



# X2O Media Player-C

## Setup Guide

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

# Table of Contents

Introduction ..... 3

System Layout ..... 3

    Disk Layout..... 3

    Account Layout..... 4

System Security ..... 5

    Unneeded Services Disabled..... 5

    Windows Firewall ..... 5

    Antivirus ..... 5

    Windows Update ..... 6

Remote Access and Maintenance..... 7

    X2O Remote Manager ..... 7

    Remote Desktop Connection..... 7

Setting Up the X2O Media Player ..... 8

Configuring the X2O Media Player ..... 9

Dante Virtual Soundcard ..... 12

X2O Media Player Activation..... 13

Contact Us ..... 14

# 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.

## System Layout

### Disk Layout

The 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**)
- Dante Virtual Soundcard (in **C:\Program Files (x86)\Audinate\Dante Virtual Soundcard**)
- TeamViewer Installer (in **C:\XpresenterAgentTemp**)

## Account Layout

The **X2O Media Player** is pre-configured with a user called **x2omedia** that is set to Automatically Sign-in to Windows. 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 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 are already handled 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 the OneRoom 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.

Note: If the administrator wants to perform Windows updates or install additional software, X2O Media reserves the right to charge for additional support if the changes impact the ability for the **X2O Media Player** to operate properly and help is needed from X2O Support. It is suggested that any change be done in a controlled way and validated by the administrator.

If the administrator decides to enable Windows Update, they can run the Windows Command Prompt as the administrator and execute the 82-ENABLE\_WindowsUpdatesTasksServices.CMD script, located in the **C:\CONFIG.WES\Scripts** directory. The operation can be reversed using the 81-DISABLE\_WindowsUpdatesTasksServices.CMD script (located in the same directory) and executed in the same fashion.

# 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.

You can purchase a license of Remote Manager 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. Refer to the room design to identify what each media player will be driving.

- a. Connect the **X2O Media Player** to its displays using HDMI cables.
- b. If applicable, connect the cameras to a USB port.
- c. There are two options to interact with the media player to perform the setup:
  - i. Plug a USB keyboard and mouse into open USB ports on the unit.
  - ii. Access the system over a network using Remote Desktop.
- d. Plug the Ethernet cable into the RJ-45 jack 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.

# Configuring the X2O Media Player

*Note: Steps 1 to 7 are optional. If you prefer to leave the default Windows settings (network configuration, computer name, time zone, etc.), you can go directly to the "Dante Virtual Soundcard" section.*

## 1. Hide Activation Screen to Configure

The **Activation** screen appears on first boot. Minimize the Activation window to access the desktop.

## 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 in 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.

To set up Auto Sign-in for the user account with the new password:

- a. Press **WINDOWS KEY + R** to open the **Run** dialog box.
- b. Type **control userpasswords2** in the **Open** field, then press **Enter**. The **User Accounts** dialog box appears.
- c. Make sure that the **Users must enter a username and password to use this computer** check box is cleared; clear the check box if it is enabled.
- d. Click **Apply**. The **Automatically sign in** dialog box appears.
- e. Enter the new **Password** and **Confirm Password**, then click **OK**.
- f. Click **OK** to close the User Accounts dialog box.

## 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).
- 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

Each **X2O Media Player-C** is assigned a unique name like **BTDN/BTHN012345AA**, which is the serial number of the device. 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 this 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. Restart the Player

Once all the changes are done, simply restart Windows. Upon restart, Windows signs in automatically and the **Activation** screen reappears. Proceed with the Dante Virtual Soundcard license and configuration.

# Dante Virtual Soundcard

A DSP-enabled **X2O OneRoom** uses the **Dante Virtual Soundcard** on all players that need to capture and process audio.

Dante Virtual Soundcard software is pre-installed on **X2O Media Player-C** devices and requires a valid license ID to be entered and activated with the Audinate servers. You can obtain a DVS license for the soundcard via the [Audinate website](#). It is recommended to license and configure the software before X2O Media Player Activation.

To configure the Dante Virtual Soundcard, perform the following steps:

1. Minimize the Player **Activation** screen to reveal the Windows desktop.
2. Double-click the **Dante Virtual Soundcard** icon on the desktop to launch the Control Panel and license the software.
3. In the **Settings** tab, configure:
  - a. **Audio Interface**: WDM
  - b. **Audio Channels**: 16x16
  - c. **Dante Latency**: 6 ms
  - d. **Network Interface**: select the active Ethernet connection
4. **Start** the Dante Virtual Soundcard to ensure it is running.

Please see the Dante Virtual Soundcard [documentation](#) for detailed instructions.

# 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 a standard X2O Cloud instance ([www.x2ocloud.com](http://www.x2ocloud.com) or [emea.x2ocloud.com](http://emea.x2ocloud.com), depending on your region). If this is where you want to connect, go to step 3. Otherwise, if the X2O Cloud instance needs to be changed, 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. Click **OK**.
3. Open a web browser, navigate to the X2O Portal ([www.x2ocloud.com](http://www.x2ocloud.com) or [emea.x2ocloud.com](http://emea.x2ocloud.com), depending on your region) 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

Revision	Description
2022-02_v1.4	Revised the X2O Media Player Activation steps
2022-01_v1.3	Expanded the Windows Update section
2021-10_v1.2	Updated TeamViewer directory path
2021-08_v1.1	Removed Metricbeat and Filebeat from the disk layout Revised the Windows Update section Updated the setup steps Updated player activation and added the emea.x2ocloud.com region
2020-08_v1.0	First publication