

Application Note 63

TMC22x5y register and XLUT maps for NTSC and PAL composite comb filter

The following two register and XLUT maps provide a good compromise between the requirements for the Zone plate test patterns and other test patterns such as SMPTE bars and reverse color bars.

The input for both maps is assumed to be line locked composite video, at a 13.5MHz pixel data rate. While the output is [4:4:4] YUV component video, with syncs on Y.

Please note that unless conflicting with your system requirements both the complete register and XLUT map should be loaded.

Any question please contact:

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NTSC, Line locked video in, YUV component video out.

TMC22X5Y Registers

0xC0, 0x01, 0x00, 0xA1, 0x20, 0x00, 0x0C, 0x10,
0x40, 0x00, 0x34, 0x00, 0x80, 0x14, 0x24, 0x09,
0x5A, 0x50, 0x2E, 0xD6, 0x23, 0x00, 0x01, 0x00,
0x15, 0x35, 0x3D, 0x51, 0xC6, 0x01, 0x00, 0x00,
0x40, 0xF8, 0xE0, 0x43, 0x43, 0x43, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x40, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0xFF, 0xFF, 0xFB, 0x00, 0xFE, 0x00, 0x00, 0x00,
0x00, 0x04, 0x4D, 0x00, 0x8C, 0x00, 0xCD, 0x01,
0xFF, 0x02, 0x02, 0x9C

TMC22X5Y KLUT

0x1F, 0x1F, 0x1F, 0x13, 0x08, 0x05, 0x05, 0x05,
0x1F, 0x1F, 0x1F, 0x13, 0x08, 0x05, 0x05, 0x05,
0x1F, 0x1F, 0x12, 0x0A, 0x05, 0x05, 0x05, 0x05,
0x1F, 0x1E, 0x0F, 0x05, 0x05, 0x05, 0x05, 0x05,
0x1D, 0x1C, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x0A, 0x07, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x1F, 0x1C, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x1F, 0x1C, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x1D, 0x1B, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x1C, 0x18, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x12, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x1F, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x1F, 0x1C, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x1D, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x05,
0x05, 0x05, 0x05, 0x05, 0x05, 0x01, 0x01, 0x01,
0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x01, 0x01, 0x01,
0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x01, 0x01, 0x01,
0x05, 0x05, 0x05, 0x05, 0x05, 0x05, 0x01, 0x01, 0x01

PAL, line locked composite video in, YUV component data out

TMC22X5Y Registers

0xDB, 0x01, 0x00, 0x24, 0x08, 0x00, 0x00, 0x15,
0x40, 0x08, 0x36, 0x00, 0xC0, 0x04, 0x14, 0x09,
0x60, 0x53, 0x32, 0xC0, 0x23, 0x00, 0x01, 0x00,
0x00, 0x07, 0x24, 0x51, 0x00, 0x05, 0x00, 0x00,
0x90, 0x15, 0x13, 0x54, 0x24, 0x25, 0x07, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x01, 0xFF, 0xFF, 0xEE, 0xFC, 0x00, 0x00, 0x3F,
0xFD, 0x20, 0xCD, 0x00, 0x80, 0x00, 0xCD, 0x03,
0xFE, 0x88, 0x4A, 0x9F

TMC22X5Y KLUT

0x1F, 0x1F, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04,
 0x1F, 0x1F, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04,
 0x12, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04,
 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04,
 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04,
 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04,
 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04,
 0x1F, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04,
 0x1F, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04,
 0x09, 0x04, 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01,
 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01,
 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01, 0x01, 0x01,
 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01, 0x01, 0x01,
 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01, 0x01, 0x01,
 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01, 0x01, 0x01,
 0x1F, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04,
 0x1F, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04,
 0x09, 0x04, 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01,
 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01,
 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01, 0x01, 0x01,
 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01, 0x01, 0x01,
 0x1F, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04,
 0x1F, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04, 0x04,
 0x04, 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01, 0x01,
 0x04, 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01, 0x01,
 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01, 0x01, 0x01,
 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01, 0x01, 0x01,
 0x04, 0x04, 0x04, 0x04, 0x01, 0x01, 0x01, 0x01, 0x01

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