



# X2O Media Player-DX

## Setup Guide

This document provides instructions for setting up the X2O Media Player-DX.

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# Introduction

The **X2O Media Players** are dedicated digital signage player devices that combine carefully designed hardware, optimally configured system software, and X2O digital signage player software to deliver high-quality 24x7 playback in a robust and security-hardened environment.

These X2O-ready systems are built using the embedded version of Microsoft Windows 10, called “Windows 10 IoT Enterprise”. While the system is already set up for reliability, performance, and security, additional configuration steps must be followed to complete the setup and preserve reliability and security.

This document assumes a general understanding of Windows 10. It explains key aspects where the X2O-ready implementation differs from a typical desktop installation of Windows 10, and covers configuration, maintenance, and security.

## Notable Hardware Features

In addition to a robust design and architecture, **X2O Media Players** come with specific hardware features to support successful deployments.

### Aluminum Housing

All models feature an industrial-grade aluminum housing for robustness and thermal management.

### Fanless Design

All models feature a fanless design, for reliability and use in environments where dirt, dust, or grease are a concern.

# System Layout

## Disk Layout

The hard disk/SSD storage is laid out for security, performance, and maintainability. The **C: (BOOT\_APPS) partition** contains:

- Windows 10 IoT Enterprise LTSC embedded operating system
- User account home folder (in **C:\Users**)
- X2O Media Player software (in **C:\Program Files (x86)\X2OMedia**)
- X2O Media Player content (in **C:\XpresenterContent**)

## Account Layout

The **X2O Media Player** is pre-configured with a user called **x2omedia**. You can find the default password for this account in the **Getting Started** guide inside the box. *This password should be changed as part of proper security practice.*

# System Security

The **X2O Media Player** is configured with security in mind. While some of this is achieved through well-known Windows practices, there are some additional adjustments that are less commonly used on Windows PCs. Those adjustments, as well as additional steps you must perform, are documented here.

## Unneeded Services Disabled

Windows comes with many background services offering the level of functionality useful in a desktop environment. Many of these services are not needed for digital signage appliances and have been disabled.

## Windows Firewall

The Windows Firewall is a software firewall that is part of the Windows operating system. On **X2O Media Players**, the Windows Firewall is enabled, and configured to allow X2O's player application and various operating system services to do their job.

*If you are connecting the X2O Media Player to an on-premises X2O Server, it is required to open TCP ports 55511 and 55522 for outbound connections. This can be done by enabling the firewall rule called **X2O Agent Protocol** in Windows Advanced Firewall.*

If you use additional applications on the Player, you may need to adjust the settings to open additional TCP/UDP ports. Please see Microsoft's documentation for additional information.

## Antivirus

By default, **X2O Media Players** **do not** have any antivirus or anti-malware software enabled. Because the threat model of a digital signage network is very different than a PC used to access arbitrary web sites and documents, this is often the most appropriate choice. Antivirus and anti-malware should instead be in place at the point of entry, namely the **X2O Platform**.

Should circumstances or policy dictate that antivirus software be used, a duly licensed solution can be installed and enabled prior to deployment. Considerations include:

- Antivirus software can impact system stability. Since antivirus software must interact deeply with the operating system, X2O Media has occasionally seen a negative impact on system stability when antivirus is enabled.
- Similarly, antivirus software can impact system performance.
- Antivirus software generally receives frequent updates to the patterns it searches for. You need to plan a strategy for automatic or manual updating.

When adding or updating antivirus software, it is recommended you perform testing for stability and performance to ensure no negative effects.

## Windows Update

Unlike most versions of Windows 10, Windows 10 IoT allows rich control over whether and when Windows Updates are applied. On **X2O Media Players**, Windows Update is disabled by default for several reasons:

- Many Windows updates, including security updates, are of no benefit in a digital signage context, and are at best unnecessary.
- Occasionally, a Windows update can have a negative effect on system behavior.
- In many cases, the administrator will want to control the timing of the bandwidth and the system restart that is needed.

# Remote Access and Maintenance

There are two options to remotely access **X2O Media Players**.

## X2O Remote Manager

The **X2O Remote Manager** is a Windows desktop application that provides remote connectivity, monitoring, and maintenance for your **X2O Media Players**. It is the best diagnostic tool available to quickly identify, diagnose, and resolve player and network performance issues. Use the Remote Manager to view a thumbnail of what is currently playing, verify the content and available storage on the player, download files, access logs, reboot the device, or restart the player software. Note that the **X2O Agent** component of the media player must be running for the Remote Manager to connect to the device.

The Remote Manager can run un-licensed on an on-premises **X2O Server** or you can purchase a license and install the application on a separate Windows PC. Please contact your X2O sales representative for information about obtaining the license required to install and use the Remote Manager.

## Remote Desktop Connection

**X2O Media Players** can also be accessed via the Microsoft Remote Desktop Protocol (RDP). By default, this protocol uses TCP port 3389, though this can be changed. You can use various Remote Desktop clients to make the connection. In some network configurations (e.g. Public networks), the necessary ports are blocked by the Windows Firewall. You will need to configure the firewall to allow Remote Desktop.

During the Remote Desktop session:

- The local display will switch to show the Windows account lock screen.
- You will have remote access to the Windows desktop, from which you can inspect things or perform various maintenance or diagnostic actions.

*Important note: At the end of the Remote Desktop session, the local session does not log on automatically. It remains showing the Windows account lock screen, which is not desirable for a running player. Your final action should be to remotely reboot the player.*

Therefore, Remote Desktop is suitable mostly for limited administrative cases when the **X2O Player** software is not running or does not need to be running.

# Setting Up the X2O Media Player

## 1. Unpack and Inspect the **X2O Media Player**

When you receive your **X2O Media Player**, inspect it carefully for damage that may have occurred during shipping.

## 2. Perform the physical setup

Connecting the various cables for an X2O Media Player is straightforward:

- a. Connect the **X2O Media Player** to its displays using HDMI cables.
- b. While digital signage players typically do not require interaction with the Windows operating system, this might not be true when initially setting up Windows (refer to the "Configuring the X2O Media Player" section). If you need to interact with Windows to change the default settings, you have two options:
  - i. Plug a USB keyboard and mouse into open USB ports on the unit.
  - ii. Access the system over a network using Remote Desktop.
- c. If using wired networking, plug a network cable into the RJ-45 jack on the unit.
- d. If using wireless networking, screw the included antenna(s) into the antenna connectors on the unit.
- e. Plug the power cord into the power connector on the unit.
- f. Plug the other end of the power cord into a suitable 120V or 240V electrical outlet.

Once power is applied, the **X2O Media Player** should start automatically.

## 3. BIOS Settings

Like any PC-class system, the **X2O Media Player** system has a range of BIOS options. As shipped, these options are correct for most uses. To see or adjust the BIOS settings, press the <**DEL**> key during early system startup.



#### 4. Connect to a Wi-Fi Network

If using wireless networking, follow these steps to connect the Player to a secure Wi-Fi network:

- a. Wait for the **Activation** screen to load.
- b. Press **Alt + Tab** to hide the Activation screen and reveal the Windows Sign On screen.
- c. Input the password for the **x2omedia** account and sign in. As mentioned previously, you can find the default password for this account in the **Getting Started** guide inside the box.
- d. Click the **Wi-Fi** icon in the Windows task bar. If the icon is missing, press **Windows + A** to open the **Action Center** and click **Network** to view the available Wi-Fi networks.
- e. Select your secure Wi-Fi network from the list and verify that the **Connect automatically** check box is selected.
- f. Click **Connect**, then enter the network security key provided by your IT department and click **Next**.
- g. Restart the Player once the secure network connection is established.

# Configuring the X2O Media Player

*Note: Steps 1 to 8 are optional.* If you prefer to leave the default Windows settings (user password, computer name, time zone, etc.), you can go directly to the “X2O Media Player Activation” section.

## 1. Sign In to Configure

The **Activation** screen appears on first boot. Press **Alt + Tab** to hide the Activation screen and reveal the Windows Sign On screen. Input the password for the **x2omedia** account and sign in. As mentioned previously, you can find the default password for this account in the **Getting Started** guide inside the box.

If you want to return to the Activation screen before signing on, press **Alt + Tab** again from the Windows Sign On screen.

## 2. Set Credentials

*Proper security practice suggests that you change this password to your own strong passwords before deploying.*

To change the user account password, perform the following steps once you have signed in to Windows:

- a. Press **Ctrl + Alt + Del** and choose the **Change Password** option.
- b. Perform the password change and click on the **right arrow (submit)** to save the change.

## 3. Network Configuration

By default, the **X2O Media Player** obtains its IP address via DHCP. In some networks, you will need to instead assign a static IP address. This is done in the standard Windows manner:

- a. Go to **Start > Settings** then click **Network & Internet**.
- b. Click **Change adapter options**.
- c. Click the appropriate network adapter (Ethernet or Wi-Fi).
- d. Click **Change settings of this connection**, or right-click and click **Properties**.
- e. Under **Internet Protocol (TCP/IPv4) or (TCP/IPv6)**, click **Properties** and specify the appropriate IP address and DNS settings.

#### 4. Set Computer Name

All **X2O Media Players** are assigned a unique name like **DESKTOP-A9A9A9A9** where **A9A9A9A9** consists of a random set of alphanumeric characters. If you want to assign a different computer name to make it easier to identify specific players on your network, do the following:

- a. From **Start > Settings**, click **System**.
- b. Click **About**.
- c. Click **Rename PC** then specify the computer's name.
- d. Click **Next**, then click **Restart Later**.

#### 5. Time Server Configuration

For reliable update schedules, accurate logging, and consistent operation, all machines in a network should be synchronized to a common Internet time server. The player is configured to connect to the Microsoft-default time server, **time.windows.com**. If you need to change that setting, you can set up the Content Manager as an NTP (time) server, itself synchronized to a trusted time server, and change the default settings as follows:

- a. Click **Start > Windows System > Control Panel**.
- b. Click **Date and Time** from the available options.
- c. On the **Internet Time** tab, click **Change settings**.
- d. Specify the desired time server URL.

#### 6. Set Time Zone

The **X2O Media Player** is pre-configured to the **Eastern Time Zone (UTC -05:00)**. If you need to change that default value to ensure proper time display in logs and other places, perform the following:

- a. Click **Start > Windows System > Control Panel**.
- b. Click **Date and Time** from the available options.
- c. On the **Date and Time** tab, click **Change time zone**.
- d. From the picklist, choose the appropriate time zone.

Players automatically adjust to Daylight Saving Time according to the rules contained within the operating system.

## 7. Audio Settings

As initially configured, the **X2O Media Player-DX** sends audio to the HDMI connector. To use the audio jack instead, plug your audio cable into the jack, then:

- a. Launch the **Sound** control panel tool.
- b. Select the **Speakers** option and click **Set Default**.

## 8. Restart the Player

Once all the changes are done, simply restart Windows. Upon restart, the **Activation** screen reappears, and you can proceed with the Player Activation.

# X2O Media Player Activation

The **Activation** screen appears at first start up and upon subsequent reboots until the **X2O Media Player** is activated.

To activate the **X2O Media Player** follow these steps:

1. Note the **Player ID** that is shown in the **Activation** screen. If you right-click on the value, a context menu will offer to copy the value to the clipboard.
2. The **X2O Media Player** is configured to connect to the standard X2O Cloud instance. If this is where you want to connect, go to step 3. Otherwise, if you are connecting to a different **X2O Server** like an on-premise installation, perform the following steps:
  - a. Click on the **Settings** cogwheel icon on the bottom-right of the Activation screen.
  - b. Input the **hostname** of the **X2O Server** you need to connect to.
  - c. Ensure you have the correct **port number**.
  - d. Click **OK**.
  - e. Open a web browser, navigate to the **X2O Portal** and enter your X2O Portal credentials to sign in.
  - f. Skip step 3 and go to step 4.
3. Open a web browser, navigate to [www.x2ocloud.com](http://www.x2ocloud.com) and enter your X2O Portal credentials to sign in.
4. Click the **Administration** cogwheel icon in the X2O Portal task bar and select **Activate Player**.
5. Enter the **Player ID** and select the target **Network** for the player.
6. Click the **Activate** button.

The **X2O Media Player** is authorized on the network and the **X2O Server** begins to synchronize content to the device. This process may take a few minutes, depending on the amount of content available on the server. The progression of the file transfer is shown on the player **Activation** screen.

The player starts automatically when synchronization is complete. The default content on the network begins to play, or a small X2O logo on a black background is shown to indicate that the **X2O Media Player** is ready for Player Configuration in the X2O Portal.

# Contact Us

Contact X2O Media if you require standard product support for our applications. A team of experienced support engineers is at your service for any professional assistance.

[www.x2omedia.com/support](http://www.x2omedia.com/support)

## REVISION HISTORY

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2020-05_v1.0	First publication