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Sony Service Company
National Technical Services
A Division of Sony Electronics Inc.
Park Ridge, New Jersey 07656

Service Bulletin TV Products

Model: KP-41T15, -46S15, -53S15, -46V25, -53V25,
KP-61V25, -53XBR45, -61XBR48

No. 305

Subject: Updated Operating Information for
Registration Control Jig

Date: July 25, 1996

Symptom:

(**)

If the unit has older version of Micro, Red or Blue Centering will be jumping when you touch Centering key and can not be saved.
Some early units used older version of Micro. These units have a different adjustment procedure for Red and Blue Centering.

If you lost the Instruction Manual, this Service Bulletin also contain regular procedure. Please use this service bulletin for your reference.

Part Number for Registration Control Jig:

DESCRIPTION	PART NUMBER
REGISTRATION CONTROL JIG	T-9985-723-1

Serial Number Range for New Micro (IC002) on the M board:

Micro (IC002) had been updated from the following serial number.

MODEL	FORMER MICRO	NEW MICRO	PART NUMBER	SERIAL NUMBER
KP-41T15	CXP-85332A-033S	CXP-85332A0465	8-752-867-91	9011501 ~
KP-46S15	CXP-85332A-033S	CXP-85332A0465	8-752-867-91	9003401 ~
KP-53S15	CXP-85332A-033S	CXP-85332A0465	8-752-867-91	9002901 ~
KP-46V25	CXP-85332A-033S	CXP-85332A0465	8-752-867-91	9000401 ~
KP-53V25	CXP-85332A-033S	CXP-85332A0465	8-752-867-91	9000901 ~
KP-61V25	CXP-85332A-033S	CXP-85332A0465	8-752-867-91	9000301 ~

If serial number of the unit is below the above serial number, the unit has the older version of the Micro.

However, you do not need replace the Micro for adjustment. Please refer to the section Operating Procedure for Older Version of Micro.

Operating Information for New Micro:

cont.

Reference: TV Tech. Tommy



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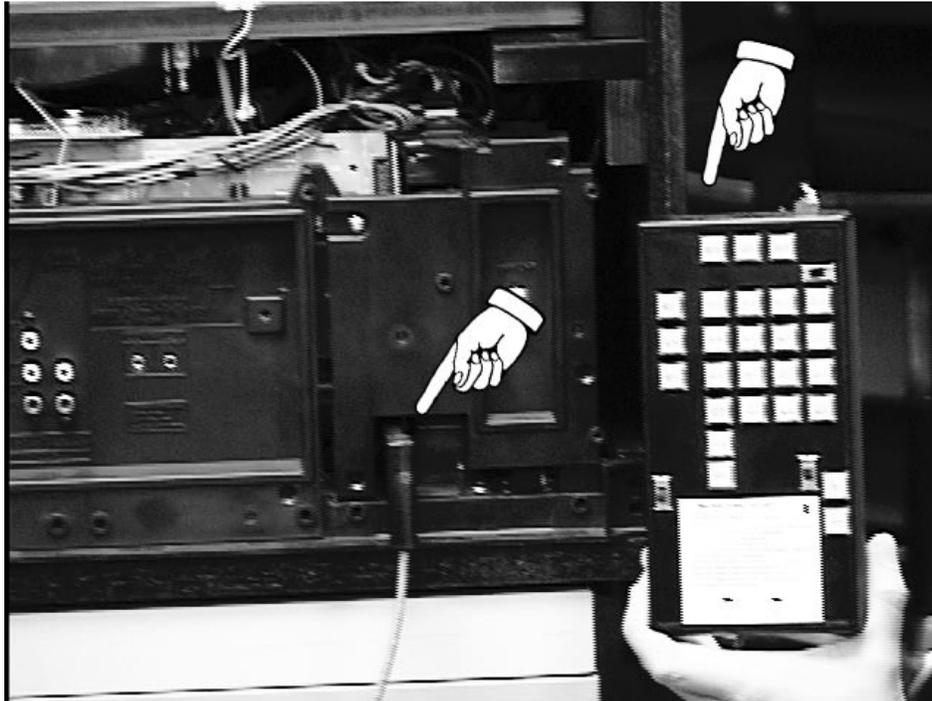
Note: This procedure is same as supplied instruction.

1. General Description

The Registration Control Jig can be used to adjust sub-deflection with listed models. The jig communicates to the registration microprocessor and registration non-volatile memory through the I² C Serial Bus. The jig can be powered from a 9V DC battery or external 9V AC adapter (Center positive type, 100 mA output required).

Before beginning the adjustment, the rear cover of the TV must be removed in order to connect the control cable to the unit. The interface of I² C Serial Bus connector is located on M board. The Interface connector can be accessed from the back. (You can see it between antenna terminals and Video input/output terminals. You do not need to remove any parts from chassis.)

2. Hook up of Registration jig



cont.

3. General Operating Procedure

Basic Procedure:

1. Connect a signal generator to the Video 1 input and set it to a cross hatch pattern or other suitable pattern for conducting registration adjustment. Set picture level to middle of the bar display from the customer menu screen.
2. Turn OFF the Projection TV. Place the TV into the service mode by pressing the "Display", "5", "Volume +" and "Power" keys in sequence on the Remote. (Please refer to the Adjustment Manual for further information.)
3. Center the user convergence adjustments by pressing the "8" and "Enter" key in sequence while in the service mode.

The unit will automatically shut off and turn on again itself with RF channel reception and PIP.

Turn OFF PIP screen from the remote and re-select Video 1 input to receive the generator signal.

This is necessary because the jig does not read the user convergence adjustment. It just assumes that it is 0 (Zero). If the user convergence adjustment was on one end of the range, it would limit the users range after the registration adjustment was complete.

4. Turn the jig ON before connecting it to the unit use either 9V battery or AC adapter.

Caution: Connecting and Disconnecting the jig from the unit with the power off can cause errors or lockup in the registration control.

They can be corrected by disconnecting the jig and cycling the AC power to the TV (Unplug and Replug AC cord).

5. Connect the control cable between the jig and unit.

6. Set the RA-1/XBR switch to the proper location. (For non XBR models, select RA-1 position.) RA-1 and XBR registration data is stored at different memory address locations.

7. Set the interrupt switch on the jig to INT position and press the Read switch.

If the switch is in the Non-interrupt position, the jig will wait until the switch is placed in the Interrupt position. If the switch is in the Interrupt position the jig will drive the interrupt line low and read the RA-1/XBR switch. It then reads the unit's existing registration data into the jig. The LED of Center adjustment key will light after the registration data is read into the jig.

8. You can now adjust Red horizontal center or select any possible 90 adjustments.

Adjustments can be made by pressing the Plus key (+) to move right or up or press the minus (-) key to move down or to the left.

Note: If the Red or Blue cross hatch jumps to the right or left when you adjust centering, your TV contains an older version of Micro, but you do not need to replace the Micro.

Please refer to Operating Procedure for Older Version of Micro in this Service Bulletin.

9. If you are satisfied with your adjustments you can press the save key and the data will be saved to the non volatile memory on the M board. The entire save routine takes approx. 3 seconds.

Caution: Do not touch any key on the jig, remote or unit while Jig is saving your adjustment data. The save key on the jig does not illuminate.

10. If you are not satisfied with the adjustment, do not press the save key.

Please continue your adjustment or move interrupt switch to Non-interrupt position. If you perform Non-interrupt, TV will wipeout your adjustment and return to original condition. Repeat adjustment process from #7.

11. Before disconnecting the control cable from the TV, it is recommended to move the interrupt switch to the non-interrupt position. This releases the interrupt line so that it will not bounce when disconnecting the cable from the unit and/or jig.

cont.

Use of the Interrupt Switch

The interrupt switch is used to drive the interrupt line to unit low. When the unit is

interrupted, you can not change channels, Video input, Volume control and etc. The unit is effectively disabled from user control. Therefore, it is recommended to have the video input selected and on the screen before connecting the registration control jig to the unit and pressing the read key. The interrupt switch can be placed in the non-interrupt position after adjustment procedure has begun. It will cause the followings:

1. The interrupt line to the unit is released and the interrupt line returns to normal high condition (+ 5V DC).

Caution: If adjustments have been made, perform a save otherwise releasing the interrupt will wipeout the adjustments and return to the unit to its pre-adjusted condition.

2. Any time the interrupt line is released the unit does a complete non volatile memory update. This means that the unit reads the registration non volatile memory data and refresh the screen.

Caution: Because the unit does memory refresh after the interrupt line is released, you must save your registration adjustments, if you want to, before you release the interrupt. If you do not your registration adjustments will be lost and the unit will return to its pre-adjusted condition or original.

3. After the interrupt line has been released you can change channels, video input, go into service mode and etc. The unit operates in its normal non-interrupt condition.

You then have the following two options:

- a: You can return the interrupt switch to interrupt position if you want to keep adjusting.
- b: Or you can disconnect the control cable from the unit and discontinue your registration adjustment.

If you return the interrupt switch to interrupt position the jig will do the followings:

- Delay for approximately 3 seconds. This delay is necessary due to the complete refresh cycle for unit system.
- Re-read the registration data from the unit. The jig does not know if you saved the data before you released the line. Therefore, it re-reads the data back just in case some changes were made and the data was not saved. This insures the jig's registration data is the same as the unit's data.
- The Red horizontal center LED lights up. This is the common starting point for beginning registration.

Use of Read Switch

The primary function of the read switch is the initial reading of the registration data from the television. It can however be used to re-read the registration data back from the unit after you begun adjusting. This could be useful in a case where you begun adjusting registration and you do not like your adjustments. You can re-read the data and start again from the original condition. Pressing the read key does the followings:

cont.

1. Release the interrupt line and allows the unit to do an non volatile memory refresh. This is necessary in order to return the screen to it original condition.
2. Delay for 3 seconds. This is done because a complete refresh after an interrupt takes approx. 3 seconds.

3. Drive the interrupt line low.
4. Re-read all the registration data back from the unit into the jig.
5. Light the Red horizontal LED. This is the common starting point for registration adjustment.

Operating Procedure for Older version Micro in the Unit:

If Red or Blue cross hatch jumps to the right or left when you hit "+" or "-" key with the "CENT" adjusting position on the jig. Your unit contains an older version of Micro, but you do not need to replace it.

Please read following procedure to control and adjust your unit.

1. If the Red or Blue cross hatch jumps and adjustments were just started, change the INT switch position from Interrupt to non interrupt.
2. Picture adjustment will be returned to their original condition.
3. Set the interrupt switch on the jig to INT position and press the Read switch. You can begin TV adjustment again.
4. If you already adjusted many items, you will be able to re-adjust H-Position by using "CENT" key on the jig and continue additional adjustments, if needed.
4. Perform all other adjustment till satisfied.
5. Press the save key on your jig. The data will be saved into non volatile memory (minus the centering control data).
The entire save routine will takes approx. 3 seconds.

Do not touch your registration control jig or power off your unit while the jig is saving adjustment data.

6. Move interrupt switch to non-interrupt position. Centering of picture will jumps, but do not panic. You can re-adjust horizontal position easily.
7. Power off your unit.
8. Enter the Service Mode.

Pressing the "Display", "5", "Volume + " and "Power" keys in sequence on the remote. Re-select Video 1 input and your generator signal should be displayed.

9. Select your adjustment item and adjust centering position from your remote. (For Example of the display: RH CENT is Red centering, BH CENT is Blue centering.)

In this operation, do not change other adjustment items.

10. If your satisfied with the adjustments, press the "Mute" and "Enter" from the remote. This is data saving procedure from your remote, your updated centering adjustments data will be saved into non volatile memory.
11. Power OFF the unit and power ON You will exit from service menu and return to normal operation.
12. If your not satisfied with the adjustment, you can return interrupt switch to interrupt position.

The horizontal Red key will illuminate, this is common starting point for beginning of registration adjustment. Perform the touch up again and save the data.

(Do not touch CENT key on the jig, select another key for your touchup.)

Note: Before disconnecting the control cable from unit, it is recommended to move the interrupt switch to the non-interrupt position to avoid losing adjustment data, system lockup or damage the jig.