redspy 4.0

WWW.STYPE.TV/REDSPY

CAMERA TRACKING

FOR XR, AR, VR PRODUCTION IN TV AND FILM

Television Academy

PROUD WINNER OF THE

ENGINEERING, SCIENCE & TECHNOLOGY

EMMY® AWARDS

STYPE

v1.4

REDSPY - INTRODUCTION

RedSpy by stYpe is a wireless, optical camera-tracking system which delivers ultra-high-precision tracking. RedSpy combines infrared camera, accelerometer and gyroscope sensors, which are then interpreted by finely tuned, intelligent algorithms to deliver this high level of camera tracking quality. This means that RedSpy can deal with heavy, sudden shaking of camera perfectly, making it suitable for anything from cranes and Steadicams to handheld cameras. RedSpy is suitable for indoor and outdoor use and the tracking data can be sent wirelessly or via ethernet cable. New RedSpy 4.0 version comes with 22% lighter camera, better cooling performance and 20% higher recording frame rate.

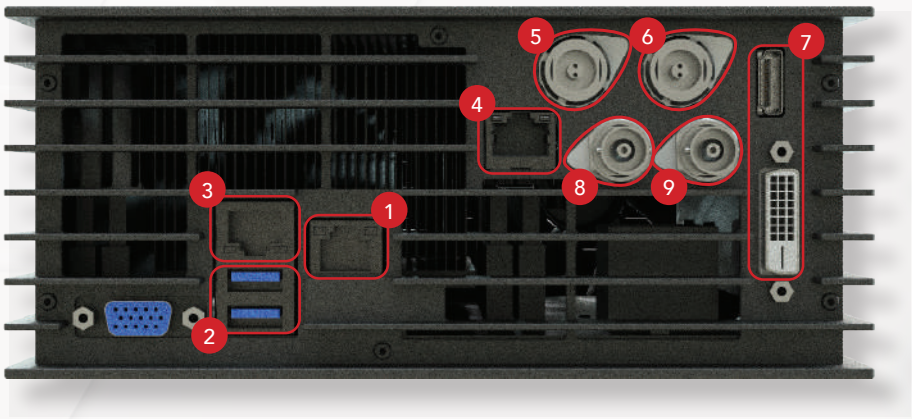
USE ON TV SETS

Join the company of world renowned TV stations: CNN, MTV, BBC, FOX, SKY and let RedSpy include Virtual or Augmented Reality effects to your set and make your scenes come alive. Virtual effects are especially fitting for big election, sports and e-sports shows and live entertainment events like concerts or ceremonies. RedSpy integrates seamlessly with all standard rendering engines, and also supports direct integration with Unreal engine via our special plugin.

USE ON FILM SETS

RedSpy is used to introduce real-time previsualizations for film scenes which include virtual elements. Seeing virtual elements in real-time makes it easier for your staff and actors to play their role more naturally than if they were relying just on their memory and imagination. RedSpy's tracking data can be stored in FBX and XML file format, along with LTC timecode and lens distortion data. You can use this stored data later, which means you have information about all camera movements, as well as zoom and focus data. This makes post-processing a much easier task. RedSpy integrates with Maya and Unreal engines via our proprietary plugins.

MAIN UNIT CONNECTIONS



1. **EXT LAN** - RJ45 port delivering the tracking data, either directly or via a network switch, to the rendering workstation.
2. **Two USB A ports** for connecting different peripherals such as mice, keyboards, touch screens, Wi-Fi adapters and flash drives.
3. **IPMI** - system monitoring and remote control RJ45 port.
4. **RS CAM** - RJ45 port connecting the Main Unit to the RedSpy camera, enabling their communication and powering the camera via PoE.
5. **PWR1** - main power supply port.
6. **PWR2** - redundant power supply port.
7. **Video output** options include an HDMI port and a DVI port.
8. **LTC** - BNC port for the time code generator.
9. **SYNC** - BNC port for the sync generator.

A TRACKING SYSTEM THAT IS EASY TO SET UP AND WORKS EVERYWHERE, EVEN OUTDOORS.

CAMERA WEIGHT	0.311 kg
DATA DELAY	5ms (0.25 frames on 50 fps)
USER INTERFACE	Touch screen
POSITIONAL RESOLUTION	< 0.1 mm
ANGULAR RESOLUTION	< 0.003°

TECHNICAL SPECIFICATION TABLE

INSTALLATION TIME	Marker setup time + 6 sec per m^2 (or each $10ft^2$) of space covered.
RE-CALIBRATION TIME	Automatic (20 sec after power on).
ETHERNET	UDP over IP and wireless support.
DATA RECORDING	Supported in FBX format, for post processing requirements.
PROTOCOLS	FreeD, Stype HF, EEVEC
DRIFT	System does not accumulate any drift.
WARRANTY	1 year warranty.

SUPPORTED LENSES

CANON DIGITAL CABLE

Ability to read the data from the virtual encoder.If no virtual encoder is installed, external encoders can be used.

Suitable for IASE, IRSE and Box lenses.

FUJINON DIGITAL CABLE

Ability to read the data from the virtual encoder.If no virtual encoder is installed, external encoders can be used.

Suitable for Portable and Box lenses equipped with Virtual Connector.

OTHER LENSES

stYpe external Zoom and Focus encoders can be easily mounted on lenses that do not have internal encoders.

Encoders can be daisy-chained, with up to 6 supported in total.

WIRELESS MODULE / BATTERY MODULE

WIRELESS MODULE	
RADIO RANGE INDOORS	50 meters*
RADIO RANGE OUTDOORS	150 meters**
DELAY	1 additional field
BATTERY MODULE	
OPERATING TIME	8 hours***

* In a typical studio environment.
** In a typical open space environment.
*** With standard 98Wh, 14.8V battery.

CONNECTIVITY

RedSpy GUI

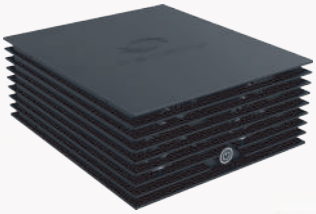
RedSpy Power Cable

RedSpy Power Supply

Power Supply
100-240v, 1.5A

HDMI Cable

Genlock IN



RedSpy Main Unit

Cat6 Ethernet
Cable

RedSpy Camera

Ethernet Cable

Internal or
External Encoders

Genlock IN

Video OUT

Power Supply

Camera Body

RedSpy Data

Genlock IN

Video IN

Power Supply

Render Engine

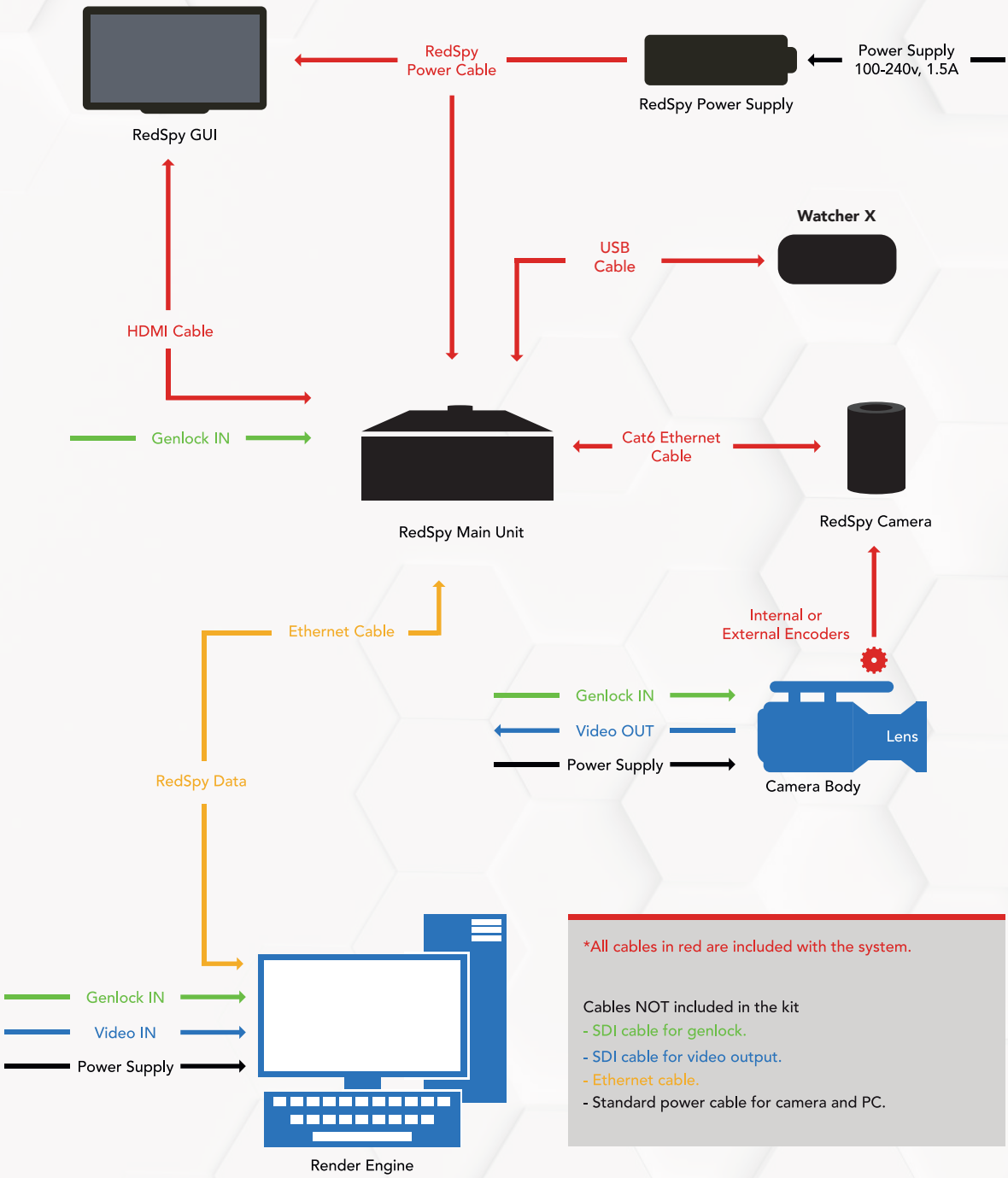
*All cables in red are included with the system.

Cables NOT included in the kit
- SDI cable for genlock.
- SDI cable for video output.
- Ethernet cable.
- Standard power cable for camera and PC.

WATCHER X ADD-ON

An image-based auxiliary sensor for RedSpy, Watcher X ensures stable tracking even when RedSpy markers are completely out of view. Designed for challenging production environments, when the primary optical system is obstructed—allowing camera movement under set elements, through tight interiors, or in unprepared areas. It's especially valuable for outdoor projects, where markers placement can be challenging, giving operators freedom to go outside of the markers area.

CONNECTIVITY WATCHER X



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COMPATIBLE RENDER ENGINES

StypeLand · vizrt · BRAINSTORM · ROSS Production Technology Experts · wTVision

UNREAL ENGINE · clarisse · CINEMA 4D · MAYA · disguise

unity · PIXOTOPE · modulo KINETIC · ZERO DENSITY · Aximmetry

Grt news · 3DS MAX · NOTCH · Chyron · blender

PARTNERS

BBC · CCTV · FOX SPORTS · Paramount · Televisa · Star

CONTACT US FOR MORE INFORMATION

WEBSITE	www.stype.tv
E-MAIL	hi@stype.tv

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