

**SONY.**

**TRINITRON® COLOR TV BASIC SCHEMATIC DIAGRAM**

**KV-1902M3A / RM-656**

*Chassis No.: SCC-B21F*

**NOTE**

**THIS SCHEMATIC DIAGRAM IS FOR USE BY YOUR SERVICE  
TECHNICIAN.**

**KEEP THIS DIAGRAM HANDY FOR FUTURE REFERENCE.**

**Sony Corporation**

**4-490-322-01**

© 1987






Printed in Japan

**Note:**


- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  
50WV or less are not indicated except for electrolytics.  
p :  $\mu\text{F}$
- Indication of resistance, which does not have one for rating electrical power is as follows.

Pitch: 5mm, Rating electrical power: 1/4W

k $\Omega$  : 1000 $\Omega$ , M $\Omega$  : 1000k $\Omega$

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
-  : nonflammable resistor.
-  : fusible resistor.
- $\Delta$  : internal component.
-  : panel designation.
-  : adjustment for repair.
-  : B + bus.

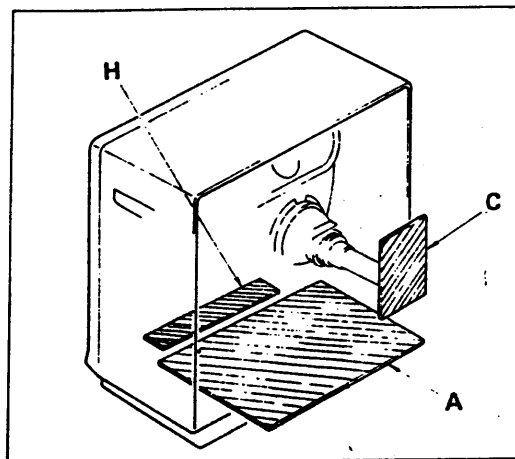
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 M $\Omega$  digital multimeter.
- Voltage variations may be noted due to normal production tolerances.
- Readings are taken with a color-bar-signal input.  
no mark : with PAL color-bar signal received.  
( ) : with SECAM color-bar signal received.

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

**Reference information**

|           |         |                         |
|-----------|---------|-------------------------|
| RESISTOR  | : RN    | METAL FILM              |
|           | : RC    | SOLID                   |
|           | : FPRD  | NONFLAMMABLE CARBON     |
|           | : FUSE  | NONFLAMMABLE FUSIBLE    |
|           | : RS    | NONFLAMMABLE WIREWOUND  |
|           | : RB    | NONFLAMMABLE CEMENT     |
| 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             |

**CIRCUIT BOARDS LOCATION**



## SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND  $\Delta$  MARK ON THE SCHEMATIC DIAGRAMS ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THE SERVICE MANUAL.

## H BOARD

|       |             |
|-------|-------------|
| IC901 | IR DETECTOR |
| D901  | PROG DISP   |

## A BOARD

|       |                      |      |              |
|-------|----------------------|------|--------------|
| IC001 | CONTROLLER           | D026 | BACK UP-1    |
| IC002 | MEMORY               | D027 | BACK UP-2    |
| IC003 | 33V REG              | D028 | PROTECTOR    |
| IC151 | BAND SW              | D030 | COL CONT     |
| IC201 | 9V REG               | D151 | AGC          |
| IC251 | AUDIO OUT            | D201 | MUTE         |
| IC300 | Y CHROMA             | D305 | ACC          |
| IC400 | SECAM CHROMA PROCESS | D307 | C OUT        |
| IC470 | PAL/SECAM SW         | D330 | ABL          |
| IC501 | H. V OSC             | D339 | V PULSE      |
| IC551 | V OUT                | D341 | CLIP         |
| IC581 | 50/60 HZ SW          | D401 | TDL          |
| IC601 | PWM REG              | D416 | SECAM KILLER |
| IC871 | PIN AMP              | D430 | D SYNY       |
|       |                      | D501 | 12V SUPPLY   |
|       |                      | D502 | V SYNC       |
| Q001  | RESET                | D503 | V HOLD       |
| Q002  | VC AMP               | D551 | V DRIVE      |
| Q003  | SV REG               | D581 | V SIZE SW    |
| Q008  | ST-BY                | D601 | LINE RECT    |
| Q010  | LED DRIVE            | D604 | CHARGE UP    |
| Q011  | BLK-1                | D605 | 115V DAMPER  |
| Q012  | BLK-2                | D606 | DC STOP      |
| Q151  | VC FILTER            | D607 | 115V CLAMP   |
| Q201  | BUFFER               | D608 | 14V RECT     |
| Q330  | ABL                  | D610 | QVP          |
| Q360  | ABL                  | D801 | H DAMPER     |
| Q400  | SECAM DRIVE          | D802 | PIN DAMPER   |
| Q401  | R-Y DRIVE            | D851 | 200V RECT    |
| Q402  | B-Y DRIVE            | D852 | MV RECT      |
| Q403  | SECAM KILLER         | D853 | 15V RECT     |
| Q470  | DL DRIVE             | D854 | 24V RECT     |
| Q501  | SYNC AMP             | D855 | 12V REG      |
| Q504  | V SIZE CORRECT       | D856 | H CENTER     |
| Q581  | H. PULSE-2           | D857 | H CENTER     |
| Q583  | V PULSE              |      |              |
| Q586  | V CENT SW            |      |              |
| Q801  | H. DRIVE             |      |              |
| Q802  | H. OUT               |      |              |
| Q804  | H. PULSE             |      |              |
| Q851  | 12V REG              |      |              |
| Q871  | PIN OUT              |      |              |
| D001  | RESET                |      |              |
| D006  | SV REG REF           |      |              |
| D011  | KEY SCAN D1          |      |              |
| D012  | KEY SCAN D2          |      |              |
| D013  | KEY SCAN D3          |      |              |
| D014  | KEY SCAN D4          |      |              |
| D017  | 7SEG DISP            |      |              |
| D018  | 12 PROG              |      |              |
| D020  | BLK                  |      |              |
| D021  | BLK-1                |      |              |
| D022  | BLK-2                |      |              |

| BAND     | VHF LOW             | VHF HIGH      | UHF           |
|----------|---------------------|---------------|---------------|
| TERMINAL |                     |               |               |
| +B       | +12V                | +12V          | +12V          |
| I        | +12V                | +0.5V or less | +0.5V or less |
| U        | +0.5V or less       | +12V          | +0.5V or less |
| VC       | +0.5V or less       | +12V          | +12V          |
| VC       | 2.9-14V             | 3.3-20V       | 1.5-26.5V     |
| AGC      | 8.5 (GAIN MAX)-0.5V |               |               |

ANT

SP901

TU151 BT-881A

A-3

A-1

H  
(CUSTOMER CONTROL  
INDICATOR, PROG DISP.)

D901 SELSSIST

IC901 BX-1398

A-4

PR

VOL

VOL

FINE

FINE

CLR

AUTO

PSET

COL

COL

PIC

PIC

HUE

BRT

V.HOLD

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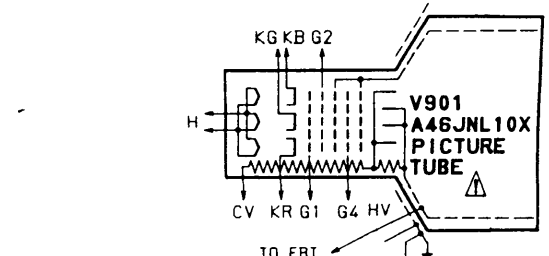
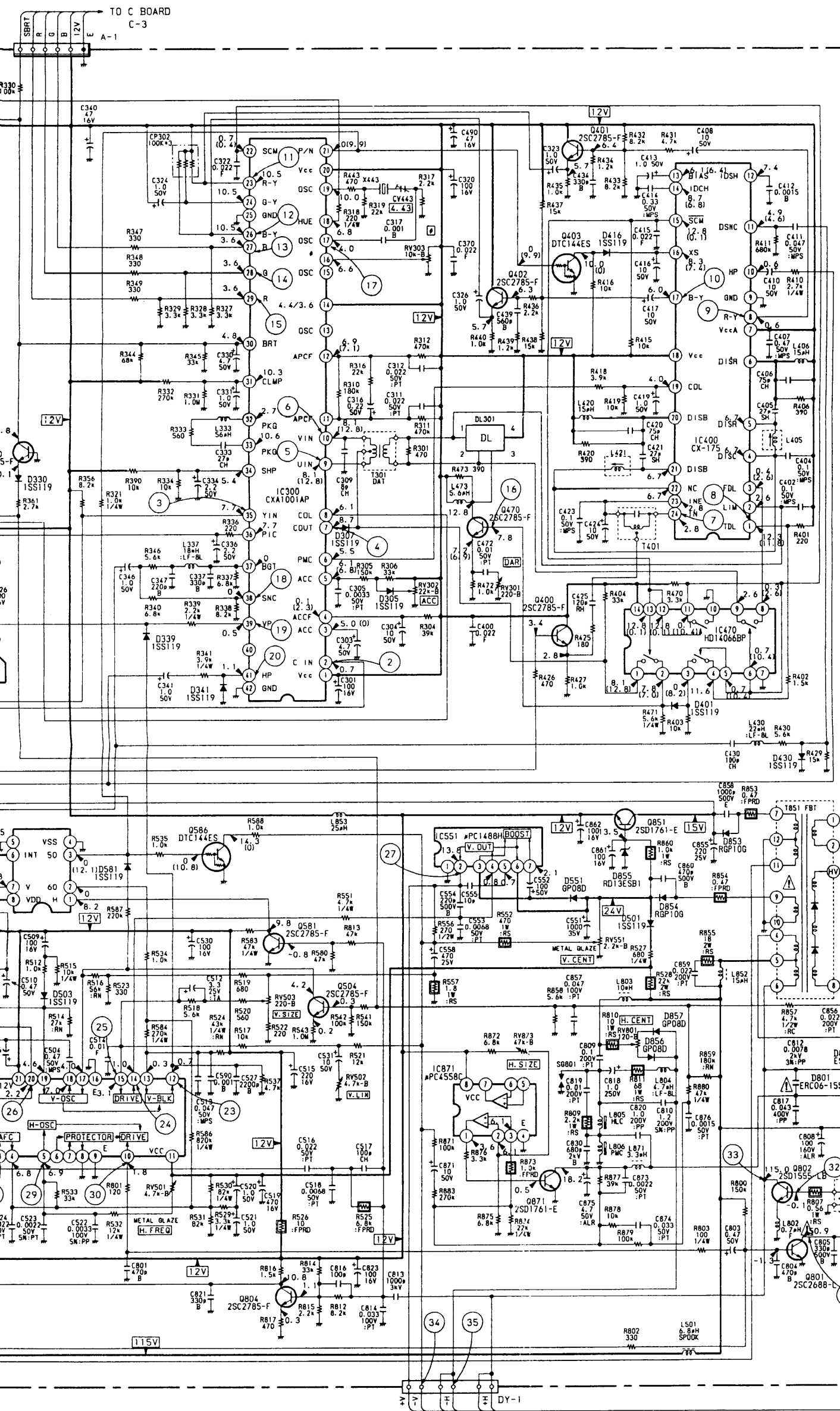
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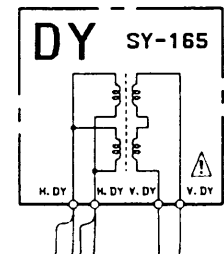
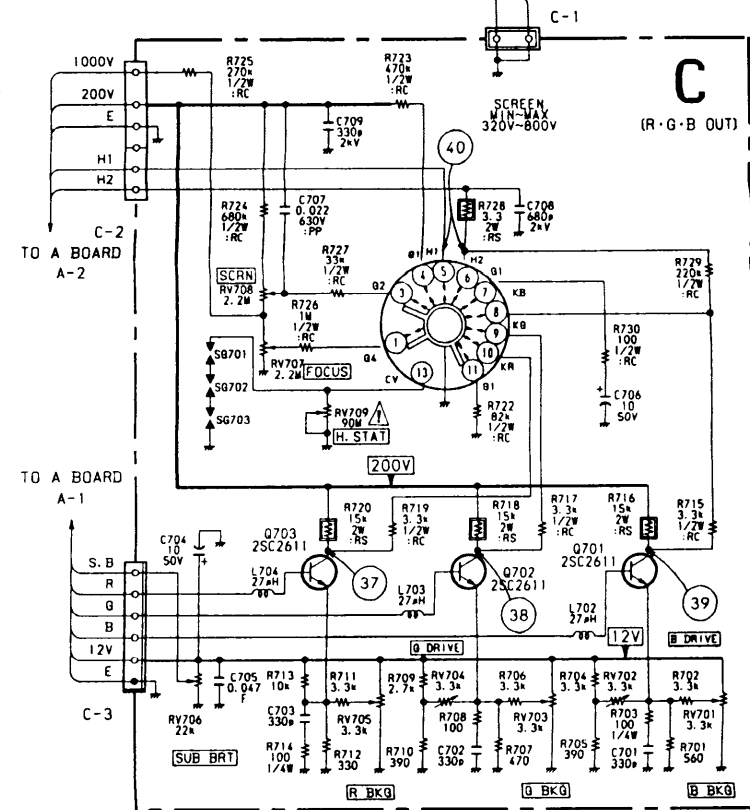
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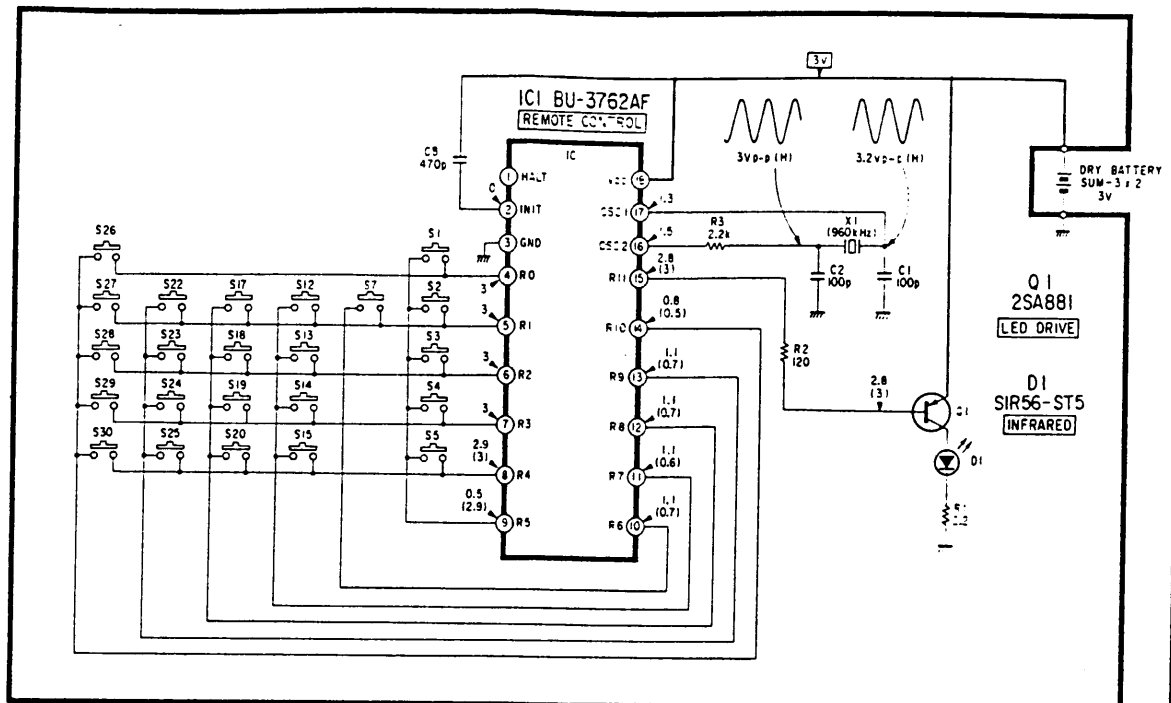
C BOARD

|      |       |
|------|-------|
| Q701 | B OUT |
| Q702 | G OUT |
| Q703 | R OUT |



# REMOTE COMMANDER RM-656

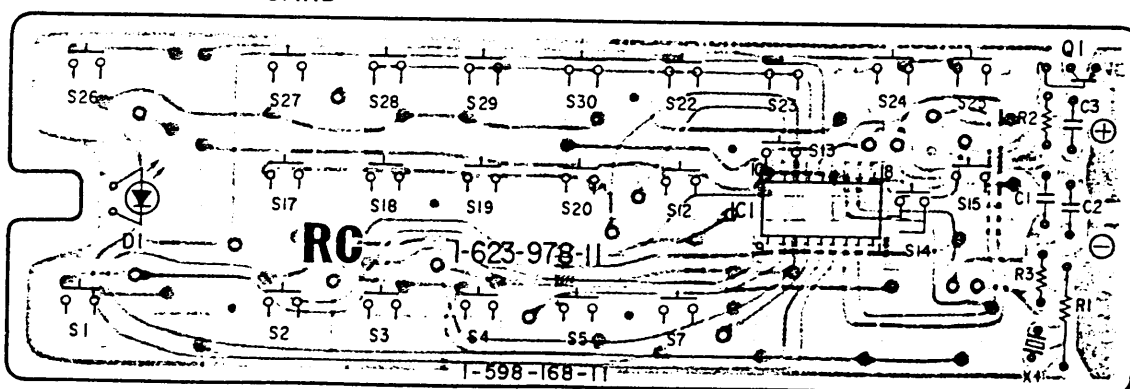
## SCHEMATIC DIAGRAM



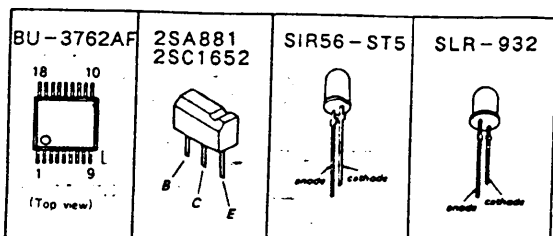
|    | R5         | R6  | R7  | R8  | R9  | R10 |
|----|------------|-----|-----|-----|-----|-----|
| R0 | S1<br>MUTE |     |     |     |     | S26 |
| R1 | S2         | S7  | S12 | S17 | S22 | S27 |
| R2 | S3         | S13 | S18 | S23 | S28 |     |
| R3 | S4         |     | S14 | S19 | S24 | S29 |
| R4 | S5         |     | S15 | S20 | S25 | S30 |

- All voltages are in V (volt).
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 MΩ/V digital voltmeter. No marking: S1 is depressed.
- Voltage variations may be noted due to normal production tolerances.
- Voltages and waveform are for when ☐ button is pressed
- Voltages in ( ) are taken with button not pressed.
- — B - bus.

## PRINTED WIRING BOARD



## SEMICONDUCTOR

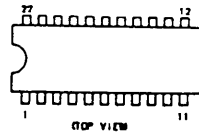


# SEMICONDUCTORS

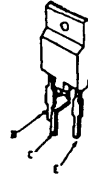
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CXA1001AP



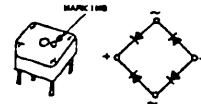
μPC1377C



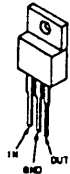
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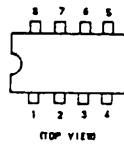
S3WB60Z  
S3WB60ZS



BA178N05



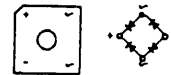
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CX23025  
NJM4558D  
HA17558



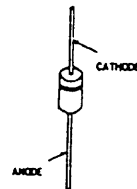
2SD1761-D  
2SD1761-E  
2SD1761-F



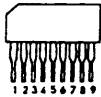
RB406NH



R2M  
ERC06-15S  
H2T33-02TA



LA7920



STR50115B

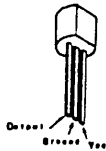


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2SA1175-H  
2SA1175-F  
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2SA1175-K  
2SC2785TP-H  
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2SC2785TP-K

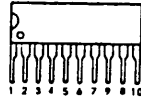
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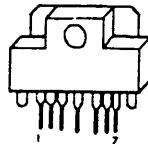
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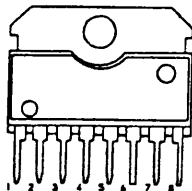
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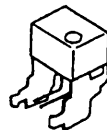
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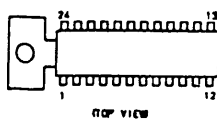
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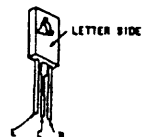
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CX-175



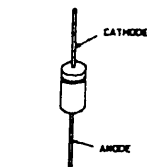
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2SC2688-K  
2SC2688-M



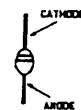
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2SA1115TP-E  
2SA1115TP-F  
2SC403SPTP-3  
2SC403SPTP-4  
2SC403SPTP-5  
DTA124ES-TP  
2SC2458TP-GR  
2SC2603E-TP  
2SC2603F-TP  
2SC1740SRT  
2SC1740SST  
2SC2785TP-J  
2SC2785TP-H  
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2SC2603TP-E  
2SC2603TP-F  
DTC144ES-TP



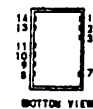
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GP08DPKG23  
10E2-TA2B  
RGP15JPKG23  
RGP10GPKG23



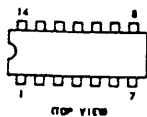
V30N






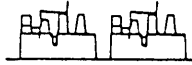
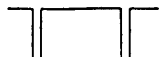




















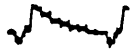





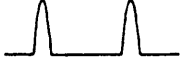
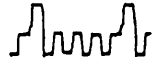


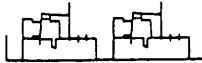

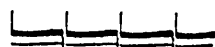



SEL551ST



HD14066BP  
MC14066BCP

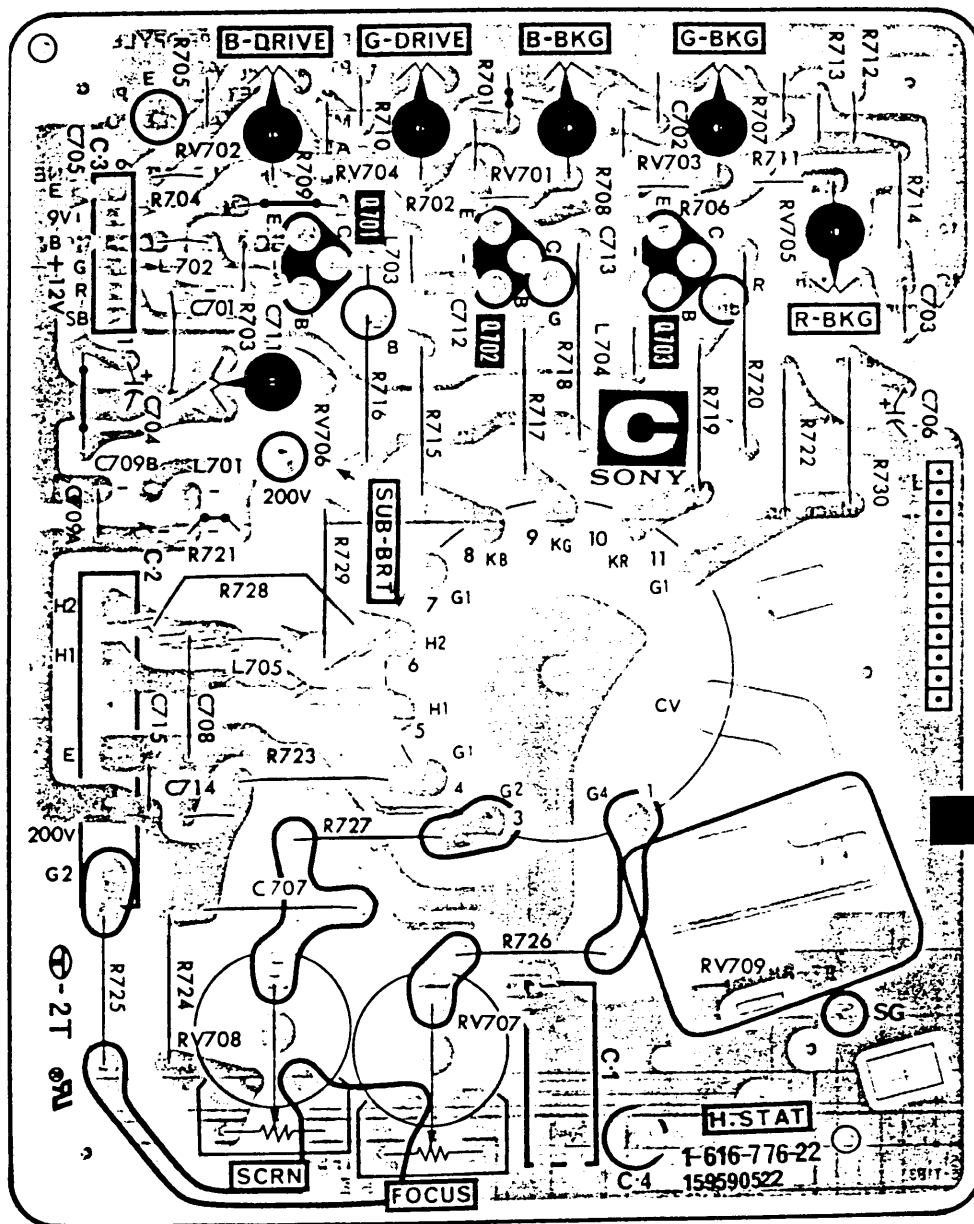


WAVE FORM

|   |  |  |  |  |  |  |   |  |
|---|--|--|--|--|--|--|---|--|
| <p>①</p>  <p>2.0 Vp-p (H)</p>       | <p>⑤</p>  <p>PAL 0.3 Vp-p (H)</p>     | <p>⑩</p>  <p>SECAM 2.2 Vp-p (H)</p> | <p>⑮</p>  <p>6.0 Vp-p (H)</p>      | <p>⑳</p>  <p>2.0 Vp-p (V)</p>   | <p>㉕</p>  <p>1.5 Vp-p (V)</p>   | <p>⑳</p>  <p>4.4 Vp-p (H)</p>   | <p>㉓</p>  <p>180 Vp-p (H)</p>    | <p>④①</p>  <p>24 Vp-p (H)</p> |
| <p>②</p>  <p>PAL 0.5 Vp-p (H)</p>   | <p>⑥</p>  <p>PAL 0.4 Vp-p (H)</p>     | <p>⑪</p>  <p>SECAM 0.6 Vp-p (H)</p> | <p>⑮</p>  <p>PAL 0.12 Vp-p (H)</p>  | <p>㉑</p>  <p>1.8 Vp-p (H)</p>   | <p>㉖</p>  <p>9.0 Vp-p (V)</p>   | <p>⑳</p>  <p>90 Vp-p (H)</p>    | <p>㉔</p>  <p>3.8 Vp-p (7MHz)</p> |  |
| <p>③</p>  <p>SECAM 0.5 Vp-p (H)</p> | <p>⑦</p>  <p>SECAM 0.75 Vp-p (H)</p>  | <p>⑫</p>  <p>SECAM 0.6 Vp-p (H)</p> | <p>⑮</p>  <p>1.8 Vp-p (4.43MHz)</p> | <p>㉒</p>  <p>1.8 Vp-p (H)</p>   | <p>㉗</p>  <p>50 Vp-p (H)</p>    | <p>㉔</p>  <p>20 Vp-p (H)</p>    | <p>㉔</p>  <p>100 Vp-p (H)</p>    |  |
| <p>④</p>  <p>1.2 Vp-p (H)</p>     | <p>⑧</p>  <p>SECAM 0.32 Vp-p (H)</p> | <p>⑬</p>  <p>5.8 Vp-p (H)</p>      | <p>⑮</p>  <p>4.2 Vp-p (H)</p>      | <p>㉓</p>  <p>11 Vp-p (V)</p>   | <p>㉘</p>  <p>2.4 Vp-p (H)</p>  | <p>㉔</p>  <p>1000 Vp-p (H)</p> | <p>㉔</p>  <p>95 Vp-p (H)</p>    |  |
| <p>④</p>  <p>PAL 0.3 Vp-p (H)</p> | <p>⑨</p>  <p>SECAM 2.2 Vp-p (H)</p> | <p>⑭</p>  <p>6.0 Vp-p (H)</p>     | <p>⑮</p>  <p>6.6 Vp-p (V)</p>     | <p>㉔</p>  <p>1.8 Vp-p (V)</p> | <p>㉘</p>  <p>4.8 Vp-p (H)</p> | <p>㉔</p>  <p>9.0 Vp-p (H)</p> | <p>㉔</p>  <p>95 Vp-p (H)</p>   |  |



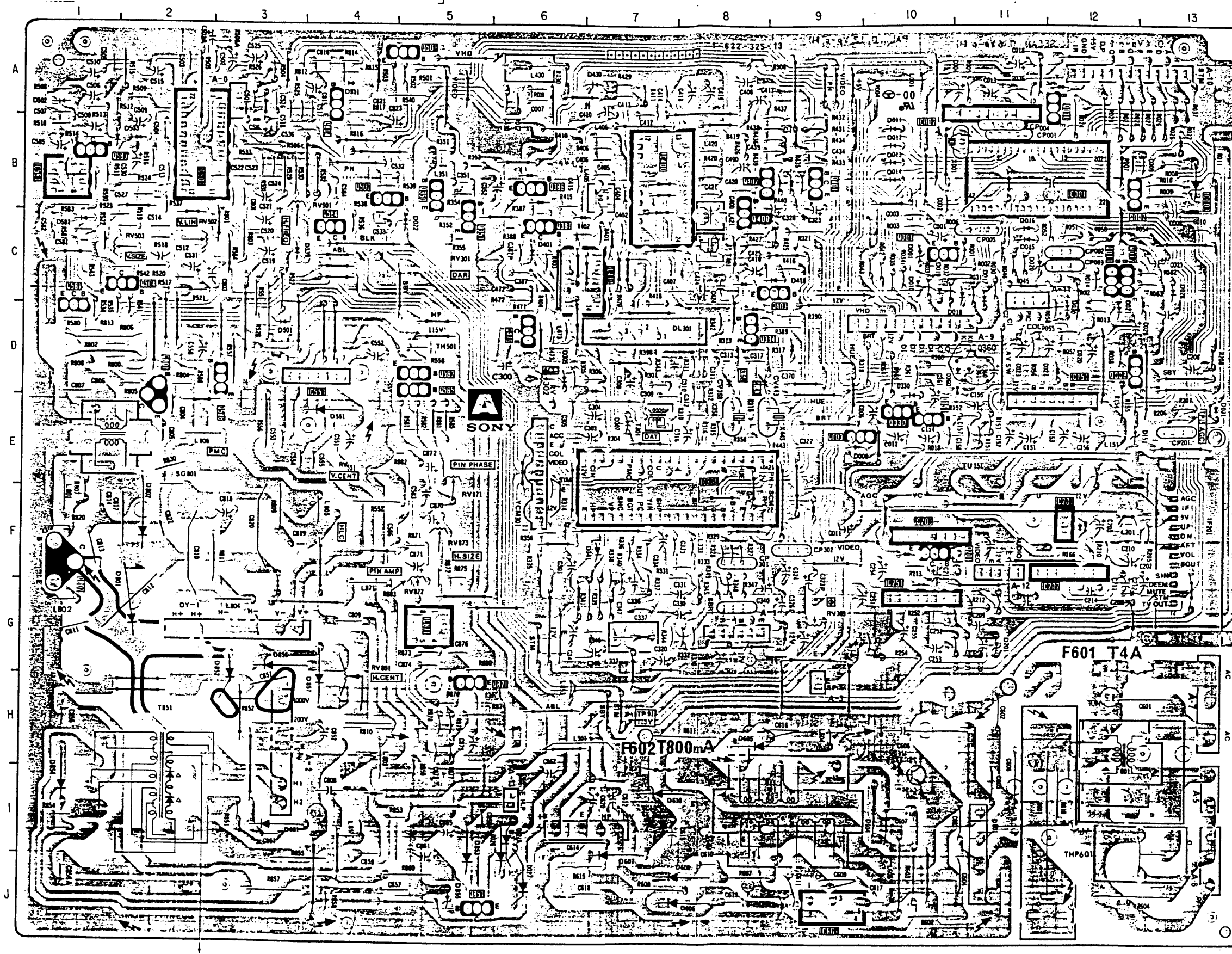
[R·G·B OUT]



# MOUNTING DIAGRAMS

Note: All mounting diagrams are viewed from conductor side.

**A** SYSTEM CONTROL, MEMORY, LIEN RECT, PWM REG  
TU, IF BLOCK, Y/C PROCESS, SECAM DEMO,  
AUDIO AMP, JUNGLE, H.V OUT



| IC         |      |                   |      |
|------------|------|-------------------|------|
| IC001      | B-12 | D018              | C-11 |
| IC002      | A-11 | D020              | C-11 |
| IC003      | B-13 | D021              | D-12 |
| IC151      | D-12 | D022              | C-5  |
| IC201      | F-12 | D026              | J-6  |
| IC251      | G-10 | D027              | J-6  |
| IC300      | E-8  | D028              | C-13 |
| IC400      | B-7  | D030              | D-12 |
| IC470      | C-7  | D151              | E-12 |
| IC501      | B-2  | D201              | G-11 |
| IC551      | D-4  | D305              | D-6  |
| IC581      | B-1  | D307              | E-7  |
| IC601      | J-9  | D330              | D-10 |
| IC871      | G-5  | D339              | C-3  |
| TRANSISTOR |      |                   |      |
| Q001       | C-10 | D341              | F-7  |
| Q002       | B-12 | D401              | C-6  |
| Q003       | E-9  | D416              | C-9  |
| Q008       | D-12 | D430              | A-7  |
| Q010       | A-12 | D501              | D-3  |
|            |      | D502              | A-1  |
| Q011       | C-12 | D503              | B-1  |
| Q012       | C-12 | D551              | E-4  |
| Q151       | E-10 | D581              | C-1  |
| Q201       | F-10 | D601              | I-11 |
| Q330       | E-10 | D604              | I-10 |
| Q360       | D-11 | D605              | H-8  |
| Q400       | C-8  | D606              | J-8  |
| Q401       | B-9  | D607              | I-7  |
| Q402       | B-8  | D608              | J-8  |
| Q403       | C-9  | D610              | I-7  |
| Q470       | D-6  | D801              | G-2  |
| Q501       | A-5  | D802              | F-2  |
| Q504       | D-2  | D811              | A-4  |
| Q581       | D-1  | D851              | I-3  |
| Q583       | B-1  | D852              | H-3  |
| Q586       | D-3  | D853              | J-5  |
| Q801       | D-2  | D854              | I-1  |
| Q802       | F-1  | D855              | J-5  |
| Q804       | A-4  | D856              | G-3  |
|            |      | D857              | H-4  |
| Q851       | J-5  | VARIABLE RESISTOR |      |
| Q871       | H-5  | RV301             | C-5  |
| DIODE      |      | RV302             | D-6  |
| D001       | C-10 | RV303             | G-9  |
| D006       | E-9  | RV501             | B-3  |
| D011       | B-10 | RV502             | C-2  |
| D012       | B-10 |                   |      |
| D013       | B-10 | RV503             | C-1  |
|            |      | RV551             | E-4  |
| D014       | B-10 | RV801             | H-4  |
| D017       | C-11 | RV873             | F-5  |

**H** CUSTOMER CONTROL  
INDICATOR, PROG DISP

