



## ARG Quarra PTP Switch Range

Carrier grade Ethernet switches with the industry's most accurate IEEE 1588v2 timing.

The ARG Quarra range of switches is designed for Carrier Class applications where accurate timing and control is required. These switches are aimed at the professional markets of Audio/Video Broadcast, Defence & Security, Finance, Utilities, Telecom and Enterprise IT. Designed as either a standard 1RU Rackmount unit with dual power supplies, or a half-width 1RU unit with a single power supply, the switches are available in several configurations of Gigabit and 10 Gigabit interfaces supporting a best in class layer 2 IEEE 1588v2 algorithm. A 1pps external reference input from GPS is included as standard and options include an internal layer 1 Synchronous Ethernet module as well as an internal GPS module requiring only a suitable antenna. The switches support IGMP v2/3, QoS, Protection switching, VLAN, MEF service delivery and network OAM.



### Highlights

- Industry's most Accurate IEEE 1588 Timing & Synchronisation for nanosecond accurate timing.
- Synchronous (L1) Ethernet, Master and Slave. Precision clock timing using DSPLL® technology.
- 1pps reference. Network wide synchronisation using IEEE1588 or SyncE. Internal GPS model available to host GPS timed grand master.
- Ravenna AES67 approved.
- IEEE802.1 AVB.
- Full management from Web GUI or command line interface. No training required-units can be quickly and easily configured.

### Applications

- Live Video/Audio broadcast/production over IP utilising IEEE1588 timing, QoS and Multicast filtering.
- Broadcast DTT/DTV IP distribution, utilising IEEE1588 and SyncE timing to replace or backup GPS timing at base stations.
- Telecoms networks, providing high level of network timing.
- Financial/trading networks, utilizing our IEEE1588 precise nanosecond time synchronisation.



## **Detailed Specification**

### **Carrier Ethernet**

- Layer-2 IEEE 1588v2 : Precision Time Protocol (PTP) timing and synchronisation
- IEEE 802.1ad : Provider bridging (VLAN Q-in-Q) switch - 8 MACs, 4K VLANs
- Per queue MEF E-LINE or per port MEF E-LAN, E-TREE Service Points
  - Per port per queue Dual Leaky Bucket Service
  - Policers with PCP or DSCP remarking per Service port
  - Static tagging options per Service Point
- OAM Hardware for generating CCM messages, CCM checking is done by software
  - Software of OAM and protection switching

### **Quality of Service**

- EPS and ERPS Protection Switching
- TCAM-based VLAN classification and translation with pattern matching against Layer-2 through Layer-4 information
- Up to 256 QoS and VLAN TCAM entries
- Eight QoS queues per port with strict or deficit weighted round-robin scheduling (DWRR)
- DSCP translation, both ingress and/or egress
- DSCP remarking based on QoS and VLAN TCAM entries
- VLAN (PCP, DEI and VID) translation, both ingress and egress
- Per-queue, per-port policing and shaping, programmable in steps of 100 kbps
- Per-flow policing through TCAM-based pattern matching, Up to 256 policers
- Full-duplex flow control (IEEE 802.3x) and half-duplex backpressure, symmetric and asymmetric

### **Layer –2 Switch**

- Port mirroring
- Port-based access control
- IEEE 802.3ad : Link aggregation
- IEEE 802.1x : Network Access Control
- IEEE 802.1w : Rapid Spanning Tree Protocol
- IEEE 802.1s : Multiple Spanning Tree Protocol
- Simple Network Management Protocol (SNMP)
- Independent and shared VLAN learning
- 256 VLAN egress tagging TCAM entries
- Link aggregation traffic distribution is programmable and based on Layer-2 through Layer-4 information
- Basic Switching - Forwarding, address learning and address aging
- VLAN IEEE 802.1Q (4,096 VLAN's) - Push / pop / translate up to two VLAN tags; translation in ingress and / or egress
- 8,192 MAC addresses. Including Generic Attribute Registration Protocol (GARP)
- Wire-speed hardware-based learning and CPU-based learning configurable per port

### **Multicast**

- 8K Layer-2 Multicast group addresses with 64 port masks
- 8K IPv4/IPv6 multicast groups
- Internet Group Management Protocol v2 & v3
- Multicast Listener Discovery (MLDv1)
- Multicast Listener Discovery (MLDv2) with source specific multicast forwarding

## **Ordering Information.**

Option	Ports	Copper	SFP+	X2	Chassis	PSU	* Synchronous (L1) Ethernet.	*GPS
1 GIG	10	8 x 1GIG	2 x 2.5GIG	NA	1/2 width 1RU	Single AC	Optional	Optional
1 GIG	10	8 x 1GIG	2 x 2.5GIG	NA	1RU	Dual AC	Optional	Optional
10 GIG	28	24 x 1GIG	2 x 10GIG	2 x 10GIG	1RU	Dual AC	Optional	**

\* Synchronous Ethernet and GPS are factory fit options please specify at point of order. \*\* Coming soon please enquire.