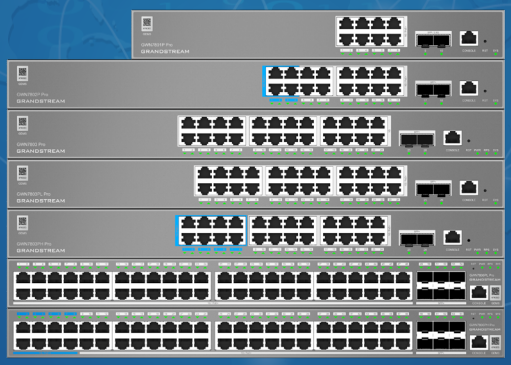
GRANDSTREAM

CONNECTING THE WORLD



Enterprise Layer 2++ Managed Network Switches

GWN7800 Pro Series

The GWN7800 Pro Series includes layer 2++ managed network switches that allow small-to-medium enterprises to build scalable, secure, and high-performance business networks that are fully manageable. This Series provides high-speed SFP or SFP+ ports and Gigabit Ethernet ports on all models to support demanding business networks and offer switching capabilities up to 216 Gbps. The GWN7800 Pro Series includes an advanced VLAN for flexible and sophisticated network traffic segmentation, advanced QoS for prioritization of network traffic, IGMP/MLD Snooping for network performance optimization, and comprehensive security capabilities against potential attacks. The PoE-capable models provide smart dynamic PoE output to power IP phones, IP cameras, Wi-Fi access points and other PoE endpoints. The GWN7800 Pro Series supports a variety of free and flexible management options, including cloud management with GDMS Networking, on-premise software management with GWN Manager, the embedded controller in their web user interface, GWN Series Routers, and command-line interface (CLI). By providing high-speed SFP and SFP+ ports, advanced control and segmentation of network traffic, powerful security protection, and flexible management options, the GWN7800 Pro Series is ideal for small to medium enterprises.

Gigabit

8/16/24/48 Gigabit Ethernet ports with 2 SFP, 2 SFP+, or 6 SFP+ ports

PoE

Smart power control to support dynamic PoE/PoE+/PoE++ (on select models) power allocation per port for the PoE-capable models

Supports deployment in IPv6 and IPv4 networks

ARP Inspection, IP Source Guard, DoS protection, port security & DHCP snooping

Flexible management options include the controller embedded in their web UI, GDMS Networking (cloud), GWN Manager (software), GWN Series Routers, and CLI

QoS

Pro AV uses built-in QoS that allows for traffic

Hardware Specifications

	GWN7801P Pro	GWN7802P Pro	GWN7803 Pro	GWN7803PL Pro	GWN7803PH Pro	GWN7806PL Pro	GWN7806PH Pro
Ports							
Gigabit Ethernet Ports	8	16	24			48	
SFP/SFP+ Ports	2 × 2.5G SFP	2 × SFP+				6 × SFP+	
Maximum Number of Supported Modules	SM-10G: 2 MM-10G: 2 RJ45-10G: 2					SM-10G: 6 MM-10G: 6 RJ45-10G: 3 **Note: RJ45-10G modules must be interval inserted*	
MGMT Ports	1 × Console port						
Others	1 × Reset Pinhole						
LEDs							
System LEDs	1× tri-color LED for device tracking and status indication						
Power Supply LEDs	/		2 × green LEDs, one for each power source (PWR & RPS)	/	2 × green LEDs, one for each power source (PWR & RPS)		
Data Transferring LEDs	10 × green-color LEDs	18 × green-color LEDs	26 × green-color LEDs			54 × green-color LEDs	
PoE Supply LEDs	8 × yellow-color LEDs	16 × yellow-color LEDs	/	24 × yellow-color LEDs		48 × yellow-color LEDs	
System							
Flash	64 MB Nor Flash					8 MB Nor Flash, 128 MB Nand Flash	
RAM	128 MB RAM	256 MB RAM				512 MB RAM	
CPU	Single-core, MIPS interAptive™ 1GHz					Dual-core, MIPS interAptive™ 1GHz	
Forwarding Mode	Store-and-forward						
Total non-blocking throughput	13 Gbps	36 Gbps	44 Gbps			108 Gbps	
Switching Capability	26 Gbps	72 Gbps	88 Gbps			216 Gbps	
Forwarding Rate	19.344 Mpps	53.568 Mpps	65.472 Mpps			160.704 Mpps	
Packet Buffer	8.4 Mb						
Network Latency	<4 μs	<4 μs	<4 μs	<4 μs	<4 μs	<4 μs	<4 μs
Power Supply							
Power Supply	100–240 V AC, 50/60 Hz						
Power Redundancy Scheme	/		1+1 External RPS	/	1+1 External RPS		
External Redundant Power Supply (Pending)	/		30 W	/	460 W	460 W	800 W
Max Power Consumption	9.1 W 155.4 W (PoE 130 W)	21.8 W 294.4 W (PoE 250 W)	21.4 W	27.5 W 299.2 W (PoE 250 W)	30.5 W 471.4 W (PoE 400 W)	65.4 W 509.3 W (PoE 400 W)	68.0 W 870.9 W (PoE 720 W)
Max Output Power	155.4 W	294.4 W	21.4 W	299.2 W	471.4 W	509.3 W	870.9 W
PoE							
PoE Standards	IEEE 802.3af/at	IEEE 802.3af/at/bt	/	IEEE 802.3af/at	IEEE 802.3af/at/bt	IEEE 802.3af/at	IEEE 802.3af/at/bt
PoE Ports	8	1–4 (802.3af/at/bt) 5–16 (802.3af/at)	/	24	1–8 (802.3af/at/bt) 9–24 (802.3af/at)	48	1-8 (802.3af/at/bt) 9-48 (802.3af/at)
Max Output Power per PoE Port	30 W	60 W (Port 1–4) 30 W (Port 5–16)	/	30 W	60 W (Port 1–8) 30 W (Port 9–24)	30 W	60 W (Port 1–8) 30 W (Port 9–48)
Max Total PoE Output Power	130 W	250 W	/	250 W	400 W	400 W	720 W

	GWN7801P Pro	GWN7802P Pro	GWN7803 Pro	GWN7803PL Pro	GWN7803PH Pro	GWN7806PL Pro	GWN7806PH Pro
Physical							
Unit Dimension	330 mm × 175 mm × 44 mm (12.99" × 6.89" × 1.73") (L × W × H)	440 mm × 200 mm × 44 mm (17.32" × 7.87" × 1.73") (L × W × H)			440 mm × 300 mm × 44 mm (17.32" × 11.81" × 1.73") (L × W × H)		
Unit Weight	1.77 kg (3.90 lb)	2.9 kg (6.39 lb)	2.5 kg (5.51 lb)	3.06 kg (6.75 lb)	4.15 kg (9.15 lb)	5.05 kg (11.13 lb)	5.3 kg (11.68 lb)
Mounting	Desktop, Wall-Mount, or Rack-Mount (rack-mounting kits included)				Desktop, or Rack-Mount (rack-mounting kits included)		
Package Content	1 × Switch 1 × 25 cm (9.84") Ground Cable 4 × Rubber Footpads 1 × Power Cord Anti-Trip 8 × Flat Head Machine Screws (M3 × 6 mm) 1 × 1.2 m (3.94 ft) AC Cable of 10 A 1 × Simplified Quick Installation Guide 1 × Regulatory Paper						
	1 × Extended Rack-Mounting Kits	2 × Rack-Mounting Kits					
Environmental							
Temperature	Operating: 0 °C to 45 °C (32 °F to 113 °F) Storage: -10 °C to 60 °C (14 °F to 140 °F)						
Humidity	Operating: 10%–90% (RH), non-condensing Storage: 5%–95% (RH), non-condensing						
MTBF	70,000 hours						
Fan	/	2	/	2	3	4	
CPU Monitoring	Monitoring CPU usage, over-CPU usage alarming						
Memory Usage	Monitoring memory usage, over-memory usage alarming						
Power Supply Monitoring	Monitoring of power supply model and status Power supply failure alarming						
Fan Monitoring	Automatic speed adjustment Fan failure alarming						
Temperature Monitoring	Temperature monitoring, over-temperature alarming						
Surge Protection	±6 kV CM for power ±4 kV CM for network ports						
ESD	±12 kV for contact discharge						
Compliance							
Certification	FCC, CE, RCM, IC						

Software Specifications

	GWN7801P Pro	GWN7802P Pro	GWN7803 Pro	GWN7803PL Pro	GWN7803PH Pro	GWN7806PL Pro	GWN7806PH Pro
Network Protocol	IPv4, IPv6, IEEE 802.3, IEEE 802.3i, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z, IEEE 802.3ae, IEEE 802.3az, IEEE 802.3ad, IEEE 802.3x, IEEE 802.3af/at/bt, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1d, IEEE 802.1w, IEEE 802.1s, IEEE 802.1x						
Stacking	/					Yes, up to 8 devices	
Switching	• Jumbo frame (maximum length: 12288) • 4K VLANs, port-based VLAN, IEEE 802.1Q VLAN tagging • QinQ • MAC-based VLAN • Protocol-based VLAN • VLAN translation including VLAN mapping and VLAN stacking • Voice VLAN including auto voice VLAN, tagged OUI and untagged OUI • GVRP (pending) • ERPS						
	Spanning tree, support STP/RSTP/MSTP/PVST(+)/RPVST(+), 16 instances for MSTP/PVST(+)/RPVST(+)					Spanning tree, support STP/RSTP/MSTP/PVST(+)/RPVST(+), 64 instances for MSTP/PVST(+)/RPVST(+)	
	/					Private VLAN	
	16K MAC addresses (static/dynamic/filtering) with migration records					32K MAC addresses (static/dynamic/filtering) with migration records	
	Link aggregation, including static and LACP					Link aggregation, including static and LACP	
	Up to max 8 LAG groups and up to 8 members per LAG group					Up to max 32 LAG groups and up to 8 members per LAG group	

	GWN7801P Pro	GWN7802P Pro	GWN7803 Pro	GWN7803PL Pro	GWN7803PH Pro	GWN7806PL Pro	GWN7806PH Pro
IP Service	• DHCP client, DHCP server, DHCP relay and DHCP snooping • DHCPv6 client and DHCPv6 snooping • ND snooping • DNS						
	64 ARP/NDP, including static and dynamic ARP/NDP					1K ARP/NDP, including static and dynamic ARP/NDP	
	16 VLAN virtual interfaces with 9216 MTU					32 VLAN virtual interfaces with 9216 MTU	
IP Routing	/					Policy routing	
	32(IPv4)/32(IPv6) static routes, which support user-defined static routing entries					1K(IPv4)/1K(IPv6) static routes, which support user-defined static routing entries	
Multicast	IGMP Snooping with IGMPv2 and IGMPv3, 256 IGMP Snooping groups	IGMP Snooping with IGMPv2 and IGMPv3, 384 IGMP Snooping groups				IGMP Snooping with IGMPv2 and IGMPv3, 640 IGMP Snooping groups	
	MLD Snooping with MLDv1 and MLDv2, 256 MLD Snooping groups	MLD Snooping with MLDv1 and MLDv2, 384 MLD Snooping groups				MLD Snooping with MLDv1 and MLDv2, 640 MLD Snooping groups	
AV Control	Pro AV						
QoS	• Port priority • Priority mapping, including 802.1p mapping, DSCP mapping and IP precedence mapping • Queue scheduling, including SP, WRR, WFQ, SP-WRR and SP-WFQ • Traffic shaping • Rate limit						
ACL	128 ACL for Ethernet, IPv4 and IPv6 with 1.5K total ACEs					256 ACL for Ethernet, IPv4 and IPv6 with 4K total ACEs	
	• MAC ACLs (hardware ACLs based on source MAC address, destination MAC address, optional Ethernet type, and time range) • IPv4 ACLs (hardware ACLs based on source IP address, destination IP address, and optional protocol type, and time range) • IPv6 ACLs (hardware ACLs based on source IPv6 address, destination IPv6 address, and optional protocol type, and time range) • ACL redirection • ACL advanced settings, including statistics, mirror, priority mapping, and rate limit • ACL binding, including port and VLAN						
Security	• User hierarchical management and password protection, HTTPS, SSH, Telnet • Identity authentication, including 802.1X and MAC authentication • AAA authentication, including RADIUS, TACACS • Storm control • Port isolation • Port security, sticky MAC address, filtering invalid MAC addresses • IP/IPv6 source guard, DoS attack prevention, ARP inspection, CPU protection • Loop protection, including port loopback detection, BPDU protection, root protection, and loopback protection • Kensington Security Slot (Kensington Lock) support • Firmware signature						
Reliability	• Power supply modules in 1+1 redundancy mode • Stack intelligent upgrade						
Maintenance	• NTP • IEEE 1588v2 TC (PTPv2, RFC 8173) for precise time • CPU and memory monitoring • Fault detection and alarm for power supply and fan • SNMP including SNMPv1, SNMPv2c, SNMPv3 • RMON including history groups, event groups, alarm groups, and statistics groups • LLDP&LLDP-MED • Backup and restore • Syslog • Alert • Diagnostics including Ping, traceroute, Ping watchdog, mirror including SPAN and RSPAN, Capture, copper test, fiber module, and one-click debugging • sFlow • Upgrade via FTPS/ TFTP/ HTTP/ HTTPS or local upload, mass provisioning using DHCP Option/ TR-069 (pending)/ GDMS Networking/ GWN Manager/ GWN series routers						
Management Platform	• Local Web GUI: Comes with the embedded controller • GDMS Networking: Provides free cloud management platform for unlimited GWN7800 Pro series switches • GWN Manager: Comes as an on-premises software controller • GWN App: Supports login to the app through GDMS Networking and GWN Manager to manage GWN7800 Pro series switches • Management Protocol: SNMP, RMON, TR-069 (pending)						

Features & Benefits

Powerful Business Processing Capabilities

- Static routing routes data communication between different network segments. Simpler, more efficient and more reliable.
- DHCP Server and Relay assigns IP addresses to hosts on the network.
- GVRP (pending) provides VLAN dynamic distribution, registration and attribute propagation, reducing manual configuration and ensuring the accuracy of the configuration.
- QoS, including Port Priority, Priority Mapping, Queue Scheduling, Traffic Shaping and Rate Limit.
- ACL filters data packets by configuring matching rules, processing operations and time schedules, and providing flexible security access control policies.
- IGMP Snooping and MLD Snooping to support multi-terminal HD video surveillance and video conferencing.
- IPv6 supports network transitions from IPv4 to IPv6.
- IEEE 1588v2 TC (PTPv2, RFC 8173) for precise time provides high-precision time synchronization between network devices, improving security while reducing costs in comparison to GPS time synchronization.
- Stacking provides powerful network expansion capabilities. By adding member devices, you can easily expand the number of ports, bandwidth and processing capacity of the stacking system.
- Pro AV Solutions - The GWN7800 Series delivers high-quality, low-latency audio and video processing, transmission, and display for enterprises, academia, entertainment, media, retail and more . This ensures reliable, flexible and engaging audiovisual experiences.

Advanced Security Protection

- Static MAC tables and dynamic MAC tables allow data transmission, and MAC table filtering protects against network attacks.
- Packet filtering based on binding of IP address, MAC address, VLAN and port.
- Dynamic ARP Inspection protects against ARP spoofing and ARP flooding attacks including gateway spoofing and man-in-the middle attacks that are common in LAN environments.
- IP/IPv6 Source Guard prevents illegal address spoofing including IP(v6)/MAC/VLAN spoofing and IP(v6)/VLAN spoofing.
- DoS Attack Defense prevents Land Attacks, Smurf Attacks, TCP SYN Attacks, Ping Flooding and more.
- 802.1X, MAC, RADIUS, AAA, and TACACS+ authentications provide authentication LAN devices.
- With port security, when the number of MAC addresses learned by a port reaches the maximum number, it will be set to error-down status automatically to stop learning and prevent MAC address attacks while controlingl the network traffic of the port.
- With DHCP/DHCPv6 Snooping, only DHCP/DHCPv6 packets from trusted ports are allowed to keep the enterprise DHCP/DHCPv6 environment safe.

Enhanced Reliability

- Redundant Power Supplies (RPS) and External redundant power modules (optional) ensure stable and reliable continuous usage.
- Supports fault detection and includes an alarm for the power supply and fan. The GWN7800 Series can automatically adjust the fan speed based on temperature changes to better adapt to the environment.
- Provides multiple levels of device protection, including overcurrent protection, overvoltage protection, overheat technology and surge protection.
- Dual boot (only for GWN7806 Pro models) at the hardware level uses two FLASH chips to store boot software (system boot program), providing hardware-level boot redundancy and backup while avoiding FLASH chip failures.
- Dual system file redundancy and backup ensures quick startup and high-performance operation of the system while improving the stability of the device.
- STP/RSTP/MSTP guarantees fast convergence, improves fault tolerance, ensures network stability and provides link load balancing and redundancy.
- Compatible with PVST(+) / RPVST(+) for faster convergence, optimizing network performance through VLAN-based network load balancing.
- ERPS and loopback detection identifies and remove loops on the network.
- Link aggregation increases bandwidth while improving reliability and load balancing.
- Storm control prevents traffic interruptions caused by broadcast, multicast and certain unicast packets.
- Stacking supports the logical virtualization of up to 8 switches into one (GWN7806 Pro models). This improves device-level reliability through redundant backups between multiple member devices and link-level reliability through link aggregation functions across devices.
- AI Diagnostics (pending) to automatically analyze network traffic and device health through intelligent real-time monitoring of network status. This quickly locates and warns admins of potential faults, enhancing operational efficiency.

PoE Capability

- Complies with IEEE 802.3af/at/bt standards to meet the PoE power supply requirements of security monitoring, audio and video conferencing, wireless signal coverage and more.
- User-defined time periods allow users to control the power supply of PoE ports on WebUI.
- Priority of PoE ports settings allow the GWN7800 Series to power ports based on priorities when power is insufficient.
- Maximum power allowed per port settings provide additional port control.
- Dynamic power negotiation via LLDP-MED.

Easy Management and Monitoring

- Management options include GDMS Networking (cloud), GWN Manager (on-premise software), WebUI (embedded controller), GWN Series Routers, CLI (Console, Telnet, SSH) and SNMP (v1/v2c/v3).
- Monitor CPU and memory usage to analyze network issues with tools such as Ping, Traceroute, and Copper Test.
- RMON, Syslog, traffic statistics and sFlow provide network optimization.
- LLDP and LLDP-MED provide automatic discovery, provisioning and management of endpoint devices.
- Stacking (only for GWN7806 Pro models) simplifies configuration and management, allowing multiple physical devices to become one virtual device. Users can log in to the stacking system through any member device to centrally configure and manage all devices in the stacked system.
- Scan the QR code on the device to quickly obtain device information and add it to the GWN App for remote management.
- AI CLI (pending) provides intelligent prompts and corrections through natural language command inputs, reducing configuration difficulty, simplifying network management operations, and improving configuration efficiency.

Power & Green Energy Efficiency

- Includes a high efficiency power supply module.
- All Ethernet ports support EEE (Energy Efficient Ethernet), providing fast transitions between normal operation and low power states with low traffic and low power consumption.
- Intelligent control of fan speed based on the environmental temperature provides precise temperature control, energy saving and noise reduction.

IPv4/IPv6 Dual Protocol Stack

- IPv4 routing protocol, including IPv4 unicast routing.
- IPv6 routing protocols, including IPv6 unicast routing.
- Supports an IPv4, IPv6 or IPv4/IPv6 hybrid environment.
- Policy routing (only for GWN7806 Pro models) adjusts routing paths according to actual needs to meet network requirements and dynamically selects routing paths based on network load, thereby achieving load balancing.