

# SECTION1 SUMMARY

## KEY TO ABBREVIATIONS

|   |            |                                   |
|---|------------|-----------------------------------|
| A | AC         | :Alternating Current              |
|   | ACC        | :Automatic Color Control          |
|   | ACSS       | :Automatic Channel Setting System |
|   | ADJ        | :Adjust                           |
|   | A/E        | :Audio Erase                      |
|   | AFC        | :Automatic Frequency Control      |
|   | AFT        | :Automatic Fine Tuning            |
|   | AGC        | :Automatic Gain Control           |
|   | A.H.SW     | :Audio Head Switch                |
|   | ALC        | :Automatic Level Control          |
|   | AM         | :Amplitude Modulation             |
|   | AMP        | :Amplifier                        |
|   | ANT        | :Antenna                          |
|   | APC        | :Automatic Phase Control          |
|   | ASS'Y      | :Assembly                         |
|   | AUX        | :Auxiliary                        |
| B | B          | :Base                             |
|   | BGP        | :Burst Gate Pulse                 |
|   | BPF        | :Bandpass Filter                  |
|   | BS         | :Broadcasting Satellite           |
|   | BW or B/W  | :Black and White                  |
| C | C          | :Capacitor, Chroma, Collector     |
|   | CAN        | :Cancel                           |
|   | CAP        | :Capstan                          |
|   | CAP.BRK    | :Capstan Brake                    |
|   | CAP.RVS    | :Capstan Reverse                  |
|   | CATV       | :Cable Television                 |
|   | CBA        | :Circuit Board Assembly           |
|   | CCD        | :Charge Coupled Device            |
|   | C.CTL      | :Chro Control, Capstan Control    |
|   | CFG        | :Capstan Frequency Generator      |
|   | CHROMA     | :Chrominance                      |
|   | CNR        | :Chroma Noise Redution            |
|   | COMB       | :Combination                      |
|   |            | Comb Filter                       |
|   | COMP       | :Comparator                       |
|   |            | Composite                         |
|   |            | Compensation                      |
|   | CONV       | :Converter                        |
|   | C.ROT SW   | :Color Rotary Switch              |
|   | CS         | :Chip Selcet                      |
|   | C.SYNC     | :Composite Synchronization        |
|   | CTL DIV    | :Control Divide                   |
|   | CUR        | :Current                          |
|   | CYL        | :Cylinder                         |
| D | D          | :Drum, Digital, Diode, Drain      |
|   | D.ADJ      | :Drum Adjust                      |
|   | DC         | :Direct Current                   |
|   | D.CTL      | :Drum Control                     |
|   | DEMODO     | :Demodulator                      |
|   | DET        | :Detector                         |
|   | DEV        | :Deviation                        |
|   | DHP        | :Double High Pass                 |
|   | DIGITRON   | :Digital Display Tube             |
|   | DL         | :Delay line                       |
|   | DOC        | :Drop Out Compensator             |
|   | DUB        | :Dubbing                          |
|   | D.V SYNC   | :Dummy Vertical Synchronization   |
| E | E          | :Emitter                          |
|   | EE         | :Electric to Eletric              |
|   | EMPH       | :Emphasis                         |
|   | ENA        | :Enable                           |
|   | ENV        | :Envelope                         |
|   | EP         | :Extended Play                    |
|   | EQ         | :Equalizer                        |
|   | EXP        | :Expander                         |
| F | F          | :Fuse                             |
|   | FB         | :Feed Back                        |
|   | FBC        | :Feed Back Clamp                  |
|   | FE         | :Full Erase                       |
|   | FG         | :Frequency Generator              |
|   | FL         | :Filter                           |
|   | FM         | :Frequency Modulation             |
|   | F/R        | :Front/Rear                       |
|   | FS         | :Frequency Synthesizer            |
|   | FSC        | :Subcarrier Frequency             |
|   | F/V        | :Frequency Voltage                |
| G | GEN        | :Generator                        |
| H | H          | :High, Horizontal                 |
| I | IC         | :Integrated Circuit               |
|   | IF         | :Intermediate Frequency           |
|   | INS        | :Insert                           |
| L | L          | :Low, Left, Coil                  |
|   | LD         | :LED                              |
|   | LD VTG CTL | :Loading Voltage Control          |
|   | LECHA      | :Letter Character                 |
|   | L.M        | :Level Meter                      |
|   | LP         | :Long Play                        |

|   |           |                                |
|---|-----------|--------------------------------|
|   | LPF       | :Low Pass Filter               |
| M | MAX       | :Maximum                       |
|   | MD        | :Modulator                     |
|   | MECHA.CTL | :Mechanism Control             |
|   | MIC       | :Microphone                    |
|   | MIN       | :Minimum                       |
|   | MIX       | :Mixer, Mixing                 |
|   | M.M.      | :Monostable, Multivibrator     |
|   | MMV       | :Mono Multi Vibrator           |
|   | MOD       | :Modulation, Modulator         |
|   | MODEM     | :Modulator-Demodulator         |
|   | MPX       | :Multiplex                     |
| N | NR        | :Noise Reduction               |
| O | OSC       | :Oscillator                    |
|   | OSD       | :On Screen Display             |
| P | PB        | :Playback                      |
|   | PCB       | :Printed Circuit Board         |
|   | P.CTL     | :Power Control                 |
|   | PRE-AMP   | :Preamplifier                  |
|   | P.F       | :Power Failure                 |
|   | PG        | :Pulse Generator               |
|   | PLL       | :Phase Locked Loop             |
|   | PREM.DET  | :Premire Detect                |
|   | P.P       | :Peak-to-Peak                  |
|   | PS        | :Phase Shift                   |
|   | PWM       | :Pulse Width Modulation        |
|   | PWR CTL   | :Power Control                 |
| Q | Q         | :Transistor                    |
|   | QH        | :Quasi Horizontal              |
|   | QSR       | :Quick Setting Record          |
|   | QTR       | :Quick Timer Record            |
|   | QV        | :Quasi Vertical                |
| R | R         | :Resistor, Right               |
|   | RE(or RC) | :Remocon, Receiver             |
|   | REC       | :Recording                     |
|   | REC S 'H' | :Record Start 'High'           |
|   | REF       | :Reference                     |
|   | REG       | :Regulated, Regulator          |
|   | REMOCON   | :Remote Control(unit)          |
|   | RF        | :Radio Frequency               |
|   | R/P       | :Record/Playback               |
|   | RTC       | :Reel Time Counter             |
| S | S         | :Serial                        |
|   | S.ACCEL   | :Slow Accel                    |
|   | SAOP      | :Second Audio Program          |
|   | SC        | :Scart, Simulcast              |
|   | S.DET     | :Secam Detect                  |
|   | SH        | :Shift                         |
|   | SHARP     | :Sharpness                     |
|   | SIF       | :Sound Intermediate Frequency  |
|   | SLD       | :Side Locking                  |
|   | S/N       | :Signal to Noise Ratio         |
|   | SP        | :Standard Play                 |
|   | ST        | :Stereo                        |
|   | SUB       | :Subtract, Subcarrier          |
|   | SW or S/W | :Switch                        |
|   | SYNC      | :Synchronization               |
|   | SYSCON    | :System Control                |
| T | T         | :Coil                          |
|   | TP        | :Test Point                    |
|   | TR        | :Transistor                    |
|   | TRK       | :Tracking                      |
|   | TRANS     | :Transformer                   |
|   | TU        | :Tuner, Take-up                |
| U | UHF       | :Ultra High Frequency          |
|   | UNREG     | :Unregulated                   |
| V | V         | :Volt, Vertical                |
|   | VA        | :Always Voltage                |
|   | VCO       | :Voltage Controlled Oscillator |
|   | VGC       | :Voltage Gain Control          |
|   | VHF       | :Very High Frequency           |
|   | V.H.SW    | :Video Head Switch             |
|   | VISS      | :VHS Index Search              |
|   | VPS       | :Video Program System          |
|   | VR        | :Variable Resistor or Volume   |
|   | V-SYNC    | :Vertical Synchronization      |
|   | VTG       | :Voltage                       |
|   | VV        | :Voltage to Voltage            |
|   | VXO       | :Voltage X-tal Oscillator      |
| W | W         | :Watt                          |
|   | WHT       | :White                         |
|   | W/O       | :With out                      |
| X | X-TAL     | :Crystal                       |
| Y | Y/C       | :Luminance/Chrominance         |
|   | YNR       | :Luminance Noise Reduction     |
| Z | ZD        | :Zener Diode                   |

# IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, the products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

## • Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.
2. Parts identified by the  $\triangle$  symbol and shaded (  $\nabla$  ) parts are critical for safety.  
Replace only with specified part numbers.  
Note : Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.
3. Use Specified internal wiring. Note especially:
  - 1) Double insulated wires
  - 2) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
  - 1) Insulation Tape
  - 2) PVC tubing
  - 3) Spacers
  - 4) Insulation sheets for transistor
5. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)
6. Check that replaced wires do not contact sharp edged or pointed parts.
7.
  - 1) When a power cord has been replaced, check that A mark is made on the cord, under strain, near the aperture, and the flexible cord is subjected 100 times to a pull of 40N for a duration of 1 second each.
  - 2) During the test, the cord shall not be displaced by more than 2mm
8. Also check areas surrounding repaired locations.

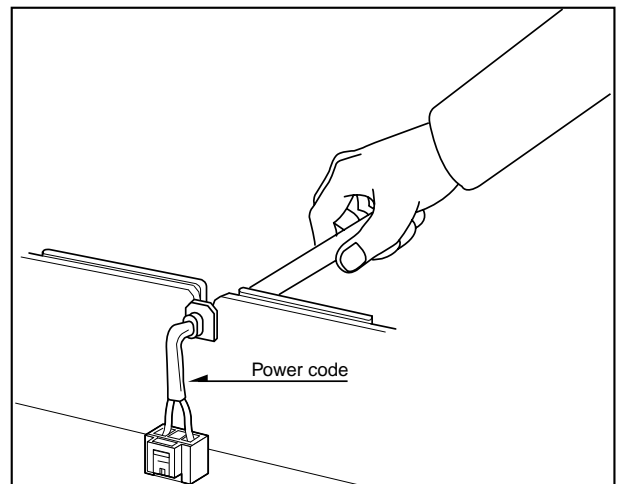


Fig. 1

# SAFETY CHECK AFTER SERVICING

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

## • Insulation resistance test

confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, incrophone jacks, earphone jacks, etc.) See table below.

## • Dielectric strength test

Confirm specified dielectric strength or greater between power cord prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, incrophone jacks, earphone jacks, etc.) See table below.

## • Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table below.

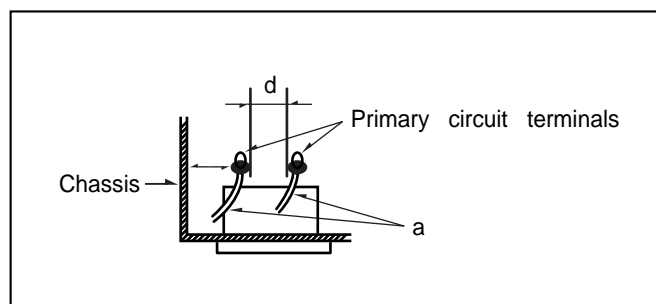


Fig. 2

Table 1 : Ratings for selected areas

| AC Line Voltage               | Region              | Insulation Resistance | Dielectric Strength | Clearance Distance(d),(d')             |
|-------------------------------|---------------------|-----------------------|---------------------|--|
| *100 to 130 V<br>200 to 240 V | Europe<br>Australia | ≥ 10 MΩ/500 V DC      | 4kV 1 minute        | ≥ 6mm(d)<br>≥ 8mm(d)<br>(a Power cord) |

\* Class II model only.

Note. This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

## • Leakage Current test

Confirm specified or lower leakage current between B(earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.)

Measuring Method: (Power ON)

Insert load Z between B(earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure and following table.

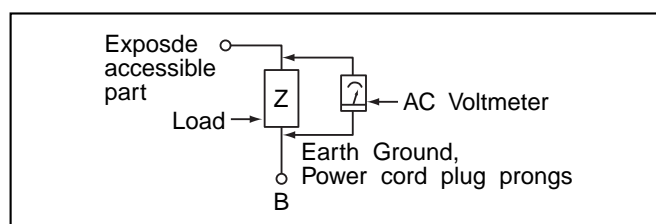


Fig. 3

Table 2: Leakage current ratings for selected areas.

| AC Line Voltage | Region    | Load Z | Leakage Current(i)             | Earth Ground (B) to :   |
|-----------------|-----------|--------|--------------------------------|-------------------------|
| 100 to 130 V    | Europe    | 2kΩ    | i ≤ 0.7m A peak<br>i ≤ 2m A DC | Antenna earth terminals |
| 200 to 240 V    | Australia | 50kΩ   | i ≤ 0.7m A peak<br>i ≤ 2m A DC | Other terminals         |

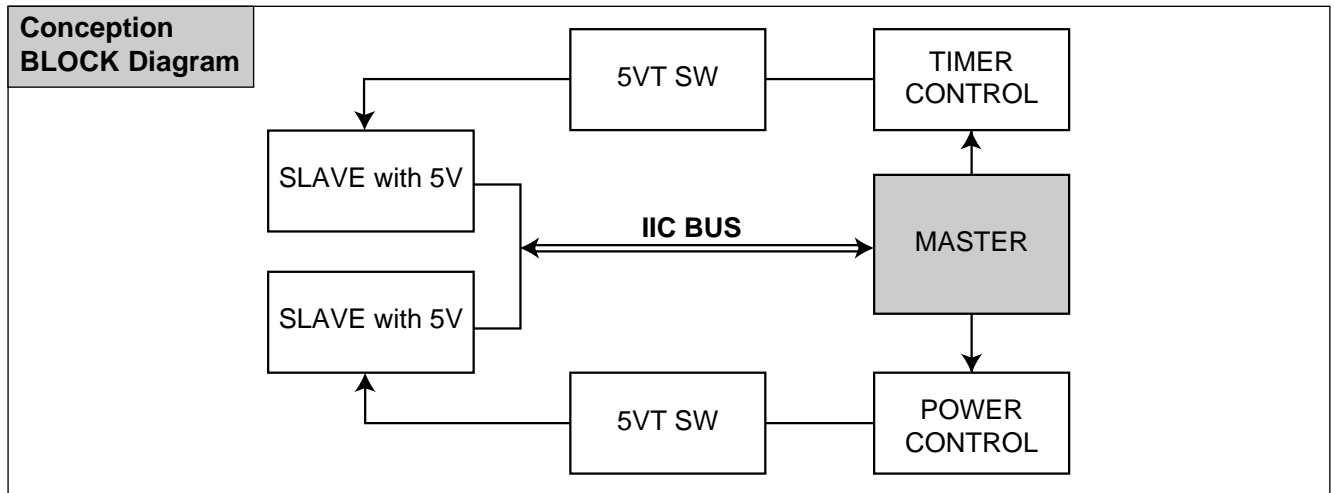
Note. This table is for IEC member only. Be sure to confirm the precise values for your particular country and locality.

# PROPOSAL FOR APPLYING SHORT PROTECTION

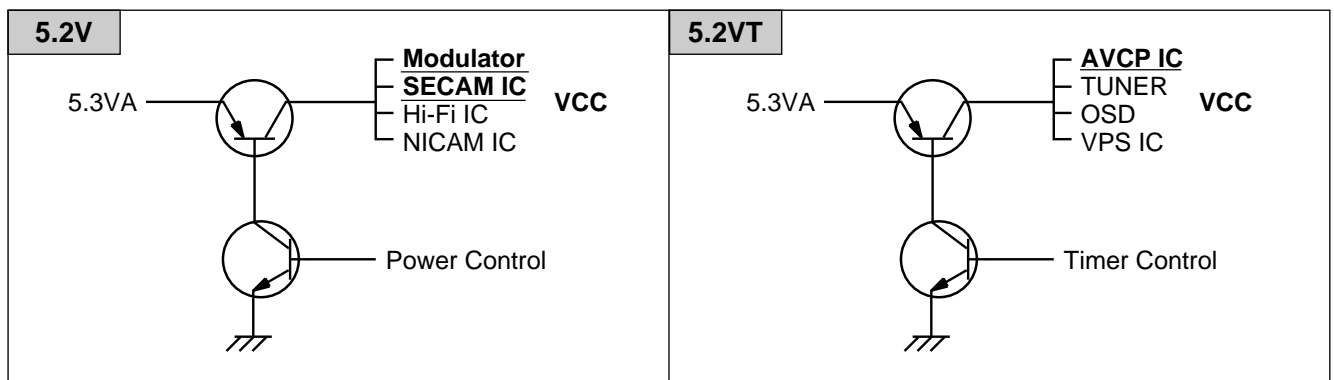
## • The Contents of Examination

As all the IC that is applied to VCR is controlled by IIC, mutual communication, if Vcc of IC is short or open with detecting 'Acknowledge' data of the specific IC according to each power(5V, 5VT)  $\mu$ -COM gets unable to detect 'ACK' data.

$\mu$ -COM regards this case as abnormal one and if it can't detect 'ACK' data for a certain time(3.5 sec) the signal of 'Power Control' and 'Timer Control' are switched to 'Low'. As a result POWER Switching TR is kept from generating heat and fire.



## • POWER for each IC



• IC to detect 'ACK' data is selected as below because IC is different in accordance to region and option

|        |           |           |
|--------|-----------|-----------|
| S/     | 5V POWER  | SECAM IC  |
| Series | 5VT POWER | AVCP IC   |
| P/Y/I  | 5V POWER  | Modulator |
| Series | 5VT POWER | AVCP IC   |

\*Short protection off mode : DJ01 Diode in

# SERVICE NOTICE ON REPLACING EEPROM

In case that defective EEPROM of PAL models is replaced, to operate these sets from the initial state MP KEY must be repaired as well before delivering to the customer.

If MP KEY isn't repaired the setting of RF OUT channel or LANGUAGE might be different from that for customer's country.

•**MP KEY** : In case of PAL VCR if holding the REC button on the front panel and the CLEAR button on the remote control handset for 5 ~ 7 seconds with power being switch all and no tapes, OK is displayed at FLD for FLD models and LED becomes on for LED CLOCK models.

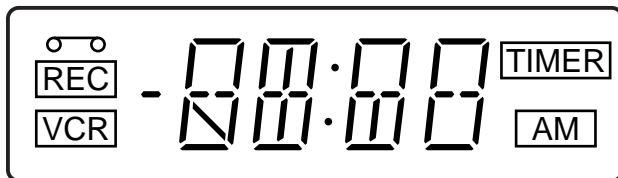
This is the state that initializing EEPROM is finished.

(In case of PAL VCP if holding the REC button on the front panel and the MENU button on the remote control handset for 5 ~ 7 seconds with power being off and no tapes, All the LED DOTs become on. This is the state that initializing EEPROM is finished.)

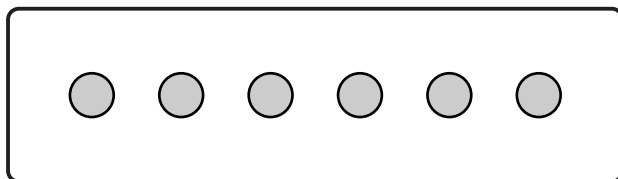
•**MP KEY's function** : MP KEY sets EEPROM's data up to the initial state.



• **FLD MODEL:**  
MP KEY "OK"



• **LED CLOCK MODEL:**  
MP KEY Switch all on a Light



• **LED DOT MODEL:**  
MP KEY Switch all on a Light