GigaSpire® u6.3

The GigaSpire® u6.3 (GS4229E) is a new generation smart home system that extends the access network into the home and acts as a strategic location for control of the ultimate Wi-Fi experience. Besides supporting broadband connectivity of data and video services, this intelligent, high-performance system offers the latest 802.11ax 'Wi-Fi 6' technology. The GigaSpire u6.3 provides switching androuting functions that support multi-Gigabit throughput for IPTV video and data services.

MULTI-GIGABIT SUBSCRIBER EXPERIENCE

The GigaSpire u6.3 is a premium smarthome system that delivers the latest 'Wi-Fi 6' certified technology (802.11ax). The GigaSpire u6.3 uses a 2.5 Gigabit Ethernet WAN link at the subscriber's premises to provide carrier- class Wi-Fi. On the LAN side, there is a 2.5 Gigabit Ethernet as well as four (4) Gigabit Ethernet interfaces for customer multi-media devices. The GigaSpire u6.3 enables residential subscribers to receive Gigabit broadband data, Internet Protocol (IP) video, and voice (POTS) services. Using the latest 802.11ax technology in both the 2.4 and 5 GHzradios, the GigaSpire u6.3 incorporates 6x6 streams of Wi-Fi delivery (2x2 @ 2.4 GHz and 4x4 @ 5 GHz). In addition, with multi-user multiple-input and multiple-output (MU-MIMO) and beamforming, the GigaSpire u6.3 allows service providers to extend the access network inside the home and establish a strategic location for the delivery and control of broadband services.

With Wi-Fi being the de facto wireless data communication technology of choice for consumers, Calix engineered the GigaSpire u6.3 for optimal whole-home coverage with simultaneous dual-band 2.4 GHz and 5 GHz operation and dynamic beamforming at 5 GHz. Leveraging the latest Wi-Fi 6 features, the GigaSpire u6.3 provides longer range, higher efficiency and less interference compared to earlier generations of Wi-Fi technology. The GigaSpire u6.3 also supports the entire 5 GHz band, including Dynamic Frequency Selection (DFS) channels. The GigaSpire u6.3 easily deliversHD and UHD (ultra-HD) video and data throughout a subscriber's home in an increasingly video-rich and mobile broadband environment.

Ensuring consumers can have ultra-fast Wi-Fi throughout their premises, the GigaSpire u6.3 provides the latest generation of redundant mesh via the Calix Mesh u4m (GM1028) (please see the GM1028 data sheet for more information). With the GigaSpire u6.3 as the hub, and the u4m as the satellite extenders, consumers can truly gain the whole home/smart home experience. For even higher mesh performance, a GigaSpire u6.3 can also be a mesh unit. This means that two GigaSpire u6 systems can connect to each other with one being the residential gateway and the other being the satellite.

EASY TO INSTALL, ACTIVATE, AND MAINTAIN

With the GigaSpire u6.3, Calix has redefinedhow to install and activate residential services at a subscriber's premises. Using the Command**IQ**® mobile app and a phone or laptop, a field technician can install and apply the subscriber's service profile without special equipment or assistance from the central office. Calix also provides the innovative Calix Service Cloud (CSC), which allows the service provider toconfigure, activate and upgrade the GigaSpire u6.3 quickly from a remote location using in-band management or TR-069. Extensive troubleshooting capabilities, remote software downloads, and easy-to-use serviceactivation features ensure that services are deliveredand maintained without needless truck rolls and hardware upgrades. Employing GigaSpire u6.3 systems allows service providers to reduce theiroperational expenses while effectively delivering the Gigabit experience to their subscribers.

UNLIMITED SUBSCRIBER PLATFORM

Unlimited Subscriber brings the power of Calix Cloud into the daily lives of your residential and small business subscribers. High-capacity Unlimited Subscriber Wi-Fi systems can be deployed indoors and outdoors, on desks, walls, and poles – in any combination you need. And with Calix Cloud, your staff gets the insights and tools they need to differentiate your brand through amazing customer support. All GigaSpire models are powered via the Calix Broadband Platform and operate from a common operating system, Experience OS (EXOS). This container-based operating system architecture allows service providers to quickly change and adapt their services to embrace innovative technologies and offer new, value-added services. This approach can generate recurring revenue and increase subscriber satisfaction.

SMARTLIFE™ MANAGED SERVICES

The Calix SmartLife suite of managed Wi-Fi solutions provides everything your community needs to connect and thrive, in the places they live, work, learn, and play. With SmartLife, you deliver unrivaled subscriber experiences everywhere and elevate life for all in your community. Calix SmartHome™ gives your subscribers the tools to enhance, operate and secure their connected lifestyle through a growing portfolio of managed services. Your subscribers SmartLife does not end at the front door. Re-imagine community Wi-Fi as a ubiquitous, secure, managed experience across your service area by making your town a SmartTown®. With SmartMDU™ properties managers expect more than business-as-usual broadband, as the multi-dwelling unit (MDU) market experiences rapid growth of new multifamily housing properties, driven by economic growth, changing demographics, and evolving lifestyles. SmartBiz™ meets the needs of the small business with an all-in-one managed service that increases staff productivity, secures critical business systems, and drives customer loyalty. Enable your small business customers to maximize their productivity and drive customer engagement

GigaSpire ®
u6.3

KEY ATTRIBUTES

Home Gateway:

- Layer 2 bridge and Layer 3 routing for High-Speed Internet(HSI) data and IPTV video services
- DHCP server options
- DHCP (IPoE) and PPPoE network connections
- Network Access Translation (NAT), public to private IP addressing
- Configurable IP address schemes, subnets, static-IP addresses
- DNS server
- Bridge port assignment and data traffic mappings
- Port forwarding
- Firewall and security
- Application and website filtering
- Selectable forwarding and blocking policies
- DMZ hosting
- Parental controls, time of day usage
- Denial of service (DoS) protection
- Time/Zone support
- Universal Plug-and-Play (UPnP)

Wi-Fi:

- 2.4 GHz and 5 GHz, simultaneous dual-band

- WPA/WPA2/WPA3; WEP 64/128 encryption
- PuF (Physical Unclonable Functions)
- WPS push-button
- 4x4 DL/UL MU-MIMO with beamforming (5 GHz radio)
- 2x2 DL/UL MU-MIMO with beamforming (2.4 GHz radio)
- 1024 QAM; OFDMA; BSS Coloring
- DCM (Dual Carrier Modulation)
- TWT (Target Wake Time) for IoT clients

Wi-Fi Redundant Mesh:

- Self-Managed: self-configuration, Airtime fairness
- Dynamic Mesh: load balancing, band/node steering; interference management
- Self-Healing: backhaul failover;diagnostics; events

Voice

- General: SIP, H.248 and MGCP
- RENs per unit: 10 maximum
- Drop length: Maximum 1000 feet (305 m) using 26 AWG wire
- DS0 Output: 25 mA
- Ring Voltage: 56–84 VAC Supports multiple data service profiles

Traffic management and Qualityof Service (QoS):

- 802.1Q VLANs
- 802.1p service prioritization
- Q-in-Q tagging
- Multiple VLANs
- DiffServ
- Pre-defined QoS on service type
- MAP-T

IPTV, IGMPv2, future support of IGMPv3:

- IGMP Snooping and Proxy
- IGMP Fast Leaves

Gateway Management:

- CSC (Calix Service Cloud)
- TR-069
- Local Home Gateway GUI, access provisionable
- Remote WAN side GUI access
- Default username/password

Ookla-based Performance Testing

- Subscribers can run an Ookla-based performance test from within the Calix CommandIQ® mobile app
- Symmetrical speed test results in excess of 2 Gbps are possible with the GigaSpire u6.3 system (owing to the 2.5 GigE WAN port)

SPECIFICATIONS

Dimensions

- Width: 2 in (5.1 cm)
- Height: 10.1 in (25.7 cm)
- Depth: 7 in (17.8 cm)
- Weight: 2.6 lbs. (1.2 kg)

Interface

- WAN: One (1) 10/100/1000/2500 BASE-T Ethernet Port, RJ-45 connector
- LAN: One (1) 10/100/1000/2500 BASE-T Ethernet port, RJ-45 connectors ; Four (4) 10/100/1000 BASE-T Ethernet port, RJ-45 connectors
- Voice: Two (2) ports
- USB: USB 3.0 Type A
- Power: One (1) pin and eight (8) pin
- WPS: WPS push button actuator
- Reset button for factory default

Data

- Drop length: 328 feet (100 m) max using CAT5 cable for GigE
- Auto MDI/MDIX crossover for 1000BASE-TX, 100BASE-TX

Wireless

- 2.4 GHz 802.11 b/g/n/ax
- 5 GHz 802.11 a/n/ac/ax
- 2x2 DL/UL MU-MIMO implicit/ explicit high-power, dynamic beamforming (2.4 GHz radio)
- 4x4 DL/UL MU-MIMO, implicit/ explicit high-power, dynamic beamforming (5 GHz radio)
- DCM, TWT, extended GI
- Auto channel selecting and interference detection
- Wi-Fi multimedia (WMM)
- Supports up to 250 wireless clients

Remote Management

- TR-069 remote management
- TR-098 Internet Gateway Device Data Model

Environmental

- Operating temperature: Indoor ambient temperature, 0° to 40°C (32° to 104° F)
- Operating and storage relative humidity: 10 to 90 % and 5 to 95% non-condensing respectively

Certification and Compliance

- Emissions: FCC Part 15 Class B IC ICES-003 Class B CISPR-22
- Safety: UL 60950 and UL 1697 approved
- IEEE: 802.3, 802.3AB, 802.3U, 802.1p, 802.1Q
- Wi-Fi Alliance Certified 802.11ax

- USB-IF Compliance USB 3.0

Powering and Alarms

- Input voltage: 12 V DC (nominal)
- External Power Adapter: 12 V DC, 3A

ORDERING INFORMATION.

Product Code	Description
System	
100-06062	**GigaSpire u6.3, GS4229E** 2.5GE WAN, 2.5GE + 4 GE LAN, Dual 11ax Wi-Fi, 2 POTS, 1 USB, AM Power Adapter
Power Adapter	
100-06024	Power Adapter white, CPA6 12V 3Amp - AM Type A
Accessories	
100-06014	GigaSpire u6.3/u6t/u6txg branding plate - Quantity: 120
100-06145	GigaSpire u6.3/u6t/u6txg stand/wall mount - spare
Uninterruptable Power Supply (UPS) and UPS Cords	
100-04068	Indoor UPS (8-hour support), Wall Mount or Desktop, 12 V, 7.2 AH, 36 W, Black - AM, Type B, Grounded
100-05345	Indoor UPS (24-hour support), Wall Mount or Desktop, 12 V, 20AH, 75W, Audible Alarm, Regulated Output R3 Production
100-03893	Indoor UPS Power cord, 7-pin UPS to 8-pin ONT Male, 1m, black
100-03894	Indoor UPS Power cord, 7-pin UPS to 8-pin ONT Male, 3m, black
100-03895	Indoor UPS Power cord, Unterminated to 8-pin ONT Male, 6m, black

Note: Calix believes the information in this publication to be accurate as of publication date and is not responsible for errors. Product Specifications are subject to change without notice