

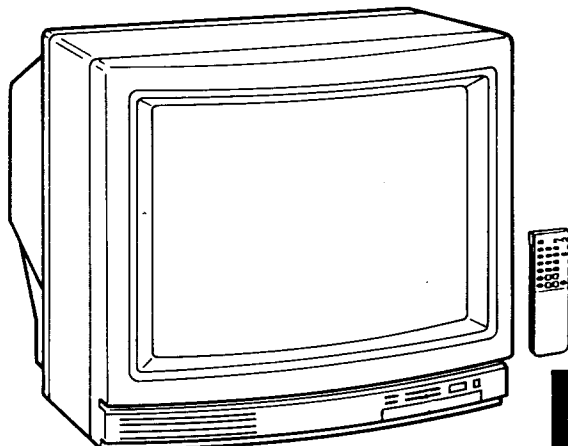
KV-27TR21

RM-744

SERVICE MANUAL

US Model

Chassis No. SCC-A05W-A



P-3A CHASSIS

Note: The service manual for RM-744 has been issued separately.

MODELS OF THE SAME SERIES

KV-27TR21	

SPECIFICATIONS

Television system American TV standards
Channel coverage VHF: 2-13
UHF: 14-69
Cable TV: 1-125

Picture tube Microblack Trinitron tube
27-inch picture measured diagonally
28-inch picture tube measured diagonally

Input VIDEO INPUT (phono jacks)
Video: 1 Vp-p, 75-ohms
unbalanced, sync negative
Audio: 500 mVrms
(100% modulation)
Impedance: 47 kilohms

Output MPX OUT (phono jack)
77.5 mVrms (main channel, 1 kHz
100% modulation)
Impedance: 10 kilohms

Power requirements 120 V AC, 60 Hz
Power consumption 155W (max.)
5W (in standby condition)

Accessories supplied Remote Commander RM-744
with 2 size AA batteries
Antenna connector

Optional accessories U/V mixer EAC-66
Connecting cord VMC-710M/720M

Design and specifications subject to change without notice.



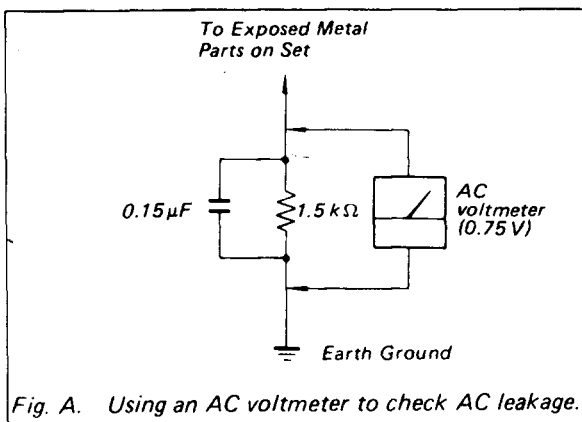
TRINITRON® COLOR TV

SONY®

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 2V 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)

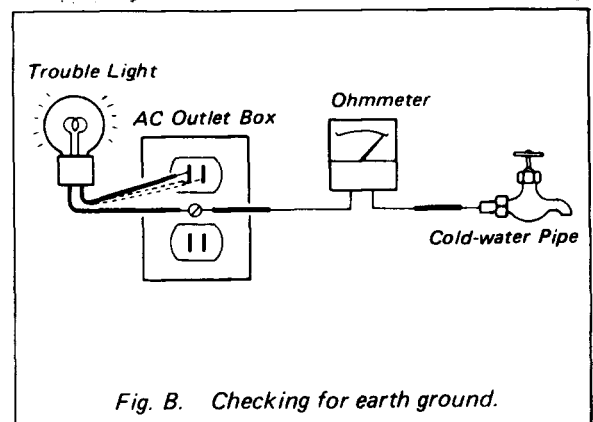


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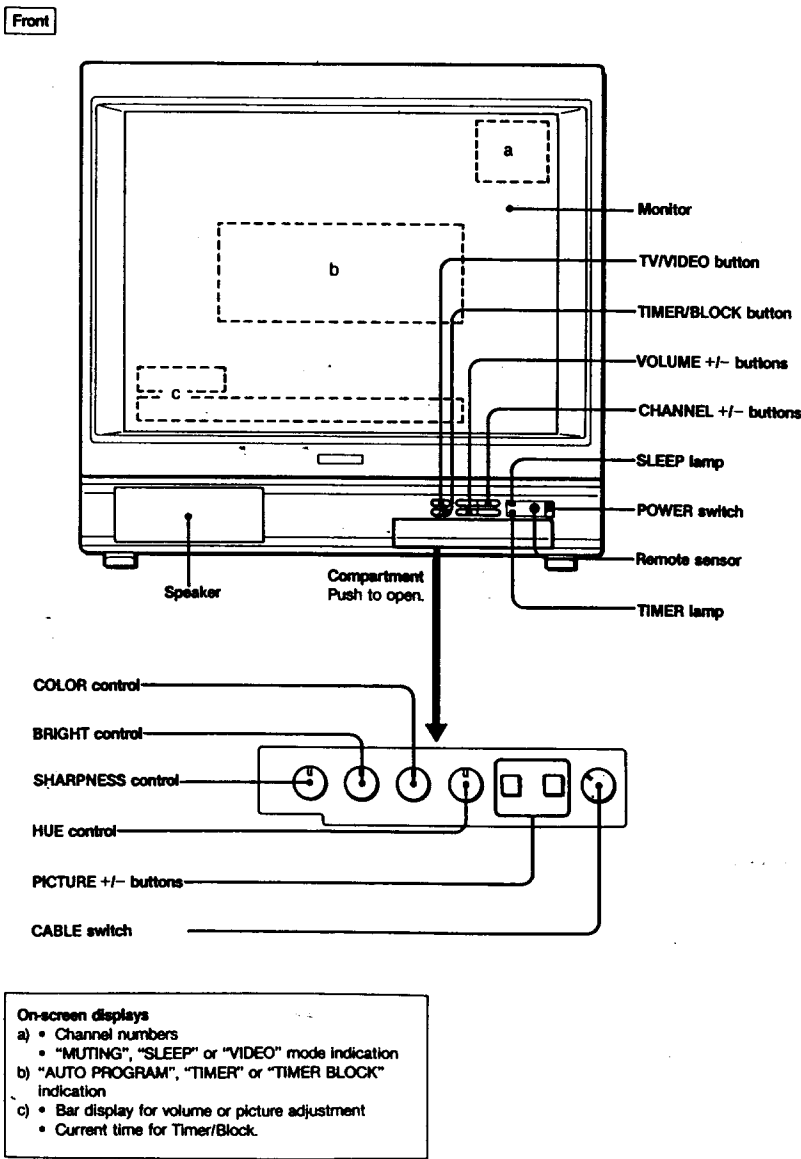
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WARNING !!
CAUTION SHOULD BE USED
TO AVOID POSSIBLE SHOCK
TO THE CHASSIS.
THE RECEIVER IS DIRECTLY CON-
NECTED TO THE POWER LINE.

IMPORTANT COMPONENT WARNING !!
COMPONENTS IDENTIFIED BY SHADING AND MARK
IN SCHEMATIC DIAGRAMS, EXPLODED
VIEW PARTS LIST ARE CRITICAL TO
THE PROPER OPERATION OF THE TV. REPLACE THESE COMPONENTS
ONLY WHEN NECESSARY. PART NUMBERS APPEAR
IN THIS MANUAL OR IN SUPPLEMENTS
TO THIS MANUAL. FOLLOW THESE PROCEDURES.
NEVER CRITICAL COMPONENTS ARE
IMPROPER OPERATION IS SUSPECTED.

SECTION 1
GENERAL

1-1. LOCATION OF CONTROLS

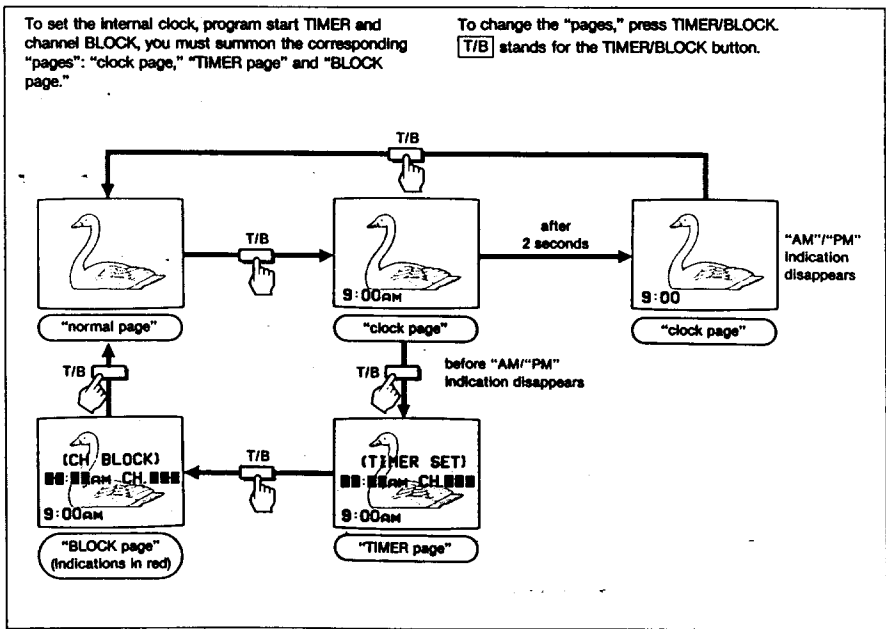


SECTION 1
GENERAL

1-2. TIMER/BLOCK

Available functions	
Internal clock	Once the internal clock is set, the current time will appear on the screen. It is necessary to set the clock correctly to activate the program start TIMER and channel BLOCK.
Program start TIMER	Makes a program of your choice appear on the screen automatically at the desired time.
Channel BLOCK	Blocks a channel from appearing on the screen for 12 hours. Use channel BLOCK to prevent children from watching undesirable programs.

The buttons used for the above functions are located on the Remote Commander.

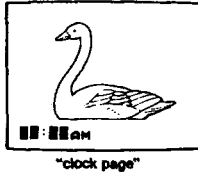


- All settings will be erased from the unit's memory if the unit is unplugged, or if a power failure occurs.
- The TIMER and BLOCK will operate only if the clock is set correctly.
- If the TIMER and BLOCK are set for overlapping times on the same channel, the blocked channel will appear on the screen at the time set on the TIMER.

How to Set the Internal Clock

Example: To set the clock to 8:05 PM

- 1 Press TIMER/BLOCK once to change from "normal page" to "clock page."



- 2 Press 0, 8, 0, 5, AM/PM (if necessary).



- 3 If you have performed the operation correctly, press ENTER. The numbers will "wink" to indicate that the clock has been set. (The 0 in front will disappear.)



If you have made a mistake, press CLEAR and return to step 2.

The "AM/PM" indication will disappear after 2 seconds.

To summon "TIMER page," press TIMER/BLOCK before the "AM"/"PM" indication disappears.
To return to "normal page," press TIMER/BLOCK after the "AM"/"PM" indication has disappeared.

To reset the clock, summon "clock page" and press CLEAR before the "AM"/"PM" indication disappears. Then follow the steps above from step 2.

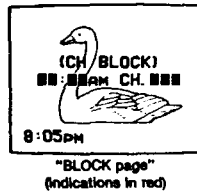
12:00 AM stands for midnight.
12:00 PM stands for noon.

How to Set the Channel BLOCK

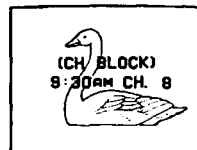
Make sure that the clock has been set correctly before setting the channel BLOCK.

Example: To set the BLOCK for a program which begins at 8:30 AM on channel 8

- 1 Press TIMER/BLOCK three times to change from "normal page" to "BLOCK page."



- 2 Press 0, 9, 3, 0, ENTER (if necessary). Numbers will "wink" to indicate that the time has been set. Press 8, ENTER (if not necessary). Numbers will "wink" to indicate that the channel has been set.



The BLOCK has now been set.

If you have made a mistake, press CLEAR and return to step 2.

At the preset time, the picture of the selected channel will be blocked from view and the sound will be muted. A red "BLOCKED" indication will appear on the screen while the channel is blocked.
Normal reception will be resumed after 12 hours.

To return to normal reception while the channel is blocked, recall "BLOCK page" and press CLEAR.

The BLOCK setting blocks a specified channel for the same 12-hour period everyday.

To clear BLOCK setting, summon "BLOCK page" and press CLEAR.

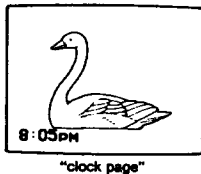
To reset, clear the setting and follow the steps above from step 2.

How to Set the Program Start TIMER

Make sure that the clock has been set correctly before setting the program start TIMER.

Example: To set the TIMER for a program which begins at 10:30 PM on channel 12

- 1 Press TIMER/BLOCK once to change from "normal page" to "clock page."

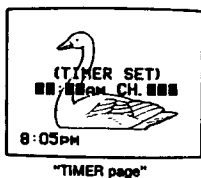


The TIMER lamp will light up to indicate that the TIMER has been set.

If you have made a mistake, press CLEAR and return to step 3.

At the preset time, the selected channel will appear on the screen and the TIMER lamp will go out. The TIMER will operate whether you are watching a TV program or a VCR playback, or even if you have turned off the TV.

- 2 Press TIMER/BLOCK before the "AM"/"PM" indication disappears and summon "TIMER page."

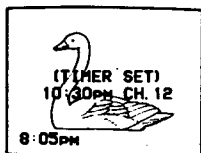


If no button is pressed within 2 hours after the preset time, an "OFF" indication will appear on the screen for 1 minute. If a button is still not touched during the 1 minute, the TV will turn off automatically as a safety precaution.

- 3 Press 1, 0, 3, 0, AM/PM, ENTER. Numbers will "wink" to indicate that the time has been set.



- 4 Press 1, 2, ENTER (if not necessary). Numbers will "wink" to indicate that the channel has been set.



The TIMER operates only once, but the time and the channel will remain in the unit's memory. If you want to preset the same channel at the same time for a future date, press TIMER OFF/REPEAT. The TIMER lamp will light up to indicate that the TIMER has been reactivated.

If you want to deactivate the TIMER, press TIMER OFF/REPEAT again so that the TIMER lamp goes out.

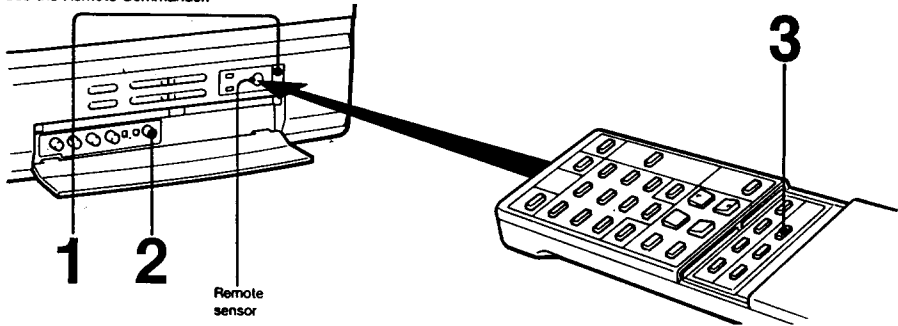
It is not necessary to summon "TIMER page" to use the TIMER OFF/REPEAT button. Furthermore, this button is effective even if the TV has been turned off.

To clear the TIMER setting, summon "TIMER page" and press CLEAR.

To reset, clear the setting and follow the steps from step 3.

1-3. PRESETTING TV CHANNELS

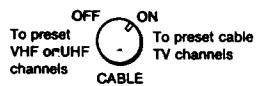
Use the Remote Commander.



1 Turn the TV on.



2 Set CABLE to the correct position.



3 Press AUTO PROG.



"AUTO PROGRAM" is displayed on the screen and receivable channels (other than the channels already preset) will be preset in numerical sequence. The channels previously preset remain in the unit's memory. When no more channels can be found, the programming stops and the lowest numbered channel is displayed.



Receivable channels of this TV are:

VHF: 2-13
UHF: 14-69
Cable: 1-125

To check preset channels
Press CHANNEL +/-.

To add the channels that could not be preset with this automatic programming because their signal strength was too weak, or to erase unnecessary channels, follow the steps in "To preset only the desired channels" on the next page.