

# Torridon High Speed Drive Control Modules



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Hot-Swap automation for SAS and SATA drives

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Data Sheet

## Reduce Time to Market

Cut time to market by 20% for new products by automating manual test procedures

## Reduce Capital Costs

Faster and more detailed testing with Torridon means fewer test systems are required in the lab

## Reduce Human Error

Removing human intervention during tests increases consistency and results in far fewer mistakes. Test scripting provides logging and 100% repeatability

## Increase Product Reliability

Advanced techniques, such as bounds testing and fault injection provide a higher level of confidence and reduced field returns

### **Torridon Drive Control Modules:**

The industry's first automated solution for hot-swap testing. Drive Modules vastly increase the speed of testing and introduce a level of repeatability and precision that is impossible during manual tests.

### **Complete Automation:**

Any test that requires manual intervention to pull or plug a drive can now be fully automated.

### **Simple Integration:**

The Torridon System works with your existing automated test setup and integrate with minimal effort. A simple command set allows for easy scripting. Quarch provides full support as standard while you get started

### **Who Can Benefit?**

Enclosure Manufacturers  
RAID Developers  
Storage System Integrators  
Drive Qualification Labs  
Silicon Manufacturers  
Software/Driver Designers

# Torridon SAS/SATA High Speed Drive Control Modules

## Interface Specification

### Power

- ▶ Supplied from Torridon Interface Card or Array Controller

### Comms

- ▶ USART Serial - DB9
- ▶ USART Serial - RJ45(RS232D)
- ▶ USB

## Drive Compatibility

### Sizes

- ▶ 2.5" form factor (also compatible with 3.5" drives)

### Drive Connections

- ▶ SAS and keyed SATA options

### Types

- ▶ HDD, SSD, Tape

## Switching

### Switches

- ▶ High Speed FETs
- ▶ High Current, Low insertion loss

### Switched Pins

- ▶ All precharge, power and high speed SAS data pins. Vendor specific pins on request

## Timing Specification

### Timers

- ▶ 6 Independent timers for multi stage hot-swap

### Timing resolution

- ▶ 1mS

### Pin-bounce resolution

- ▶ 10uS

### Pin-bounce modes

- ▶ Simple duty-cycle
- ▶ User defined 100 bit pattern

### Manual Mode

- ▶ Full manual connection control for fault injection and bugged hardware generation

## Line Glitching

### Timing

- ▶ Glitch any line down to 50nS

### Sequences

- ▶ Run glitches in sequences and PRBS patterns

## Physical Dimensions

### QTL1177 (2.5" Module)

- ▶ 69.1mm x 25.9mm
- ▶ Drive offset by 32mm

## Support and Utilities

Phone and email support direct to the engineers as standard

'TestMonkey' GUI for rapid test prototyping, script generation and bench testing

## Ordering Information

QTL1177 - 2.5" Form Factor

### Single units

- ▶ Ideal for bench testing, debugging and evaluation

### Multiple units

- ▶ Run from a Torridon Array

## Quarch Technology Ltd

UK Sales / Technical Enquiries  
+44 1343 508 140  
enquiries@quarch.com

US Sales Office  
+1 617 245 0528  
us\_enquiries@quarch.com

<http://www.quarch.com>