

S500 General Product Description

NCR S500 Site Controller – NCR Classes 1611 & 1612

V 1.3



The latest offering in the NCR Site Controller line is the NCR S500 platform. Building on the success of its predecessors the S500 platform provides an industry standard computing platform for site and file servers. The NCR S500 is strengthening its partnership with Intel® by selecting Intel® processors with a matching Intel Q170 Express chipset. The S500 utilizes Intel's latest micro-architecture which employs a 14 nm manufacturing process, hyper-threading, multiple cores, and memory controller integration onto the processor. Keeping with the NCR goal of long-life products, the S500 platform has been sourced to provide a long life relative to the PC market, where platform changes every 6 months are common. By selecting Intel Embedded Roadmap components and by partnering with vendors to ensure long life availability of memory, cases, hard drives, etc, NCR can ensure product availability for 24 months, followed by a support life through the NCR Field Services group of an additional 5 years.

The S500 offers multiple configurations options. For users who do not require the high end CPU power, the Pentium G4400 dual core CPU and Core i3 6100 can be used to provide a lower cost solution. Users wanting a more robust server solution can opt for the i5-6500 and i7-6770 quad core processors. With a fast processor, 2133 MHz, DDR4 SDRAM, PCI and PCI express expansion slots, USB 3.0 and 2.0 support, the S500 provides enough power for the most demanding software.



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S500 Every Unit Item Features and Benefits

S500-MT Every unit item model number: 1611-XXXX-8801

S500-SF Every unit item model number: 1612-XXXX-8801

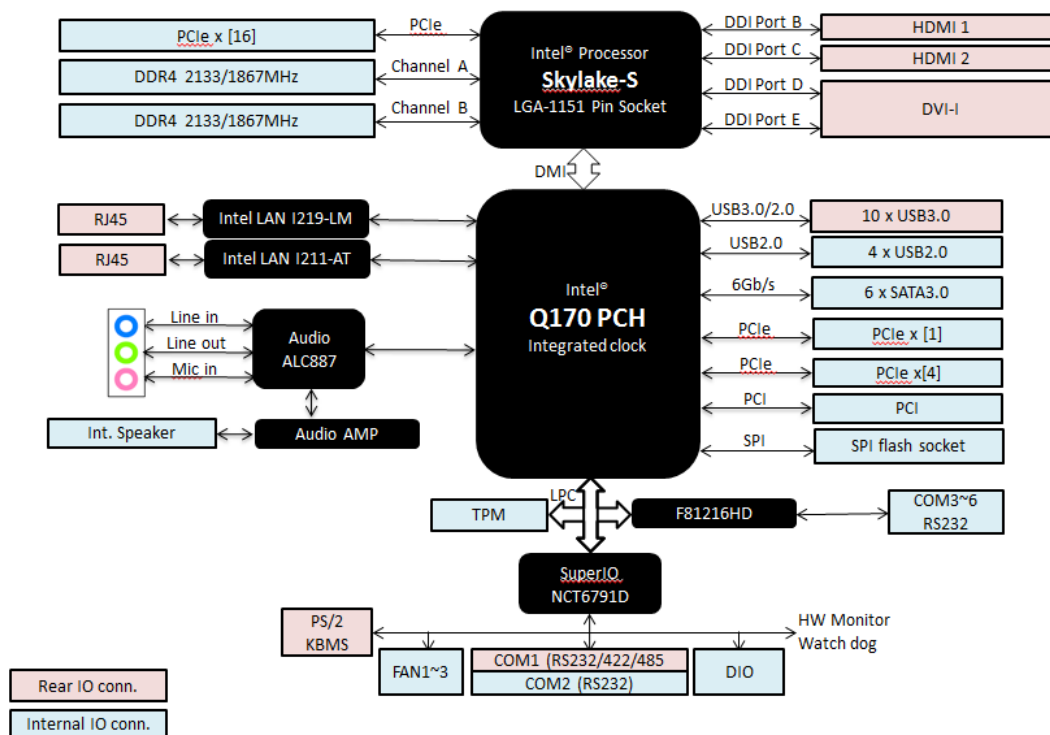
Features	Benefits
Form factor	(MT) Mid-Tower form factor designed for expandability and configuration flexibility. (SF) Small Form footprint saves valuable space.
Front Panel	The Mid-Tower (included) and Small Form (optional) full front locking door on the front panel prevents accidental shut-down or tampering by covering the optional removable hard drives (MT only), power switch, USB ports and optical drive.
Intel AMT (Active Management Technology)	Supports Intel AMT for Remote Device System Management. Reduces on-site service calls and helps troubleshoot from a central location.
Dual-Core and Quad-Core Technology	Integrates multiple complete execution cores in a single processor providing advancements in simultaneous computing for multi-threaded applications and multi-tasking.
Execute Disable Bit functionality protects your investment	Execute Disable Bit can prevent certain classes of malicious "buffer overflow" attacks when combined with a supporting operating system.
Intel Standards-based design and wide range of operating system support	The standards-based design allows clients to take advantage of new technology while protecting systems investment.
Standard 10/100/1000 BaseT Ethernet networking	High performance networking with mass-market cabling and hubs/switches.
Integrated switching power supply	Auto-switching power supports US and Intl power inputs designed to support the Intel CPU core. Power supply fan speed control for better acoustics.
RAID	On-board RAID 0, 1, 5 (MT Only) & 10 (MT Only).
Vented case with dual ball bearing fans	Provides better cooling for the Q170 chipset. Ball bearing fans have longer MTBF than sleeve bearing fans to reduce fan replacements.
Single Board Design	Minimizes connections for high reliability and maximizes consistency across units
Mounting	Optional Rack Mount (MT only) and under the counter mount (SF only) brackets provides for ease of installation and frees up counter space

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System Technical Features and Benefits

Pictured below is a block diagram of the major functional areas of the motherboard specified for the S500 server. Some legacy considerations on this motherboard include the following:

- No floppy drive*
- No parallel ATA (PATA) IDE drive connector*
- No VGA connector*
- No DVI-D connector (only DVI-I)*
- No Display Port Connector*



Mounting Options

Counter Top mounting – requires no additional hardware.

S500-SF Under the Counter Mounting – Requires the addition of the UCMB (under counter mounting bracket) kit - [1670-K006](#)

S500-MT Rack Mount Kit (4U) - Requires the addition of the rack mount rails bracket kit. Includes 2 slide rails and ears - [1611-K001](#)



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S500 – Site Controller Specifications

MOTHERBOARD	
Form Factor	MicroATX
Processor Options	Intel® Core™ i7-6770 Quad Core Intel® Core™ i5-6500 Quad Core Intel® Core™ i3-6100 Dual Core Intel® Pentium® G4400 Dual Core
Processor Socket	LGA 1151
Chipset	Intel® Q170 Express Chipset
Memory	Four 288-pin DDR4 SDRAM DIMM sockets DDR4 2133 MHz supported Minimum of 4 GB system memory; upgradeable to 16GB
Graphics	Integrated graphics support for processors with Intel® Graphics Technology: - 1 x DVI-I (Up to 1920 x 1200 @60Hz) - 2 x HDMI (Up to 4096 x 2160 @24Hz)
Audio	Intel® High Definition Audio: Realtek® ALC887 6-Channel High Definition Audio CODEC
Peripheral Interfaces	- 10 USB 3.0 ports (back panel), 4 USB 2.0 ports (2 front panel and 2 optional expansion) - 6 Serial ATA (6Gbps) interfaces, - 1 serial port
LAN Support	2 x RJ45 10/100/1000 Mbps/s LAN subsystems
Expansion	One PCI Express x16 connector One PCI Express x4 connector One PCI Express x1 connector One conventional PCI connector
Serial ATA RAID	Board supports Intel Rapid Storage Technology which provides the following RAID levels: RAID 0 – data striping RAID 1 – data mirroring RAID 0+1 – (or RAID 10) – data striping and mirroring (requires 4 drives) RAID 5 – distributed parity (requires 3 drives)



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SYSTEM OPTIONS	
Floppy	Not available
Optical Drive	CD-RW/DVD-RW Combo SATA
Storage	Std 500GB or 2TB 7200rpm SATA hard drive; optional 2 nd HD available Up to four removable hard drives available in the MT only
	Std 120GB SATA SSD available; optional 2 nd SSD available Up to four removable solid state drives available in the MT only
Modems	PCIe 56K controller based Faxmodem (Optional)
Serial and Parallel card expansion	Options for 2 port or 4 port serial add in cards (Optional) Option for 1 DB-25 female IEEE 1284 parallel port (Optional)
OPERATING SYSTEMS	
	Windows 7 Professional (32 and 64 bit) Windows 10 Professional (64 bit only)
	Windows Server 2012 R2 Standard (64 bit only) Windows Server 2008 R2 Standard (64 bit only) Windows Server 2012 R2 Foundation (64 bit only) Windows Server 2012 R2 Essentials (64 bit only)
CASE	
Case dimension (D x W x H)	(MT) mm: 465 x 198 x 425 (SF) mm: 140 x 410 x 330
	(MT) inch: 18.3" x 7.8" x 16.7 (SF) Inch: 5.5" x 16.1" x 13"
Drive configuration	1 - CD-RW / DVD-RW combo drive (3 – External 5.25" bays)
	(MT) HDD Tray: 3.5" x 4 (Fixed or Hot swap) (SF) 2 - 3.5" HDD (1 standard, 1 optional)
System cooling fans	(MT) 120mm ball bearing fan (rear-mounted); 92mm ball bearing fan (front) (SF) 2 x 60 mm ball bearing fans (rear-mounted)
Front panel control	Power switch, Power LED, HDD LED
Kensington Lock	Supported (MT only)
Color	Black
Power Supply	(MT) 400W Power Supply Full Range and Active PFC



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	(SF) 300W Power Supply supporting Full Range and Active PFC
SYSTEM	
Weight	(MT) 20 lbs / 9.1 Kg (SF) 14 lbs / 6.35 Kg
Storage Temp	0° C – 70° C; 32° F – 158° F
Storage Requirements	Must be in original pack material in humidity controlled environment
Operating Temp	0° C – 35° C; 32° F – 95° F
Startup Temp	10° C – 35° C; 50° F – 95° F System components must be at room temp so condensation does not form
Humidity	5% - 85% non-condensing
Safety Certifications	TUV
EMI Certifications	FCC Class A, CE, C-Tick
Environmental Certifications	RoHS compliant, WEEE

Installation Notes

Footprint: 6 inches of clearance above, behind, and to the sides of the server is necessary to properly install an S500 unit. This will accommodate the unit as well as its associated cable connectivity and provide proper ventilation.

Power: S500 units have an internal 400W (MT) / 300W (SF) power supply. Source power is drawn from a regular AC wall outlet. The power input switch will auto-detect and adjust according to the voltage requirements of the country. The input will support both 115 V and 230 V without the need to manually adjust the power input setting. North America uses 115 V. Most International countries use 230V. For use in locales other than North America, the appropriate wall outlet adapters or power cables will be required.

Moisture: The S500 is not water-resistant. The S500 should not be sprayed directly, as the force of pressurized water could potentially invade the enclosure through the enclosure grill or cooling vents. Accordingly, S500 units should not be installed in areas where they might be exposed to direct water spray. S500 units are not meant for outdoor installation.

