

Oracle MICROS Workstation 6

Product Overview

ORACLE WHITE PAPER | MARCH 2015





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Introduction

Oracle MICROS Workstation 6 is an all-new, next-generation engagement device designed for the unique challenges of the hospitality and retail industries. Featuring a 15.6-inch widescreen, high-definition display with a projected capacitive touchscreen, Oracle MICROS Workstation 6 utilizes the latest technologies—from its class-leading, dual-core Intel processor to its ultraslim, solid-state drive (SSD).

With Oracle MICROS Workstation 6, Oracle introduces an engagement device that has outstanding performance for all uses including point-of-sale (POS) applications, ensures maximum reliability with no moving parts, and “sips” electrical power to be more environmentally and economically responsible.

Oracle MICROS Workstation 6 provides customers with a tailored solution for their business needs. Unlike many competitive solutions using consumer-grade products, it is tailored for the hospitality and retail industries, providing a clean, secure, and integrated device hardened to withstand the day-to-day abuse common in these environments. It also modernizes the guest experience with new customer engagement features, moving the workstation well past its origin as a POS device.

The Oracle MICROS Workstation 6 expands Oracle’s integrated family of engagement devices, introducing the first of a new category of device that serves as a centralized content delivery vehicle to drive better guest engagement. It has been designed as an aggregation point to conveniently deliver digital content to both staff and guests, while still boasting superior POS performance.


Product Overview

As with all Oracle hardware, Oracle MICROS Workstation 6 achieves a set of goals that provide maximum benefit to customers. These goals include the simplest installation, the highest levels of maintenance-free reliability, the longest lifecycles, the most attractive designs, and the capability to adapt to changing operational requirements.

Installation

Oracle MICROS Workstation 6 is designed to simplify the installation process. A unique hook and pin mechanism enables it to slide easily onto the adjustable stand and automatically lock securely in place. An equally unique power connection is quick and intuitive and does not interfere with I/O port access or cable routing.

The primary I/O panel is located along the lower edge of the workstation, which allows for a clear, unobstructed view of the color-coded ports, whereas cables are easily routed, secured, and hidden beneath the I/O panel cover and the adjustable stand cable cover. The I/O panel cover slides easily off the workstation head unit and clicks securely in place. The adjustable stand cable cover hinges forward to ease cable management; it can also be removed completely to further simplify cable routing. Both covers can be locked in place for improved security. A security screw for the workstation’s I/O panel cover is included with the head unit. Additional security screws and a hex wrench for them are located below the adjustable stand cable cover—ready for use when needed.



The Client Application Loader feature in Oracle MICROS Workstation 6 is key to the highly intuitive installation and configuration of the workstation. Once power and network cables are connected, the Client Application Loader prompts users through simple steps to ensure the proper IP address is obtained and the correct application and database are loaded. The Client Application Loader is also used to maintain the platform, including new drivers, application files, and BIOS updates.

Reliability

Oracle MICROS Workstation 6 continues the Oracle tradition of long-lasting, trouble-free operations by meeting high standards for reliability and lifecycle.

The passively cooled Oracle MICROS Workstation 6 is spill resistant and operates across a wide range of temperatures. The processor is thermally bonded to the cast aluminum rear cover, which in turn, dissipates the system's heat, enabling the unit to remain cool without the need for vents or cooling fans. Cooling fans eventually suffer mechanical failure, but before they do, they pull in years of dust, grease, and grime into a system that coats components and prevents them from cooling properly, ultimately leading to failure. By eliminating vents and cooling fans, Oracle MICROS Workstation 6 avoids not only the sudden threat of spills but also the less obvious, long-term failure modes.

Oracle MICROS Workstation 6 is also equipped with the latest SSD technology, which enhances performance and extends system life by eliminating mechanical wear.

The power supply is internal to Oracle MICROS Workstation 6's adjustable stand, ensuring it is always correctly placed and not subject to the abuse and spills that plague external units. Peripheral cables are securely held in place, immune to splash damage, debris, or tampering.

Oracle's workstations are installed in a variety of locations, frequently in less than ideal environments. In addition to spill resistance, Oracle MICROS Workstation 6 is designed to operate in temperatures ranging from 0 degrees Celsius (32 degrees Fahrenheit) to 50 degrees Celsius (122 degrees Fahrenheit). Designing the workstation to meet these extremes ensures the unit is well suited for hot, sun-drenched drive-through windows or frigid ski resorts. It also ensures an extremely reliable device in more typical restaurant environments.

Years of reliable service are great, but a system must also maintain its attractiveness. To make sure Oracle MICROS Workstation 6 retains its good looks, it is constructed of aluminum alloy and PC-ABS, which provide a robust casework that can withstand the punishing hospitality environment for years, and still maintain an attractive finish, as shown in Figure 1.



Figure 1. Oracle MICROS Workstation 6 has an attractive finish that can also withstand the punishing hospitality environment.

Oracle's experience with real-life hospitality environments surpasses all competition, and Oracle MICROS Workstation 6 embodies this experience.

Unobtrusive

The sleek styling of Oracle MICROS Workstation 6 is suitable for any decor with its low profile and small footprint.

Special care was taken to ensure Oracle MICROS Workstation 6's adjustable stand provides a stable base, is easy to install, and reduces the overall footprint of the device. The raised feet of the adjustable stand ensure spills and standing liquids do not interfere with operations.

A concealed location in the base of the stand is provided to house a local printer power supply, and an internal cable provides AC power to it. This feature ensures the printer power supply is physically protected, reduces footprint, and eliminates an additional power cord, making installations neater and easier to service.

The adjustable stand accommodates the modular peripherals from Oracle's MICROS mStation; however, Oracle MICROS Workstation 6's adjustable stand uses a revised rear display with a longer cable than the MICROS mStation version. Oracle MICROS Workstation 6's rear display is backward compatible with MICROS mStation.

Adaptable

The flexibility of Oracle MICROS Workstation 6 is greatly enhanced by its modular design and available options.

Mounting

Oracle MICROS Workstation 6 is ideally suited for wall mounting because it comes with an easy-to-use wall mount bracket, as an alternative to the adjustable stand. The wall mount bracket retains the simple hook mechanism for attaching the workstation's head unit. A locking lever secures the system in place, and an integrated security screw can be used to prevent unauthorized removal.

The head unit also features industry standard Video Electronics Standards Association (VESA) 100 mounting capability, enabling it to be used with third-party wall or pole mounts, as well as any other stand that meets the

VESA 100 standard. This makes Oracle MICROS Workstation 6 ideally suited for kitchen display functionality when combined with a ceiling mount.

When used with the wall mount bracket or with a third-party VESA 100 mount, an external power supply is required and is sold separately.

Wireless Options

Oracle MICROS Workstation 6 supports an optional 802.11 a/b/g/n plus Bluetooth 4.0 wireless card, enabling connection to wireless networks with the latest standards. The wireless card is easily installed by removing the upper cover of the workstation's head unit.

Audio Support

Oracle MICROS Workstation 6 features two standard stereo speakers. A connection for a headset including a microphone input can be found on the I/O panel.

Peripheral Support

Oracle MICROS Workstation 6 supports a wide variety of peripherals, as shown in Figure 2. To ensure it will accommodate the range of devices found in typical installations, the I/O panel features

- » Two of Oracle's MICROS Series 2 cash drawer ports
- » 10/100/1000BaseT network ports
- » Two USB 3.0 ports
- » Two USB 2.0 ports
- » Four serial ports (two RS232 RJ45 w/5/9/12 V software selectable power, one IDN-RS422/RS232, and one RS232 RJ45)
- » One customer display
- » One USB (12 V)
- » An HDMI display output
- » A headphone/microphone port
- » A 12 V auxiliary output



Figure 2. Oracle MICROS Workstation 6 supports a wide variety of peripherals.

Oracle MICROS Workstation 6's I/O panel includes some significant changes from previous generations of the product. The traditional cash drawer ports have been replaced with ports for MICROS Series 2 cash drawers, which are significantly smaller than the previous generations and occupy less space on the I/O panel and circuit board. The ports for the MICROS Series 2 cash drawers also feature an expanded number of signals, allowing for future options on the cash drawer interface. An adapter cable to provide backward compatibility to earlier-version cash drawers is available.

Oracle MICROS Workstation 6 does not have any standard DB9 serial ports. All serial ports are RJ45 and require dongles from Oracle to connect with DB9 cables.

In addition, Oracle MICROS Workstation 6 features a single customer display port that is compatible with existing pole displays. The workstation's integrated customer displays will also use this connector, replacing the integrated customer display connector found on these Oracle workstations: MICROS Workstation 5, MICROS Workstation 5A, and MICROS PC Workstation 2015.

The 12 V output can be used to power external peripheral devices. In addition, Oracle MICROS Workstation 6's head unit has three mini-USB ports behind the upper cover for future options.

Customer Display

The 240 x 64 customer display has been redesigned to match the look of Oracle MICROS Workstation 6. The integrated display mounts directly to the adjustable stand and has a fixed angle, as shown in Figure 3. The display connects to the single customer display port at the I/O panel.

Oracle MICROS Workstation 6's integrated display features a longer cable than the MICROS mStation integrated display. Do not use a MICROS mStation integrated display with Oracle MICROS Workstation 6.



Figure 3. Oracle MICROS Workstation 6's integrated customer display mounts directly to the adjustable stand and has a fixed angle.

Alternatively the customer display port can be used for an external 240 x 64 pole display.

The redesigned pole display also matches the styling of Oracle MICROS Workstation 6, as shown in Figure 4. The oval base of the pole features a screw-hole pattern that aligns with the mounting locations on cash drawers. The pole display comes with a 3-foot cable and connects to the I/O panel of the workstation's head unit.

Oracle also offers an LCD pole display Y cable, allowing two LCD pole displays to be connected to Oracle MICROS Workstation 6 simultaneously. This cable is useful in locations such as cafeteria lines, where customers can approach the cashier station from either side.



Figure 4. The redesigned pole display matches the styling of Oracle MICROS Workstation 6.

At this time, there is only a single 18-inch pole display offering. Additional configurations might be offered in the future. Existing MICROS-branded pole displays are compatible with Oracle MICROS Workstation 6.

Technology

To meet design objectives, Oracle carefully selected each component of this new workstation. Special emphasis was placed on selecting components that are reliable, efficient, and available for many years to come. Oracle MICROS Workstation 6 is designed around embedded and industrial components; those items are identified by their manufacturer for long lifecycle, superior specification, and tightly controlled quality.

Processor

The latest Intel Atom processor, the E3827, was selected to meet the balance of high performance and low thermal output. This balance enables Oracle MICROS Workstation 6 to run the most demanding applications, yet remain passively cooled. As a result, the workstation is highly energy efficient.

Persistent Storage

The Oracle MICROS Workstation 6 features many storage options. The Windows Embedded 8.1 Industry Pro configuration comes with a removable Slim SATA (M0-297) SSD. This easily serviceable drive is accessed by removing the magnetic card reader (MCR) assembly. A fixed embedded multimedia card (eMMC) flash device on the main board stores the recovery image for the system.

A secure digital card slot is available and kept secure behind the MCR assembly as well.

Trusted Platform Module

Oracle MICROS Workstation 6 features an onboard Trusted Platform Module (TPM), allowing for higher levels of systems security to be enabled. The TPM stores cryptographic information, such as encryption keys. It is used in conjunction with programs such as Windows BitLocker Drive Encryption. BitLocker encrypts all data stored in the Windows operating system (OS) volume, helping ensure that data is secure and that unattended systems are not tampered with.

Encryption-Ready Magnetic Card Reader

The integrated MCR features a three-track head for excellent wear characteristics, allowing for more than 2 million reads. The head is also capable of providing bank card encryption at the swipe, as shown in Figure 5.



Figure 5. The integrated MCR features a three-track head for excellent wear characteristics and is capable of providing bank card encryption at the swipe.

The MCR encryption uses a Triple Data Encryption Standard algorithm with a Derived Unique Key per Transaction key rotation algorithm. These techniques are industry standards to ensure secure encryption and key management.

The MCR is shipped in nonencryption mode. Applications that support encryption at the swipe will enable encryption when POS operations begin. By encrypting track data at the swipe, Oracle MICROS Workstation 6 can enable customers to be eligible for reductions in payment card industry (PCI) assessment. Customers should discuss the advantages of hardware-level encryption with their assessors.

Connectivity Port

Oracle MICROS Workstation 6 features a unique port behind the upper rear cover. This port provides connectivity to the system through a number of industry standards, including serial (Universal Asynchronous Receiver/Transmitter), Secure Digital Input Output, USB, and Peripheral Component Interconnect Express (PCIe). A standard connector and dedicated footprint allow for future-proofing wireless modules and storage devices.

Operating System

Windows Embedded 8.1 Industry Pro Retail

Oracle MICROS Workstation 6 comes preinstalled with the latest embedded OS from Microsoft. Windows Embedded 8.1 Industry Pro Retail is the latest in a line of OSs specifically tailored for POS use. Replacing Windows POSReady and POSReady 2009, Windows Embedded 8.1 Industry Pro Retail brings all the benefits and capabilities of the Microsoft Windows 8.1 Pro OSs and adds key functionality required by the POS industry.

Windows Embedded 8.1 Industry Pro Retail enables users to take advantage of the rich features of Windows 8.1 Pro, including multitouch capability and the clean, modern style of Windows 8 applications. The multitouch capability is best illustrated in the industry-changing Engagement feature in Oracle's MICROS Symphony.

The Engagement feature is based upon the innovative Windows 8.1 user interface, as shown in Figure 6. The use of widgets enables users to customize their POS experiences, replacing the sign-in screen with the Welcome screen, which can show specials, social media feeds, websites, and other information that is frequently updated. The hub screen provides managers with immediate access to information they need, including the reporting capabilities of Oracle's MICROS inMotion.



Figure 6. The Engagement feature in MICROS Symphony takes advantage of the innovative Windows 8.1 user interface and enables users to customize their POS experiences.

Windows Embedded 8.1 Industry Pro Retail offers not only dramatic functionality like the Engagement feature but also powerful security features, such as BitLocker, Trusted Boot, and lockdown support including Unified Write Filter and gesture and keyboard filters.

Microsoft also provides a 10-year product lifecycle support policy for embedded OSs, a critical requirement in the POS industry to ensure overall long lifecycles and PCI compliance.

Factory Recovery

As with previous generations of MICROS hardware, Oracle MICROS Workstation 6 has incorporated an easy-to-use recovery functionality, which enables a technician to quickly restore a device to its original factory settings. Oracle MICROS Workstation 6 implements recovery via a recessed recovery button on the bottom of the unit, or through the Windows OS. After activating factory recovery, Oracle MICROS Workstation 6 will reload its original Windows Embedded 8.1 Industry Pro Retail OS image.

Platform Software

Oracle MICROS Workstation 6's platform software includes not only the Windows Embedded 8.1 Industry Pro Retail OS but also several other components developed specifically for the device. These software components include

- » Hardware device drivers specific to the unique capabilities of Oracle MICROS Workstation 6
- » An API driver, to enable application programs to easily access the various functions of the workstation
- » OPOS drivers that enable third-party applications to use integrated peripherals and custom ports, such as the MCR, customer display, and cash drawer ports, through the industry standard OPOS commands
- » A diagnostic utility that can test functionality and validate software versions of Oracle MICROS Workstation 6 and that can test peripheral components, such as the MCR, cash drawers, operator display, and customer displays

Client Application Loader

Oracle MICROS Workstation 6 comes preloaded with a new Client Application Loader feature. The Client Application Loader is an intelligent software agent designed to remotely manage the software on Oracle MICROS Workstation 6. The Client Application Loader is open in design and can be used with both MICROS applications from Oracle and with applications from other vendors. A restaurant can implement or expand its POS by simply answering a few simple questions.

Availability

Oracle MICROS Workstation 6 is currently available through a monitored release program.

Oracle MICROS Workstation 6 has undergone rigorous alpha and limited beta testing. The purpose of the monitored release program is to release new products to the market in a controlled manner so that any changes early in production can be incorporated rapidly with minimal impact. By ordering the product during this period, you agree to provide immediate feedback regarding any issues that arise. Oracle support might need to make additional visits to a site to perform platform updates or assist in diagnosing an issue. All Oracle MICROS Workstation 6 issues must be reported by creating cases with the dedicated support desk. The development team will closely monitor these cases and work with the support team to resolve issues quickly.

Oracle MICROS Workstation 6 is currently supported by the following applications from Oracle:

TABLE 1. APPLICATIONS THAT SUPPORT ORACLE MICROS WORKSTATION 6

Application	Version Supporting Oracle MICROS Workstation 6
Oracle's MICROS Restaurant Enterprise Series (RES)	5.4 with Oracle MICROS Workstation 6 update patch
MICROS Symphony 1	1.6 MR9
MICROS Symphony 2	2.7 MR3

Product Descriptions

Oracle MICROS Workstation 6

The Oracle MICROS Workstation 6 head unit comes with the following:

- » Oracle MICROS Workstation 6
- » Five employee cards
- » Security screw for I/O panel cover

The Oracle MICROS Workstation 6 head unit does not come with a power supply. It must be connected to the adjustable stand, or the external power supply must be used. Also, the RJ45 to DB9 serial dongles must be purchased separately.

The adjustable stand includes the following:

- » Integrated universal power supply and USB 3.0 port
- » US power cord
- » Eight cable ties

TABLE 2. ORACLE MICROS WORKSTATION 6 COMPONENTS

Description
Oracle MICROS Workstation 6, Windows Embedded 8.1 Industry Pro Retail OS, projected capacitive touchscreen, SATA SSD
Adjustable stand for Oracle MICROS Workstation 6
Wall mount bracket for Oracle MICROS Workstation 6
External power supply for Oracle MICROS Workstation 6, not needed with the adjustable stand
Wireless upgrade kit (802.11 a/b/g/n) for Oracle MICROS Workstation 6 and Windows Embedded 8.1 Industry Pro Retail

Customer Displays

The pole display comes with a 3-foot cable and connects to the I/O panel of the head unit. The Y cable allows two LCD pole displays to be connected to Oracle MICROS Workstation 6 simultaneously.

TABLE 3. CUSTOMER DISPLAYS

Description
Rear customer display (240 x 64) for Oracle MICROS Workstation 6, mounts to adjustable stand
Pole display, 240 x 64, 18" pole
Y cable for 240 x 64 pole display

Cash Drawers

Oracle MICROS Workstation 6 uses a new cash drawer connector, first introduced with MICROS mStation, that is not compatible with previous versions of cash drawers, unless an adapter cable is utilized. The cash drawers in Table 4 are the initial offerings featuring this new connector; additional drawers might be added in the future.

TABLE 4. CASH DRAWERS

Description
Cash drawer, MICROS Series 2 cash drawer connector, dual media slot, 5 bill, 5 coin with roll coin storage, 18" x 16.7" x 4.17", APG series 4000
Cash drawer, MICROS Series 2 cash drawer connector, 13" x 17", APG series 4000 JD030-BL1317-B1A
Cash drawer conversion cable to adapt Oracle's MICROS Series 1 cash drawers to the MICROS Series 2 cash drawer port

LAN Cables

Ethernet patch cables are available from Oracle. If customers do not provide their own Ethernet cables, one must be ordered for each workstation.

TABLE 5. LAN CABLES

Description
LAN patch cable, blue, 3'
LAN patch cable, blue, 6'
LAN patch cable, blue, 15'

Serial Port Conversion Dongle

The serial port conversion dongle converts an RJ45 serial port connection to an RS232 DB9 serial connection. These serial port conversion dongles are required to connect any device with a DB9 cable to Oracle MICROS Workstation 6.

TABLE 6. SERIAL PORT CONVERSION DONGLE

Description
Dongle, RJ45-DB9, IDN port to RS232 two-wire serial
Serial port conversion dongle, RJ45 to DB9
Cable assy powered RS232 with handshaking, RJ45 to DB9



Warranty and Repair Information

North America

Direct End Users

The Oracle MICROS Workstation 6 head unit, adjustable stand, and customer displays are sold with a warranty for one year, all zones, onsite, and extended hours of coverage (9 a.m. to 10 p.m., 365 days) to Oracle's direct end users in North America only. Only part numbers in the "Products and Part Numbers" section above that include Warranty Installation Selling Price are eligible for this coverage.

Dealers and Districts

Authorized dealers and districts receive a 36-month mail-in warranty on the Oracle MICROS Workstation 6 head unit, adjustable stand, and customer displays. Warranty repairs are facilitated through regional GES repair facilities.

Procedures

Venture/GES US will perform warranty services for North America and South America.

Send an e-mail to MICROSRepair@venturemfg-usa.com requesting a warranty repair authorization number. The e-mail should contain the

- » Serial number of the device in question
- » Oracle part number
- » Date of purchase from the sales order
- » Problem description
- » Contact information


GES US will respond with a warranty repair authorization number via e-mail.

Pack the unit in appropriate packaging and ship it to

Oracle MICROS Products
c/o Venture
1051 S. East Street
Anaheim, CA 92805 USA
Attn: Sal Gutierrez, RMA Supervisor

The authorization number must be visible on the outside of the packaging.

GES US will perform the warranty repair and ship the unit back within 10 days of receipt. If the problem is not covered under warranty, GES US will respond via e-mail with an appropriate quote for an out-of-warranty repair.



International

Direct End Users

Direct end users of the Oracle MICROS Workstation 6 head unit, adjustable stand, and customer displays receive a one-year, return-to-depot warranty.

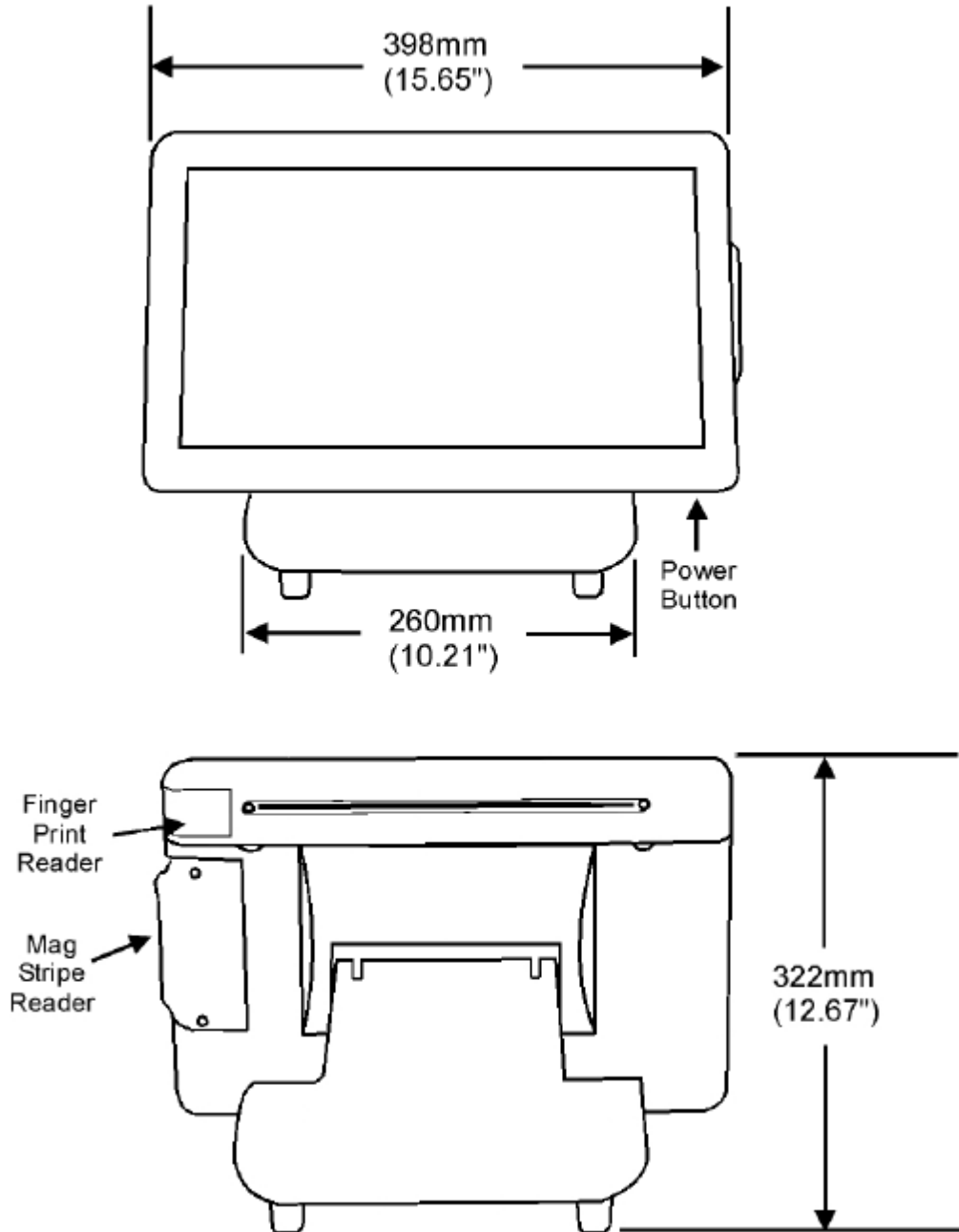
Subsidiaries and International Dealers

Authorized Oracle subsidiaries and international dealers receive a 36-month mail-in warranty on the Oracle MICROS Workstation 6 head unit, adjustable stand, and customer displays. Warranty repairs are facilitated through regional GES repair facilities.

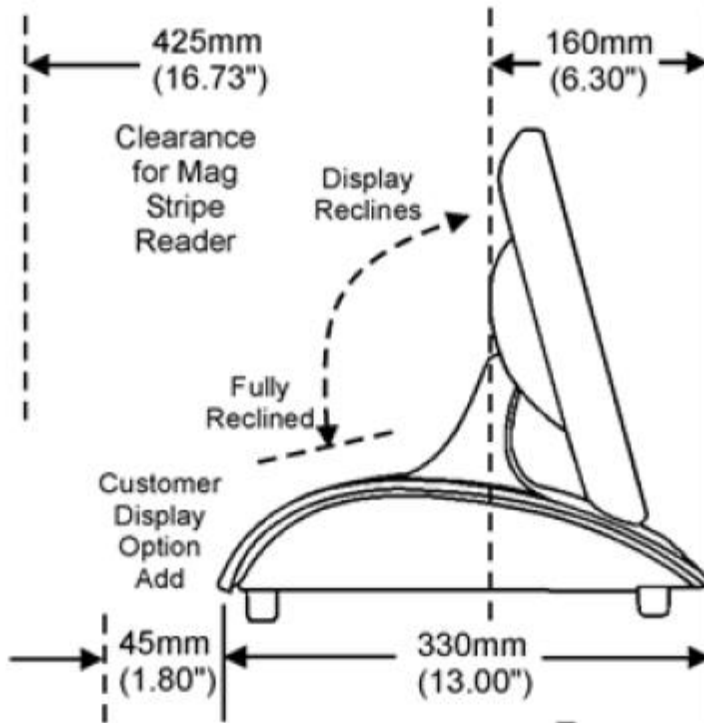
For More Information

All items are currently available for order. Questions regarding Oracle MICROS Workstation 6 can be directed to a sales representative or marketing at +1.866.287.4736.

Appendix A: Dimensions



Appendix A: Dimensions (Continued)



Appendix B: Feature Summary

FEATURE SUMMARIES

Specification/Feature	Oracle MICROS Workstation 6
Processor	Intel Atom E3827 dual-core hyperthreaded processor
Display and touchscreen	15.6" wide-screen high-definition (1920 x 1080 FHD) display Multitouch projected capacitive touchscreen HDMI connector for second display output
Memory	4G DDR3L 1333 MHz standard, expandable to 8 G
Storage	MO-297 Slim SATA SSD (removable/secured) 32 G standard MO-300 mSATA SSD socket (internal) available SD card socket available (removable/secured) eMMC with 4 G onboard
Operating system	Microsoft Windows Embedded 8.1 Industry Pro
Magnetic card reader	Modular, integrated three-track MCR; capable of hardware encryption at the swipe
Audio	Intel HD audio Two integrated stereo speakers standard Headphone output and microphone input on I/O panel
Network	10/100/1G RJ45 Ethernet 802.11 a/b/g/n dual band radio with Bluetooth 4.0 optional
USB	9 ports in total » 2 USB ports 3.0 on I/O panel » 1 USB port 3.0 in base » 2 USB ports 2.0 on I/O panel » 1 USB 2.0 port, 12 V powered header on I/O panel » 3 USB 2.0 ports, internal for options
Serial ports	4 in total standard » 2 RJ45 RS232, powered (5/9/12 V selectable) » 1 RJ45 RS232 » 1 RJ45 RS422/RS232 "IDN"
Cash drawer ports	Two MICROS Series 2 cash drawer ports 12/24 V selectable
Customer display port	One customer display port
Power output	One 12 V Power Out (2.5 A)
Expansion ports	One mini PCIe port One expansion port
Power supply	Universal input, autoswitching power supply in the adjustable stand External universal input, autoswitching power supply for wall or VESA mount
Dimensions and weight	(See Appendix A for dimensions.) Head unit – 6 lb., adjustable stand – 5 lb.
Operating temperature range	0°C (32°F) to 50°C (122°F)
Enclosure	Cast aluminum and rugged PC-ABS Spill-resistant enclosure Passive cooling (no fans)
Certifications	FCC Class A, UL, CE, TUV, RoHS, China RoHS

Appendix C: Product Comparison





The chart below highlights and summarizes some key distinctions among Oracle MICROS Workstation 6, MICROS Workstation 5A, and MICROS PC Workstation 2015.

DIFFERENCES SUMMARY

Specification/ Feature	Oracle MICROS Workstation 6	MICROS Workstation 5A	MICROS PC Workstation 2015
Processor	Intel Atom E3827	Intel Atom N450	Intel Celeron P4505 and Core i5
Architecture	X86	X86	X86
CPU frequency	1.75 GHz	1.6 GHz	1.8 GHz and 2.4 GHz
Processor power comparison	Mid	Mid	High
RAM	DDR3L 1333 MHz up to 8 G	DDR2 667 MHz up to 2 G	DDR3 1066 MHz up to 8 G
USB ports	9 in total » 2 USB 3.0 on I/O panel » 1 USB 3.0 in base » 2 USB 2.0 on I/O panel » 1 USB 2.0 12 V powered header on I/O panel » 3 USB 2.0 internal options	8 in total » 4 USB 2.0 on I/O Panel » 1 internal for flash drive » 2 internal for options » 1 MICROS powered USB	9 in total » 4 USB 2.0 on I/O panel » 2 USB 2.0 powered header on I/O panel » 3 USB 2.0 internal for options
USB control	USB ports can be independently disabled for security.	USB ports can be independently disabled for security.	USB ports can be independently disabled for security.
Storage	MO-297 SATA MO-300 mSATA SD card socket eMMC	SATA interface standard eUSB CompactFlash socket	Two SATA II drive bays CompactFlash socket
Expansion	Mini PCIe MICROS expansion socket	Mini PCI socket	Mini PCI socket
Serial ports	4 in total standard » 2 RJ45 RS232 powered (5/9/12 V selectable) » 1 RJ45 RS232 » 1 RJ45 RS422/RS232 "IDN"	4 available » 1 DB9 RS232 » 2 RJ45 RS232 » 1 RJ45 RS422/RS232 IDN	4 available » 1 DB9 RS232 powered » 1 DB9 RS232 » 1 RJ45 RS232 » 1 RJ45 RS422/RS232 IDN
Second display output	1 HDMI output	One VGA output	One VGA output
Operating system support	» Windows Embedded 8.1 Industry Pro Retail (initial release with 32-bit OS; 64-bit release upcoming)	» Windows Embedded CE 6.0 R3 » Windows POSReady 2009 » Windows POSReady 7	» Windows POSReady 2009 » Windows POSReady 7
Operator LED	Blue LED	White LED	Green LED
Customer display	1 customer display port	1 customer display port	1 customer display port
Accessory power	12 V out	Optional 12 V out	12 V out
Cash drawer ports	Two MICROS Series 2 ports » Requires adapter cable for legacy cash drawer support	Two cash drawer ports	Two cash drawer ports



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Hardware and Software, Engineered to Work Together

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March 2015