



# SOHO GUI training

Version 0.1

10-4-2009

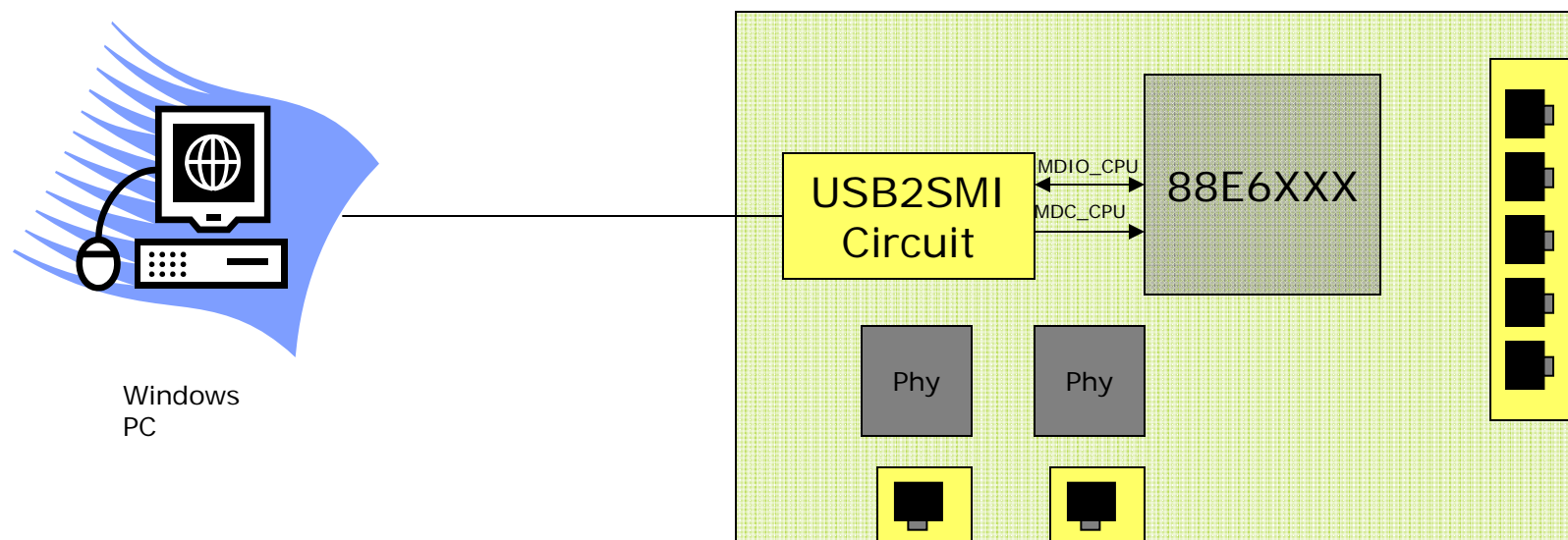
## Agenda

- ▶ Overview of new features
- ▶ Switch GUI usage Cases
- ▶ SWITCH GUI Installation
- ▶ Switch GUI overview

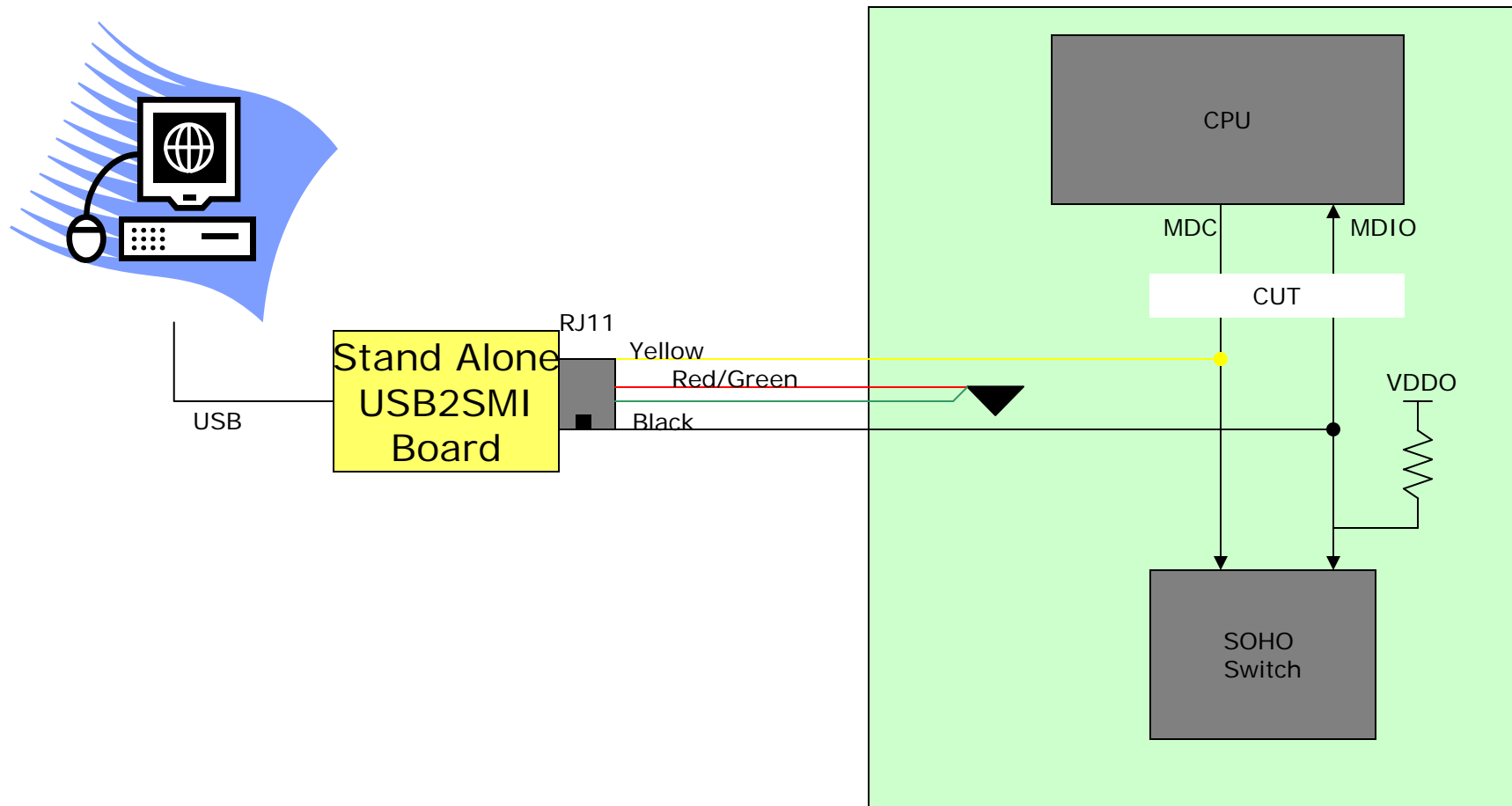
## New Features in GUI

- ▶ **Supports Multiple Instances**
- ▶ **Enhanced script capturing capabilities**
  - Creates EEPROM file
  - Creates CLI script
- ▶ **Command Line Interface**
  - Register Read and Write can be done on a DOS type CLI
- ▶ **Register Dump**
  - Dumps all switch registers to an Excel Style Table
- ▶ **Dec/Bin/Hex Data Access**

## Marvell GUI Usage Case 1 Marvell Development Board with on-board USB2SMI adaptor



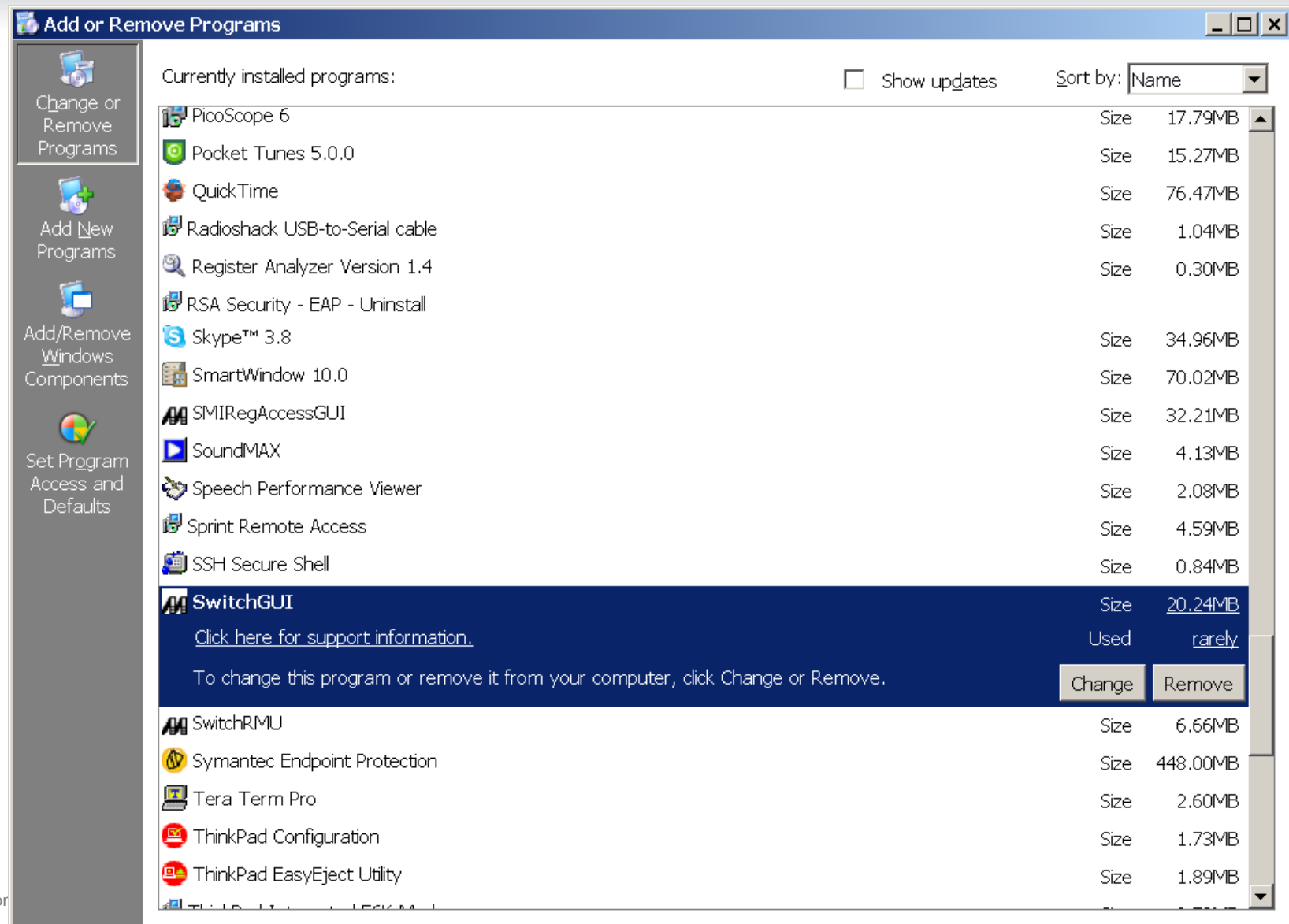
## Marvell GUI Usage Case 2 Customer Board using USB2SMI adaptor



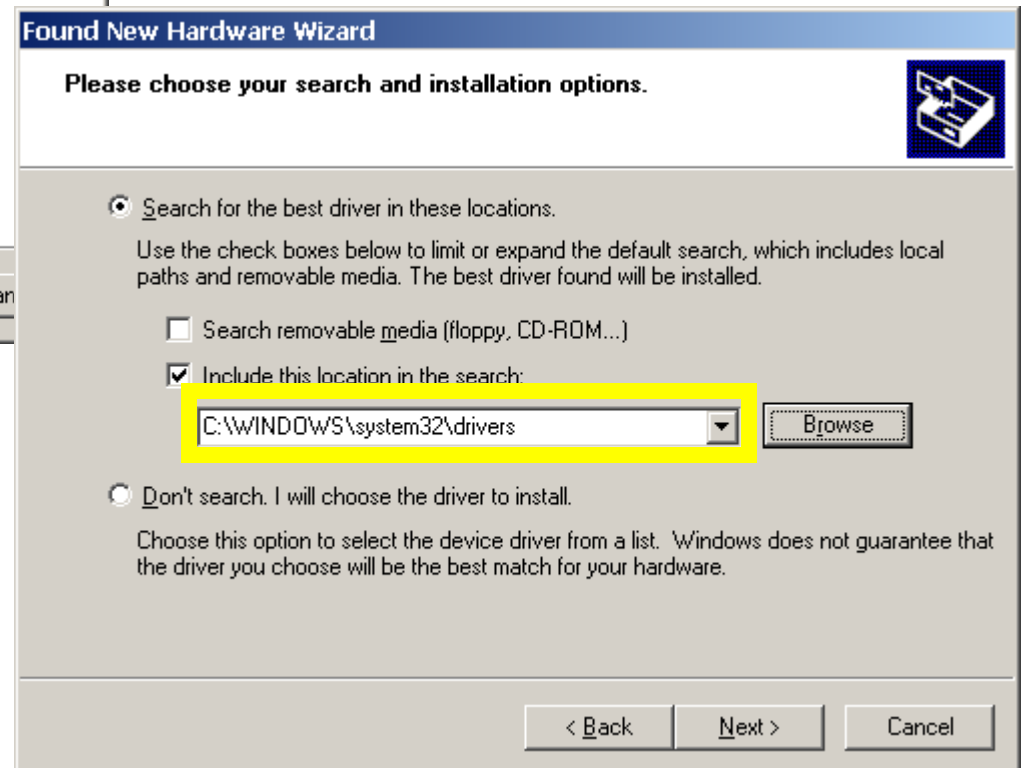
## Marvell GUI installation

- ▶ **Before installing a new version of Switch GUI Uninstall old GUI via Add/Remove Programs**
- ▶ **Where to get software**
  - My Products > Switching > Link Street SOHO Switch Family > Gigabit Ethernet Switches > [Any Product] > **Development Boards** > [GUI Software for SOHO Products](#)
- ▶ **This requires the installation of the Microsoft .net framework which will be installed automatically if not already installed**
- ▶ **Plug USB cable into Marvell development board**
- ▶ **Install Driver**

## Un-Install Old version Before installing new version

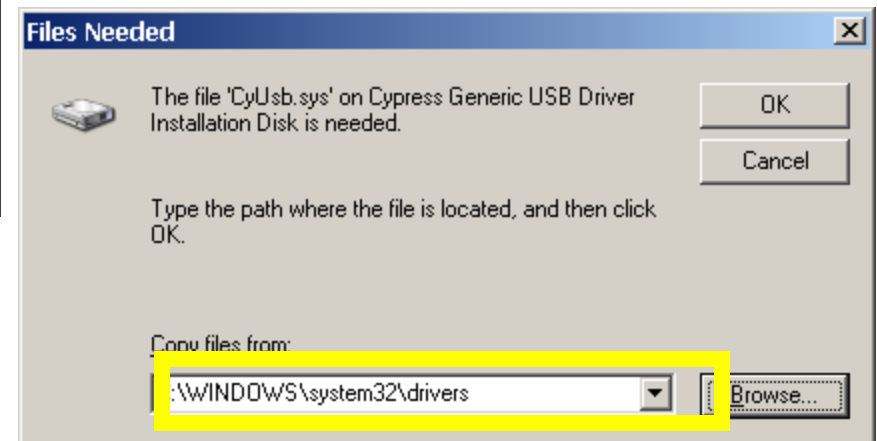
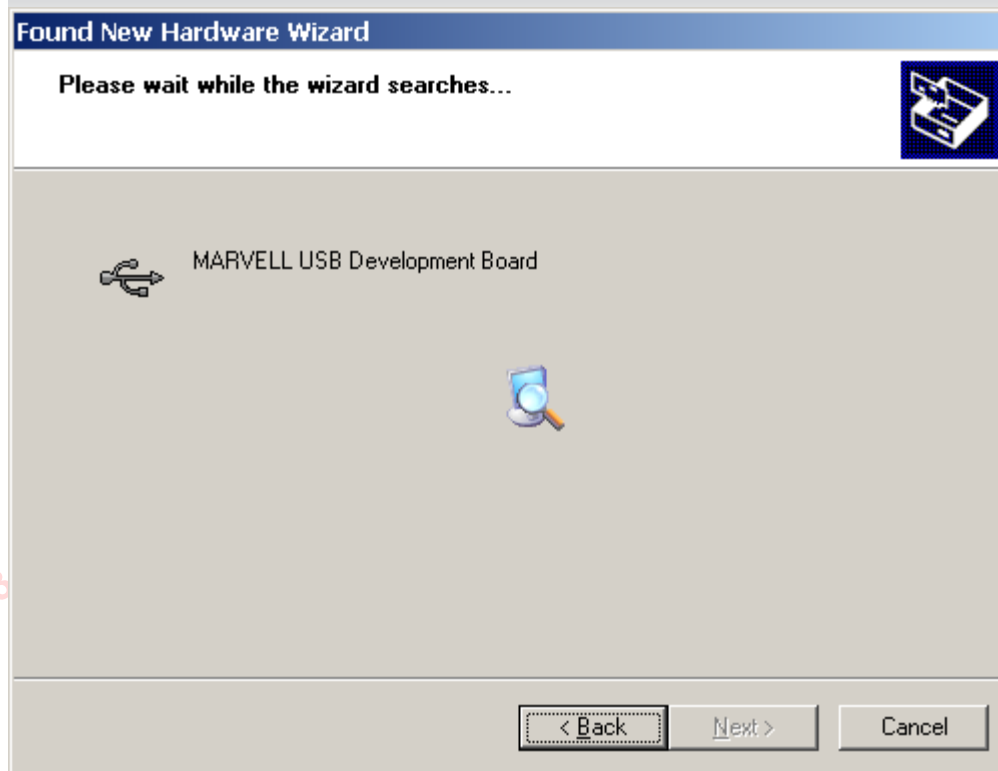


# Installing Driver for Marvell Development Board 1





## Installing Driver for Marvell Development Board 2



## Installing Driver for Marvell Development Board 3

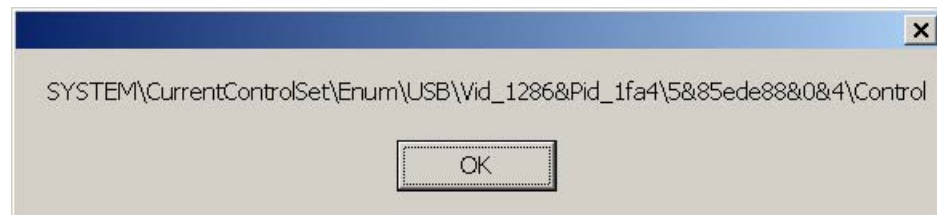
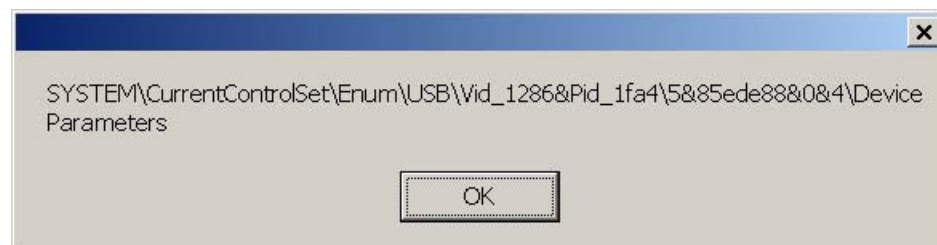


- ▶ After clicking Finish, Windows should indicate new Hardware is ready to use

## Cleaning Up Driver entries in Registry

**C:\Program Files\Marvell\SwitchGUI\CleanReg.vbs**

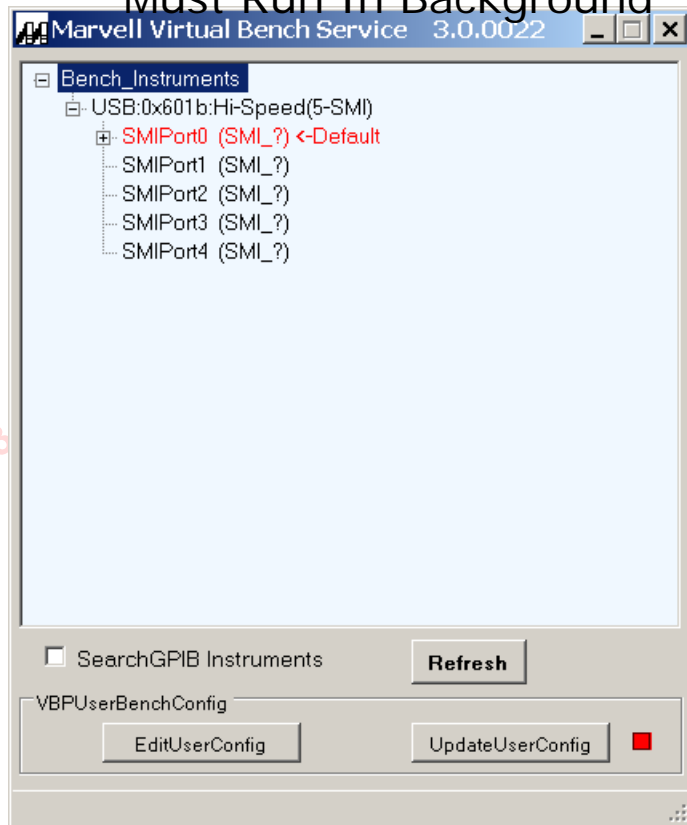
*Do this only if you have trouble with Driver*



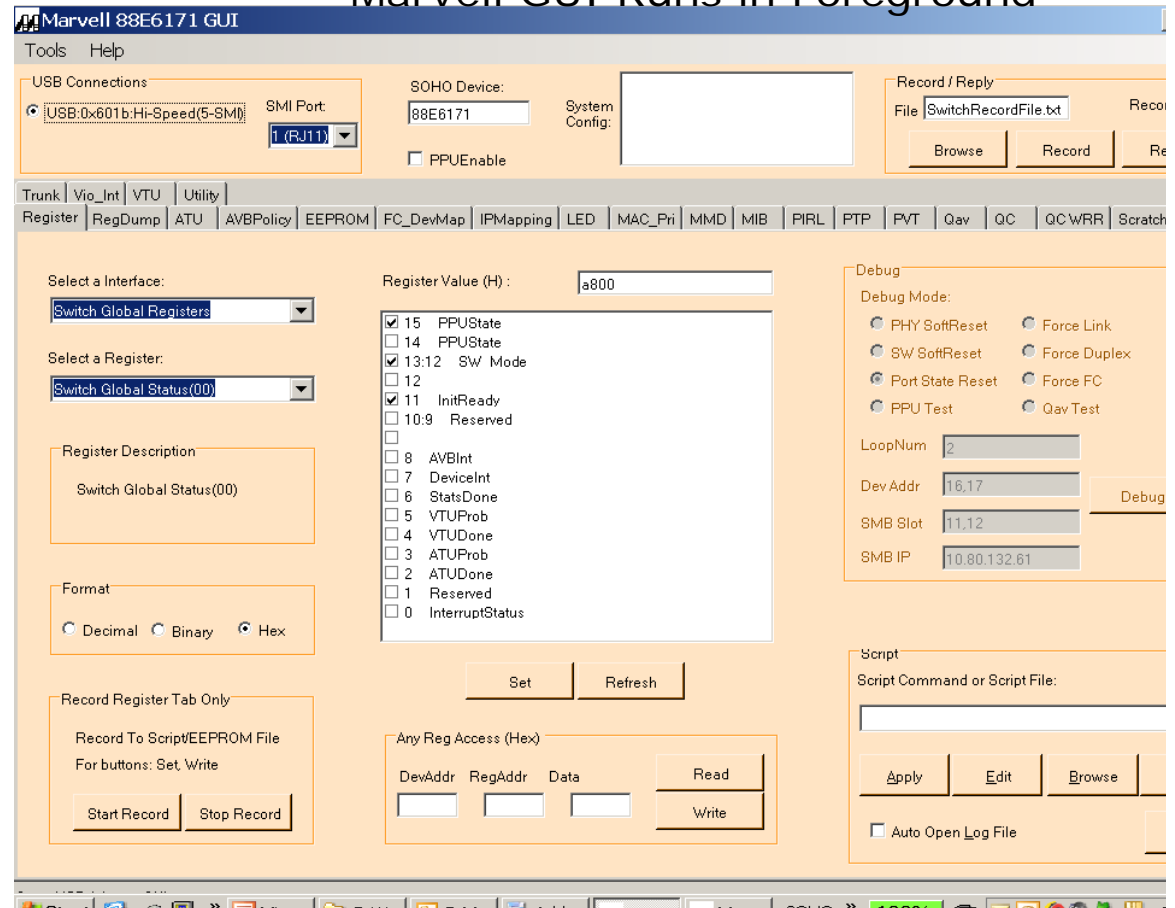
## Starting Marvell GUI

C:\Program Files\Marvell\SwitchGUI\SwitchGUI.exe

Marvell Virtual Bench Service  
Must Run In Background



Marvell GUI Runs in Foreground



**After GUI opens properly... Board will not be displayed until USB Connection Radio Button is pressed.**

Marvell 88E6171 GUI

Tools Help

USB Connections: ☒ USB:0x601b:Hi-Speed USB SMI Port: SOHO Device: 88E6171 System Config: ☐ PPUEnable

Record / Reply:  Recording...

Trunk Vio\_Int VTU Register RegDump FC\_DevMap IPMapping LED MAC\_Pri MMD MIB PIRL PTP PVT Qav QC QCWRR Scratch STU

Select a Interface:

Select a Register:

Register Description: Switch Global Status(00)

Format: ☐ Decimal ☐ Binary ☒ Hex

Record Register Tab Only: Record To Script/EEPROM File For buttons: Set Write

Register Value (H): a800

<input checked="" type="checkbox"/>	15	PPUState
<input type="checkbox"/>	14	PPUState
<input checked="" type="checkbox"/>	13:12	SW Mode
<input type="checkbox"/>	12	
<input checked="" type="checkbox"/>	11	InitReady
<input type="checkbox"/>	10:9	Reserved
<input type="checkbox"/>	8	AVBInt
<input type="checkbox"/>	7	DeviceInt
<input type="checkbox"/>	6	StatsDone
<input type="checkbox"/>	5	VTUProb
<input type="checkbox"/>	4	VTUDone
<input type="checkbox"/>	3	ATUProb
<input type="checkbox"/>	2	ATUDone
<input type="checkbox"/>	1	Reserved
<input type="checkbox"/>	0	InterruptStatus

Any Reg Access (Hex): DevAddr RegAddr Data

Debug: Debug Mode: ☐ PHY SoftReset ☐ Force Link ☐ SW SoftReset ☐ Force Duplex ☐ Port State Reset ☐ Force FC ☐ PPU Test ☐ Qav Test

LoopNum:  Dev Addr:  SMB Slot:  SMB IP:

Script: Script Command or Script File: [Help](#)     ☐ Auto Open Log File

Open USB Adapter OK!

# Accessing Registers

Marvell 88E6171 GUI

Tools Help

USB Connections: ☒ USB:0x601b:Hi-Speed(5-SM) SMI Port: 1 (RJ11)

SOHO Device: 88E6171 System Config: [Empty Box]

Record / Reply: File: SwitchRecordFile.txt Recording... [Browse] [Record] [Replay]

Trunk Vio\_Int VTU Utility

Register RegDump ATU AVBPolicy EEPROM FC\_DevMap IPMapping LED MAC\_Pri MMD MIB PIRL PTP PVT Qav QC QCWRR Scratch STU

Select a Interface: Switch Global Registers

PHY Registers

Switch Registers

Switch Global Registers

Switch Global 2 Registers

Register Description: Switch Global Status(00)

Format: ☐ Decimal ☐ Binary ☒ Hex

Record Register Tab Only

Record To Script/EEPROM File

For buttons: Set Write

[Start Record] [Stop Record]

Register Value (H): a800

☒ 15 PPUState

☐ 14 PPUState

☒ 13:12 SW Mode

☐ 12

☒ 11 InitReady

☐ 10:9 Reserved

☐ 8 AVBInt

☐ 7 DeviceInt

☐ 6 StatsDone

☐ 5 VTUProb

☐ 4 VTUDone

☐ 3 ATUProb

☐ 2 ATUDone

☐ 1 Reserved

☐ 0 InterruptStatus

[Set] [Refresh]

Any Reg Access (Hex)

DevAddr RegAddr Data [Read] [Write]

Debug

Debug Mode:

☐ PHY SoftReset ☐ Force Link

☐ SW SoftReset ☐ Force Duplex

☒ Port State Reset ☐ Force FC

☐ PPU Test ☐ Qav Test

LoopNum: 2

Dev Addr: 16,17 [Debug]

SMB Slot: 11,12

SMB IP: 10.80.132.61

Script

Script Command or Script File: [Empty Box] [Help]

[Apply] [Edit] [Browse] [addShortcut]

☐ Auto Open Log File [MCLI]

Open USB Adapter OK!

## Accessing Switch Port Registers

Marvell 88E6171 GUI

Tools Help

USB Connections: ☒ USB:0x601b:Hi-Speed(5-SM) SMI Port: 1 (RJ11)

SOHO Device: 88E6171 System Config: Port 0

☐ PPUEnable

Record / Reply  
File: SwitchRecordFile.txt Recording...  
Browse Record Replay

Trunk Vio\_Int VTU Utility  
Register RegDump ATU AVBPolicy EEPROM FC\_DevMap IPMapping LED MAC\_Pri MMD MIB PIRL PTP PVT Qav QC QCWRR Scratch STU

Select a Interface: Switch Registers

Select a Register: Port Status(00)

Register Value (Hex): 1-04

Register Description: Port Status(00)

Format: ☐ Decimal ☐ Binary ☒ Hex

Record Register Tab Only  
Record To Script/EEPROM File  
For buttons: Set Write  
Start Record Stop Record

Any Reg Access (Hex)  
DevAddr RegAddr Data Read Write

Debug  
Debug Mode:  
☐ PHY SoftReset ☐ Force Link  
☐ SW SoftReset ☐ Force Duplex  
☒ Port State Reset ☐ Force FC  
☐ PPU Test ☐ Qav Test

LoopNum: 2  
Dev Addr: 16,17  
SMB Slot: 11,12  
SMB IP: 10.80.132.61  
Debug

Script  
Script Command or Script File: [Help](#)  
Apply Edit Browse addShortcut  
☐ Auto Open Log File MCLI

Open USB Adapter OK!

Select Register Type  
Select Which Port

## Accessing Switch Port Registers Continued

**Select Register**

**Current Register Data and Register Bits**

**SET: Write Current value to switch**

**Refresh: Re-Read Register Value**

The screenshot shows the Marvell 88E6171 GUI with the following elements:

- SOHO Device:** 88E6171
- System Config:** Port 0, Port 1, Port 2, Port 3, Port 4
- Register Value (H):** 1a04
- Register List:**
  - ☐ 15 PauseEn
  - ☐ 14 MyPause
  - ☐ 13 HdFlow
  - ☒ 12 PHYDetect
  - ☒ 11 Link
  - ☐ 10 Duplex
  - ☒ 9:8 Speed
  - ☐ 8
  - ☐ 7 Reserved
  - ☐ 6 200BASE Mode(valid on port 5 to 6 only)
  - ☐ 5 TxPaused
  - ☐ 4 FlowCtrl
  - ☐ 3 Reserved
  - ☒ 2:0 Config Mode
- Buttons:** Set, Refresh
- Format:** Decimal, Binary, Hex (Hex is selected)
- Record Register Tab Only:** Record To Script/EEPROM File, For buttons: Set Write, Start Record, Stop Record
- Any Reg Access (Hex):** DevAddr, RegAddr, Data, Read, Write
- Debug:** Debug Mode, PHY SoftReset, Force Link, SW SoftReset, Force Duplex, Test, Debug
- Script:** Script Command or Script File, Apply, Edit, Browse, addShortcuts, Auto Open Log File, MCLI



## Accessing Global/Global2 Registers

Marvell 88E6171 GUI

Tools Help

USB Connections: ☒ USB:0x601b:Hi-Speed(5-SM) SMI Port: 1 (RJ11)

SOHO Device: 88E6171 System Config:

☐ PPUEnable

Record / Reply  
File: SwitchRecordFile.txt Done Recording

Trunk Vio\_Int VTU Utility  
Register RegDump ATU AVBPolicy EEPROM FC\_DevMap IPMapping LED MAC\_Pri MMD MIB PIRL PTP PVT Qav QC QCWRR Scratch STU

Select a Interface:  
Switch Global Registers

Select a Register:  
Switch Global Status(00)  
ATU FID(01)  
VTU FID(02)  
VTU SID(03)  
Switch Global Control(04)  
VTU Operation(05)  
VTU VID(06)  
VTU Data Ports 3:0(07)

Register Value (H): a800

☒ 15 PPUState  
☐ 14 Reserved  
☒ 13:12 SW Mode  
☐ 12  
☒ 11 InitReady  
☐ 10:9 Reserved  
☐ 8 AVBInt  
☐ 7 DeviceInt  
☐ 6 StatsDone  
☐ 5 VTUProb  
☐ 4 VTUDone  
☐ 3 ATUProb  
☐ 2 ATUDone  
☐ 1 Reserved  
☐ 0 InterruptStatus

Format  
☐ Decimal ☐ Binary ☒ Hex

Record Register Tab Only  
Record To Script/EEPROM File  
For buttons: Set Write

Set Refresh

Any Reg Access (Hex)  
DevAddr RegAddr Data

Debug  
Debug Mode:  
☐ PHY SoftReset ☐ Force Link  
☐ SW SoftReset ☐ Force Duplex  
☒ Port State Reset ☐ Force FC  
☐ PPU Test ☐ Qav Test  
LoopNum 2  
Dev Addr 16,17  
SMB Slot 11,12  
SMB IP 10.80.132.61

Script  
Script Command or Script File: [Help](#)  
     
☐ Auto Open Log File

Done Recording to file SwitchRecordFile.txt



## Example of using Any Register Access and GUI access

Marvell 88E6171 GUI

Tools Help

USB Connections: ☒ USB:0x601b:Hi-Speed(5-SM) SMI Port: 1 (RJ11)

SOHO Device: 88E6171 System Config: Port 0  
Port 1  
Port 2  
Port 3  
Port 4

Record / Reply  
File: SwitchRecordFile.txt Done Recording  
Browse Record Replay

Trunk Vio\_Int VTU Utility  
Register RegDump ATU AVBPolicy EEPROM FC\_DevMap IPMapping LED MAC\_Pri MMD MIB PIRL PTP PVT Qav QC QCWRR Scratch STU

Select a Interface: Switch Registers

Select a Register: Port Status(00)

Register Description  
Port Status(00)

Format  
☐ Decimal ☐ Binary ☒ Hex

Record Register Tab Only  
Record To Script/EEPROM File  
For buttons: Set Write  
Start Record Stop Record

Register Value (H): 1a04

☐ 15 PauseEn  
☐ 14 MyPause  
☐ 13 HdFlow  
☒ 12 PHYDetect  
☒ 11 Link  
☐ 10 Duplex  
☒ 9:8 Speed  
☐ 8  
☐ 7 Reserved  
☐ 6 200BASE Mode(valid on port 5 to 6 only)  
☐ 5 TxPaused  
☐ 4 FlowCtrl  
☐ 3 Reserved  
☒ 2:0 Config Mode

Set Refresh

Any Reg Access (Hex)  
DevAddr: 10 RegAddr: 0 Data: 1a04  
Read Write

Debug  
Debug Mode:  
☐ PHY SoftReset ☐ Force Link  
☐ SW SoftReset ☐ Force Duplex  
☒ Port State Reset ☐ Force FC  
☐ PPU Test ☐ Qav Test

LoopNum: 2  
Dev Addr: 16,17  
SMB Slot: 11,12  
SMB IP: 10.80.132.61  
Debug

Script  
Script Command or Script File: [Help](#)  
Apply Edit Browse addShortcuts  
☐ Auto Open Log File MCLI

Register\_Read Done

## Accessing Phy Registers

- ▶ On production applications all register access to PHYs is done via SMI\_COMMAND/SMI\_DATA registers
  - Global2 Offsets 24 and 25 (0x18 and 0x19)
- ▶ For trouble shooting it is much easier to disable PPU via GUI
- ▶ An Un-managed switch usually does not require PHY Access

## Accessing PHY Registers with PPU Enabled, Note value read is "ffff"

Marvell 88E6171 GUI

Tools Help

USB Connections: ☒ USB:0x601b:Hi-Speed(5-SM) SMI Port: 1 (RJ11)

SOHO Device: 88E6171 System Config: Port 0  
Port 1  
Port 2  
Port 3  
Port 4

☒ PPUEnable

Record / Reply  
File: SwitchRecordFile.txt Done Recording  
Browse Record Replay

Trunk Vio\_Int VTU Utility  
Register RegDump ATU AVBPolicy EEPROM FC\_DevMap IPMapping LED MAC\_Pri MMD MIB PIRL PTP PVT Qav QC QCWRR Scratch STU

Select a Interface: PHY Registers

Select a Register: PHY Identifier(03)

Register Description: PHY Identifier(03)

Format: ☐ Decimal ☐ Binary ☒ Hex

Record Register Tab Only  
Record To Script/EEPROM File  
For buttons: Set Write  
Start Record Stop Record

Register Value (H): ffff

15:10 Organizationally Unique Identifier Bit 19:24  
12  
9:4 Model Number  
8  
4  
3:0 Revision Number

Set Refresh

Any Reg Access (Hex)  
DevAddr: 10 RegAddr: 0 Data: 1a04  
Read Write

Debug  
Debug Mode:  
☐ PHY SoftReset ☐ Force Link  
☐ SW SoftReset ☐ Force Duplex  
☒ Port State Reset ☐ Force FC  
☐ PPU Test ☐ Qav Test  
LoopNum: 2  
Dev Addr: 16,17  
SMB Slot: 11,12  
SMB IP: 10.80.132.61  
Debug

Script  
Script Command or Script File: [Help](#)  
Apply Edit Browse addShortcut  
☐ Auto Open Log File MCLI

Register\_Read Done

## Accessing PHY registers with PPU Enabled

- ▶ **SMI\_COMMAND( Global 2 Register 24)**
- ▶ **Bit 12 = 1 for internal PHYs for**
  - Clause 22 transactions
- ▶ **Bits 10:11 Operation Codes**
  - 10=Read
  - 01=Write
- ▶ **Bits 9:5=PHY Device Address**
- ▶ **Bits 4:0=Register Address Can be used to access Internal or external Phys**

*External Phys must be connected to CPU\_MDIO/CPU\_MDC*
- ▶ ***PPU Must be enabled***

- ▶ **SMI\_DATA (Global 2 Register 25)**
  - Data read from phy
  - Data to be written to PHY

## Example: Register Read Phy 0 Register 0 using SMI\_COMMAND Register

Marvell 88E6171 GUI

Tools Help

USB Connections  
☒ USB:0x601b:Hi-Speed(5-SM)

SMI Port:  
1 (RJ11)

SOHO Device:  
88E6171

System Config:

Record / Reply  
File: SwitchRecordFile.txt Done Recording  
Browse Record Replay

Trunk Vio\_Int VTU Utility  
Register RegDump ATU AVBPolicy EEPROM FC\_DevMap IPMapping LED MAC\_Pri MMD MIB PIRL PTP PVT Qav QC QCWRR Scratch STU

Select a Interface:  
Switch Global 2 Registers

Select a Register:  
SMI PHY Command(24)

Register Description  
SMI PHY Command(24)

Format  
☐ Decimal ☐ Binary ☒ Hex

Record Register Tab Only  
Record To Script/EEPROM File  
For buttons: Set Write  
Start Record Stop Record

Register Value (H): 9800

☒ 15 SMI Busy  
☐ 14:13 Reserved  
☒ 12 SMI Mode  
☒ 11:10 SMI Op  
☐ 9:5 DevAddr  
8  
☐ 4:0 ReqAddr

Set Refresh

Any Reg Access (Hex)  
DevAddr RegAddr Data Read Write  
10 0 1a04

Debug  
Debug Mode:  
☐ PHY SoftReset ☐ Force Link  
☐ SW SoftReset ☐ Force Duplex  
☒ Port State Reset ☐ Force FC  
☐ PPU Test ☐ Qav Test  
LoopNum 2  
Dev Addr 16,17  
SMB Slot 11,12  
SMB IP 10.80.132.61  
Debug

Script  
Script Command or Script File: [Help](#)  
Apply Edit Browse addShortcut  
☐ Auto Open Log File MCLI

Register\_Set Done

## Example: Register Read Phy 0 Register 0 using SMI\_COMMAND register (Continued)

Marvell 88E6171 GUI

Tools Help

USB Connections  
☒ USB:0x601b:Hi-Speed(5-SM)

SMI Port:  
1 (RJ11)

SOHO Device:  
88E6171

System Config:

Record / Reply  
File: SwitchRecordFile.txt Done Recording  
Browse Record Replay

Trunk Vio\_Int VTU Utility  
Register RegDump ATU AVBPolicy EEPROM FC\_DevMap IPMapping LED MAC\_Pri MMD MIB PIRL PTP PVT Qav QC QC\_WRR Scratch STU

Select a Interface:  
Switch Global 2 Registers

Select a Register:  
SMI PHY Data(25)

Register Value (H):  
1140

Register Description  
SMI PHY Data(25)

Format  
☐ Decimal ☐ Binary ☒ Hex

Record Register Tab Only  
Record To Script/EEPROM File  
For buttons: Set Write  
Start Record Stop Record

Any Reg Access (Hex)  
DevAddr: 10 RegAddr: 0 Data: 1a04  
Read Write

Debug  
Debug Mode:  
☐ PHY SoftReset ☐ Force Link  
☐ SW SoftReset ☐ Force Duplex  
☒ Port State Reset ☐ Force FC  
☐ PPU Test ☐ Qav Test  
LoopNum: 2  
Dev Addr: 16,17  
SMB Slot: 11,12  
SMB IP: 10.80.132.61  
Debug

Script  
Script Command or Script File: [Help](#)  
Apply Edit Browse addShortcut  
☐ Auto Open Log File MCLI

Register\_Set Done

## Disabling PPU

Marvell 88E6171 GUI

Tools Help

USB Connections: ☒ USB:0x601b:Hi-Speed(5-SM) SMI Port: 1 (RJ11)

SOHO Device: 88E6171 System Config: ☐ PPUEnable

Record / Reply  
File: SwitchRecordFile.txt Done Recording  
Browse Record Replay

Trunk Vio\_Int VTU Utility  
Register RegDump ATU AVBPolicy EEPROM FC\_DevMap IPMapping LED MAC\_Pri MMD MIB PIRL PTP PVT Qav QC QCWRR Scratch STU

Select a Interface: Switch Global 2 Registers

Select a Register: Interrupt Source(00)

Register Description: Interrupt Source(00)

Format: ☐ Decimal ☐ Binary ☒ Hex

Record Register Tab Only  
Record To Script/EEPROM File  
For buttons: Set Write  
Start Record Stop Record

Register Value (H): 0000

15 WatchDogInt  
14 JamLimit  
13 Reserved  
12:11 SERDES Int  
10:5 Reserved  
8  
4:0 PHYInt

Set Refresh

Any Reg Access (Hex)  
DevAddr: 10 RegAddr: 0 Data: 1a04  
Read Write

Debug  
Debug Mode:  
☐ PHY SoftReset ☐ Force Link  
☐ SW SoftReset ☐ Force Duplex  
☒ Port State Reset ☐ Force FC  
☐ PPU Test ☐ Qav Test  
LoopNum: 2  
Dev Addr: 16,17  
SMB Slot: 11,12  
SMB IP: 10.80.132.61  
Debug

Script  
Script Command or Script File: [Help](#)  
Apply Edit Browse addShortcut  
☐ Auto Open Log File MCLI

Register\_Read Done



## Example: Reading PHY 0 register 0 directly with PPU disabled

Marvell 88E6171 GUI

Tools Help

USB Connections: ☒ USB:0x601b:Hi-Speed(5-SM) SMI Port: 1 (RJ11)

SOHO Device: 88E6171 System Config: Port 0 (selected), Port 1, Port 2, Port 3, Port 4

☐ PPUEnable

Record / Reply: File: SwitchRecordFile.txt Done Recording: [Browse] [Record] [Replay]

Trunk | Vio\_Int | VTU | Utility | Register | RegDump | ATU | AVBPolicy | EEPROM | FC\_DevMap | IPMapping | LED | MAC\_Pri | MMD | MIB | PIRL | PTP | PVT | Qav | QC | QCWRR | Scratch | STU

Select a Interface: PHY Registers

Select a Register: Control Register(00)

Register Value (H): 1140

Control Register(00)

Format: ☐ Decimal ☐ Binary ☒ Hex

Record Register Tab Only: Record To Script/EEPROM File For buttons: Set Write [Start Record] [Stop Record]

Any Reg Access (Hex): DevAddr: 10 RegAddr: 0 Data: 1a04 [Read] [Write]

Debug: Debug Mode: ☐ PHY SoftReset ☐ Force Link ☐ SW SoftReset ☐ Force Duplex ☒ Port State Reset ☐ Force FC ☐ PPU Test ☐ Qav Test

LoopNum: 2 Dev Addr: 16,17 SMB Slot: 11,12 SMB IP: 10.80.132.61 [Debug]

Script: Script Command or Script File: [Help] [Apply] [Edit] [Browse] [addShortcut] ☐ Auto Open Log File [MCLI]

Register\_Set Done



## Command Line Interface (new feature)

### Register Write

RW U1 Pdd Rdd H

- xx = Device Address Decimal
- yy = Register Offset Decimal
- Nnnn Hex value to be write

### Register Read

RR U1 Pdd Rdd

- xx = Device Address Decimal
- yy = Register Offset Decimal
- Nnnn Hex value to be write

## Starting CLI instance

Marvell 88E6171 GUI

Tools Help

USB Connections: ☒ USB:0x601b:Hi-Speed(5-SM) SMI Port: 1 (RJ11)

SOHO Device: 88E6171 System Config: Port 0  
Port 1  
Port 2  
Port 3  
Port 4

Record / Reply  
File: SwitchRecordFile.txt Done Recording  
Browse Record Replay

Trunk Vio\_Int VTU Utility  
Register RegDump ATU AVBPolicy EEPROM FC\_DevMap IPMapping LED MAC\_Pri MMD MIB PIRL PTP PVT Qav QC QCWRR Scratch STU

Select a Interface: PHY Registers

Select a Register: Control Register(00)

Register Description  
Control Register(00)

Format  
☐ Decimal ☐ Binary ☒ Hex

Record Register Tab Only  
Record To Script/EEPROM File  
For buttons: Set Write  
Start Record Stop Record

Register Value (H): 1140

☐ 15 Reset  
☐ 14 Loopback  
☐ 13 Speed Selection(LBS)  
☒ 12 Auto-Negotiation Enable  
☐ 11 Power Down  
☐ 10 Isolate  
☐ 9 Restart Auto-Negotiation  
☒ 8 DuplexMode  
☐ 7 Collision Test  
☒ 6 Speed Selection(MSB)  
☐ 5:0 Reserved  
☐ 4

Set Refresh

Any Reg Access (Hex)  
DevAddr: 10 RegAddr: 0 Data: 1a04  
Read Write

Debug  
Debug Mode:  
☐ PHY SoftReset ☐ Force Link  
☐ SW SoftReset ☐ Force Duplex  
☒ Port State Reset ☐ Force FC  
☐ PPU Test ☐ Qav Test

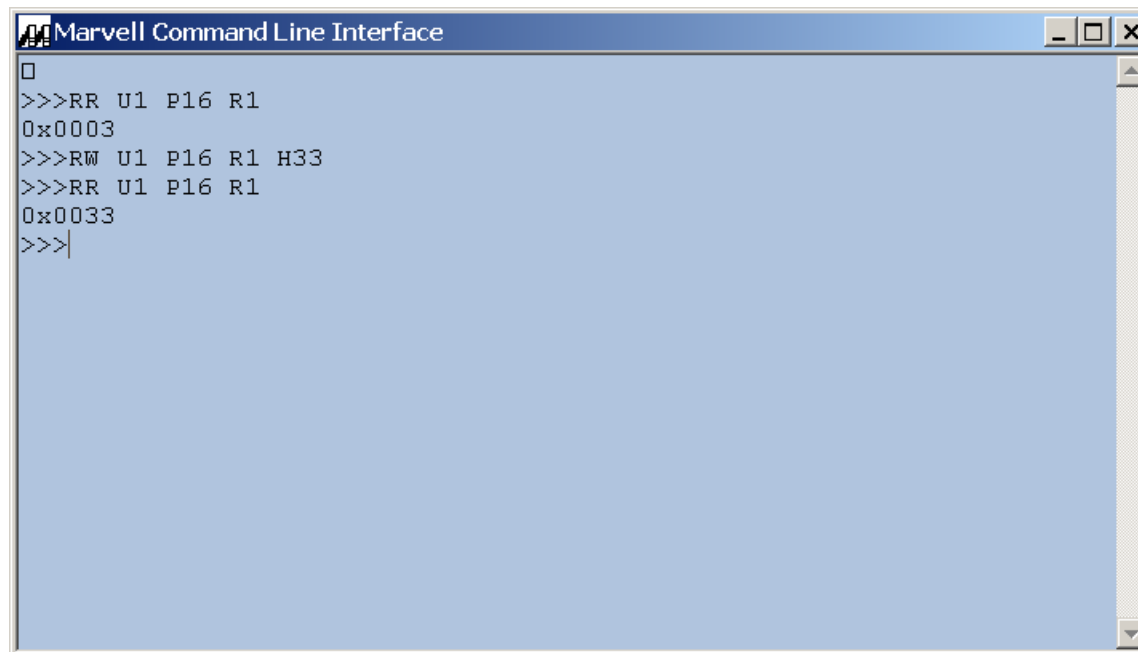
LoopNum: 2  
Dev Addr: 16,17  
SMB Slot: 11,12  
SMB IP: 10.80.132.61  
Debug

Script  
Script Command or Script File: [Help](#)  
Apply Edit Browse addShortcuts  
☐ Auto Open Log File

MCLI

Register\_Set Done

## Example CLI window READ Switch Port 0 Register 1 Then change Value



```

Marvell Command Line Interface
>>>RR U1 P16 R1
0x0003
>>>RW U1 P16 R1 H33
>>>RR U1 P16 R1
0x0033
>>>
  
```

## Verify CLI change with GUI window

The screenshot displays the Marvell 88E6171 GUI and its associated Command Line Interface (CLI).

**Marvell 88E6171 GUI:**

- Tools / Help** menu.
- USB Connections:** USB:0x601b:Hi-Speed(5-SM) selected. SMI Port: 1 (RJ11).
- SOHO Device:** 88E6171. System Config: Port 0 (selected from Port 0, Port 1, Port 2, Port 3, Port 4). PPUEnable is checked.
- Record / Reply:** File: SwitchRecordFile.txt. Done Recording. Buttons: Browse, Record, Replay.
- Trunk / Vio\_Int / VTU / Utility** tabs.
- Register / RegDump / ATU / AVBPolicy / EEPROM / FC\_DevMap / IPMapping / LED / MAC** tabs.
- Select a Interface:** Switch Registers.
- Select a Register:** Physical Control(01).
- Register Value (H):** 0033.
- Register Description:** Physical Control(01).
- Format:** Decimal, Binary, Hex (selected).
- Record Register Tab Only:** Record To Script/EEPROM File. For buttons: Set, Write. Buttons: Start Record, Stop Record.
- Any Reg Access (Hex):** DevAddr: 10, RegAddr: 0, Data: 1a04. Buttons: Read, Write.
- Set / Refresh** buttons.
- Script Command or Script File:** Field with buttons: Apply, Edit, Browse, addShortcut.
- Auto Open Log File** checkbox.
- MCLI** button.
- Register\_Set Done** status bar.

**Marvell Command Line Interface:**

```
>>>RR U1 P16 R1
0x0003
>>>RW U1 P16 R1 H33
>>>RR U1 P16 R1
0x0033
>>>
```



## Script Capturing via register TAB

- ▶ **Press Start Record in Lower Left corner of GUI screen**
  - Access Any Register change if necessary
  - Press SET to record register value
- ▶ **Press Stop Record**
  - Windows Notepad with Captured Script Steps
  - Windows Notepad opens with Captured EEPROM file

# Start Recording

Marvell 88E6171 GUI

Tools Help

USB Connections: ☒ USB:0x601b:Hi-Speed(5-SM) SMI Port: 1 (RJ11)

SOHO Device: 88E6171 System Config: Port 0  
Port 1  
Port 2  
Port 3  
Port 4

☒ PPUEnable

Record / Reply  
File: SwitchRecordFile.txt Done Recording  
Browse Record Replay

Trunk Vio\_Int VTU Utility  
Register RegDump ATU AVBPolicy EEPROM FC\_DevMap IPMapping LED MAC\_Pri MMD MIB PIRL PTP PVT Qav QC QCWRR Scratch STU

Select a Interface: Switch Registers

Select a Register: Physical Control(01)

Register Description  
Physical Control(01)

Format  
☐ Decimal ☐ Binary ☒ Hex

Record Register Tab Only  
Record To Script/EEPROM File  
Start Record Stop Record

Register Value (H): 0033

☐ 15 RGMII Rx Timing(valid on Port 5 & 6 only)  
☐ 14 RGMII Tx Timing(valid on Port 5 & 6 only)  
☐ 13 RGMII Auto(valid on Port 5 & 6 only)  
☐ 12:8 Reserved  
☐  
☐  
☐ 7 FCValue  
☐ 6 ForcedFC  
☒ 5 LinkValue  
☒ 4 ForcedLink  
☐ 3 DpxValue  
☐ 2 ForcedDpx  
☒ 1:0 ForceSpd

Set Refresh

Any Reg Access (Hex)  
DevAddr: 10 RegAddr: 0 Data: 1a04  
Read Write

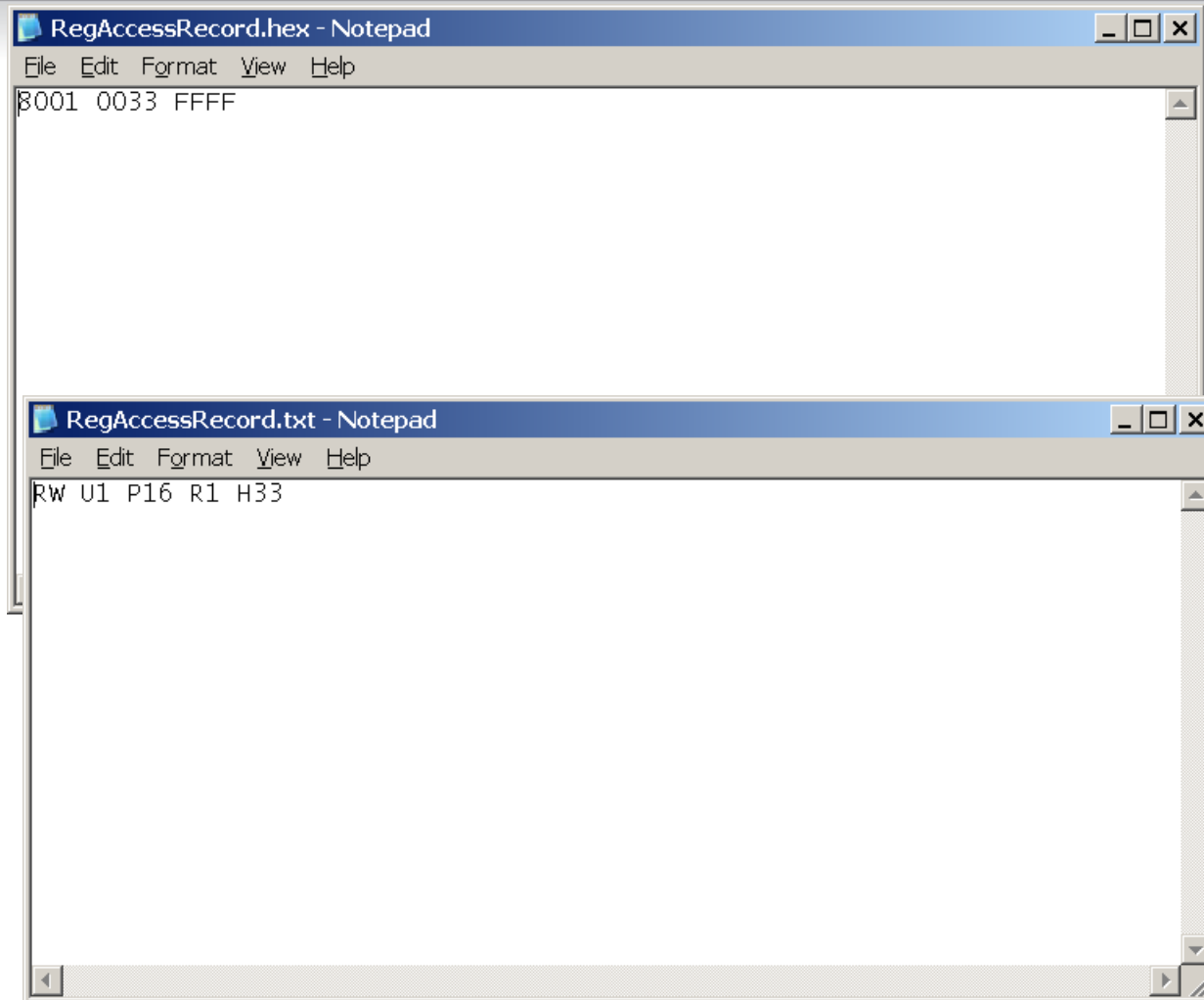
Debug  
Debug Mode:  
☐ PHY SoftReset ☐ Force Link  
☐ SW SoftReset ☐ Force Duplex  
☒ Port State Reset ☐ Force FC  
☐ PPU Test ☐ Qav Test

LoopNum: 2  
Dev Addr: 16,17  
SMB Slot: 11,12  
SMB IP: 10.80.132.61  
Debug

Script  
Script Command or Script File: [Help](#)  
Apply Edit Browse addShortcut  
☐ Auto Open Log File MCLI

Record Start ...

## Editing Script





## Converting Manually Edited script to EEPROM HEX file

Marvell 88E6171 GUI

Tools Help

USB Connections: ☒ USB:0x601b:Hi-Speed(5-SM) SMI Port: 1 (RJ11)

SOHO Device: 88E6171 System Config: Port 0  
Port 1  
Port 2  
Port 3  
Port 4

☒ PPUEnable

Record / Reply  
File: SwitchRecordFile.txt Done Recording  
Browse Record Replay

Register RegDump ATU AMBPolicy EEPROM FC\_DevMap IPMapping LED MAC\_Pri MMD MIB PIRL PTP PVT Qav QC QCWRR Scratch STU  
Trunk Vio\_Int VTU Utility

Marvell Script File => EEPROM File

Switch CodeName: Amber

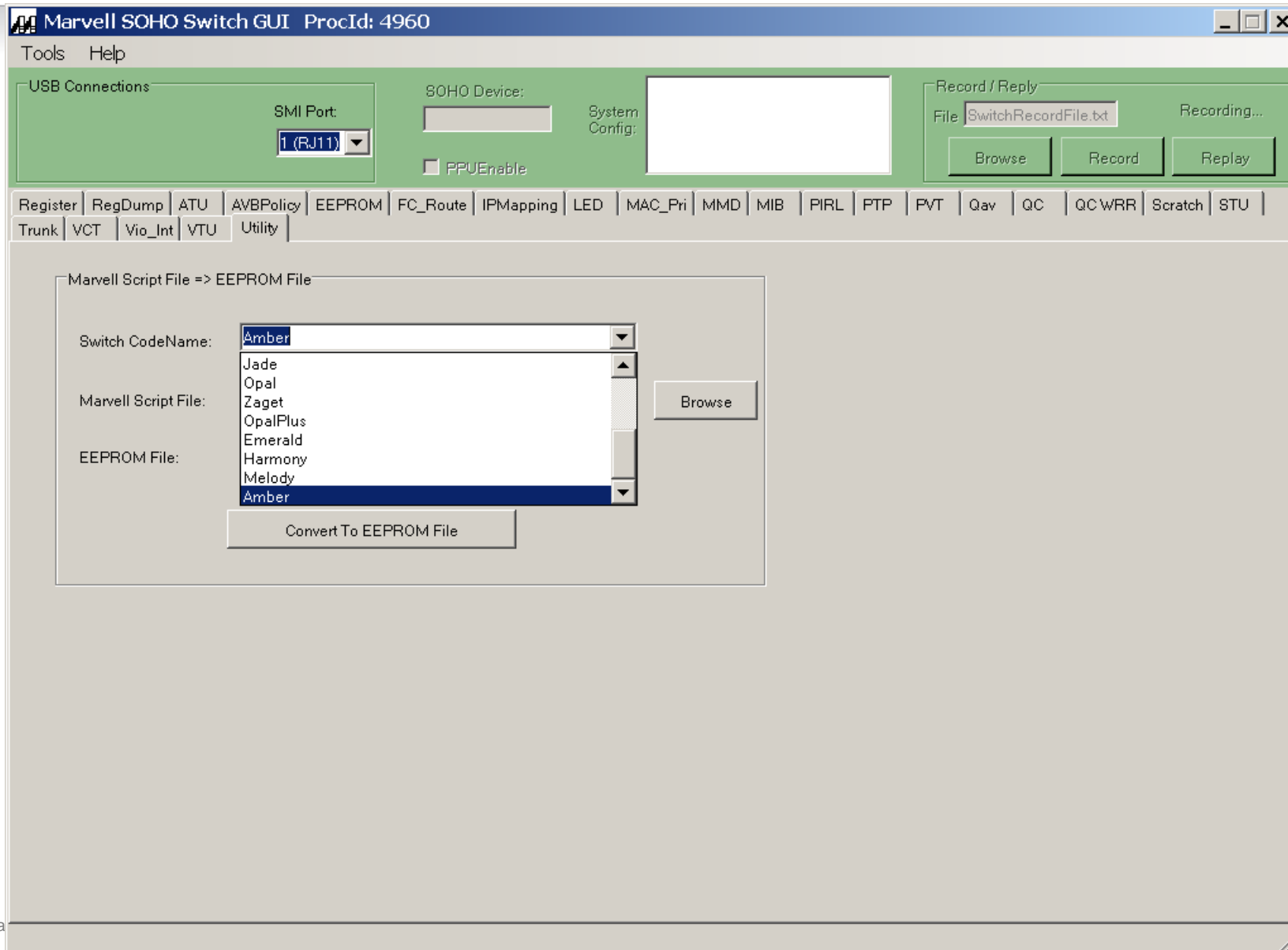
Marvell Script File:  Browse

EEPROM File: EEPROMFile.hex

Convert To EEPROM File

Record Stop!

## Converting Script commands to EEPROM file without board attached



## EEPROM Tab

- ▶ **Burning onboard Only supported on Amber**
- ▶ **EEPROM File Operation**
  - Browse Press Browse to select file
  - Load to burn EEPROM Create/Edit EEPROM file
  - Click EEPROM tab
  - Browse to file
  - Load File
- ▶ **EEPROM can be read 1 address at a time using EEPROM Single Operation**
- ▶ **Batch Read can random access read multiple address.**
  - You must fill in addresses to read

## Register Dump TAB

- ▶ **Can only dump direct Switch Port and Global Register**
- ▶ **Cannot dump**
  - PHY Registers
  - Indirect Registers
- ▶ **Can record to text file**

500813jv3hx7f0y5ys19-iz5psupb \* Knowledge Development for POF (KDPOF) \* UNDER NDA# 12



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## MIBs Multi Port View

Marvell 88E6171 GUI

Tools Help

USB Connections  
☒ USB:0x601b:Hi-Speed(5-SM) SMI Port: 1 (RJ11)

SOHO Device: 88E6171 System Config: Port 0  
Port 1  
Port 2  
Port 3  
Port 4

Record / Reply  
File: SwitchRecordFile.txt Recording...  
Browse Record Replay

Trunk Vio\_Int VTU Utility  
Register RegDump ATU AVBPolicy EEPROM FC\_DevMap IPMapping LED MAC\_Pri MMD MIB PIRL PTP PVT Qav QC QCWRR Scratch STU

MIB Counter ...	port0	port1	port2	port3	port4	port5	port6	port0	port1
InGoodOctets	0	0	0	0	0	0	0		
InBadOctets	0	0	0	0	0	0	0		
InUnicast	0	0	0	0	0	0	0		
InBroadcasts	0	0	0	0	0	0	0		
InMulticasts	0	0	0	0	0	0	0		
InPause	0	0	0	0	0	0	0		
InUndersize	0	0	0	0	0	0	0		
InFragments	0	0	0	0	0	0	0		
InOversize	0	0	0	0	0	0	0		
InJabber	0	0	0	0	0	0	0		
InMACRevErr	0	0	0	0	0	0	0		
InFCSErr	0	0	0	0	0	0	0		
InDiscardsLo/H...	0	0	0	0	0	0	0		
InFiltered Fram...	0	0	0	0	0	0	0		
OutOctets	0	0	0	0	0	0	0		
OutUnicast	0	0	0	0	0	0	0		
OutBroadcasts	0	0	0	0	0	0	0		
OutMulticasts	0	0	0	0	0	0	0		
OutPause	0	0	0	0	0	0	0		
Collisions	0	0	0	0	0	0	0		
Deferred	0	0	0	0	0	0	0		
Single	0	0	0	0	0	0	0		
Multiple	0	0	0	0	0	0	0		
OutFCSErr	0	0	0	0	0	0	0		
Excessive	0	0	0	0	0	0	0		
Late	0	0	0	0	0	0	0		
OutFiltered Fra...	0	0	0	0	0	0	0		
64Octets	0	0	0	0	0	0	0		

☒ View All Ports  
☐ Clear Policy Counter

StatsPtr, 0x1d[7:0] (H)  
0

Read All Counters

Flush All Ports

MIB\_Read All Counters Done



Thank You