



## ***TransVision™ TV3 versus the competition***

Front projection systems for home theater have been swiftly gaining popularity. DLP™ Technology from Texas Instruments is the latest to be incorporated into front projection systems, especially after the introduction of the high-definition 1280 x 720 (720p) resolution DMD. Recently a number of manufactures introduced DLP™ projectors based on TI's HD2 DMD for the home theater front projection market.

In most home theater environments, the projector is mounted on the ceiling and the cables connecting the projector to the video sources typically are run through the inside of the walls. A full blown home theater requires that the projector accept and display at least one of each video signal types (Composite, S-Video, Component, RGB, and DVI (HDCP) and provide connectivity to DVD players, Satellite and Cable Converters, VHS and D-VHS VCRs, HDTV Tuners, PVRs (Personal Video Recorders), and personal computers.

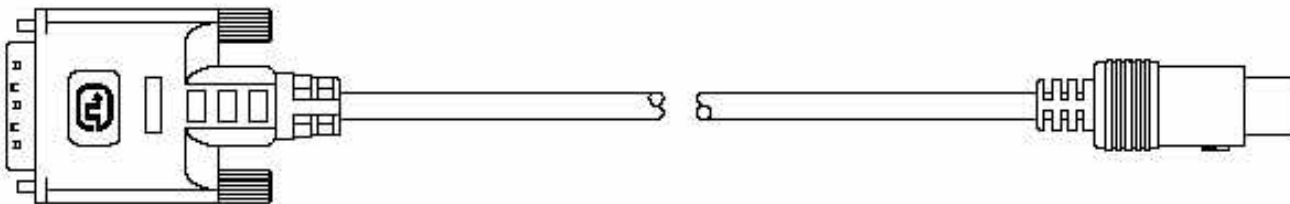
Competing projectors are designed with all video inputs and controls positioned on the projector itself, requiring several video cables and additional equipment to switch and control the video sources. These rival systems not only make installation very difficult, they are also not cost-effective.

DWIN's TransVision™ TV3 is the only projection system consisting of uniquely designed complementary components, a 720p DLP™ projector and a Video Controller/Processor.

The TransVision's™ Video Controller accepts 10 video inputs (2 DVI with HDCP, 2 RGB, 2 Component, 2 S-Video, and 2 Composite), performs digital video signal processing/scaling, and provides video source switching and video controls. Unlike competing projectors, TransVision's™ Video Controller is designed to be located in the home cinema component rack near all of the video sources.

All analog/digital video signals are processed into a 1280 x 720 resolution digital (DVI) signal and the output of the video controller is connected to TransVision's™ DLP™ Projector via a single proprietary digital (DVI) cable.

DWIN, in conjunction with Total Technologies Limited, has developed proprietary DVI cables to connect the TransVision™ TV3 Video Controller to our DLP™ Projector.



The standard rectangular DVI connector is fairly large in size (approximately 2" wide) making it difficult to run through the walls. DWIN's solution is to terminate one end of the DVI cable with a 1" circular connector that can easily run through a 1" conduit. DWIN offers these proprietary cables in 6 different lengths: 25, 30, 35, 40, 45, and 50 feet.

Another common problem found in rival projectors is the inability to project images below the projector's lens level for a comfortable eye-level viewing. Some projectors offer a lens shift mechanism for adjusting the projection angle i.e. offset projection, but the range is limited to the lens level. Some do not offer lens shift at all.

To position the screen for proper viewing level, rival projectors must be tilted -- unfortunately, tilting the projector causes a "Keystone" shaped distorted image. To correct this problem, these projectors offer digital keystone adjustment. This "adjustment" reduces the width of the image at the bottom of the screen by allowing the user to electronically alter the image until it is the same width at the top and bottom. Reducing the image width consequently reduces the horizontal resolution and the picture quality deteriorates considerably.

DWIN's TransVision™ TV3 is the only projection system that has a lens-shift mechanism with an offset range of 40% of screen height from lens level. This means, for example, with a TV3 flush-mounted to the ceiling and used with a 100" wide screen, you could place the top visible portion of the screen a full 30" down from the ceiling (to calculate your screen, check [www.dwin.com](http://www.dwin.com) and use the projector throw distance calculator).

Obviously, the best way to replicate the true cinematic experience is to deliver the best picture quality possible. To do this, a DLP™ projector must incorporate an optical system that can ensure the highest contrast ratios and lowest black levels. The competition uses optical systems that were originally designed for the business display market.

The DLP™ projection systems employ a DMD device that reflects light from its array of moveable micromirrors. The light coming from the lamp illuminates the DMD's surface and then the individual micromirrors steer the light through the projection lens and onto the screen. For a totally black screen the micromirrors must steer all the light away from the projection lens. A small amount of light from the DMD leaks into the projection lens, causing a dark gray field, rather than a pure black. Texas Instrument is continuously improving the DLP™ technology.

The optical design of competing projectors utilize a Total-Internal-Reflectance (TIR) prism in-between the DMD and the projection lens to separate the illumination and projection light. The TIR prism's surface reflections significantly increase the scattered light entering the lens, resulting in a degradation of contrast.

DWIN's TransVision™ TV3 optical system is designed without a TIR prism, or any other lens, between the DMD and the projection lens, guaranteeing the highest contrast ratio of any DLP projector in the home theater front projection market.

Since most competitors have come from the presentation (data) projector business, only discovering the Home Theater market recently, the majority of their projector knowledge is for Data projectors, which were never designed to handle video properly. Conversely, since 1990, DWIN has designed and built all of its projectors exclusively for the Home Theater market. In addition, all DWIN video systems incorporate our proprietary, patented, award-winning video processing.

Finally, the cable and satellite providers have recently announced that their future set top boxes will have a DVI / HDCP output. DVI or Digital Visual Interface is a digital video connectivity standard developed by DDWG (Digital Display Work Group) as a way to transport digital video from a source to a digital display. HDCP, or High-Bandwidth Digital Content Protection, is an encryption/decryption standard for DVI signals.

In anticipation of this upcoming standard, DWIN has licensed DVI and HDCP technologies and have implemented them into our TransVision™ TV3 to ensure that our customers will not be denied these higher resolution sources.

Perhaps even more impressive than all of its technical capabilities, in a 720p DLPTM market which ranges in price from 10K to 17K, the US-built TV3 is priced at \$10,500.00 -- making it not only the best projection system but the best value as well.