

## Overview

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100GbE / 25GbE / Multi-gigabit Network Switch

Introducing Yamaha ProAV-ready network switches “SWX3220-30TCs” supporting 100GbE and 25GbE connectivity.



As the transition to IP-based audio and video accelerates, AV systems demand faster and more flexible network infrastructure. Yamaha switches are purpose-built for ProAV environments, combining intuitive operability with exceptional reliability.

They are especially well-suited for high-resolution, low-latency transmission in live entertainment venues and large-scale corporate facilities.

## Features

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- L3 Standard switch with 30 ports
- 2 QSFP28 slots, 4 SFP28 slots, 20 SFP+ slots and 4 multi-gigabit ports (100M / 1G / 2.5G / 5G / 10G)
- Redundant power supply unit slots (Hot-swappable)
- Supports PTPv2 BC (Boundary Clock) / TC (Transparent Clock)
- Built-in RADIUS server for advanced security management
- Supports Yamaha LAN Monitor

## Specifications

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### General Specifications

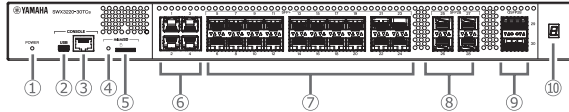
LAN ports	Standard	IEEE802.3 (10GBASE-T/5GBASE-T/2.5GBASE-T/100GBASE-T/100BASE-TX)		
	Number of ports	4		
	Communication mode	Auto negotiation		
	Connector type	RJ-45		
	Polarity	Automatic detection of straight/cross		
QSFP28 slots	Standard	IEEE802.3bm(100GBASE-SR4) IEEE802.3ba(100GBASE-LR4)		
	Number of ports	2		
SFP28 slots	Standard	IEEE802.3by(25GBASE-SR) IEEE802.3cc(25GBASE-LR) IEEE802.3ae(10GBASE-SR/10GBASE-LR) IEEE802.3z(1000BASE-SX/1000BASE-LX)		
		Number of ports	4	
		SFP+ slots	Standard	IEEE 802.3ae (10GBASE-SR/10GBASE-LR) IEEE 802.3z (1000BASE-SX/1000BASE-LX)
			Number of ports	20
Console ports	Standard	RS-232C, USB 2.0		
	Connector type	RJ-45, mini-USB Type B (5-pin)		
	Data transmission speed	9,600 bit/s		
Switching capacity	1,080 Gbit/s			
Throughput	803.57 Mpps, Frame size 64 byte (Non-blocking)			
Latency	1.6μs/1.5μs/1.2μs/4.7μs/7.3μs/3.1μs/14.4μs (100G/25G/10G/5G/2.5G/1G/100M), Base on RFC2544 (Store & Forward, Frame size 64 byte)			
Maximum number of MAC addresses	65,536			
Link aggregation	Static setting, LACP (IEEE 802.1AX)			
VLAN	Port VLAN, Tag VLAN (IEEE802.1Q), Private VLAN, Voice VLAN, Multiple VLAN			
Maximum number of VLANs	4094 (VLAN ID 1–4,094) *VLAN ID 1 is the default VLAN ID.			
Spanning tree	STP (IEEE 802.1D), RSTP (IEEE 802.1w), MSTP (IEEE 802.1s) *STP and RSTP are supported via downward compatibility with MSTP.			
Loop detection	Yes			
DHCP snooping	Yes			
Static routing	Yes			
Dynamic routing	BGP4+, OSPF (v2/v3), RIP (v1/v2), RIPng			
Policy-based routing	Yes			
IP multicast	IGMP Snooping (v1/v2/v3), MLD Snooping (v1/v2), IGMP (v2/v3), IGMP Proxy, IPv4 PIM-SM, PIM-DM, PIM-SSM			
ACL	IPv4 ACL, IPv6 ACL, MAC ACL			
QoS	Priority queuing (CoS, DSCP, Port priority, Policy-based), Bandwidth limiting/Bandwidth Guarantee, Scheduling (SP, WRR), Shaping			
Flow control	IEEE 802.3x (Full-duplex), back pressure (Half-duplex), HOL blocking prevention			
Storm control	Yes			
Management protocols	SNMP (v1/v2c/v3/Private MIB), RMON (v1/v2), sFlow			
Security and authentication	Port Authentication (IEEE 802.1X authentication, MAC address-based authentication), Web authentication, Dynamic VLAN, Port security, RADIUS server			

Program management	Update via TFTP/Web GUI, Update/Boot via microSD card	
Logging	Store inside, Output as SYSLOG, Periodic Log Backup	
Log storage capacity	Up to 10,000 lines	
Support functions	Port mirroring, Port shutdown, Link speed downshift, Packet counter, Power saving mode (IEEE802.3az EEE), DHCPv4 (Server, Relay Agent, Client), DHCPv6 (Server, Client), IPv6 RA, Time management(Manual setting, SNTP), ProAV profile setting, Scheduling, System self-diagnostic, IEEE 1588 PTPv2 BC (Boundary Clock)(*), IEEE 1588 PTPv2 TC (Transparent Clock) (*), Cable diagnostics, endpoint monitoring, LLDP Auto configuration, Performance monitoring *Supports only 1 Gbit/s, 10 Gbit/s, 25 Gbit/s or 100 Gbit/s	
Stacking function	Yes (Up to 2 units)	
Configuration control	DIP switch ×8, Initialization button ×1	
DIP switches	8	
Configuration methods	Configuration via Web GUI, Configuration via Console/TELNET/SSH using CLI, Download/Upload via TFTP, Copy/Boot from microSD card, Automatic SD card boot	
Ports available for PoE power supply	-	
PoE standards	-	
Power supply system	-	
Maximum power supply	Per port	-
	All ports	-
microSD slot	Standard	microSD/microSDHC (microSDXC is not supported)
	Number of slots	1
	File System	FAT/FAT32
Indicators	POWER, microSD, LINK/ACT, SPEED, STACK ID	
Operating environment	Temperature 0–50°C, Humidity 15–80% (No condensation)	
Storage environment	Temperature -20–60°C, Humidity 10–90% (No condensation)	
Power supply (AC IN inlet)	AC100–240 V (50/60 Hz), Power supply unit slots (2 slots, 1 unit installed by default, Redundant), AC IN inlet	
Maximum power consumption	146 W (147 VA), 1.5 A, 524 kJ/h	
Chassis	Metal case, 3 fans	
EMI standard	VCCI Class A	
Hazardous substances management	RoHS	
Dimensions	W	430 mm
	H	44 mm
	D	400 mm
Weight	6.3 kg	
Accessories	Power cord, power supply unit, power cord retainer, read this first, rubber feet, dust cover (set on SFP slots), slot cover (set on power supply unit slot), rack mount brackets, mounting screws	
Options	SFP module, SFP+ module, SFP28 module, direct attached cable, active optical cable, power supply unit	

# Specifications

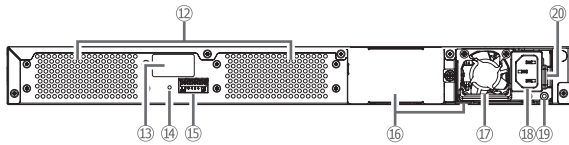
## Controls and Connectors

### Front Panel



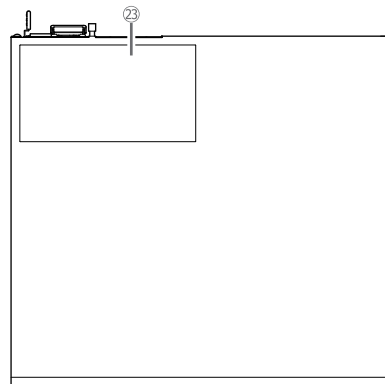
1. POWER indicator
2. mini-USB CONSOLE port
3. RJ-45 CONSOLE port
4. microSD indicator
5. microSD slot
6. LAN ports
7. SFP+ slots
8. SFP28 slots
9. QSFP28 slots
10. Stack ID display indicator

### Rear Panel



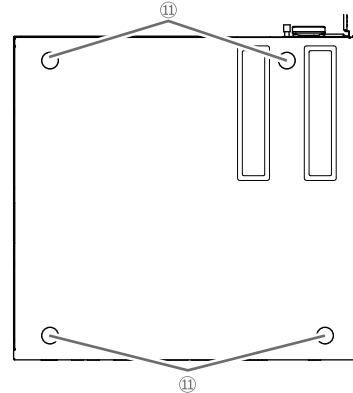
12. Cooling vents
13. Serial number, Device ID
14. Initialize button
15. DIP switch
16. Power supply unit slots
17. Release handle
18. Power supply inlet
19. Power supply unit indicator
20. Release latch

### Top Panel



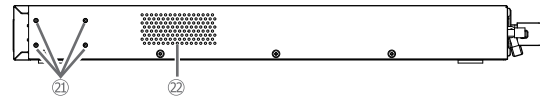
23. Product label

### Bottom Panel



11. Rubber foot attachment guides

### Side Panel



21. Rack mount accessory attachment holes
22. Cooling vents

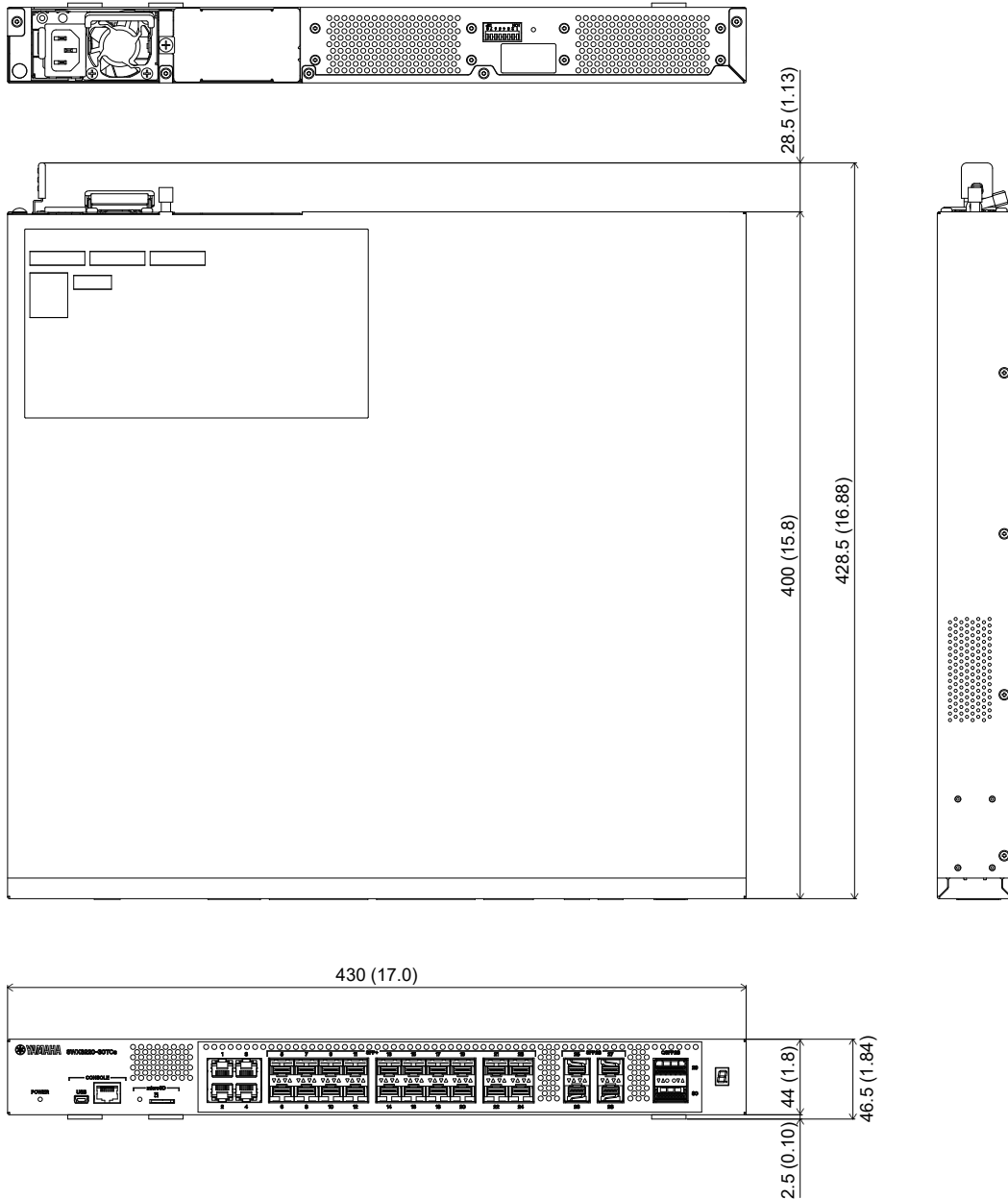
### RJ-45/DB-9 Console Cable Pin Configuration Console (RS-232C)

Signal	RJ-45	D-SUB 9
RTS	1	8
DTR	2	6
TxD	3	2
GND	4	5
GND	5	
RxD	6	3
DSR*	7	4
CTS*	8	7
		1

\* DSR and CTS signals are not used by the SWX2322P-30TCs.

## Dimensions

Unit: mm (inch)



## Option

Rack-mount brackets are included in SWX3220-30TCs

- |                         |                          |
|-------------------------|--------------------------|
| • SFP Module            | SFP-SWRG-SX/LX           |
| • SFP+ Module           | SFP-SWRT-SR/LR           |
| • SFP28 modules         | YSFP-25G-SR/YSFP-25G-LR  |
| • Direct Attached Cable | DAC-SWRT-1M/3M           |
| • AOC cables            | YAOC-100G-1M/YAOC-25G-1M |
| • Power supply unit     | YPSU-550W-AC             |

## Software

- Yamaha LAN Monitor

## Architectural and Engineering Specifications

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The Yamaha SWX3220-30TCs shall be a standard Layer 3 switch optimized for audio and video networking, capable of supporting multiple 10 Gigabit endpoints, and providing uplinks at up to 100 Gigabit speeds. The SWX3220-30TCs shall provide features and functionality that facilitate setup and operation with Dante, NDI, SDVoE, SMPTE ST 2110, IPMX, and other network functions that require high speed and capacity.

Twenty SFP+ slots shall support 10 Gigabit or 1 Gigabit Ethernet connections for flexible system configuration and high-speed transmission across multiple segments over long distances. Additionally, four RJ45 connectors on the front panel shall function as ports for network connection, supporting 10/5/2.5/1 Gigabit and 100 Megabit Ethernet speeds via standard CAT6 or higher LAN cables, as appropriate. Four SFP28 slots on the front panel shall support up to 25 Gigabit Ethernet connections, for flexible system configuration and high-speed transmission across multiple segments over long distances.

Two QSFP28 slots on the front panel shall support 100 Gigabit Ethernet connections for ultra-high-speed backbone links and scalable cascading of multiple switches.

All optical ports shall allow installation of optional modules, including:

AOC cables: YAOC-100G-1M/YAOC-25G-1M (Active Optical Cable)

SFP28 modules: YSFP-25G-SR/YSFP-25G-LR

SFP+ modules: SFP-SWRT-SR/SFP-SWRT-LR

SFP modules: SFP-SWRG-SX/SFP-SWRG-LX

Direct attached cables: DAC-SWRT-1M/DAC-SWRT-3M

The SWX3220-30TCs shall support both IEEE 1588 PTPv2 TC (Transparent Clock) and PTPv2 BC (Boundary Clock) standards for precise audio and video synchronization to within 1 microsecond. One mini-USB port and one RJ-45 port shall be provided on the front panel for console connection, allowing setup from a computer. The mini-USB port shall allow connection to the USB port of a computer, and the RJ-45 CONSOLE port shall allow connection to the RS-232C connector (COM port) of a computer.

One microSD slot shall be provided on the front panel, accepting a microSD or microSDHC card for SD card boot (firmware, config), firmware update, config file save and copy, log file save, technical support information save, and statistical information save. A front-panel microSD indicator shall show microSD card status. A 7-segment numeric LED shall be provided to display stack ID.

The SWX3220-30TCs shall allow easy setup and configuration via a comprehensive web-based GUI. Preset ProAV profiles shall allow one-click setup of QoS, EEE, IGMP Snooping, and other settings for stable operation of Dante, NDI, SDVoE, SMPTE ST 2110, IPMX, and other networks. In addition, DIP switches located on the rear panel shall enable configuration for Dante, NDI, SDVoE, SMPTE ST 2110, IPMX, and other network functions, without the need for a PC.

The switch shall be capable of accommodating multiple network protocols on the same device. The web GUI shall also provide easy access to multicast settings and operation, with clear indication of multicast activity for effective troubleshooting.

The Yamaha LAN Monitor software application for Windows and macOS operating systems is provided for download from the Yamaha website, to allow comprehensive monitoring of SWX3220-30TCs status, as well as the entire network and connected devices. The SWX3220-30TCs shall include a built-in RADIUS server for advanced security management.

The SWX3220-30TCs shall have a built-in universal power supply so that no external AC adapter is required. Cooling shall be provided by efficient internal fans, with air intakes on the front of the unit, and extraction through the rear of the unit.

The SWX3220-30TCs shall support the optional power supply unit YPSU-550W-AC, with up to two units installable simultaneously to achieve power supply redundancy.

Rack mount brackets shall be included, allowing for rack mounting of the unit within a 1U rack space.

Dimensions shall be 430 (W) x 44 (H) x 400 (D) mm. Weight shall be 6.3 kg.

\*All information subject to change without notice.

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