Workstation

Key Features

1. AMD Ryzen™ Threadripper™ PRO 5000WX/3000WX Series Processor, up to 64 Cores

2. Up to 2TB (RDIMM) / 256GB (UDIMM), ECC/Non-ECC, Unbuffered, U-DIMM, R-DIMM, LRDIMM, and 3DS R-DIMM; 3200Mhz in 8 DIMM slots

3. 6 PCI-E 4.0 x16 slots
   M.2 Interface: 4 PCI-E 4.0 x4 (Software RAID 0,1,5,10)
   M.2 Form Factor: 2280, 22110
   M.2 Key: M-key
   U.2 Interface: 2 U.2 sockets (Software RAID 0,1)

4. 4 SATA 3.0 6Gbps (Software Raid 0,1,5 & 10)

5. 1x 10GBase-T LAN port,
   1 GbE LAN port (shared with IPMI)

6. ASPEED AST2600 BMC graphics

7. 1 USB 3.2 Gen2x2 port (Type C, 20Gbps),
   5 USB 3.2 Gen2 ports
       (4 type A + 1 front type C header),
   5 USB 3.2 Gen1 ports
       (3 type A + 2 via header),
   2 USB 2.0 ports via header

8. 1 COM port (rear),
   TPM 2.0 header,
   7.1 Channel HD Audio

9. 10 fan header, 4-pin type fan header,
   112V-power header for liquid cooling

Note: Image above may show a varied configuration of optional parts.
Please refer to parts list for standard parts included.

Links & Resources

- Tested Memory List
- Tested HDD List
- Tested M.2 List
- Tested AOC List
- Motherboard Manual
- Quick Reference Guide
- Update Your BIOS
- IPMI Firmware
- Download the Latest Drivers and Utilities
- Download Driver CD
- OS Compatibility

GLOBAL SKU

AMD
THREADRIPPER
PRO

MBD-M12SWA-TF
- M12SWA-TF

Physical Stats

Form Factor
- E-ATX

Dimensions
- 12" x 13" (30.48cm x 33.02cm)

Processor/Cache

CPU
- Single AMD Ryzen™ Threadripper™ PRO 5000WX/3000WX Series Processor
- Socket sWRX8/SP3
- Supports CPU TDP up to 280W

Cores
- Up to 64 Cores

System Memory

Memory Capacity
- 8 DIMM slots
- ECC and Non-ECC, buffered and Un-buffered, U-DIMM, R-DIMM, LRDIMM and 3DS R-DIMM Memory
- RDIMM up to 2TB, UDIMM up to 256GB
- 8-channel memory bus

Memory Type
- ECC and Non-ECC, buffered and Un-buffered, U-DIMM, R-DIMM, LRDIMM and 3DS R-DIMM Memory
- DDR4 3200 / 3000 / 2933 / 2800 / 2666 / 2400 / 2133 Mhz

DIMM Sizes
- 8GB, 16GB, 32GB, 64GB, 128GB, 256GB

Memory Voltage
- 1.2V

Error Detection
- Corrects single-bit errors
- Detects double-bit errors (using ECC memory)

On-Board Devices

Chipset
- AMD WRX80

SATA
- AMD WRX80 controller for 4 SATA3 (6 Gbps)ports, Software RAID 0,1,5,10

Network Controllers
- 10G LAN: Single LAN via Marvell AQC113C 10Gb controller
- 1GbE LAN: Single LAN via via Intel® i210AT controller (shared with IPMI)

IPMI
- Support for Intelligent Platform Management Interface v.2.0
- IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
- ASPEED AST2600 BMC

Audio
- ALC4050H + ALC1220 7.1 Channel HD Audio

Graphics
- ASPEED AST2600 BMC
- VGA connector is dedicated for IPMI

Expansion Slots

PCI-Express
- 6 PCI-E 4.0 x16 slots

M.2
- Interface: 4 PCI-E 4.0 x4
- Form factor: 2280, 22110
- Key: M-key
- Software RAID 0,1,5,10 support

U.2
- Interface: 2 U.2 Sockets
- Software RAID 0,1 support

Chassis (Optimized for M12SWA-TF)

Tower/4U Rackmountable
- SC743AC-1K26B-SQ
- SC745BAC-R1K23B
- SC747BTQ-R2K04B

Tower/5U Rackmountable
- SCGS7A-2000B

Server(s) (with M12SWA-TF)

Model(s)
- AS -5014A-TT

System BIOS

BIOS Type
- AMI 256Mb Flash EEPROM

Management

Software
- Super● Doctor 5
- Watch Dog
- SUM
- IPMI, KVM with shared LAN

Power Configurations
- ACPI Power Management
- Power button override mechanism
- Keyboard wakeup from S5
- S3/S4

PC Health Monitoring

CPU
- Monitors CPU Core Voltages, +3.3V, +12V, +3.3Vstb, +5Vstb, Vcore, Vmem
- Supports system management utility

FAN
- Up to 10 4-pin fan headers
- Status monitor for speed control

Temperature
- Monitoring for CPU and chassis environment
- CPU Thermal Trip Support
- I²C Temperature Sensing Logic

LED
- CPU / System Overheat LED

Other Features
- Chassis Intrusion Detection
- Chassis Intrusion Header

Operating Environment / Compliance

Environmental Specifications
- Operating Temperature: 0°C to 50°C (32°F to 122°F)
- Non-operating Temperature: -5°C to 55°C (23°F to 131°F)
- FCC class B

Input / Output

SATA	▪ 4 SATA3 (6 Gbps) ports
LAN	▪ 1 RJ45 10GBase-T LAN port ▪ 1 RJ45 GbE LAN port (shared with IPMI)
USB	▪ 1 USB 3.2 Gen2x2 port (Type C, 20Gbps) ▪ 5 USB 3.2 Gen2 ports (4 Type A, 1 front Intel Type C header, 10Gbps) ▪ 5 USB 3.2 Gen1 ports (3 Type A, 1 via header) ▪ 2 USB 2.0 via header
VGA	▪ 1 VGA port (dedicated for IPMI)
Others	▪ 1 COM port (rear) ▪ 1 TPM 2.0 header

Bulk Pack List

	Part Number	Qty	Description
Motherboard	MBD-M12SWA-TF	1	M12SWA-TF Motherboard
SATA Cable	CBL-0044L	2	57.5CM SATA FLAT S-S PBF
IO Shield	MCP-260-00159-0N/ MCP-260-00159-1N	1	M12SWA-TF series IO Shield
CPU-GPU Power Connector Adapter	CBL-PWEX-0663	1	PCIe 8 Pin Male(black) to CPU 8 Pin Female(White) Power Adapter
M.2 Screw and Stand Kit	MCP-410-00020-0N	1	Screw kit with bag for M12SWA-TF M.2 card

Retail Pack List

	Part Number	Qty	Description
Motherboard	MBD-M12SWA-TF	1	M12SWA-TF Motherboard
Quick Reference Guide	MNL-2336-QRG	1	M12SWA-TF Quick Reference Guide
SATA Cable	CBL-0044L	4	57.5CM SATA FLAT S-S PBF
IO Shield	MCP-260-00159-0N/ MCP-260-00159-1N	1	M12SWA-TF series IO Shield
CPU-GPU Power Connector Adapter	CBL-PWEX-0663	1	PCIe 8 Pin Male(black) to CPU 8 Pin Female(White) Power Adapter
M.2 Screw and Stand Kit	MCP-410-00020-0N	1	Screw kit with bag for M12SWA-TF M.2 card

Optional Parts List

	Part Number	Qty	Description
TPM security module	AOM-TPM-9655V	-	TPM 1.2 module with Infineon 9655, RoHS/REACH,PBF;
	AOM-TPM-9665V	-	TPM 2.0 module with Infineon 9665, RoHS/REACH,PBF;