

# Setting up a QMOD-HD/TV One Digital Signage System

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## Overview

Designed to broadcast the output of a digital signage player as a digital cable channel, a QMOD-HD/TV One Scaler system includes the following components:

- QMOD-HD HDTV Modulator
- TV One 1T-C2-400 VGA Scaler
- RK1-AC QMOD Rack Kit with Accessory Shelf

## Components You Need

You'll need a few parts essential to setup. Initially, you will set up using a direct RF connection to a TV. Once you know the system is operating; then the system will feed a channel to the house system.

- 2 HD15 to HD15 monitor cables
- 1 Mini to Stereo RCA audio cable, if audio is needed
- 1 Flat-Panel TV with onboard HDTV tuner and a PC RGB connection
- 1 RF cable with "F" connectors
- 1 Digital Signage PC with HD15 output, ideally, pre-loaded with the client digital signage program

Ideally, use one of the site's TVs to test the system before it's inserted into the RF system. That's the best approach, but not always possible. That's why it's good to have one of your own, just in case.

If you have an Apple or WIN7 PC, you'll likely need an EDID emulator for a 1980 x 1080 PC resolution. That's because both restrict resolution if the OS can't see the EDID data from the scaler. Emulators include [ConnectPro VGA-EDID](#), [Kramer VA-GAN](#), and [Hall Research EM-EDID-HD-15](#).

## Assembly

- Attach the RK1-AC shelf and rack bracket to the QMOD-HD using the supplied black screws
- Attach the included rubber feet to the TV One scaler
- Mount the TV One C2-400 to the accessory shelf with the included two small Philips screws
- Attach an HD15 monitor cable from the TV One **PC/HD Scaled Out** port to the **RGB** connection on the QMOD-HD
- Attach another HD15 monitor cable from the signage PC to the TV One **PC/HD IN** connection
- Attach a mini to RCA stereo cable from the PC audio out to the RCA **Stereo In** on the QMOD-HD – if audio is needed
- Connect power to both units

## Start PC and Signage App

Connect the PC to the TV (or its own monitor), start up the PC and run the signage app. You will use this video for system setup. Remove the HD15 from the TV, and connect it to the TV One PC/HD IN connector.

## QMOD Setup



Press the red **SETUP** button on the QMOD, and use the Up or Down arrows to access the setup menus. Choose the desired option for each menu using the Right and Left arrow keys, then click **SELECT** to choose the option. The QMOD menus will time-out after a period of time, so you may need to press **SETUP** a few times in the process.

- **Setup: Resolution.** Go to 720p then press **SELECT**. Generally, the TV One output is set to 720p when sent from Contemporary Research. You can choose 1080i later on in the process if you desire.
- **Setup: Video Input.** Go to **RGBHV**, then press **SELECT**.
- **Setup: Channel.** This is normally set to 2.1 for testing. Once you've finished setup, you can set this to the desired

Connect the RF output of the QMOD to the nearby TV, then use it's remote to start a channel scan, using Cable Standard or Cable Auto modes. By using channel 2-1 for testing, the channel should appear shortly in the on-screen channel list. You can exit scanning. At this point, you should see a color screen, which shows the QMOD-HD is operating, or the output of the PC if that has been connected and turned on.

## TV ONE Setup



First, a word about how the Menus work in the TV One.

- Press the MENU key once to see an on-screen menu
- Press the Down Arrow Key (ZOOM) to move forward through the menus
- Press the Up Arrow Key (FREEZE) to move back
- When you see each menu, one of the options will appear in square brackets. Press the MENU key to select that option, or use the arrow keys to step to other options.
- When the option brackets are flashing, use the Up and Down arrow keys to step through values, then press MENU to enter the change. The brackets will then stop flashing.

To start the process, turn on the PC and start the signage running. To confirm everything is running, connect the HD15 cable to a monitor

### Set Resolution (Skip if you already see video at the 720p QMOD setting)

1280 x 720 59.95 Hz
Output Res [45]

- Normally, we will have set this to 720p at our CR shop. Use the process below if you want to change the output to 1080i [set the QMOD resolution to 1080i to match].
- Connect TV One to a widescreen display via VGA [you can't see the menu functions through the QMOD until you set the TV one to an HDTV resolution]
- Press **Menu**, then Down arrow to **Adjust Outputs**
- Press **Menu**, then press **Down** to **Output Res**, then press Menu to flash [xx] brackets
- Press **Up** or **Down** to select 1289 x 720, 59.94 [45]. You can also continue to 1920 x 1080, 59.94 [88]. Press **Menu** to enter value
- If the TV One was inadvertently set to Component (YUV), the colors will have a purple tone.
- Arrow back and use Menu to select **Output Type**, arrow to **RGBHV**, then press Menu to select. Or if you're using the TV One to scale a PC to the Component input of a QMOD-SDI, set to Component.

## Adjust Video to Fit Display

At this point, the signage should be on the TV, but often needs to be moved and shaped to fit. Most TVs overscan the signage by about 5%. The simplest process is to use one of the site's TVs for this step, and different brands position the image slightly differently. If you're using your own TV, you might have to tweak a little at the end, often working with someone on a cell phone. This is a bit tedious, but not difficult if you're already fairly close.

Adjust Windows Shrink H/V% [100] 1.777	Adjust Windows H/V Out Shift [ 0 ] [ 0 ]	System Push to Store
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- If you were adjusting the **Output Res**, arrow back to **Outputs, Exit**, then press Menu.
- Arrow forward to Sub Menu **Adjust Windows** and press **Menu**. In this mode, you can use the Up/Down arrows to change values, and see the image change on the screen. When you find a setting that works, you can press Menu to save the value. The key menus are:
  - Shrink Level in percent (You often need to shrink image a bit to move image). Note that you usually see only one value that shrinks both equally. If you go to the **Aspect Adjust** menu and change [Simple] to [Advanced], you can shrink H and V independently.
  - H/V Out Shift – this will move the image horizontally or vertically
  - There is also a H/V Position % menu that has H and V settings, but you can only move the image within what is left over on the screen after you Shrink.
  - **When it looks right, arrow forward to Store the settings (this is important) To do this:**
    - Arrow forward to Adjust Windows /Exit, press Menu to exit
    - Arrow forward to System, press MENU to select
    - Arrow forward to Push to Store, press MENU to store.
  - Other menus include:
    - Zoom Level – usually not used in this application
    - H/V Zoom Pan – normally 50 50
    - Image Freeze -
    - H/V Crop – rarely used
  - Check out pages 26 – 27 in the TV One manual for Adjust Windows menus.

At this point, you can demonstrate to the client that the system is operational.

## Inserting the Channel

This is a fairly simple step if the site's RF provider has already set up the system for inserting a channel. What he needs to do is:

- Specify a channel (2-135) cleared for insertion. This means they have added any filters needed to eliminate any noise or existing channels at that frequency
- Set and marked an F connector to be used for inserting. The max output of the QMOD-HD is 29 dBmV, and the provider will include an RF booster amplifier if the signal needs to be higher to merge with the other channels.

If that work has been completed, change the channel of the QMOD to the specified channel, then connect the output to the provided RF input.

The client should then be able to re-scan the site's TVs to add the new channel. If the TVs are LG, you can usually manually enter the new channel using the remote. Just enter the channel # using the remote, and the set will add the channel to the list after it successfully finds the channel. Most other brands need to re-scan.