

Engineered Computer Appliance

Spec Sheet

FX48

ECA



ECA-FX48 is a 15-bay storage server supporting up to 360TB, our most cost-effective solution for long-term data archiving. Built for enterprise and large-scale environments, it features comprehensive redundancy across storage, network, and power to ensure continuous, reliable operation. Combined with our superior, proactive support service, the FX series delivers a robust and hassle-free experience designed for mission-critical performance.

- Ultimate processing technology up to **1800Mbps^{*1}** or **300CH 4K videos** validated real world surveillance workloads.
- Automatic network fail-over feature to ensure uninterrupted recording operations.
- Up to **360 Terabytes (TB)** of dedicated video storage with 15 hot swap hard disk drive bays.
- Configurable storage with Redundant Storage System (RSS) in single or dual single parity mode, allowing up to two disks failure before any data is lost.
- Automated daily check for hard disk drive health , disk guard and recording activity for detection of potential CCTV not recording monitoring.

Best-in-class Service & Management:

- **ecaCentral dashboard** for centralized system monitoring and remote management
- **System log auditing** with built-in support escalation reporting
- **TrueBlue Proactive Service** for premium, hassle-free support and operational continuity

Software

Operating System (ecaOS)

Triple-Layers ecaOS6 64bits OS architecture with remote dash-board and machine control capability.

C-model*: powered by Microsoft® Windows 10 IoT Enterprise LTSC. S-model: with Microsoft Windows Server IoT Storage std 2022

*Note: SHIELD feature only available in C-model

System Monitoring

CPU: Usage (%) threshold value for x minute of time
 MEMORY: Usage (%) threshold value for x minute of time
 NETWORK TX/RX: Usage (Mbps) threshold value for x minute of time
 DISK WRITE/READ: Usage (Bytes) threshold value for x minute of time

- With automatic value prediction
- With notification and email alert
- Optional action to reboot or shutdown the machine (CPU and Memory)

Machine shutdown authorization: Security Key only
 Machine stability monitoring: Notify if reboot more than 3 times within 30 minutes. Auto reboot if system halt / blue screen.

Disk Health

Frequency of health check: Automatic daily.
 Disk Check: OS SSD and All 15 Bay hot swap HDD.
 Notification: Email alert with detail disk health information.
 Disk Health: Disk health %, Power on time, Temperature, S.M.A.R.T values analysis. SSD ware, HDD bad sector, etc.

System Recovery (Remote capable)

FAST RESET: Reboot from windows OS, load fresh ecaOS from SSD (SHIELD must be enabled). This reset recovered most daily operation errors like miss places settings, or trojan attacks. Recovery time about 1 minute.

SOFT RESET: Command by Security Key, perform by Heartbeat. This reset recover the whole ecaOS, and it solve problem like windows OS corrupted or changes or change of new SSD. Recovery time about 10 minutes.

HARD RESET: Same as soft reset, but recovery based on factory default without any user software and settings.

Recording Monitor*

Recoding monitor will constantly monitor all connected cameras recordings, the monitoring GUI offer overall recording timeline that will ease user to know when no recording events happened.

* Available on ecaOS6.3 and support to macula vms only.

ECA Central Server Connection

Ability to connect to ECA CENTRAL SERVER for centralized monitored ECA machines. ECA CENTRAL Server also part of TrueBlue Pro-Active Service, we enhanced next level of professional service by automatic monitoring all connected ECA machines and pro-actively report / inform customer in case any machine failure events happened. TrueBlue Pro-active service also pro-actively make service appointment with customer.

*TrueBlue Pro-Active Service is an optional paid service subscription.

App Monitor

User configurable: ADD, DELETE application monitoring watchdog.
 Type: Application or Script (support arguments command)
 Launch Delay: First execution delay for x seconds (user configurable)
 Instance: Force single instance, terminate the rest, or allow multi instance.
 Monitoring: Terminate App if no respond.
 Auto Respawn: Auto respawn app/script after close, terminated or No respond.

Temperature: Monitor and alert system temperature, and processor temperature. As well as power supply unit (PSU) temperature*
 * Available in redundant PSU model only

System Voltage: System voltage stability auto monitoring and alert for 3.3Vdc, 12Vdc and Mainboard Clock battery.
 System power supply (PSU) redundant module monitoring and alert is only available in system with redundant PSU option.

System Fan: Auto monitoring and alert for system and processor fan.

AC Power monitoring: Alert & log if unexpected AC power lost, auto power up when AC power resume.

Disk Guard

Automatic log and notify when disk was REMOVED or ADDED.
 Track all individual HDD SERIAL NO. for evidence trace.
 Disk Info: Serial number, Firmware version, Model number, and Disk volume details.

System Report and Log

Events: System event notification alert page

Comprehensive Log: Details system log with search function. Filter by date/time. Ability to single-click log export with windows events log in single ZIP file for further technical troubleshoot sharing.

Auto-Daily Report: System will generate a system health status summary report and email to user everyday.

Device Monitor*

Monitor IP devices and Web Resources and notifies if they are down. Device monitor offer 4 types of device uptime monitor function. Ping, Port, Keyword and URL. The monitoring GUI offer user an overview timeline bar on the device uptimes.

*Available in ecaOS version 6.3 and above. May need separate license purchase.

Remote Support Control

TrueBlue: Single click activation for TrueBlue service remote support

Microsoft Remote Desktop: Enable/Disable RDP for Local Area Remote Support.

Chrome Remote Desktop: Enable/Disable chrome remote support for over the internet remote support. Remote setup capable via ecaOS HTTPs Dashboard.

NOTE: all above remote support services can be activate or deactivate via eca dashboard for better security and privacy

Hardware

Storage 1unit internal 480GB High Endurance SSD dedicated for ecaOS & Operating Software use. Fifteen (15) hot swap bay 3.5inch SATA / SAS HDDs for dedi-cated video storage support up to 24TB capacity per HDDs, or 360TB in total.	Redundant Storage System (RSS) Configurable RSS in mirror, single or dual parity model, allow up to two disk failure before any data lost. RSS powered by Microsoft® Storage Space technology. In built remote RSS tools, can create, repair or ex-tend storage. 1800Mbps*** or 300CH 4K@6Mbps cameras real world VMS perfor-mance, based on Seagate® Exos Enterprise grade HDD. ***Configuration based on 600Mbps x 3 (Triple storage group). Server mode only. Tunned by TrueBlue Service.
GPU & Display Performance GPU: Intel® UHD Graphics 630. 1GB shared memory. Server Client (SC) mode. Record and Display in same machine. FX45E: 63CH live display. Max 300Mbps recordings. FX45P: 150CH live display. Max 300Mbps recordings. Details Report: http://gsf.ms/LB202104210944.pdf	Monitor Outputs HDMI x 1port. Ver 2.0a. Max Resolutions 4096x2160 @60Hz (4K) DP x 1port. Ver 1.2. Max Resolutions 4096x2160 @60Hz (4K) VGA x 1port. Max Resolutions 1920x1200 @60Hz Multi Display Support: 3 monitors
Processor FX48W: Intel® Xeon W-1290. 10 core 20 threads.	Memory 5C / 5S: DDR4 ECC 32GB 6C / 6S: DDR4 ECC 64GB NOTE: FX45E, FX45P, & FX45W come with ECC system memory.
Network Dual LAN (RJ45 connector) 10/100/1000 Base-T Gigabit Ethernet . Support Redundant Fail-over. LAN1: Intel® I225LM with 10/100/1000/2500 Mbps LAN2: Intel® I219LM with 10/100/1000 Mbps.	Audio Realtek ALC887 HD , High Definition Audio. Line-out. 3.5mm jack (green). Mic-in. 3.5mm jack (pink). Support Audio over HDMI and DP
Heartbeat System on chip (SoC) microprocessor IoT controller board 128GB system recovery heartbeat storage. 12 hours self sustained 6000mAh Li-Po battery. 100Mbps LAN for system notifications. Relay-Out x 1. (NC/NO/COM), for machine failed buzzer. Digital I/O: DI x 2. DO x 2. 3.3V@500mA max.	Security Key 2048-bit RSA encryption. Uniquely paired to machine specific authenti-cator token. Default all ECA shipped with 1unit physical and 2 virtual security keys. Additional keys can be purchased from GSF. Physical Key Type: USB 2.0 Type-A. Virtual Key Type: 6 digit OTP access code. Refreshed every 30 seconds.

Electrical

Power Input & Consumption Line voltage: 100 - 240V AC (auto select) Frequency: 50-60Hz, single phase Power output rated: 600W (max) Power Efficiency: >82% 80PLUS rated. Power Consumption Estimation: Continuous power consumption for UPS calculation Platform Only: Idle load: 60W, Max Load: 150W Platform with 15 HDD: 150W (idle), 300W (max) Option: Redundant PSU 1+1 PSU 600 Watt	Power Protection & Safety Over Voltage Protection (OVP) Short Circuit Protection (SCP) Over Power Protection (OPP) Over Current Protection (OCP) Under Voltage Protection (UVP) PSU will automatic shutdown if fault above detected. RESET: Remove all fault, with AC input cycle ON/OFF reset > 3seconds. Model with Redundant PSU: Hot Plug 1+1 redundant power module. 600W each module, with software status notification and alert.
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Environmental

Operating Temperature Operating Temperature: 10 ~ 45 °C Storage Temperature: -40 ~ 65 °C	Humidity Operating Humidity: 10% ~ 85% (Non-condensing) Storage Humidity: 10% ~ 85% (Non-condensing)
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Dimension & Weight

Size & Weight Machine Only: Packaging Box: Depth : 57mm Depth : 720mm Width : 430mm Width : 560mm Height : 176mm Height : 295mm Weight: 21.1KG Weight: 26.2KG	Form Factor & Mounting Requirements Rack mounted 4U Come with rail mounting kits. Rail mount requirement: Minimum vertical mounting column front to back is 1000mm depth.
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Service & Warranty

Warranty Support 1 year standard manufacturer warranty. Carry-IN. TrueBlue Care. Upgrade to 3 years hardware warranty, with next business day carry-IN part replacement service. (Service Code: TBC) TrueBlue Care Premium. Upgrade TBC to Premium with hardware parts & labor onsite replacement. (Service code: TBC Premium)	System Commissioning Service TrueBlue TNC (Service Code: TNC) Deployment Service: Professional onsite testing and commissioning. Training: User operation training. TrueBlue Onsite (Service Code: TBO) Incident based pay-per-request onsite service support.
Customer Care Phone, Email & Remote Support • Phone and Email Support (During working hour only) • Remote Support (During working hour only) Support Email: trueblue@gscorp.com Service Centre Unit21, Level 3A, IOI Boulevard, Jalan Kenari 6, Bandar Puchong Jaya, 47170 Puchong, Selangor D.E. Malaysia. Google map: https://goo.gl/maps/k1gep	Maintenance Service Maintenance Service Frequency: every 12 months of ECA runtime. TrueBlue Maintenance (Service code: TBM) ECA preventive maintenance service. We recommend a minimum 1 year service interval for each ECA deployed. GSF recommend customer to signup with our certified professional manufacturer maintenance service. (Code: TBM). This maintenance service is important to ensure continuous ECA operation without interruption or down time. Please visit for more info.

Models & Configurations

ECA-FX48PMO-15HSXXXSSSSSS ECA-FX48: Generic ECA Platform 4.8 Configuration: P W: Intel® Xeon W-1290. 10 core 20 threads. Configuration: M 5: DDR4 32GB 6: DDR4 64GB Model with Xeon processor installed with ECC memory. Configuration: O C: Windows 10 Enterprise LTSC OS (x64bits) S: Windows Server 2022 OS (x64bits)	Configuration: 15HSXXX 15 Hot swap Bay, with XXX factory pre-installed HDD capacity. Configuration: SSSSSS Factory pre-loaded software code.
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Ports:
1. Com port | 2. DisplayPort | 3. HDMI | 4. VGA | 5. LAN1 | 6. USB3.2 x 4 | 7. LAN2 | 8. MIC | 9. Audio Out | 10.Heartbeat LAN | 11. Heartbeat Reset | 12. Heartbeat I/O Port

^{**} Tunned by TrueBlue service.

