-216-823-11 | METAL CHIP | 1.5K | 5% | 1/10W |
| R2418 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W | R2464 | 1-218-331-11 | METAL CHIP | 51K | 5% | 1/10W |
| R2419 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W | R2465 | 1-216-824-11 | METAL CHIP | 1.8K | 5% | 1/10W |
| R2420 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W | R2466 | 1-218-866-11 | METAL CHIP | 6.2K | 0.50% | 1/10W |
| R2421 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W | R2467 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R2422 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R2468 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R2423 | 1-216-840-11 | METAL CHIP | 39K | 5% | 1/10W | R2469 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R2424 | 1-216-840-11 | METAL CHIP | 39K | 5% | 1/10W | R2470 | 1-216-840-11 | METAL CHIP | 39K | 5% | 1/10W |
| R2425 | 1-216-840-11 | METAL CHIP | 39K | 5% | 1/10W | R2471 | 1-216-824-11 | METAL CHIP | 1.8K | 5% | 1/10W |
| R2426 | 1-216-817-11 | METAL CHIP | 470 | 5% | 1/10W | R2472 | 1-218-331-11 | METAL CHIP | 51K | 5% | 1/10W |
| R2427 | 1-216-817-11 | METAL CHIP | 470 | 5% | 1/10W | R2473 | 1-216-861-11 | METAL CHIP | 2.2M | 5% | 1/10W |
| R2428 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R2474 | 1-216-839-11 | METAL CHIP | 33K | 5% | 1/10W |
| R2429 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | R2475 | 1-218-296-11 | METAL CHIP | 75K | 5% | 1/10W |
| R2430 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W | R2476 | 1-216-835-11 | METAL CHIP | 15K | 5% | 1/10W |
| R2431 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W | R2477 | 1-216-835-11 | METAL CHIP | 15K | 5% | 1/10W |
| R2432 | 1-216-864-11 | SHORT CHIP | | | | R2478 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R2433 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R2479 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R2434 | 1-218-895-11 | METAL CHIP | 100K | 0.50% | 1/10W | R2480 | 1-218-331-11 | METAL CHIP | 51K | 5% | 1/10W |
| R2435 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R2481 | 1-216-823-11 | METAL CHIP | 1.5K | 5% | 1/10W |
| R2436 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | R2482 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R2437 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R2483 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W |
| R2438 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R2484 | 1-216-828-11 | METAL CHIP | 3.9K | 5% | 1/10W |
| R2439 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R2485 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R2440 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W | R2486 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R2441 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R2487 | 1-218-717-11 | METAL CHIP | 11K | 0.50% | 1/10W |
| R2442 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | R2488 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W |
| R2443 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W | R2489 | 1-216-835-11 | METAL CHIP | 15K | 5% | 1/10W |
| R2446 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R2490 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R2447 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | R2491 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R2448 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W | R2492 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W |
| R2449 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W | R2493 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R2450 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | R2494 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R2451 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W | R2495 | 1-218-292-11 | METAL CHIP | 20K | 5% | 1/10W |
| R2452 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | R2496 | 1-216-847-11 | METAL CHIP | 150K | 5% | 1/10W |
| R2453 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W | R2497 | 1-216-823-11 | METAL CHIP | 1.5K | 5% | 1/10W |



| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | REF. NO. | PART NO. | DESCRIPTION | VALUES | | |
|----------|--------------|-------------|--------|----|-------|----------|--------------|-------------------|--------|----------------|-------|
| R2498 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W | | | <u>DIODE</u> | | | |
| R2499 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W | D2801 | 8-719-109-89 | DIODE | | RD5.6ESB2 | |
| R2500 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W | D2802 | 8-719-991-33 | DIODE | | 1SS133T-77 | |
| R2501 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W | D2804 | 8-719-302-43 | DIODE | | EL1Z | |
| R2502 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W | D2805 | 8-719-991-33 | DIODE | | 1SS133T-77 | |
| | | | | | | D2806 | 8-719-991-33 | DIODE | | 1SS133T-77 | |
| R2503 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W | | | | | | |
| R2504 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W | D2807 | 8-719-210-21 | DIODE | | 11EQS04 | |
| R2505 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W | D2808 | 8-719-991-33 | DIODE | | 1SS133T-77 | |
| R2507 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W | D2813 | 8-719-991-33 | DIODE | | 1SS133T-77 | |
| R2519 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | | | | | | |
| | | | | | | | | | | | |
| R2520 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | | | | | | |
| R2521 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W | | | <u>IC</u> | | | |
| R2522 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W | IC2801 | 6-701-598-01 | IC | | UPC5023CS-184 | |
| R2523 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W | | | | | | |
| R2524 | 1-216-864-11 | SHORT CHIP | | | | | | | | | |
| | | | | | | | | <u>COIL</u> | | | |
| | | | | | | L2801 | 1-406-989-21 | INDUCTOR | | 10MH | |
| | | | | | | L2802 | 1-419-633-11 | INDUCTOR | | 10MH | |
| | | | | | | L2803 | 1-412-529-11 | INDUCTOR | | 22μH | |
| | | | | | | | | | | | |
| | | | | | | | | <u>TRANSISTOR</u> | | | |
| | | | | | | Q2801 | 8-729-422-27 | TRANSISTOR | | 2SD601A-Q | |
| | | | | | | Q2802 | 8-729-424-02 | TRANSISTOR | | 2SB709A-QRS-TX | |
| | | | | | | Q2803 | 8-729-424-02 | TRANSISTOR | | 2SB709A-QRS-TX | |
| | | | | | | Q2804 | 8-729-424-02 | TRANSISTOR | | 2SB709A-QRS-TX | |
| | | | | | | Q2805 | 6-550-106-01 | TRANSISTOR | | KTB764 | |
| | | | | | | | | | | | |
| | | | | | | Q2807 | 8-729-931-45 | TRANSISTOR | | IRF614 | |
| | | | | | | Q2808 | 6-550-106-01 | TRANSISTOR | | KTB764 | |
| | | | | | | Q2812 | 8-729-026-39 | TRANSISTOR | | 2SA933AS-QT | |
| | | | | | | | | | | | |
| | | | | | | | | <u>RESISTOR</u> | | | |
| | | | | | | R2800 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W |
| | | | | | | R2801 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W |
| | | | | | | R2802 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| | | | | | | R2803 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W |
| | | | | | | R2804 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| | | | | | | | | | | | |
| | | | | | | R2805 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| | | | | | | R2807 | 1-216-827-11 | METAL CHIP | 3.3K | 5% | 1/10W |
| | | | | | | R2808 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| | | | | | | R2809 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W |
| | | | | | | R2811 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |

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| REF. NO. | PART NO. | DESCRIPTION | VALUES | | | REF. NO. | PART NO. | DESCRIPTION | VALUES |
|----------|--------------|-------------|--------|-------|-------|---------------------------------------|--------------|---|--------|
| R2815 | 1-215-862-11 | METAL OXIDE | 68 | 5% | 1W | | | | |
| R2817 | 1-218-736-11 | METAL CHIP | 68K | 0.50% | 1/10W | | | | |
| R2818 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W | | | | |
| R2819 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W | | | | |
| R2820 | 1-218-883-11 | METAL CHIP | 33K | 0.50% | 1/10W | | | | |
| R2821 | 1-218-714-11 | METAL CHIP | 8.2K | 0.50% | 1/10W | | | | |
| R2824 | 1-218-740-11 | METAL CHIP | 100K | 0.50% | 1/10W | | | | |
| R2825 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W | | | | |
| R2826 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | | | | |
| R2827 | 1-218-708-11 | METAL CHIP | 4.7K | 0.50% | 1/10W | | | | |
| R2828 | 1-218-728-11 | METAL CHIP | 33K | 0.50% | 1/10W | | | | |
| R2829 | 1-216-853-11 | METAL CHIP | 470K | 5% | 1/10W | | | | |
| R2833 | 1-218-710-11 | METAL CHIP | 5.6K | 0.50% | 1/10W | | | | |
| R2834 | 1-218-704-11 | METAL CHIP | 3.3K | 0.50% | 1/10W | | | | |
| R2837 | 1-218-871-11 | METAL CHIP | 10K | 0.50% | 1/10W | | | | |
| R2840 | 1-218-702-11 | METAL CHIP | 2.7K | 0.50% | 1/10W | | | | |
| R2841 | 1-218-706-11 | METAL CHIP | 3.9K | 0.50% | 1/10W | | | | |
| R2842 | 1-218-700-11 | METAL CHIP | 2.2K | 0.50% | 1/10W | | | | |
| R2855 | 1-218-706-11 | METAL CHIP | 3.9K | 0.50% | 1/10W | | | | |
| R2856 | 1-218-871-11 | METAL CHIP | 10K | 0.50% | 1/10W | | | | |
| R2857 | 1-218-875-11 | METAL CHIP | 15K | 0.50% | 1/10W | | | | |
| R2860 | 1-218-716-11 | METAL CHIP | 10K | 0.50% | 1/10W | | | | |
| R2864 | 1-218-668-11 | METAL CHIP | 100 | 0.50% | 1/10W | | | | |
| R2866 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W | | | | |
| R2870 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W | | | | |
| R2876 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W | | | | |
| R2890 | 1-218-728-11 | METAL CHIP | 33K | 0.50% | 1/10W | | | | |
| R2893 | 1-216-839-11 | METAL CHIP | 33K | 5% | 1/10W | | | | |
| | | | | | | <u>ACCESSORIES AND PACKING</u> | | | |
| | | | | | | * | 4-041-259-05 | BAG, PROTECTION | |
| | | | | | | * | 2-190-595-01 | CARTON, INDIVIDUAL (KV-27FA310 ONLY) | |
| | | | | | | * | 4-102-073-01 | CARTON, INDIVIDUAL (KV-/29FA310 ONLY) | |
| | | | | | | * | 4-103-469-01 | CARTON, INDIVIDUAL (KV-27FS120 ONLY) | |
| | | | | | | * | 4-103-471-01 | CARTON, INDIVIDUAL (KV-29FS120 ONLY) | |
| | | | | | | * | 4-088-874-01 | CUSHION, LOWER (KV-27FS120/29FS120 ONLY) | |
| | | | | | | * | 4-102-075-01 | CUSHION, LOWER (KV-27FA310/29FA310 ONLY) | |
| | | | | | | * | 4-088-875-01 | CUSHION, UPPER (KV-27FS120/29FS120 ONLY) | |
| | | | | | | * | 4-102-074-01 | CUSHION, UPPER (KV-27FA310/29FA310 ONLY) | |
| | | | | | | * | 4-093-139-11 | INSERT, DOOR BREAKAGE (L) (KV-27FA310 ONLY) | |
| | | | | | | | 4-101-451-41 | MANUAL, INSTRUCTION (KV-27FA310/29FA310 ONLY) | |
| | | | | | | | 4-101-456-21 | MANUAL, INSTRUCTION (KV-27FS120/27FA310 ONLY) | |
| | | | | | | | 4-101-456-31 | MANUAL, INSTRUCTION (KV-27FS120/27FA310 CANADA ONLY) | |
| | | | | | | | 4-101-456-41 | MANUAL, INSTRUCTION (KV-29FS120LN/29FS120LS ONLY) | |
| | | | | | | <u>REMOTE COMMANDER</u> | | | |
| | | | | | | | 1-476-680-21 | REMOTE COMMANDER (RM-Y180) (KV-27FA310/29FA310 ONLY) | |
| | | | | | | | 1-478-707-11 | REMOTE COMMANDER (RM-Y195) (KV-27FS120/29FS120LN/29FS120LS ONLY) | |
| | | | | | | | 4-978-977-11 | BATTERY COVER (FOR RM-Y180/Y195) | |

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Sony Technology Center
Technical Services
Service Promotion Department

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In an effort to reduce the size of this pdf file the tiled schematics are not attached to this Service Manual. To receive a complete set of the tiled schematics for this manual please submit a request to:

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