

# HW Getting Started Guide



## PQ-MDS-QOC3 Module

July 2006: Rev. A

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### About This Document

This document shows how to connect the PQ-MDS-QOC3 and verify its basic operation, in a step by step format. Settings for switches and jumpers are shown, including configuring the PQ-MDS-QOC3 for multi-PHY support. This document describes Ver. PROTO-1 of the PQ-MDS-QOC31.0.

### Required Reading

It is assumed that the reader is familiar with an MDS for a MPC83xx, the Platform I/O Board (PIB).

### Definitions, Acronyms, and Abbreviations

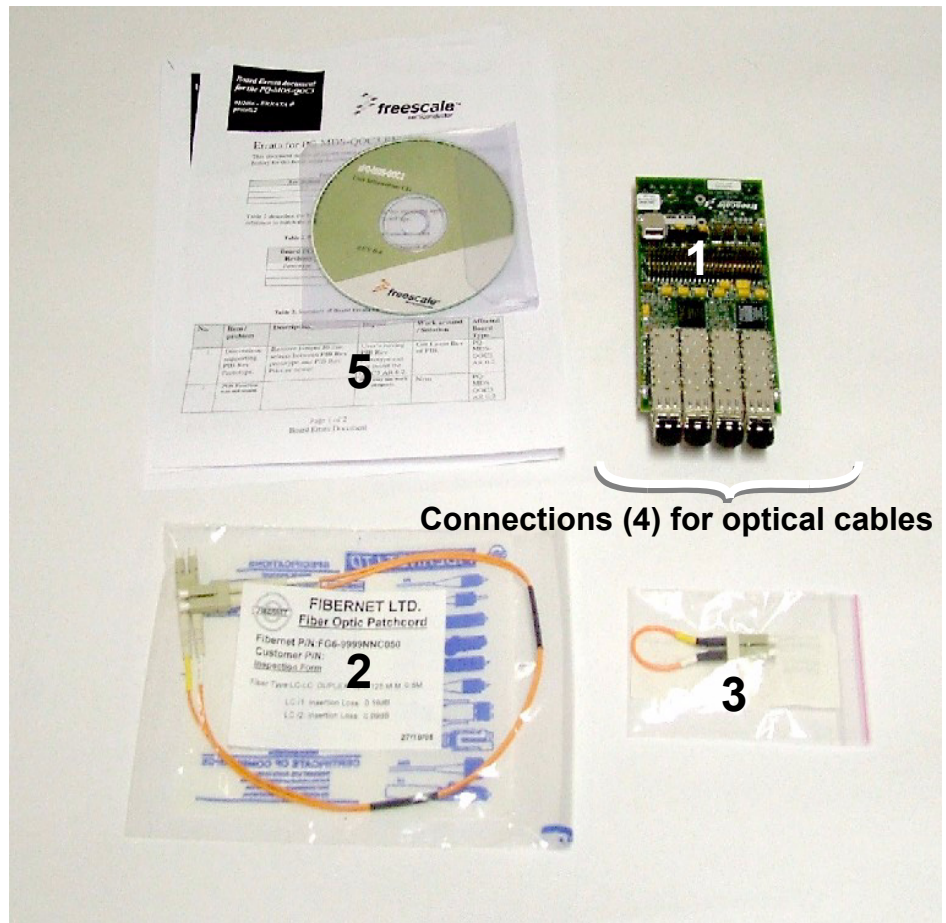
<b>DIP</b>	Dual In-line Package	<b>MDS</b>	Modular Development System
<b>EEPROM</b>	Electrically Erasable, Programmable Read-Only Memory	<b>PHY</b>	Physical connection to ethernet
<b>ENET</b>	Ethernet	<b>PIB</b>	Platform I/O Board
<b>ETH Phy</b>	Ethernet Phy	<b>PQ</b>	PowerQUICC
<b>HW</b>	Hardware	<b>QE</b>	Quick Engine, a functional block in the MPC83xx line of chips
<b>LD</b>	Light emitting Diode	<b>QOC3</b>	Quad-OC3, supplies four OC3 connections
		<b>USB</b>	Universal Serial Bus

## PQ-MDS-QOC3 Module

### HW Getting Started Guide

#### Step 1: Check HW kit contents

1. PQ-MDS-QOC3 Module
2. Fiber Optic bridge ("patch cord")
3. Fiber Optic loop-back cord
4. Headers for multi-PHY connections (not shown)
5. PQ-MDS-QOC3 Module documentation



**Step 2: Check switches and jumpers**

**Step 2.a: J2**

Default factory setting is:

Pins 1-2 connected

Pins 3-4 connected

This setting configures the TXCLK to use the on-board clock oscillator.

**Step 2.b: J3**

Default factory setting is:

Pins 1-2 connected

Pins 3-4 connected

This setting configures the RXCLK to use the on-board clock oscillator.



### Step 3: Configure J4-J7 for Multi- or Single-Device

These jumpers enable connections to support multi-device operation.

Each jumper has a unique signal type associated with it:

- J4: RxEn
- J5: RxClav
- J6: TxEn
- J7: TxClav

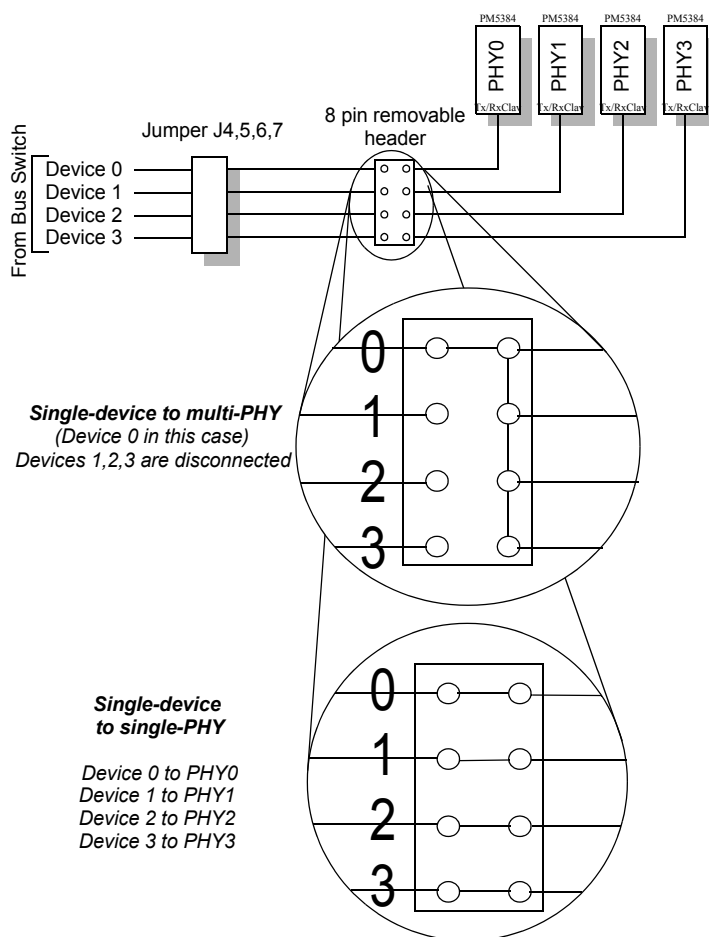
All four jumpers must be configured for the same type of operation. That is, either single-device to multi-PHY, or single-device to single-PHY. If single-device to multi-PHY is used, the same device must be configured for all four PHYs.

The jumpers are configured for this using special removable header connectors, included in the kit. There are several options possible:

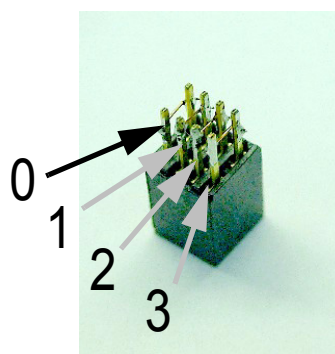
- Single-Device: Device 0 (or 1 or 2 or 3) to all PHYs (Device 0 shown in diagram at right - factory default),
- Multi-Device: Device x to PHY x (also shown in diagram at right)

Verify that the appropriate header is connected. A single-device, single-PHY header is shown in the photo at right. Note the wire connections.

(cont'd on next page)



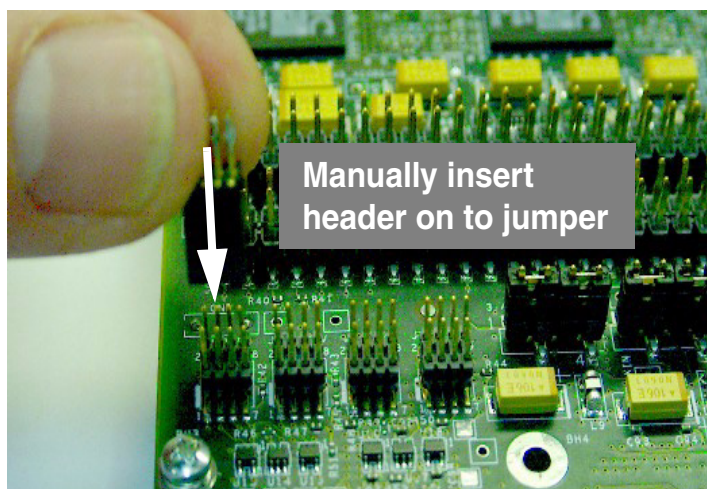
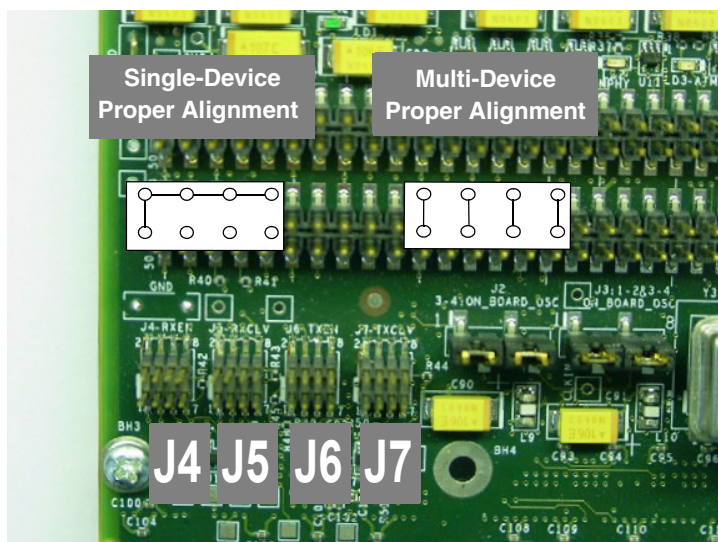
A single-device to single-PHY header is shown below.



(cont'd from previous page)

To connect headers, do the following:

1. Make sure you use the same type of header for all four jumpers.
2. Situate the header in the correct direction: wire connections should be parallel to the long side of the PQ-MDS-QOC3 Module, as shown in the photo at right.
3. If using single-device to multi-PHY, ensure that the transverse wire connections are on the correct side, as shown.
4. Press each header down by hand, as shown in photo, bottom right.



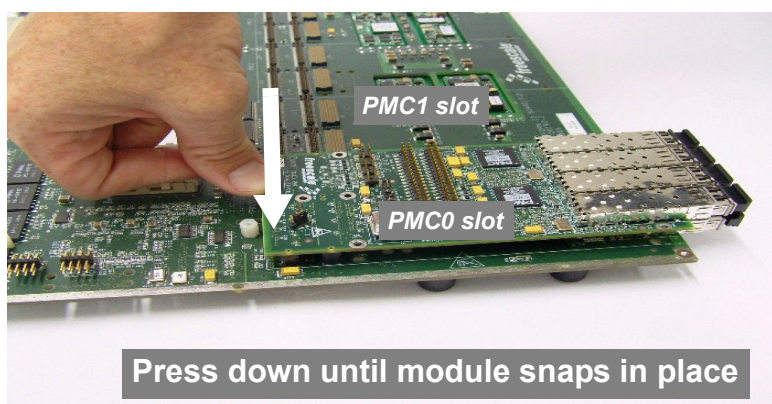


#### Step 4: Connect to Platform I/O Board (PIB)

The PQ-MDS-QOC3 Module can be connected to either the PMC0 or the PMC1 slot on the PIB. This allows for a more flexible configuration.

1. As shown, position the PQ-MDS-QOC3 Module above the PMC0 or PMC1 slot, and match the attachments on the PQ-MDS-QOC3 Module with those on the PIB.
2. Press down until the PQ-MDS-QOC3 Module snaps in place.

You can use the provided metal spacers to hold the PQ-MDS-QOC3 Module in position on the PIB. The metal spacers are optional. Use the spacer holes to connect each spacer.

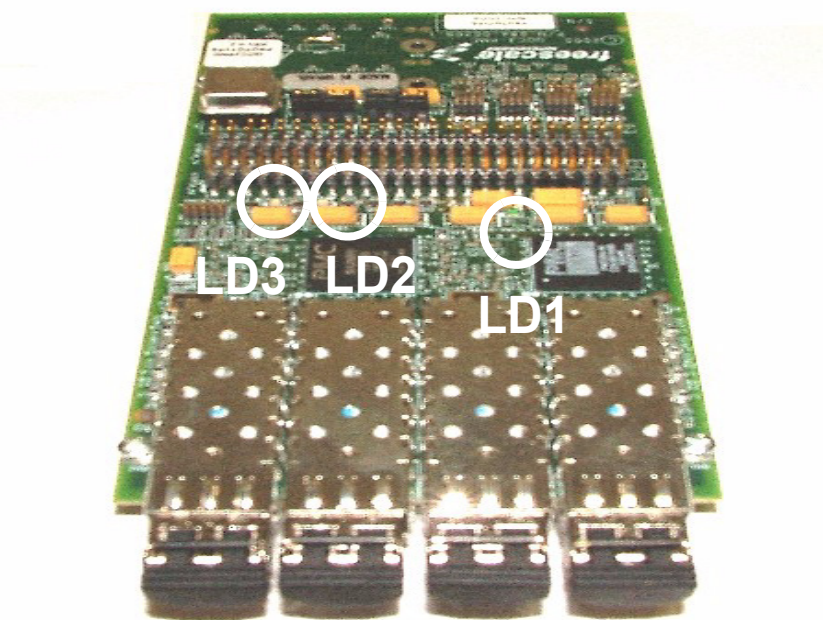


#### Step 5: Power up the PQ-MDS-QOC3 Module

Note that power is supplied to the PQ-MDS-QOC3 Module via the PIB. Power up is done by connecting the PQ-MDS-QOC3 to the PIB.

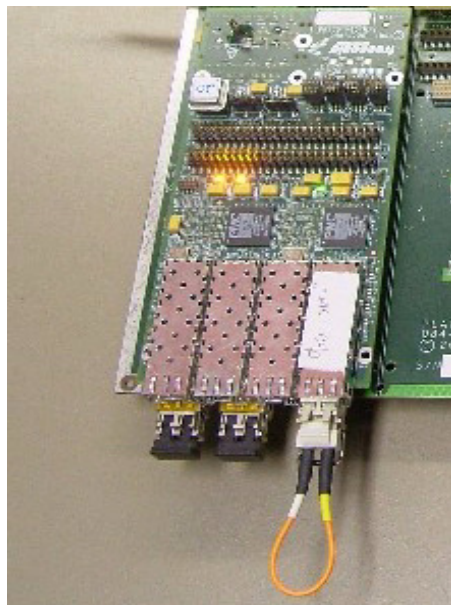
- LD1: Displays a green light.
- LD2: Displays a yellow light.
- LD3: Displays a yellow light.

If any one of these LED's does not operate, the module is faulty, and should not be used.



**Step 6: Connect optical cables in accordance with your specific needs.**

(Optical loopback shown connected in figure)



**Step 7: Configure the PQ-MDS-QOC3 Module via the MPC83xx host card.**

For more information on working with the PQ-MDS-QOC3 Module and how to configure it, see:

- MPC83xx-MDS-PIB User's Manual
- CodeWarrior User's Manual

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