

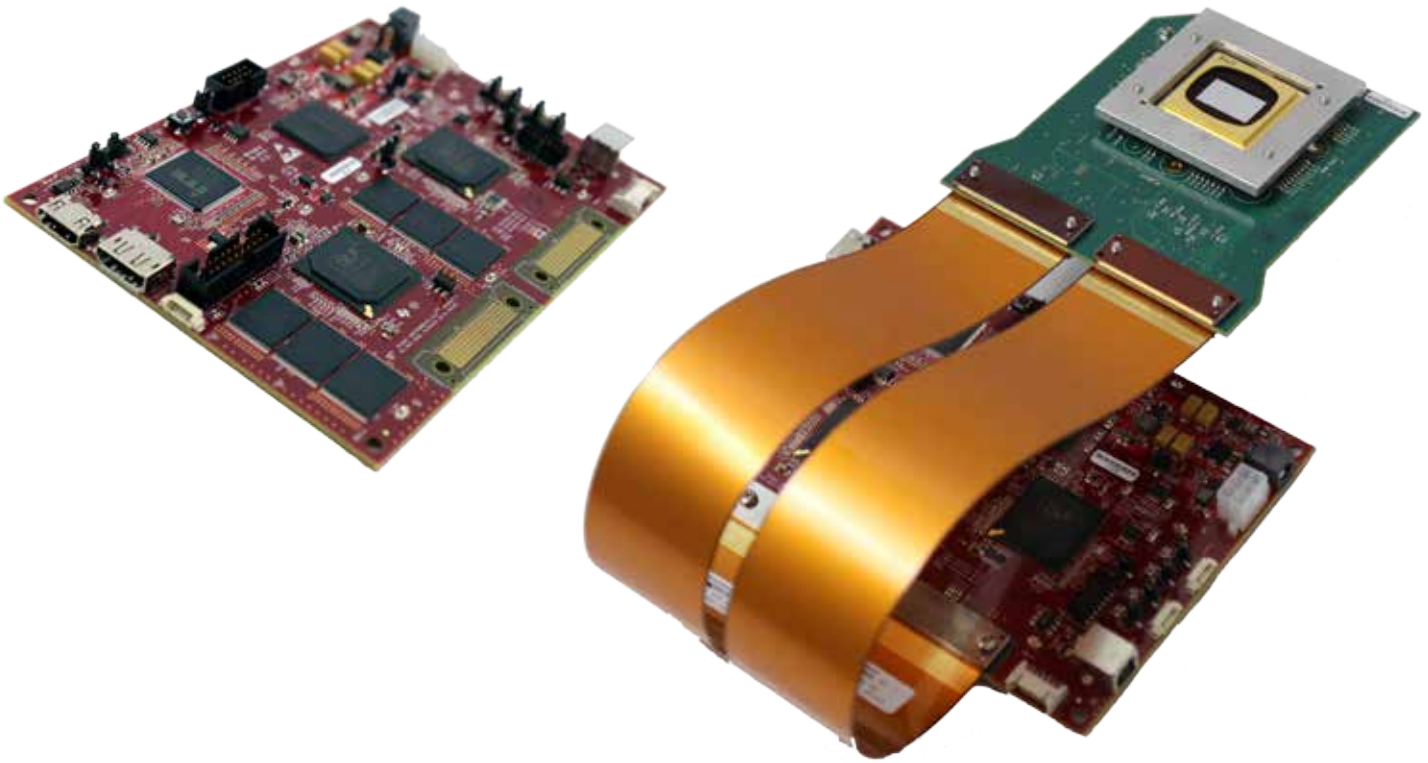
DLi DIGITAL LIGHT[®]
innovations

A TyRex Technology Family Company

DLi9000 Development Kit **PRODUCT GUIDE**

World Leader in DLP[®] Light Exploration

Digital Light Innovations • (512) 617-4700 • dlinnovations.com



DLi9000 Development Kit

The **DLi9000** is a high performance, highly flexible DLP® development kit for a wide array of light steering applications and is an easy path for solutions maximizing resolution, optical throughput and brightness.

The DLi9000 is based on the DLP® LightCrafter™ 9000 EVM and features the 0.9" WQXGA Type-A DMD, which offers true HD resolution, 2560 x 1600, and over 4 million micromirror pixels.

At the heart of the DLi9000 Development Kit is the DLPC900 Digital Controller, which allows for high-speed binary pattern rates up to 9,500Hz. This helps enable real time 3D Machine Vision measurements, faster 3D Printing builds, and more accurate digital light exposures with competitive cycle times in industrial markets. The DLi9000 also allows designers maximum flexibility to create and sequence light patterns, which can easily be controlled via the provided host graphical user interface (GUI) Control Software or DLPC900 API.

The DLi9000 has 2x user-configurable I/O triggers for convenient synchronization with cameras, sensors, or other peripheral devices. The added flexibility enables diverse architectures for industrial, medical, security, telecom, and instrumentation applications.

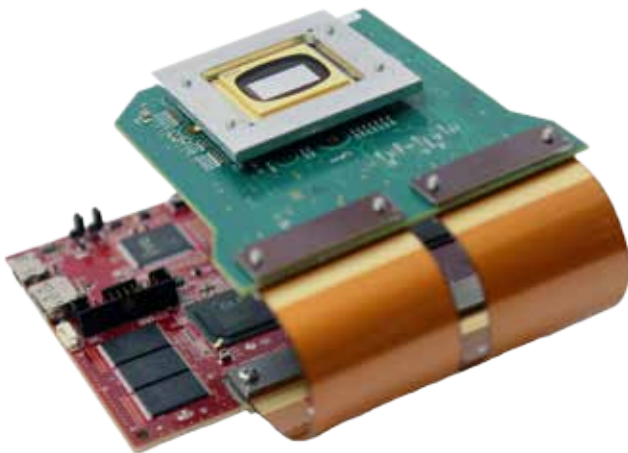
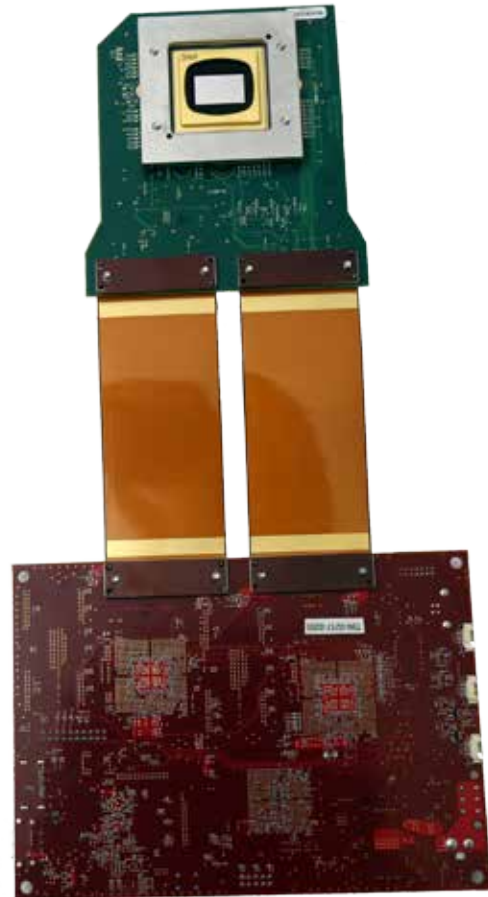
The DLP® LightCrafter 6500/9000 Firmware & Software Bundle includes a GUI which gives users full control over the DLPC900 right out of the box, including parameters such as pattern rate, bit depth, LED strobing & brightness, pattern mode, syncs/triggers, and more.

Numerous ports and connectivity options offer system flexibility and simplify chip integration into a wide array of end equipment. This high-performance programmable light-steering solution is ideal for customizing industrial, medical and scientific applications.

DLi9000 Development Kit Breakdown

DLi9000 Development Kit **SPECIFICATIONS**

- DLP® Digital Micromirror Device (DMD)
 - DLP9000 .9" WQXGA Type-A DMD
- DLP® Support Chip
 - DLPC900 Digital Controller
- Resolution
 - 2560 x 1600 (WQXGA)
 - > 4 Million Micromirrors
- Pattern rates:
 - 1-bit - 9,500Hz
 - 8-bit - 250Hz
 - Video - 60Hz
- 2 Configurable I/O triggers for synchronization with cameras and other external devices
- USB 1.1 / HDMI / DisplayPort
- Compatible with all Windows platforms



DLi9000 Development Kit

CONTENTS

- DLP® LightCrafter™ 9000 Controller Board
- DLP® DMD & Support Chip
 - DLP9000 .9" WQXGA Type-A DMD
 - DLPC900
- DMD Board
- DMD Hardware
- Flex Cables
- DLP® LightCrafter™ 9000 Firmware & Software Bundle
- Power Supply & Cable / USB Cable / HDMI Cable / DisplayPort Cable / GPIO Cable / Trigger Cable / Driver Cable

DLi9000 .9" WQXGA Development Kit Specifications

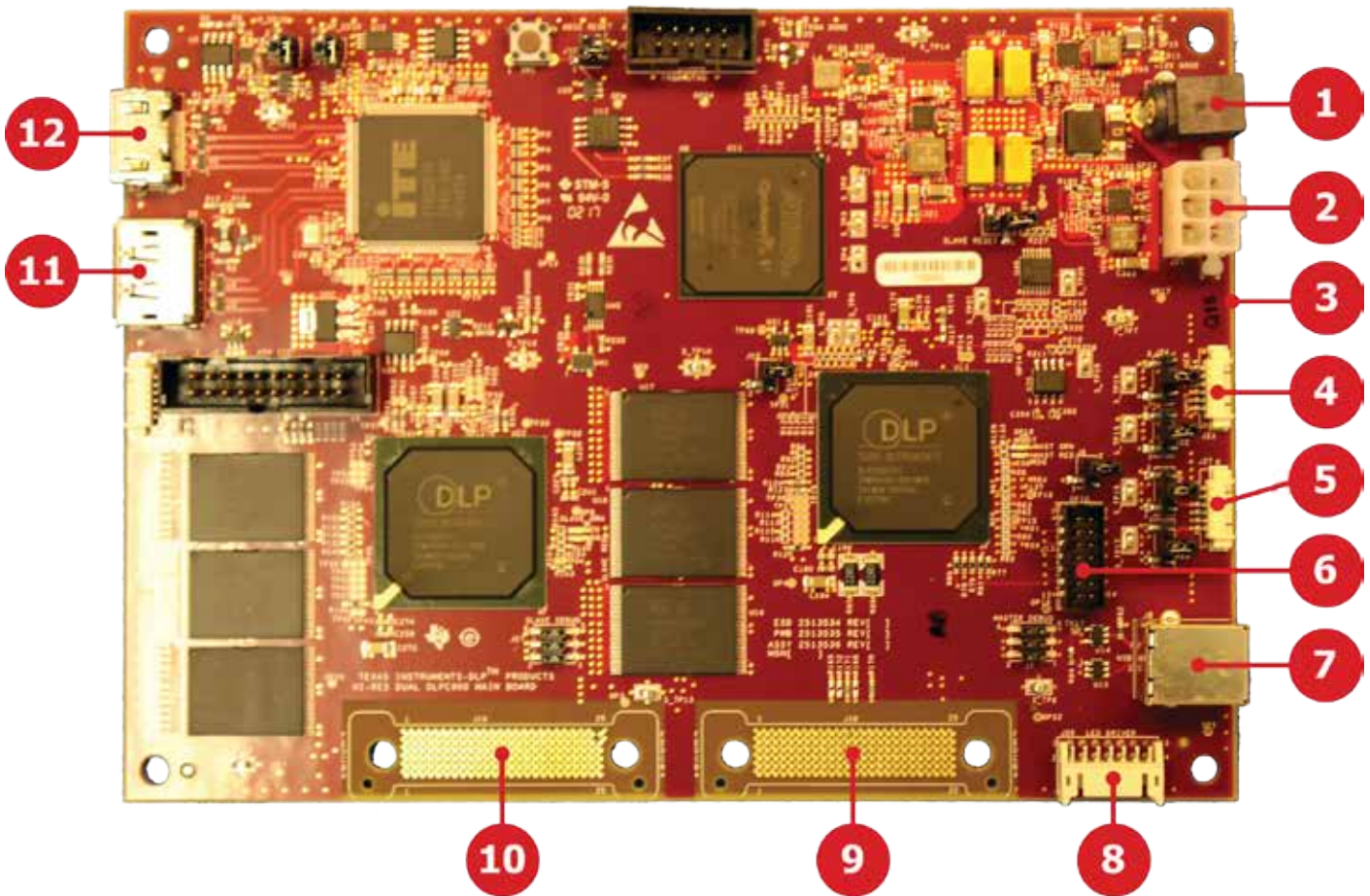
DLi9000 .9" WQXGA Development Kit



Control Board	DLP® LightCrafter™ 9000
DMD Options	DLP9000 .9" WQXGA 2xLVDS Type-A DMD
Support Chips	DLPC900
Window Coating	VIS
Controller Software	DLP® LightCrafter™ 6500 / 9000 GUI DLPC900 API
Parts & Assembly	0.9" WQXGA Type-A DMD Board, 5" or 12" Flex Cables (2), DMD Mounting Hardware, Power & Cable Kit, Power Supply
Resolution	2560 x 1600 (WQXGA)
Micromirror Pitch	7.6µm
Controller Interface	USB 1.1 HDMI DisplayPort
Pattern Rates	1-bit - 9,500Hz 8-bit - 250Hz 8-bit Grayscale Video - 60Hz
USB Transfer Rate	<0.5*fps
On Board Memory	48MB Parallel Flash (2x)
Binary Pattern Storage	400
I/O Triggers	Master/Slave
Configurations	n/a
Optics Module (OM)	n/a

*Typical value, can vary depending upon data compression ratio and PC used

DLP® LightCrafter™ 9000 Main Board



- | | |
|-----------------------------------|------------------------------------|
| 1. Power Socket | 7. USB |
| 2. Power Connector | 8. LED Enable / PWM Output |
| 3. I ² C (bottom side) | 9. Master DMD Flex Cable Connector |
| 4. External Trigger Input | 10. Slave DMD Flex Cable Connector |
| 5. External Trigger Output | 11. DisplayPort |
| 6. GPIO Input / Output | 12. HDMI |

DLP9000 .9" WQXGA Type-A - Block Diagram

