

## ALIGNMENT PROCEDURES

### Operating Conditions

Unless otherwise noted, the following conditions must be observed when aligning the ATC221 chassis:

Chassis must be operated from a 120VAC isolation transformer, with line voltage set to 120VAC ( $\pm 2.0V$ ).

Picture controls (black level, contrast, etc.) must be set to factory presets via the Picture Quality menu.

Procedures must be performed in the sequence given.

A 10X probe must be used for oscilloscope and frequency measurements.

The audio output leads must not be shorted together or to ground with the chassis on.

All video signals must have -40 IRE sync tips unless specified otherwise.

Chassis AC power must be removed for 10 seconds before disconnecting any cable.

A 3-minute warm-up is required for chassis or module related alignments. A 15-minute warm-up is required for Kine or Convergence related alignments.

**Note:** Before reconnecting AC Power wait a minimum of 60 seconds. This allows the system control circuit to reset. The LED will blink twice to indicate reset.

### Required Test Equipment

- Dual-Trace Oscilloscope
- Digital Voltmeter
- Frequency Counter
- Audio Signal Generator
- NTSC Signal Generator (B&K 1249, or equivalent)
- MTS Signal Generator (B&K 2009, or equivalent)
- Sweep/Marker Generator (or Standard Signal Generator)
- YPrPb Signal Generator (DVD player w/YPrPb)
- DC Power Supply (5.0V/0.25A) for TAG001
- Chipper Check® software
- Chipper Check® interface box and computer
- Personal Computer (IBM Compatible w/ CD ROM and Sound Card)

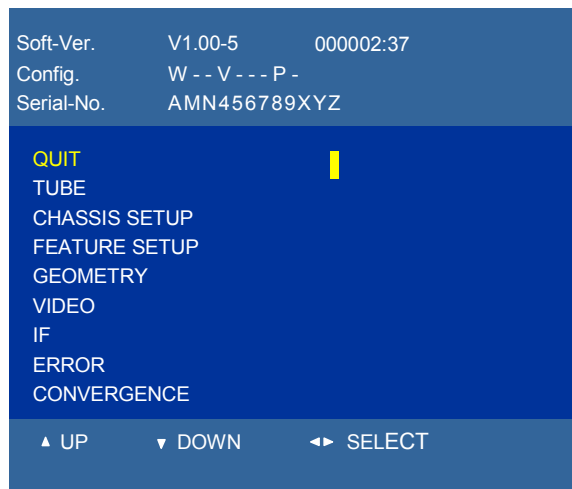
### Service Mode

Most of the alignments for this chassis are software-driven. Most of the alignments must be accessed and modified through the front panel service mode.

#### Entering the TV Service Mode Using the Front Panel Controls

1. Press and release the **POWER** button to turn the instrument **OFF**.
2. Press and hold the **VOLUME DOWN** and **CHANNEL DOWN** buttons for at least 8 seconds.
3. After 8 seconds the instrument will switch on and come up with the field service main menu on the screen. LED will illuminate before the picture comes up.

The instrument should display the following menu:



Main Menu

The **CH ^** and **CH V** buttons on the front panel are used to navigate up or down in the menu.

The **VOL +** and **VOL -** buttons on the FPA are used to select a menu item or decrease or increase a value in a selection list.

**NOTE:** Before the Field Service Mode is exited; you must check **STORE**, then press **OK** on the **Remote** or all changes to alignments will be lost.

The Remote Control can also be used to navigate the field service mode.

- **Clear button:** When this button is pressed the Field Service Mode disappears and the every-day TV functions are available. Even though the menu has disappeared the instrument will still be in the Field Service Mode.
- **Menu button:** To re-enter the Field Service Mode, make a **long press** on the Menu button. The service technician re-enters in the same menu point where he left the Field Service Mode.
- **^:** This button is used to navigate up in the menu.
- **V:** This button is used to navigate down in the menu.
- **<:** This button is used to select a menu item, to decrease a value or to select the previous value in a selection list.
- **>:** This button is used to select a menu item, to increase a value or to select the next value in a selection list.
- **OK:** This button is used to select or deselect a menu item. This is also used to **Save** changes.

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### Common features found in the submenus

**Return:** The submenu is closed and the main Field Service Mode menu appears.

**Defaults:** The default values for the current menu are copied from ROM to RAM.

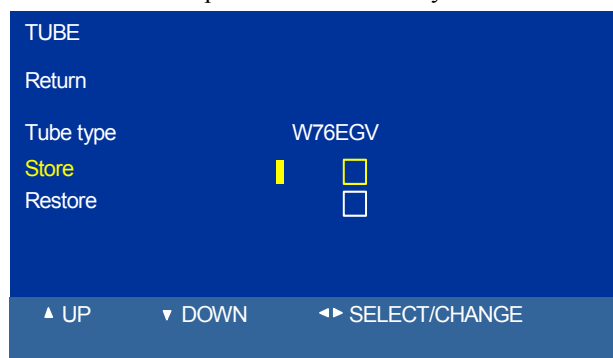
**Note:** If Default is checked a complete realignment of that particular menu is required.

**Store:** All current values from a menu group are stored into memory.

**Restore:** The last stored settings for the menu displayed are copied from NVM to RAM.

### Tube Type Menu

1. Select the correct tube type from a pulled down list on the right hand side of the menu. (This will activate new tube type values along with default video and geometry parameters)
2. Check STORE, then press OK on the Remote to save new parameters in memory.



Tube Submenu

### Chassis Setup

**Clear Programs:** Clears all programs stored in memory and sets all user settings to factory values. Set is placed in an out of factory mode. This function is selected with a 2 second press

**Default Sound Presets:** Sets the default value for all factory sound presets.

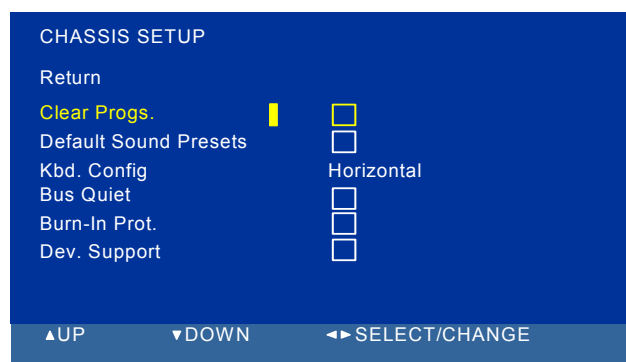
**Kdb Config:** Specifies the keyboard orientation.

**Bus Quiet:** In this mode the NVM can be read modified or reprogrammed. First any OSD must be cleared. Enter this function with a 2 second press. This mode is cancelled with a press of Clear, Left, Right, Up, Down or On-Off keys.

**Burn-In Prot:** Can enable or disable the burn-in protection feature. (PTV models only).

**Dev Support:** Enables or disables access to development support functions in the field service menus

**Note:** Bus Quiet, Burn-In Prot and Dev Support may not appear in all modes.



Chassis Setup Submenu

### Feature Setup

**Pict Rotation:** Determines if the picture rotation option is available to the user.

**Blue Screen:** Determines if a blue-screen is shown when no signal is detected at tuner input.

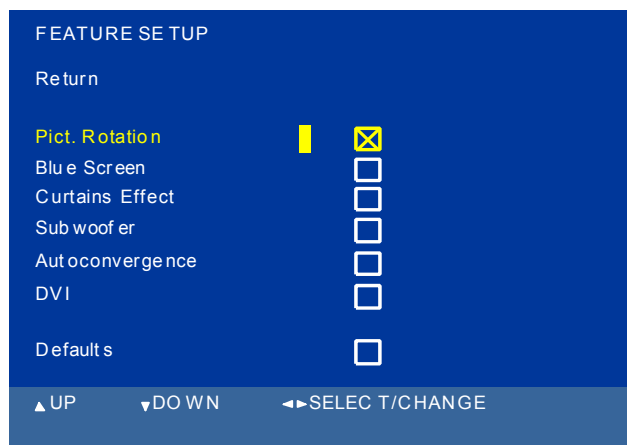
**Curtains Effect:** Determines if the curtains feature is available to the user.

**Subwoofer:** Set can be configured to have a subwoofer.

**Autoconvergence:** Set can be configured for the autoconvergence option. (PTV models only).

**DVI:** Set can be configured for DVI input or not.

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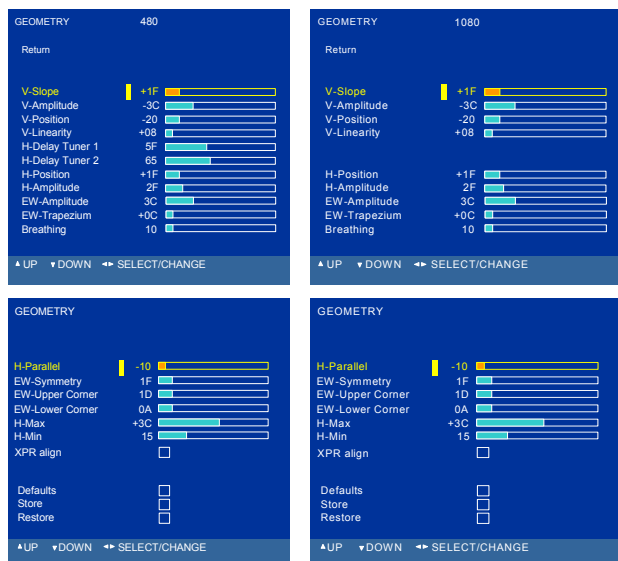


Feature Setup Submenu

## Geometry Alignment

Entering the Geometry menu the display mode must be set to Standard Scanning Mode (480i/480p and 1080i). All 480i/480p alignments should be completed using the RF input. Use either component input or DVI-input for 1080i adjustments.

**NOTE:** Unless otherwise noted all Geometry adjustments must be performed in both 480i/p and 1080i modes.



Geometry Submenu

1. Tune the instrument to receive a crosshatch pattern.
2. Place the instrument in the Field Service Mode.
3. Enter the Geometry submenu.
4. Adjust V-Slope (Vertical Slope) until the middle line of the test pattern is just visible.

5. Using a Monoscope pattern, adjust V-Amplitude (Vertical Amplitude) until the first and last horizontal line of the test pattern is just hidden by the tube.

**NOTE:** Instruments with 16/9 CRT's must have this alignment performed with the format set to 16/9.

6. Adjust V-Position (Vertical Position) until the picture is centered vertically.

**NOTE:** For PTV models only, monitor the DC voltage at pins BV21 and BV22 on the adapter board. Adjust until the DC voltage is as close as possible to zero.

7. Adjust V-Linearity (Vertical Linearity) for equal height of the squares in the crosshatch pattern.

**NOTE:** Instruments with 16/9 CRT's must have this alignment performed with the format set to 16/9.

8. Input a crosshatch pattern using Tuner 1, adjust H-Delay (Horizontal Delay) Tuner 1 to center the active video inside the displayed curtains.

9. Input a crosshatch pattern using Tuner 2, adjust H-Delay (Horizontal Delay) Tuner 2(PIP Models Only). Adjust to center the active video inside the PIP window.

**NOTE:** H-Delay must be adjusted only in 480i/p mode.

10. Adjust H-Position (Horizontal Position) until the test pattern is horizontally centered.

11. Using a Monoscope pattern adjust H-Amplitude (Horizontal Amplitude) until the first and last horizontal line of the test pattern is just hidden by the tube.

12. Using a Crosshatch pattern adjust EW-Amplitude (East West Amplitude) until the vertical lines in the middle of the CRT are straight.

13. Adjust EW-Trapezium (East West Trapezium) for best compromise between Left and right vertical lines.

14. Adjust Breathing (EHT Compensation) until horizontal amplitude will change with different beam current at the same ratio as vertical amplitude.

15. Adjust H-Parallel (Horizontal Parallelogram) the offset between the top and bottom of the picture.

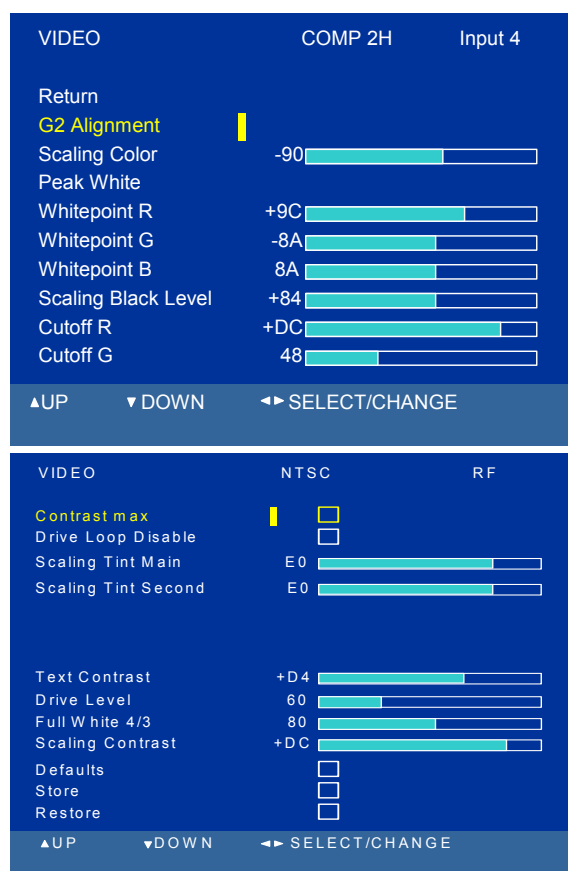
16. Adjust EW-Symmetry (East West Symmetry or H-Bow) until the left and right border of the screen are the same.

**NOTE:** It may be necessary to realign EW Amplitude (Step 11) after this adjustment.

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17. Adjust EW-Upper Corner (East West Corner) until the vertical lines are straight at the top of the screen.
18. Adjust EW-Lower Corner (East West Corner) until are straight at the bottom of the screen.
19. H-Max and H-M set the range limitations of the H-Amplitude adjustment. This adjustment should only be used in cases where CRT is replaced and it does not appear in the CRT list. To access this adjustment, the Dev Support must be checked in the Chassis Setup menu.
20. Check the box to set the shutdown threshold for the XRP circuitry. During this automatic process the screen will blank, then reappear once it is finished.
21. Before exiting the Geometry menu, check Store, then press OK on the remote to save changes to memory.

## Video Alignments



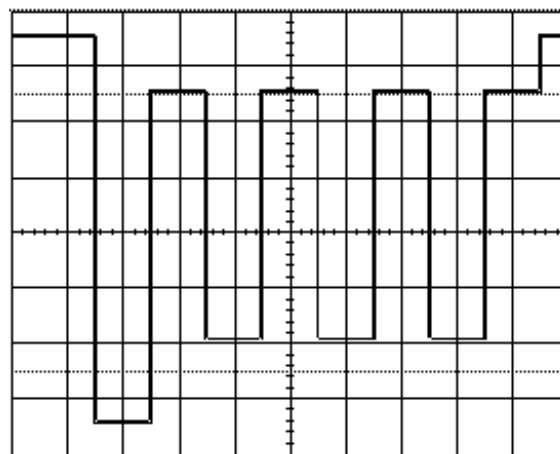
Video Alignment Submenu

Before attempting the Video Alignments, allow the instrument to warm up for a minimum of 15 minutes.

1. Tune the instrument to receive a crosshatch pattern.
2. Adjust Focus 1 for best focus of the vertical lines at the top of the display. (DV Models Only)
3. Adjust Focus 2 for best focus of the horizontal lines at the center of the display. (DV Models Only)

**Note:** PTV Models have single focus control for each CRT. Cover Red and Blue CRT. Adjust Green Focus for best possible focus. If needed loosen the wingnut on the CRT Lens Assembly. Adjust for best overall focus. Tighten wingnut when completed. **DO NOT OVER TIGHTEN.** Damage to the Lens Assembly may occur. Repeat procedure for the Red and Blue CRTs.

4. Repeat procedure for best focus (typically 3 times)
5. Place the instrument in the Field Service Mode.
6. Enter the Video submenu.
7. Select G2 adjustment. Adjust Screen control until retrace lines become visible, then adjust to make retrace lines invisible.
8. Press any key to exit the G2 alignment mode.
9. Select a pluge test pattern. Pattern should have a 4% background with a 2% and 6% bar.
10. Adjust Scaling Black Level to make the 2% bar invisible, keeping the 6% bar visible.
11. Select a 75% color bar test pattern.
12. Connect a scope to the Blue Cathode of the CRT board.
13. Adjust the Scaling Color to the levels shown below.



Cathode

**Note:** This alignment must be performed in each of the following modes, Tuner, Comp 1H, Comp 2H,

## ALIGNMENT PROCEDURES

DVI and AUX\_RGB (if DVD option is installed).

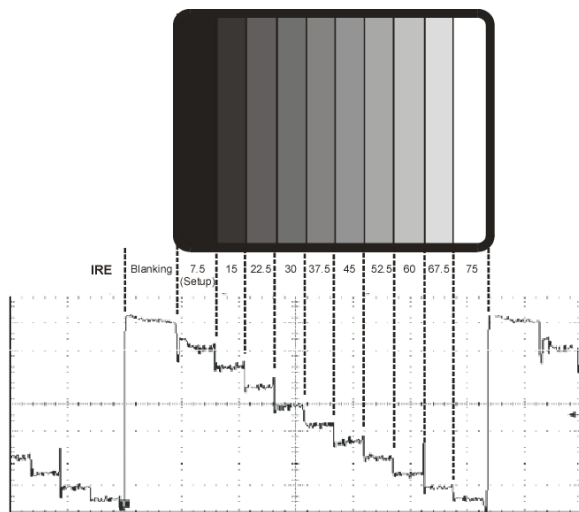
14. Drive Loop Disable will check the AKB circuit. This check is available on PTV models only.
15. The Drive Level Alignment is preset according to the CRT type selected and does not need to be adjusted.
16. Before exiting the Video Alignment Submenu, check Store, then OK on the Remote to save all alignments.

### Color Temperature

Color Temperature for the ATC221 is similar to past chassis. Some form of staircase pattern similar to the figure below is required. Proper identification of the “0” (if available) and “7.5” or “setup” bars on screen and the waveform produced on the cathodes of the CRT will be needed. Consult the specifications manual for the pattern generator used to confirm the location of these bars.

The oscilloscope waveform shows the relationship between the bars and the video signal at the cathodes of the CRT. This waveform is present on all three cathodes. With the oscilloscope adjusted to provide a full peak to peak readout of the waveform at the horizontal rate, the 7.5 IRE setup bar will be the critical area. Be certain this bar can be identified using the equipment available. If a 7.5 IRE bar is not available, 10 IRE may be used.

It should be noted that bar patterns differ. Some vary from 10 to 100 IRE in various steps and in different directions, but most should have an identifiable 7.5 to 10 IRE bar.



The purpose of the color temperature setup is to assure uniform gray level from black to the brightest scenes. If a uniform gray screen is displayed, no matter the brightness level, no tinting in either red, green or blue direction

should be apparent. This is known as “color tracking”. Once the proper color temperature is set, AKB will maintain the cutoff of the CRT to assure proper low light performance.

### Black Cutoff R/G, Whitepoint R/G/B Setup (Recommended Method)

1. Apply a gray test pattern giving a 12 IRE flat window. Connect Colorimeter near the center of the screen.
2. Adjust Black Offset R and Black Offset G to obtain the following color coordinates.

	Direct View	Projection TV
X	0.282	0.283
Y	0.298	0.296

3. Apply a gray test pattern giving a 50 IRE flat window.
4. Adjust Whitepoint R, G, and B for the following color coordinates.

	Direct View	Projection TV
X	0.282	0.278
Y	0.298	0.291

**Note:** This alignment must be done in the following modes, RF (NTSC), Comp 1H, Comp 2H, DVI and AUX\_RGB (If unit has DVD option installed).

### Black Cutoff R/G, Whitepoint R/G/B Setup (Alternative Method)

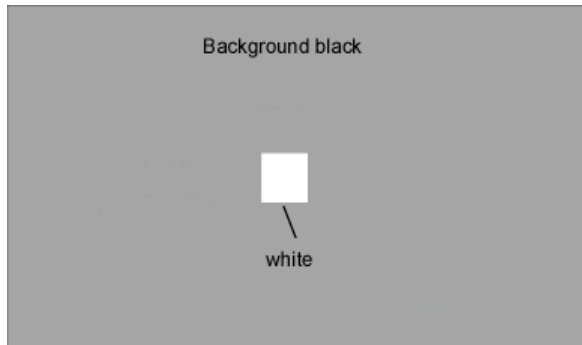
1. Apply a vertical gray bar staircase pattern (at least 8 bars from “7.5” to “≥75” IRE). Identify the 7.5 IRE bar location. It is the “black” or “cutoff” bar. For these adjustments this bar and the next brighter bar will be used. On most patterns the remainder of the bars will progressively become brighter.
2. Adjust Black Cutoff R or Black Cutoff G until any tinting disappears from the black bar. When properly adjusted the adjacent bar should be a very low level gray with no color tinting.
3. Now observe the brighter portions of the bars. Adjust Whitepoint R, G, or B to remove any signs of tint in the higher brightness bars. Observe the bars for signs of CRT overdrive. Some compromise may be required, but the higher IRE bars should be as free from color tinting as possible.

## ALIGNMENT PROCEDURES

**Note:** There are separate color temperature alignments for RF (NTSC), Comp 1H, Comp 2H, DVI and AUX\_RGB (If unit has DVD option installed).

### Peak White Alignment

1. Apply a white centered pattern of 100 IRE 2% of the picture surface on a dark background.



2. Adjust for peak white at center of the screen.
3. Check Scaling Black Level, Whitepoint, Black Offset and Peak White adjustments. It may be necessary to adjust these alignments several times for optimum performance.

**Note:** This alignment must be done in the following modes, RF (NTSC), Comp 1H, Comp 2H, DVI and AUX\_RGB (If unit has DVD option installed).

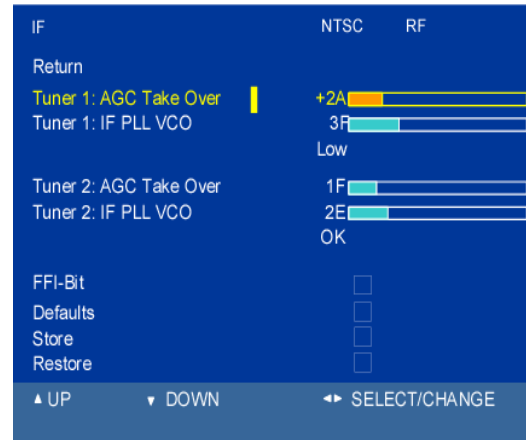
### Full White 3/4 Alignment

1. Insert a full white pattern of 100 IRE through RF. (Instrument will automatically set to 3/4 mode).
2. Adjust for full white across the screen.

### Text Contrast, Contrast Max, Scaling Contrast Alignments

1. Insert a white centered pattern of 100 IRE, 2% of the picture surface with a black background.
2. Adjust for peak white.
3. Contrast Max and Scaling Contrast are preset according to the CRT type selected and do not need to be adjusted.

## IF Alignments



IF Alignment Submenu

Before attempting the IF alignments, allow the instrument to warm up for a minimum of 5 minutes.

1. Place the instrument in the Field Service Mode.
2. Enter the IF submenu.
3. Inject a 45.75MHZ IF signal (50mV with a 75 ohm load) through a 1nF capacitor at Pin 11 (IF Output) of the Main Tuner (NH503).
4. Check the VCO status (listed below Tuner 1: IF PLL VCO). Will either be Low, OK, High.
5. If status is either Low or High, adjust Tuner 1: IF PLL VCO until the status changes to OK.
6. Switch Main Tuner to Ch. 10.
7. Apply of signal of 193.25MHZ at 3mV to the RF Input.
8. Connect a Spectrum Analyzer to the Main Tuner, NH503 pin 11 (IF Output). Adjust Tuner 1: AGC Take Over to a value of 0. Note the IF level on the Spectrum Analyzer. Adjust Tuner 1: AGC Take Over to reduce the level by 10db.
9. Switch instrument to the PIP mode.
10. Inject a 45.75MHZ IF signal (50mV with a 75 ohm load) through a 1nF capacitor at Pin 11 (IF Output) of the PIP Tuner (NH501).
11. Check the VCO status (listed below Tuner 2: IF PLL VCO). Will either be Low, OK, High.
12. If status is either Low or High, adjust Tuner 2: IF PLL VCO until the status changes to OK.
13. Switch PIP Tuner to Ch. 10.
14. Apply of signal of 193.25MHZ at 3mV to the RF Input.
15. Connect a Spectrum Analyzer to the PIP Tuner, NH501 pin 11 (IF Output). Adjust Tuner 2: AGC Take Over to a value of 0. Note the IF level on the Spectrum Analyzer. Adjust Tuner 2: AGC Take Over to reduce the level by 10db.
16. FFI Bit, DO NOT ADJUST.



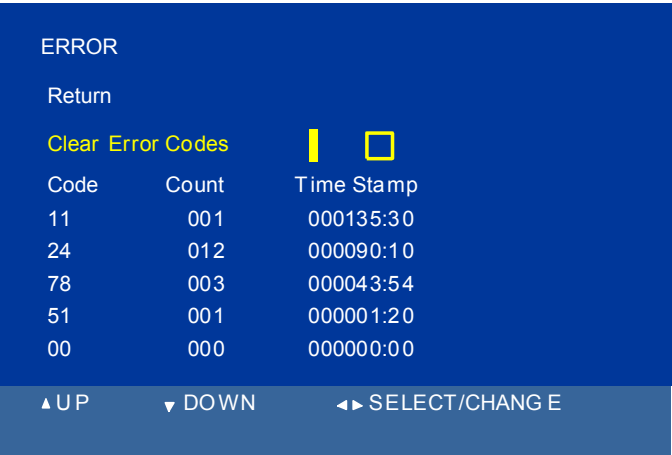
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- 17. Check Store, then press OK on the Remote to save settings.

Error

If a run-time error occurs, its error code will be stored in the NVM. The stored error codes can be read in one of two methods. The first is with the error menu. The last five error codes will be displayed, along with a time stamp from the run time counter. The time stamp will display the last occurrence of a particular error. The time stamp is displayed as “Run Hours”. A error counter counts how many times that error has occurred. The counter will not count beyond 255. The most recent error code is displayed on top.

To clear the error codes from memory, select the Clear Error Codes box. A long press of the OK Button will clear all stored codes.

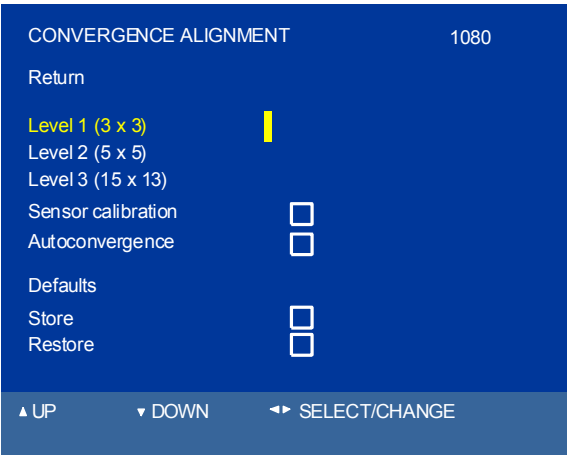


Error Submenu

The second method of reading an error code is with the LED. Only the last error code stored in the NVM can be read with this method. The LED will blink two separate digits. Example, if the error code of 23 is the last error code stored in the NVM, the LED will have 2 short flashes, followed by a short pause. Then will flash 3 times, followed by a long pause. This will be repeated 4 times.

First allow the instrument to sit unplugged for 60 seconds. At plug in the LED will first blink twice to indicate microprocessor has reset. When an attempt is made to power up, the instrument will attempt 3 times to start. The LED will display a series of flashes followed by the error codes.. The LED will flash the error code 4 times.

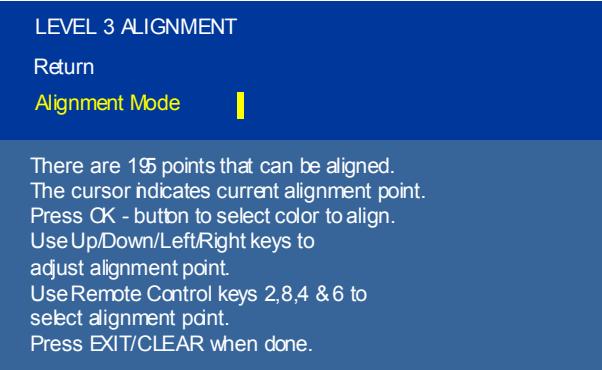
Convergence (PTV Models Only)



Convergence Submenu

The ATC221 employs a digital convergence circuit that makes it possible to electronically align up to 208 separate points on the screen. 3 levels of convergence adjustment is provided.

- Level 1: Provides 9 adjustment points
- Level 2: Provides 25 adjustment points
- Level 3: Provides 195 adjustment points



Level 3 Convergence Alignment Submenu

Defaults enters a default submenu. Checking the box loads a set of default values from the convergence backup NVM to the Convergence IC RAM. The box will remain checked until the value is changed or store or restore is pressed in the convergence submenu.

**NOTE:** Checking DEFAULT will erase all previous Convergence Alignments. The Convergence must then be completely realigned.

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It is recommended to adjust Levels 1 and 2 only if repairs have been made to the Convergence Signal circuitry or after CRT replacement.

**Note:** Alignments must be performed in order. If Level 3 is adjusted, prior to Levels 1 or 2, all Level 3 alignments will be lost. However Level 3 may be performed without having to do Level 1 or Level 2.

In Level 1 and 2, Press OK to select the color to be aligned. The position of the adjustment point can be adjusted using the navigation keys (up, down, left and right) on the remote. Press the 2 key of the remote to move to the next adjustment point. Press the EXIT/CLEAR key to exit when completed.

Level 3 alignment works similar to Levels 1 and 2. The only difference, to move to the next adjustment point press 2 (up), 8 (down), 6 (right) and 4 (left) on the remote unit. When completed with convergence, check **STORE**, then press **OK** on the Remote to save all changes.

Sensor Calibration is used to calculate a reference border for the autoconvergence photo sensors. Check the box to begin the process. Autoconvergence starts the autoconvergence process.

### Manual Convergence Procedure

1. Turn instrument **"On"**. Allow to warm up for 20 minutes. Turn instrument **"Off"**. Enter the Service Menu holding the **"Volume Down"** and **"Volume Down"** on the FPA for 8 seconds. Enter the **"Convergence Menu"**.
2. Perform **"Level 3"** (and/or Level 1, Level 2) manual convergence as described above. When completed, press **"Clear"**, then select **"Return"** to go back to the main Convergence Alignment Menu.
3. Check **"Store"** in the main Convergence Menu. A check mark will appear in the box.
4. Select **"Defaults"** to enter the Default Menu.
5. Select **"Store Defaults"**. Press and hold **OK** on the Remote for 2.5 seconds. Then select **"Return"** to go back to the main Convergence Alignment Menu.
6. Perform **"Sensor Calibration"**. Select it and press **"OK"**.

**Note:** If the **Sensor Calibration** is successful, the software will answer by flashing a **GREEN SCREEN**. If the **GREEN SCREEN** does not

appear, turn the instrument off and begin the convergence procedure again.

7. Select **"Return"** to exit the Convergence Alignment Menu.

**Note:** This procedure must be performed in both the 480P and 540P (1080I) modes. The initial service menu screen will indicate which mode the instrument is in.



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Error Code	Error	Circuit	Condition
11	I2C_1 Low SDA Line		Data Line of I2C Bus_1 Held Low
12	I2C_1 Low SCL Line		Clock Line of I2C Bus_1 Held Low
13/95	I2C_2 Low SDA Line		Data Line of I2C Bus_2 Held Low
14/95	I2C_2 Low SCL Line		Clock Line of I2C Bus_2 Held Low
15	I2C_3 Low SDA Line		Data Line of I2C Bus_3 Held Low
16	I2C_3 Low SCL Line		Clock Line of I2C Bus_4 Held Low
17	I2C_4 Low SDA Line		Data Line of I2C Bus_4 Held Low
18	I2C_4 Low SCL Line		Clock Line of I2C Bus_4 Held Low
19	Chassis Detection	HW	No Valid Chassis Detected
21	No ACKN IC500	Video	IC500 Does Not Answer
22	POR Bit Is Set	Video	Power Down Detection (VCC IC500)
23	SXA...D	Video	Correct Xtal Ident Of IC500
24	No ACKN IC700	Video	IC700 Does Not Answer
25	POR Bit Is Set	Video	Power Detection (VCC IC700)
26	SXA...D	Video	Correct Xtal Ident Of IC700
27	No ACKN IC600	Video	Video Switch Does Not Answer
28	No ACKN IV100	PSI	PSI IC Does Not Answer
29	PDD Bit Is Set	PSI	IV100 Power Down Detection
31	No ACKN IV200	Deflection	IC Does Not Answer
32	POR Bit Is Set	Deflection	Power Down Detection (VCC IV200)
33	FLS Bit Is Set	Deflection	Safety Circuit Is Active
34	NHF Bit Is Set	Deflection	Horizontal Flyback Problem
35	NRF Bit Is Set	Deflection	Oscillator Is Not Locked
36	BCF Bit Is Set	Deflection	Tube Is Still Not Warm After Warmup Time
37	NDF Bit Is Set	Deflection	Vertical Problem
38	XRP Bit Is Set During Normal Operation	Deflection	X-Ray Protection
39	SL Bit Is Set	Deflection	Phase 1 Not Locked
41	No ACKN IA001	Audio	MSP Does Not Answer
42/43			Not Used
44	No ACKN IT900	Audio	AV Input Switch Of DRI Inputs/IC Does Not Answer
45	Wrong MSP	Audio	Wrong MSP Is Fitted
46/47/48/49			Reserved/Not Used

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Error Code	Error	Circuit	Condition
51	No ACKN IU030		Upconverter Does Not Answer
52	No ACKN IU002	A/D	Master ADC IC Does Not Answer
53	No ACKN IU003	A/D	Slave ADC IC Does Not Answer
54	No ACKN IR005		NVM IC Does Not Answer
55	No ACKN IR006		Port Expander IC Does Not Answer
56/57/58			Reserved
59	Wrong GenCAM Version Used		GenCAM cut 2.1 Must Be Used
61	5V Good	HW	Switched 5V Not Available
62	5V and 8V Good	HW	Switched 5V & 8V Not Available
63	Power_Fail	HW	Unexpected Level On Power_Fail Line Found (Mains To Low)
64	XRP Alignment	HW	Overvoltage HV
65	XRP NVM Verify	HW	Write To XRP NVM Area Failed
66	XRP NVM Not Recoverable	HW	XRP NVM Contents Are Corrupted And Can Not Be Recovered
67/68			Reserved
69	H & V Sync Not Valid	HW	H & V Sync Not Present (Sub OSD Module Not Fitted)
71	No ACKN IT500	DRI	Frame Comb Filter Does Not acknowledge
72	No ACKN IT200	DRI	2H Video Switch Does Not Acknowledge
73	No ACKN IT400		2H PSI Does Not Acknowledge
74/75/76/77			Reserved
78	No ACKN DVD Unit	DVD	DVD Keyboard CPU Does Not Answer
79			Reserved
81	No ACKN Convergence IC IK01	PTV Models	Convergence IC Does Not Answer
82	No ACKN M24C32 (RP-NVM)	PTV Models	NVM IC Does Not Answer
83	Wrong Convergence Test Pattern	PTV Models	Convergence Test Pattern Is Wrong
84	Before Is Was An RP	PTV Models	Tube Type Is RP, But Convergence Was Not Detected
85	Convergence NVM_1 Problem	PTV Models	Convergence NVM_1 Data is Incorrect
86	Convergence NVM_2 Problem	PTV Models	Convergence NVM_2 Data is Incorrect
87	STV2050 loop Blocked	PTV Models	STV2050 (IK01) Electrical Loop Blocked
88/89			Reserved
93	Install Problem of I2C Bus 1 & 2	Software	Problem To Install The I2C Bus Driver For I2C Bus 1 & 2
94	Install Problem of I2C Bus 3 & 4	Software	Problem To Install The I2C Bus Driver For I2C Bus 3 & 4
95	Install Problem Of Port Driver Or I2C Bus Driver	Software	Problem To Install The Port Driver For I2C Busses Or Other Ports
96	Install Problem Of ADC Driver	Software	Problem To Install the ADC Driver

**ALIGNMENT PROCEDURES**

<b>Error Code</b>	<b>Error</b>	<b>Circuit</b>	<b>Condition</b>
97	Install Problem Of AV-Link Driver	Software	Problem To Install The AV-Link Driver
98	Install Problem Of SDRAM Timing	Software	Problem To Install The SDRAM Timing
99	Watchdog	Software	Watchdog Was Active