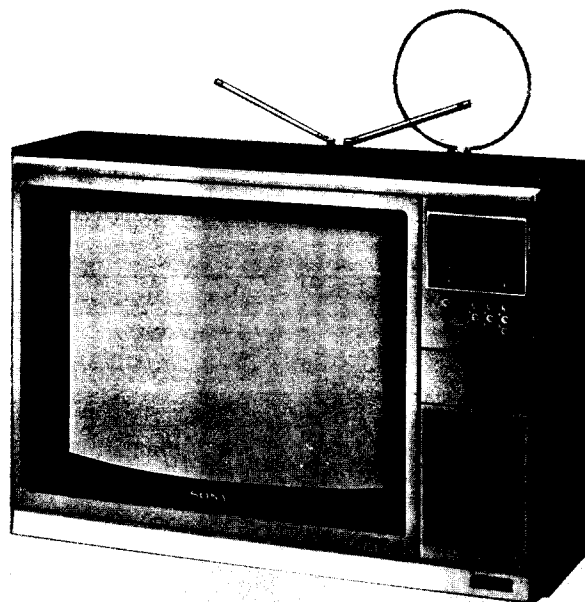


KV-2145R

RM-701

US Model

Chassis No. SCC-355A-1




TRINITRON® COLOR TV

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 TO 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 TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

SPECIFICATIONS

Television System:	American TV standards
Color System:	NTSC
Picture Tube:	53.3 cm, 21" (screen measured diagonally), 114° deflection TRINITRON system
Antennas:	VHF: 75 Ω unbalanced UHF: 300 Ω balanced
Channel Coverage:	VHF channels: 2 – 13 UHF channels: 14 – 83 CATV mid-band channels A – I super-band channels J – W
Intermediate Frequencies:	Picture i-f carrier: 45.75 MHz Color subcarrier: 42.17 MHz Sound i-f carrier: 41.25 MHz
Sound System:	4.5 MHz intercarrier Output power: 2W (at 10 % harmonic distortion) Speaker: 10 cm (4 inches) dia, 8 Ω x 2
Video System:	R, G, B cathode drive

— Continued on page 2 —



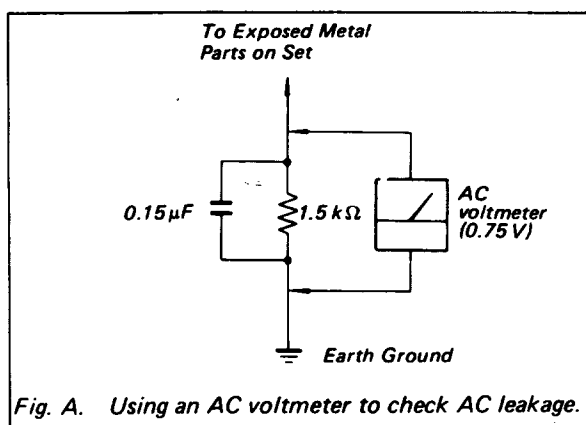
SONY

SERVICE MANUAL

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 contact 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 cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any).
Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.



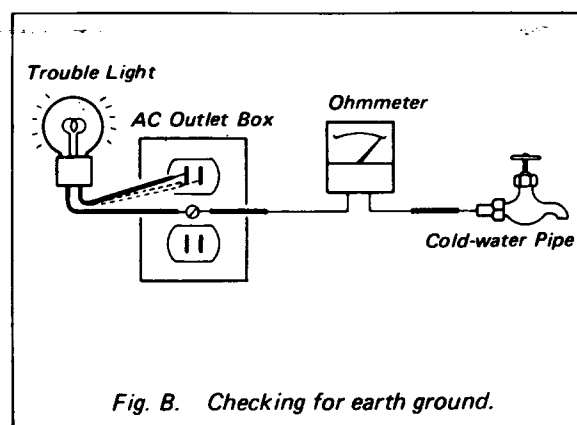
LEAKAGE TEST

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 instruments.
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 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

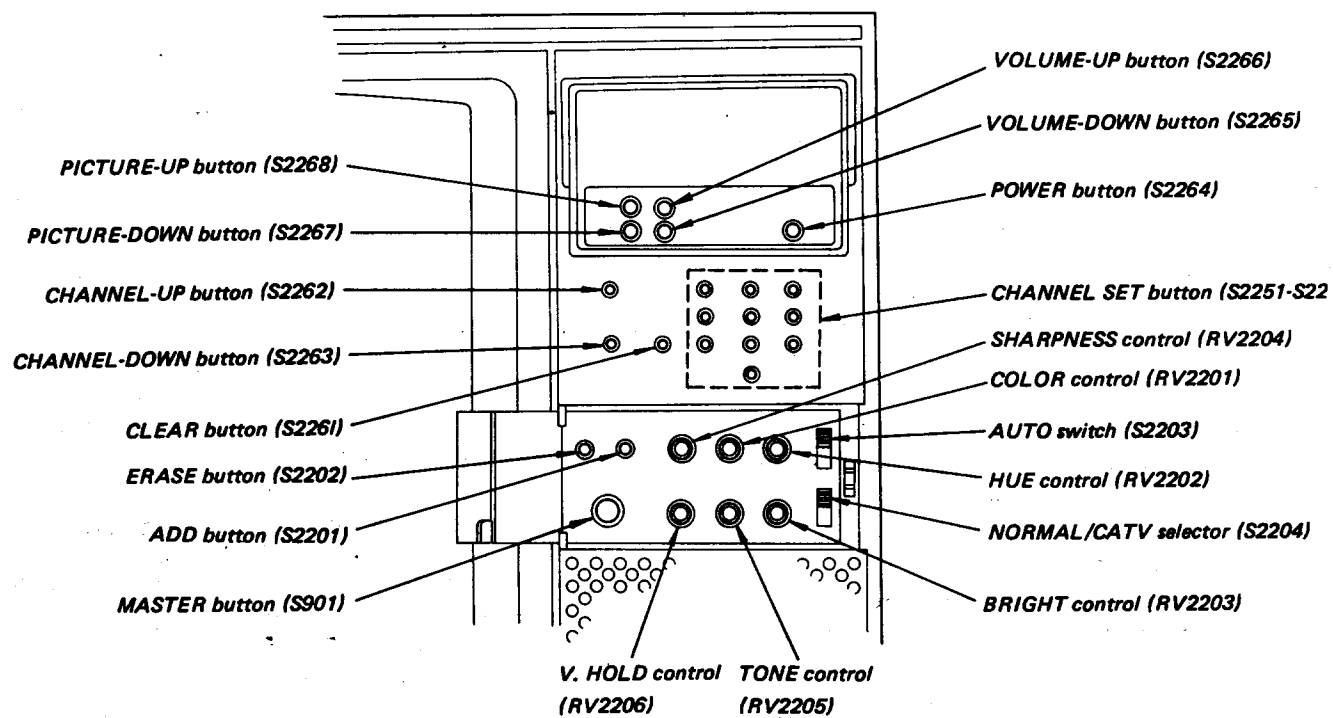
A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts 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 of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)



SECTION 1

OUTLINE

1-1. LOCATION OF CONTROLS



Automatic Controls: ABL (automatic brightness limiter)
ACC (automatic color control)
ACK (automatic color killer)
ADG (automatic degaussing)
AFC (automatic frequency control)
AFT (automatic fine tuning)
AGC (automatic gain control)
ANC (automatic noise canceller)
AVR (automatic voltage regulator)

Anode Voltage: 25 kV at zero beam current

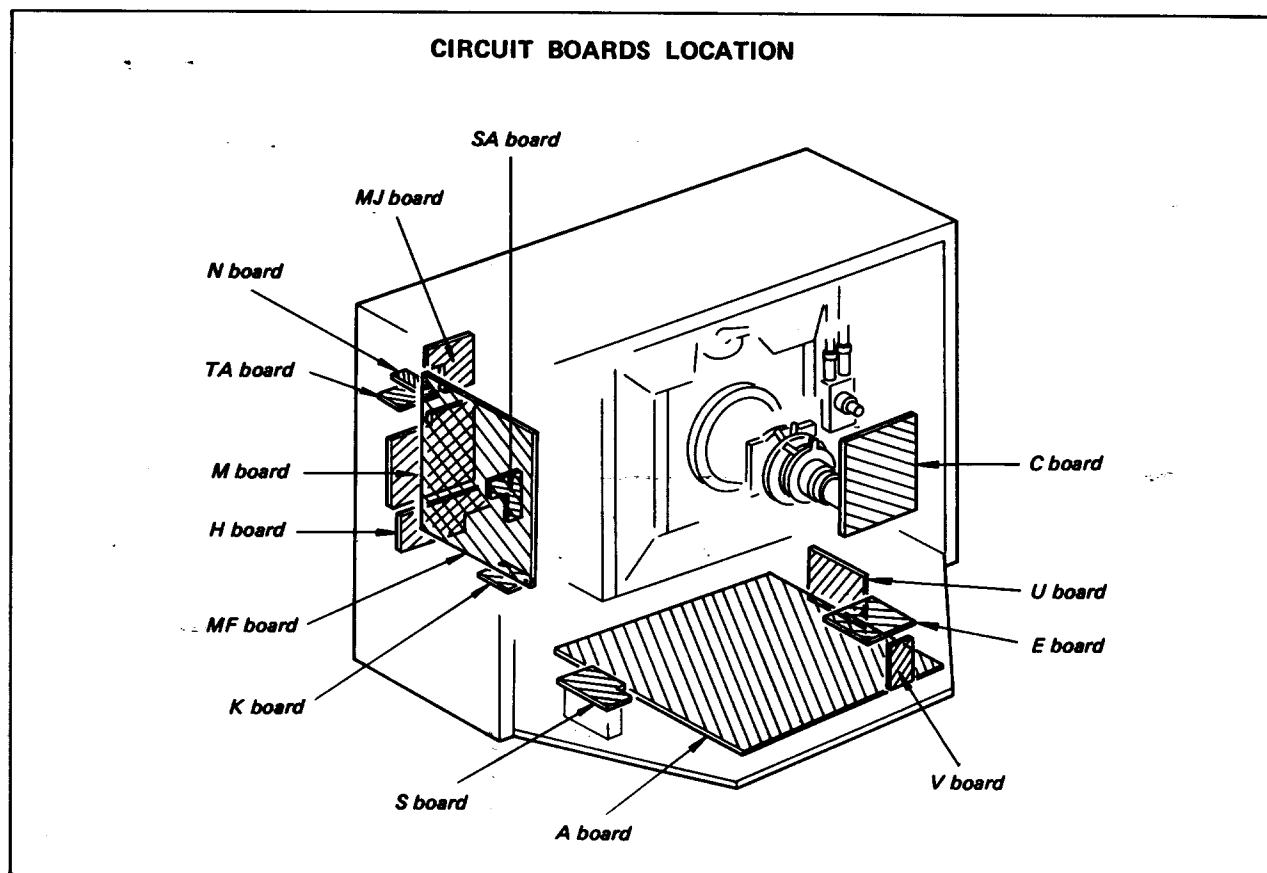
Power Requirements: 120 V ac, 60 Hz

Power Consumption: 160 W (max)
106 W (average)

Dimensions: Approx. 729 (w) x 511 (h) x 453 (d) mm
28 3/4 (w) x 20 1/8 (h) x 17 7/8 (d) inches

Net Weight: Approx. 35.5 Kg (78 3/8 lbs)

Accessories Supplied: Remote commander (RM-701)
Instruction manual
Earphone (ME-20B)
VHF dipole antenna (AN-16)
UHF loop antenna (AN-15)
Battery (SUM-3)



CABLE TV OPERATION (PANEL OPERATION)

In CATV (cable television) systems, programs are brought into the home on the mid-band channels A—I and the super-band channels J—W.

This TV receives CATV channels, A through W, with the NORMAL/CATV selector set to CATV.

Channel A can be tuned in by selecting number 14 on this TV, channel B by selecting number 15, and so on, as follows:

Number on this TV	14	15	16	17	18
Corresponding CATV channel	A	B	C	D	E

19	20	21	22	23	24	25	26	27
F	G	H	I	J	K	L	M	N

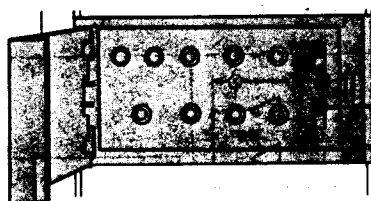
28	29	30	31	32	33	34	35	36
O	P	Q	R	S	T	U	V	W

Most CATV systems use letters to designate channels but some use numbers. To tune in a numbered channel, select the same number on the TV.

Consult your local cable TV company or your nearest Sony dealer to find out which of these channels are receivable and which type of cable system is used in your area. (Pay cable TV systems use scrambled or encoded signals and require special converters.)

CATV programs are tuned in the same way as normal TV programs except for the NORMAL/CATV selector setting. Read pages 8–11 to familiarize yourself with TV operation.

- ① Set the NORMAL/CATV selector to CATV.

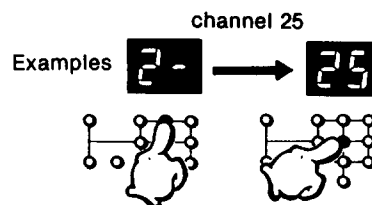


NORMAL/CATV selector
receivable channels
NORMAL: 2-13, 14-83
CATV: 2-13, A-W

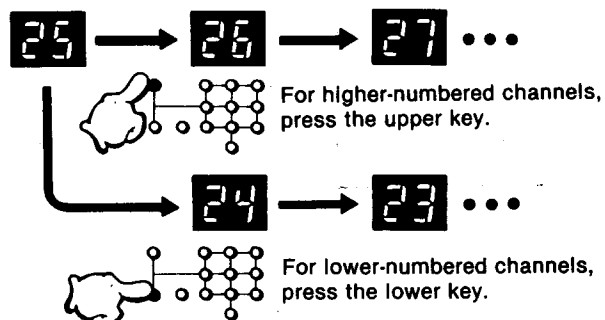
- ② Press in the MASTER button.
- ③ Press the POWER key.

- ④ Select the desired channel either by

pressing the number keys:



— or by scanning higher or lower for the channel among the prememorized channels with the CHANNEL keys.



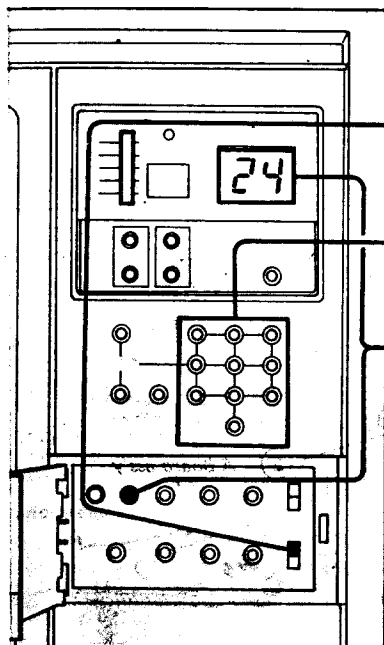
- ⑤ Adjust the sound volume with the VOLUME keys.
- ⑥ Adjust the picture contrast with the PICTURE keys.

Operating note

It may take a little longer to tune in the desired CATV channels than a normal TV channel.

HANNEL PRESETTING — How to preset the channels to be scanned with the channel keys

Your TV has been set at the factory to receive VHF channels 2 through 13 in sequence when you press the CHANNEL keys. You can add UHF or CATV channels and erase inactive VHF channels so that only the channels available in your area will appear in the sequence.



To add UHF or CATV channels

- 1 Set the NORMAL/CATV selector to NORMAL for UHF and to CATV for CATV channels. (Either position will do for VHF.)
- 2 Select the channel number to be added with the number keys.
- 3 Press the ADD button.



Channel indicator

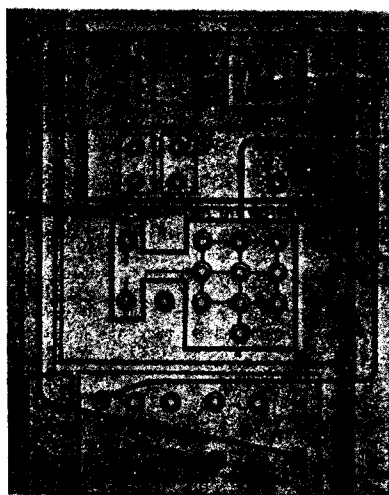
Number of
channel added

This channel
has now been
added.

REPEAT THE ABOVE FOR ALL THE CHANNELS TO BE ADDED.
The channels will be entered in numerical sequence regardless of the adding sequence.

If you have any problem on CATV channel presetting, consult the CATV company in your area.

To erase inactive channels



- 1 Set the NORMAL/CATV selector to NORMAL for UHF and to CATV for CATV channels. (Either position will do for VHF.)
- 2 Select the channel to be erased with the CHANNEL key or number keys.
- 3 Press the ERASE button.



Channel indicator

Number of
channel
erased

This channel
has now been
erased.

REPEAT THE ABOVE FOR ALL THE CHANNELS TO BE ERASED.

Operating note:

It is not possible to erase a UHF channel memory and retain the CATV channel of the same number in the memory, or vice versa. If either the UHF channel or the CATV channel of the same number is to be kept in the memory, do not erase the number.