TOSHIBA

TOSHIBA Industrial Computers

Concept of Toshiba Industrial Computers (IPC)

Consumer PC Technology (CPU, OS) + Robustness & Reliability + Service Ability + Long-time maintenance

Hardware Design Based on 10 Years Operation

※Under 25℃、life parts should be replaced before failure (HDD, Cooling fan, CMOS battery).

Robustness & Reliability

Three features to realize 24/7 continuous operation

1. To employ highly durable and reliable parts which meet with the rigorous standard of quality and design.
2. To guarantee the high standard of quality of mainboard and chassis designed by Toshiba.
3. Expanded operational temperature range by employing original cooling structure

Power Supply

- Made by Japanese Company
- Customized as necessary

Mainboard

- Long supply CPU
- Memory with ECC which detects bit errors
- Highly reliable and long life parts are applied

FA3100TX model 800

RAID/HDD

- Employ Toshiba HDD and RAID card
- Patrol check all area of HDD and correct errors automatically
- Hot-swap functionality
- Front maintenance

RAS Function

- Internal thermal trend monitoring
- Used hours of life-parts monitoring

Cooling Fan

- Original cooling structure which fresh air is sucked from front to behind
- Front maintenance

Structure

- Designed for resistance to vibration and shock
- High level EMC performance based on in-house design standard
- Front panel with a key for security

Measures Keep High Quality and Availability

Robustness & Reliability

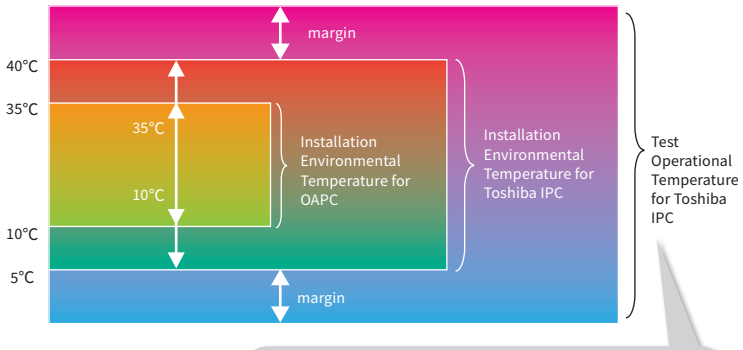
Strict shipment tests for every product

Outline Inspection
↓
Function Test
↓
Test
↓
High Temperature Aging Test
↓
HDD Screening Test
↓
System Test
↓
Shipment Inspection
↓
Final Shipment Test
↓
Shipment

FA2100TX model 700

Shipment tests remove the initial field failure.

Temperature margin sufficiently taken into account



The durable and reliable parts are employed in consideration for long-term operation under a severe temperature environment. TOSHIBA IPC is validated with sufficient temperature margin.

TOSHIBA Industrial Computers

Front Maintenance and Traceability

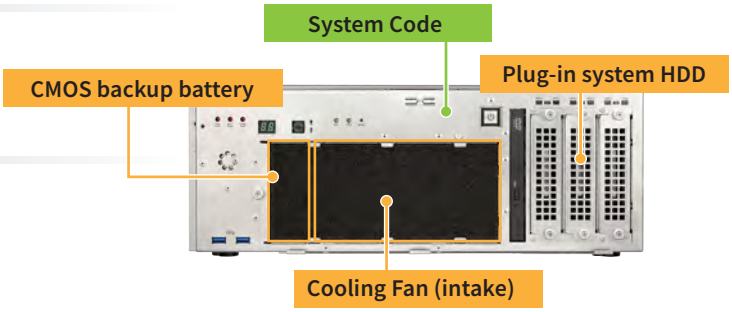
Service Ability

Front maintenance

- HDDs, Cooling fan, CMOS battery are replaced by customers.
- Keep system down time to a minimum

System Code for traceability

- Every product is managed by System Code. Trace specification and revision of hardware / software.
- System code is shown on front side under front panel.



Front Maintenance and Traceability

Service Ability

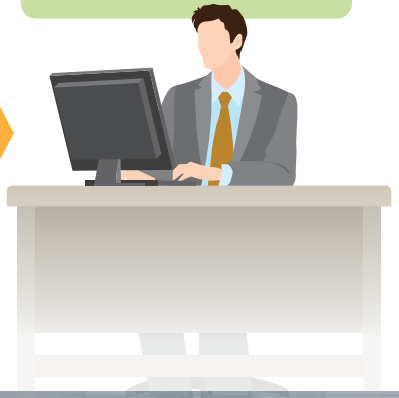
RAS capability (RAS=Reliability, Availability, Serviceability)

- Notification of failure events to application program.
- Event logging
- Notification to outside of IPC (DO output, LED output, Buzzer output)
- Remote power control

Intended supervision and diagnosis

- Thermal abnormality
- Battery / input voltage monitoring
- RAS event logging
- Fan monitoring
- Program runaway monitoring
- Internal thermal trend monitoring
- HDD monitoring
- Used hours of life-parts monitoring

Support software of Operating supervision, Hardware diagnosis, and anomaly detection / notices.



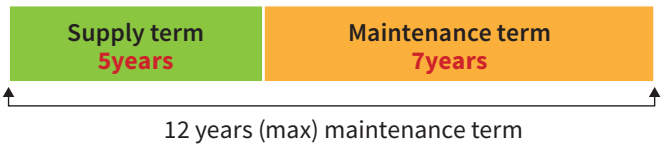
Long-time supply and maintenance

Long-time maintenance

Long-term supply and maintenance

- For 5 years supply
- Maintenance term is 7 years which begins at the end of supply term

*Long-life maintenance (3 years additional maintenance term, option) in Japan



Application Examples

- Broadcasting System
- Water / Wastewater
- Power Plant
- Signal Equipment (Railway)
- Semiconductor Manufacturing Equipment
- POS Server for convenient stores
- Supervisory Control System (Steel Plant, Oil Plant, Chemical Plant, Paper Factory…)

Toshiba Industrial Computers...

- Operate continuously in the system
- Keep system down time to a minimum
- Reduce cost to verify the system application program

Reduction of TCO
(Total Cost of Ownership)

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