



Tools for Video Analysis

# RTM Manager Application Guide

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## RTM Manager Startup

To start up the connections between the RTM units, and the manager you will need to run the following

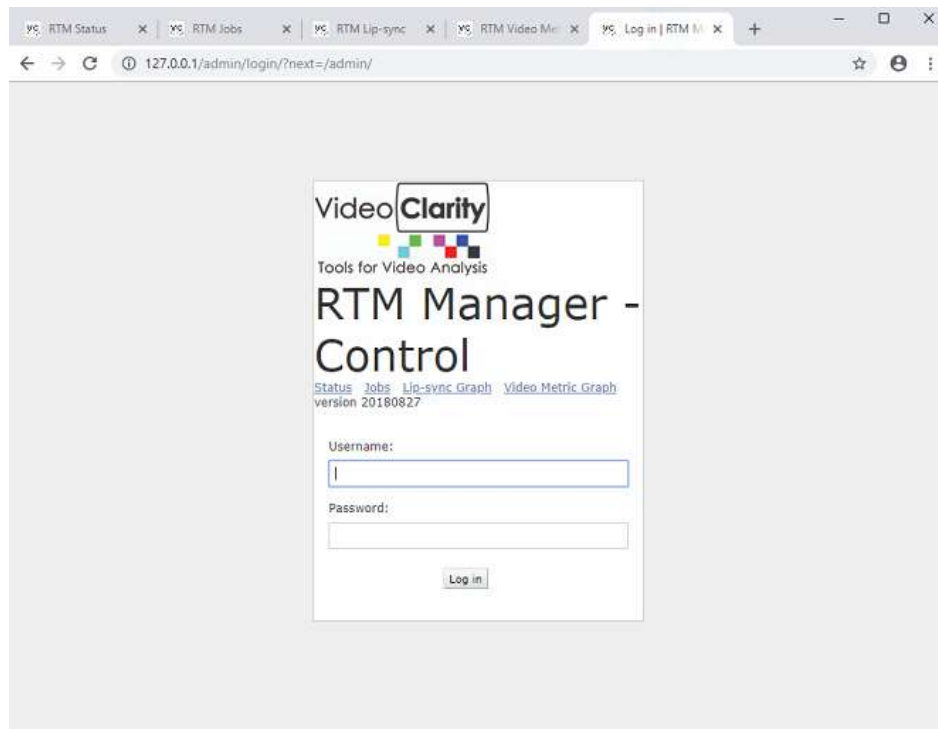
On each managed RTM unit:

1. Start RTM Server. A shortcut should be on the desktop but you can also navigate to C:\Program Files (x86)\Video Clarity\RTMonitor and run StartRTMManager.bat
2. RTM Manager Proxy. A shortcut should be on the desktop but you can also navigate to C:\Program Files (x86)\Video Clarity\RTM Manager Proxy and run StartRtmManagerProxy.bat

On the RTM Manager unit:

1. RTM Manager.bat. A shortcut should be on the desktop but you can also navigate to C:\Program Files (x86)\Video Clarity\RTM Manager and run StartRtmManager.bat

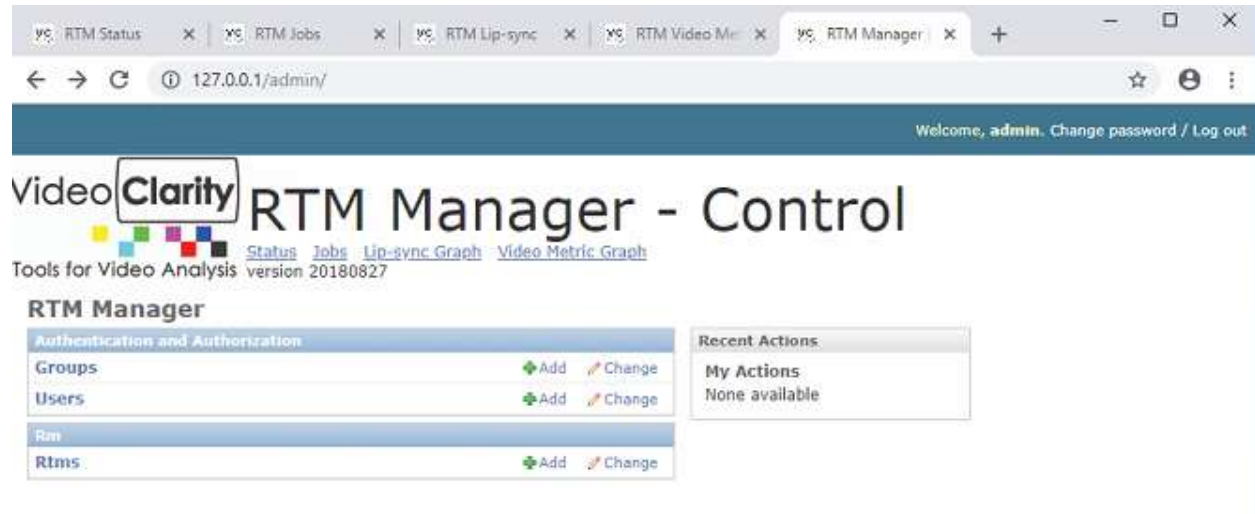
The StartRtmManager shortcut will automatically start the webserver and launch Chrome. The RTMManager home page can be accessed from other units by typing in the unit's IP address. You can use the localhost address when using the web dashboard on the Manager. That address is 127.0.0.1/admin. The default login is admin/admin.



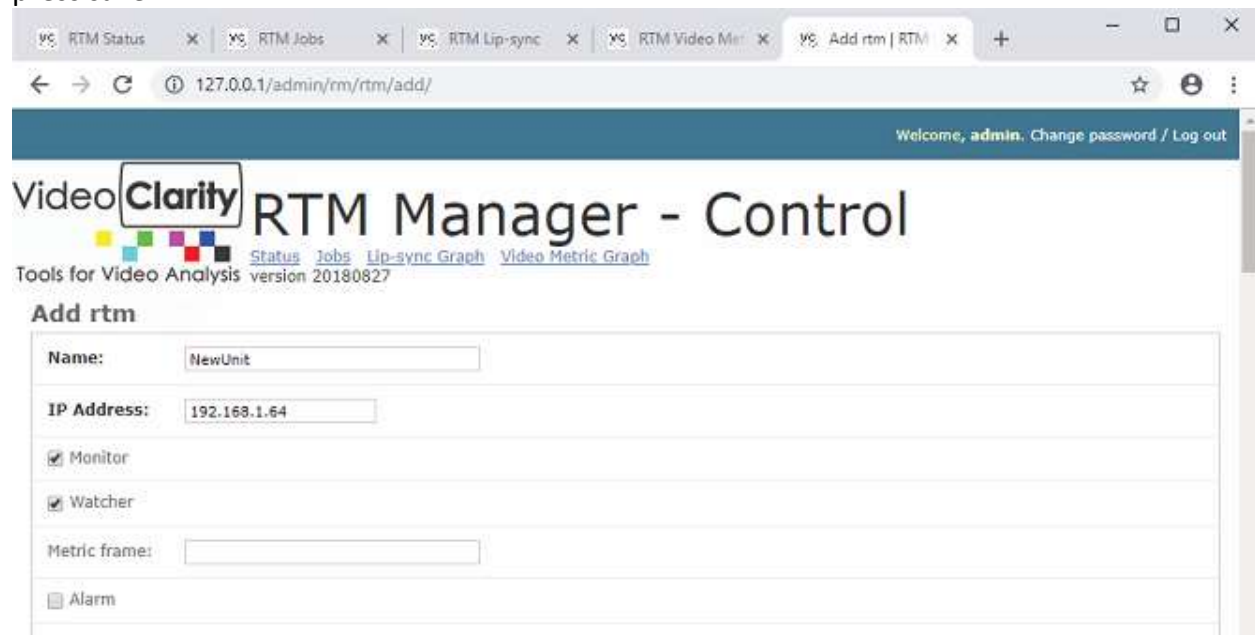
## RTM Manager Admin Page

Configuration is managed via a browser interface. Log into this interface hosted by the RTM Manager unit. Again, the default login credentials are admin/admin.

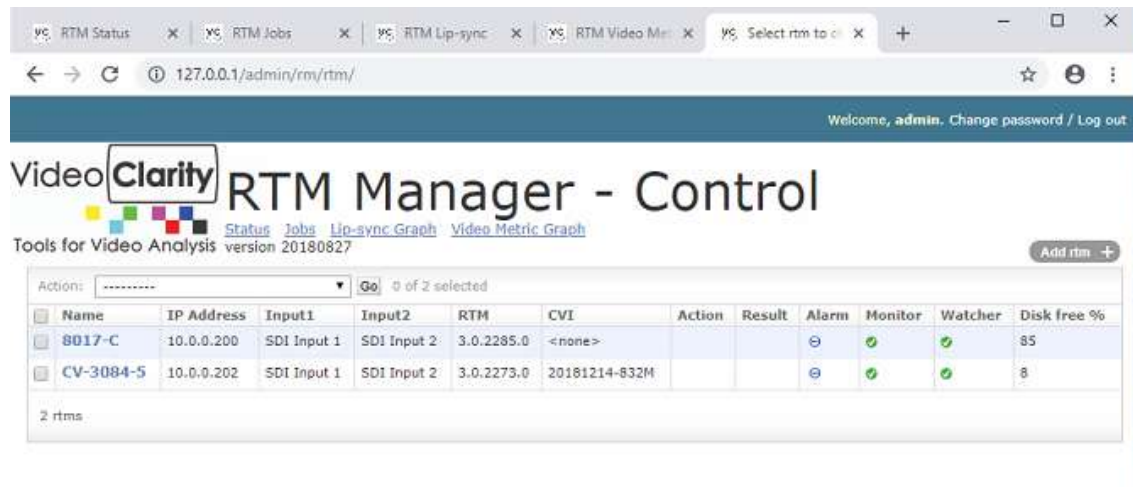
By default the RTM units with Proxy running should announce on the network that they are available to be managed. The user also has an option to add RTM units by selecting the add button next to Rtms



After selecting add you will be brought to another page. The user is required to enter the name of the unit and the IP Address of the unit. Once completed go to the bottom of the page and press save.



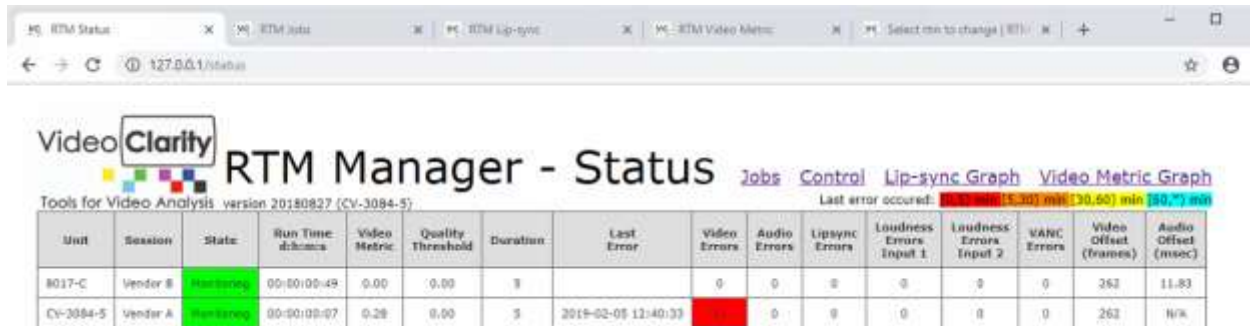
## RTM Manager Control Page



After individual RTM units have been added to RTM you can manage them from the control page. To send a command you must first select a unit, then select an action from the drop down, and press go.

RTM Manager Control Action	Description
Clear errors for selected rtms	Clears errors on remote units
Clear everything for selected rtms	Clears errors, logs, and recordings on remote units
Clear logs for selected rtms	Clears logs on remote units
Clear recordings for selected rtms	Clears recordings on remote units
Disable error alarm	Disables audible alarm on RTM Manager unit
Disable job watcher	Disables Job Watcher
Enable error alarm	Enables audible alarm on RTM Manager unit
Enable job watcher	Enables Job Watcher
Export profile to selected rtms	Exports registry settings to a remote unit for quick configuration
Graph selected rtms	Launches RTM Grapher for selected unit
Import profile from selected rtms	Imports registry settings from a remote unit
Merge metrics for selected rtms	Creates a single log file for selected units then launches RTM Manager Log Grapher
Monitor selected rtms	Enables active monitoring of remote rtm unit
Preview selected rtms	Puts remote rtm unit into preview mode
Realign selected rtms	Triggers a full realignment on remote rtm unit
Reboot selected rtms	Reboots remote rtm unit
Remove selected rtms	Removes rtm from managed list of units
Send command to selected rtms	Prompts user to send dos command to remote unit
Shutdown selected rtms	Shuts down remote rtm unit
Start selected rtms	Sends start command to remote rtm unit
Stop selected rtms	Sends stop command to remote rtm unit
Unmonitor selected rtms	Disables active monitoring session on remote rtm unit
Update selected rtms	Updates remote rtm unit with software housed in C:\Program Files (x86)\Video Clarity on Manager
View impairment for selected rtms	Launches RTM Player for uncompressed playback of recorded impairments

## RTM Manager Status



The RTM Manager Status page displays the current state of all managed rtm units which is updated in real time.

RTM Unit State	Description
Offline	The connection between RTM Manager and RTM Manager Proxy on the remote unit is down
Not Ready	The RTM Manager/Proxy connection is up but RTM Server is not running on remote unit
Stopped	RTM is in a stopped state
Previewing	RTM is in a previewing state
Aligning	RTM is in an aligning state
Monitoring	RTM is monitoring

## RTM Jobs

The Jobs tab is for automatic batch processing of files. A job is a text based file that contains specific changes from one RTM run to the next. The jobs are built around the profile feature in RTM. An RTM profile is a list of registry settings for every single configuration possible in the RTM application. The Job watcher takes the text based job, translates it to a RTM profile, then pushes it out to a remote unit for analysis.

### ***Job Filter***

The JobFilter.ini file is located in "F:\JobWatcher". As mentioned above it is used to translate simple commands from a job into the correct syntax for a profile.

Example of syntax used in the RTM Profile:  
"RTMonitor Session Name"="RTM Session 1"

Example entry in JobFilter.ini  
[Session Name]  
alias = RTMonitor Session Name  
type = string

### ***Job Text Files***

When the user creates the job they can now use "Session Name =" instead of having to use the registry syntax

Example of job entry:  
Session Name = RTM Session 1

The job filter transforms the simple entry above into the correct profile syntax.

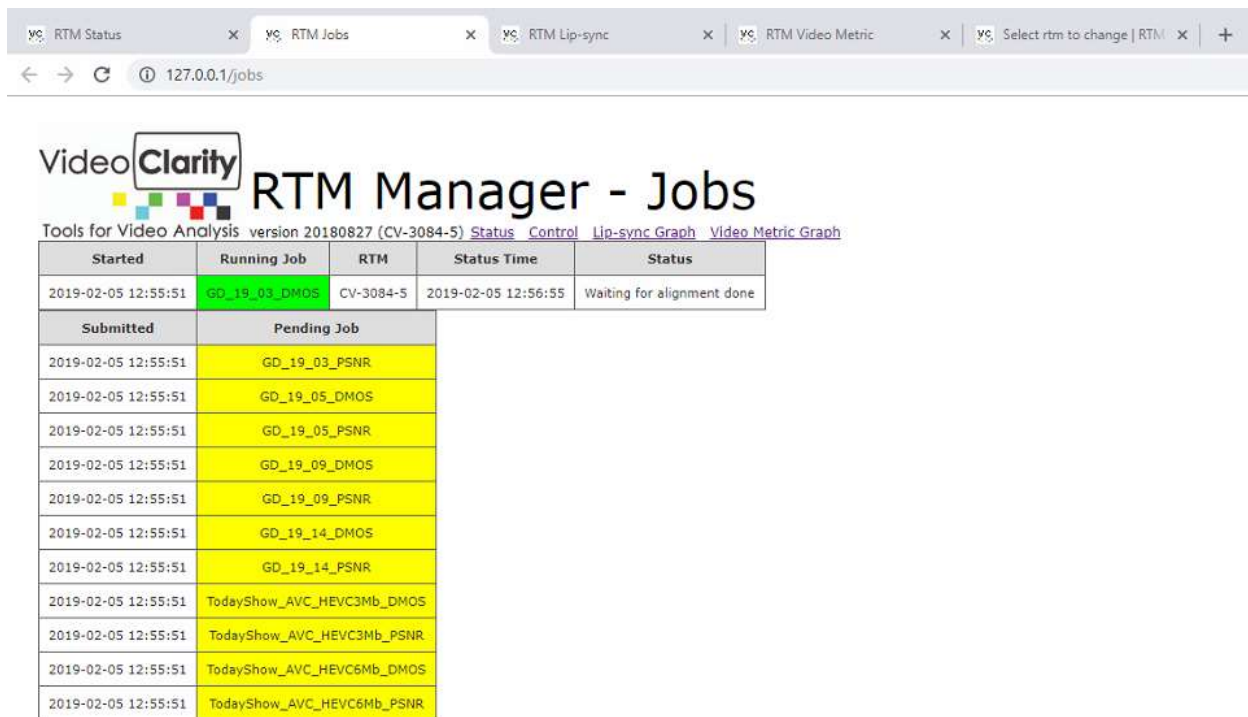
### ***Job Watcher Folder***

The Job Watcher folder is on top of the F:\ drive and is used to manage all job text files.

Subfolder	Description
Aborted	Jobs that do not run correctly are placed in aborted along with a log file describing the error
Completed	Completed jobs are moved here. The subfolders will contain all logs and impairment recordings for the job
Pending	Jobs should be placed in the folder. They will be automatically ran as rtm units become available
Running	This is the job that is currently running

## Jobs Web Dashboard

The job dashboard shows the current jobs running and jobs that have been queued to run



Started	Running Job	RTM	Status Time	Status
2019-02-05 12:55:51	GD_19_03_DMOS	CV-3084-5	2019-02-05 12:56:55	Waiting for alignment done

Submitted	Pending Job
2019-02-05 12:55:51	GD_19_03_PSNR
2019-02-05 12:55:51	GD_19_05_DMOS
2019-02-05 12:55:51	GD_19_05_PSNR
2019-02-05 12:55:51	GD_19_09_DMOS
2019-02-05 12:55:51	GD_19_09_PSNR
2019-02-05 12:55:51	GD_19_14_DMOS
2019-02-05 12:55:51	GD_19_14_PSNR
2019-02-05 12:55:51	TodayShow_AVC_HEVC3Mb_DMOS
2019-02-05 12:55:51	TodayShow_AVC_HEVC3Mb_PSNR
2019-02-05 12:55:51	TodayShow_AVC_HEVC6Mb_DMOS
2019-02-05 12:55:51	TodayShow_AVC_HEVC6Mb_PSNR

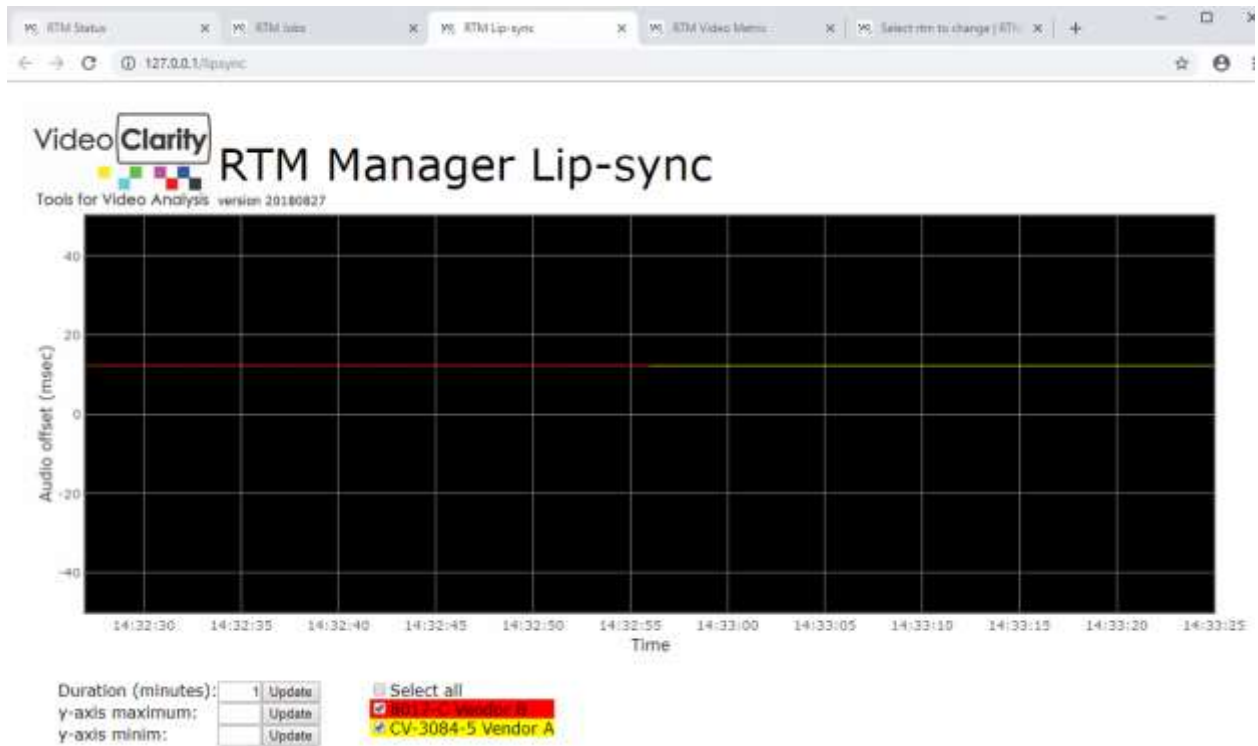
## Troubleshooting

If the job watcher gets stuck processing a job do the following:

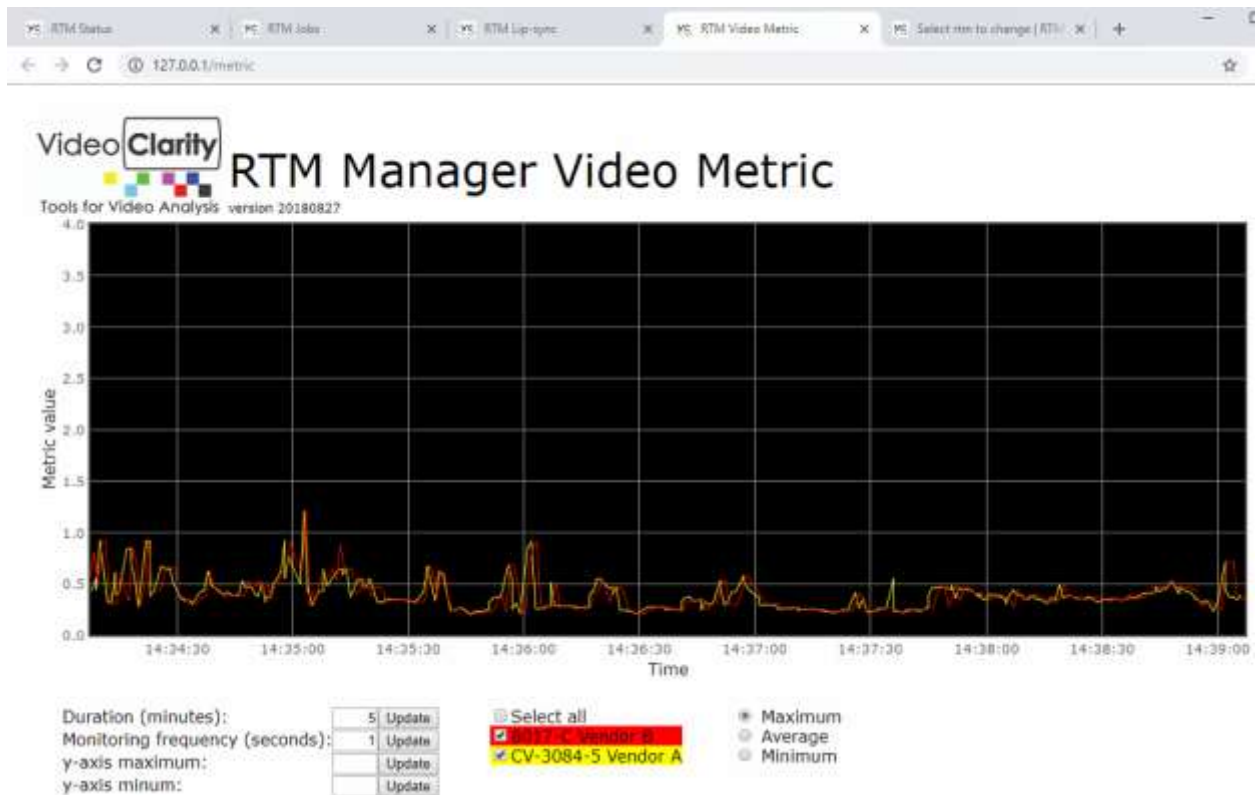
1. Stop RTM Manager
2. Delete the job in the running folder
3. Restart RTM Manager



## RTM Lip-sync



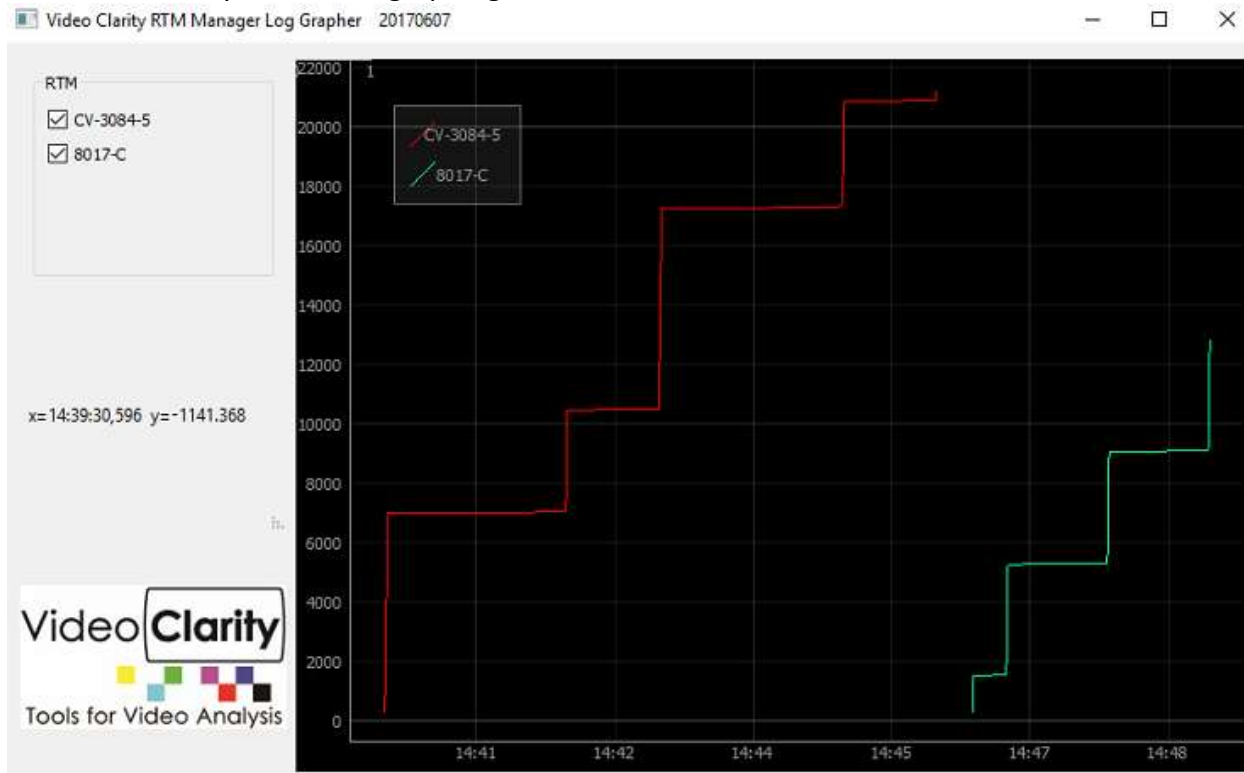
## RTM Video Metric



## RTM Manager Log Grapher

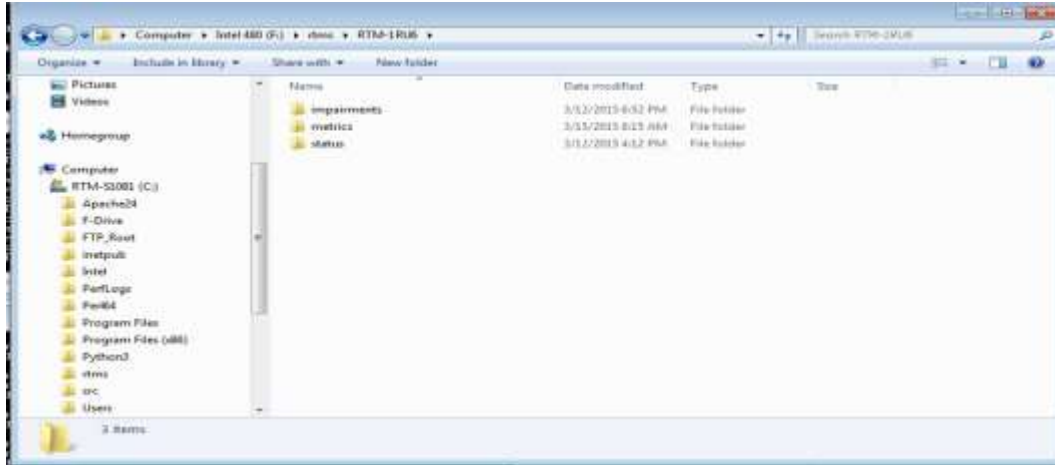
The RTM Manager Log Grapher will plot multiple rtm units on the same graph. First RTM Manager merges logs from remote units. This new log is stored in F:\rtms and called MetricMerge.log.

To initiate a merge use the merge metrics command on the RTM Manager Control page. This will automatically launch the graphing software as well.



## Viewing RTM impairments, metrics, and status

All logs from remote units are stored in F:\rtms. Each rtm directory contains three folders; impairments, metrics, and status



Impairment logs that have been transferred over to RTM Manager can be played back using RTM Player. Simply drag and drop an impairment log into the RTM Manager GUI. The recorded clips will map to the viewports automatically.

Folder	Description
Impairments	Uncompressed recordings
Metrics	Impairment logs to be dragged into RTM Player GUI
Status	Metric logs containing information about average scores

# RTM Scheduler

RTM scheduler is a tool that generates a sequence of RTM server commands according to a schedule defined by an input text file.

The input file is assumed to be called 'rtmcron.tab', and must be located in the same directory as the RTM Scheduler tool itself. The input file is tab-delimited, containing fields for :

- Date and time to launch the command sequence
- The IP address for the target RTM unit
- “,” –delimited sequence of RTM commands

If the input file is modified while the tool is running, the schedule is regenerated internally as the tool continues execution.

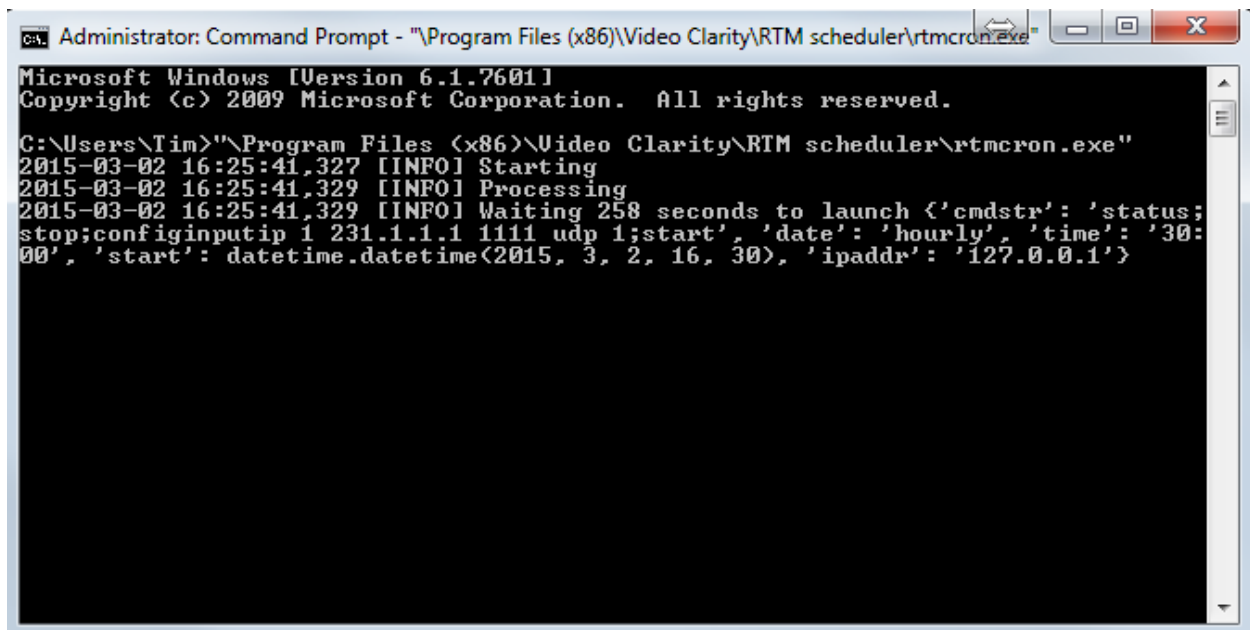
Rows may specify a "daily" schedule. This indicates that the corresponding commands should be invoked at the specified time each day.

Rows may specify an "hourly" schedule. This indicates that the corresponding commands should be invoked at the specified time each hour of each day.

## Running the Scheduler:

To start the tool, use Windows Explorer to select the tool. This will open a command window that also captures log status. Alternatively, the tool may be invoked directly from a command window. Status for all runs is logged in rtmcron.txt

The tool continues to execute as long as there exists RTM commands scheduled sometime in the future. If the input text file contains line starting with "daily" or "hourly", the tool continues to run until it is manually stopped.

A screenshot of a Windows Command Prompt window titled "Administrator: Command Prompt - \"Program Files (x86)\\Video Clarity\\RTM scheduler\\rtmcron.exe\"". The window shows the output of the RTM scheduler tool. The text displayed is: "Microsoft Windows [Version 6.1.7601] Copyright (c) 2009 Microsoft Corporation. All rights reserved. C:\\Users\\Tim>\"Program Files (x86)\\Video Clarity\\RTM scheduler\\rtmcron.exe\" 2015-03-02 16:25:41,327 [INFO] Starting 2015-03-02 16:25:41,329 [INFO] Processing 2015-03-02 16:25:41,329 [INFO] Waiting 258 seconds to launch {'cmdstr': 'status; stop;configinputip 1 231.1.1.1 1111 udp 1;start', 'date': 'hourly', 'time': '30:00', 'start': datetime.datetime(2015, 3, 2, 16, 30), 'ipaddr': '127.0.0.1'}".

```
Administrator: Command Prompt - "Program Files (x86)\\Video Clarity\\RTM scheduler\\rtmcron.exe"
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\\Users\\Tim>"\\Program Files (x86)\\Video Clarity\\RTM scheduler\\rtmcron.exe"
2015-03-02 16:25:41,327 [INFO] Starting
2015-03-02 16:25:41,329 [INFO] Processing
2015-03-02 16:25:41,329 [INFO] Waiting 258 seconds to launch {'cmdstr': 'status;
stop;configinputip 1 231.1.1.1 1111 udp 1;start', 'date': 'hourly', 'time': '30:
00', 'start': datetime.datetime(2015, 3, 2, 16, 30), 'ipaddr': '127.0.0.1'}
```

## Example 1

```

rtmcron.tab - Notepad
File Edit Format View Help
# Sample tab(s)-delimited input file for rtmcron
# Date      HH:mm:ss  IPaddr      RTM commands
2015-02-11  07:30:04  127.0.0.1   version;boardtemp
2015-02-12  09:33:02  127.0.0.1   version;boardtemp
2015-02-12  11:12:01  127.0.0.1   status
daily       12:00:00  192.168.1.35 boardtemp
hourly      30:01    192.168.1.35 status
hourly      30:01    127.0.0.1   status|

```

In this example three sets of commands will be sent at a specific date, and time. One command to check board temperature will be sent daily, and the status of two RTM's will be checked hourly.

## Example 2

```

rtmcron.tab - Notepad
File Edit Format View Help
# Change unicast every 10 minutes
# Date      HH:mm:ss  IPaddr      RTM commands
daily       00:00:01  127.0.0.1   version;versiondate
hourly      00:00    127.0.0.1   status;stop;configinputip 1 231.1.1.1 1111 udp 1;start
hourly      10:00    127.0.0.1   status;stop;configinputip 1 232.2.2.2 2222 udp 1;start
hourly      20:00    127.0.0.1   status;stop;configinputip 1 233.3.3.3 3333 udp 1;start
hourly      30:00    127.0.0.1   status;stop;configinputip 1 231.1.1.1 1111 udp 1;start
hourly      40:00    127.0.0.1   status;stop;configinputip 1 232.2.2.2 2222 udp 1;start
hourly      50:00    127.0.0.1   status;stop;configinputip 1 233.3.3.3 3333 udp 1;start

```

In this example the scheduler is telling RTM to switch unicast addresses every 10 minutes. A series of commands is separated by semicolons to check the status, stop RTM, configure the new input, then start back up again.