ImageWriter

Texas Instruments TMS320F2808 Device Support Detail & Setup

ImageWriter Support Hierarchy

Manufacturer: TI

Device: TMS320F2808

Objects for TMS320F2808

Flow Object Name:	*Program / Execute*	*Verify*	*Load*	*Object Size (Bytes)*
Flash	●	●	●	0x1FFF0
Erase	●			
p_RS232[1]	●		●	0x08
p_TMS320F[2]	●	●	●	0x08

[1] Default Baud Rate = 115.2KBaud

[2] Default External Oscillator Rate 20 MHz, alternative is 50MHz.

Physical Layer Connector Setup for TMS320F2808

ImageWriter:		Target:
Connector Pin #	***Pin Name***	***Connections***
1	GND	GND
2	GND	GND
3	TXD (MOSI/TDO)	GPIO28
4	RXD (MISO/TDI)	GPIO29
5	RTS (TMS)	*See note 1
6	CTS	NOCONN
7	XCLK	NOCONN
8	RST	!XRS
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)	VCC I/O
16*	Target V+ (7.0V max)	VCC I/O
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.

[1] Pin 5 must be connected to Pin 4 with an external 1K Ohm resistor in series.

Support Notes:

1. **!! IMPORTANT !!** This algorithm supports Target Boards with a 20.0MHz input frequency to the TMS320. Only alternative is 50.0MHz, implemented with the p_TMS320F object. Use it to program a decimal value of 50 (0x32).
2. Onboard programming is supported via RS-232 (SCI-A) Boot Mode interface. In addition to the Physical Layer connections shown above, device pin GPIOF34 must be @ Logic 0. Device pin GPIO18 must be connected @ Logic 1 during ImageWriter operations to properly enter RS-232 Boot Mode.

3. The FLASH object is addressed by ImageWriter in byte-mode, whereas the device is memory-mapped in word-mode natively. Care should be taken to not perform an odd word-boundary programming operation with ImageWriter.
4. Verify occurs automatically during programming, a post-programming verify is optional.
5. TI COFF-object files should be converted into one of several standard ASCII hexadecimal formats suitable for downloading to ImageWriter. Intel Hex is recommended; see TI's HEX2000 utility documentation for more information.
6. ImageWriter Communication baud rate is adjustable via the p_RS232 object, see documentation for details.
7. Erase will erase all sectors of the device.

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.