DP83848 AspenPHY Demo II Board
Rock Hopper
Setup Instruction (v1.1)

Revision History:
V1.0 Initial Release
V1.1 Added important note to option 2 of Power Requirements.

Power requirements:
The device requires 3.3V to operate. The on board regulators convert input voltage into 3.3V for the device. Voltage for the device can either be applied through an MII connection, or connecting to a Power Over Ethernet PSE device through these pins: (+) for 1, 2, 4, 5 and (-) for 3, 6, 7, 8 of RJ-45 connector, or an external power supply.

1. *MII connection:* Connect directly to SmartBits or through an MII cable.
   A voltage regulator, U4, will convert 5V generates through the MII connection to 3.3V for the device. Need to install J58.

2. *PSE device through pins:* (+) for 1, 2, 4, 5 and (-) for 3, 6, 7, 8 *of RJ-45 connector.* An onboard POE circuit will detect and convert the voltage to 3.3V for the device. Need to populate 0 ohm resistors (R91, R92, R93, and R94).

   Important: Further finding indicates during hot swap, a significant amount of current presents at L2 caused damage to the LM5070. Prior to use this power option, L2 must be replaced with one zero ohm resistor.

   Note: Tests in lab with 48V @ 4A supply showed that 75 ohm resistors (R101, R102, R103, R104), and R12 are okay to be populated while powering through pins: (+) 4,5 and (-) 7,8.

3. *External 3.3V power supply:* Remove jumper on J58 and resistor R12. Use J55 for external power connections.

To access MDIO through SmartBits: add jumpers to J9.

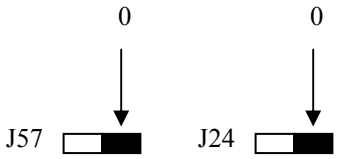
For LED options: Add jumper to J30 pins 1-2, Add jumper to J31 pins 1-2, and Add jumper to J32 pins 1-2.
The datasheet should be referenced for specific LED settings.

Address settings:

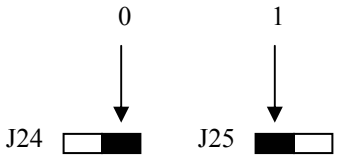
Setting jumpers to High = 1

Setting jumpers to Low = 0

The default of PHYAD0 = 1, result for Phy Address per jumper settings are:



PHY Address 02



PHY Address 5

PHY Address 03

PHY Address 07

Configuration to use with different clocks:

There are two options to choose: Oscillator and Crystal.

1. On this board, a crystal is used as clock input for the device.
2. To use with an oscillator, remove the zero ohm resistor at R63 and place it at R59.

Table of jumpers:

Jumper	Name	Function
J1	MII Header	Alternative connection for MII pins.
J3	MDIX_EN	To Enable/Disable MDIX mode. (Default is Auto-MDIX Enable).
J4	LED_CFG	To set LEDs configuration. See datasheet.
J5	MII_MODE	To work with J17 for MII Mode configuration. See datasheet.
J6 (Not populated)	25MHz_OUT	25MHz clock output
J9	MDIO/MDC	Allow MDIO/MDC signals connect from J1 to J13
J13	MII Male Connector	SmartBits interface
J15	JTAG pins	JTAG interface
J16	PWR_DWN/INT	To set Power Down and Interrupt Mode
J17	SNI	To work with J5 for MII Mode configuration. See datasheet.
J18, J19, J20, J21, J22	Ground Post	Randomly placed grounding posts
J57, J24, J25	PHYAD [2:0]	Phy Addresses strap pins
J30, J31, J32	AN_EN, AN1, AN0	Auto-Negotiation strap pins
J50	Connector	RJ-45 connector
J55	External 3V3	To apply external 3.3V supply to the board. J58 must be removed.
J56	RESET_N	To apply external RESET
J58	Global 3V3	To allow global 3.3V supply to the board.
J59	50MHz	50 MHz clock input for RMII mode

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