# Oracle® MICROS Express Station 4 Series
# Setup Guide

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Oracle MICROS Express Station 4 Series Setup Guide,

F34200-08

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# Preface

## Audience

This document is intended for those who will be setting up, installing, and operating the Oracle MICROS Express Station 4 Series. It is not specific to a particular software application.

## Admonitions

Unless specified, the information in this document applies to each configuration of the Express Station 4 Series.

The following symbols may appear in this document:

**Caution:** There is a risk of personal injury and equipment damage. Follow the instructions.

**Caution:** Hot surface. Avoid contact. Surfaces are hot and may cause personal injury if touched.

**Caution:** Hazardous voltages are present. To reduce the risk of electric shock and danger to personal health, follow the instructions.

Depending on the type of power switch your device has, one of the following symbols may be used:

The On/Off switch.

# Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:
https://support.oracle.com.

When contacting Customer Support, please provide the following:

- Product version and program/module name

- Functional and technical description of the problem (include business impact)

- Detailed step-by-step instructions to recreate

- Exact error message received

- Screenshots of each step you take

# Documentation

Oracle Food and Beverage product documentation is available on the Oracle Help
Center at http://docs.oracle.com/en/industries/food-beverage/.

# Revision History

| Date | Description of Change |
|---|---|
| September 2020 | • Initial publication. |
| October 2020 | • Added Express Station 410. |
| January 2022 | • Added Wake-on-LAN configuration information to Troubleshooting section. |
| January 2022 | • Updated the Express Station 4 Series I/O Ports table. |

# 2
# MICROS Express Station 4 Series

The Oracle MICROS Express Station 4 Series is the heart of the Oracle MICROS Kitchen Display System. With options such as Wi-Fi, RFID, fingerprint reader, magnetic stripe reader, audio expansion bar, and touch-capable screens, the Express Station 4 Series brings leading-edge technology, 24/7 reliability, and top-tier performance to back of house operations and point of sale environments.

## Oracle MICROS Express Station 4 Series Basic Features

The Oracle MICROS Express Station 4 Series includes the following basic features.

> **✎ Note:**
>
> Oracle MICROS offers the Express Station in multiple hardware configurations. Depending on the model, your Express Station may not include some of the features described in this document.

**Figure 2-1    Oracle MICROS Express Station 4 Series Basic Features**
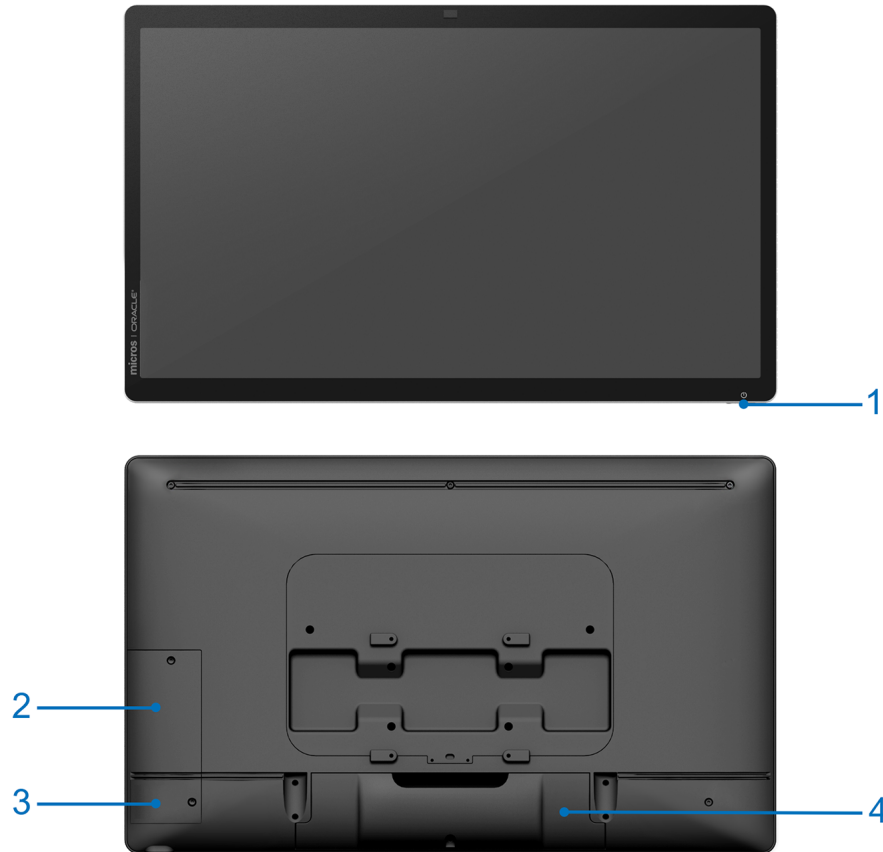


**Table 2-1    Oracle MICROS Express Station 4 Series Basic Features**

| Feature |
| --- |
| 1. **Power Button** |
| 2. **Magnetic Stripe Reader (optional)** |
| 3. **Fingerprint Reader (optional)** |
| 4. **Input/Output Panel (located behind I/O Panel Cover).** See Primary I/O Ports for more information. |

# Primary I/O Ports

**Figure 2-2    Primary I/O Panels of the MICROS Express Station 4 Series**
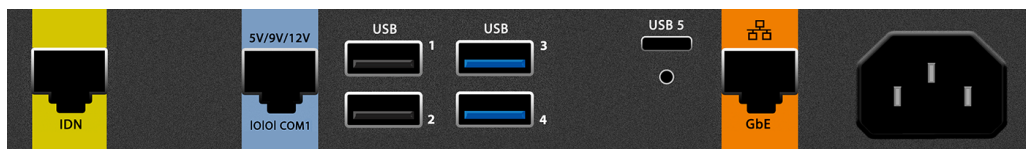
**Table 2-2    Oracle MICROS Express Station 4 Series I/O Ports**
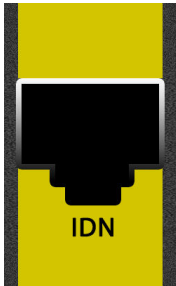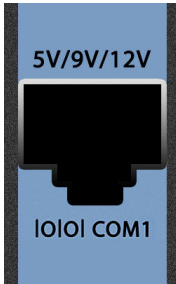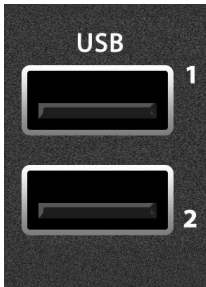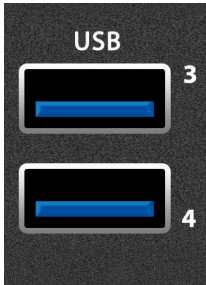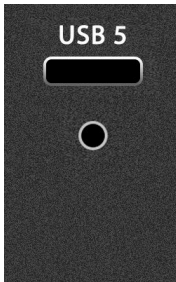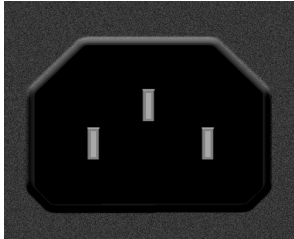
| Port | Description |
| --- | --- |
| | IDN port (RS422/RS232) |
| | COM port |
| | USB ports |
| | High speed USB ports |
| | Ultra high speed USB port. Supports DisplayPort and HDMI connections via adapter cables.<br><br>*Note: Second displays are not supported on Express Stations running the Oracle Linux for MICROS operating system.* |

**Table 2-2    (Cont.) Oracle MICROS Express Station 4 Series I/O Ports**

| Port | Description |
| --- | --- |
|  | Gigabit Ethernet port |
|  | Power port |

# Technical Specifications

The following table contains the technical specifications for the Oracle MICROS
Express Station 400.

**Table 2-3    Technical Specifications for the Oracle MICROS Express Station 4
Series**

| Feature | Description |
| --- | --- |
| **Processor** | Intel Atom x5 Dual Core Processor (Express Station 400) / Intel Atom x5 Quad Core Processor (Express Station 410) |
| **Display** | • 23.8 inch widescreen high definition LCD. Touch and non-touch capable screens available. |
| **Memory** | 4 GB (Express Station 400) / 8 GB (Express Station 410) |
| **Storage** | • 64 GB SATA 3.0 SSD (Express Station 400) / 128 GB SATA 3.0 SSD (Express Station 410) |
| **Operating System** | • Microsoft Windows 10 IoT Enterprise LTSC 64 bit<br>• Oracle Linux for MICROS 64 bit |
| **Magnetic Stripe Reader (Optional)** | Modular integrated 3-track magnetic card reader; capable of hardware encryption at the swipe. Merchantlink encryption key pre-injected. |
| **Modular Integrated Biometric Fingerprint Reader (Optional)** | Provides rapid identification and secure verification capabilities for recognition of individual users without requiring passwords or card swipes. |
| **RFID (Optional)** | Integrated RFID reader for employee sign in. Reads 125 kHz and 13.56 MHz RFID tags. |

**Table 2-3    (Cont.) Technical Specifications for the Oracle MICROS Express Station 4 Series**

| Feature | Description |
| --- | --- |
| **Audio** | • Intel HD audio<br>• Optional Audio Expansion Bar for enhanced audio performance. |
| **Network** | • 1 - GbE RJ45 Ethernet port<br>• 2x2 802.11 a/b/g/n/ac Wi-Fi, with Dual Band radio, Downlink MU-MIMO, and Bluetooth 5 (Express Station 410 only) |
| **USB** | 5 Total:<br>• 2 - USB<br>• 3- High Speed USB |
| **Serial Ports** | 2 Total Standard:<br>• 1 - RJ45 RS232 powered (0/5/9/12V 1A selectable)<br>• 1 - RJ45 RS422/RS232 IDN |
| **Internal Power Supply** | Universal Input 85-264VAC, 50-60 HZ / C13 connector |
| **Supported Stands** | Compact Workstation 3 Series Flexible Stand, Oracle MICROS Compact Stand, Kiosk 110 |
| **Weight** | 12.9 lbs |
| **Dimensions** | Approximately 561mm x 340mm x 61mm (22 x 13.4 x 2.4 inches) |
| **Operating Temperature and Humidity** | 0 °C (32 °F) to 60 °C (140 °F); 90% Max relative humidity (non-condensing) |
| **Enclosure** | • Combination of cast aluminum, rugged PC-ABS plastic blend, and PC +10% glass fiber<br>• Spill-resistant enclosure (IP44 without port plugs, IP54 with port plugs installed)<br>• Passive cooling (no fans)<br>• Casework open detection (configurable via BIOS)<br>• VESA 100 mount compatible |
| **Certifications** | FCC Class A, UL, CE, TUV, RoHS, China RoHS |

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# 3

# Express Station Setup and Software Installation – Basic Steps

This section provides basic hardware setup guidance and describes the software setup process that occurs when you turn on your new Express Station.

## Mounting the Express Station on an Oracle MICROS Stand

The Express Station can be mounted on a variety of Oracle MICROS stands. Although the stands vary in appearance, the mounting procedure is identical.

The following steps describe how to mount the workstation on the Oracle MICROS Compact Stand.

1. Place the stand upright on a level surface.

2. Place the Express Station face down on a flat surface, and then remove the I/O panel cover by sliding it away from the Express Station.
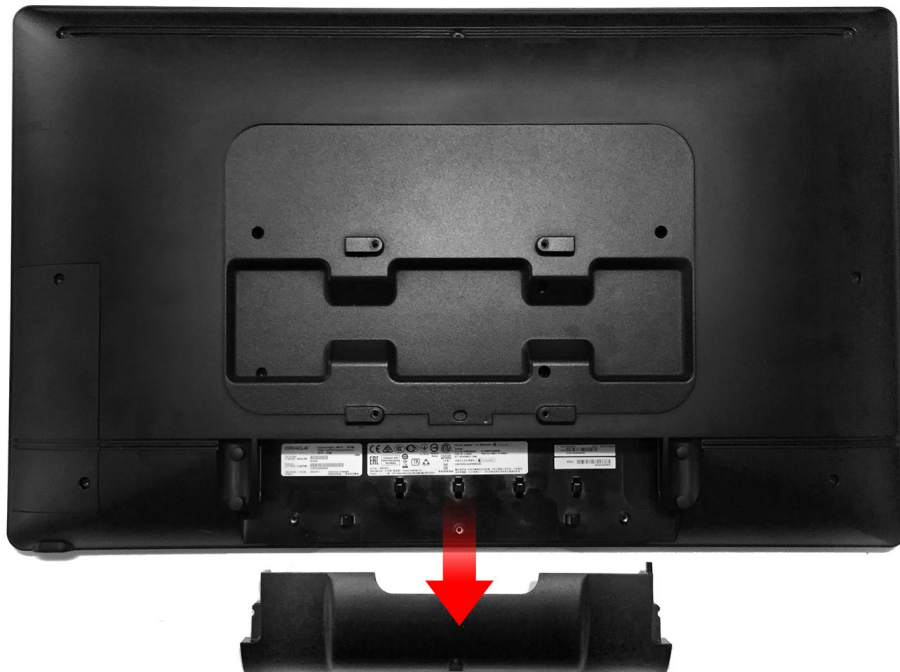


3. Place the Express Station on the stand so that the four nubs rest on the mount.

4. Lay the Express Station on the mount and pull it toward you until you hear a click.

5. Make sure the quick release pin is depressed. If it is not depressed, you must pull the Express Station toward you until it clicks in place.



6. If you want to secure the Express Station to the stand, install the security hex bolt.
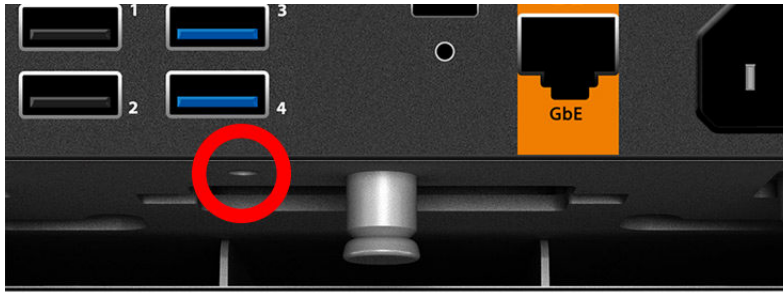
7. Connect the power cable to the Express Station.

8. Connect your peripherals to the appropriate ports on the Express Station I/O panel. Route cables through the bottom of the stand as needed.

9. Replace the Express Station I/O panel cover. For added security, install the included hex bolts to anchor the cover to the Express Station.

10. Turn on the Express Station by pressing the power button.



# Initial Startup – Microsoft Windows 10

The first time you start your Express Station you must complete the Microsoft Windows 10 operating system setup.

1. Complete the Microsoft Windows setup by following the prompts. Consult your network administrator for help with configuring network and system settings.

2. Ensure your Express Station is connected to a secure network.

3. Install the Client Application Loader (CAL) by double-tapping the **CALClient Installer** icon and following the prompts. Upon successful completion, the Express Station is connected to your application's CAL server. For more information, refer to the latest version of the *Oracle Hospitality Simphony Client Deployment Guide* on the Oracle Help Center at https://docs.oracle.com/en/industries/food-beverage/.

# Initial Startup – Oracle Linux for MICROS

The first time you start your Express Station you must complete the Oracle Linux for MICROS operating system setup.

1. Follow the prompts to complete the Oracle Linux for MICROS setup.

   a. Set language, keyboard, and time zone.

   b. Enter and confirm a Support user password. Follow the password length and complexity requirements displayed on-screen.

   c. Configure the network settings.

   d. Enter the CAL server address to install your Oracle MICROS POS software. For more information, refer to the latest version of the *Oracle Hospitality Simphony Client Deployment Guide* on the Oracle Help Center at https://docs.oracle.com/en/industries/food-beverage/.

# Turning Off the Express Station

You can turn off the Express Station using the following methods:

- **Operating system shut down**: For Express Stations with Microsoft Windows, use the **Start** button **Power** option. Express Stations with Oracle Linux for MICROS do not provide operating system shutdown controls.

- **Express Station power button**: Press and release the power button to perform a graceful shutdown.

# 4

# Express Station and Accessories Setup and Use

This section contains instructions for setting up and using the Express Station and its accessories.

## Installing the Handle with Bump Bar Mounting Bracket

The Handle with Oracle MICROS Bump Bar Mounting Bracket for Oracle MICROS Express Station 4 Series is an optional product. Contact your Oracle MICROS representative for more information.

**Installing the Handle with Bump Bar Mounting Bracket and the 20-Key Bump Bar**

1. Attach the 20-key bump bar silver mounting plate to the handle. **Note:** The silver plate is included in the box with the 20-key bump bar.
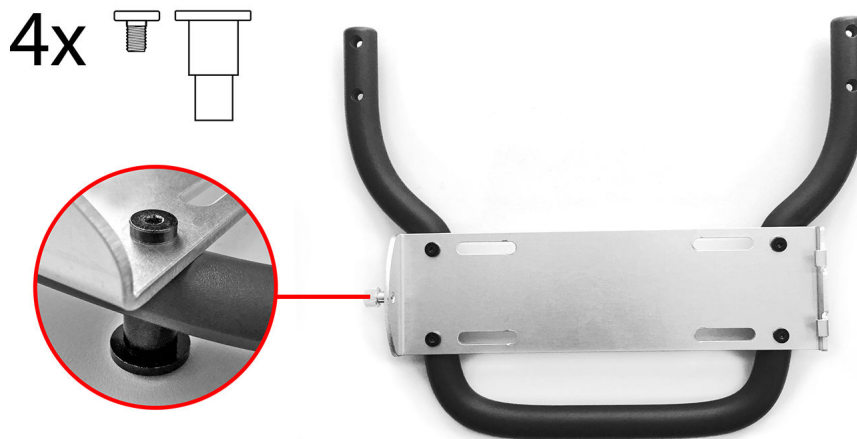


2. Place the 20-key bump bar into the plate by inserting the two grooves on the side of the plate into the slots on the bump bar, and then tighten the security screw.

3. Attach the full bracket assembly to the back of the Express Station. **Note:** For wired bump bars, use the posts on the back of the bracket assembly for cable management.
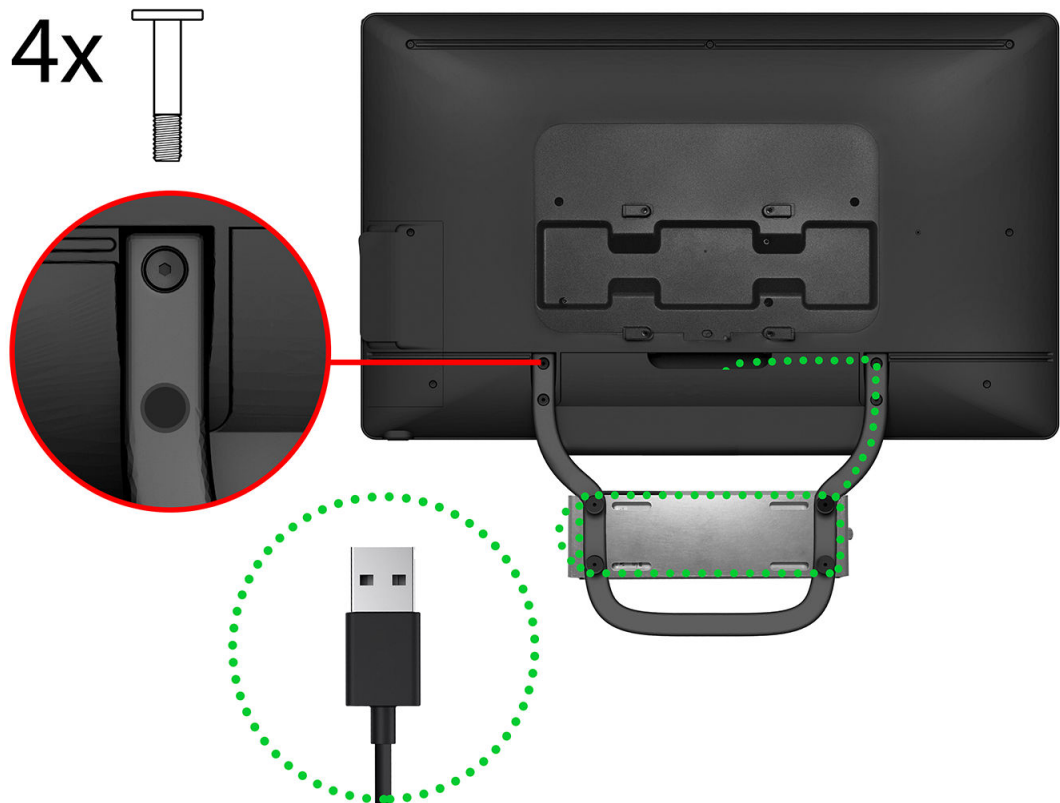


**Installing the Handle with Bump Bar Mounting Bracket and the 10-Key Bump Bar**

1. Attach the black adapter plate to the handle.

4x
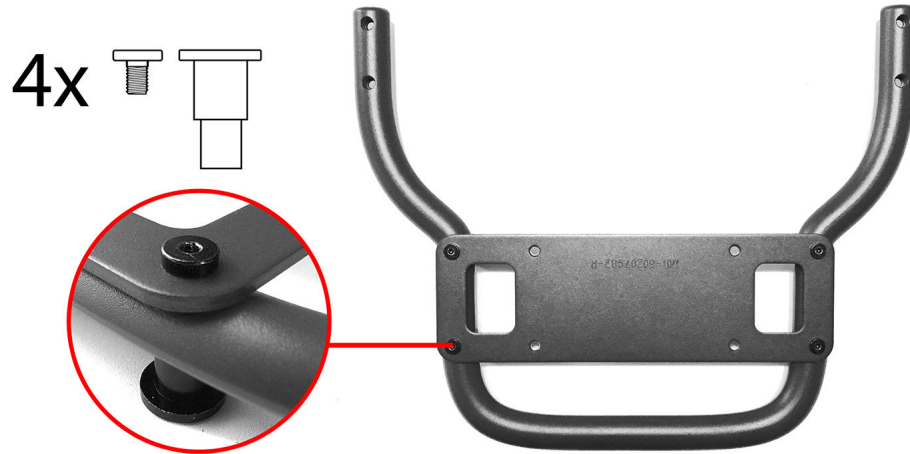
2. Attach the 10-key bump bar silver mounting plate to the black adapter plate. **Note:** The silver plate is included in the box with the 10-key bump bar.

4x
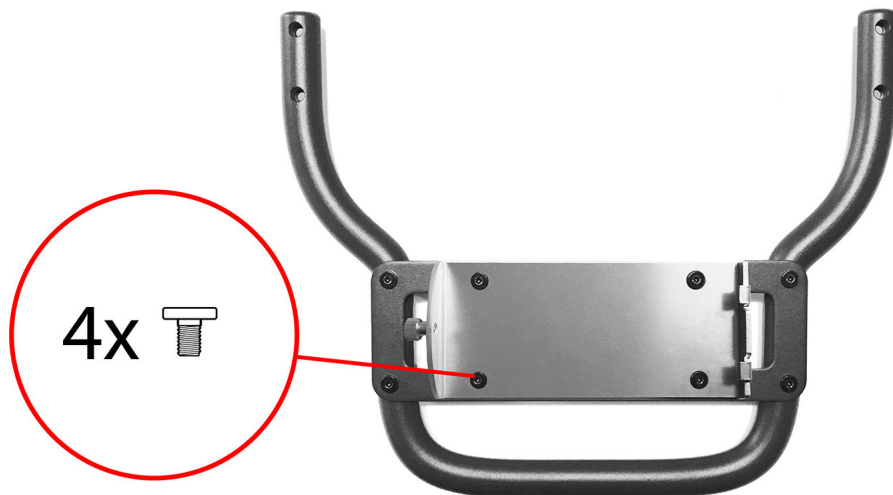
3. Place the 10-key bump bar into the plate by inserting the two grooves on the side of the plate into the slots on the bump bar, and then tighten the security screw.

4. Attach the full bracket assembly to the back of the Express Station. **Note:** For wired bump bars, use the posts on the back of the bracket assembly for cable management.
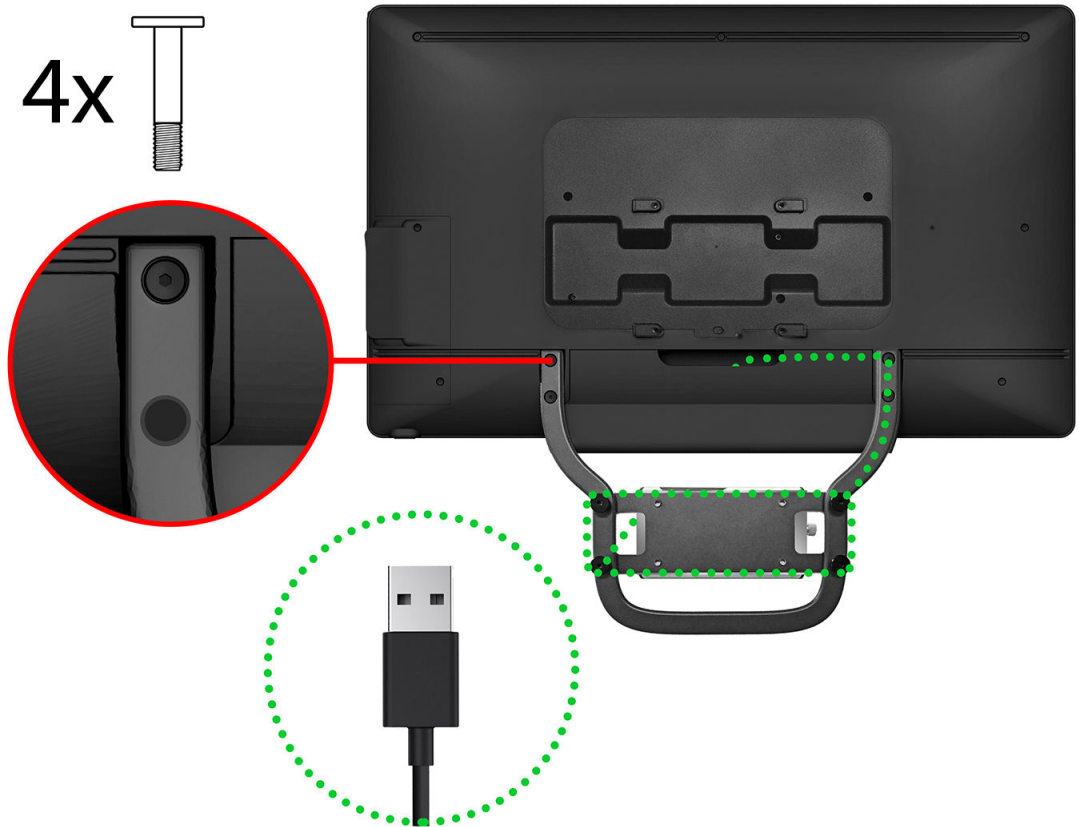
# Connecting Bump Bars

The Oracle MICROS Express Station 4 Series supports both wired and wireless Oracle MICROS bump bars.

- **Wired Bump Bars**: USB (wired) bump bars connect to an available USB port on the Express Station.

- **Wireless Bump Bars**: Wireless bump bars connect to the Express Station via a USB wireless adapter.

For detailed information about bump bars, refer to the following documents on docs.oracle.com:

- The MICROS Bump Bar MBB-10 and MBB-20 User's Guide
- The MICROS Wireless Bump Bar MWBB-10 and MWBB-20 User's Guide



*Shown above: The MICROS Wireless Bump Bar MWBB-20.*

# Securing the Express Station to the Wall Mount

The Express Station 4 Series can be mounted on a wall using an optional wall mount bracket.**

1. Install the wall mount:

   a. Ensure that the metal bracket is levelled with the integrated spirit level.

   b. Mark the positions of the holes at the four corners.

   c. Create the holes by drilling into the wall.

   d. Secure the metal bracket to the wall with four screws. The mounting screws are not provided. Ensure you are using the correct screws that meet the needs of the installation, such as wood screws, dry wall screws, concrete screws, or masonry screws.

**Spirit Level**
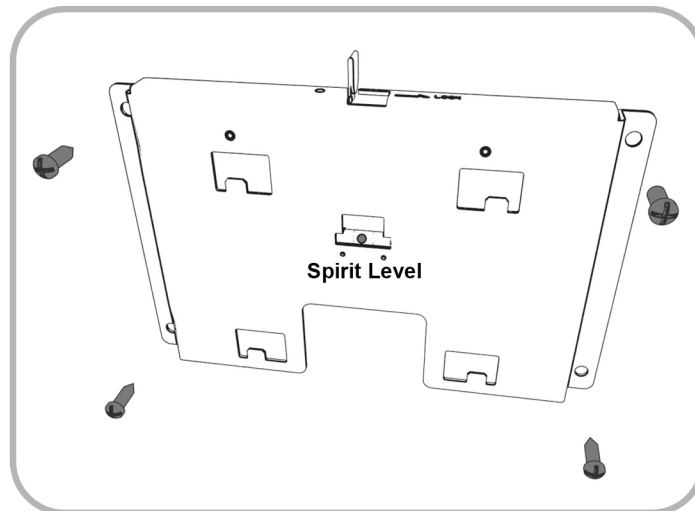
2. Align the back of the Express Station to the metal bracket, and then slide it down until it stops.
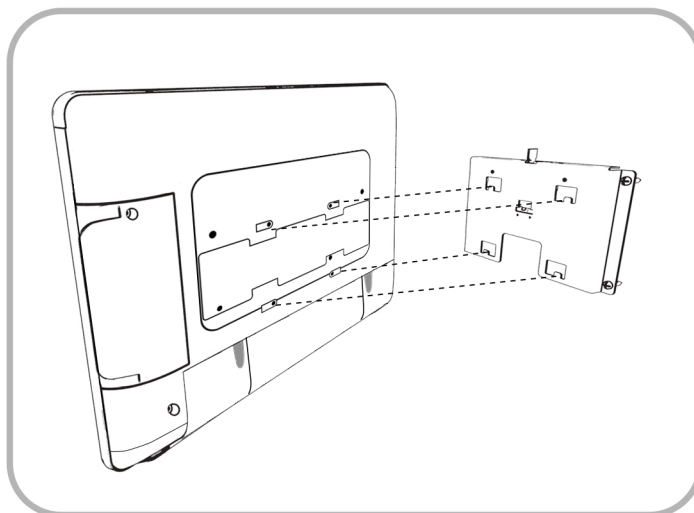


3. Slide the locking slide bar to the right and tighten the hex screw with a hex wrench.
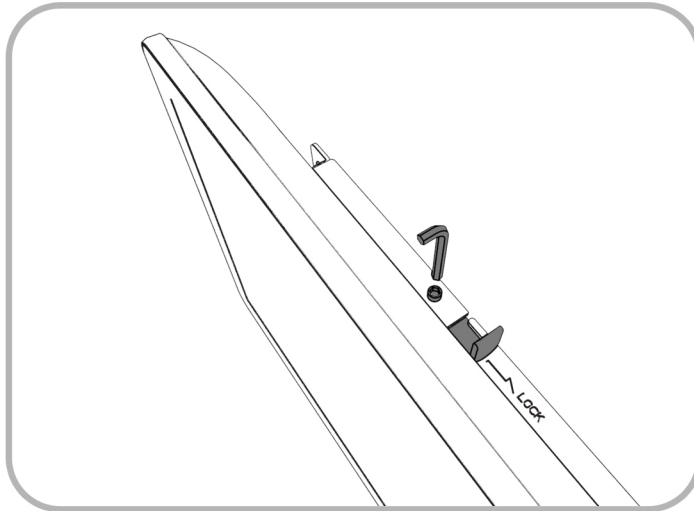
4. Connect any required cables. Note: You must remove the Express Station IO panel cover before you can connect cables.

5. Reinstall and Secure the Express Station IO panel cover.

   **Wall mount installation methods include:

   • **Basic Wall Mounting** (described in steps 1–5): The wall mount bracket is attached to the surface of the wall. Cables and power supplies are exposed and can be organized using cable ties and cable casing.

   • **Recessed/In-Wall Cage with Cable Management and Concealed Power Supply Storage**: A portion of the wall is cut away and a recessed support cage provides a hidden area for cable organization. The wall mount bracket is then attached to the wall over the recessed area. Exposed cables can be organized using cable casing.

**Figure 4-1    Example Wall-Mounted Workstation (Recessed/In-Wall Cage)**



# Securing the Express Station to a VESA Mount

The Oracle MICROS Express Station 4 Series supports mounting the workstation display to a VESA mount. The Express Station is engineered in accordance with the Flat Display Mounting Interface (FDMI) Standard, otherwise known as the Mounting Interface Standard (MIS), defined by VESA. The VESA standard defines the dimensions of a display's four-hole attachment panel and dictates the placement of the hole pattern on the back of the Express Station.

When choosing a mounting bracket, look for VESA-compliant brackets.

# Identifying Your Express Station

1. Start the Diagnostics Utility, click **System Information**, and then note the model of your Express Station.

2. If your Express Station cannot be powered on, locate the Express Station model on the sticker in the IO panel area.

# 5

# Power Management States

The following power management states are available for the Express Station 4 Series:

- Unplugged

  The Advanced Configuration and Power Interface (ACPI) specification refers to the unplugged state as mechanical off. You can safely disassemble the Express Station in this power management state.

  In this state:

  – The AC power cord is not connected to a wall outlet.

  – The Operator LED is off.

  – The Operator LCD is blank.

- NOPOWER

  The ACPI specification refers to the NOPOWER state as S5, or a soft-off state in which the power supply remains active but delivers minimal power to key circuits to detect a power button or wake-on-LAN event.

  Do not disassemble the Express Station in this power management state. You must disconnect the AC power cord from the system.

  In this state:

  – The AC power cord is connected to a wall outlet.

  – The operating system and applications are not running.

  – The RAM contents are undefined.

  – The Operator LED is amber.

  – The Operator LCD is blank.

- ON

  In this state:

  – The operating system and POS application are in operation.

  – The RAM contents are maintained.

  – The Operator LED is blue.

## Power Management State Changes

The following table describes the scenarios in which the power management state changes for the Express Station 4 Series.

**Table 5-1    Power Management State Changes**

| Starting State | Event | Resulting State |
|---|---|---|
| Unplugged | AC power is connected to a wall outlet and the last recorded power state was not the ON state. | NOPOWER |
| NOPOWER | The operator presses the power button for less than 1 second. | ON |
| NOPOWER | The operator presses the power button for more than 4 seconds. | ON |
| NOPOWER | A server application sends a Wake On LAN command. | ON |
| NOPOWER | AC power fails and then is restored. | NOPOWER* |
| ON | The operator presses the power button for less than 1 second. | NOPOWER** |
| ON | The application shuts down the Express Station. | NOPOWER |
| ON | The Client Application Loader sends a Restart command. | NOPOWER and then ON |
| ON | AC power fails and then is restored. | ON* |

*Based on the default BIOS power settings.

**Microsoft Windows**: Pressing the power button begins a graceful shutdown. This behavior is based on the Windows power button management setting. **Oracle Linux for MICROS**: Pressing the power button initiates a graceful shutdown, but shutdown may take up to 10 seconds to complete.

# Power Considerations for Peripheral Devices

The following table specifies the I/O port or connectors, their related power bus, and the power consumed by the port, depending on BIOS or Diagnostics Utility configurations. Use the table when considering peripherals.

**Table 5-2    Port Power Specifications**

| Port or Connector | Available Power Capability |
|---|---|
| USB 2.0 | +5V @ 0.5A (2.5W) |
| High Speed USB | +5V @ 0.9A (4.5W) |
| RJ-45 Powered Serial | Can be configured as:<br>• +5V @ 1.0A (5W)<br>• +9V @ 1.0A (9W)<br>• +12V @ 1.0A (12W) |
| Ultra High Speed USB | +5V @ 0.5A (2.5W) |

# 6
# Software Components

This section describes the software components available for the Express Station 4 Series.

The Express Station 4 Series is available with Microsoft Windows 10 IoT Enterprise LTSC or the Oracle Linux for MICROS operating system.

## Microsoft Windows 10 IoT Enterprise Operating System

The Express Station 4 Series is available with the Microsoft Windows 10 IoT Enterprise operating system pre-installed. This operating system offers the latest Windows 10 Enterprise innovations to the POS industry as well as enterprise-grade security and reliability to ensure your devices and data are protected against modern security threats. Features include:

- Comprehensive infrastructure and management features provide flexibility, consistency, and advanced security.
- Built-in defenses, such as Secure Boot, BitLocker, Device Guard, and Credential Guard, protect your information from leaks or theft.
- Advanced lockdown capabilities, such as AppLocker, help create a dedicated device experience for business applications.
- Support for Universal Windows apps and Classic Windows applications create a flexible and all-inclusive workspace.
- Native-device interoperability provides manageability and a connected organization.

## Oracle Linux for MICROS Operating System

The Express Station 4 Series is available with the Oracle Linux for MICROS operating system pre-installed. Oracle Linux for MICROS provides reliability, scalability, security, and performance for demanding enterprise workloads. Features include:

- Free to use, free to distribute, free to update.
- Zero-downtime kernel and user space updates with Ksplice.
- Comprehensive kernel and application tracing with DTrace.
- Linux management and high availability included at no additional charge for Oracle Linux Support customers.
- Optimized for Oracle, including Oracle Database and Oracle Applications.
- Increase security by applying patches sooner and minimizing time spent troubleshooting and updating.
- Improve performance of Oracle software and hardware .
- Proven performance and reliability in Oracle Engineered Systems and Oracle Cloud.

# Oracle Linux for MICROS Commands

> **✎ Note:**
>
> Most deployments of Oracle Linux for MICROS do not require extensive Linux command line operations. Oracle Linux for MICROS commands are case sensitive.

**Open another terminal**

- Press **Ctrl+Alt+Fx** (where x = 4, 5, or 6) to open another terminal window.
- Press **Ctrl+Alt+F4**: Log in as **possupport**.

**Find Linux image version information**

- cat /etc/micros-release

**Find network address of device**

- ifconfig

**Find network address of device**

- ip addr

**Check network status**

- nmcli device status

**Configure network**

- nmtui

**Verify contact to a remote host**

- ping 10.209.76.197

**Monitor the running processes, memory, and CPU usage**

- top
- Press **q** to exit top command.

**End a running process**

- kill 4465

**Edit a text file**

- nano webconfig.txt

**Restart the device**

- reboot

**Turn off the device**

- shutdown now
- *Note for workstations with Oracle Linux for MICROS*: You can press and release the workstation power button to perform a graceful shutdown. Shutdown can take up to 10 seconds to complete.

# 7

# Express Station Accessibility Features

The following table contains accessibility features for the Express Station 4 Series with the Microsoft Windows 10 IoT Enterprise operating system.

**Table 7-1    Accessibility Features for the Express Station 4 Series with the Microsoft Windows 10 IoT Enterprise Operating System**

| Feature | Behavior | Setup |
| --- | --- | --- |
| Magnifier | In **Full-Screen Mode**, your entire screen is magnified. Depending on the size of your screen and the zoom level you choose, you might not be able to see all of the screen at the same time. | Select **Control Panel** > **Ease of Access Center** > **Start Magnifier** > **Views** > **Full screen**. |
| | In **Lens Mode**, the area around the mouse pointer is magnified. When you move the mouse pointer, the area of the screen that's magnified moves along with it. | Select **Control Panel** > **Ease of Access Center** > **Start Magnifier** > **Views** > **Lens**. |
| | In **Docked Mode**, only a portion of the screen is magnified, leaving the rest of your desktop unchanged. You can then control which area of the screen is magnified. | Select **Control Panel** > **Ease of Access Center** > **Start Magnifier** > **Views** > **Dock**. |
| Text or Visual Alternative to Sounds | The **Turn on visual notifications for sounds** option replaces system sounds with visual cues, such as a flash on the screen, so you can see notifications even when they're not heard. You can also choose how you want sound notifications to warn you. | Select **Control Panel** > **Ease of Access Center** > **Use text or visual alternatives for sounds** > **Turn on visual notifications for sounds**.<br>Then, select a visual warning:<br>• **1-None**<br>• **2-Flash active caption bar**<br>• **3-Flash active window**<br>• **4-Flash desktop** |
| | The **Turn on text captions for spoken dialog** option displays text captions in place of sounds to indicate that activity is happening on your PC (for example, when a document starts or finishes printing). | Select **Control Panel** > **Ease of Access Center** > **Use text or visual alternatives for sounds** > **Turn on text captions for spoken dialog**. |

**Table 7-1    (Cont.) Accessibility Features for the Express Station 4 Series with the Microsoft Windows 10 IoT Enterprise Operating System**

| Feature | Behavior | Setup |
| --- | --- | --- |
| On-Screen Keyboard | The **Use click sound** option lets you hear a sound when you press a key. | Select **Control Panel** > **Ease of Access Center** > **Start On-Screen Keyboard (OSK)** > **Options Key on keyboard** > **Use click sound**. |
| | The **Show keys to make it easier to move around the screen** option allows the keys to light up as you type. | Select **Control Panel** > **Ease of Access Center** > **Start On-Screen Keyboard (OSK)** > **Options Key on keyboard** > **Show keys to make it easier to move around the screen**. |
| | The **Turn on numeric keypad** option expands the On-Screen Keyboard (OSK) to show a numeric keypad. | Select **Control Panel** > **Ease of Access Center** > **Start On-Screen Keyboard (OSK)** > **Options Key on keyboard** > **Turn on numeric keypad**. |
| | The **Click on keys** option lets you click or tap the on-screen keys to enter text. | Select **Control Panel** > **Ease of Access Center** > **Start On-Screen Keyboard (OSK)** > **Options Key on keyboard** > **Click on Keys**. |
| | The **Hover over keys** option lets you use a mouse or joystick to point to a key. The characters you point to are entered automatically when you point to them for a specified time. | Select **Control Panel** > **Ease of Access Center** > **Start On-Screen Keyboard (OSK)** > **Options Key on keyboard** > **Hover over keys**. |
| | The **Scan through keys** option allows the OSK to continually scan the keyboard. Scan mode highlights areas where you can type keyboard characters by pressing a keyboard shortcut, using a switch input device, or using a device that simulates a mouse click. | Select **Control Panel** > **Ease of Access Center** > **Start On-Screen Keyboard (OSK)** > **Options Key on keyboard** > **Scan through keys**. |
| | The **Use Text Prediction** option allows the OSK to suggest words as you type so you don't need to type each complete word. | Select **Control Panel** > **Ease of Access Center** > **Start On-Screen Keyboard (OSK)** > **Options Key on keyboard** > **Use text prediction**. |
| Narrator | Narrators read text on your PC screen aloud and describes events, such as notifications or calendar appointments, so you can use your PC without a display. | Select **Control Panel** > **Ease of Access Center** > **Start Narrator**. |

**Table 7-1    (Cont.) Accessibility Features for the Express Station 4 Series with the Microsoft Windows 10 IoT Enterprise Operating System**

| Feature | Behavior | Setup |
|---------|----------|-------|
| Speech Recognition | Windows Speech Recognition lets you control your PC with your voice alone, without needing a keyboard or mouse. | Select **Control Panel** > **Speech Recognition**. |

# 8

# Diagnostics Utility

This utility lets you view information about the Express Station, test features to confirm their functional state, and configure peripheral and option devices.

If logged in as a non-Administrator account, the Administrator password is required to access the Diagnostics Utility.

## Starting the Diagnostics Utility

For Express Stations with Microsoft Windows:

1. Press **Start**.

2. Press **File Explorer**.

3. Navigate to the `C:\Bin\` folder.

4. Double-tap **Crisfield_Diagnostic_Utility.exe**.

For Express Stations with Oracle Linux for MICROS:

1. From Simphony OPS, press **Ctrl+Alt+Fx** (where x = 4, 5, or 6) to open another terminal window.

2. Log in as possupport user.

3. Type **startd** to open the Universal Diagnostic Utility.

## Viewing System Information

On the BIOS Home screen, tap **Main**, and then tap **System Information**.

## Testing the LCD Display

The LCD Display screen lets you test the following LCD display features:

- LCD Intensity Control
- Backlight Off Control
- Display Color
- Backlight Control

1. To test brightness, press the **Dim**, **Normal**, and **Bright** buttons in the LCD Intensity Control group.

2. To test the backlight, press **Backlight Off** to ensure the backlight turns on and off.

3. To test the colors, press the **Red**, **Green**, **Blue**, **Black**, and **White** buttons in the Display Color group.

4. To manage the backlight controls and set a timer to switch off the backlight after a period of inactivity:

a. Enter a time in seconds in the **Backlight Reprime Timer** field.

b. Press **Reprime Backlight** to set the timer. Set the value to 0 to disable the timer and allow the backlight to stay on indefinitely.

c. Press **Backlight On** to enable the timer.

d. To disable the timer after testing, press **Backlight Off**.

# Testing the Encrypted Magnetic Stripe Reader

The Encrypted MSR screen lets you test the magnetic card reader with encryption enabled. By default, this is disabled.

# Testing the RFID Reader

If your Express Station is equipped with an RFID reader, you can access the RFID reader diagnostics.

To test the RFID reader:

1. Under **RFID LED**, select **Enable**, and then click **Set**.

2. The RFID light will appear in the top right corner of the Express Station. The actual reader is about 1 inch to the left of the light. Place the center of the Micros Oracle RFID employee card just to the left of the RFID light. Track 2 data should show in diagnostics.

# Performing an RS232 Loopback Test

The RS232 LoopBack screen lets you perform a loopback test on a single port using an RS232 Self LoopBack Unit.

1. Connect a serial loopback connector to a workstation COM port. You can also connect a serial cable between two COM ports.

2. Select the output and input ports.

3. Press **Test Ports**.

4. Verify that the **Tx Bytes** field and the **Rx Bytes** field increments.

5. Press **Quit Test**.

# Testing an RS232 Printer

Tthe RS232 Print screen lets you test connectivity and print line-by-line at a serial printer.

1. Connect the RS232 cable from the printer to a workstation COM port.

2. Select the COM port from the **Output Port** drop-down list.

3. Press **Test Ports**.

4. Verify that the **Tx Bytes** field and the **Rx Bytes** field increments and that the printer continues printing.

5. Press **Quit Test**.

# Performing an IDN Loopback Test

The IDN LoopBack screen lets you perform a loopback test using an IDN loopback device.

1. Connect the loopback device to the workstation COM port 4.
2. Select COM4 from the **Output Port** and the **Input Port** drop-down lists.
3. Press **Test Ports**.
4. Verify that the **Tx Bytes** field and the **Rx Bytes** field increments.
5. Press **Quit Test**.

# Testing an IDN Printer

The IDN Print screen lets you test connectivity and print line-by-line at an IDN Roll Printer with an ID of 1. You must have an RS422 (6 pin to 8 pin) cable.

1. Connect the 8-pin end to the workstation COM port 4.
2. Connect the 6-pin end to the printer IDN port 1.
3. Select **COM4** from the **Output Port** drop-down list.
4. Press **Test Ports**.
5. Verify that the **Tx Bytes** field and the **Rx Bytes** field increments and that the printer continues printing line-by-line.
6. Press **Quit Test**.

# Viewing Diagnostics Reports for Devices on COM Ports

The Devices screen lets you monitor and retrieve diagnostics reports or data from selected peripheral devices.

# Viewing Hardware Controls

The Hardware Control screen lets you:

• Enable and disable USB ports. This is used for testing and enabling/disabling the USB ports.
• Set the voltage level for the COM ports.

# Viewing Diagnostics Reports for I2C Devices

The I2C Devices screen lets you:

• Retrieve information from an RFID tag.
• Retrieve data from EEPROM memory.

# Testing the Fingerprint Reader

The Fingerprint Reader screen lets you test the fingerprint reader's ability to scan a fingerprint and validate the fingerprint read accuracy.

1. On the diagnostic main screen, scroll down in the list of devices, and then tap **Fingerprint Reader**.

2. On the *Fingerprint Reader* screen, tap **Refresh**.

3. Tap the drop-down list and select your device.

4. Tap **Initialize**. The screen should show *Device Ready*.

5. Tap **Start Verification**, and then place a finger on the reader and follow the on-screen prompts.

# Multimedia IO (MMIO)

The Multimedia IO (MMIO) screen lets you configure features of the optional Multimedia Input/Output accessory.

# Saving Configuration Data

The Dump Configuration Data screen exports the current workstation configuration to

```
C:\ConfigDump.txt
```

# 9
# BIOS Configuration

This section describes how to enter the BIOS System Configuration Utility and how to configure the system BIOS.

The Oracle MICROS Express Station 4 Series ships with the BIOS pre-configured for optimal performance. In most cases you will not need to change settings.

## Starting the BIOS System Configuration Utility

To configure the BIOS, start the BIOS System Configuration Utility using the following steps:

1.  Connect a USB keyboard to the Express Station.

2.  Power on or restart the Express Station.

3.  Press **F2** immediately after pressing the power button. Continue pressing F2 until you hear a beep or until the BIOS home screen appears. For touch-capable Express Stations, you can tap a finger on the bottom left or right corner of the bootup screen until you hear a beep or until the BIOS home screen appears.

    If the Express Station boots into the operating system without starting the utility, restart the Express Station and try again.

## Viewing System Information

On the BIOS Home screen, tap **Main**, and then tap **System Information**.

The following is an example set of information presented by the BIOS system information screen. The actual data shown by your system may vary:

*   BIOS Version: 0.0.0.P.404 X64

*   Build Time: 02/06/2020

*   SMBIOS Version: 03.01

*   Processor Type: Intel(R) Celeron(R) CPU 4305UE @ 2.00GHz

*   Processor Speed: 2.000 GHz

*   System Memory Speed: 2133 MHz

*   L2 Cache RAM: 512 KB

*   Total Memory: 8192 MB

*   Memory Device [0]: Not installed

*   Memory Device [1]: 8192 MB (DDR4–2133) @ ChannelB-DIMM0

## Configuring Express Station Settings

The BIOS Workstation screen contains common options for configuring your Express Station. To access the Workstation screen:

1. From the BIOS Home screen, tap the **Workstation** option.

**Table 9-1    Workstation Settings**

| Setting | Description of Option |
|---|---|
| COM Port 1 Voltage | Select a voltage for the COM 1 port:<br>• **0 Volts** (default)<br>• **5 Volts**<br>• **9 Volts**<br>• **12 Volts** |
| USB Ports (1–5) After Shutdown | **Enable** or **Disable** the USB ports 1-5 after the workstation has been shut down. |
| USB Port 1 | **Enable** or **Disable** USB port 1. |
| USB Port 2 | **Enable** or **Disable** USB port 2. |
| USB Port 3 | **Enable** or **Disable** USB port 3. |
| USB Port 4 | **Enable** or **Disable** USB port 4. |
| USB Port 5 | **Enable** or **Disable** USB port 5. |
| 422 Mode Selection | **Enable** or **Disable** RS-422 mode for the IDN port. |
| 422/232 Mode Selection | Select **422 Mode** or **232 Mode** to enable RS-422 mode or RS-232 mode for the IDN port. |
| Power Failure Restoration | Select the action taken by the system in the event of a power failure:<br>• **Remain Off**: The system remains powered off even if it was originally powered on.<br>• **Last State**: If the system was on when power failed, the system powers on. If the system was off, the system remains off.<br>• **Power On**: The system powers on even if it was originally powered off. |
| Factory Recovery | Select factory recovery settings:<br>• **Disable**: You cannot perform factory recovery.<br>• **Enable**: Launches a troubleshooting screen on the next bootup. Refer to System Recovery for more information. |

# Configuring System Security Settings

To configure the Express Station security settings:

1. From the BIOS Home screen, tap the **Security** option.

**Table 9-2    BIOS Security Settings**

| Setting | Description of Option |
|---|---|
| **Account's Password Status** | • Displays the password status for the current user account and lets you set and clear supervisor and user passwords.<br>• Set a **Supervisor Password** to enable the Secure Boot feature. |

**Table 9-2    (Cont.) BIOS Security Settings**

| Setting | Description of Option |
|---|---|
| **Authenticate User on Boot** | Provides a secure, tamper-proof environment external to the operating system as a trusted authentication layer. Prevents anything being read from the hard disk until the user has confirmed they have the correct credentials. |
| **Secure Boot Configuration**<br><br>To access Secure Boot Configuration settings, tap the **Security** option on the BIOS System Configuration Utility Home screen. | Disabled by default. To enable, set the **Supervisor Password** on the **Account's Password Status** screen under the **Security** option. |
| **HDD Password Select** | Select the password structure to apply to hard disk drives:<br>• User Only: Supports user account passwords.<br>• User + Master: Supports user account passwords and a master password. |
| **HDD Security Status** | Displays the password status of Express Station hard drive and allows you to specify user and master passwords. |

**Other BIOS Security Settings**

The following table lists other security-related settings in the Express Station 4 Series BIOS System Configuration Utility.

**Table 9-3    Other BIOS Security Settings**

| Setting | Description of Option |
|---|---|
| **Casework**<br><br>You can access casework settings by tapping the **Casework** option on the BIOS System Configuration Utility Home screen. | **Clear Casework Events**:<br>• **Off** (default)<br>• **On:** Clears all casework events. The Casework Switch States values will not change from Active to Not Active until the system has been rebooted.<br><br>**Casework Switch States**<br><br>Displays the current state of each casework switch. *Active* means the switch has been previously detected as open. *Not Active* means the switch has not been detected as open.<br>• Casework Switch<br>• IO Casework Switch |

**Table 9-3    (Cont.) Other BIOS Security Settings**

| Setting | Description of Option |
|---|---|
| **Casework Open Actions**<br><br>To access the Casework Open Actions settings, tap the **Casework** option on the BIOS System Configuration Utility Home screen. | Select the action taken by the system if the Express Station casework is compromised:<br>• **Startup Warning**: Presents a warning during startup if the system detects the Express Station casework was compromised.<br>• **Forced Off**: Turns off the Express Station if the system detects the casework was compromised.<br>• **None**: Disables Casework Open actions. |
| **Secure Boot Configuration**<br><br>To access Secure Boot Configuration settings, tap the **Security** option on the BIOS System Configuration Utility Home screen. | Disabled by default. To enable, set the **Supervisor Password** on the **Account's Password Status** screen under the **Security** option. |
| **TPM Configuration**<br><br>To access **TPM Configuration** settings, tap the **Advanced** option on the BIOS System Configuration Utility Home screen, tap **System Setup**, tap the **Security Configuration** option, and then select an option from the **TPM Device** drop-down list. | TPM is disabled by default. To enable TPM, select **PTT (TPM)** from the **TPM Device** drop-down list. |
| Disable unused Express Station ports<br><br>To disable unused ports on the Express Station, tap the **Workstation** option on the BIOS System Configuration Utility Home screen, and then tap a port in the list of options. | Select **Disable** from the drop-down list to disable a port.<br><br>Note: All ports are enabled by default.<br><br>Disabling unused Express Station ports prevents unauthorized copying of sensitive data and can reduce the Express Station's likelihood of becoming infected with viruses or other malware. |

# Configuring the Boot Priority for Devices

1.  From the BIOS Home screen, tap **Boot**.

For touchscreen Express Stations, drag and drop to reorder the priority list for boot devices. For non-touchscreen Express Stations, left-click and hold the icon while using the mouse pointer to move it up or down in the list. The BIOS reads the devices from top to bottom in determining the method for booting into the operating system.

# Exiting the BIOS Configuration Utility

On the Exit tab, select one of the following options:

• **Exit Saving Changes**: Save the current configuration settings, exit the configuration utility, and boot into the operating system.

• **Exit Discarding Changes**: Discard any changes made in this session, exit the configuration utility, and boot into the operating system.

• **Load Setup Defaults**: Load the standard default values.

- **Discard Changes**: Discard the current configuration settings without exiting the configuration utility. This resets the configurations to the last saved state.
- **Save Changes**: Save the current configuration settings.

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# 10

# Equipment Dimensions

This section contains the equipment dimensions for the Workstation 625 and Workstation 655.

## Express Station Dimensions

# 11
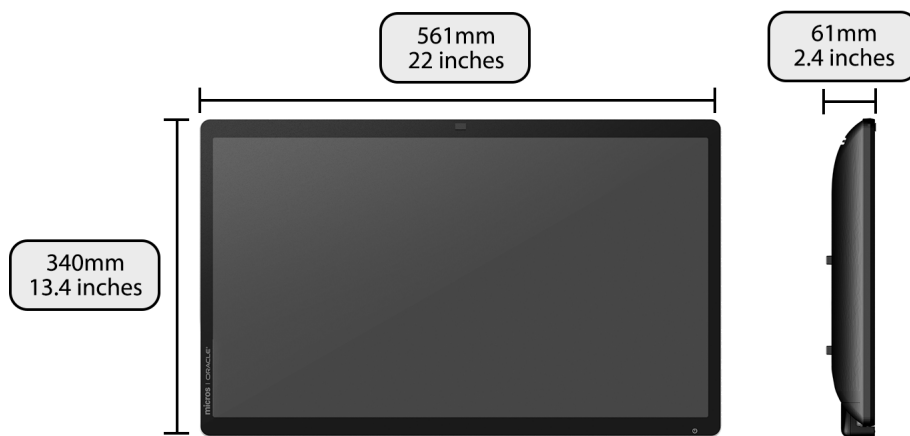
# Troubleshooting

This section provides instructions for general troubleshooting tasks.

## Basic Troubleshooting

The following table contains descriptions and solutions for common problems encountered when installing or operating the Express Station 4 Series.

**Table 11-1    Basic Troubleshooting**

| Problem | Possible Causes | Solution |
|---------|-----------------|----------|
| The Express Station does not start and does not show the splash screen. | No power to the Express Station. | Make sure you connected the AC power cable to the Express Station and to a surge-protected outlet, UPS, power conditioner, or wall outlet. |
| The Express Station does not start and the screen remains blank after 30 seconds. | Missing or defective SO-DIMM. | Re-seat RAM module(s). Power it off by pressing power button quickly, and then unplug from AC power for 10 seconds. Plug in AC power and turn it on. |
| The Express Station does not start. | The system board may be defective. | Contact your Oracle MICROS representative. |
| The operator LED stays off or stays on. The operator LCD remains blank after 30 seconds. | Refer to Solution column for more detail. | *The operator LED stays off.* Possible Causes: Not plugged in or in a bad state. Solution: Remove AC power for 10 seconds and then re-connect AC power. *The operator LED stays on.* Possible Causes: The light should be on while AC power is connected. Amber light if powered off. Blue light if powered on. *The operator LCD remains blank after 30 seconds.* Power it off by quickly pressing the power button, and then unplug from AC power for 10 seconds. Plug in AC power and turn it on. |
| The operator LED is blinking blue. | The pcwsapi is not loaded correctly. | Power off. Power on. Wait a minute. |
| The Express Station does not connect to the Local Area Network. | The Network Patch cable is not connected. | Install the appropriate patch cable between the Express Station and the wall jack. |
| The Express Station does not read mag cards. | The mag card reader head is dirty or contaminated. | Use the mag card cleaning kit on the reader. |
| | The mag card reader is defective. | Replace the magnetic stripe reader. |

**Table 11-1    (Cont.) Basic Troubleshooting**

| Problem | Possible Causes | Solution |
| --- | --- | --- |
| The RFID card reader is not working. | Your Express Station is not equipped with an RFID reader. Only model 8204007 comes with Wi-Fi and RFID. | Verify the model in diagnostics \| system info, or on sticker in the I/O area. |
| The Wake-on-LAN feature is not working. | Windows 10 needs additional configuration. | Follow the steps to configure Wake-on–LAN settings as described in Wake-on-LAN Does Not Work (Microsoft Windows 10) |

# System Recovery

A system recovery is used to:

- Wipe the hard drive.
- Restore all PC settings to factory settings.
- Remove all user accounts and settings.

To perform a system recovery, you can use the BIOS, the Express Station's recovery button, or the operating system recovery function.

> **Note:**
>
> Operating system recovery is available for workstations with Microsoft Windows only. Oracle Linux for MICROS does not include an operating system recovery function.

## Performing a System Recovery with Microsoft Windows 10

1. Swipe left from the right edge of the touchscreen or move your mouse to the top-right corner of the start screen.
2. Select **All Settings**.
3. On the *Windows Settings* screen, select **Update & Security**, and then select **Recovery** from the list of options on the left panel.
4. On the *Recovery* screen under *Advanced Startup*, select **Restart now**.
5. Select **Troubleshoot**, and then select **Factory Reset**. The Express Station reboots into a Command shell.
6. When the message *"The selection will reset the Windows partition [NVMe] to factory default. Are you sure to continue? (Y/N)"* appears, type **y**, and then press **Enter**. The recovery process begins.

# Performing a Factory Reset from BIOS (Microsoft Windows)

This method applies to all Express Stations running Microsoft Windows. To perform system recovery from the BIOS:

1. Power on or restart the Express Station.

2. Enter the BIOS.

   - Tap the lower left or lower right portion of the bootup screen to enter the BIOS Configuration Utility, or use a USB keyboard and press F2 on bootup.

3. Tap the **Workstation** option.

4. From the list of options on the left scrolling panel, tap **Factory Recovery**, and then select **Enable** from the drop-down list.

5. Tap **Home**.

6. Tap **Save and Exit**, tap **Exit Saving Changes**, and then tap **Yes** to confirm. The Express Station restarts automatically.

7. On the Choose an Option screen, tap **Troubleshoot**.

8. On the Troubleshoot screen, tap **Factory Reset**.

9. When prompted, type **y** to proceed with the Factory Restore.

# Performing a Factory Reset from BIOS (Oracle Linux for MICROS)

This method applies to all Express Stations running Oracle Linux for MICROS. To perform system recovery from the BIOS:

1. Power on or restart the Express Station.

2. Enter the BIOS.

   - Tap the lower left or lower right portion of the bootup screen to enter the BIOS Configuration Utility, or use a USB keyboard and press F2 on bootup.

3. Tap the **Workstation** option.

4. From the list of options on the left scrolling panel, select **Factory Recovery**, and then select **Enable** from the drop-down list.

5. Tap **Home**.

6. Tap **Save and Exit**, tap **Exit Saving Changes**, and then tap **Yes** to confirm. The Express Station restarts automatically.

7. The Express Station reboots and the *"Entering Recovery Mode"* message appears.

8. When the *"The system will reset Oracle Linux to Factory Default……Are you sure to continue? (Y/N)"* message appears, type **y**, and then press **Enter**.

9. The recovery process begins.

# Performing a Factory Reset using the Recovery Button

You can use the system recovery button to restore system settings without using a keyboard. This method applies to all Express Stations and all operating systems.

1. Power off the Express Station. Do not disconnect the power cable.

2. Locate the recovery button on the back of the Express Station, as shown in the following image.
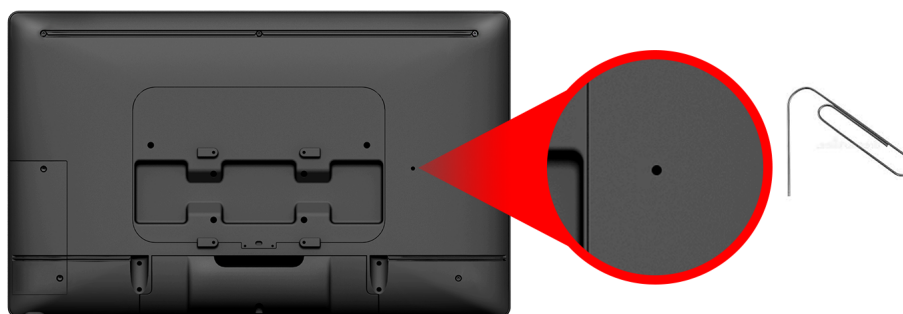


3. Press the recovery button using any object less than 2mm in diameter, such as a paperclip.

4. Power on the Express Station. It briefly powers on, restarts, and then shows the Please Wait message below the splash screen.

5. On the Choose an Option screen, click **Troubleshoot**.

6. On the Troubleshoot screen, click **Factory Reset**.

7. Select **Y** to reset the Windows partition to factory default.

8. When the restoration is complete and the Express Station restarts, you can begin the operating system setup.

# Wake-on-LAN Does Not Work (Microsoft Windows 10)

If the Wake-on-LAN (WoL) feature does not work on your Express Station, it may need additional configuration.

Configure WoL on Microsoft Windows 10:

1. Tap **Windows Start**, tap **Intel**, and then tap **Intel ProSet Adapter Configuration Utility with Administrator Privileges**

2. Under *Adapter Settings*, tap to enable **Wake on Magic Packet from power off state**, tap **Apply Changes**, and then close the configuration utility.

3. Reboot the Express Station for the changes to take effect.

# 12

# Safety and Handling

This section contains important information regarding the safety, care, and handling of the Workstation 625 and Workstation 655.

## Safety Agency Compliance Statements

### Safety Precautions

For your protection, observe the following safety precautions when setting up your equipment:

- Follow all cautions and instructions marked on the equipment.

- Ensure that the voltage and frequency of your power source match the voltage and frequency inscribed on the equipment's electrical rating label.

- Never push objects of any kind through openings in the equipment. Dangerous voltages may be present. Conductive foreign objects could produce a short circuit that could cause fire, electric shock, or damage to your equipment.

- This product is intended for restricted access whereby access is controlled through the use of a means of security (for example, key, lock, tool, badge access) and personnel authorized for access have been instructed on the reasons for the restrictions and any precautions that need to be taken.

- Do not directly connect this product to outdoor metallic communications cables. Always connect the product to outdoor metallic communications cables using a protection device that is designed for direct connection to outdoor metallic communications cables (such as a switch or router), or use optical non-metallic communications cables upon leaving the building.

- Do not directly connect this product to outdoor power cables.

  – For AC Power, connect the product only to an indoor power distribution system that uses current-limiting circuit breakers for AC power.

  – For DC Power, connect the product only to earthed power systems that are completely contained within one building.

### Modifications to Equipment

Do not make mechanical or electrical modifications to the equipment. Oracle is not responsible for regulatory compliance of a modified Oracle product.

# Placement of an Oracle Product

**Caution:** Do not block or cover the openings of your Oracle product. Never place an Oracle product near a radiator or heat register. Failure to follow these guidelines can cause overheating and affect the reliability of your Oracle product.

# SELV Compliance

Safety status of I/O connections comply with SELV requirements.

# Power Cord Connection

**Caution:** Oracle products are designed to work with power systems having a grounded neutral (grounded return for DC-powered products). To reduce the risk of electric shock, do not plug Oracle products into any other type of power system. Contact your facilities manager or a qualified electrician if you are not sure what type of power is supplied to your building.

**Caution:** Not all power cords have the same current ratings. Do not use the power cord provided with your equipment for any other products or use. Household extension cords do not have overload protection and are not meant for use with computer systems. Do not use household extension cords with your Oracle product.

The following caution applies only to devices with a Standby power switch:

**Caution:** The power switch of this product functions as a standby type device only. The power cord serves as the primary disconnect device for the system. Be sure to plug the power cord into a grounded power outlet that is nearby the system and is readily accessible. Do not connect the power cord when the power supply has been removed from the system chassis.

The following caution applies only to devices with multiple power cords:

**Caution:** For products with multiple power cords, all power cords must be disconnected to completely remove power from the system.

**Figure 12-1    Disconnect Multiple Power Cords**
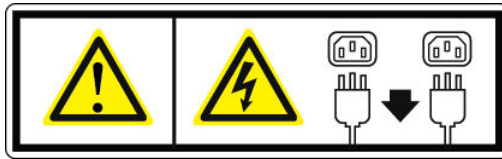


## Battery Warning

**Caution:** There is danger of explosion if batteries are mishandled or incorrectly replaced. On systems with replaceable batteries, replace only with the same manufacturer and type or equivalent type recommended by the manufacturer per the instructions provided in the product service manual. Do not disassemble batteries or attempt to recharge them outside the system. Do not dispose of batteries in fire. Dispose of batteries properly in accordance with the manufacturer's instructions and local regulations. Note that on the main board, there is a lithium coin cell battery installed in a battery holder. If you need to replace the lithium coin cell battery, use a Maxell CR2032 or equivalent battery type.

## System Unit Cover

You must remove the cover of your Oracle computer system unit to add cards, memory, or internal storage devices. Be sure to replace the cover before powering on your computer system.

**Caution:** Do not operate Oracle products without the cover in place. Failure to take this precaution may result in personal injury and system damage.

## International Compliance Information

| OMAN - TRA |
|---|
| R/9491/20 |
| D141225 |

```
TRA
Registered No:
ER88122/20
Dealer No:
DA69181/17
```
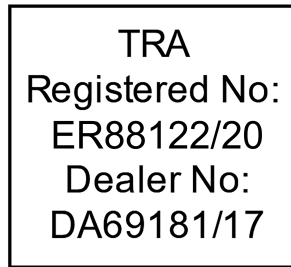
# Care and Handling

## Equipment Placement

- Keep the Express Station within an operating temperature between 0C (32F) and 60C (140F).

- If you are placing your equipment in an area adjacent to carpeting, use an anti-static grade of carpeting. If you do not have anti-static carpeting, use static discharge mats.

- Do not place equipment near food preparation areas, glass racks, or water stations. Although the Express Station is highly spill resistant, take care to avoid using electrical equipment near water.

- Take precautions to prevent the accidental dropping of metallic objects such as paper clips and staples into the equipment.

## Electromagnetic Interference

- Do not run exposed cables in the vicinity of AC power lines because the noise radiating from the AC power lines can be absorbed by Workstation 6 AC power and communication lines.

- Keep devices that emit RF energy, such as cordless phones, at least eight inches from the equipment or cable during operation.

## Cleaning

**LCD/Touchscreen**

You can use any ammonia-free household cleaner or a 50/50 mix of isopropyl alcohol and distilled water applied with a clean, cotton cloth. Spray the cloth with the cleaner and then use the cloth to wipe the screen.

**Cabinet**

Use a chamois or a clean, lint-free cloth to clean the cabinet and screen surface. Do not use chemical, alcohol, or petroleum-based cleaners that are not recommended for plastics.

**Magnetic Stripe Reader**

Contact your Oracle representative for information and recommendations on magnetic stripe reader cleaning kits.