# Istra Stream d.o.o.



**CATALOG** 

of

PLUG AND PLAY METEOR OBSERVATION SYSTEMS





#### 520 € - The whole package (RPi4 + IMX307 camera) - Plug and play

#### How to order:

- 1) Contact us at info@istrastream.com by telling us you want the iStreamMeteor PRO. Provide your name, full address, contact emails address, and a telephone number for the courier service.
- 2) Choose a lens 3.6 mm for dark skies, 6 mm for city skies, 8 mm for heavily light polluted skies (more details below).
  Also check how much unobstructed sky the camera will see. So even if you have dark skies, if you have lots
  - Also check how much unobstructed sky the camera will see. So even if you have dark skies, if you have lots of trees that obstruct the field of view (FOV), a lens with a narrower FOV might be a better choice.
- 3) Decide if the camera will be mounted on a wall or a post. Tell us so we can send the correct adapter.
- 4) Provide the accurate geographical coordinates of where the camera will be mounted for a full plug and play configuration (optional, you can always change the coordinates later).
- 5) The payment can be done either via IBAN (preferred), or PayPal (use info@istrastream.com). PayPal payment will include a 4.4% processing fee for Europe, US, and Canada, and 5.4% for the rest of the world. Please let us know how you will pay so we can send the correct payment amount.
- 6) You will receive a quote from us.
- 7) Pay the total in the quote.
- 8) The camera will be shipped within 3-7 business days after the payment is received.

#### **Items**

#### Control Unit - RPi 4 model B

- Raspberry Pi 4 model B Single Board Computer
- Original RPi power supply, 5V 2.5A
- RPi Case Aluminum with passive cooling
- Real Time Clock Module
- SanDisk SD 64BG EXTREME card
- Software installed, configured, and tested

#### Camera Unit (individual price 200 €)

- Ultra low-light IMX307 camera, 1280x720, 25 FPS
- Ultra low-light lens (see the choice below)
- 2 x passive Power over Ethernet connectors
- 12 V power supply (EU plug)
- Small aluminium weatherproof enclosure
- Camera configured and tested

#### Junction box (individual price 20 €)

- Aluminium weatherproof junction box for wall mounting
- An adapter can be provided for mounting on a vertical post (individual price 20 €)



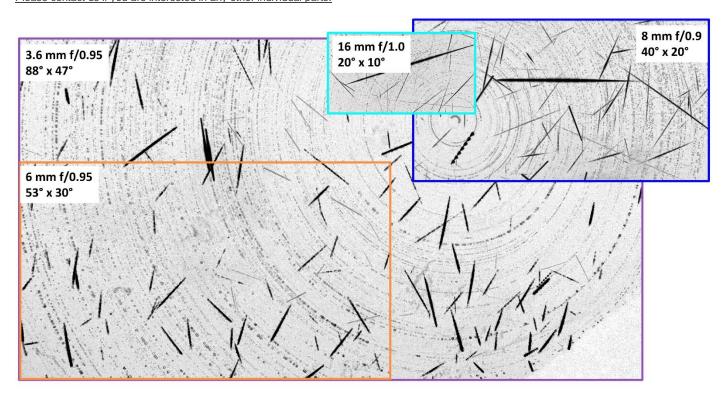




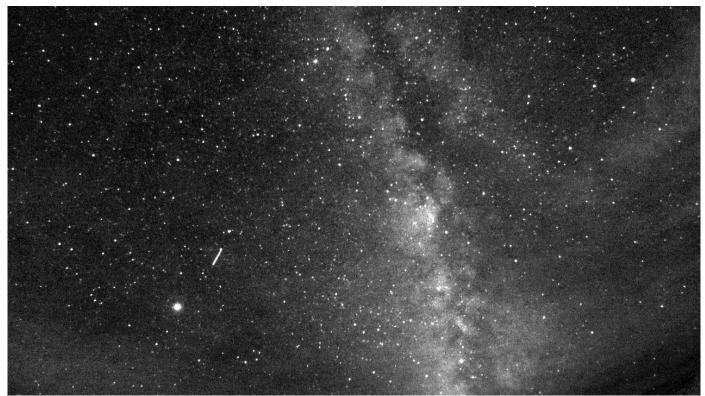
#### **Choice of lens**

- Ultra-low light lens, 3.6 mm f/0.95,  $88^\circ$  x  $47^\circ$  FOV Ultra-low light lens, 6 mm f/0.95,  $53^\circ$  x  $30^\circ$  FOV
- Ultra-low light lens, 8 mm f/1.0, 40° x 20° FOV Ultra-low light lens, 16 mm f/1.0, 20° x 10° FOV

Please contact us if you are interested in any other individual parts.



Comparison between fields of view with different lenses



The Milky Way and a meteor from Hum, Croatia (very dark skies). This is a single maxpixel image (maximum values of 256 video frames, ~10 seconds), with adjusted levels. Taken with the 3.6 mm lens.



### 630 € - The whole package (RPi4 + IMX307 camera) - Plug and play

#### **Items**

#### Control Unit - RPi 4 model B

- Raspberry Pi 4 model B Single Board Computer
- Original RPi power supply, 5V 2.5A
- RPi Case Aluminum with passive cooling
- Real Time Clock Module
- SanDisk SD 64BG EXTREME card
- Software installed, configured, and tested

#### Camera Unit (individual price 400 €)

- Ultra low-light IMX307 camera, 1280x720, 25 FPS
- Fisheye Lens 1.55 mm 180 degree f/2.0
- 2 x passive Power over Ethernet connectors
- 12 V power supply (EU plug)
- Aluminum weatherproof enclosure
- Camera configured and tested





The unit is designed to be **pole mounted**. If you don't have a pole, <u>you will have to source one locally</u>. Here is an example of one:





The Milky Way taken from Pula, Croatia (city skies). This is a single average pixel image (average values of 256 video frames, ~10 seconds), with adjusted levels.

#### Other information

#### Software - FREE

- Open-source RMS software: <a href="https://github.com/CroatianMeteorNetwork/RMS">https://github.com/CroatianMeteorNetwork/RMS</a>
- Fully configured

#### About the system

- +6<sup>M</sup> stellar limiting magnitude at 25 frames per second with 3.6 mm f/0.95 lens
- Average of <u>15 meteors an hour</u> in dark sky conditions while no major meteor showers are active
  - o 100s of meteors/hr during meteor showers with medium activity!
- Fully automated capture and detection
- Simple initial setup and configuration (only the station code and geo coordinates should be changed) possibility of full plug and play setup prior to shipping if customer provides geo coordinates.
  - Customer only needs to buy 2 ethernet cables of appropriate length at a local store.
- Astrometric and photometric calibration available
  - o Initial calibration done manually, automatic subsequent recalibration
- Free backup of detected data to a cloud server
- Participate in a network of meteor observers from all over the globe!
   More info: <a href="https://globalmeteornetwork.org/">https://globalmeteornetwork.org/</a>
- See all currently active stations: http://istrastream.com/rms-gmn/

#### Warranty

We provide a 1-year warranty on the <u>camera board only</u>. We require that the malfunctioning camera board is sent back, and we will send a replacement camera board.

We do not give any warranty on Raspberry Pis, SD cards, power supplies, nor on any other components of the system. The reason is, if any of these break, one can get them locally and replace them with relative ease and minimal cost.

We offer full system diagnosis and repair, please contact us for pricing.

## **Examples of images obtained with the system**



2020 Geminids (Hum, Croatia) - stack of 1674 detected meteors in one night.



2018 Orionids from Hum (Croatia) – single maxpixel image.



The Milky Way and a meteor from Hum (Croatia) – single maxpixel image.



The Milky Way and a meteor from Hum (Croatia) – single maxpixel image.