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mediatune

2.0 Installation Guide

Mediatune 2.0 was designed to work with the CHROME browser on the PC and the Safari browser on the iPad. While you may be able to get other browsers to work, you will have the best experiences using the devices which Technicolor actively supports.

Introduction

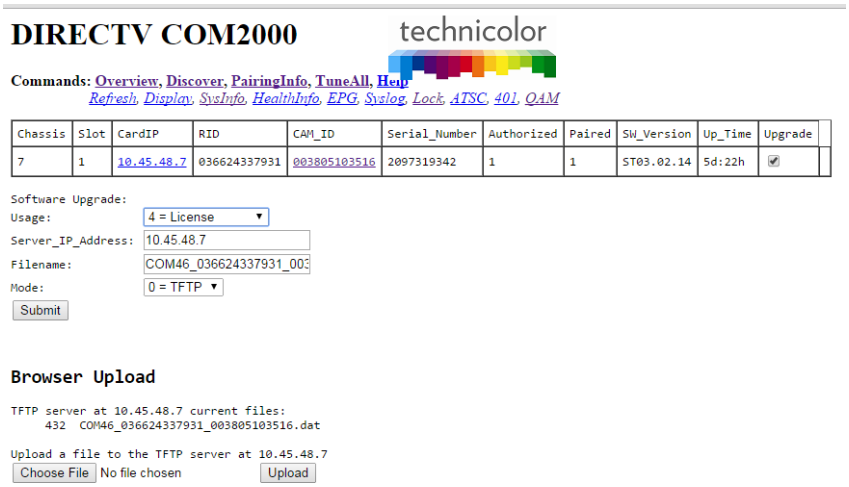
This document will take you through a typical installation process for Mediatune 2.0, a new web-based interface for the COM2000 product enabling switched matrix control capabilities. Mediatune can be used with an HD COM2000 system to direct content from any source tuner to any output QAM channel, or allow for a simple tuning interface for IP installations or systems which don't utilize the Technicolor integrated EdgeQAM. The system is based on the web server on the COM46 card, so any browser based device can interact and become a control point, allowing for maximum flexibility for the users. You can have several PCs, iPads, and other tablet devices which will all synchronize with the interface running on the COM2000.

Note: Throughout this document, the default IP address for Card 1 in Chassis 1 is referenced. If you are using a different card in a different chassis or have changed the IP configuration, the 192.168.3.18 address will be different.

Adding the "MT" Feature to the COM46

Mediatune 2.0 can only be transferred to COM46 cards which have been enabled with the "MT" feature. Features are added to the COM46 cards by uploading a license file obtained from your authorized Technicolor distributor.

In the PairingInfo page, select CHOOSE FILE and browse your PC for the license file you received from your distributor. Once selected, press UPLOAD to transfer this file to the COM46 card's internal TFTP server. You will see that the Software Upgrade settings for the card have changed and the file will be listed under 'Filename:'. Make sure to check the Upgrade box for the intended card, select 4=License, and press SUBMIT.



You will see the following screen.

Once the license file has been transferred, you can confirm the feature update by looking at the Sysinfo page. Listed under the Features column, you will see “MT”.

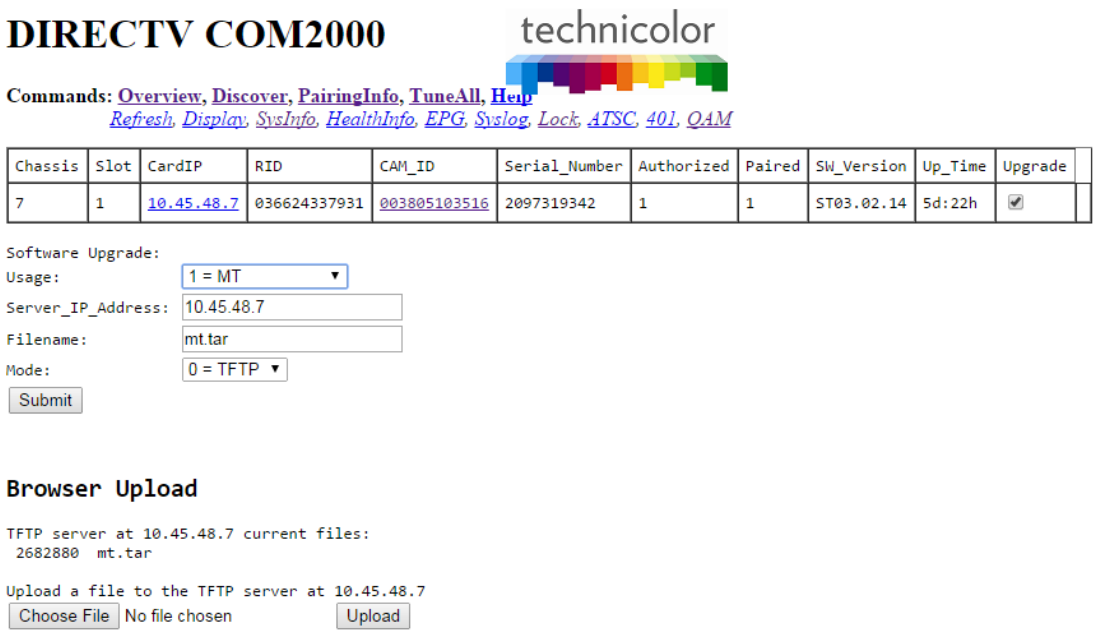
Installing the Mediatune 2.0 Files

Mediatune 2.0 consists of a file which is transferred to one of the COM46 or COM46-FLX cards within a COM2000 system. Transferring the Mediatune 2.0 file is similar to the software upgrade process and utilizes the TFTP mechanism. Please read through and understand this process in the Technicolor COM2000 Integrator’s Manual if you are not familiar.

First, select the card in the system you wish to have the Mediatune files installed. Typically, this is the first card in the chassis, but you can select any card in the system to become the Mediatune card. You can download the Mediatune file from the Technicolor website or obtain this through your authorized distributor. The file is called “mt.tar”.

UPLOAD THE MT.TAR FILE

1) From the PairingInfo page on the COM2000 interface, select CHOOSE FILE and browse to the MT.TAR file on your PC.
2) Press UPLOAD to transfer this file to the COM46’s internal TFTP server.
3) Check the UPGRADE check box on the card to receive this file.
4) Select Usage: 1 = MT from the drop down list
5) Mode: 0 = TFPT
6) Press SUBMIT



DIRECTV COM2000

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Commands: Overview, Discover, PairingInfo, TuneAll, Help
Refresh, Display, SysInfo, HealthInfo, EPG, Syslog, Lock, ATSC, 401, QAM

Chassis	Slot	CardIP	RID	CAM_ID	Serial_Number	Authorized	Paired	SW_Version	Up_Time	Upgrade
7	1	10.45.48.7	036624337931	003805103516	2097319342	1	1	ST03.02.14	5d:22h	☑

Software Upgrade:
Usage: 1 = MT
Server_IP_Address: 10.45.48.7
Filename: mt.tar
Mode: 0 = TFTP
Submit

Browser Upload

TFTP server at 10.45.48.7 current files:
2682880 mt.tar

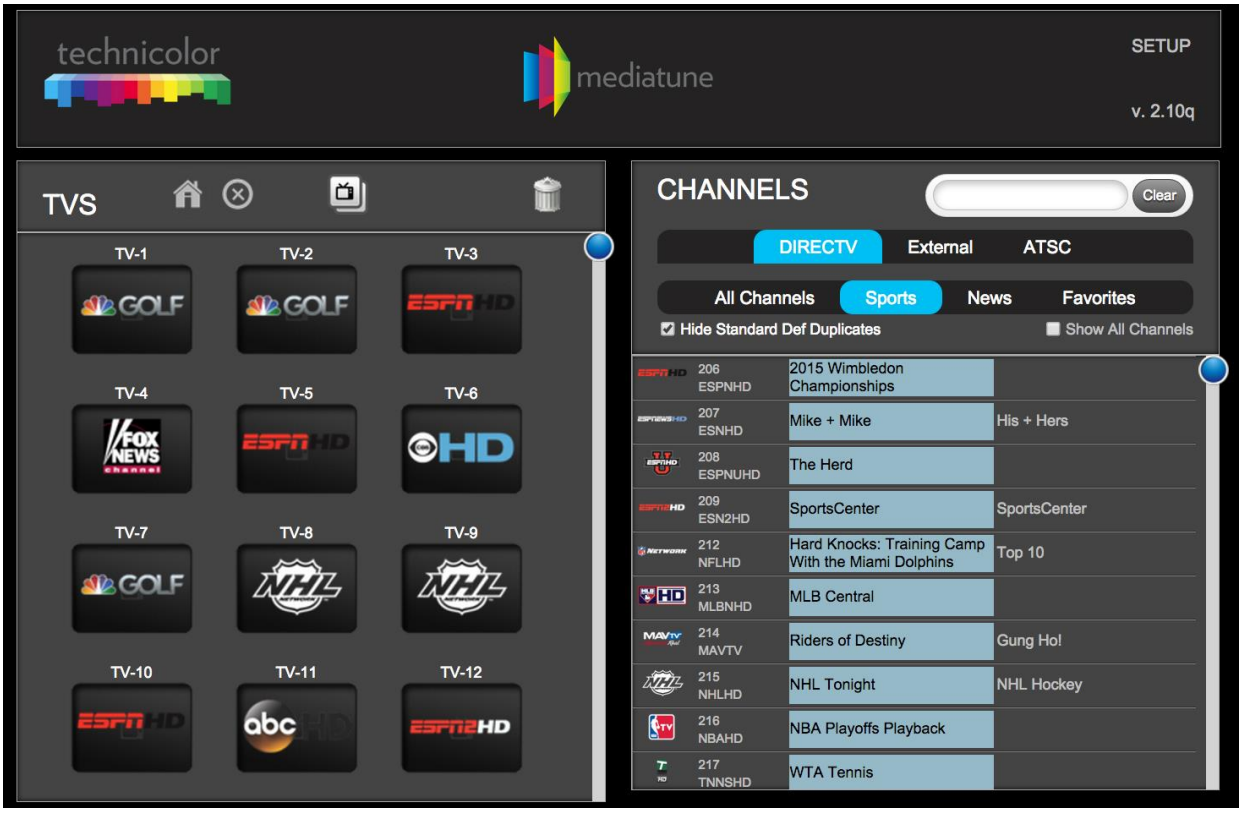
Upload a file to the TFTP server at 10.45.48.7
Choose File No file chosen Upload

This is a big file with lots of zipped images. Please allow 3-5 minutes after you have made this transfer to move onto the next step.

WAIT 3-5 min….

Use Chrome on the PC to browse to the following IP address.

192.168.3.18/mt/mediatune.html, where 192.168.3.18 is the IP address of the card containing Mediatune.



Success!

Configuring Mediatune

By default Mediatune will utilize all the tuners available in the system. If you have several COM46 cards, Mediatune will automatically assume that all of these tuners are an available resource. If you are combining the Mediatune application in a system where you do not want Mediatune to access or control other tuners, such as a free-to-guest channel ring, you will have to restrict the tuners by editing the tunerfilter.xml file found here: 192.168.3.18/mt/MTeditor.html.

An example XML file is listed below. In this example, only the card in chassis 1, slot 1 will be utilized by the Mediatune application. Note: You must include an <index>8</index> in the tuner filter list, otherwise the filter will not be accepted by Mediatune.

```
<filterList>
<filter><chassis>1</chassis><slot>1</slot><index>1</index></filter>
<filter><chassis>1</chassis><slot>1</slot><index>2</index></filter>
<filter><chassis>1</chassis><slot>1</slot><index>3</index></filter>
<filter><chassis>1</chassis><slot>1</slot><index>4</index></filter>
<filter><chassis>1</chassis><slot>1</slot><index>5</index></filter>
<filter><chassis>1</chassis><slot>1</slot><index>6</index></filter>
<filter><chassis>1</chassis><slot>1</slot><index>7</index></filter>
<filter><chassis>1</chassis><slot>1</slot><index>8</index></filter>
</filterList>
```

Paste this filter in the field, then select SAVE.

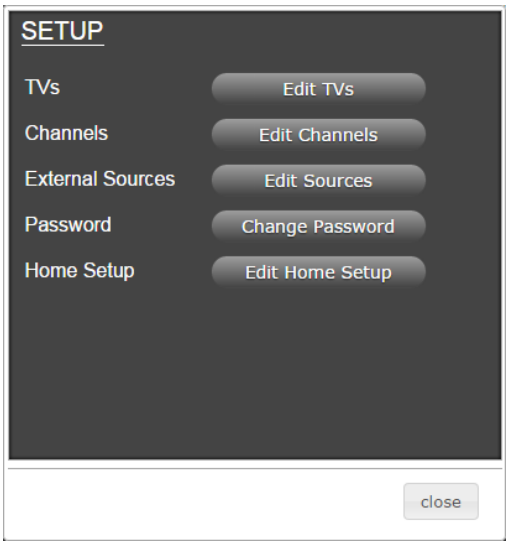
MEDIATUNE 2.0 SETUP

Entering Setup

Click on the SETUP link within the Mediatune interface. The default password for SETUP is "1234". Note: Please use a PC and CHROME to configure Mediatune 2.0 as some of the items do not display well on an IPAD running Safari.

Configuring Output Zones: "Edit TVs"

Mediatune 2.0 is very flexible as to which QAM channels are assigned to the output TVs. This is a significant improvement from our first generation product where the outputs where non-configurable. By default, 24 output zones are pre-configured in the application. You can use, edit or delete these as needed in by entering the setup



Select "Edit TVs" to configure the output zones. The allows you to edit, the will delete a zone. You can add more zones if needed by selecting "Add New TV" at the bottom.

Each IP address and port number listed in this page will result in the TV name being associated with the QAM channel also associated to the IP address and port. There are no restrictions for assigning these channels other than you should not use more than 2 HD streams per QAM channel and no more than about 60 outputs in a system. You are allowed to add QAM units in a separate chassis in order to expand the potential output of the system.

For instance, in chassis 1, you may have a total of 48 outputs using QAM1 at 192.168.6.2 and QAM2 at 192.168.6.18 both utilizing 2 HD streams per QAM channel. You can add a second chassis with QAM's at 192.168.6.3 and 192.168.6.19 respectfully which can also be configured as and output zone. Remember, 2 streams only per QAM channel!

Configuring Channels: "Edit Channels"

This will allow you to setup the DIRECTV channels displayed on the interface. By default all the DIRECTV channels, including all the possible local channels within the spotbeam of the satellite broadcast will be available on the interface. You can limit this view such that the property owner can easily find the channels contained in their programming package and identify the correct local channels for display in the interface. Take the time to identify the correct local channels and only select the versions with the correct channel number, call letters and the –HD option.

Removing a range of channels. One feature new to Mediatune 2.0 is the ability to remove a large range of channels from the display. For instance, you may want to remove all the PPV channels in the 100-199 range as well as all the movie channels in the 500-599 range. You can do this within the interface by entering the desired range, then selecting HIDE.

HINT: Mediatune does not know what channel package has been authorized by DIRECTV for the COM46 cards, so it is recommended to page through the channel setup screen to display only the channels authorized. This will reduce the possibility of unauthorized messages coming to the TVs when an unauthorized channel is dropped on a zone.

External Content

One of the most versatile features of Mediatune 2.0 is the ability to accept an external input and route it through to any of the output zones, just as the interface handles the DIRECTV channels. An example of an external input could be a digital signage source, in-house video such as a networked video camera or a DVD player, or even an HDMI or other video product which is connected to a IP video transcoder (Blonder Tongue or ZyCast).

By default, there are 4 external source identifiers pre-configured in the interface. You can edit the names of these in the SETUP screens. The COM46 card running Mediatune 2.0 has set port numbers tied to the input of these sources shown below:

Address of the card running Mediatune 2.0 = 192.168.3.18 (this may be different in your setup)

Ext 1: 192.168.3.18:999

Ext 2: 192.168.3.18:998

Ext 3: 192.168.3.18:997

Ext 4: 192.168.3.18:996

Etc..

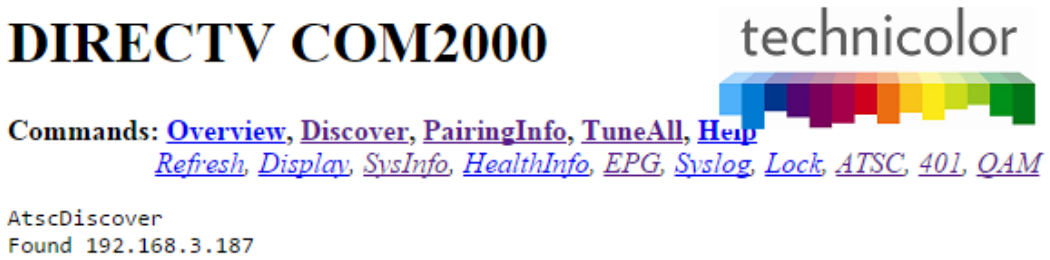
You can set up as many external input sources as you wish, keeping in mind that the output limitation of output zones is still around 60 TV's.

Setting up an ATSC Tuner

One more external source you can bring into the Mediatune 2.0 management system is from the ATSC-8 device from Technicolor, or you may select a smaller HDHomerun tuner from Silicon Dust. This allows the property to view and manage content which potentially is not available from DIRECTV or can serve as a backup source in the event of rain-fade or service interruptions. In our example, we will utilize the ATSC-8 device as the setup is an extension of the standard configuration of the device shown in the COM2000 integrators manual.

The channels displayed in the ATSC View are preconfigured utilizing the Indianapolis market. You may edit or delete these by changing the 'atscchannels.xml' file found at 192.168.3.18/mt/MTeditor.html.

First verify you can discover the ATSC device in the COM46 interface. From the ATSC screen, press DISCOVER at the bottom of the page. You should see the words "FOUND" followed by an IP address.



Return to the ATSC page and configure each of the tuners which you'd like Mediatune to control. Only the tuners and IP addresses listed and saved will be made available to the Mediatune application. Below is an example of the commands used.

```
192.168.3.187 0 25 3.0 192.168.3.2 1000
192.168.3.187 1 21 1.0 192.168.3.2 1001
```

Click SAVE and RUN

You will notice that content is being sent to the PC who's IP address is 192.168.3.2. This command is simply to allow the ATSC receiver to make the tuners aware in the Mediatune application. If you have more tuners available to be used, simply expand the example.

Also, you will notice that in this example the program numbers are being used to properly tune the ATSC-8 device rather than the virtual channel numbers. If virtual channels are preferred, you will have to roll back the firmware on the ATSC-8 to 20120405 available from your distributor. If you utilize virtual channels, your tuning commands will look like this:

```
192.168.3.187 0 25 6.1 192.168.3.2 1000
192.168.3.187 1 21 20.1 192.168.3.2 1001
```

Editing the Channels in the ATSC List

Browse to 192.168.3.18/mt/MTeditor.html and select "atscchannels.xml" and press LOAD. You will see a list which has been pre-configured for the Indianapolis market. Each channel has two entries, the first entry is for tuning by virtual channel, the second entry is for tuning by program number. You may delete the set of entries which does not match the version of firmware you are running on your ATSC device. Below is an example of a complete entry.

```
<atscchandesc>
<major>3</major>
<minor>0</minor>
<freqIndex>45</freqIndex>
<desc>ATSCB 59.1</desc>
<dtvch>59-65535</dtvch>
</atscchandesc>
```

In this example, RF frequency index 45 will allow me to tune program 3.0 which corresponds to virtual channel 59.1. In the Indianapolis market, this corresponds to FOX 59, WXIN. You are free to put whatever name or title you'd like in the <desc> field. By putting the DIRECTV local channel number, the Mediatune interface will associate the DIRECTV data from channel 59 with this entry.

All channels are displayed in the order they are presented in this list, so if you'd like them in numerical order, start with the lowest numbers, then add channels below increasing in value. When completed with this file, click SAVE, then exit into Mediatune 2.0 to view your results. You may have to hit the Technicolor logo to refresh the interface.

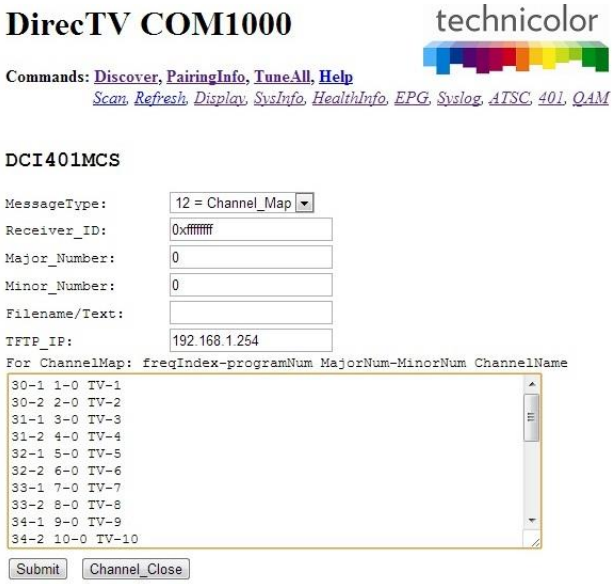
Setting up the TVs

Mediatune is designed such that a TV is set to a specific QAM channel and does not change. Once set to the correct channel, there is no reason to change the channel on the TV or on the DCI401MCS. Based on the chart above, each zone can be assigned to a specific TV or to several TVs tied together as one zone. Once the TV has been set, you may try to lock it to that channel via the user interface so that accidental channel changes do not occur with an IR remote control.

If you are using a DCI401MCS device to receive the Pro:Idiom encrypted MPEG4 content from the COM1000, you can perform a couple tricks to assure that you are on the correct channel as well as prevent any accidental channel changes.

Channel Map all the DCI401MCS devices

Using the channel map feature of on the 401 tab, you can send a very simple channel map to each of the DCI401MCS's so that users can easily tune to the correct channel corresponding with the desired zone.



Using the setting shown above and sending the following channel map would change the channel lineup on the DCI401MCS to show RF channel 30-1 as virtual channel "1" with the title TV-1. This way, any TV marked as zone 1 can be easily identified and tuned to the correct channel. Please see the DCI401MCS Command Set Primer for more information.

```
30-1 1-0 TV-1
30-2 2-0 TV-2
31-1 3-0 TV-3
```

```
31-2 4-0 TV-4
32-1 5-0 TV-5
32-2 6-0 TV-6
33-1 7-0 TV-7
33-2 8-0 TV-8
34-1 9-0 TV-9
34-2 10-0 TV-10
35-1 11-0 TV-11
35-2 12-0 TV-12
36-1 13-0 TV-13
36-2 14-0 TV-14
37-1 15-0 TV-15
37-2 16-0 TV-16
38-1 17-0 TV-17
38-2 18-0 TV-18
39-1 19-0 TV-19
39-2 20-0 TV-20
40-1 21-0 TV-21
40-2 22-0 TV-22
41-1 23-0 TV-23
41-2 24-0 TV-24
```

Locking the DCI401MCS

Once the DCI401MCS is tuned to the correct channel for each TV or zone, it is good practice to lock the device so that it cannot accidentally change to a different channel or power off. From the DCI401MCS Command Set Primer, this can be done with the following command.

You may also lock the DCI401MCS devices by entering the Features menu via the remote control.

1. Press Menu
2. Enter 75309
3. Arrow Down to Feature Setup, press Select
4. Disable “Power Key” by pressing Select
5. Disable “Allow Channel Change” by pressing Select
6. Clear to Exit

Using Mediatune

Mediatune was designed to be a simple drag and drop style user interface. Simply click on a desired channel to watch and drop it on the TV or zone you would like to watch it on. Mediatune will do the rest to assign a tuner, tune the content, and route the content to the desired output.

 Home Button

You can set up a fixed "Home" configuration so that at any time you can easily tune all the TVs to a known desired output. Once you have all the zones playing the desired configuration, enter SETUP and click "Save Home Setup". Now anytime you press the Home button, Mediatune will revert back to this known desired configuration.

 Clear All

If you'd like to clear all the tuners, simply click the clear all button. You will be prompted to confirm.

 Tune All

If you'd like all the TVs or zones to play the same channel, drag the desired channel to the Tune All button. You will be prompted to confirm, then all TVs will tune to the desired channel.

 Clear TV

If you'd like to clear a specific TV, you can drag that TV to the trash can icon. You will be prompted to confirm.

General Tip, Tricks and Best Practices

- Mediatune 2.0 is always accessed via the web page XXX.XXX.XXX.XXX/mt/mediatune.html where XXX.XXX.XXX.XXX is the IP address of the card containing the Mediatune files. If you are using a wireless network to connect an iPad or other tablet device, you must make sure you have a very good wireless signal in all areas where the wireless devices are used. It is good practice to

always have a connected PC running Chrome wired directly into the network to insure a good connection to the interface.

- On the iPad, you can save the Mediatune 2.0 web interface to the home screen by selecting “Add to Home Screen”. This will provide an icon you can click on the home screen which takes you directly to Mediatune.

- If you are using an iPad, it is helpful to permanently mount the device with a connected power supply. If on a power supply, you can prevent the interface from timing out by setting the Auto-Lock to Never. You can turn on and off the device from the Sleep/Wake button on the top corner.

Let’s Double Check

- You must include an <index>8</index> in the tuner filter list, otherwise the filter will not be accepted by Mediatune.
- Please use a PC and CHROME to configure Mediatune 2.0 as some of the items do not display well on an iPad running Safari.
- Remember, 2 streams only per QAM channel!
- There is no reason to change the channel on the TV or on the DCI401MCS. Throw the remotes AWAY!

Mediatune 2.0 was designed to work with the CHROME browser on the PC and the Safari browser on the iPad. While you may be able to get other browsers to work, you will have the best experiences using the devices which Technicolor actively supports.