

Model 300 CPU Software Version 5.3.0
September, 1999

The following is a list of fixes and changes to the Model 300 Software subsequent to the current 5.2.1 release. User warning: Due to the changes made since the last release, previously working features may have been altered or made inoperable. Please pre-check operation before committing this new software to a must-work situation.

A. Auto Set Up Changes

1. New Camera Calibration

Problem: The CCD camera calibration process is not accurate enough for top-down processing and takes too long.

Solution: A more efficient, robust and quicker calibration process has been implemented. (Done in 5.2.1A).

2. Calibration Check

A new camera utility menu function to check calibration has been added. This enables the operator to check for calibration data present or not. It does not mean the system is necessarily calibrated for the current camera setup.

3. Camera Lens Operation Check

Problem: The current menu-selectable "Aperture Calibration" process is difficult to use and not well understood, leaving it unused by most users.

Solution: A new "Aperture Check" process has been written that simply checks for reasonable lens aperture (or iris) operation. It checks for excessive backlash, ability to close off all light, and a reasonable number of steps over the opening range. (Done in 5.2.1A).

4. Auto-Shading Tilt Factor

Problem: Due to optical characteristics inherent in the projector, there is often a slight but noticeable color shift from left to right across the screen. The auto-shading process does not remove this shift.

Solution: A new "tilt factor" for each color can be set for auto-shading correction of the color shift. This value is entered in the auto-shade parameter list presented to the operator at the start of auto-shading. A value of 1 to 10 can be applied on a color basis. (Done in 5.2.1A). The tilt factor can be positive or negative to affect a left-to-right or right-to-left tilt. (Done in 5.2.1B).

5. Reference Smoothing On/Off

The operator may elect to smooth or not the reference map used as a basis for the area shading. This option is presented in the set-up list presented when shading is started.

6. Enhanced Mapping

Problem: The auto-shade mapping function sometimes errors out when attempting to map an image with a long aspect ratio (squished vertically).

Solution: Instead of attempting to map every 2nd row at once, the “lemons” are displayed every 4th row for better resolution in a vertically challenged image. This slightly increases the mapping time.

7. Mapped Area Display

The Message-Map menu utility now has been enhanced to display the mapped area with spots. This shows the area of the image that will actually be shaded.

8. Center-Balance Enhancements

Center color balance was released in Beta form in version 5.2.1. Subsequent cleanup and changes have brought it to a releasable form:

- Changed criteria for "not enough light" to allow for lower blue light levels - gives more range.
- Removed fudge factor on aperture upper limit (fully closed) to avoid low-light targets being too high (no aperture adjust ceiling).
- Added error check for over-range targets.
- In the color-definition process, used starting exposures of 2 for Sensit and 30 for Thresh, instead of 10 for both.
- Sped up the center-balance max blue bias find.
- Added Threshold window range to center-balance setup menu. This allows the user to set position and range of the threshold adjust.
- Added code in the bias adjust process to allow for a dip in the bias curve when adjust is not making target.
- Cleaned up center-balance, aperture test, and pipe adjust messages, abort processing, and general operator interaction.

9. AST Menu Layout

The AST submenus have been rearranged to be more user oriented. Some of the more obscure utility functions have been hidden from the casual user behind “hidden” menu items. These are items beyond the list of displayed “visible” menu items. (Done in 5.2.1A).

B. General Changes

1. Graphics Enhance Menu Change

Changed the menu heading "GRAPHICS ENHANCE" to "SHARPNESS", and items "WHITE/BLACK ENHANCE" to "WHITE/BLACK DETAIL". (Done in 5.2.1B).

2. New Hardware Recognition

Problem: New boards containing new hardware, such as Gamma Adjust, are not recognized by the system if the board is plugged in during "standby" mode: i.e. without completely removing power from the projector.

Solution: The warm-start power-on initialization process has been changed to search for and initialize new hardware. (Done in 5.2.1A).

3. Error Messages

Problem: Occasionally an error message will be displayed but quickly removed before the operator has a chance to read it.

Solution: All error messages now stay up at least 2 seconds before being removed by subsequent operations. (Done in 5.2.1A).

4. All-Power-Off Command

Problem: The special VT100 command Ctrl-F is supposed to power down the projector electronics and the lamp. It works if both are on, but is ignored if only the lamp is on.

Solution: This bug has been fixed so the on lamp now turns off. (Done in 5.2.1A).

5. Extron Power-On Lamp

Problem: When the Extron Switcher communication link is in place and the projector is powered-on at the projector terminal, the Extron Power-On lamp does not light, and the Mute button is inoperable.

Solution: This bug has been fixed. Powering on the projector at the terminal will light the Extron power lamp and enable the Extron Mute button and lamp. (Done in 5.2.1C).

6. Miranda Decoder Gamma Changes

Design changes have made it necessary to change the Gamma adjustment process and menu if the Miranda Decoder is present. The Gamma Controls menu item "Adjustable" now calls the following submenu:

- 1 BLACK BOOST
- 2 30% TRACKING
- 3 60% TRACKING

Selecting any of these items enters the adjustment mode for the item. The adjustment acts in a "ganged" manner on all R,G & B together (as indicated by all 3 characters in the RGB display being hilited). To act on R, G or B separately, select the desired color using the R,G or B buttons. To get back to ganged mode, re-enter the function.

7. Miranda Decoder Test Patterns

A test pattern selection item has been added to the Miranda decoder main menu. When selected, the following submenu appears:

- 1 VIDEO
- 2 COLOR BARS
- 3 GRAY SCALE
- 4 VARIABLE FLAT-FLD

Numbers 2 and 3 select a fixed display, while 4 displays a gray field with an operator adjustable level in 10% increments. Number 1 removes the test pattern display and returns to video. (Done in 5.2.1D.)

8. DC Restore Default

When changing from Miranda input to a normal RGB, the dc-restore automatically switches from BP to ST.

9. Multi-Channel Export and Import

The ability for the operator to save off all assigned channels to a single remote computer file in one operation has been added, along with the one-step ability to reload all the saved channels at any future time. The downloaded and uploaded channels include the current operating channel. This has necessitated a change in the channel submenu - a single item takes the operator to a new submenu for selecting single or multi-channel upload or download.