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Synchronized Video Playback with Samsung XR for Gear VR

Many Gear VRs running Samsung XR can be synchronized to playback one or more videos in unison. This feature is being used to synchronized video playback for events, theaters, meetings, amusement park rides, etc. This page will describe how to set up a group of Gear VRs that are to be synchronized, and how to control video playback for that group of Gear VRs.

Device Configuration

Each device that will be used with a Gear VR for synchronized playback must be properly configured for synchronized playback. Each device must have a **user.cfg** file with the proper commands, and each device must have the same video, or set of videos, to play.

CONFIGURING DEVICES FOR SYNCHRONIZED CONTROL

A **user.cfg** file is a special text file containing specific commands to control Samsung XR. The **user.cfg** file must be located in a folder named **MilkVR** located in the root directory of a device.

To create a MilkVR folder in the root directory of a device, find and open the **My Files** application. After opening the application, select **Device Storage**. On the screen that appears, select **More > Create folder** in the upper right corner. Complete the operation by typing **MilkVR** as the new folder name.

To support synchronized playback, a **user.cfg** file with the following commands must be placed in the MilkVR folder of each device to be controlled:

```
headless:true
headless-auto-play:false
sync-service:true
```

The first line causes Samsung XR to not show the standard home view with video channels at start up. The second line causes Samsung XR to wait for a playback command before playing the first video. The third line enables the reception of playback commands.

The MilkVR folder can be used for other advanced features, and a user.cfg file may contain other control commands. See the Samsung XR for Gear VR FAQ (<https://help.content.samsung.com/csweb/auth/gosupport.do?serviceCd=samsungvr&chnlCd=WEB&targetUrl=/faq/searchFaq.do>) for more details about the MilkVR folder and the user.cfg file.

IDENTIFYING THE VIDEO FILES TO BE PLAYED

If your goal is to have each device play the same video at the same time, then each device to be controlled should have the same video, or set of videos, stored on it. Videos can be put into the MilkVR folder, or videos can be downloaded from the Samsung XR service. When a device receives a command to start the playback of videos, it will first play any videos located in the MilkVR folder in alphabetical order (if any), and then play any downloaded videos in alphabetical order (if any).

A video stored elsewhere on a device can also be synchronized. This is done by specifying the location of the video using a special file with a **.mvrl** extension located in the MilkVR folder. The

Samsung XR for Gear VR FAQ (<https://help.content.samsung.com/csweb/auth/gosupport.do?serviceCd=samsungvr&chnlCd=WEB&targetUrl=/faq/searchFaq.do>)

has the details about how to use a mvrl file to identify the location of a video. A video specified using a mvrl file is treated the same as a video

located in the MilkVR folder. Note that it is not recommended to use a .mvr file to identify a video located on a server because you may experience playback issues attempting to stream a remote video to multiple devices over a WiFi network.

Samsung XR is ending service for its XR apps on September 30, 2020. For more information, visit <https://www.samsung.com/us/support/faq/samsung-xr-apps-are-ending-service/>.



Make sure each device to be controlled is connected to the same WiFi network.

Once all devices are properly configured, they should each be placed into a Samsung Gear VR and the Samsung XR application should be launched. At this point, all the devices should be waiting for playback commands.

Controlling Playback

There are a couple of ways in which devices configured for synchronized playback can be controlled.

PLAYBACK CONTROL USING SAMSUNG XR MOBILE

The easiest way to control a group of devices that have been configured for synchronous playback is to use the Samsung XR for Gear VR companion application Samsung XR mobile (<https://play.google.com/store/apps/details?id=com.samsung.android.video360>). Samsung XR mobile is a regular Android application. It can be used to stream 360 videos without having to mount the device into a Gear VR. However, Samsung XR mobile can also be used to control devices configured for synchronized playback.

First, you will need a device separate device from the devices to be controlled on the same WiFi network as the devices to be controlled.

Next, install Samsung XR mobile on the device. Once the application is installed, touch the 3 vertical dots in the upper right corner of the application and select **Settings** and then **Presentation Mode**. Select **Presenter Mode - Manual** to reveal VR Sync Commands that can be used to control all the devices configured for synchronous playback. For information about the other Presentation Mode options available, please see our Presentation Mode (/portal/content/presentation_mode) support page.

The following table summarizes the playback commands that are available.

Command	Result
Play	Start playback
Pause	Pause playback
Next	Skip to the next video and resume playback if paused
Previous	Skip to the previous video and resume playback if paused
Restart	Restart playback from the first video and resume playback if paused

PLAYBACK CONTROL USING UDP PACKETS

Selecting a VR Sync command in Samsung XR mobile results in a User Datagram Protocol (UDP) packet being broadcast on the WiFi network with a destination port of 5000. The devices configured for synchronized playback are continuously listening on port 5000 for these commands. Therefore, any program or machine that can broadcast UDP packets can control the playback of devices.

The table below contains the complete list of command strings that can be sent in the data portion of a UDP packet.

Data String	Result
play	Start playback
pause	Pause playback
play_next	Skip to the next video and resume playback if paused
play_previous	Skip to the previous video and resume playback if paused
restart	Restart playback from the first video and resume playback if paused
toggle_loop	Toggle playback between "repeat current video", "repeat all videos", and "repeat none"
seek:n	Seek to position n in the current video, where n is a value in milliseconds
cpu:n	Set CPU clock rate where n is a value from 0 to 3 (0 = slowest clock rate, 3 = highest clock rate)

gpu:n Set GPU clock rate where n is a value from 0 to 3, (0 = slowest clock rate, 3 = highest clock rate)
Samsung XR is ending service for its XR apps on September ... MORE INFO (/PORTAL/WHATSOEVER/A_MESSAGE_FROM_SAMSUNGXR) X

Note that not all combinations of higher CPU/GPU clock rates may not be valid for a device. Also, the higher clock rate values will consume more battery power and can lead to a device overheating.



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