# ImageWriter

## *Atmel ATMega6490(V) Device Support Detail & Setup*

**ImageWriter Support Hierarchy**

**Manufacturer:** Atmel

**Device:** ATMEGA6490

## Objects for ATMEGA6490

| *Flow Object Name:* | *Program / Execute* | *Verify* | *Load* | *Object Size (Bytes)* |
|---|---|---|---|---|
| FLASH | ● | ● | ● | 0x10000 |
| EE | ● | ● | ● | 0x800 |
| LOCKBITS | ● | ● | ● | 1 |
| FUSE BYTES | ● | ● | ● | 3 |
| SIG BYTES | | | ● | 3 |
| ERASE | ● | | | |
| CALIB BYTE | | | ● | 1 |
| p_SPI[1] | ● | | ● | 0x8 |

[1] Default SPI clock frequency = 250KHz

## Physical Layer Connector Setup for ATMEGA6490

| ImageWriter: | | Target: |
|---|---|---|
| ***Connector Pin #*** | ***Pin Name*** | ***Connections*** |
| 1 | GND | GND |
| 2 | GND | GND |
| 3 | TXD (MOSI/TDO) | MOSI |
| 4 | RXD (MISO/TDI) | MISO |
| 5 | RTS (TMS) | NOCONN |
| 6 | CTS | NOCONN |
| 7 | XCLK | SCK |
| 8 | RST | RESET |
| 9 | SCL | NOCONN |
| 10 | SDA | NOCONN |
| 11 | GND | GND |
| 12 | GND | GND |
| 13 | VPP/EXT_IN | NOCONN |
| 14 | VPP/EXT_OUT | NOCONN |
| 15* | Target V+ (7.0V max) | Supply 1.8-5.5 V |
| 16* | Target V+ (7.0V max) | Supply 1.8-5.5 V |
| 17 | GND | GND |
| 18 | GND | GND |
| 19 | ImageWriter Power | Supply 9-24 VDC |
| 20 | ImageWriter Power | Supply 9-24 VDC |

*Maximum Pin-Driver output voltage = 4.2V.
*ATMEGA6490V is supported by same menu selection. VCC/TargetV+ range for ATMega6490V is 1.8-5.5V, whereas ATMEGA6490 is 2.7-5.5V. All other parameters are identical. See Manufactures device data-sheet for more information.

## Support Notes:

1. Onboard programming is supported via SPI interface only.
2. A post-programming Flash Verify operation is highly recommended to ensure data integrity.
3. Erase always erases FLASH memory and LockBits. However, depending on fuse configuration EE may also be erased. Consult manufacturer data-sheet for more information on preserving EEPROM memory during erase.

4. Fuse bit mapping is per manufacturer data-sheet. All bits stored in ImageWriter memory must be properly set. Extended Fuse Byte is first address. Fuse High-byte is the second address, Fuse Low-byte is third address in memory.

## Disclaimer

Typical implementation of **ImageWriter** includes but is not limited to external power provision to **ImageWriter**, device access restrictions on the target board, external hardware on the target board, or software changes created by the user affecting timing, device erasure, programming, or verification. Data I/O warranty coverage applies only when the product is used in conformance with technical specifications put forth by Data I/O and by the semiconductor device manufacturer.

In the interest of achieving the highest levels of safety and quality, Data I/O recommends that all programming processes be tested and documented in a prototype project prior to transition to volume manufacturing. For additional information see In-System Programming Design Guidelines (http://www.dataio.com/isp).

**ImageWriter** programs semiconductor devices through the use of circuits designed precisely to operate in accordance with specifications outlined by the device manufacturer. Provision and calibration of power supplies are critical for proper operation. **ImageWriter** has been fully tested by Data I/O Corporation for quality performance.