SONY®

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

# CONFIDENTIAL

Service Bulletin
TV Products

**CSV-1**

**Model:** **KP-41T15, KP-41T35, KP-46S15, KP-53S15 KP-46V25, KP-46V45, KP-53V25, KP-53V35 KP-53V45, KP-53XBR45, KP-61V25, KP-61V45 KP-61XBR48**

**No.** **340**

**Subject:** **New Micro for Registration Jig**

**Date:** December 10, 1997

**Symptom:**

**(****)** The RA-2 chassis can not be adjusted using the Registration Jig. (T-9985-723-1)

**SOLUTION:** There has been an upgrade in the program of the micro used in the registration jig. This upgrade will allow you to use this jig on the RA-2 chassis. The new 4.2 version software reads the model ID. It will determine whether the set is a RA-1, RA-1 XBR, or RA-2 chassis automatically. All three chassis have different locations for the registration data. Therefore the position of the RA1/XBR switch does not matter with the version 4.2 software. The one draw back is that the set must be RA-1, RA-1/XBR, or RA-2 models produced in the USA for use in the USA only. Sets built in other countries may not have model IDs built into them.

**NOTE:** An operating procedure will be included with the new micro.

| Description | Part Number |
|---|---|
| RATVO_2 | T-935-009-11 |

**RA-1 TOUCH-UP JIG OPERATING INFORMATION**

I. General Description

The RA-1 touch-up jig can be used to adjust sub-deflection registration on the RA-1, XBR RA1, and RA-2 chassis. The jig communicates to the registration microprocessor and the registration non-volatile memory through the IIC serial buss. The jig can be powered from a 9V DC battery or and external 9V dc adapter (center positive).

II. General Operating Procedure

1. Connect the RA-1 touch-up jig to a 9VDC battery or an external 9V dc 100mA wall adapter. Turn the jig on with the on/off switch. The red horizontal led will light indicating that there is power to the jig.

Cont.

2. Plug the television set to be registered into an AC outlet and turn it on. Connect a signal generator to the televisions and set it to a cross hatch pattern or other suitable patter for conducting registration adjustment. Select the proper video source or RF channel so that the cross hatch pattern is displayed on the screen.

3. Perform a test reset on the television. This resets the user convergence adjustments for red and blue centers to 0. This is necessary because the jig does not read the user convergence adjustment. It just assumes that it is 0. If the user convergence adjustment was on one end of the range, it would limit the users range after the registration adjustment was complete. A test reset can be performed by pressing 8 enter in service mode.

4. Turn the jig on before connecting it to the television. This insures the maximum isolation between the jig and the television.

CAUTION: Connecting and disconnecting the jig to the television with the power off can cause errors in the registration refresh cycle. They can be corrected by disconnecting the jig and cycling the AC power to the television.

5. Connect the serial buss cable between the jig and the television. The rear cover of the television must be removed in order to connect the serial buss cable to the television.

6. REVISED 8/97 - The version 4.2 software reads the set's model ID and selects the proper slave address for the registration data. Therefore, the position of the RA1/XBR switch does not matter on the version 4.2 software. The set does however have to be a set that was produced at the factory where the model ID is written. Engineering sample sets without a serial number or sets produced in other countries may not work with this jig.

7. Press the read switch. The jig first reads the position of the interrupt switch. If the switch is in the non-interrupt position, the jig will wait until the switch is placed in the interrupt position. It then reads the television's existing registration data into the jig. The center led will light after the registration data is read into the jig.

8. You can now adjust red horizontal center or select any of 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.

9. If you are satisfied with your adjustments you can press the save key and the data will be saved to the television's non volatile memory. The entire save routine takes 2-3 seconds.

10. If you are not satisfied with the adjustment you do not have to press the save key and whatever adjustments you have made will not be saved.

11. Before disconnecting the IIC serial buss cable, it is recommended to move the interrupt switch to the non-interrupt position. This releases interrupt line so that is will not bounce when disconnecting the jig from the television.

III. Use of the Interrupt Switch

The interrupt switch is used to drive the interrupt line to the television low. When the television is interrupted, you can not change channels, video sources, volume, etc. The television is effectively disabled from user control. Therefore it is recommended to have the video source selected and on the screen before connecting the touch-up jig to the television and pressing the read key. The interrupt switch can be placed in the non-interrupt position after the adjustment procedure has begun. It will cause the following:

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

Cont.

2. Any time the interrupt line is released the television does a complete NVM update. This means that the television reads the registration NVM data and refreshes the screen.

CAUTION: Because the television does a 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 don't your registration adjustments will be lost and the television will return to its pre-adjusted condition.

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

4. You then have the following two options:
   a. You can return the interrupt switch to the interrupt position if you want to keep adjusting.
   b. Or you can disconnect the serial cable from the television and discontinue you registration adjustment.

If you return the interrupt switch to the interrupt position the jig will do the following:
- Delay for approximately 3 seconds. This delay is necessary because the television's complete refresh cycle takes this long.
- Re-read the registration data from the television. The jig does not know if you saved the data before you released the interrupt 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 television's data.
- Light the red horizontal center led. This is the common starting point for beginning registration.

IV. Use of the 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 television after you have begun adjusting . This could be useful in a case where you began 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 following:

1. Releases the interrupt line and allows the television to do an NVM 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 2-3 seconds.
3. Drive the interrupt line low.
4. Re-read all the registration data back from the television set into the jig.
5. Light the red horizontal center LEDs. This is the common starting point for registration adjustment.