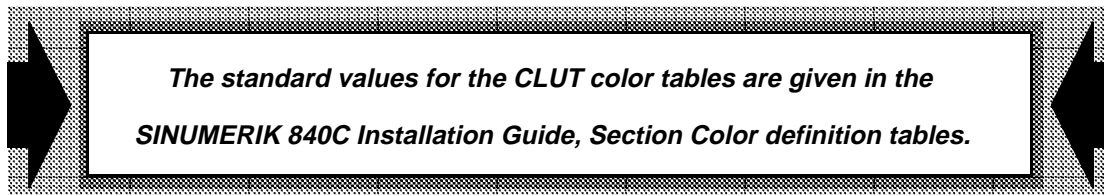


White adjustment

- White adjustment for color slimline operator panel:

The intensity of the three colors are set one after the other with the potentiometers R 308 (red), R 306 (green) and R 307 (blue) in such a way that all 8 shades can be distinguished in the three upper color bars. The background color is used for fine adjustment. The intensity of the background color lies exactly on the quantization border between two shades. This intensity is not used on the user interface (for setting the CLUT values) and is only used for adjustment purposes! For fine adjustment, the potentiometers of the three colors are adjusted minimally - it must still be possible to distinguish between the 8 shades - until the "quantization noise" (slight flickering) is visible in the background in all three colors.



- Adjustment of the monochrome slimline operator panel with 8 grey scales:

Adjustment is performed as for the color slimline operator panel, but only potentiometer R 306 and the 2nd color bar (green) is used.

- Special cases:

- Adjustment of monochrome slimline operator panel with 4 grey scales (6FC5103-0AB 2- AA1) (POMOCLUT 4 grey scales or NEOCLUT 4 grey scales required):

The adjustment is made in the same way as on the monochrome slimline operator panel with 8 grey scales but with the difference that only four grey scales are visible in the 2nd color bar (green) and fields 1 and 2, 3 and 4, as well as 6 and 7 have the same intensity.

Again, the fine adjustment is made until the "quantization noise" is visible in the background.

- Adjustment of monochrome slimline operator panel with 8 grey scales for operation on a control that only uses 4 grey scales (POMOCLUT 4 grey scales or NEMOCLUT 4 grey scales required):

For the monochrome slimline operator panel version with 8 grey scales the color tables for the monochrome slimline operator panels with 4 grey scales cause problems because the test pattern is only partially suitable as an aid to adjustment of slimline operator panels on MMCs with 4 grey scales.

In such a case, the control should be switched over to 8 grey scales. If this is not possible (e.g. for some spare part supplies), the adjustment is initially performed as for the monochrome slimline operator panel with 8 grey scales. Then potentiometer R 306 is turned in the clockwise direction (display becomes brighter) until the "quantization noise" becomes visible in the 2nd color bar in field 7. The "quantization noise" may also be visible in fields 2 to 6 but not in the background.

Phase adjustment

The focus of the black vertical lines in the lower white bar can be set optimally using potentiometers R 309 and R 311.

If the RGB interface is used, R 311 is active, if the VGA interface is used (color version only), R 309 is used.

Special case

Operation of an old MMC-CPU (not version VB: order no.: 6FC5110-0DA0 -0AA0 and 6FC5110-0DB0 -0AA0):

Phase adjustment must also be performed for text mode. The focus must be adjusted on a display with text output, e.g. the backup menu. If the RGB interface is used, R 309 is active for the color version, for the monochrome version R 311 is active, if the VGA interface is used (color version only, 6FC5103-0AB 3- AA2), R 311 is active.

Overview of potentiometers used for phase adjustment:

Slimline operator panel version	Text mode	Graphic mode
Monochrome, 4 grey scales	Text mode not possible	R 311
Monochrome, 8 grey scales	R 311	R 311
Color, at RGB interface	R 309	R 311
Color, at VGA interface	R 311	R 309

The MMC-CPU, version VB always operates in the graphics mode regardless of whether the output display is text or graphics.

2.2.4.2.4 Replacing the display

The service life of the 9.5" slimline operator panel display is approx. 30 000 h in the case of the monochrome version and the color version. Replacing the display must be performed by trained personnel only. The handling regulations prescribed for electrostatic sensitive devices (ESD) must be followed.

Note:

Always remove the slimline operator panel from its installed location before replacing the display.

Depending on your slimline operator panel version, you will require one of the following displays for replacement:

- 9.5" monochrome display (order no.: 6FC5 247-0AA15-0AA0)
- 9.5" color display (order no.: 6FC5 247-0AA16-0AA0)
 - 1 backlight (order no.: 6FC5147-0AA00-0AA0)
 - 10 backlights (order no.: 6FC5147-0AA02-0AA0)

See Section 2.2.4.2.5 for replacing the backlight

Proceed as follows when replacing the display:

1. Before the slimline operator panel is disassembled, please ensure that a clean and soft surface is available on which to place the display (danger of being scratched).
2. Switch off the entire system, verify isolation from supply and protect against unauthorized power up.
3. Disconnect external connectors:
X111, X331, X121, X131, X141, X241 (or X251), X211, X221, X231 (instead of RGB interface possibly X261), ground terminals and shielding
4. Release all cable strain relief elements.
5. Loosen 14 M4 screws at the operator panel front, remove the operator panel and place it on a soft surface where it cannot slip or tip over.
6. Loosen 3 M3 torx screws () on the cover (see Fig. below), then tilt the cover upwards and remove it.

