VMS WEB STUDIO® User Manual

Version 4.1.0

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Introducing Bartco VMS Web Studio®

BARTCO VMS WEB STUDIO® is a web-based application that runs on BARTCO's secure cloud network for maximum security and high availability. It has been developed to allow customers to interact and provide full management of their BARTCO products, including Variable Message Signs (VMS), Variable Speed Limit Signs (VSLS), Electronic Fire Danger Rating signs, Electronic Snow / Wheel Chain Rating signs and Portable Traffic Signals, etc.

VMS WEB STUDIO® is a real-time internet-based communication facility enabling live communication via cellular or satellite networks from any internet enabled PC, laptop, tablet or mobile, eliminating the need for the installation of local software.

Features include:

- Fully web based allowing remote programming from any internet enabled PC / Laptop / Tablet or mobile.
- Secure login
- Asset Management and tracking system
- Create and manage customers (perfect for hire/rental companies)
- Quick and easy operation
- Clean user-friendly interface
- Asset grouping
- Program multiple assets instantly

Phone: 1300 306 106
Email: service@bartco.com.au
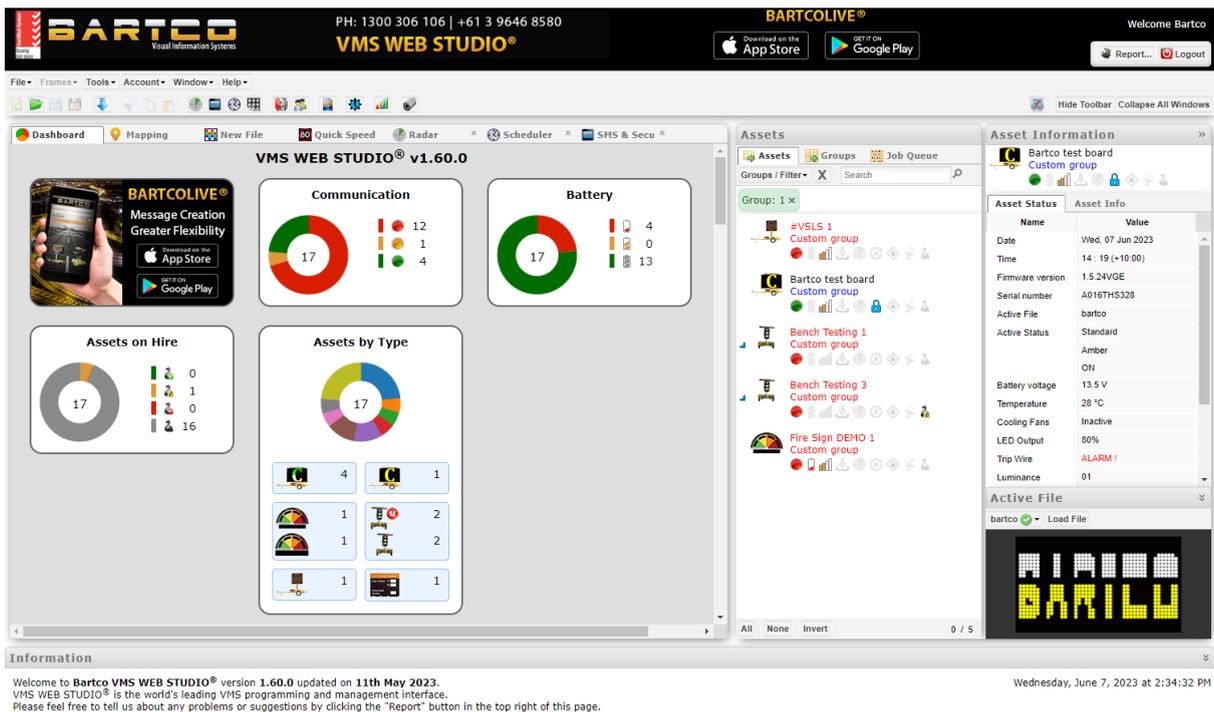
1. Logging In

From the browser address bar go to the VMS Web Studio web page: www.vmsstudio.com

Enter your username and password as received in your email.

Notes:
- If you have not been allocated a username and password, please contact Bartco to receive a user access form.
- Contact Bartco to delete a user from Web Studio
- Bartco suggests using Google Chrome as the best compatible browser with Web Studio. Google Chrome can be downloaded at the link: http://www.google.com/chrome

2. Web Studio Main Page Orientation

Dashboard provides helpful insights on assets

Real time asset's location on map

Feature / Tool tabs: Each tab represents a different operational feature

Asset list: List of all assets that user has access to.

Information panel: displays result of an action on asset

Details on asset's status like battery, active file, luminance, etc.

3.   Assets, Groups and Job Queue

3.1   Assets

All the assets are displayed in the Assets List.

Filter assets by name, type, group, etc.

Search asset by name, serial number,

Various filters applied to assets

Asset icon: type of the asset

Status icons: legends described below

Asset name

User defined Group name

Select all assets, select none, invert selection

Number of selected assets

Total number of assets in list

3.1.1 Asset's icon and status icons

Asset's icon represents type of the asset:

	5 Colour A Size		Amber A Size
	5 Colour B Size		Amber B Size
	5 Colour C Size		Amber C Size
	Portable Traffic Light - Master		Fire Sign 4 Ratings
	Portable Traffic Light – Slave		Retrofitted Fire Sign
	VSLS (Variable Speed Limit Sign)		HDA sign
	Half Size - Speed Sign		HDC sign
			Wide Size Sign

Asset shows several status icons to denote various state of an asset as described below:
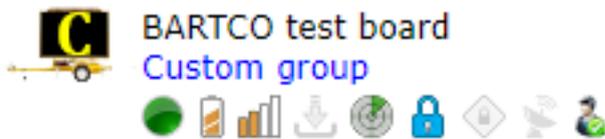
🔴 Status older than 24 hours
🟡 Asset has communicated in last 24 hour and has warning
🟢 Asset has communicated in last 24 hour

🔋 Battery Low (warning)
🔋 Battery OK
🔋 Battery Good

📶 Low signal strength (warning)
📶 Weak signal strength
📶 Strong signal strength

🔒 Locked by Web Studio
Ⓐ Automatic programming enabled
Ⓐ Automatic programming disabled

⬇ Firmware critically out of date (warning)
⬇ Latest firmware installed

Radar enabled
Radar disabled

Locked by Road Authority
Not locked by Road Authority

Satellite enabled
Satellite disabled

Asset is currently on hire to HIRE-CUSTOMER-NAME
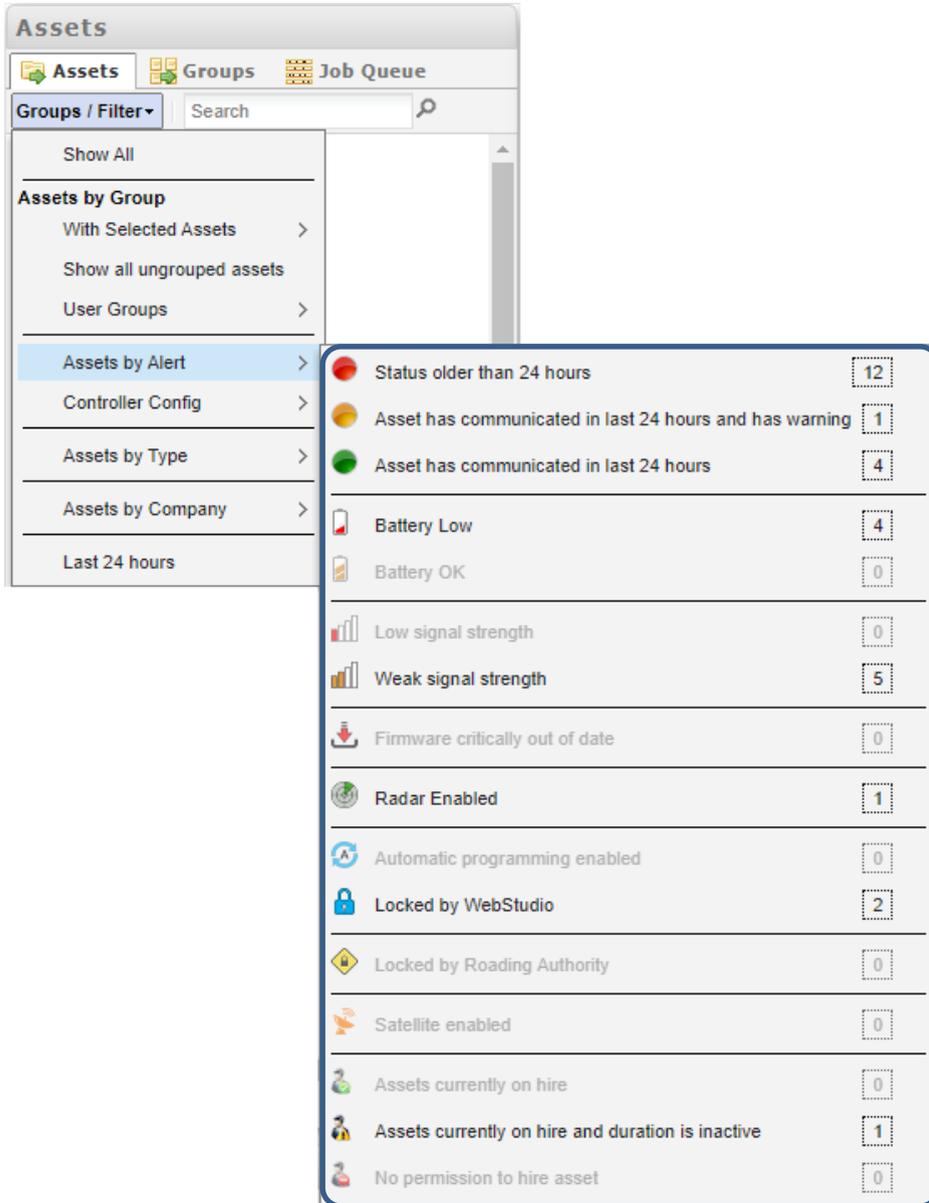Asset is hired to HIRE-CUSTOMER-NAME and hire duration is inactive
Asset is available to hire
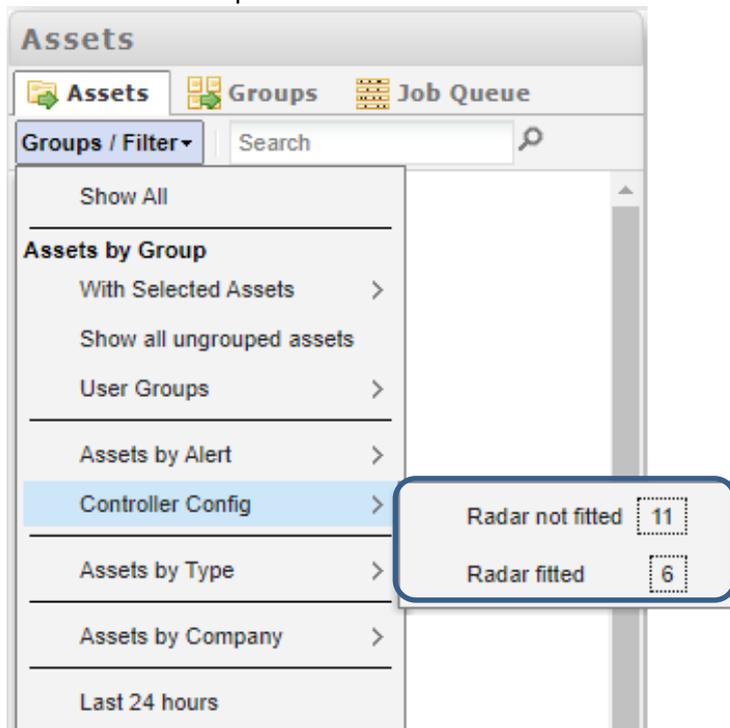No permission to hire asset

3.1.2 Filters

Filter assets by Alert, Controller Config, asset type, etc.
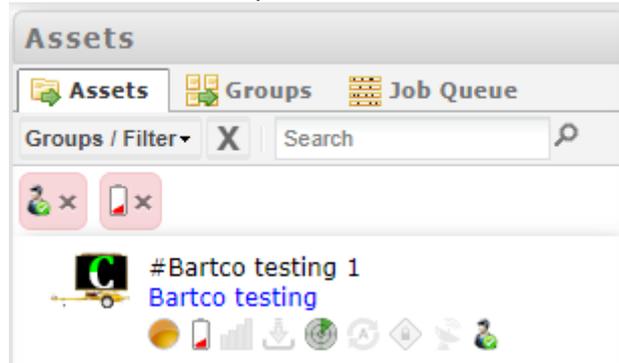
Assets by Alert menu shows below alerts:

Controller Config menu shows below options:

Various filters can be applied simultaneously to the assets list.

For example, filter all assets that are currently on hire and has low battery :

3.1.3 Quick options menu

Right click on selected asset in the Assets list to display quick options menu.
Note: this menu changes based on asset's type.

The following is an example of quick options menu on VMS:
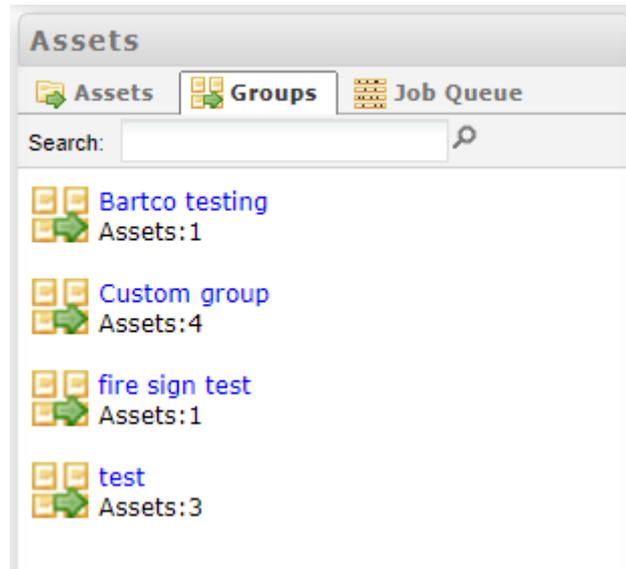

i.   Update status
       Manually update the status of asset

ii.   Blank sign
       Blank the display of asset

iii.   Wake sign
       Start displaying last message on the asset

iv.   Sleep sign
       Put asset in sleep mode

v.   Program History
       Show history of messages programmed on the asset

3.2   Groups

Very useful if you have multiple assets in your account. Assets can be grouped by one project, area, or section of roadway using user defined group name.

Selecting a group will list all the assets in that group:
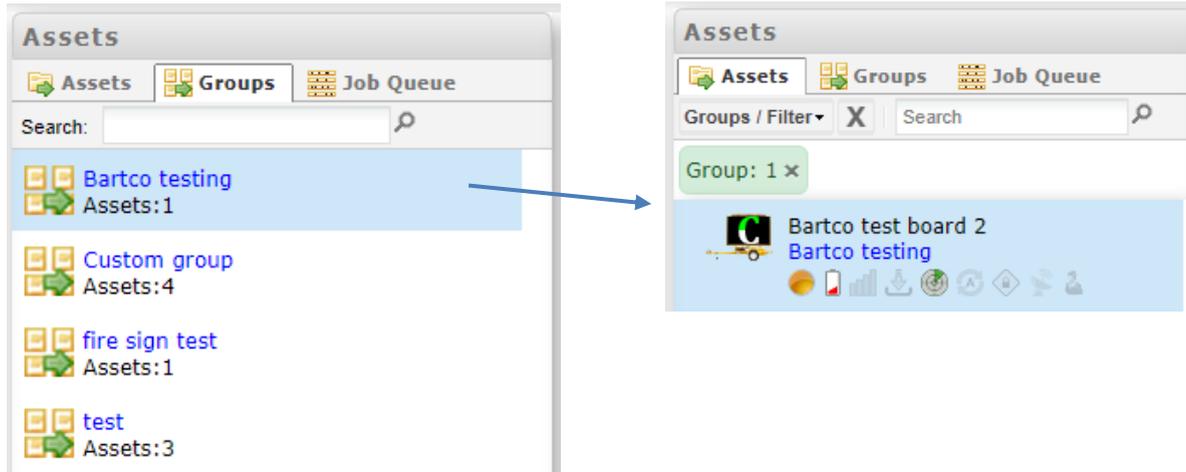
> ➢ **Group an asset using Asset Info:**

i. Select asset from Assets list

ii. Go to Asset Info

iii. Update value of the "Group" field

➢ **Group an asset using Groups/Filter:**

i. Select asset from Assets list

ii. Select Groups / Filter▾
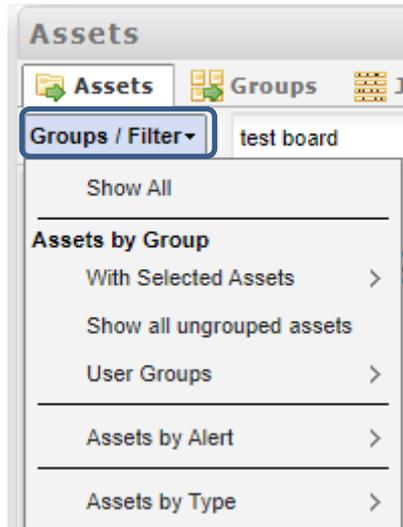
iii. Select "Move to" or "Move to new Group" option from Selected Assets menu
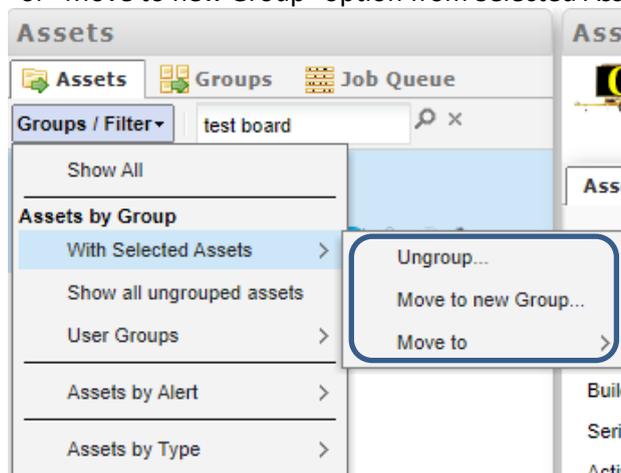
3.3 Job Queue

Upload file, updating status, etc. tasks are added in the Job Queue. When the job is completed successfully, it will be removed from the Job Queue. If there is an error in completing the job, then the error is displayed in the Job Queue.

4.   Asset Information

Click on an asset to see its detailed status.

4.1   Asset Status

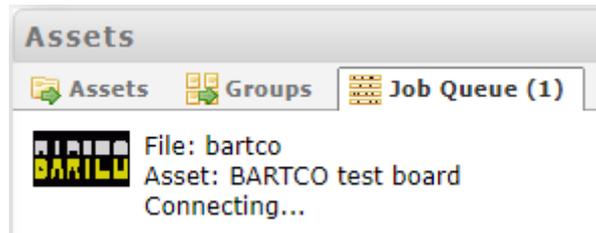The fields in the status changes based on the asset type. The below is an example of VMS:
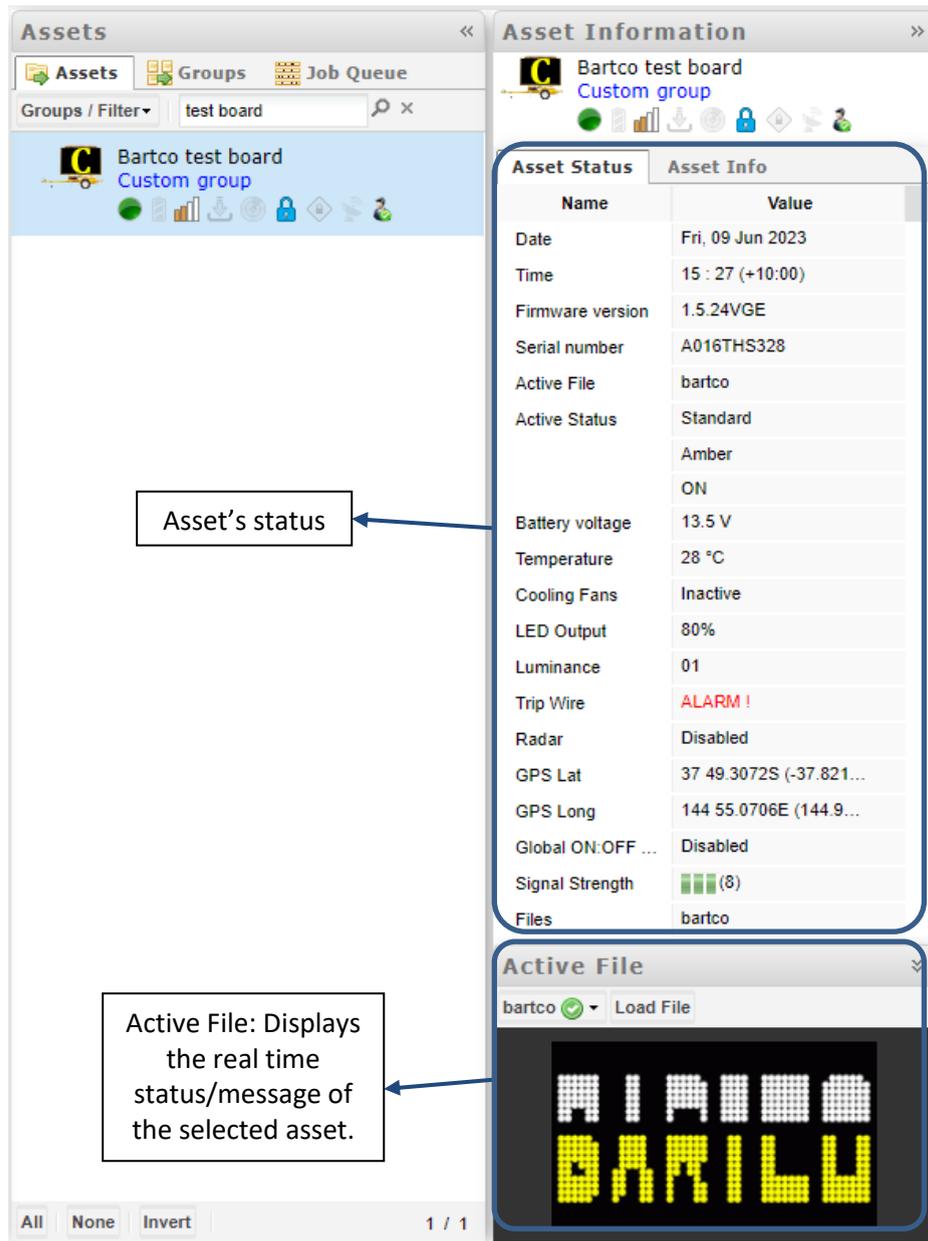
Date	Last date when asset communicated with Web Studio
Time	Last time when asset communicated with Web Studio
Firmware version	Firmware version of the asset
Serial number	Serial number of the asset
Active File	Asset is currently displaying this file
Active Status	State of the asset

Battery voltage	Battery of the asset
Temperature	Temperature of the controller in centigrade
Cooling Fans	Cooling fans are active or inactive
LED Output	Brightness of the display in percentage
Luminance	Shows level of luminance and Auto or Manual mode
Trip Wire	Tamper Alarm loop The name of this field can be set using "Input 1 Label" in Asset Info. Default value is "Trip Wire"
Radar	Radar is enabled/disabled on the asset
GPS Lat	GPS latitude of the asset
GPS Long	GPS longitude of the asset
Global ON:OFF Time	Global time to switch the display on/off
Signal Strength	Signal strength of the asset
Files	List of files stored on the asset

4.2   Asset Info

| Company	Owner company of the asset
Asset ID	Unique identified of the asset
Model / Plant type	Asset type
Label	Name of the asset (editable by user)
Client Ref	Another name of the asset (editable by user)
Group	Group of the asset (editable by user)
Trailer VIN	VIN number of the asset's trailer
Trailer Registration	Rego number of the asset's trailer
Trailer Serial	Serial number of the asset's trailer
Serial number	Serial number of the asset
Hardware Version	Hardware version of the asset
Firmware Version	Firmware version of the asset
Input 1 Label	Label for Input 1 on the controller (editable by user)
Radar Fitted	Radar is fitted on the asset (editable by user)
Special Features	Any special characteristics of the asset, such as 4G
Trailer Key	Trailer key of the asset (editable by user)
SIM PIN	Sim card PIN number (if applicable)

5. Update Status

To update the status of an asset:
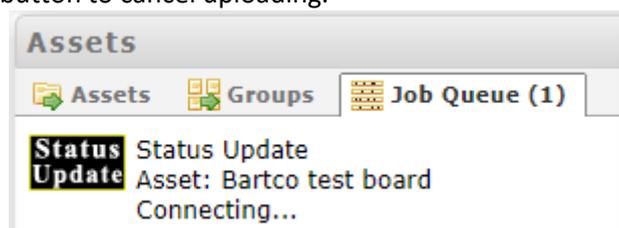
i. Select asset(s) from the Assets list

ii. Right click on selected asset(s)
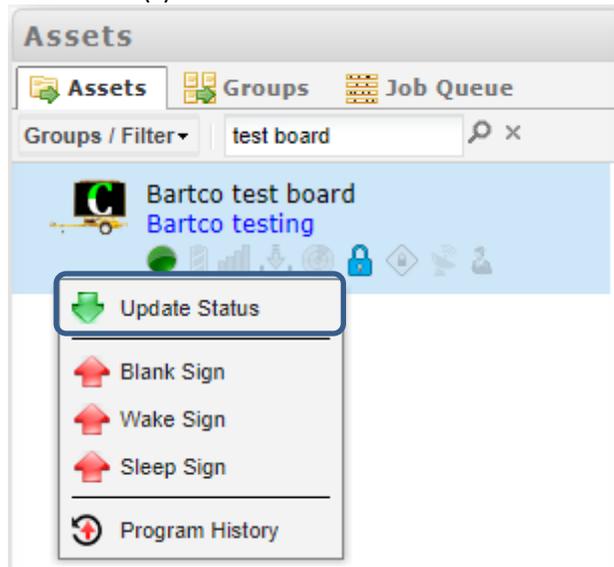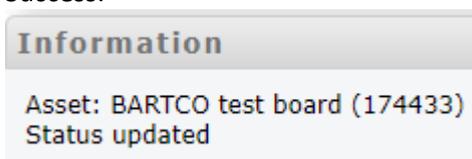

iii. The user will be prompted as follows:
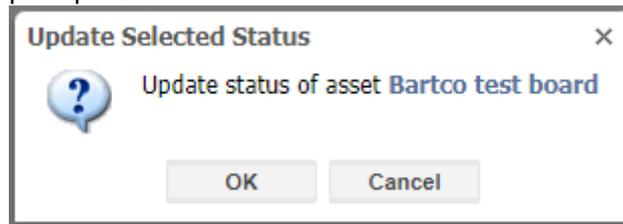
iv. Click on OK to update status of the selected asset(s). The job will appear in Job Queue. Click on Cancel button to cancel uploading.
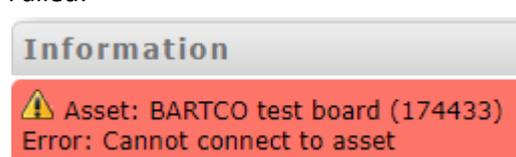

On completion, the result will be displayed in the Information panel at the bottom of the page.
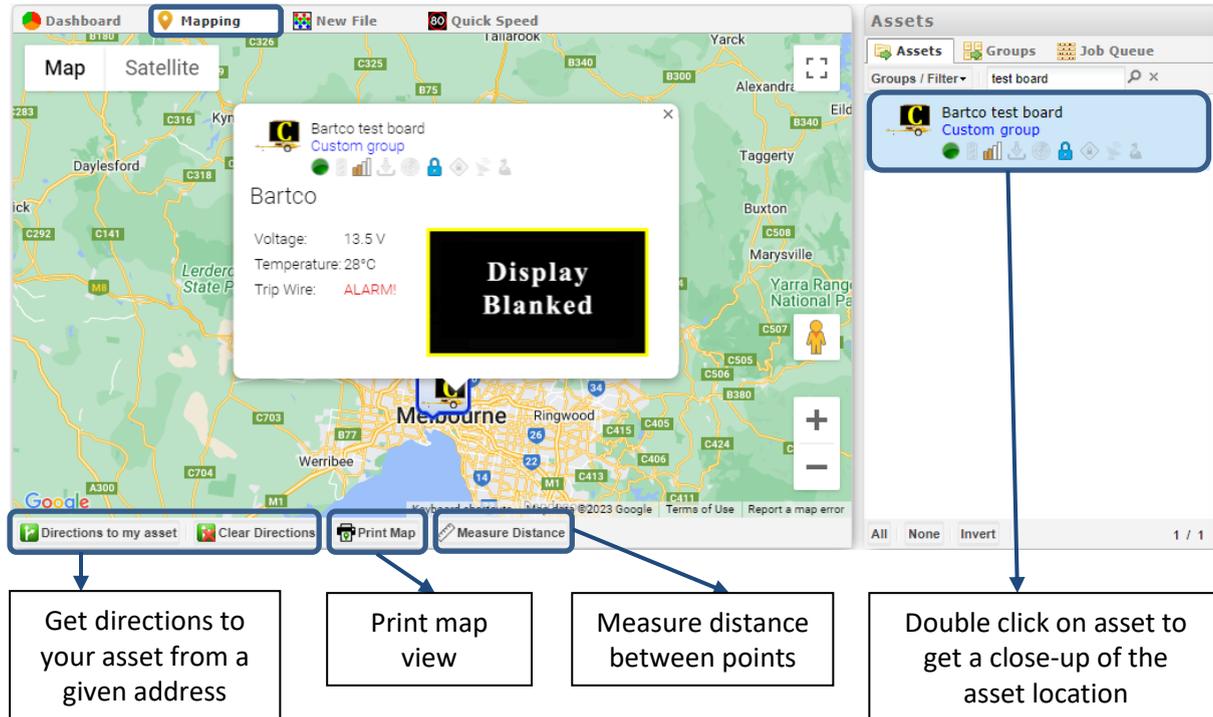
Success:

Failed:

6.　　Mapping

Bartco's assets have inbuilt tracking system. This is used to display location of assets on maps.
The location of the asset is the last known location of asset when it communicated with Web Studio.
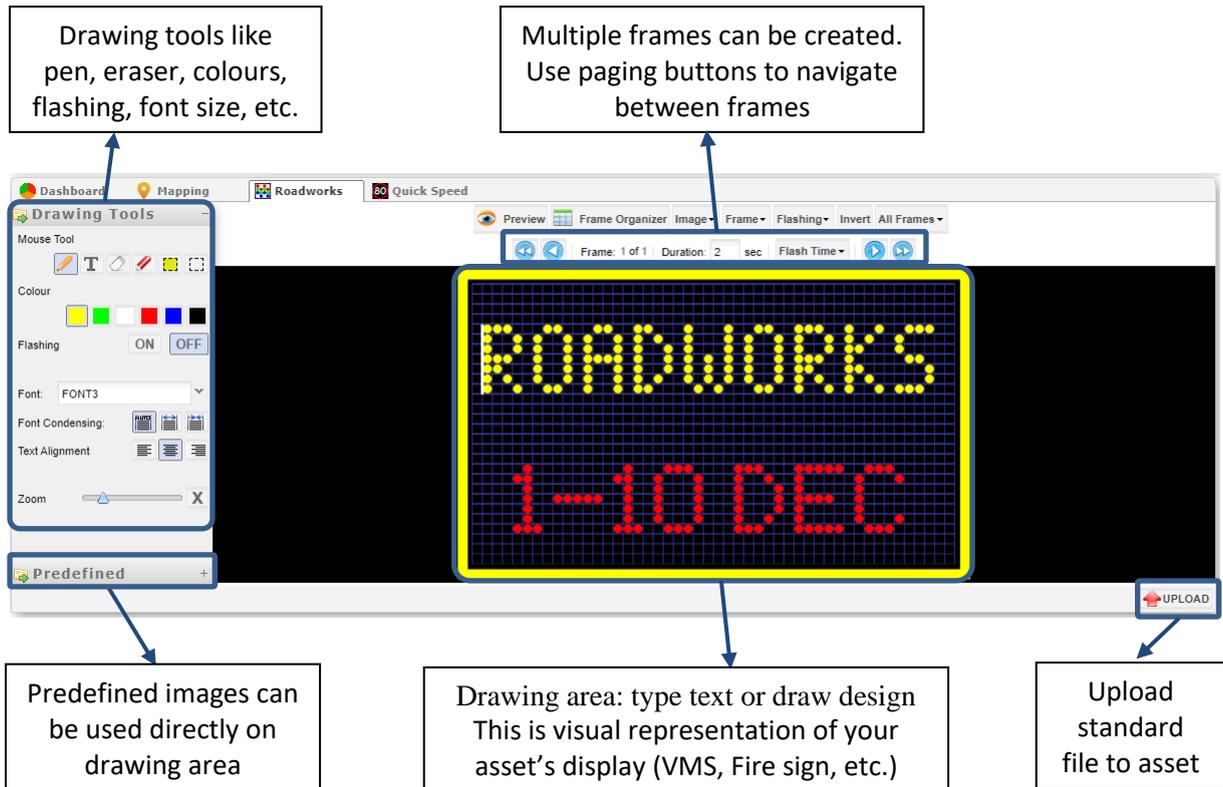

| Get directions to your asset from a given address | Print map view | Measure distance between points | Double click on asset to get a close-up of the asset location |

7. Create Message

Creating a message is undertaken by selecting the "New File" tab from the main navigation page. This tab is also known as Drawing Area which creates Standard file. Once the message is prepared and saved under a name then that name will appear on the tab instead of new file/untitled.

Drawing tools like pen, eraser, colours, flashing, font size, etc.

Multiple frames can be created. Use paging buttons to navigate between frames

Predefined images can be used directly on drawing area

Drawing area: type text or draw design This is visual representation of your asset's display (VMS, Fire sign, etc.)

Upload standard file to asset

Draw or type your desired message in the drawing area. The drawing area is scaled to be the same size as the asset (VMS, Fire sign, etc.).

The message can be typed in colour by selecting the required colour from the Drawing Tools. Different font sizes and line alignments are also available to choose.
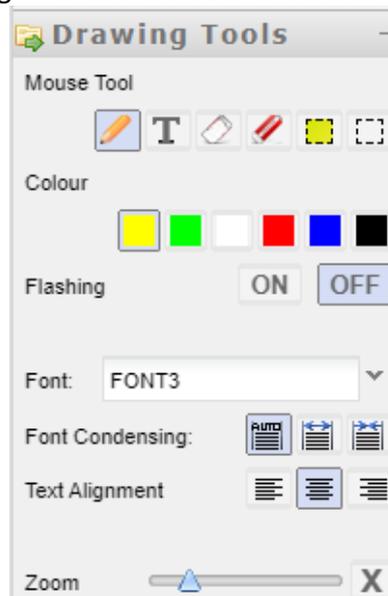
Various functions on the frame can be performed using the below menu:
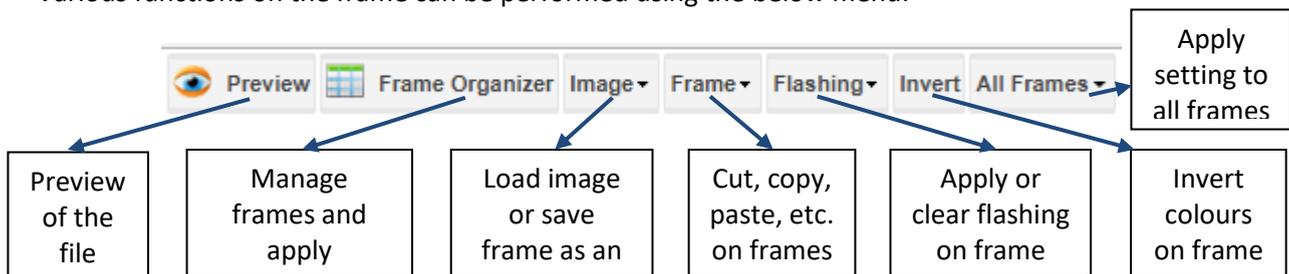
Multiple frames can be created with different frame time. Use paging button to navigates through the frames.


Frame timing can start at 0.1 of a second to create animations. Length of message, asset position and target audience should all be considered when selecting frame times.

7.1   Predefined Images

Several predefined images are available like speeds, land closure, etc. which can be loaded directly onto the frame to prepare a message.

> **To load a predefined image:**

i.   Select image from the predefined images list

ii.   Click on "Load >>" button
      Predefined image will be loaded in frame on the drawing area
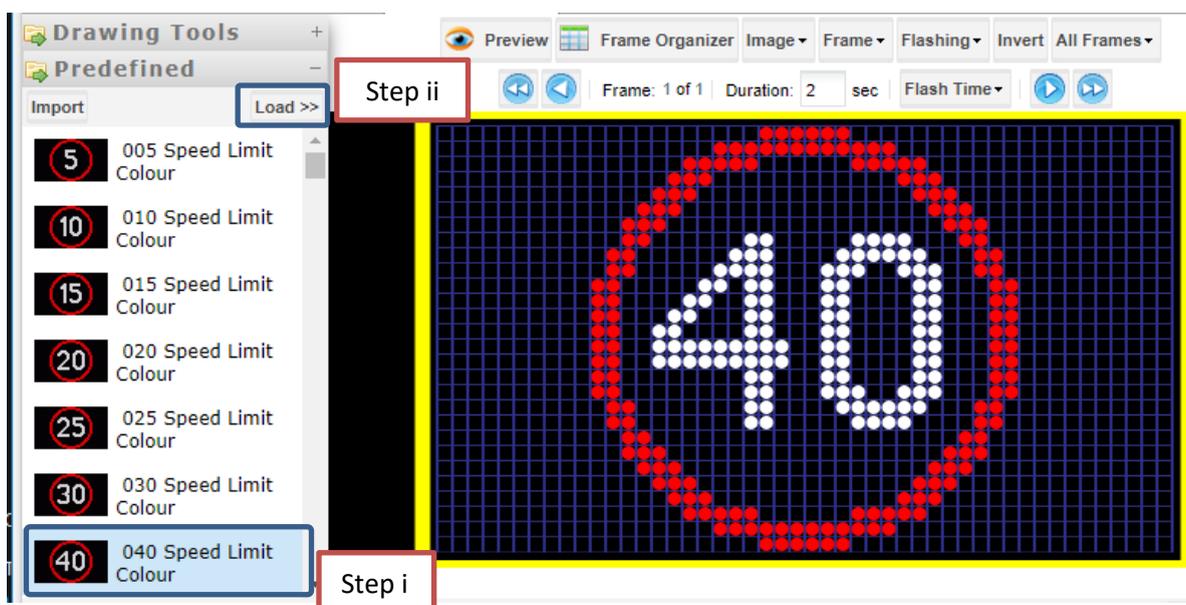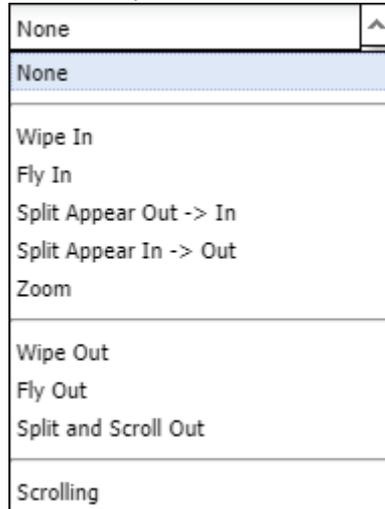
7.2   Message Transitions/Animations

More commonly VMS are being used for advertising and promotions. Web Studio has the ability to create dynamic and animated messages to enhance the appeal of your message.

To create a message transition or animation, simply create your message and then click on the Frame Organizer button from the menu.
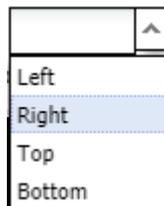
➢ **To apply transition/animation to your message:**

i. Click on desired frame to be animated in Frame Organizer

ii. Select transition/animation from the dropdown

None	∧
None	
Wipe In	
Fly In	
Split Appear Out -> In	
Split Appear In -> Out	
Zoom	
Wipe Out	
Fly Out	
Split and Scroll Out	
Scrolling	

iii. Select side

|	∧
Left	
Right	
Top	
Bottom	

iv. Set frames per second
Note: higher the frame per second, lower the speed of the animation and more the number of frames in transition.

v. Click on Apply button
The selected frame will display the preview of the transition

Transition: Fly In ⌄   Side: Left ⌄   Frames per second: 4 ⌃⌄   Apply

Please note: Higher the frame per second, lower the speed of the animation and more the number of frames will be in a transition
Transition contains approximately 9 frames

Frame 1   Frame 2
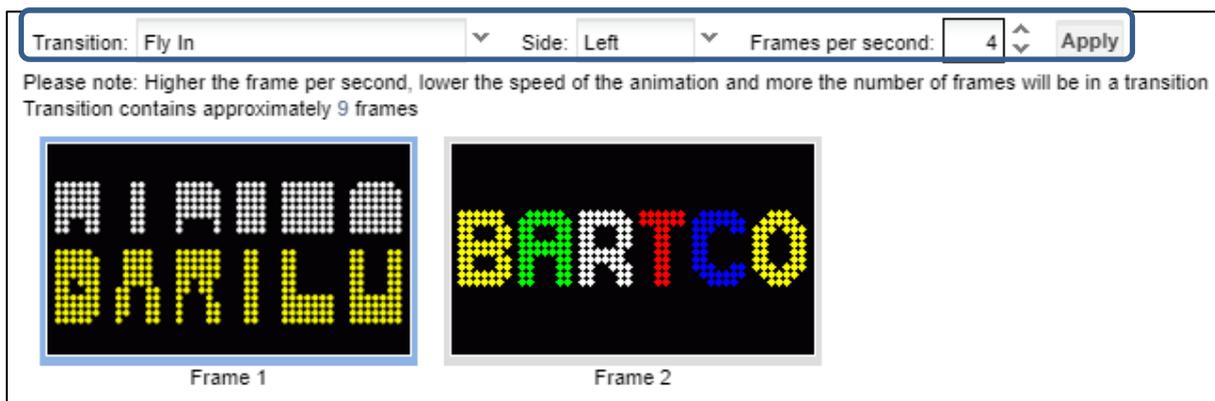
vi. After finishing applying transitions to desired frames, click on OK to save the changes and close the Frame Organizer

7.3 Preview

Check the preview of the message to see how it will look on the VMS:
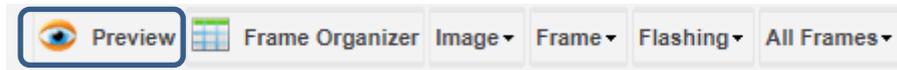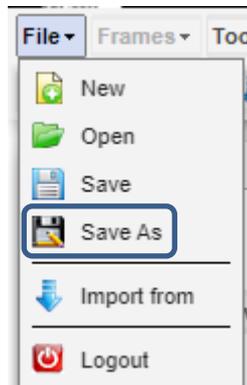

Preview of the message:
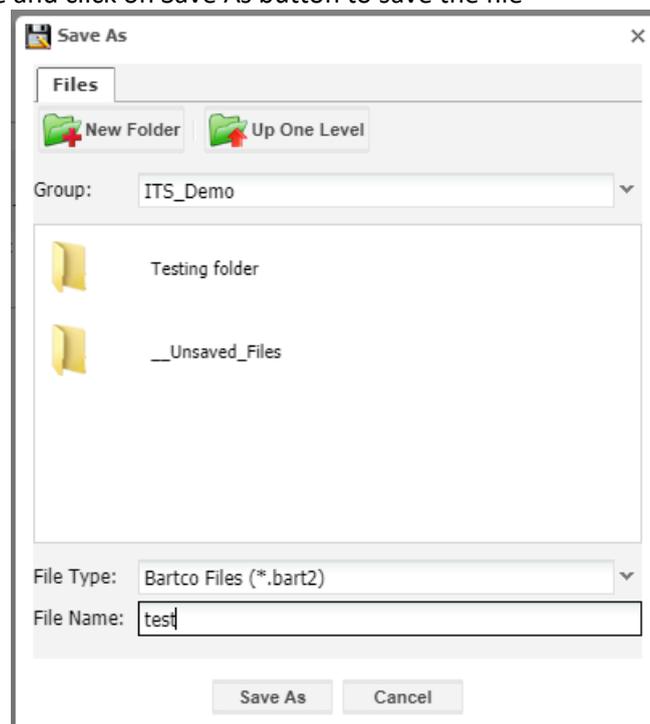
8.   Uploading file to asset

Once the file has been prepared, it can either be saved or directly uploaded to the asset. To use messages in Radar and/or Schedule, it needs to be saved first. The message is saved in the cloud and is accessible to all the users of your company using their Web Studio account.
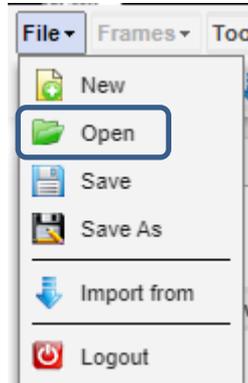
8.1   Save File

i.   Go to File -> Save As

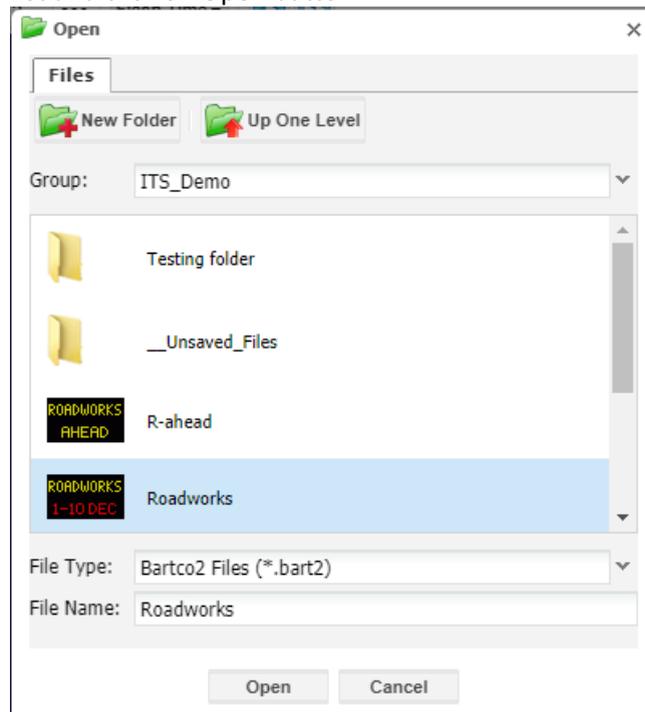ii.   Enter filename and click on Save As button to save the file

8.2 Open File

i.   Go to File -> Open

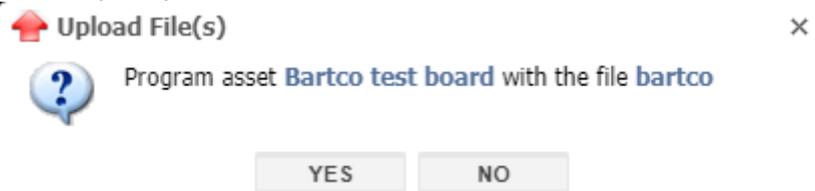ii.   Select file from the list and click on Open button
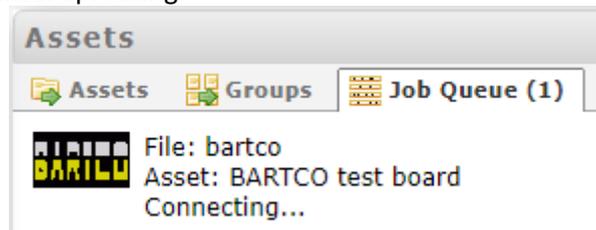
8.3   Upload saved file to asset

i.   After your file has been saved/opened, select asset(s) from the Asset list that you wish to upload the message to.
Note: Multiple assets can be programmed simultaneously by holding down the shift or Ctrl key on your keyboard when selecting asset(s).

ii.   Click on Upload button ⬆UPLOAD
The file that is open in the tab will be uploaded to the selected asset.

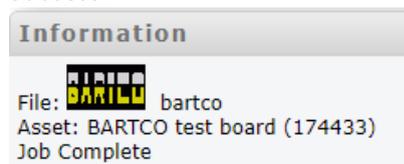iii.   The user will be prompted as follows:

⬆ Upload File(s)   ×

❓   Program asset Bartco test board with the file bartco

YES   NO

iv.   Click on YES to upload file to the selected asset(s). The job will appear in Job Queue.
Click on NO to cancel uploading.

Assets
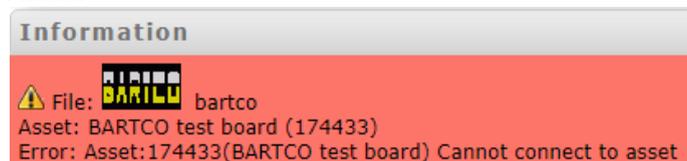
📥 Assets   📥 Groups   🗒 Job Queue (1)

File: bartco
Asset: BARTCO test board
Connecting...

On completion, the result will be displayed in the Information panel at the bottom of the page.

Success:

Information

File: BARTCO bartco
Asset: BARTCO test board (174433)
Job Complete

Failed:

Information

⚠ File: BARTCO bartco
Asset: BARTCO test board (174433)
Error: Asset:174433(BARTCO test board) Cannot connect to asset

Note: After you have uploaded your message, the active file will update with your current message and the overall asset status.

8.4 Upload file without saving

Messages can be uploaded without saving them first.

i. After your desired message is prepared, select asset from the Asset list that you wish to upload the message to.
Note: Multiple assets can be programmed simultaneously by holding down the shift or Ctrl key on your keyboard when selecting asset(s).

ii. Click on Upload button **UPLOAD**
The message will be automatically saved into your __Unsaved_Files folder.
Notes:
   - Files in this folder can be opened and resaved into another folder.
   - Files cannot be manually saved into this folder.
   - Files cannot be moved in or out of this folder with the File Manager.

iii. The user will be prompted as follows to remind that an unsaved file is being uploaded:
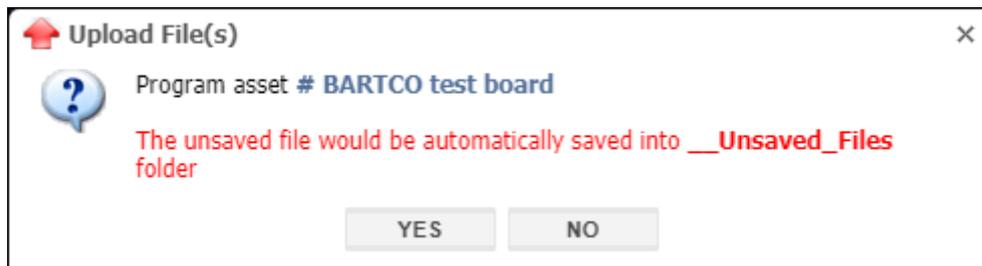
iv. Click on YES to upload file to the selected asset(s). The job will appear in Job Queue.
Click on NO to cancel uploading.

On completion, the result will be displayed in the Information panel at the bottom of the page.

Success:
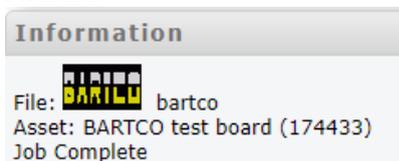
Failed:

Note: After you have uploaded your message, the active file will update with your current message and the overall asset status.
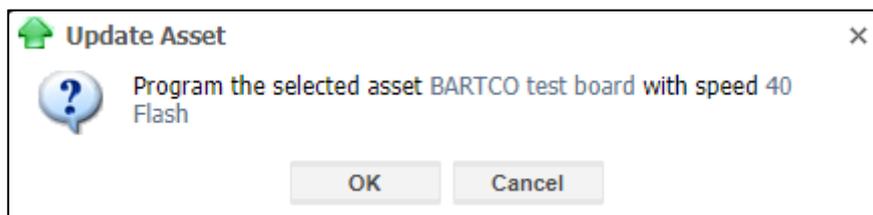
9. Quick Speed

Quick speed is designed to quickly change speed limits on VMS or VSLS assets.
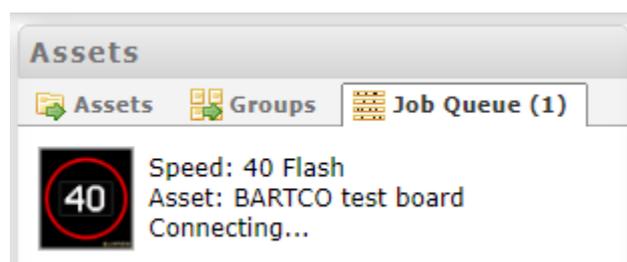
> **To change the speed:**

i.   Select speed from the dropdown list

ii.   Select asset(s) from the Assets list

iii. Click on "Upload" on Quick Speed tab
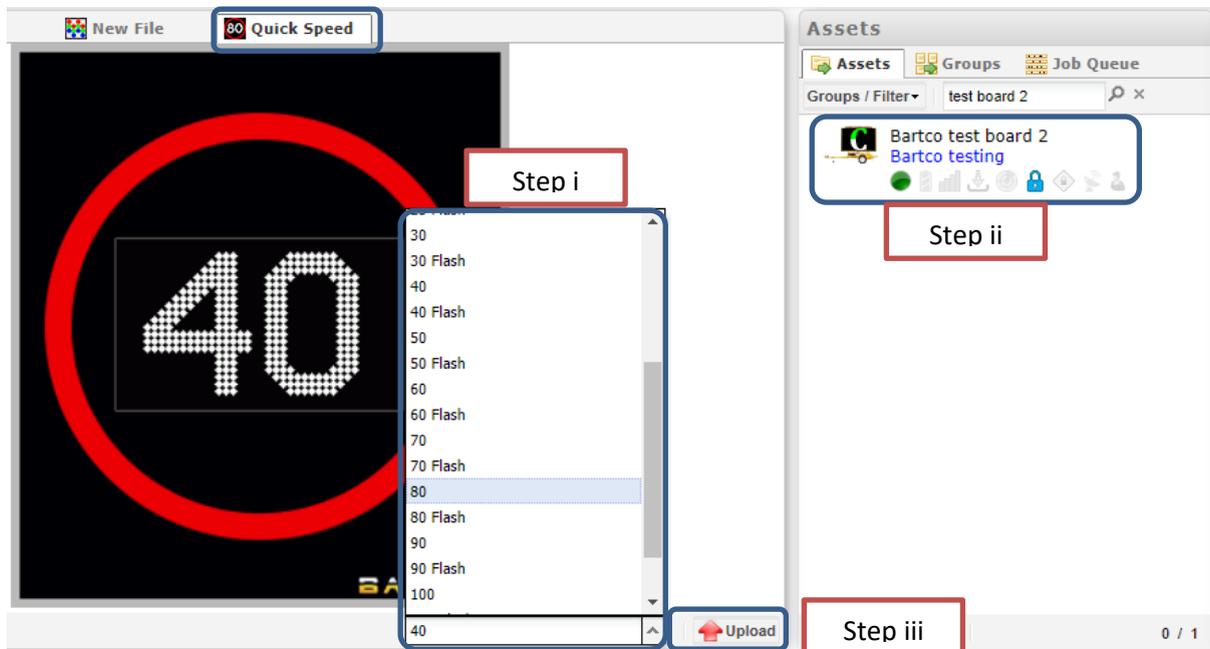
iv.   The user will be prompted as follows:

v.   Click on OK to upload speed to the selected asset(s). The job will appear in Job Queue.
      Click on Cancel button to cancel uploading.

On completion, the result will be displayed in the Information panel at the bottom of the page.

Success:

Failed:

10. Radar

Any Bartco VMS asset can become a speed advisory sign provided the asset is fitted with a Radar.

The Radar can be programmed in two ways depending on the requirement:
- Option 1: Display the detected speed only
  The asset typically stays in off mode and starts displaying the speed of the vehicle upon detection then go to sleep again. On top of detecting the speed of the approaching vehicle, the user can also set up an advisory message if the road user is going above the specified speed limit or below the speed limit.

- Option 2: Interrupt displayed message
  Instead of going to sleep/off the asset can show a standard message or speed limit message when no vehicle is present. In this instance, the standard message needs to be uploaded to the asset separately to the radar file.

The Radar feature is accessible under the "Tools" menu:

Radar feature will be displayed as follows:

Phone: 1300 306 106

Email: service@bartco.com.au

Two actions can be executed on the asset after the radar detects approaching vehicle.

The first action on the asset can be set to any of the following:
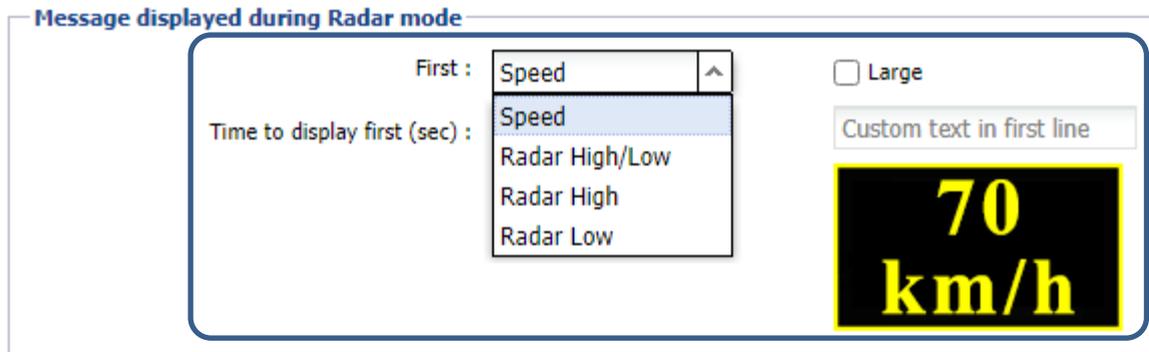
i.   Speed
      Asset shows the detected vehicle speed only, it can be shown in 2 different formats.
      Example: speed can be shown as 70 km/h or just 70 (tick Large checkbox for this)

ii.   Radar High/Low
      In this option the user can upload 2 files (Such as "TOO FAST" for speeding and THANK YOU
      for doing below the speed limit) that can advise the speeding vehicle that they are doing
      over the speed limit or doing below the speed limit without showing the vehicle speed.

iii. Radar High
      In this option the user can only upload 1 file that can advise the speeding vehicle if the
      vehicle is approaching above the speed limit to say SLOW DOWN or TOO FAST. If the vehicle
      is doing below the speed limit, then the asset will not respond to them.

iv.   Radar Low
      In this option the user can only upload 1 file that can advise the speeding vehicle if the
      vehicle is approaching below the speed limit to say THANK YOU. If the vehicle is doing above
      the speed limit, then the asset will not respond to them.

The second action on the asset can be set as follows:

If the first action of the asset is to show the vehicle speed and follow it up with advisory message,
then the user needs to select SPEED option in the first option and RADAR HIGH/LOW in second
option.

Note: The files such as TOO FAST, SLOW DOWN or THANK YOU needs to be prepared first as described in section 7. Create Message and save the files as described in section 8.1 Save File

The so-called over speed and under speed threshold can be set up at the "Posted Speed Zone" Minimum and maximum detection speed limits can also be setup on the asset to prevent it to be abused.

Note: the asset will not respond if the detected speed of the approaching vehicle is outside of the minimum and maximum detection range. However, the logs will record the speed of every vehicle.

The user can also schedule a radar that can turn on/off at certain times of the day. Radar default file can be used if a message needs to be displayed on the asset during the scheduled radar times.

Note: Radar default file will only work if the radar file is scheduled. For example, see section 12.2 Schedule a radar file.

Enable data logging to record detected speed of the vehicle with a timestamp. Radar logs can be downloaded manually or set up to be emailed daily.

➢ **Upload radar to asset**

i. Save file if required for later use as described in section 8.1 Save File
Note: Radar files are saved as different file types than standard files. You may wish to have a separate folder for your radar config.

ii. Select asset(s) in Assets list

iii. Click on Upload button [UPLOAD] at bottom of the Radar tab
Radar config that is open in the Radar tab will be uploaded to the selected asset.

iv. The user will be prompted as follows:

Upload File(s) ✕

Program asset **Bartco test board** with the file **radar1**

YES   NO

v. Click on YES to upload file to the selected asset(s). The job will appear in Job Queue.
Click on NO to cancel uploading.

Assets

Assets   Groups   Job Queue (1)

File: radar1
Asset: BARTCO test board
Connecting...

On completion, the result will be displayed in the Information panel at the bottom of the page.

Success: Failed:

Information

File: radar1
Asset: BARTCO test board (174433)
Job Complete

Information

⚠ File: radar1
Asset: BARTCO test board (174433)
Error: Asset:174433(BARTCO test board) Cannot connect to asset
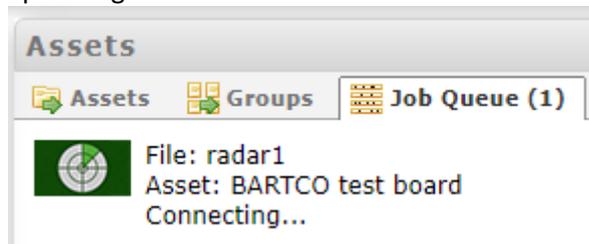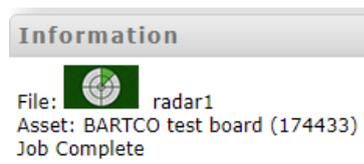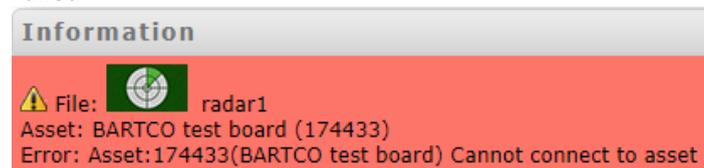
11. SMS & Security

Your asset is equipped with security and operational features which means the asset can send an SMS to the operator/s if the unit is tampered with, stolen or if there are any voltage issues.

From the Tools menu select SMS:

The following SMS options can be set:

Various alarms to be set on asset

Set mobile numbers to which SMS is sent by asset

Reporting interval for alarms

Upload SMS config file to asset

Select your options as required, following are suggested settings:
- Over voltage: recommended at 14.5 V
- Under voltage: recommended at 11.0 V
- Over Temperature: usually not required
- GPS movement: recommended at 1000 m
  Note: Ensure that you either upload this option after the asset has been deployed to its desired location or the asset is set to sleep prior to moving.
- Tamper Enabled: Anti tamper wire where it is fitted

After your options are selected, input up to 3 mobile phone numbers that will be alerted if any of the alerts are activated.

To remove SMS settings simply uncheck all the boxes and upload file to the asset.

We suggest saving your active and inactive SMS settings in separate folders for consistency and future use.

➢ **Upload SMS config to asset**

i.   Save file if required for later use as described in section 8.1 Save File
     Note: SMS files are saved as different file types than standard files. You may wish to have a
     separate folder for your SMS config.

ii. Select asset(s) in Assets list

iii. Click on Upload button [UPLOAD] at bottom of the SMS & Security tab
     SMS config that is open in the SMS & Security tab will be uploaded to the selected asset.
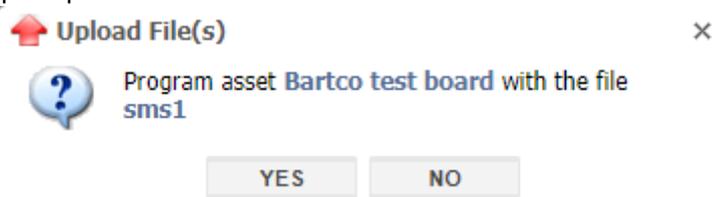
iv. The user will be prompted as follows:

v.   Click on YES to upload file to the selected asset(s). The job will appear in Job Queue.
     Click on NO to cancel uploading.
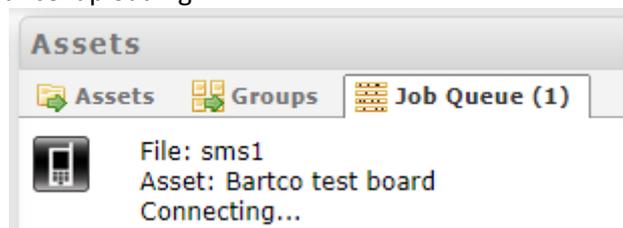
On completion, the result will be displayed in the Information panel at the bottom of the
page.
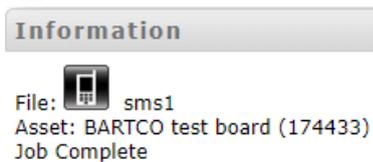
Success: Failed:
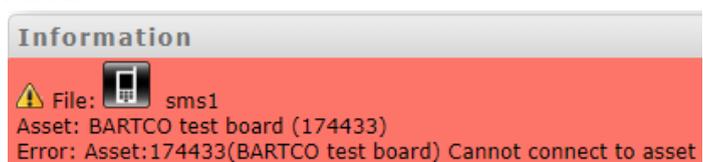
12. Scheduler

Your VMS comes standard with a GPS module which allows the VMS to keep time as well as the ability to schedule messages as required, instead of uploading messages each time.

Perfect for Roadworks applications where there may be a pre-warning message, and a message to be displayed once the Roadworks begin.

12.1 Create Schedule

To Schedule a file, the desired messages need to be created first as described in section 7. Create Message and save those messages as described in section 8.1 Save Message

The Scheduler feature is accessible under the "Tools" menu:

Scheduler feature will be displayed as follows:

Default file: this message is displayed when other scheduled messages are not operating

Prepare message to be scheduled

List of scheduled messages

Upload schedule to asset
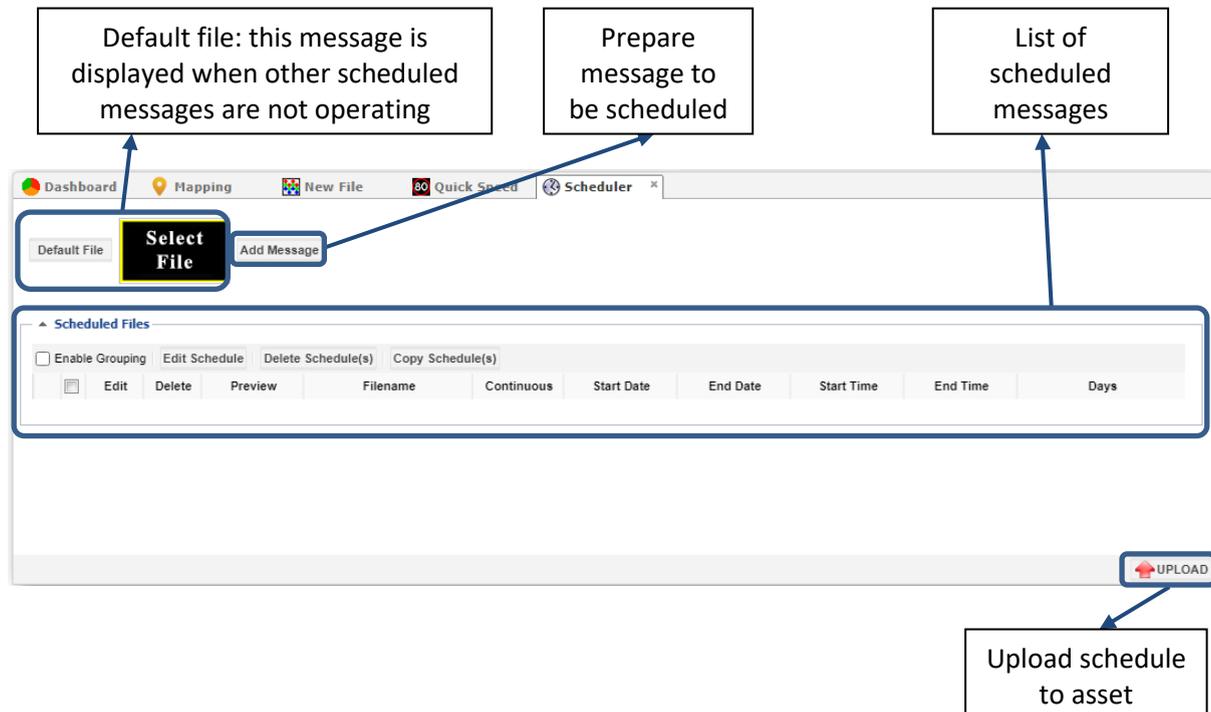
Default file: the default file is displayed when the other scheduled messages are not operating. If no default message is selected, then the asset will be blanked when the other scheduled messages are not operating.

> **Select a default file**:

i.   Click on Default File button

ii. Select a file from File Dialog and click Open
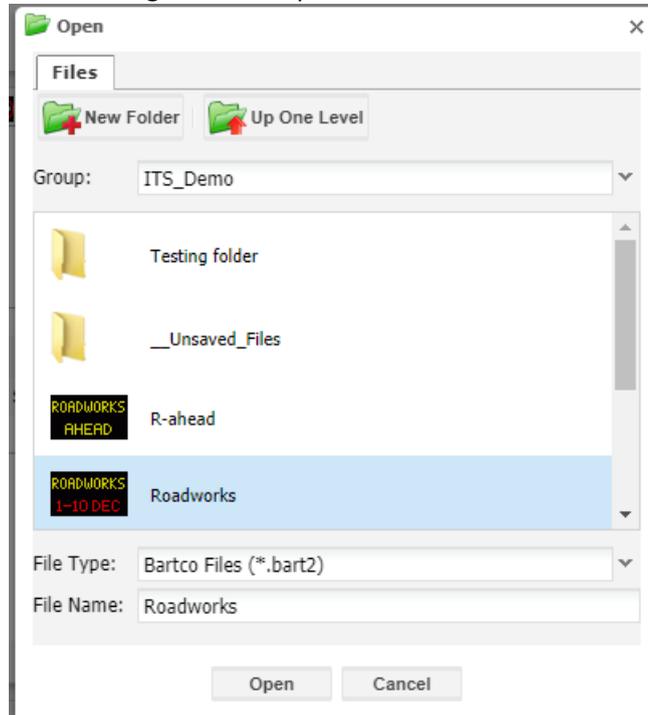
iii. Default file will be selected, and its preview displayed as below:
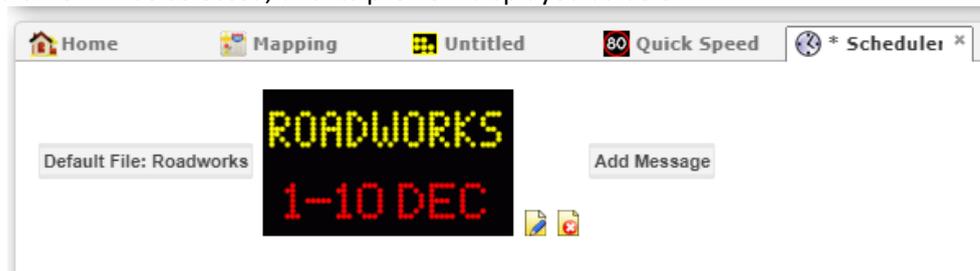
➢ **Schedule a message:**

i. Click on "Add Message" button
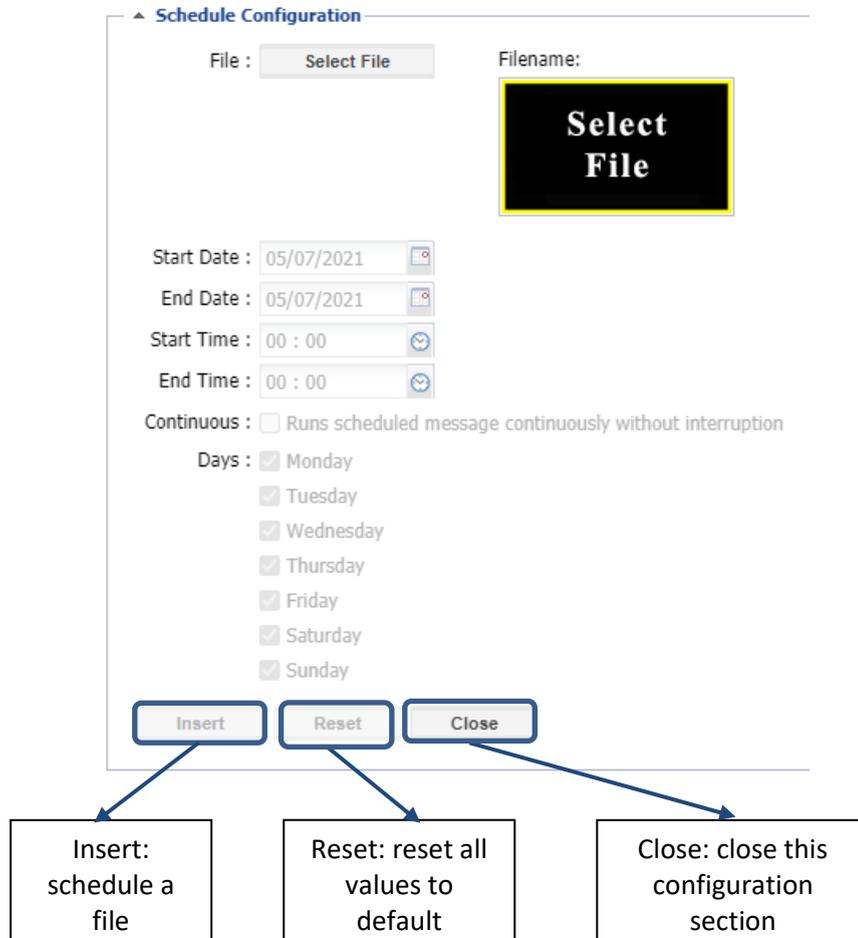
ii. Click on "Select File" button

iii. Select a file from File Dialog and click Open
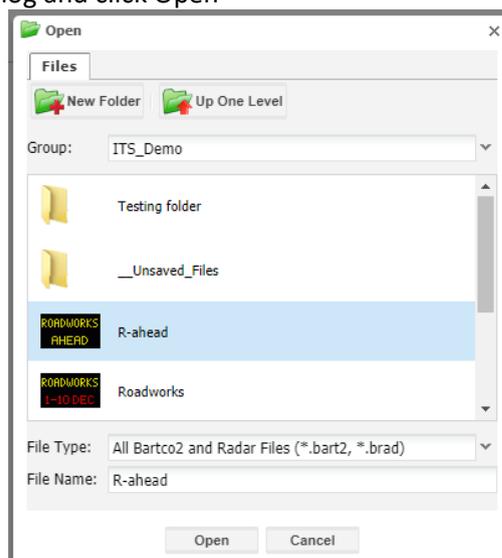
iv. A file will be selected, and its preview displayed as below.
Other options will now be enabled
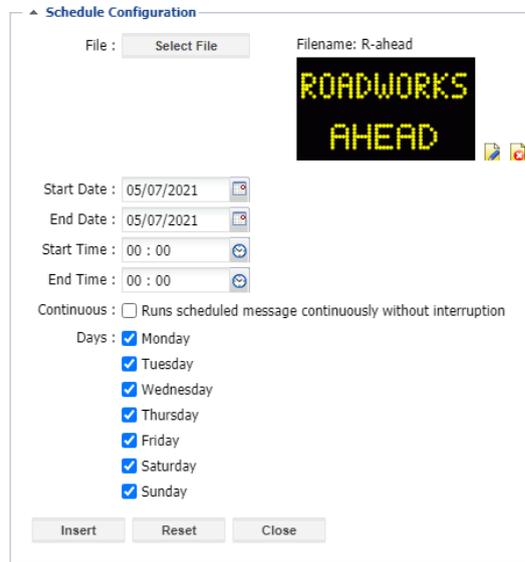
v. Set date and time for the selected message to run as part of schedule

Click on the calendar and clock icons to change select date and
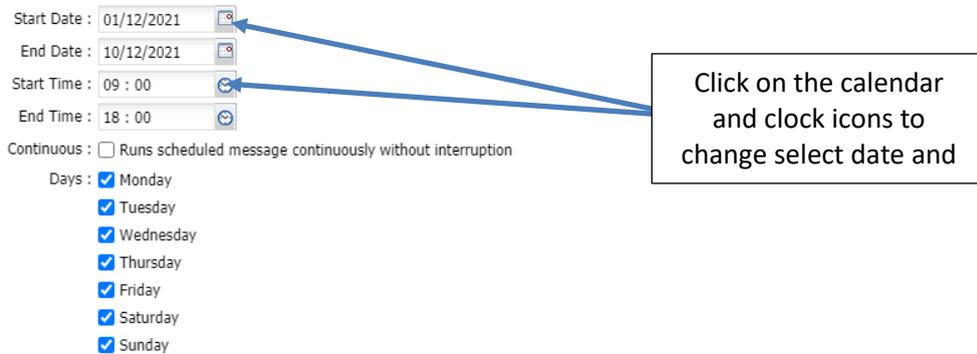
vi. Click on "Insert" button to add this message to the list

The message R-ahead will now run from 01/12/2021 to 10/12/2021 from 9am to 6pm every day. Outside these times, the default message will be displayed.

Note: If the Continuous box is checked then the message will run from 9am on 01/12/2021 until 6pm on 10/12/2021 as a continuously running message.

If you would like any other messages to be scheduled simply repeat the process above.

➢ **Upload schedule to asset**

i. Save file if required for later use as described in section 8.1 Save File
Note: Scheduled files are saved as different file types than standard files. You may wish to have a separate folder for your schedules.

ii. Select asset(s) in Assets list

iii. Click on Upload button ⬆UPLOAD at bottom of the Scheduler tab
Schedule that is open in the Scheduler tab will be uploaded to the selected asset.
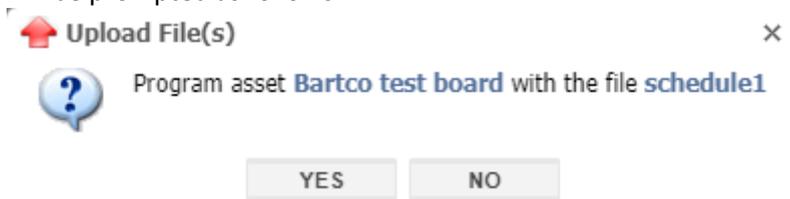
iv. The user will be prompted as follows:

v. Click on YES to upload file to the selected asset(s). The job will appear in Job Queue.
Click on NO to cancel uploading.
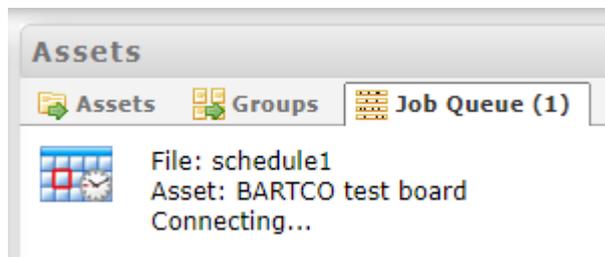
On completion, the result will be displayed in the Information panel at the bottom of the page.

Success:
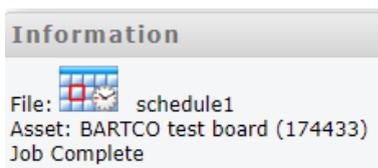
Failed:
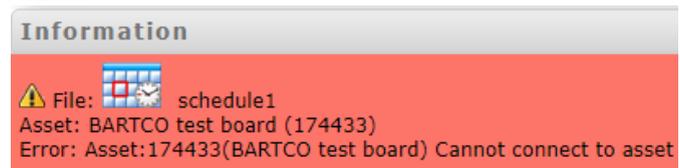
12.2 Schedule a radar file

Example of scheduling a radar file:

A VMS asset is placed in school zone that normally shows the speed limit 60 and changes the speed limit to 40 between 8:00am to 9:30am with radar that shows "SLOW DOWN" if the vehicle goes over the speed limit of 40.

In this case the radar file will be created with the following:

Once the radar file is ready then the schedule will be prepared with the current radar file between 8:00am to 9:30am with a default file that shows the speed limit 60.

13. File Manager and Uploading Multiple Files

Multiple messages or options to your asset can be uploaded directly from File Manager
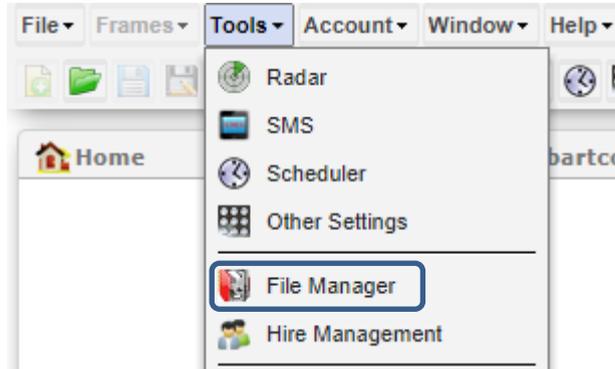
File Manager displays list of files and folders.

Create New Folder

Open file or folder

Rename selected file or folder

Delete selected file or folder

File's details

Rename: rename file or folder

Delete: delete file or folder

Upload multiple files

> **To upload file(s) from File Manager:**
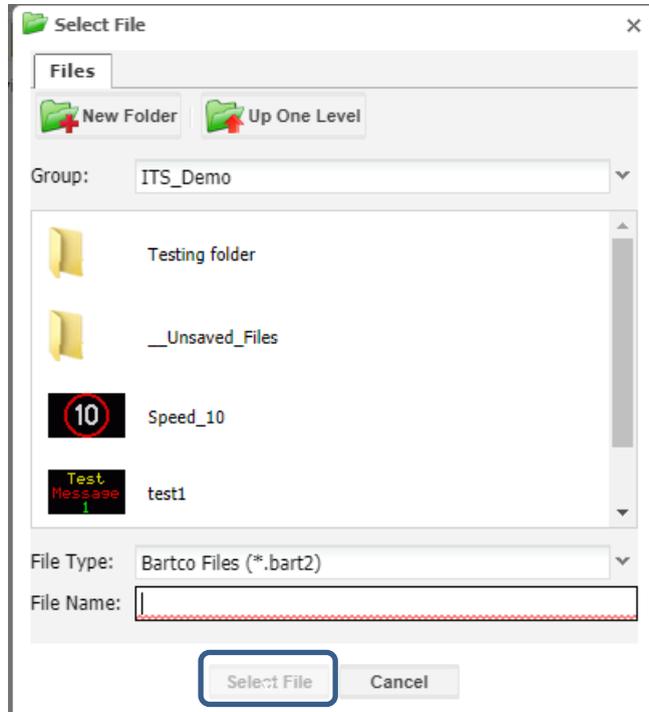
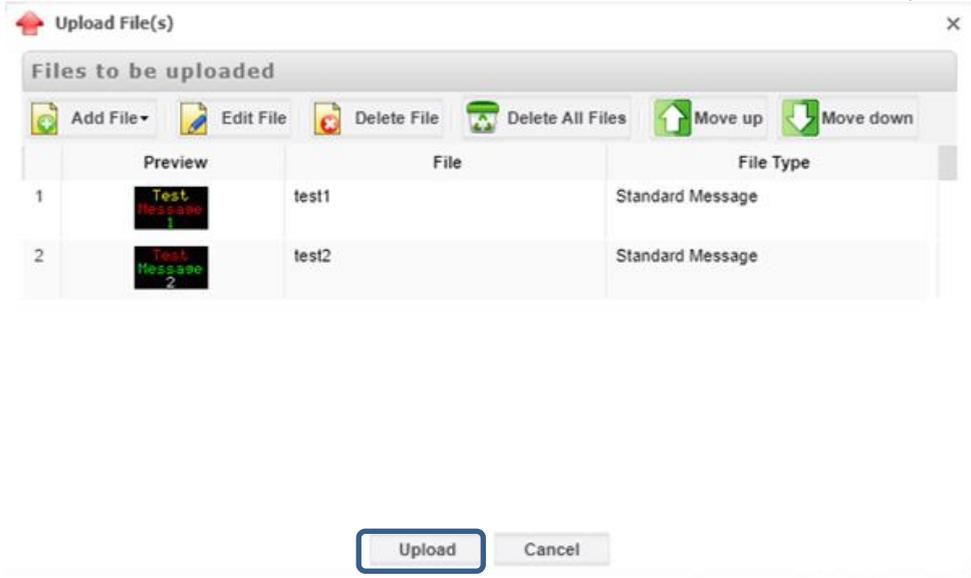i. Click on Upload Files
   The following dialog will be displayed:
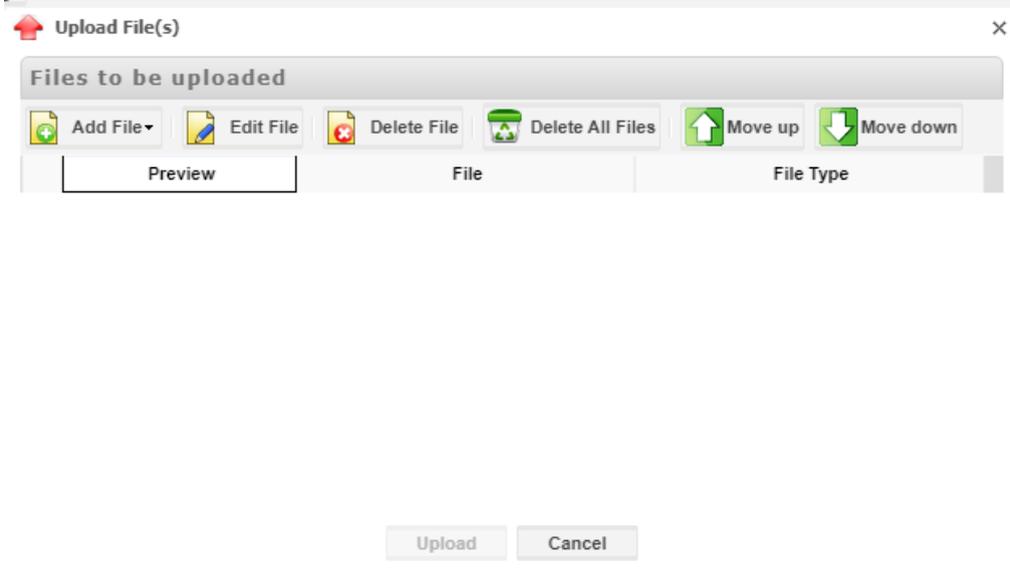
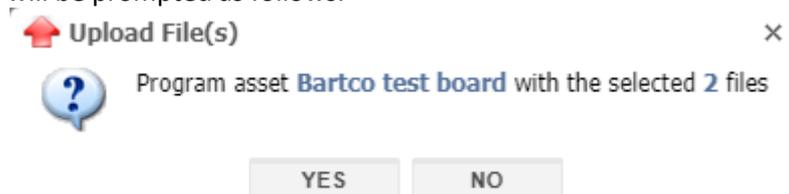ii. Click on Add File and select type of file (Standard, Radar, etc.) or function (Blank sign, etc.)
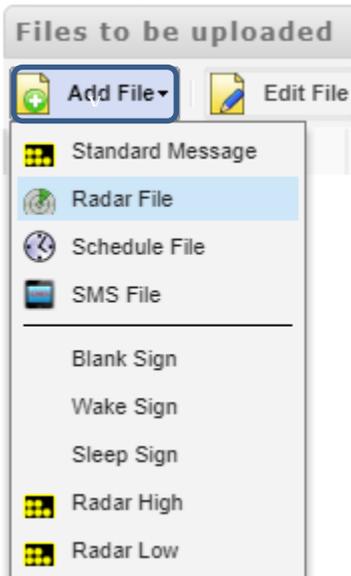
iii. For type of file, select file(s) from file dialog
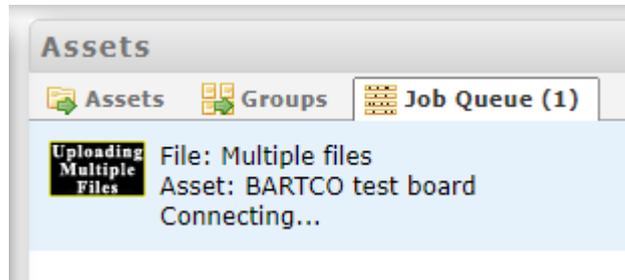Select a file and click on "Select File" button

iv. Once all the files have been listed, select asset(s) in Assets list and click on "Upload" button
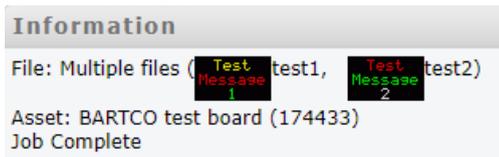

v. The user will be prompted as follows:

vi.   Click on YES to upload files to the selected asset(s). The job will appear in Job Queue.
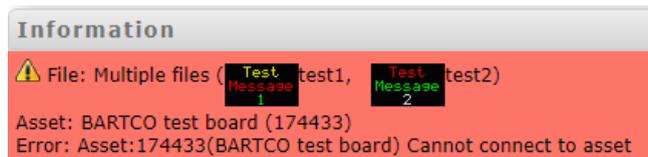   Click on NO to cancel uploading.

On completion, the result will be displayed in the Information panel at the bottom of the
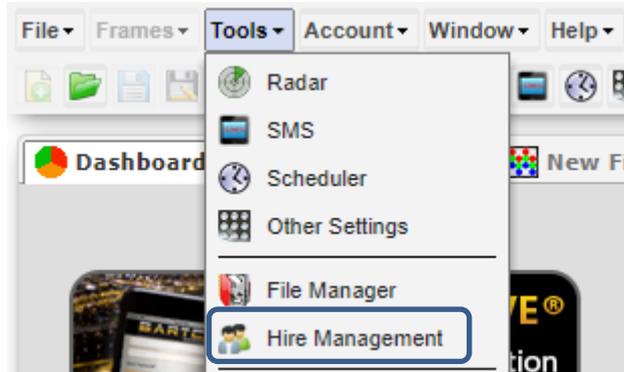page.

Success:

Failed:

14.   Hire Management

A significant feature of Bartco's Web Studio is for hire companies or other general users to be able to provide their own customer or user with a login and access to asset(s).

Customers can be given access to the system for a determined period, relative to their hire period. Once the customer has finished their hire, they do not have access to the asset again. The hire user uses their username and password to login to Web Studio.

The Hire Management feature is accessible under the "Tools" menu:

Hire Management feature will be displayed as follows:

14.1 Add Hire Customer

i. Select Add Customer

ii. Add details of the hire customer and the duration of their hire/use
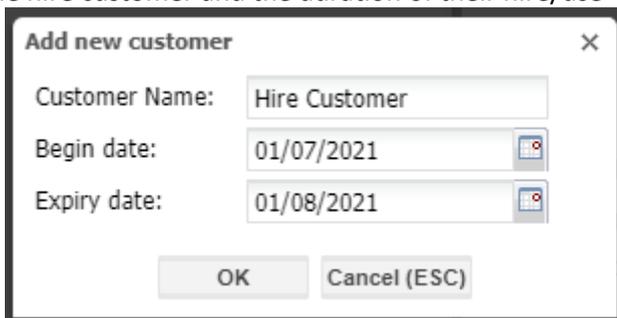
iii. Click OK

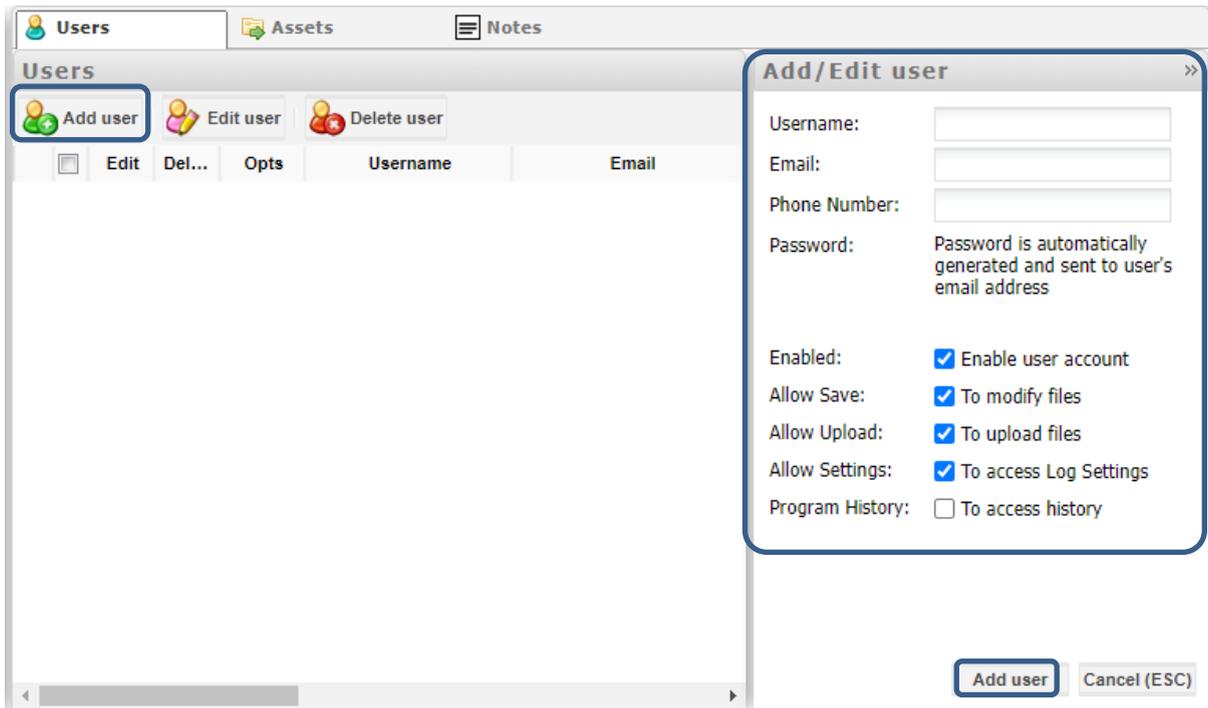iv. Hire customer will be added in the list
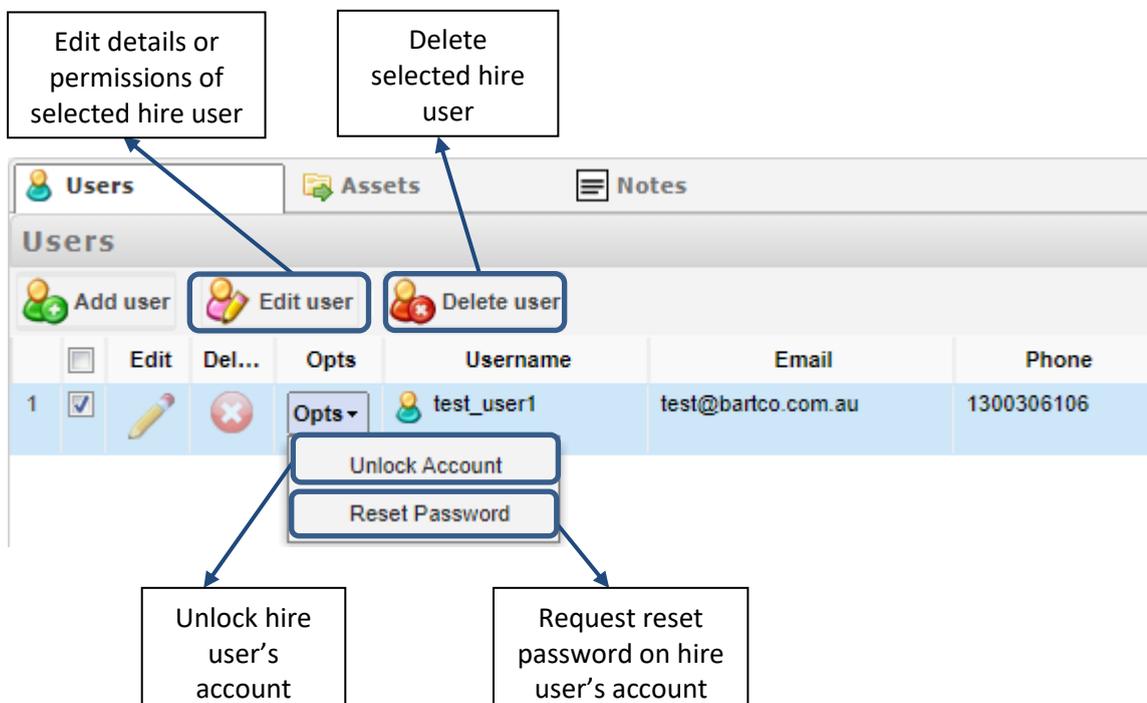
14.2 Add User(s) to Hire Customer

After the hire customer has been added, create new user(s) to the hire customer.
Note: For security purposes it is a good idea for each user to have their own username and password.
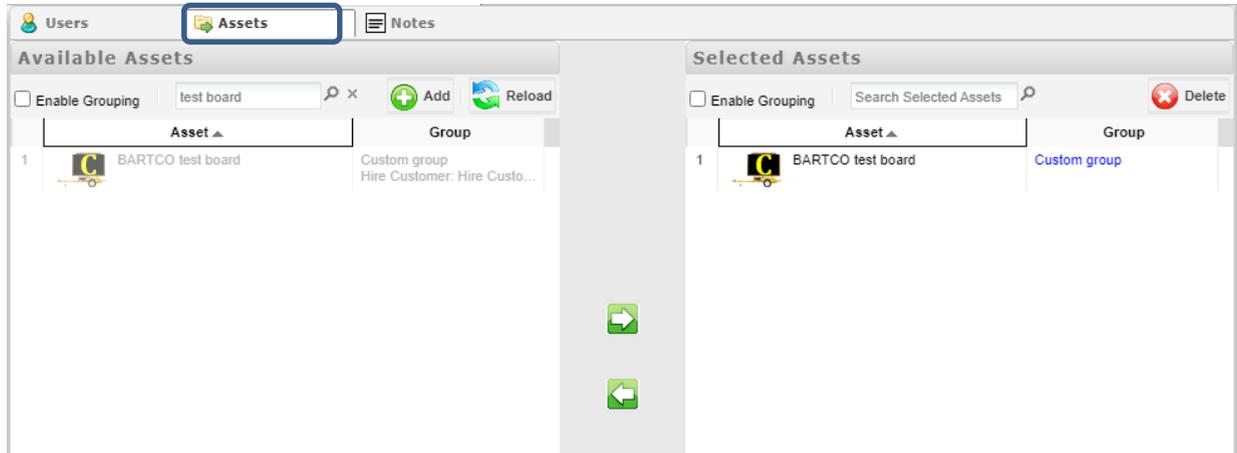A temporary password will be automatically generated and emailed to the hire user.

The hire users can then be managed in Users list:

14.3   Add Asset(s) to Hire Customer

Assign the asset(s) that the users of the hire customer will get access to:

Note: Multiple assets can be assigned to Hire customer.

The hire user can then be given the newly created username and password and be advised to change their password on their first login. They will be responsible for what is displayed on the asset under their login.

When the asset on hire, it will be displayed on the Asset's status icons:
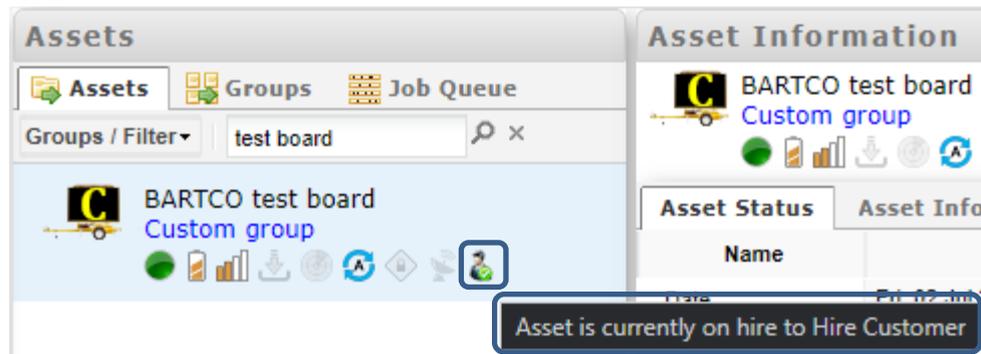
Asset is currently on hire to HIRE-CUSTOMER-NAME

Asset is hired to HIRE-CUSTOMER-NAME and hire duration is inactive

Asset is available to hire

No permission to hire asset

15. Troubleshooting

When the asset doesn't communicate on Web Studio with the following error:

⚠ Asset: BARTCO test board (174433)
Error: Cannot connect to asset

POSSIBLE CAUSE	POSSIBLE SOLUTION
Asset out of mobile phone coverage	Move asset to better coverage
Sim card not inserted properly	Check sim card orientation (Reset power after re-positioning sim)
Modem Failure	Contact Bartco
Electrical	Check fuses and battery level

Please contact Bartco's technical support on 1300 306 106 or service@bartco.com.au for any technical assistance.