ImageWriter

MicroChip PIC18F2331/2431/4331/4431 Device Support Detail & Setup

ImageWriter Support Hierarchy

Manufacturer: MicroChip **Library:** MCT-PIC18F-CUSTOM.cab

Device: PIC18F2331, PIC18F2431, PIC18F4331, PIC18F4431

Objects for PIC18F2331/2431/4331/4431

Flow Object Name:	*Program / Execute*	*Verify*	*Load*	*Object Size (Bytes)*	
FLASH	●	●	●	PIC18F2331	0X2000
				PIC18F2431	0X4000
				PIC18F4331	0X2000
				PIC18F4431	0X4000
EEPROM	●	●	●	0x100	
USER ID	●	●	●	0x08	
CONFIG	●	●	●	0x0E	
DEVICE ID		●	●	0x02	
CHIP ERASE	●				
p_MCT18F[1]	●		●	0x08	

[1] Default Clock Speed = 500KHz

I/O Multi Connector Setup for PIC18F2331/2431/4331/4431 High Voltage ICSP Method

ImageWriter:		Target:
Connector Pin #	***Pin Name***	***Connections***
1	GND	GND
2	GND	GND
3	TXD (MOSI/TDO)	See note 1
4	RXD (MISO/TDI)	PGD
5	RTS (TMS)	NOCONN
6	CTS	NOCONN
7	XCLK	PGC
8	RST	NOCONN
9	SCL	NOCONN
10	SDA	NOCONN
11	GND	GND
12	GND	GND
13	VPP/EXT_IN	12.0V DC
14	VPP/EXT_OUT	MCLR
15*	Target V+ (7.0V max)	Supply 4.5-5.5 V
16*	Target V+ (7.0V max)	Supply 4.5-5.5 V
17	GND	GND
18	GND	GND
19	ImageWriter Power	Supply 9-24 VDC
20	ImageWriter Power	Supply 9-24 VDC

[1] Pin 3 must be connect to Pin 4 with an external 1K Ohm resistor in series.

*Maximum Pin-Driver output voltage = 4.2V.

*MicroChip specifies that VCC may be 2.0-5.5V for programming operations; however bulk-erase is only valid with VCC at 4.5V or higher. If you use chip-erase, you must provide 4.5V DC or higher VCC levels.

Support Notes:

1. Onboard programming is supported via both Low and High Voltage ISCP methods. Use only one of the ImageWriter Pin-connection's methods above to connect ImageWriter to your target board.
2. Block limits are not changeable on the Flash Code array. You must program the entire array (including boot-block) for each operation. A Chip Erase operation is not required for the Flash array or the EEPROM array, prior to programming.

3. Fuse bit mapping is per manufacturer data-sheet. All bits stored in ImageWriter memory must be properly set. Note that Config bytes are from device address 0x300000 -> 0x30000D. Byte0 and Byte 7 are often not implemented on 18F series devices, but must be present in your data-space.

I/O Multi Connector Setup for PIC18F2331/2431/4331/4431 Low Voltage ICSP Method

ImageWriter:		Target:
Connector Pin #	***Pin Name***	***Connections***
1	GND	GND
2	GND	GND
3	TXD (MOSI/TDO)	See note 1
4	RXD (MISO/TDI)	PGD
5	RTS (TMS)	NOCONN
6	CTS	NOCONN
7	XCLK	PGC
8	RST	MCLR
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 4.5-5.5 V
16*	Target V+ (7.0V max)	Supply 4.5-5.5 V
17	GND	GND
18	GND	GND
19	ImageWriter Power	Supply 9-24 VDC
20	ImageWriter Power	Supply 9-24 VDC

[1] Pin 3 must be connect to Pin 4 with an external 1K Ohm resistor in series.

*Maximum Pin-Driver output voltage = 4.2V.

*MicroChip specifies that VCC may be 2.0-5.5V for programming operations; however bulk-erase is only valid with VCC at 4.5V or higher. If you use chip-erase, you must provide 4.5V DC or higher VCC levels.

Support Notes:

1. Onboard programming is supported via both Low and High Voltage ISCP methods. Use only one of the ImageWriter Pin-connection's methods above to connect ImageWriter to your target board.
2. Block limits are not changeable on the Flash Code array. You must program the entire array (including boot-block) for each operation. A Chip Erase operation is not required for the Flash array or the EEPROM array, prior to programming
3. Fuse bit mapping is per manufacturer data-sheet. All bits stored in ImageWriter memory must be properly set. Note that Config bytes are from device address 0x300000 -> 0x30000D. Byte0 and Byte 7 are often not implemented on 18F series devices, but must be present in your data-space.

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.