Translating DVD Video

With Pericom's PI5C3245 and PI5C16212 Bus Switches

by Mike Parsin April 15, 1997

Introduction

Brooktree has included Pericom's PI5C3245 octal bus switch in a recent reference design. This brief shows the Bt864A video encoder used in a DVD application. The Bt864A operates from 3.3V yet the data and controls are generated from a 5V MPEG decoder chip. The three PI5C3245 devices are 5V-to-3.3V translators (but are biased at 4.3V). It should be noted that the three PI5C3245 devices can also be replaced with one PI5C16212 24-bit bus switch (not shown). DA402K can be replaced with a standard 1N914 or 1N4001 signal diode. This diode is used to drop the 5V voltage by 0.7V and establish the 4.3V supply needed to bias Pericom's PI5C3245. When the enable is asserted "low," the switch is in the translator mode. When enable is high, the switch is in the high impedance state.

Compressed serial data is taken from the DVD disk by a DSP processor and decoded by a C-Cube type MPEG decoder. The Brooktree Bt864A encoder can take 8-bit or 16-bit data in a YCbCr 4:2:2 format and encode it to Y-C (S-Video), composite, or RGB(SVGA). This design supports both NTSC and PAL formats.