CoroCAM 6D®

ECONOMICAL DAYLIGHT CORONA IMAGING CAMERA

The **CoroCAM 6D®** is a re-development of the **CoroCAM Solar Blind UVc®** imaging System with an emphasis on cost reduction through innovative design. Sensitivity was improved through the use of newly designed solar blind filter packs and a specially developed low noise, high sensitivity detector. Modernized electronics were added to reduce weight, system noise and size. The **CoroCAM 6D®** can be factory fitted with an optional motorized module which allows the camera to operate in Solar Blind (SB) or Non-Solar Blind (NSB) modes. NSB mode removes the SB filter from the light path and allows more UV light to reach the detector - this boosts the cameras sensitivity. In NSB mode the **CoroCAM 6D®** can only be used at night or indoors.

Features:

- A high sensitivity detector, which can detect UVC emissions down to 2.05×10^{-18} W/cm^2, this allows for the detection of the smallest corona discharges
- UV Gain, threshold or integration can be set to optimize the resulting image
- Factory fitted optional Motorized Solar blind filter position module can remove the solar blind filter from the light path to enhance sensitivity
- Corona signals above the threshold level are displayed in realtime
- The UV count sampling box has 3 sizes
- The UV count is adjusted to compensate for camera settings
- A high sensitivity colour video camera with a resolution of 768 x 576 pixels which can operate at light levels down to 0.0004 lux, rendering it capable of seeing corona streamers under near dark conditions.
- Syncronised UV & Visible Zoom from 1x system zoom (defined as 8°x6° / 10° Diagonal) to 2x system zoom (optical for the Visible Channel and digital for the UV channel)
- Automatic or Manual visible camera focus control. UV camera focus can be set manually or slaved to the visible camera focus position
- <0.7m minimum focus distance - no accessory optics required

- The visible image can be enhanced for backlight compensation or set to low light mode
- A large, robust mounted, variable angle, colour LED backlit LCD display with 640x480 pixels resolution optimised for use in full daylight makes for easy inspection. Screen brightness can be manually or automatically set
- The On Screen Display (OSD) shows all the relevant information
- UV is overlaid onto the visible in one of 4 preset or 100 user selected colors
- The UV overlay translucency can be adjusted to show the discharge source
- Integrated GPS with internal and booster antenna
- Onboard still image and video recording in high quality formats
- Easily replaceable lightweight Li-ion batteries, available from most camera stores, deliver up to 3 hours operating time
- Fast set up & boot up avoids the need for power saving modes
- Easy operation of the camera with one hand via a multifunction keypad, with hot keys to specific functions.
- Camera software update via download to SD card
- A 18 month warranty, extendable to 36 months

Unique Features:

Fast set up & boot up | High resolution video recording | Translucent UV overlay | GPS booster antenna port | Onboard microphone and speaker

ULTRAVIOLET CHANNEL

Image type: Monochrome video | **Detector Life Span:** No degradation | **Sensitivity:** 2.05×10^{-18} Watt/cm Typical (SB Mode), $\sim 1 \times 10^{-18}$ Watt/cm^2 (NSB Mode) | **pC:** 3 pC@ 20 m ($\sim$ 0.75 pC @ 10 m) (Korea Electrotechnology Research Institute - IEC 60270:2000) | **RIV:** 13.16 dBμV (RIV) @ 1 MHZ @ 10m (Korea Electrotechnology Research Institute - NEMA107 - 1987) | **Spectrum:** UV 240 – 280 nm | **Field of View:** 8° Horizontal x 6° Vertical $\sim$ 10° Diagonal = 1x system zoom | **Zoom Range (optical):** 1x System Zoom (SZ) | **Zoom Range (digital):** 16° (0.5 x SZ) to 4° (2 x SZ), in 2 steps | **Focus type:** Slaved to Visible with manual override

CORONA MEASURE

Method: Intensity based count, Calibrated in factory to standard

VISIBLE CHANNEL

Image Type: Colour video, 768 x 576 pixels | **Sensitivity (typical Max)(Lux):** 0.0004 (F 1.8, 50 IRE) @ 4 fps & ICR on **Sensitivity (typical Max)(Lux):** 0.25 (F 1.8, 50 IRE) @ 60 fps. | **Exposure:** Auto or Manual Backlight compensation **Field of View:** Synchronised with UV channel | **Focus Type:** Automatic with manual override | **Focus Range:** <0.7 m to Infinity | **Zoom Range (optical):** 16° (0.5 x SZ) to 4° (2 x SZ) | **Zoom Range (digital):** 4x, 6x, 8x, 12x from SZ

CHANNEL MIXING

UV / Visible Overlay Accuracy: <1 milirad | **UV Transparency:** 0-100% | **UV False Color Selection:** 4 presets with 255 user selectable hues

DATA DISPLAY

Display: 5.7" VGA LCD with LED backlighting, adjustable display angle, Update Rate: 50 HZ, progressive **Display Brightness:** 450 cd/m2 | **On Screen Display:** UV on Visible /Visible only / UV only; UV count; Camera Settings; Gain (0 - 100%), Threshold; Focus (UV & Visible); Date/Time; Corona Overlay Colour; Integration/Averaging; Icon Based Menu System

CONTROL INTERFACES

Control Inputs: Keypad | **Status Indicator:** On/Off button LED | **Audio:** Onboard microphone & speaker **GPS:** Integrated with booster antenna

DATA I/O

Video Output: PAL or NTSC, user selectable | **Output Screen:** User Interface or Report View

DATA STORAGE

STORAGE MEDIA: Removable SD Card (4 GB supplied with camera) | **Media Download:** Via Card Reader or USB **Image Format:** JPEG | **Video Format:** AVI (H.264 compression) | **Storage Capacity:** 1000+ images or >1 hr video/GB | **Software Update:** Via files downloaded from website to SD card

POWER SYSTEM

Power Consumption: 9 watt | **Battery Type:** Rechargeable Li-Ion, Sony Type L compatible | **Battery Run Time:** Typical 2.5 hrs | **Battery Location:** Onboard, quickly replaceable | **Charging:** On camera / optional charger **External Supply:** 9-16V 12VA - Car or mains adapter | **Mains Adaptor:** 110-240 V ac 50 - 60 Hz / 12 V dc 3A **Protection:** Reverse polarity, over current, Under voltage

PHYSICAL DIMENSIONS

Weight: 1.9 kg including battery | **Size:** 220 mm L x 160 mm W x 80 mm H | **Window aperture:** $\varnothing$ = 62 mm **Mounting Points:** ¼" Thread tripod mount

ENVIRONMENTAL

Operating Temp: -15 °C to 55 °C | **Storage Temp:** -25 °C to 60 °C (without battery) | **Humidity:** Up to 90 %, non condensating

PROTECTION

Storage / Transport Case: Pelican style plastic hard case | **Camera Body:** Tested to IP 54 **Physical Protection:** Impact absorbing covers | **Safety Standard:** CE,IEC1010-1

STANDARD SYSTEM

- CoroCAM 6D® DAYLIGHT UV IMAGER
- SUNSHIELD
- PROTECTIVE HARD CARRY CASE
- 4GB SD CARD
- OPERATING MANUAL
- AC MAINS ADAPTER
- Li-ION BATTERY (x2)
- DUAL CHARGER
- BOOSTER GPS ANTENNA
- AUDIO HEADSET
- BASIC REPORTING SOFTWARE

OPTIONAL ACCESSORIES

- SB FILTER MOTORIZATION MODULE
- CoroCAM INSPECTION GUIDE
- SAFETY VEST W/ POUCHES FOR SPARE BATTERIES
- NECK STRAP
- PADDED BACKPACK FOR CoroCAM & THERMAL CAMERA