

Oracle® MICROS Kitchen Display Controller 210 Setup Guide



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Preface

Audience

This document is intended for those who will be setting up, installing, and operating the Oracle MICROS Kitchen Display Controller 210. It is not specific to a particular software application.

Admonitions

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:

On: Applies AC power to the system.



Off: Removes AC power from the system.



On: The On/Standby switch is in the standby position.



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
March 2020	<ul style="list-style-type: none">• Initial publication.
April 2020	<ul style="list-style-type: none">• Updated operating system recovery process.

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The Oracle MICROS Kitchen Display Controller 210 (KDC-210)

The KDC-210 is a durable, small form factor PC. A typical Kitchen Display System is composed of the KDC-210, an LCD touch monitor or non-touch LCD monitor, and MICROS 10 or 20 Key Wired or Wireless Bump Bars.

Features Overview

- Available operating systems: Oracle Linux for MICROS, Microsoft Windows 10 IoT Enterprise
- 10/100/1000MB BaseT LAN
- 3x USB, 1x high definition display output, 1x DisplayPort output
- 4GB RAM
- Fanless enclosure



Oracle MICROS KDC-210 Basic Features

The Oracle MICROS KDC-210 includes the following basic features.



Table 2-1 Oracle MICROS KDC-210 Basic Features

Feature
A. Power button
B. USB 2.0 ports
C. HDMI port
D. Ethernet port
E. COM port
F. Audio line out
G. High speed USB port
H. DisplayPort output
I. +12V DC-in

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KDC-210 – Initial Setup

This section provides initial setup instructions.

Preinstallation Considerations

Mounting

A wide variety of LCD and bump bar mounting options are available. Contact your Oracle MICROS representative for more information.

KDC-210

The KDC-210 requires Cat 5e or Cat 6 patch cable connectivity near each location.

Wired Bump Bar

The MICROS Wired Bump Bar is supplied with a 6ft. (1.8M) or 15ft (4.5M) cable.

Wireless Bump Bar

Before installing the mounting brackets, consider the following site-related issues to ensure the best possible functionality from the MICROS Wireless Bump Bar in an active RF environment:

- **Range:** Distances up to 30 feet are possible when the dongle and bump bar are within sight of each other, with no obstructions in the path of the RF signals. As the number and type of obstructions between the dongle and bump bar increase, the range decreases.
- **Classification of RF Obstructions:** RF signals encounter two types of obstructions that either weaken or reflect the signal, depending on its material composition. The first type of obstruction is one that allows the signal to pass through, but attenuates, or weakens it. Some examples include walls constructed of wood, drywall, people, and concrete block. The amount of attenuation is proportional to the total thickness of materials that the RF signal must penetrate when traveling the line-of-sight path. The second type of obstruction is one that reflects the RF signals, allowing little or none to pass through. The reflected RF energy can cause interference even when the dongle and bump bar are located within line-of-sight. Any type of metallic substance falls into this category. This includes objects such as stainless steel food preparation areas, walk-in freezers, steel doors, and steel support beams.
- **Local RF Interference:** The RF signals emitted by the MWBB are located in the unlicensed 2.40 - 2.50 GHz ISM band. Nearby occupants of this band include microwave ovens (2.485 GHz), 802.11 b/g Wi-Fi, cordless phones, IEEE 802.15.4 (WPAN), ZigBee, and other personal area networks. Ensure the MWBB is located as far from these devices as possible. The greater the distance between the dongle and the bumpbar, plus the greater the number of obstructions between the two devices, allows extraneous RF devices to impact the operation of the wireless bump bar. In cases where the site is too noisy in terms of RF interference, Oracle MICROS recommends the use of the MBB-10 and MBB-20 wired bump bars.

Connecting Bump Bars

Oracle MICROS offers both wired and wireless bump bars as part of the Kitchen Display System.

- The MICROS Wired Bump Bar is available in 10 and 20 button configurations (MBB-10 and 20 MBB-20).
- The MICROS Wireless Bump Bar is available in 10 and 20 button configurations (MWBB-10 and 20 MWBB-20).

Connect a Wired Bump Bar

1. Plug the bump bar USB cable into an available USB port on the KDC-210.

Connect a Wireless Bump Bar

1. Install batteries in the MWBB.
2. Connect the MWBB Dongle to a USB port on the KDC-210.
3. The MWBB Dongle and MWBB are paired to the same 5-byte ID at the factory. The following image shows the MWBB-20 and the MWBB Dongle with a matching 5-byte ID of ee21d.



Refer to *The MICROS Bumpbar MBB-10 and MBB-20 User's Guide* and *The MICROS Wireless Bump Bar MWBB-10 and MWBB-20 User's Guide* on docs.oracle.com at https://docs.oracle.com/cd/E64361_01/index.html for comprehensive bump bar installation and configuration information.

Supported Monitors

The KDC-210 supports a variety of standard and touch-enabled monitors. Contact your Oracle MICROS representative for more information.

Supported Power Adapter

Use only the power adapter included with the KDC-210 (Part Number 7118431: Power supply for Oracle MICROS Kitchen Display Controller 200 Series and Oracle MICROS Tablet 721 and accessories for Oracle MICROS Tablet 700 Series: 12 V.)



KDC-210 Initial Startup – Microsoft Windows 10

1. Choose a deployment location that provides network connectivity and access to any required peripherals.
2. Connect the required cables, and then turn on the KDC-210.
3. Complete the Microsoft Windows setup by following the prompts. Consult your network administrator for help with configuring network and system settings.
4. Ensure the KDC-210 is connected to a secure network.
5. Install the Client Application Loader (CAL) by double-tapping the **CALClient Installer** icon, follow the prompts, and enter the CAL server address to install your Oracle MICROS POS software. For more information, refer to the latest version of the *Oracle Hospitality Symphony Client Deployment Guide* on the Oracle Help Center at <https://docs.oracle.com/en/industries/food-beverage/>.

KDC-210 Initial Startup – Oracle Linux for MICROS

The first time you turn on the KDC-210 you must complete the Oracle Linux for MICROS operating system setup. Follow the on-screen prompts to configure your system:

1. Choose a deployment location that provides network connectivity and access to any required peripherals.
2. Connect the required cables, and then turn on the KDC-210.
3. Complete the Oracle Linux for MICROS setup by following the prompts. Consult your network administrator for help with configuring network and system settings.
4. Enter the CAL server address to install your Oracle MICROS POS software. For more information, refer to the latest version of the *Oracle Hospitality Symphony Client Deployment Guide* on the Oracle Help Center at <https://docs.oracle.com/en/industries/food-beverage/>.

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Accessibility Features

The following table describes the accessibility features for the KDC-210 with the Microsoft Windows 10 IoT Enterprise operating system.

Table 4-1 Accessibility Features for the KDC-210 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 . Then, select a visual warning: <ul style="list-style-type: none">• 1-None• 2-Flash active caption bar• 3-Flash active window• 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 4-1 (Cont.) Accessibility Features for the KDC-210 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 4-1 (Cont.) Accessibility Features for the KDC-210 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 .

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KDC-210 BIOS Options

This section describes how to access the KDC-210 BIOS menu and provides an overview of important configuration options.

Accessing BIOS

To access the KDC-210 BIOS:

1. Connect a USB keyboard to the KDC-210.
2. Turn on or restart the KDC-210, and then press **Esc** repeatedly until the BIOS screen appears.
3. Use the keyboard arrow keys to navigate between the available options.

Viewing System Information

To view system information for the KDC-210:

From the KDC-210 BIOS main screen, navigate to the **SCU** option, and then press **Enter**. The Main tab shows the system information for the KDC-210.

Configuring System Security Settings

Security settings are available on the Security tab under the SCU option and under the Secure Boot Option on the KDC-210 BIOS. For more information about each setting, refer to the descriptive text that appears in the right panel as you navigate through the available options.

Note:

To configure TPM settings, navigate to the **SCU** option, press **Enter**, and then navigate to the **Security** tab. For more information about each setting, refer to the descriptive text that appears in the right panel as you navigate through the available options.

Exiting BIOS

To exit the KDC-210 BIOS, navigate to the **Continue** option, and then press **Enter**.

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Software Components

This section describes the software components available for the KDC-210.

The KDC-210 is available with Microsoft Windows 10 IoT Enterprise or the Oracle Linux for MICROS operating system.

Microsoft Windows 10 IoT Enterprise Operating System

The KDC-210 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 Operating System

The KDC-210 is available with the Oracle Linux operating system pre-installed. Oracle Linux 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.

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Equipment Dimensions

This section contains the KDC-210 dimensions.

KDC-210 Dimensions



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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 KDC-210.

Table 8-1 Basic Troubleshooting

Problem	Possible Causes	Solution
The KDC-210 does not start and does not show the splash screen.	No power to the unit.	Make sure you connected the DC power adapter cable to the KDC-210 and that the AC power cable is connected to a surge-protected outlet, UPS, power conditioner, or wall outlet.
The KDC-210 does not start.	The system board may be defective.	Contact your Oracle MICROS representative.
The connected monitor remains blank after powering on the KDC-210.	The monitor cable may be disconnected or defective.	Verify both ends of the monitor cable are properly connected. Try using a different monitor cable.
The KDC-210 does not connect to the Local Area Network.	The network patch cable is not connected or is defective.	Install the appropriate Cat 5e or Cat6 patch cable between the KDC-210 and the network port connection. Try using a different patch cable.

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 KDC-210 boot menu or the Microsoft Windows operating system recovery function.

Performing a System Recovery with Microsoft Windows 10

1. Power on the KDC-210 and boot to the operating system selection screen.
2. Select **OS Restore**. The “*The system will be restored to factory default. All contents will be erased*” message appears.
3. Select **Yes** to continue. The OS Restore Progress bar appears.

4. File restore completes. The OS Restore Success message appears.
5. Select **Shutdown** or **Reboot**. The KDC-210 powers off or reboots.
6. Press the power button to turn on the KDC-210. The KDC-210 boots to the OS/Restore option screen twice, continues to the OS Out-of-Box configuration, and then the Windows 10 desktop initializes.

Performing a System Recovery for Oracle Linux for MICROS

To perform a system recovery for KDC-210 units with the Oracle Linux for MICROS operating system:

1. Power on KDC 210 and press the ESC button repeatedly to enter BIOS.
2. Select **Boot Manager**, and then select **Recovery**.
3. When prompted, enter **Y** to continue with recovery.

9

Safety and Handling

This section contains important information regarding the safety, care, and handling of the KDC-210.

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: 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:

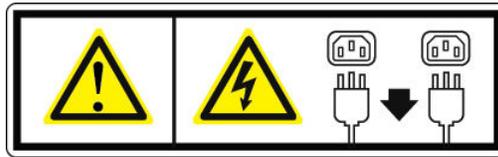


Caution: The power switch of this product functions as a standby type device only. The power cord serves as the primary disconnect device for the system. Be sure to plug the power cord into a grounded power outlet that is nearby the system and is readily accessible. Do not connect the power cord when 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 9-1 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



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

Care and Handling

Equipment Placement

- Keep the KDC-210 within an operating temperature between 0C (32F) and 40C (104F).
- 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 water stations.
- Take precautions to prevent the accidental dropping of metallic objects such as paper clips and staples into the equipment.

Electromagnetic Interference

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

Cleaning

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.