



InsightRT2 start up instructions

### POWERING ON THE InsightRT2

Power button (lower right).

### INTERNET CONNECTIVITY SETTINGS

WIFI:

Press the SYSTEM button on the home page and then press WIFI. Establish a Wi-Fi connection by selecting an available network, entering the network password, and pressing CONNECT.

Ethernet Cable:

An Ethernet cable (aka Cat5 cable) from a cellular router modem can be used. If the cable is active there will be no configuration necessary. The InsightRT2 will auto recognize and initiate the Internet connection.

### STREAM NAME

The system comes with a preconfigured stream name. The stream name can be changed by pressing INFO and entering a new name in “Publish Stream Name”.

### VIDEO CONNECTION

Power on the video source (drone) and connect the HDMI output on the controller to the InsightRT2 HDMI ‘IN’ port.

To check the format of the connected source video, press SYSTEM, press SOURCE VIDEO, and then press REFRESH:

- Mode indicates the detected resolution/frame rate (example: ‘1080p59.94’ ).
- Color Space indicates the detected color format (example: ‘RGB’ ).

#### **Note regarding YUV video sources:**

It is not uncommon for video sources to be YUV.

If Mode or Color Space is not detected, the source video might be in YUV format. Try checking the Force YUV box and then pressing REFRESH.

Press the back arrows (<<) at the top left corner of the page to return to the home page. If the source video is compatible with the InsightRT2, it will be displayed in the video preview window on the right.

Glossary of messages in the video preview window:

INITIALIZING (flashing yellow):	Initializing the stream
ENCODING (flashing green):	Streaming live video
NO NETWORK (red):	No Internet connection detected
NO VIDEO INPUT (red):	No source video detected
STREAM DISCONNECTED (red):	The stream disconnected from the ingest server

## REMOTE VIEWING

When the unit is shipped, AMV provides a view page URL link along with an administrator username and password. **This username and password should not be given out to other users.**

Login to the AMVision secure webpage using Chrome (Safari on iOS only) and enter the administrator username and password.

Any InsightRT2 systems assigned to the account can be listed by stream name in the tool bar near the top of the page.

## Initial Setup in the Browser by the Administrator

### **Creating New Users**

You must be an Admin to create or edit users.

There is no restriction on the number of users.

To create new users:

Click the “Actions” button at the top right of page.

Click “User Management” and then “Add New User” to open the “Add User” popup window.

Fill in the information.

There are three types of users:

- Admin (full access to system),
- Viewer Plus (can make changes to stream settings)
- Viewer (can only view streams)

Passwords can only contain letters, digits, and the following special characters:

! # \$ % & ' \* + - = ? ^ \_ ` { | } ~ @ . [ ]

Passwords must satisfy *all* of the following requirements:

- Minimum of 8 characters long
- Have at least one uppercase letter
- Have at least one lowercase letter
- Have at least one number
- Have at least one special character

Do not forget to grant Stream Permissions by checking the boxes next to the stream names of the InsightRT2 units the user will be allowed to view.

Click “Submit”. If any errors are found, a popup notification will prompt for corrections. If everything is entered correctly, a success notification will be displayed

**Note:** If no Stream Permissions boxes are checked, the user will not see any InsightRT2 units listed when they login.

### **Importing New Users**

Begin by exporting a template of current users.

Log into your viewer account.

Select “Actions”  
 Select “User Management”  
 Select “Export CSV”

	A	B	C	D	E	F	G	H
1	First Name	Last Name	User Type	Username	Password	DroneStream1	DroneStream2	DroneStream3
2	John	Doe	admin	johndoe	NO_UPDATE	No	No	Yes
3	Jane	Clark	admin	jclark	NO_UPDATE	Yes	No	Yes
4	Keith	Richards	viewerplus	kthRichards	NO_UPDATE	No	Yes	Yes
5	Mick	Jagger	viewerplus	mjagger1	NO_UPDATE	No	Yes	Yes
6	Joe	Smith	viewer	joesmith	NO_UPDATE	No	No	Yes
7	Mary	Johns	viewer	mjohns	NO_UPDATE	No	No	Yes
8								

A CSV file (which can be opened in Excel) will show all current users and devices, as well as details to access.  
 Simply add new users to the list of the CSV file. Filling the remaining fields and import back into the system

**Important Notes Regarding CSV Fields:**

User Type: user types must be entered as either “admin”, “viewerplus” or “viewer”

Username: usernames must not have any spaces and must be unique to the platform. If “jsmith” already exists (even in another department) you may need to modify that user name to “jsmith1” or something else.

Passwords: If you are modifying users, you can update user passwords. If you do not want to update a user’s password, enter “NO\_UPDATE” by copying it from a cell from the exported file.

Stream Name columns: “Yes” will allow the user to see a specific stream, “No” will not allow a user to see that stream.

*The View Page User Interface:*

A row of stream selector boxes showing the stream names assigned to InsightRT2 units is displayed at the top of the page.

Stream selector status indicators:

- ‘ENCODER OFFLINE’ (red text): The InsightRT2 unit is not online.
- ‘ENCODER ONLINE’ (green text): The InsightRT2 unit is online but is not streaming.
- Selector box is solid green: The stream is live and clicking the box will open a video player on the page below.

Remote control of InsightRT2 stream settings is available from the view page by clicking the Stream Settings button at the bottom of the video player pane. The Update Stream Settings popup provides options to change the stream name, bitrate, resolution, and frame rate.

Only Admin and Viewer Plus users can make changes using the Update Stream Settings popup.



If the video is not streaming smoothly (e.g. it is “choppy” or very slow), try adjusting the stream settings parameters:

**Bitrate:**

The first option to try is reducing the bitrate.

There are four bitrate presets available:

- 2,000 Kbps
- 1,000 Kbps
- 500 Kbps
- 250 Kbps

**Frame Rate:**

If problems still persist at 250 Kbps, decrease the frame rate. Standard motion video is 30 frames per second. Decreasing the frame rate will reduce video bandwidth and will help facilitate streaming when cell coverage is bad.

**Frame Dimensions:**

Lowering the resolution also helps to reduce video bandwidth, but it decreases video quality. Use this as a last resort when cell coverage is really weak.

Usually, the Incident Commander will be in charge of the video stream settings. However, whoever is most in need of real time situational awareness should control the video stream. For example, if a SWAT team is viewing live from a drone posted overhead and command changes the stream for their needs, SWAT may lose the stream if they do not have a quality Internet connection or cell coverage.

Please feel free to call Barry Moore 817-239-9777 for more instructions.

All Mobile Vision provides 24/7 tech support and can be reached at 310-751-1900. The phone number is on the login page of the provided view page URL. It can also be displayed by clicking on the INFO button on the InsightRT2 home page.

**Record Function:**

The USB ports are available to record the incoming video feed.

Simply install a USB thumb drive in one of the slots and press the “Start Record” button.

**It is important to click “Stop Record” in order to SAVE the recording.** Clicking “Stop Record” puts the recording into “Finalizing” mode.

**IMPORTANT-** If the thumb drive is removed without Finalizing, the recording might not be recoverable.

The recording will automatically stop and autosave when the USB drive is nearly full (.01% free space left).

**For best recording performance:**

It is highly recommended to use a **high-quality USB drive capable of high data transfer rates** and format the drive to **NTFS**.

ExFat and FAT32 formatted USB drives are also supported.

Note that FAT32 has a 4GB file size limit and recording will be automatically stopped before reaching 4GB to prevent loss of data.

## **Battery Operation:**

The Insight RT2 can optionally be powered with 1 or 2 Milwaukee M18 5 Ah batteries.  
(Available at any Home Depot or online)

Insert the battery and press the toggle selector switch in the upper right of the unit to “Battery”

The fans will always run as long as power is connected.

AMV does not recommend travelling the unit with batteries inserted. Fans could discharge the batteries if it's left powered on.